Arkema Quarter 1, 2024, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon

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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 1, 2024, Groundwater Monitoring Report
SEE	System Effectiveness Evaluation
Site	Former Arkema Portland Plant at 6400 NW Front Avenue, Portland, Oregon

1. RESPONSES TO AGENCY COMMENTS

Legacy Site Services LLC (LSS) received the following comments on 3 May 2024 in response to the Quarter 4, 2023, Groundwater Monitoring Report (ERM 2024a) submitted to the Oregon Department of Environmental Quality (ODEQ). Environmental Resources Management, Inc. (ERM) has prepared these responses on behalf of LSS and presented them below.

ODEQ GENERAL COMMENTS

1. ODEQ requests that purge equipment, well total depths and screen intervals be added to groundwater sampling field data forms. For the latter two, it is important to see if depth to water is falling below the screen.

   LSS/ERM Response:

LSS/ERM will include purge equipment, well total depths, and screen intervals on groundwater sampling field data forms moving forward, starting with the upcoming Quarter 2, 2024, groundwater monitoring event.

ODEQ SPECIFIC COMMENTS

1. Section 2.1, Groundwater Level Measurements. For water levels that were collected from wells with transducers, it should be noted whether drift was observed and corrected for.

   LSS/ERM Response:

LSS/ERM have updated Section 3.1 below with transducer recalibration details. Table 2 has been updated to include wells with transducers that were recalibrated following the Quarter 1, 2024, groundwater elevation data collection event.

2. Section 3.2.1, Field Parameter Results. Wells that were sampled without parameter stability or have unstable drawdowns should be considered deviations and identified as such. This includes, but may not be limited to, the following.

   a. PA-16i, PA-31, PA-24D, and PA-30d has unstable turbidity

   b. PA-17d, PA-17iR, PA-23d, and PA-25d has over a foot of drawdown.

   LSS/ERM Response:

LSS/ERM have updated Section 3.5 with deviations during the Quarter 1, 2024, monitoring event. LSS/ERM have also updated Section 4.2.1 below to include monitoring wells that had drawdown over 1 foot during the Quarter 1, 2024, groundwater monitoring event. During the upcoming Quarter 2, 2024, groundwater monitoring event, when 1 foot of drawdown is observed at a monitoring well during purging, three well volumes will be purged prior to sampling. LSS/ERM will evaluate monitoring wells with repeated excessive drawdown and consider potential redevelopment.

Regarding monitoring wells with unstable turbidity, as described in Section 4.2.1, given the nature of analytes included in the monitoring program scope and the stabilization of other indicator

parameters (dissolved oxygen, oxidation-reduction potential, specific conductance, and pH) consistent with ASTM International Standard D6771 (2018) as well as temperature, the unstable turbidity did not affect the quality of the data.

2. INTRODUCTION

Environmental Resources Management, Inc. (ERM) has prepared this *Arkema Quarter 1, 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 1, 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 GWBW:

- Volatile organic compounds (VOCs)
- Perchlorate
- Chloride

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

3. FIELD PROCEDURES

ERM collected groundwater elevation data from 128 well locations on 23 February 2024 and groundwater samples from 30 well locations between 25 February and 28 February 2024. 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.

3.1 GROUNDWATER LEVEL MEASUREMENTS

As shown in Table 1, ERM collected groundwater elevation data on 23 February 2024 from 128 well locations using a combination of transducer and manual measurements. Manual measurements were measured to the nearest 0.01 foot using a water level indicator in accordance with the GMWP. For locations with functioning transducers, transducer data were used for reporting in lieu of collecting manual measurements. For locations with transducers where a manual measurement was collected, when drift was 0.1 foot or greater, the transducer was recalibrated.

3.2 GROUNDWATER SAMPLE COLLECTION PROCEDURES

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

All wells and piezometers were sampled with a bladder or peristaltic pump using low-flow techniques and sample collection procedures as described in the GMWP. Field water quality measurements (i.e., temperature, pH, specific conductivity, dissolved oxygen, oxygen-reduction potential, 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.

3.3 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.

3.4 QUALITY ASSURANCE AND QUALITY CONTROL AND DATA VALIDATION

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

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

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

ERM completed data validation after receiving the laboratory analytical reports. Appendix B includes laboratory analytical reports and Appendix C includes data validation memos. QA/QC sample results were reviewed during data validation and additional details are included in the data validation memos (Appendix C). Based on the results of the data validation, qualifiers were assigned to the data, and it was determined that the qualified data are acceptable for decision making and meet the overall objectives of the monitoring program. There were no deviations to the scope of work of the Approved Groundwater Monitoring Program during the Quarter 1, 2024, groundwater sampling event.

3.5 DEVIATIONS FROM GROUNDWATER MONITORING WORK PLAN

Deviations outside of the Approved Groundwater Monitoring Program include select wells sampled during Quarter 1, 2024, with unstable turbidity and drawdown over 1 foot. Additional details including action items are provided below in Section 4.2.1.

4. GROUNDWATER MONITORING RESULTS

4.1 GROUNDWATER ELEVATIONS

On 23 February 2024, ERM manually measured depth to groundwater to the nearest 0.01 foot in 65 wells at the Site using an electronic water level indicator. For the additional 63 wells with functioning transducers, ERM collected transducer groundwater elevation data on 23 February 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. Some transducers (MWA-58d, PA-15i, PA-16i, PA-19d, PA-20d, PA-21d, PA-22d, PA-23d, PA-25d, PA-27d, and PA-30d) had groundwater elevations adjusted based on a recalibration event completed on 13 March 2024. Additional details regarding these adjustments to groundwater elevations are described in the February 2024 GW SCM Monthly Performance Monitoring Report (ERM 2024b). These data were used to develop potentiometric surface maps for the Shallow, Intermediate, and Deep hydrogeological zones. These maps are presented on Figures 2 through 4, respectively.

The generalized flow direction indicated by the potentiometric surface maps show overall groundwater flow toward the GWBW. A potentiometric separation is noticeable exterior to the GWBW, indicating the GWBW is functioning by impeding groundwater flow. River elevations from the Willamette River (river mile 12.8) gauge are shown on the potentiometric surface maps in an inset (Figures 2 through 4) and depict stage movement during February 2024.

4.2 GROUNDWATER SAMPLING RESULTS

ERM personnel completed groundwater sampling between 25 and 28 February 2024 at 30 monitoring well and piezometer locations, in accordance with the Approved Groundwater Monitoring Program. Results from the groundwater sampling and analyses of the well locations included in ERM's monitoring program are presented in further detail below.

4.2.1 FIELD PARAMETER RESULTS

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

Six monitoring locations (PA-03, PA-04, PA-31, MWA-41, PA-20d, and PA-22d) did not stabilize for turbidity during the Quarter 1, 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 unstable turbidity did not affect the quality of the data.

During the Quarter 1, 2024, groundwater monitoring event, seven monitoring locations (PA-17iR, PA-18d, PA-19d, PA-20d, PA-21d, PA-23d, and PA-25d) had drawdown greater than 1 foot. During

the upcoming Quarter 2, 2024, groundwater monitoring event, when 1 foot of drawdown is observed at a monitoring well during purging, three well volumes will be purged prior to sampling. Monitoring wells will also be gauged for total depth following sampling. Following the upcoming Quarter 2, 2024, monitoring event, monitoring wells with repeated excessive drawdown will be evaluated and considered for potential redevelopment.

4.2.2 ANALYTICAL RESULTS

Tables 4 and 5 present the analytical results for VOCs, and perchlorate and chloride, respectively, from the Quarter 1, 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.

4.2.2.1 VOCS

The results for chlorobenzene in the Shallow, Intermediate, and Deep Zones are presented on Figures 5 through 7, respectively. Chlorobenzene was detected in 7 out of 30 samples. The highest detected concentration of chlorobenzene was 27,000 micrograms per liter (µg/L) at Deep Zone piezometer PA-21d.

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 0.23 µg/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 8.9 µg/L at Shallow Zone monitoring well MWA-63.
- TCE was detected in 4 out of 30 samples. The highest detected concentration of TCE was 0.35 µg/L at Shallow Zone monitoring well MWA-82.
- cis-1,2-DCE was detected in 9 out of 30 samples. The highest detected concentration of cis-1,2-DCE was 0.54 µg/L at Shallow Zone monitoring well PA-27d.
- Vinyl chloride was detected in 2 out of 30 samples. The highest detected concentration of vinyl chloride was 0.15 µg/L at Intermediate Zone piezometer PA-32i.

4.2.2.2 PERCHLORATE

Perchlorate results for the Shallow, Intermediate, and Deep Zones are presented on Figures 14 through 16, respectively. Perchlorate was detected in 6 out of 30 samples. The highest detected concentration of perchlorate was 100,000 µg/L at Deep Zone monitoring well MWA-31i(d).

4.2.2.3 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 30,000 milligrams per liter at Deep Zone piezometer PA-24d.

5. RECOMMENDATIONS

Following the Quarter 1, 2024, groundwater monitoring event, no changes are recommended to the GMWP at this time.

ERM will conduct the Quarter 2, 2024, groundwater monitoring event according to the following schedule:

- Water levels will be measured on 7 June 2024.
- Sampling will begin 10 June 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 (July 2024).

The Quarter 2, 2024, Groundwater Monitoring Report will be submitted to the ODEQ within 60 days after data validation (September 2024).

6. REFERENCES

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TABLES

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

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

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		Analytical Method	8260C	8260C_LL [a]	300	314	
Location ID	Aquifer Classification	Groundwater Level Measurement					Comments
RW-08	Shallow	X*	--	--	--	--	
RW-10	Shallow	X*	--	--	--	--	
RW-12	Shallow	X*	--	--	--	--	
RW-14	Shallow	X*	--	--	--	--	
RW-15	Shallow	X*	--	--	--	--	
RW-17	Shallow	X*	--	--	--	--	
RW-18	Shallow	X*	--	--	--	--	
RW-20	Shallow	X*	--	--	--	--	
RW-22	Shallow	X*	--	--	--	--	
RW-23	Shallow	X	--	--	--	--	
RW-25	Shallow	X*	--	--	--	--	
EW-1	Shallow/Intermediate	X*	--	--	--	--	
EW-2	Shallow/Intermediate	X*	--	--	--	--	
EW-3	Shallow/Intermediate	X*	--	--	--	--	
EW-4	Shallow/Intermediate	X*	--	--	--	--	
EW-5	Shallow/Intermediate	X*	--	--	--	--	
EW-6	Shallow/Intermediate	X*	--	--	--	--	
EW-7	Shallow/Intermediate	X*	--	--	--	--	
EW-8	Shallow/Intermediate	X*	--	--	--	--	
EW-9	Shallow/Intermediate	X*	--	--	--	--	
EW-10	Shallow/Intermediate	X*	--	--	--	--	
EW-11	Shallow/Intermediate	X*	--	--	--	--	
EW-12	Shallow/Intermediate	X*	--	--	--	--	
EW-13	Shallow/Intermediate	X*	--	--	--	--	
EW-14	Shallow/Intermediate	X*	--	--	--	--	
MWA-83	Shallow/Intermediate	X	--	--	--	--	
MWA-84	Shallow/Intermediate	X	--	--	--	--	
MWA-85	Shallow/Intermediate	X	--	--	--	--	
MWA-86	Shallow/Intermediate	X	--	--	--	--	
MWA-87	Shallow/Intermediate	X	--	--	--	--	
MWA-88	Shallow/Intermediate	X	--	--	--	--	
MWA-89	Shallow/Intermediate	X	--	--	--	--	
MWA-07(i)	Intermediate	X	--	--	--	--	
MWA-08i	Intermediate	X*	--	--	--	--	
MWA-16i	Intermediate	X	--	--	--	--	
MWA-34i	Intermediate	X*	--	--	--	--	
MWA-49i	Intermediate	X	--	--	--	--	
MWA-53i	Intermediate	X	--	--	--	--	
MWA-54i	Intermediate	X	--	--	--	--	
MWA-66i	Intermediate	X*	--	--	--	--	
MWA-70i	Intermediate	X	--	--	--	--	
MWA-74i	Intermediate	X	--	--	--	--	
MWA-75i	Intermediate	X	--	--	--	--	
MWA-81i	Intermediate	X	--	X	X	X	

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		Analytical Method	8260C	8260C_LL [a]	300	314	
Location ID	Aquifer Classification	Groundwater Level Measurement					Comments
PA-10i	Intermediate	X*	--	X	X	X	
PA-11i	Intermediate	X	--	--	--	--	
PA-12i	Intermediate	X*	--	--	--	--	
PA-13i	Intermediate	X*	--	--	--	--	
PA-14i	Intermediate	X*	--	--	--	--	
PA-15i	Intermediate	X*	--	X	X	X	
PA-16i	Intermediate	X*	--	X	X	X	
PA-17iR	Intermediate	X*	--	X	X	X	
PA-29i	Intermediate	X*	--	--	--	--	
PA-32i	Intermediate	X	--	X	X	X	
PA-34i	Intermediate	X	--	--	--	--	
PA-37i	Intermediate	X	--	--	--	--	
PA-39i	Intermediate	X	--	--	--	--	
PA-40i	Intermediate	X	--	--	--	--	
PA-44i	Intermediate	X	--	X	X	X	
RW-06i	Intermediate	X*	--	--	--	--	
RW-09i	Intermediate	X*	--	--	--	--	
RW-11i	Intermediate	X*	--	--	--	--	
RW-13i	Intermediate	X*	--	--	--	--	
RW-16i	Intermediate	X*	--	--	--	--	
RW-19i	Intermediate	X*	--	--	--	--	
RW-21i	Intermediate	X*	--	--	--	--	
RW-24i	Intermediate	X*	--	--	--	--	
RW-26i	Intermediate	X*	--	--	--	--	
MWA-11i(d)	Deep	X	--	X	X	X	
MWA-12i(d)	Deep	X	--	--	--	--	
MWA-31i(d)	Deep	X	X	--	X	X	
MWA-56d	Deep	X	X	--	X	X	
MWA-58d	Deep	X*	X	--	X	X	
PA-18d	Deep	X*	X	--	X	X	
PA-19d	Deep	X*	X	--	X	X	
PA-20d	Deep	X*	X	--	X	X	
PA-21d	Deep	X*	X	--	X	X	
PA-22d	Deep	X*	X	--	X	X	
PA-23d	Deep	X*	X	--	X	X	
PA-24d	Deep	X	X	--	X	X	
PA-25d	Deep	X*	--	X	X	X	
PA-26d	Deep	X*	--	X	X	X	
PA-27d	Deep	X*	X	--	X	X	
PA-30d	Deep	X*	X	--	X	X	
MWA-76g	Gravel	X	--	--	--	--	
MWA-77g	Gravel	X	--	--	--	--	

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

Table 2
Groundwater Elevation Results
Arkema Quarter 1, 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) [a]	Transducer Recalibrated following Manual Measurement [b]
MWA-02*	2/23/2024	*	Shallow	36.20	--	10.15	
MWA-15r	2/23/2024	7:57:00 AM	Shallow	36.06	23.22	12.84	
MWA-18	2/23/2024	8:49:00 AM	Shallow	39.43	28.60	10.83	
MWA-19*	2/23/2024	*	Shallow	38.26	--	10.66	
MWA-20	2/23/2024	8:25:00 AM	Shallow	40.95	25.19	15.76	
MWA-22	2/23/2024	7:55:00 AM	Shallow	36.59	20.22	16.37	
MWA-24	2/23/2024	9:49:00 AM	Shallow	37.58	21.05	16.53	
MWA-29	2/23/2024	9:04:00 AM	Shallow	44.42	33.78	10.64	
MWA-33	2/23/2024	9:43:00 AM	Shallow	37.26	16.00	21.26	
MWA-40	2/23/2024	9:48:00 AM	Shallow	36.96	15.88	21.08	
MWA-41	2/23/2024	9:27:00 AM	Shallow	45.14	31.56	13.58	
MWA-42	2/23/2024	8:20:00 AM	Shallow	37.24	22.92	14.32	
MWA-43	2/23/2024	9:13:00 AM	Shallow	44.53	33.22	11.31	
MWA-46	2/23/2024	8:47:00 AM	Shallow	36.67	26.06	10.61	
MWA-47*	2/23/2024	*	Shallow	39.02	--	10.30	
MWA-61	2/23/2024	8:10:00 AM	Shallow	36.21	25.99	10.22	
MWA-63	2/23/2024	7:18:00 AM	Shallow	36.29	21.27	15.02	
MWA-69*	2/23/2024	*	Shallow	33.73	--	9.80	
MWA-71	2/23/2024	7:13:00 AM	Shallow	34.82	1.52	33.30	
MWA-72	2/23/2024	9:58:00 AM	Shallow	34.16	0.98	33.18	
MWA-73	2/23/2024	9:56:00 AM	Shallow	36.01	3.36	32.65	
MWA-82	2/23/2024	9:41:00 AM	Shallow	37.74	21.70	16.04	
PA-03*	2/23/2024	*	Shallow	37.10	--	29.95	
PA-04*	2/23/2024	*	Shallow	36.67	--	30.22	
PA-05*	2/23/2024	*	Shallow	37.22	--	11.50	
PA-06*	2/23/2024	*	Shallow	38.03	--	13.03	
PA-07**	2/23/2024	8:56:00 AM	Shallow	39.30	23.73	15.57	
PA-08*	2/23/2024	*	Shallow	40.47	--	14.13	
PA-09*	2/23/2024	*	Shallow	40.24	--	13.07	
PA-28**	2/23/2024	8:36:00 AM	Shallow	38.58	22.32	16.26	X
PA-31	2/23/2024	7:23:00 AM	Shallow	36.25	6.23	30.02	
PA-33	2/23/2024	7:22:00 AM	Shallow	36.29	7.02	29.27	
PA-35	2/23/2024	7:25:00 AM	Shallow	35.91	23.92	11.99	
PA-36	2/23/2024	7:41:00 AM	Shallow	36.90	25.82	11.08	
PA-38	2/23/2024	9:09:00 AM	Shallow	42.93	27.19	15.74	
PA-41	2/23/2024	9:02:00 AM	Shallow	39.69	25.55	14.14	
PA-42	2/23/2024	10:23:00 AM	Shallow	40.60	26.82	13.78	
PA-43	2/23/2024	9:24:00 AM	Shallow	40.41	25.75	14.66	
RP-02-31	2/23/2024	7:03:00 AM	Shallow	42.49	29.68	12.81	
RP-10-30	2/23/2024	0:00:00 AM	Shallow	37.47	29.68	7.79	
RW-05*	2/23/2024	*	Shallow	34.80	--	26.68	
RW-07*	2/23/2024	*	Shallow	33.98	--	11.76	
RW-08*	2/23/2024	*	Shallow	34.21	--	11.75	
RW-10*	2/23/2024	*	Shallow	34.33	--	13.18	
RW-12*	2/23/2024	*	Shallow	35.58	--	13.83	
RW-14*	2/23/2024	*	Shallow	36.08	--	15.57	
RW-15*	2/23/2024	*	Shallow	35.81	--	15.98	
RW-17*	2/23/2024	*	Shallow	36.55	--	15.62	
RW-18*	2/23/2024	*	Shallow	36.51	--	15.10	
RW-20*	2/23/2024	*	Shallow	37.07	--	15.46	
RW-22*	2/23/2024	*	Shallow	38.02	--	14.53	
RW-23*	2/23/2024	*	Shallow	33.63	--	11.41	
RW-25**	2/23/2024	9:21:00 AM	Shallow	38.06	23.96	14.10	
EW-1*	2/23/2024	*	Shallow/Intermediate	33.84	--	1.76	
EW-10**	2/23/2024	8:30:00 AM	Shallow/Intermediate	36.35	20.45	15.90	
EW-11*	2/23/2024	*	Shallow/Intermediate	37.38	--	-1.16	
EW-12*	2/23/2024	*	Shallow/Intermediate	38.24	--	-1.49	
EW-13*	2/23/2024	*	Shallow/Intermediate	39.79	--	-4.50	
EW-14*	2/23/2024	*	Shallow/Intermediate	40.03	--	-3.62	
EW-2*	2/23/2024	*	Shallow/Intermediate	34.20	--	0.00	
EW-3*	2/23/2024	*	Shallow/Intermediate	34.43	--	9.81	
EW-4*	2/23/2024	*	Shallow/Intermediate	34.61	--	9.42	
EW-5*	2/23/2024	*	Shallow/Intermediate	35.03	--	-3.52	
EW-6*	2/23/2024	*	Shallow/Intermediate	35.43	--	-3.59	
EW-7*	2/23/2024	*	Shallow/Intermediate	35.24	--	3.32	
EW-8*	2/23/2024	*	Shallow/Intermediate	35.07	--	3.59	
EW-9**	2/23/2024	8:31:00 AM	Shallow/Intermediate	36.77	20.88	15.89	
MWA-83	2/23/2024	7:28:00 AM	Shallow/Intermediate	35.82	25.34	10.48	
MWA-84	2/23/2024	7:52:00 AM	Shallow/Intermediate	36.31	26.19	10.12	
MWA-85	2/23/2024	8:00:00 AM	Shallow/Intermediate	36.86	36.15	0.71	
MWA-86	2/23/2024	8:16:00 AM	Shallow/Intermediate	37.15	30.75	6.40	
MWA-87	2/23/2024	8:29:00 AM	Shallow/Intermediate	37.68	21.81	15.87	

Table 2
Groundwater Elevation Results
Arkema Quarter 1, 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) [a]	Transducer Recalibrated following Manual Measurement [b]
MWA-88	2/23/2024	8:42:00 AM	Shallow/Intermediate	39.36	39.70	-0.34	
MWA-89	2/23/2024	9:17:00 AM	Shallow/Intermediate	41.65	37.30	4.35	
MWA-07(i)	2/23/2024	9:55:00 AM	Intermediate	36.24	3.97	32.27	
MWA-08i*	2/23/2024	*	Intermediate	36.25	--	10.45	
MWA-16i	2/23/2024	8:07:00 AM	Intermediate	36.58	26.61	9.97	
MWA-34i*	2/23/2024	*	Intermediate	38.02	--	17.25	
MWA-49i	2/23/2024	8:46:00 AM	Intermediate	36.68	26.58	10.10	
MWA-53i	2/23/2024	9:05:00 AM	Intermediate	44.63	34.49	10.14	
MWA-54i	2/23/2024	8:19:00 AM	Intermediate	37.35	25.51	11.84	
MWA-66i**	2/23/2024	10:13:00 AM	Intermediate	33.35	23.67	9.68	X
MWA-70i	2/23/2024	9:44:00 AM	Intermediate	37.62	19.63	17.99	
MWA-74i	2/23/2024	7:12:00 AM	Intermediate	34.72	7.82	26.90	
MWA-75i	2/23/2024	10:00:00 AM	Intermediate	34.09	1.92	32.17	
MWA-81i	2/23/2024	9:26:00 AM	Intermediate	44.62	33.06	11.56	
PA-10i*	2/23/2024	*	Intermediate	36.67	--	14.09	
PA-11i*	2/23/2024	*	Intermediate	37.63	--	11.29	
PA-12i*	2/23/2024	*	Intermediate	38.03	--	12.93	
PA-13i*	2/23/2024	*	Intermediate	38.48	--	12.28	
PA-14i*	2/23/2024	*	Intermediate	39.30	--	11.83	
PA-15i*	2/23/2024	*	Intermediate	40.62	--	11.21	
PA-16i*	2/23/2024	*	Intermediate	40.30	--	11.44	
PA-17iR*	2/23/2024	*	Intermediate	37.59	--	12.95	
PA-29i*	2/23/2024	*	Intermediate	39.18	--	10.37	
PA-32i	2/23/2024	7:21:00 AM	Intermediate	36.28	22.30	13.98	
PA-34i	2/23/2024	7:23:00 AM	Intermediate	36.02	22.19	13.83	
PA-37i	2/23/2024	7:38:00 AM	Intermediate	36.54	25.31	11.23	
PA-39i	2/23/2024	9:06:00 AM	Intermediate	40.11	28.82	11.29	
PA-40i	2/23/2024	9:07:00 AM	Intermediate	41.47	30.20	11.27	
PA-44i	2/23/2024	9:23:00 AM	Intermediate	40.36	28.95	11.41	
RW-06i*	2/23/2024	*	Intermediate	35.59	--	13.52	
RW-09i*	2/23/2024	*	Intermediate	33.73	--	10.16	
RW-11i*	2/23/2024	*	Intermediate	34.77	--	9.87	
RW-13i**	2/23/2024	8:23:00 AM	Intermediate	36.09	21.19	14.90	
RW-16i*	2/23/2024	*	Intermediate	35.77	--	14.54	
RW-19i*	2/23/2024	*	Intermediate	36.56	--	12.43	
RW-21i*	2/23/2024	*	Intermediate	37.38	--	12.23	
RW-24i*	2/23/2024	*	Intermediate	34.03	--	10.27	
RW-26i*	2/23/2024	*	Intermediate	38.10	--	11.58	
MWA-11i(d)	2/23/2024	7:58:00 AM	Deep	36.49	25.41	11.08	
MWA-12i(d)	2/23/2024	9:54:00 AM	Deep	35.86	9.20	26.66	
MWA-31i(d)	2/23/2024	9:32:00 AM	Deep	38.36	29.09	9.27	
MWA-56d	2/23/2024	8:48:00 AM	Deep	36.68	26.49	10.19	
MWA-58d*	2/23/2024	*	Deep	37.97	--	9.57	
PA-18d*	2/23/2024	*	Deep	36.55	--	12.47	
PA-19d*	2/23/2024	*	Deep	36.65	--	8.85	
PA-20d*	2/23/2024	*	Deep	37.91	--	9.65	
PA-21d**	2/23/2024	10:11:00 AM	Deep	34.36	25.40	8.96	X
PA-22d*	2/23/2024	*	Deep	38.75	--	11.09	
PA-23d*	2/23/2024	*	Deep	39.31	--	10.01	
PA-24d*	2/23/2024	*	Deep	39.06	--	9.64	
PA-25d*	2/23/2024	*	Deep	40.44	--	10.83	
PA-26d**	2/23/2024	9:29:00 AM	Deep	40.33	28.50	11.83	
PA-27d*	2/23/2024	*	Deep	37.10	--	11.70	
PA-30d*	2/23/2024	*	Deep	37.34	--	10.51	
MWA-76g	2/23/2024	10:00:00 AM	Gravel	34.96	8.25	26.71	
MWA-77g	2/23/2024	7:11:00 AM	Gravel	34.03	17.20	16.83	

Notes:

[a] Some transducers (MWA-58d, PA-15i, PA-16i, PA-19d, PA-20d, PA-21d, PA-22d, PA-23d, PA-25d, PA-27d, and PA-30d) had the water elevations adjusted based on the recalibration event completed on 13 March 2024.

[b] For monitoring wells with transducers where manual measurements were collected, if drift was 0.1 foot or greater, the transducer was recalibrated.

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

Table 3
Field Parameters Measured in Groundwater
Arkema Quarter 1, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

			Analyte	pH	Temperature	Specific Conductivity	Oxidation-Reduction Potential	Dissolved Oxygen	Turbidity
			Method	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure
			Unit	SU	deg C	uS/cm	mV	mg/L	NTU
Location ID	Sample Date	Aquifer Classification	Sample ID						
MWA-41	26-Feb-24	Shallow	MWA-41-022624	6.74	12.1	311.5	249.5	0.93	3.10
MWA-63	27-Feb-24	Shallow	MWA-63-022724	6.88	13.6	625.0	133.8	5.59	5.22
MWA-82	25-Feb-24	Shallow	MWA-82-022524	9.33	14.6	430.1	31.7	0.58	12.39
PA-03	26-Feb-24	Shallow	PA-03-022624	10.22	13.2	799.0	-179.4	0.21	30.80
PA-04	27-Feb-24	Shallow	PA-04-022724	9.98	13.6	714.0	-80.3	0.37	38.18
PA-08	26-Feb-24	Shallow	PA-08-022624	7.28	12.9	1283.0	-47.3	0.53	74.15
PA-09	26-Feb-24	Shallow	PA-09-022624	6.57	14.2	1011.0	132.0	0.37	144.12
PA-31	27-Feb-24	Shallow	PA-31-022724	9.53	13.8	731.0	-15.0	0.39	70.61
MWA-81i	26-Feb-24	Intermediate	MWA-81i-022624	6.61	13.6	392.7	239.2	0.91	1.53
PA-10i	27-Feb-24	Intermediate	PA-10i-022724	7.53	12.8	936.0	-159.3	0.28	0.37
PA-15i	26-Feb-24	Intermediate	PA-15i-022624	7.36	12.3	530.0	168.7	0.96	88.52
PA-16i	27-Feb-24	Intermediate	PA-16i-022724	7.01	12.8	377.8	51.4	0.91	94.39
PA-17iR	26-Feb-24	Intermediate	PA-17iR-022624	9.26	11.2	728.0	-156.0	0.11	2.30
PA-32i	28-Feb-24	Intermediate	PA-32i-022824	7.65	14.2	1276.0	-92.5	0.13	14.15
PA-44i	25-Feb-24	Intermediate	PA-44i-022524	6.70	13.6	590.0	156.4	1.16	12.14
MWA-11i(d)	28-Feb-24	Deep	MWA-11i(d)-022824	7.05	13.0	2632.0	-105.6	0.55	2.96
MWA-31i(d)	28-Feb-24	Deep	MWA-31i(d)-022824	6.52	14.2	65351.0	141.4	0.37	5.49
MWA-56d	28-Feb-24	Deep	MWA-56d-022824	6.69	14.8	38488.0	146.7	0.53	0.20
MWA-58d	28-Feb-24	Deep	MWA-58d-022824	6.69	14.0	51772.0	119.0	0.58	1.68
PA-18d	27-Feb-24	Deep	PA-18d-022724	8.61	13.5	1379.0	-146.6	0.14	60.71
PA-19d	28-Feb-24	Deep	PA-19d-022824	7.19	12.6	3062.0	49.6	4.20	4.03
PA-20d	28-Feb-24	Deep	PA-20d-022824	6.63	14.2	3973.0	86.2	2.22	2.67
PA-21d	28-Feb-24	Deep	PA-21d-022824	6.13	13.5	3730.0	86.2	1.06	4.93
PA-22d	27-Feb-24	Deep	PA-22d-022724	7.13	13.9	17157.0	55.2	1.09	62.43
PA-23d	27-Feb-24	Deep	PA-23d-022724	6.32	10.8	17284.0	70.5	5.60	10.61
PA-24d	27-Feb-24	Deep	PA-24d-022724	6.64	11.9	74383.0	47.9	1.31	16.32
PA-25d	27-Feb-24	Deep	PA-25d-022724	6.97	10.2	89.8	195.7	6.06	39.58
PA-26d	26-Feb-24	Deep	PA-26d-022624	6.51	10.0	496.7	-30.1	0.73	1.35
PA-27d	27-Feb-24	Deep	PA-27d-022724	7.16	11.6	2671.0	-108.9	0.36	9.10
PA-30d	28-Feb-24	Deep	PA-30d-022824	8.22	14.6	3610.0	16.4	0.48	70.84

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

Table 4
Volatile Organic Compounds Results
Arkema Quarter 1, 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	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	11	0.4	1.6	47	710	NE	NE	NE	0.076
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID										
MWA-41	2/26/2024	N	Shallow	MWA-41-022624	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.025 U*	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
MWA-63	2/27/2024	N	Shallow	MWA-63-022724	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.9 U*	*< 4.3 U*	*< 4.1 U*	*< 3.3 U*
MWA-82	2/25/2024	N	Shallow	MWA-82-022524	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.025 U*	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-03	2/26/2024	N	Shallow	PA-03-022624	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.13 j**	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-04	2/27/2024	N	Shallow	PA-04-022724	*< 0.038 U*	**0.029 j**	*< 0.056 U*	*< 0.070 U*	**0.23**	**0.20**	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-04	2/27/2024	FD	Shallow	DUP-01-022724	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.21**	**0.16 j**	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-08	2/26/2024	N	Shallow	PA-08-022624	*< 0.038 U*	**0.037 j**	*< 0.056 U*	*< 0.070 U*	**0.10 j**	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-09	2/26/2024	N	Shallow	PA-09-022624	*< 0.038 U*	**0.070 j**	*< 0.056 U*	*< 0.070 U*	*< 0.025 U*	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-31	2/27/2024	N	Shallow	PA-31-022724	*< 0.038 U*	**0.22**	*< 0.056 U*	*< 0.070 U*	**0.23**	**0.73**	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
MWA-81i	2/26/2024	N	Intermediate	MWA-81i-022624	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.025 U*	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-10i	2/27/2024	N	Intermediate	PA-10i-022724	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.025 U*	**0.078 j**	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-15i	2/26/2024	N	Intermediate	PA-15i-022624	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-16i	2/27/2024	N	Intermediate	PA-16i-022724	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.074 j**	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-17iR	2/26/2024	N	Intermediate	PA-17iR-022624	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.087 j**	**0.15 j**	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-32i	2/28/2024	N	Intermediate	PA-32i-022824	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.057 j**	**0.070 j**	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-44i	2/25/2024	N	Intermediate	PA-44i-022524	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
MWA-11i(d)	2/28/2024	N	Deep	MWA-11i(d)-022824	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.025 U*	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
MWA-31i(d)	2/28/2024	N	Deep	MWA-31i(d)-022824	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.39 J+**	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*
MWA-56d	2/28/2024	N	Deep	MWA-56d-022824	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.9 U*	*< 4.3 U*	*< 4.1 U*	*< 3.3 U*
MWA-58d	2/28/2024	N	Deep	MWA-58d-022824	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.9 U*	*< 4.3 U*	*< 4.1 U*	*< 3.3 U*
MWA-58d	2/28/2024	FD	Deep	DUP-02-022824	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.22 j**	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*
PA-18d	2/27/2024	N	Deep	PA-18d-022724	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*
PA-19d	2/28/2024	N	Deep	PA-19d-022824	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 290 U*	*< 430 U*	*< 410 U*	*< 330 U*
PA-20d	2/28/2024	N	Deep	PA-20d-022824	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**2.1**	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*
PA-21d	2/28/2024	N	Deep	PA-21d-022824	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 290 U*	*< 430 U*	*< 410 U*	*< 330 U*
PA-22d	2/27/2024	N	Deep	PA-22d-022724	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*
PA-23d	2/27/2024	N	Deep	PA-23d-022724	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*
PA-24d	2/27/2024	N	Deep	PA-24d-022724	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*
PA-25d	2/27/2024	N	Deep	PA-25d-022724	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.025 U*	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-26d	2/26/2024	N	Deep	PA-26d-022624	*< 0.038 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.025 U*	*< 0.035 U*	*< 0.084 U*	*< 0.15 U*	*< 0.050 U*	*< 0.17 U*
PA-27d	2/27/2024	N	Deep	PA-27d-022724	*< 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*
PA-30d	2/28/2024	N	Deep	PA-30d-022824	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 290 U*	*< 430 U*	*< 410 U*	*< 330 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 1, 2024, Groundwater Monitoring Report
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				Analyte	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	NE	14	3.7	1.5	NE	10	NE	15	NE
Location ID	**Sample Date**	**Sample Type**	**Aquifer Classification**	**Sample ID**										
MWA-41	2/26/2024	N	Shallow	MWA-41-022624	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
MWA-63	2/27/2024	N	Shallow	MWA-63-022724	*< 6.1 U*	*< 5.7 U*	*< 4.6 U*	*< 4.2 U*	*< 1.8 U*	*< 5.5 U*	*< 4.8 U*	*< 3.5 U*	*< 4.6 U*	*< 3.2 U*
MWA-82	2/25/2024	N	Shallow	MWA-82-022524	*< 0.20 U*	*< 0.17 U*	**0.072 j**	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-03	2/26/2024	N	Shallow	PA-03-022624	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-04	2/27/2024	N	Shallow	PA-04-022724	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-04	2/27/2024	FD	Shallow	DUP-01-022724	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.20 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-08	2/26/2024	N	Shallow	PA-08-022624	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-09	2/26/2024	N	Shallow	PA-09-022624	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-31	2/27/2024	N	Shallow	PA-31-022724	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.20 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
MWA-81i	2/26/2024	N	Intermediate	MWA-81i-022624	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-10i	2/27/2024	N	Intermediate	PA-10i-022724	*< 0.20 U*	*< 0.17 U*	**0.15 j**	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-15i	2/26/2024	N	Intermediate	PA-15i-022624	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-16i	2/27/2024	N	Intermediate	PA-16i-022724	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	**0.065 j**	*< 0.060 U*
PA-17iR	2/26/2024	N	Intermediate	PA-17iR-022624	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-32i	2/28/2024	N	Intermediate	PA-32i-022824	*< 0.20 U*	*< 0.17 U*	**0.23 j**	*< 0.20 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-44i	2/25/2024	N	Intermediate	PA-44i-022524	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
MWA-11i(d)	2/28/2024	N	Deep	MWA-11i(d)-022824	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.20 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
MWA-31i(d)	2/28/2024	N	Deep	MWA-31i(d)-022824	*< 0.61 U*	*< 0.57 U*	*< 0.46 U*	*< 0.42 U*	*< 0.18 U*	*< 0.55 UJ*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*
MWA-56d	2/28/2024	N	Deep	MWA-56d-022824	*< 6.1 U*	*< 5.7 U*	*< 4.6 U*	*< 4.2 U*	*< 1.8 U*	*< 5.5 U*	*< 4.8 U*	*< 3.5 U*	*< 4.6 U*	*< 3.2 U*
MWA-58d	2/28/2024	N	Deep	MWA-58d-022824	*< 6.1 U*	*< 5.7 U*	*< 4.6 U*	*< 4.2 U*	*< 1.8 U*	*< 5.5 U*	*< 4.8 U*	*< 3.5 U*	*< 4.6 U*	*< 3.2 U*
MWA-58d	2/28/2024	FD	Deep	DUP-02-022824	*< 0.61 U*	*< 0.57 U*	*< 0.46 U*	*< 0.42 U*	*< 0.18 U*	*< 0.55 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*
PA-18d	2/27/2024	N	Deep	PA-18d-022724	*< 0.61 U*	*< 0.57 U*	*< 0.46 U*	*< 0.42 U*	*< 0.18 U*	*< 0.55 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*
PA-19d	2/28/2024	N	Deep	PA-19d-022824	*< 610 U*	*< 570 U*	*< 460 U*	*< 420 U*	*< 180 U*	*< 550 U*	*< 480 U*	*< 350 U*	*< 460 U*	*< 320 U*
PA-20d	2/28/2024	N	Deep	PA-20d-022824	*< 0.61 U*	*< 0.57 U*	*< 0.46 U*	**1.8**	*< 0.18 U*	*< 0.55 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*
PA-21d	2/28/2024	N	Deep	PA-21d-022824	*< 610 U*	*< 570 U*	*< 460 U*	*< 420 U*	*< 180 U*	*< 550 U*	*< 480 U*	*< 350 U*	*< 460 U*	*< 320 U*
PA-22d	2/27/2024	N	Deep	PA-22d-022724	*< 0.61 U*	*< 0.57 U*	*< 0.46 U*	*< 0.42 U*	*< 0.18 U*	*< 0.55 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*
PA-23d	2/27/2024	N	Deep	PA-23d-022724	*< 0.61 U*	*< 0.57 U*	*< 0.46 U*	*< 0.42 U*	*< 0.18 U*	*< 0.55 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*
PA-24d	2/27/2024	N	Deep	PA-24d-022724	*< 0.61 U*	*< 0.57 U*	*< 0.46 U*	**1.2**	*< 0.18 U*	*< 0.55 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*
PA-25d	2/27/2024	N	Deep	PA-25d-022724	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	*< 0.043 U*	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	**0.11 j**	*< 0.060 U*
PA-26d	2/26/2024	N	Deep	PA-26d-022624	*< 0.20 U*	*< 0.17 U*	*< 0.038 U*	**0.30**	*< 0.060 U*	*< 0.15 U*	*< 0.050 U*	*< 0.025 U*	*< 0.050 U*	*< 0.060 U*
PA-27d	2/27/2024	N	Deep	PA-27d-022724	*< 0.61 U*	*< 0.57 U*	*< 0.46 U*	*< 0.42 U*	*< 0.18 U*	*< 0.55 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*
PA-30d	2/28/2024	N	Deep	PA-30d-022824	*< 610 U*	*< 570 U*	*< 460 U*	*< 420 U*	*< 180 U*	*< 550 U*	*< 480 U*	*< 350 U*	*< 460 U*	*< 320 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 1, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	2-Butanone (Methyl ethyl ketone)	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	14000	NE	NE	NE	1500	1.4	NE	1.7	14	150
Location ID	**Sample Date**	**Sample Type**	**Aquifer Classification**	**Sample ID**										
MWA-41	2/26/2024	N	Shallow	MWA-41-022624	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
MWA-63	2/27/2024	N	Shallow	MWA-63-022724	< 47 U	< 3.8 U	< 2.8 U	< 25 U	< 32 U	< 2.4 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 U
MWA-82	2/25/2024	N	Shallow	MWA-82-022524	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.082 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-03	2/26/2024	N	Shallow	PA-03-022624	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.086 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-04	2/27/2024	N	Shallow	PA-04-022724	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.033 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-04	2/27/2024	FD	Shallow	DUP-01-022724	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.032 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-08	2/26/2024	N	Shallow	PA-08-022624	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-09	2/26/2024	N	Shallow	PA-09-022624	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.070 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-31	2/27/2024	N	Shallow	PA-31-022724	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.030 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
MWA-81i	2/26/2024	N	Intermediate	MWA-81i-022624	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-10i	2/27/2024	N	Intermediate	PA-10i-022724	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.038 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-15i	2/26/2024	N	Intermediate	PA-15i-022624	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-16i	2/27/2024	N	Intermediate	PA-16i-022724	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-17iR	2/26/2024	N	Intermediate	PA-17iR-022624	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.15 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-32i	2/28/2024	N	Intermediate	PA-32i-022824	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.089 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-44i	2/25/2024	N	Intermediate	PA-44i-022524	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
MWA-11i(d)	2/28/2024	N	Deep	MWA-11i(d)-022824	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
MWA-31i(d)	2/28/2024	N	Deep	MWA-31i(d)-022824	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 2.9 U	< 0.51 U	< 0.21 U
MWA-56d	2/28/2024	N	Deep	MWA-56d-022824	< 47 U	< 3.8 U	< 2.8 U	< 25 U	< 32 U	< 2.4 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 U
MWA-58d	2/28/2024	N	Deep	MWA-58d-022824	< 47 U	< 3.8 U	< 2.8 U	< 25 U	< 32 U	< 2.4 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 U
MWA-58d	2/28/2024	FD	Deep	DUP-02-022824	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	**0.28 j**	< 0.43 U	< 2.9 U	< 0.51 U	< 0.21 U
PA-18d	2/27/2024	N	Deep	PA-18d-022724	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-19d	2/28/2024	N	Deep	PA-19d-022824	< 4700 U	< 380 U	< 280 U	< 2500 U	< 3200 U	< 240 U	< 430 U	< 290 U	< 510 U	< 210 U
PA-20d	2/28/2024	N	Deep	PA-20d-022824	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	**0.86 j**	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-21d	2/28/2024	N	Deep	PA-21d-022824	< 4700 U	< 380 U	< 280 U	< 2500 U	< 3200 U	< 240 U	< 430 U	< 290 U	< 510 U	< 210 U
PA-22d	2/27/2024	N	Deep	PA-22d-022724	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-23d	2/27/2024	N	Deep	PA-23d-022724	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-24d	2/27/2024	N	Deep	PA-24d-022724	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-25d	2/27/2024	N	Deep	PA-25d-022724	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-26d	2/26/2024	N	Deep	PA-26d-022624	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.064 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-27d	2/27/2024	N	Deep	PA-27d-022724	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-30d	2/28/2024	N	Deep	PA-30d-022824	< 4700 U	< 380 U	< 280 U	< 2500 U	< 3200 U	< 240 U	< 430 U	< 290 U	< 510 U	< 210 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
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				Analyte	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	0.92	0.16	64	NE	NE	28	NE	590	NE	1.3
Location ID	**Sample Date**	**Sample Type**	**Aquifer Classification**	**Sample ID**										
MWA-41	2/26/2024	N	Shallow	MWA-41-022624	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 U*	*< 0.030 U*	*< 0.14 UJ*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
MWA-63	2/27/2024	N	Shallow	MWA-63-022724	*< 5.3 U*	*< 3.0 U*	*< 4.4 U*	*< 2.9 U*	*< 3.5 U*	**68**	*< 2.8 U*	*< 3.5 U*	*< 4.2 U*	*< 4.3 U*
MWA-82	2/25/2024	N	Shallow	MWA-82-022524	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 U*	**0.64**	*< 0.14 UJ*	**0.067 j**	*< 0.090 U*	*< 0.055 U*
PA-03	2/26/2024	N	Shallow	PA-03-022624	*< 0.083 U*	*< 0.025 U*	*< 0.20 U*	*< 0.050 U*	*< 0.096 U*	*< 0.030 U*	*< 0.14 UJ*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
PA-04	2/27/2024	N	Shallow	PA-04-022724	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 UJ*	**0.042 j**	*< 0.14 U*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
PA-04	2/27/2024	FD	Shallow	DUP-01-022724	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 UJ*	**0.039 j**	*< 0.14 U*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
PA-08	2/26/2024	N	Shallow	PA-08-022624	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 U*	**0.079 j**	*< 0.14 UJ*	**0.062 j**	*< 0.090 U*	*< 0.055 U*
PA-09	2/26/2024	N	Shallow	PA-09-022624	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 U*	**0.24**	**0.16 J-**	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
PA-31	2/27/2024	N	Shallow	PA-31-022724	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 UJ*	**0.063 j**	*< 0.14 U*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
MWA-81i	2/26/2024	N	Intermediate	MWA-81i-022624	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 U*	*< 0.030 U*	*< 0.14 UJ*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
PA-10i	2/27/2024	N	Intermediate	PA-10i-022724	*< 0.083 U*	*< 0.025 U*	**0.53**	*< 0.050 U*	*< 0.096 U*	*< 0.030 U*	*< 0.14 U*	**0.27**	*< 0.090 U*	*< 0.055 U*
PA-15i	2/26/2024	N	Intermediate	PA-15i-022624	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 U*	*< 0.030 U*	*< 0.14 UJ*	**0.090 j**	*< 0.090 U*	*< 0.055 U*
PA-16i	2/27/2024	N	Intermediate	PA-16i-022724	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 UJ*	*< 0.030 U*	*< 0.14 U*	**0.10 j**	*< 0.090 U*	*< 0.055 U*
PA-17iR	2/26/2024	N	Intermediate	PA-17iR-022624	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 U*	*< 0.030 U*	*< 0.14 U*	**0.080 j**	*< 0.090 U*	*< 0.055 U*
PA-32i	2/28/2024	N	Intermediate	PA-32i-022824	*< 0.083 U*	*< 0.025 U*	**0.29**	*< 0.050 U*	**0.39 j**	*< 0.030 U*	*< 0.14 U*	**0.11 j**	*< 0.090 U*	*< 0.055 U*
PA-44i	2/25/2024	N	Intermediate	PA-44i-022524	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 UJ*	*< 0.030 U*	*< 0.14 UJ*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
MWA-11i(d)	2/28/2024	N	Deep	MWA-11i(d)-022824	*< 0.083 U*	*< 0.025 U*	**0.061 j**	*< 0.050 U*	*< 0.096 UJ*	*< 0.030 U*	*< 0.14 U*	**0.17 j**	*< 0.090 U*	*< 0.055 U*
MWA-31i(d)	2/28/2024	N	Deep	MWA-31i(d)-022824	*< 0.53 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	**66**	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*
MWA-56d	2/28/2024	N	Deep	MWA-56d-022824	*< 5.3 U*	*< 3.0 U*	*< 4.4 U*	*< 2.9 U*	*< 3.5 U*	**170**	*< 2.8 U*	*< 3.5 U*	*< 4.2 U*	*< 4.3 U*
MWA-58d	2/28/2024	N	Deep	MWA-58d-022824	*< 5.3 U*	*< 3.0 U*	*< 4.4 U*	*< 2.9 U*	*< 3.5 U*	**190**	*< 2.8 U*	*< 3.5 U*	*< 4.2 U*	*< 4.3 U*
MWA-58d	2/28/2024	FD	Deep	DUP-02-022824	*< 0.53 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	**150**	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	**0.44 j**
PA-18d	2/27/2024	N	Deep	PA-18d-022724	*< 0.53 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*
PA-19d	2/28/2024	N	Deep	PA-19d-022824	*< 530 U*	*< 300 U*	**5700**	*< 290 U*	*< 350 U*	*< 260 U*	*< 280 U*	*< 350 U*	*< 420 U*	*< 430 U*
PA-20d	2/28/2024	N	Deep	PA-20d-022824	*< 0.53 U*	*< 0.30 U*	**14**	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*
PA-21d	2/28/2024	N	Deep	PA-21d-022824	*< 530 U*	*< 300 U*	**27000**	*< 290 U*	*< 350 U*	*< 260 U*	*< 280 U*	*< 350 U*	*< 420 U*	*< 430 U*
PA-22d	2/27/2024	N	Deep	PA-22d-022724	*< 0.53 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	**12**	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*
PA-23d	2/27/2024	N	Deep	PA-23d-022724	*< 0.53 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*
PA-24d	2/27/2024	N	Deep	PA-24d-022724	*< 0.53 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*
PA-25d	2/27/2024	N	Deep	PA-25d-022724	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 UJ*	*< 0.030 U*	*< 0.14 U*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
PA-26d	2/26/2024	N	Deep	PA-26d-022624	*< 0.083 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.096 U*	*< 0.030 U*	*< 0.14 UJ*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*
PA-27d	2/27/2024	N	Deep	PA-27d-022724	*< 0.53 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*	*< 0.28 U*	**0.54 j**	*< 0.42 U*	*< 0.43 U*
PA-30d	2/28/2024	N	Deep	PA-30d-022824	*< 530 U*	*< 300 U*	**18000**	*< 290 U*	*< 350 U*	*< 260 U*	*< 280 U*	*< 350 U*	*< 420 U*	*< 430 U*

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Arkema Inc. Facility
Portland, Oregon

Analyte					Dibromomethane	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl tert-butyl ether	Methylene chloride	Naphthalene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	NE	7.3	NE	0.01	NE	1.8	NE	59	12
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID										
MWA-41	2/26/2024	N	Shallow	MWA-41-022624	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
MWA-63	2/27/2024	N	Shallow	MWA-63-022724	< 3.4 U	< 5.3 U	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 U	< 5.3 U	< 4.4 U	< 14 U	< 9.3 U
MWA-82	2/25/2024	N	Shallow	MWA-82-022524	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-03	2/26/2024	N	Shallow	PA-03-022624	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-04	2/27/2024	N	Shallow	PA-04-022724	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-04	2/27/2024	FD	Shallow	DUP-01-022724	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-08	2/26/2024	N	Shallow	PA-08-022624	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-09	2/26/2024	N	Shallow	PA-09-022624	< 0.062 U	< 0.13 UJ	**0.035 j**	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-31	2/27/2024	N	Shallow	PA-31-022724	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
MWA-81i	2/26/2024	N	Intermediate	MWA-81i-022624	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-10i	2/27/2024	N	Intermediate	PA-10i-022724	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-15i	2/26/2024	N	Intermediate	PA-15i-022624	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-16i	2/27/2024	N	Intermediate	PA-16i-022724	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-17iR	2/26/2024	N	Intermediate	PA-17iR-022624	< 0.062 U	< 0.13 UJ	**0.078 j**	< 0.025 U	< 0.067 U	< 0.19 U	**0.14 j**	< 0.070 U	< 1.2 U	< 0.22 U
PA-32i	2/28/2024	N	Intermediate	PA-32i-022824	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-44i	2/25/2024	N	Intermediate	PA-44i-022524	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
MWA-11i(d)	2/28/2024	N	Deep	MWA-11i(d)-022824	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
MWA-31i(d)	2/28/2024	N	Deep	MWA-31i(d)-022824	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.53 U	< 0.44 U	**1.5 j**	< 0.93 U
MWA-56d	2/28/2024	N	Deep	MWA-56d-022824	< 3.4 U	< 5.3 U	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 U	< 5.3 U	< 4.4 U	< 14 U	< 9.3 U
MWA-58d	2/28/2024	N	Deep	MWA-58d-022824	< 3.4 U	< 5.3 U	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 U	< 5.3 U	< 4.4 U	< 14 U	< 9.3 U
MWA-58d	2/28/2024	FD	Deep	DUP-02-022824	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.53 U	< 0.44 U	**1.4 j**	< 0.93 U
PA-18d	2/27/2024	N	Deep	PA-18d-022724	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U
PA-19d	2/28/2024	N	Deep	PA-19d-022824	< 340 U	< 530 U	< 500 U	< 400 U	< 790 U	< 440 U	< 530 U	< 440 U	< 1400 U	< 930 U
PA-20d	2/28/2024	N	Deep	PA-20d-022824	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U
PA-21d	2/28/2024	N	Deep	PA-21d-022824	< 340 U	< 530 U	< 500 U	< 400 U	< 790 U	< 440 U	< 530 U	< 440 U	< 1400 U	< 930 U
PA-22d	2/27/2024	N	Deep	PA-22d-022724	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U
PA-23d	2/27/2024	N	Deep	PA-23d-022724	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U
PA-24d	2/27/2024	N	Deep	PA-24d-022724	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U
PA-25d	2/27/2024	N	Deep	PA-25d-022724	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.22 U
PA-26d	2/26/2024	N	Deep	PA-26d-022624	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	**0.087 j**	< 1.2 U	< 0.22 U
PA-27d	2/27/2024	N	Deep	PA-27d-022724	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U
PA-30d	2/28/2024	N	Deep	PA-30d-022824	< 340 U	< 530 U	< 500 U	< 400 U	< 790 U	< 440 U	< 530 U	< 440 U	< 1400 U	< 930 U

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Arkema Inc. Facility
Portland, Oregon

				Analyte	n-Butylbenzene	n-Propylbenzene	o-Chlorotoluene (2-chlorotoluene)	o-Xylene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	NE	NE	13	NE	NE	NE	0.33	9.8	1000
Location ID	**Sample Date**	**Sample Type**	**Aquifer Classification**	**Sample ID**										
MWA-41	2/26/2024	N	Shallow	MWA-41-022624	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
MWA-63	2/27/2024	N	Shallow	MWA-63-022724	*< 4.4 U*	*< 5.0 U*	*< 5.1 U*	*< 3.9 U*	*< 4.9 U*	*< 5.3 U*	*< 5.8 U*	**8.9 j**	*< 3.9 U*	*< 3.9 U*
MWA-82	2/25/2024	N	Shallow	MWA-82-022524	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.61**	*< 0.050 U*	*< 0.033 U*
PA-03	2/26/2024	N	Shallow	PA-03-022624	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	**0.18 j**	*< 0.033 U*
PA-04	2/27/2024	N	Shallow	PA-04-022724	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.13 j**	*< 0.050 U*	*< 0.033 U*
PA-04	2/27/2024	FD	Shallow	DUP-01-022724	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.12 j**	*< 0.050 U*	*< 0.033 U*
PA-08	2/26/2024	N	Shallow	PA-08-022624	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.21 j**	*< 0.050 U*	*< 0.033 U*
PA-09	2/26/2024	N	Shallow	PA-09-022624	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.29**	**0.083 j**	*< 0.033 U*
PA-31	2/27/2024	N	Shallow	PA-31-022724	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.17 j**	*< 0.050 U*	*< 0.033 U*
MWA-81i	2/26/2024	N	Intermediate	MWA-81i-022624	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-10i	2/27/2024	N	Intermediate	PA-10i-022724	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-15i	2/26/2024	N	Intermediate	PA-15i-022624	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-16i	2/27/2024	N	Intermediate	PA-16i-022724	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-17iR	2/26/2024	N	Intermediate	PA-17iR-022624	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	**0.15 j**	*< 0.033 U*
PA-32i	2/28/2024	N	Intermediate	PA-32i-022824	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-44i	2/25/2024	N	Intermediate	PA-44i-022524	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
MWA-11i(d)	2/28/2024	N	Deep	MWA-11i(d)-022824	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
MWA-31i(d)	2/28/2024	N	Deep	MWA-31i(d)-022824	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 UJ*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
MWA-56d	2/28/2024	N	Deep	MWA-56d-022824	*< 4.4 U*	*< 5.0 U*	*< 5.1 U*	*< 3.9 U*	*< 4.9 U*	*< 5.3 U*	*< 5.8 U*	*< 4.1 U*	*< 3.9 U*	*< 3.9 U*
MWA-58d	2/28/2024	N	Deep	MWA-58d-022824	*< 4.4 U*	*< 5.0 U*	*< 5.1 U*	*< 3.9 U*	*< 4.9 U*	*< 5.3 U*	*< 5.8 U*	*< 4.1 U*	*< 3.9 U*	*< 3.9 U*
MWA-58d	2/28/2024	FD	Deep	DUP-02-022824	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-18d	2/27/2024	N	Deep	PA-18d-022724	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-19d	2/28/2024	N	Deep	PA-19d-022824	*< 440 U*	*< 500 U*	*< 510 U*	*< 390 U*	*< 490 U*	*< 530 U*	*< 580 U*	*< 410 U*	*< 390 U*	*< 390 U*
PA-20d	2/28/2024	N	Deep	PA-20d-022824	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-21d	2/28/2024	N	Deep	PA-21d-022824	*< 440 U*	*< 500 U*	*< 510 U*	*< 390 U*	*< 490 U*	*< 530 U*	*< 580 U*	*< 410 U*	*< 390 U*	*< 390 U*
PA-22d	2/27/2024	N	Deep	PA-22d-022724	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-23d	2/27/2024	N	Deep	PA-23d-022724	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	**4.0**	*< 0.39 U*
PA-24d	2/27/2024	N	Deep	PA-24d-022724	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-25d	2/27/2024	N	Deep	PA-25d-022724	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-26d	2/26/2024	N	Deep	PA-26d-022624	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	**0.082 j**	*< 0.033 U*
PA-27d	2/27/2024	N	Deep	PA-27d-022724	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-30d	2/28/2024	N	Deep	PA-30d-022824	*< 440 U*	*< 500 U*	*< 510 U*	*< 390 U*	*< 490 U*	*< 530 U*	*< 580 U*	*< 410 U*	*< 390 U*	*< 390 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 1, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane (Freon 11)	Vinyl chloride
				Unit	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	3	NE	0.24
Location ID	**Sample Date**	**Sample Type**	**Aquifer Classification**	**Sample ID**				
MWA-41	2/26/2024	N	Shallow	MWA-41-022624	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-63	2/27/2024	N	Shallow	MWA-63-022724	*< 4.1 U*	*< 2.6 U*	*< 3.6 U*	*< 2.2 U*
MWA-82	2/25/2024	N	Shallow	MWA-82-022524	*< 0.092 U*	**0.35**	*< 0.12 U*	*< 0.040 U*
PA-03	2/26/2024	N	Shallow	PA-03-022624	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-04	2/27/2024	N	Shallow	PA-04-022724	*< 0.092 U*	*< 0.066 U*	*< 0.12 UJ*	*< 0.040 UJ*
PA-04	2/27/2024	FD	Shallow	DUP-01-022724	*< 0.092 U*	*< 0.066 U*	*< 0.12 UJ*	*< 0.040 UJ*
PA-08	2/26/2024	N	Shallow	PA-08-022624	*< 0.092 U*	**0.11 j**	*< 0.12 U*	*< 0.040 U*
PA-09	2/26/2024	N	Shallow	PA-09-022624	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-31	2/27/2024	N	Shallow	PA-31-022724	*< 0.092 U*	**0.070 j**	*< 0.12 UJ*	*< 0.040 UJ*
MWA-81i	2/26/2024	N	Intermediate	MWA-81i-022624	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-10i	2/27/2024	N	Intermediate	PA-10i-022724	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	**0.12**
PA-15i	2/26/2024	N	Intermediate	PA-15i-022624	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-16i	2/27/2024	N	Intermediate	PA-16i-022724	*< 0.092 U*	*< 0.066 U*	*< 0.12 UJ*	*< 0.040 UJ*
PA-17iR	2/26/2024	N	Intermediate	PA-17iR-022624	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-32i	2/28/2024	N	Intermediate	PA-32i-022824	*< 0.092 U*	*< 0.066 U*	*< 0.12 UJ*	**0.15**
PA-44i	2/25/2024	N	Intermediate	PA-44i-022524	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-11i(d)	2/28/2024	N	Deep	MWA-11i(d)-022824	*< 0.092 U*	*< 0.066 U*	*< 0.12 UJ*	*< 0.040 UJ*
MWA-31i(d)	2/28/2024	N	Deep	MWA-31i(d)-022824	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
MWA-56d	2/28/2024	N	Deep	MWA-56d-022824	*< 4.1 U*	*< 2.6 U*	*< 3.6 U*	*< 2.2 U*
MWA-58d	2/28/2024	N	Deep	MWA-58d-022824	*< 4.1 U*	*< 2.6 U*	*< 3.6 U*	*< 2.2 U*
MWA-58d	2/28/2024	FD	Deep	DUP-02-022824	*< 0.41 U*	**0.26 j**	*< 0.36 U*	*< 0.22 U*
PA-18d	2/27/2024	N	Deep	PA-18d-022724	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-19d	2/28/2024	N	Deep	PA-19d-022824	*< 410 U*	*< 260 U*	*< 360 U*	*< 220 U*
PA-20d	2/28/2024	N	Deep	PA-20d-022824	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-21d	2/28/2024	N	Deep	PA-21d-022824	*< 410 U*	*< 260 U*	*< 360 U*	*< 220 U*
PA-22d	2/27/2024	N	Deep	PA-22d-022724	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-23d	2/27/2024	N	Deep	PA-23d-022724	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-24d	2/27/2024	N	Deep	PA-24d-022724	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-25d	2/27/2024	N	Deep	PA-25d-022724	*< 0.092 U*	*< 0.066 U*	*< 0.12 UJ*	*< 0.040 UJ*
PA-26d	2/26/2024	N	Deep	PA-26d-022624	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-27d	2/27/2024	N	Deep	PA-27d-022724	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-30d	2/28/2024	N	Deep	PA-30d-022824	*< 410 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.
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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 1, 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	1,800
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID		
MWA-41	2/26/2024	N	Shallow	MWA-41-022624	**8.0**	*< 2.0 U*
MWA-63	2/27/2024	N	Shallow	MWA-63-022724	**4.5**	*< 2.0 U*
MWA-82	2/25/2024	N	Shallow	MWA-82-022524	**7.9**	**20**
PA-03	2/26/2024	N	Shallow	PA-03-022624	**4.2**	*< 2.0 U*
PA-04	2/27/2024	N	Shallow	PA-04-022724	**5.3**	*< 4.0 U*
PA-04	2/27/2024	FD	Shallow	DUP-01-022724	**5.3**	*< 4.0 U*
PA-08	2/26/2024	N	Shallow	PA-08-022624	**140**	*< 10 U*
PA-09	2/26/2024	N	Shallow	PA-09-022624	**160**	*< 20 U*
PA-31	2/27/2024	N	Shallow	PA-31-022724	**3.5**	*< 2.0 U*
MWA-81i	2/26/2024	N	Intermediate	MWA-81i-022624	**23**	*< 2.0 U*
PA-10i	2/27/2024	N	Intermediate	PA-10i-022724	**55**	*< 10 U*
PA-15i	2/26/2024	N	Intermediate	PA-15i-022624	**20**	*< 10 U*
PA-16i	2/27/2024	N	Intermediate	PA-16i-022724	**12**	*< 20 U*
PA-17iR	2/26/2024	N	Intermediate	PA-17iR-022624	**32**	*< 2.0 U*
PA-32i	2/28/2024	N	Intermediate	PA-32i-022824	**7,600**	*< 20 U*
PA-44i	2/25/2024	N	Intermediate	PA-44i-022524	**93**	*< 10 U*
MWA-11i(d)	2/28/2024	N	Deep	MWA-11i(d)-022824	**6,300**	*< 10 U*
MWA-31i(d)	2/28/2024	N	Deep	MWA-31i(d)-022824	**26,000**	**100,000**
MWA-56d	2/28/2024	N	Deep	MWA-56d-022824	**14,000**	**16,000**
MWA-58d	2/28/2024	N	Deep	MWA-58d-022824	**19,000**	**50,000**
MWA-58d	2/28/2024	FD	Deep	DUP-02-022824	**20,000**	**49,000**
PA-18d	2/27/2024	N	Deep	PA-18d-022724	**98**	*< 20 U*
PA-19d	2/28/2024	N	Deep	PA-19d-022824	**330**	*< 10 U*
PA-20d	2/28/2024	N	Deep	PA-20d-022824	**820**	*< 10 U*
PA-21d	2/28/2024	N	Deep	PA-21d-022824	**300**	*< 10 U*
PA-22d	2/27/2024	N	Deep	PA-22d-022724	**5,300**	**14,000**
PA-23d	2/27/2024	N	Deep	PA-23d-022724	**9,700**	*< 100 U*
PA-24d	2/27/2024	N	Deep	PA-24d-022724	**30,000**	*< 400 U*
PA-25d	2/27/2024	N	Deep	PA-25d-022724	**13**	*< 2.0 U*
PA-26d	2/26/2024	N	Deep	PA-26d-022624	**64**	*< 2.0 U*
PA-27d	2/27/2024	N	Deep	PA-27d-022724	**460**	*< 20 U*
PA-30d	2/28/2024	N	Deep	PA-30d-022824	**370**	*< 20 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.

FIGURES

Willamette River

GCC1 & Proximal Wells

GCC2

GCC3

GCC4 & Proximal Wells

GCC5 & Proximal Wells

GCC6 & Proximal Wells

Groundwater Treatment Plant

Sand Filter Basin

Detention Basin

Well Distal from BW and GCCs

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

Legend

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

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

N

0 170 340
Feet

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

Figure 1
Site Layout
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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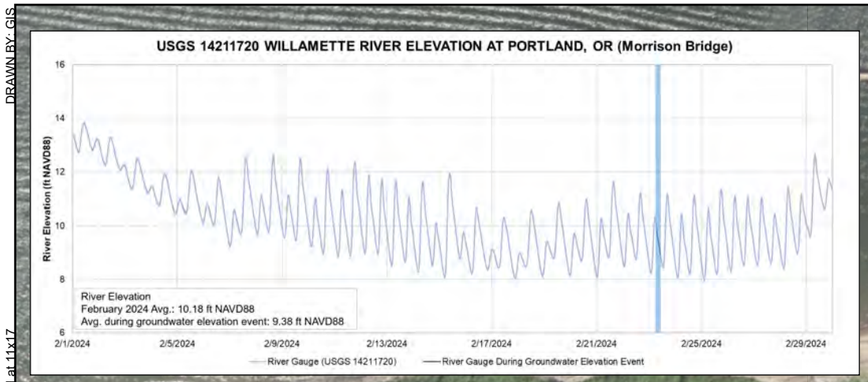

Willamette River

Groundwater Treatment Plant

Sand Filter Basin

Detention Basin

RP-02-31 12.81
MWA-63 15.02
PA-35 11.99
RW-07 11.76
MWA-84 10.12
MWA-2 10.15
MWA-61 10.22
MWA-69 9.80
RW-23 11.41
PA-36 11.08
PA-05 11.50
RW-08 11.75
RW-10 13.18
PA-06 13.03
MWA-85 0.71
RW-12 13.83
MWA-86 6.40
MWA-15r 12.84
MWA-42 14.32
RW-14 15.57
MWA-87 15.87
MWA-20 15.76
MWA-18 10.83
RW-17 15.62
RW-18 15.10
RW-20 15.46
MWA-46 10.61
MWA-19 10.66
MWA-47 10.30
RW-15 15.98
PA-28 16.26
MWA-88 -0.34
PA-07 15.57
MWA-29 10.64
PA-41 14.14
PA-38 15.74
PA-42 13.78
MWA-43 11.31
MWA-89 4.35
RW-22 14.53
PA-08 14.13
PA-09 13.07
RW-25 14.10
PA-43 14.66
MWA-41 13.58
MWA-82 16.04
RW-05 26.68
PA-33 29.27
MWA-83 10.48
MWA-22 16.37
PA-03 29.95
PA-04 30.22
PA-31 30.02
MWA-24 16.53
MWA-40 21.08
MWA-33 21.26
RP-10-30 32.36
MWA-71 33.30
MWA-72 33.18
MWA-73 32.65

Legend

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

Notes:
* Value not used for contouring.
Water levels collected February 23, 2024.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 160 320
Feet

Figure 2
February 2024 Shallow Zone Groundwater Contours
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

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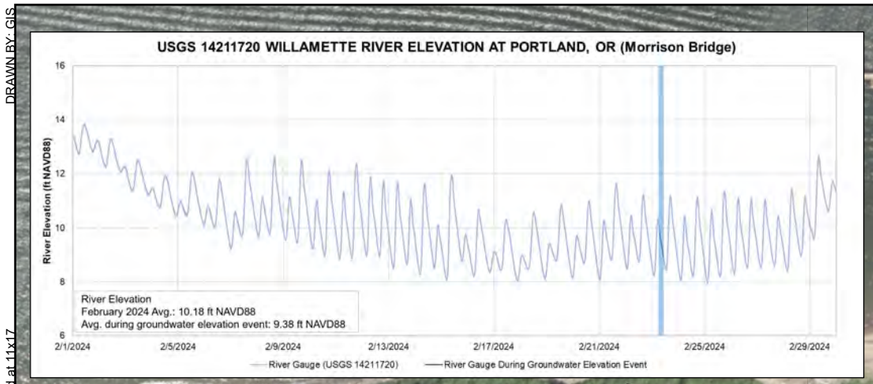

Legend

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

Notes:
* Value not used for contouring.
Water levels collected February 23, 2024.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 160 320
Feet

Figure 3
February 2024 Intermediate Zone Groundwater Contours
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

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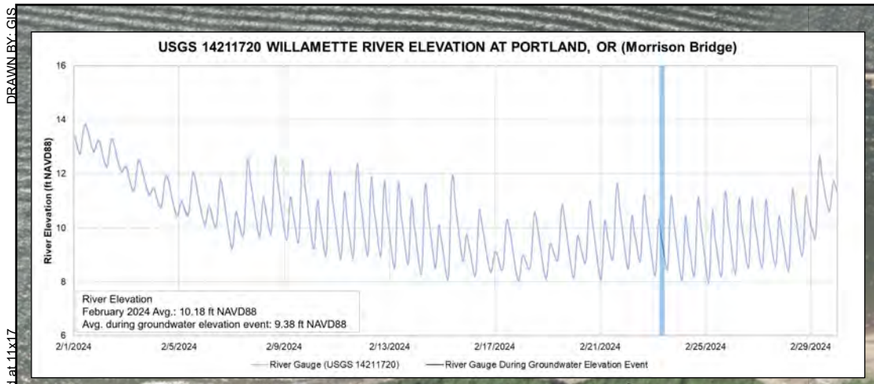

Legend

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

Notes:
* Value not used for contouring.
Gravel zone wells not used in contouring.
Water levels collected February 23, 2024.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 160 320
Feet

Figure 4
February 2024 Deep Zone Groundwater Contours
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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ERM

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Source Control\maps\PMP\GWET PMP 20240212\Arkema_GWET PMP February 2024.aprx REVISED: 05/13/2024 SCALE: 1:1,500 when printed at 11x17 DRAWN BY: GIS

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 5_Chlorobenzene Shallow.mxd, REVISED: 05/13/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 5/13/2024

Willamette River

MWA-69 NS
MWA-61 NS
MWA-2 NS
MWA-46 NS
MWA-19 NS
MWA-47 NS
MWA-18 NS
MWA-30 NS
PA-28 NS
PA-07 NS
MWA-29 NS
PA-05 NS
PA-06 NS
PA-36 NS
MWA-20 NS
PA-42 NS
MWA-15r NS
MWA-42 NS
PA-38 NS
MWA-63 ND < 4.4 U
Groundwater Treatment Plant
PA-04 ND < 0.060 U
PA-03 ND < 0.20 U
PA-31 ND < 0.060 U
MWA-22 NS
PA-08 ND < 0.060 U
PA-09 ND < 0.060 U
MWA-41 ND < 0.060 U
MWA-24 NS
MWA-82 ND < 0.060 U
MWA-40 NS
MWA-33 NS

Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

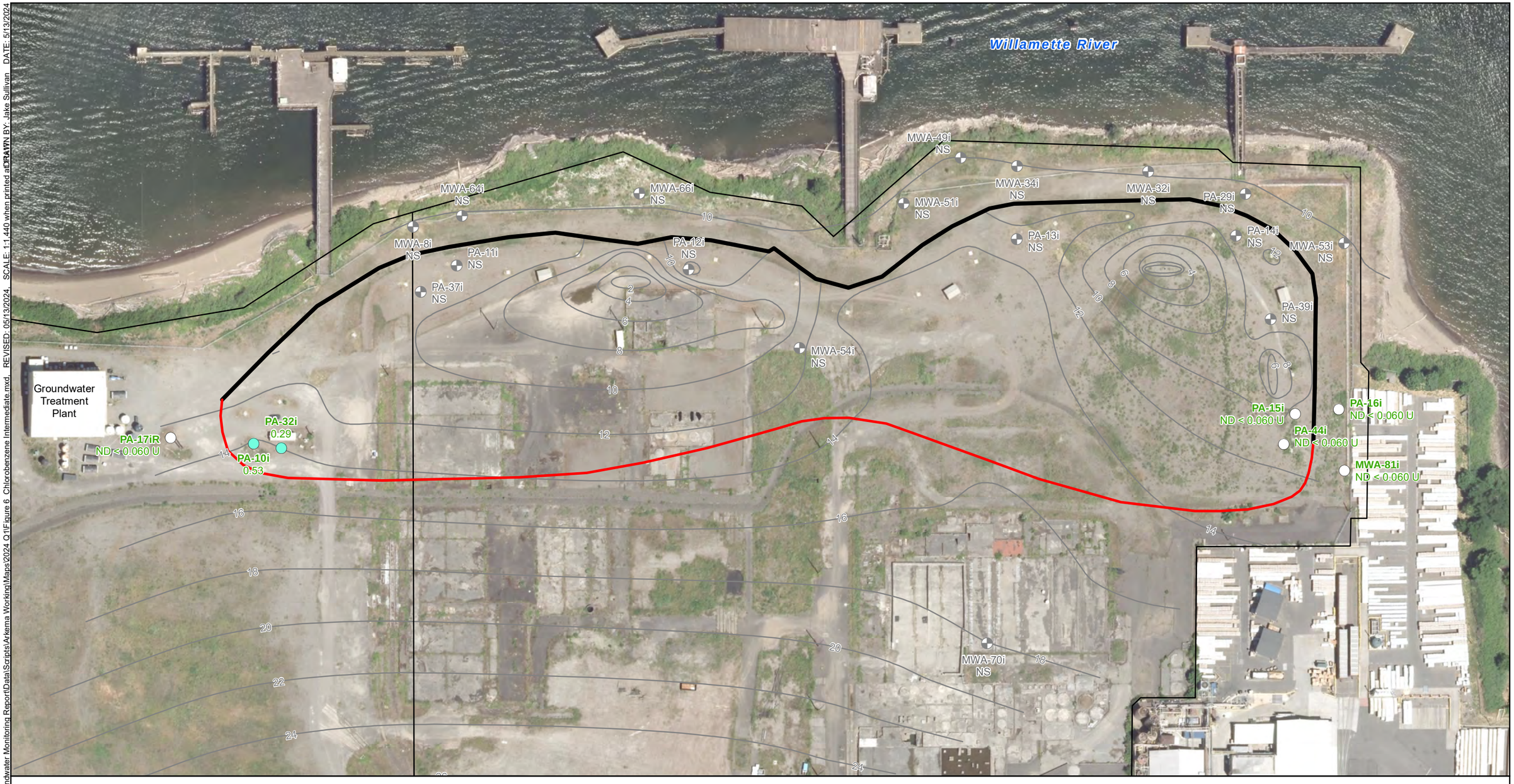
0 120 240
Feet

Figure 5
Chlorobenzene Groundwater Concentrations Shallow Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 6_Chlorobenzene Intermediate.mxd REVISED: 05/13/2024 SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 5/13/2024



Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Figure 6
Chlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 7_Chlorobenzene Deep.mxd REVISED: 05/13/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 5/13/2024

Willamette River

PA-21d
27,000

PA-19d
5,700

PA-30d
18,000

PA-20d
14

MWA-56d
ND < 4.4 U

MWA-58d
ND < 0.44 U

MWA-31i(d)
ND < 0.44 U

PA-24d
ND < 0.44 U

PA-22d
ND < 0.44 U

PA-23d
ND < 0.44 U

MWA-11i(d)
0.061 j

Groundwater Treatment Plant

PA-27d
ND < 0.44 U

PA-18d
ND < 0.44 U

PA-25d
ND < 0.060 U

PA-26d
ND < 0.060 U

10
12
14
16
18
20
22

Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 7
Chlorobenzene Groundwater Concentrations
Deep Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

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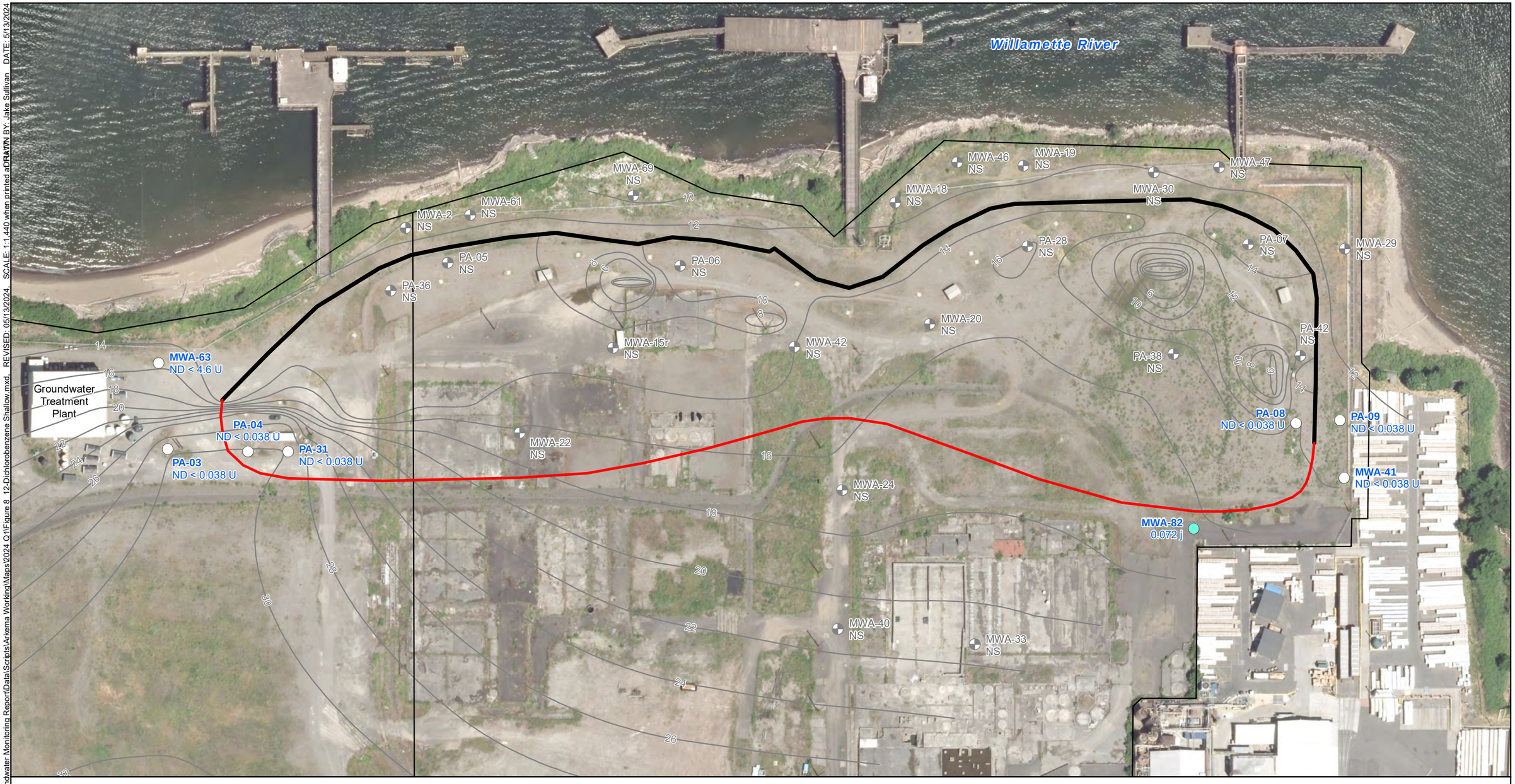
Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl



Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 µg/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

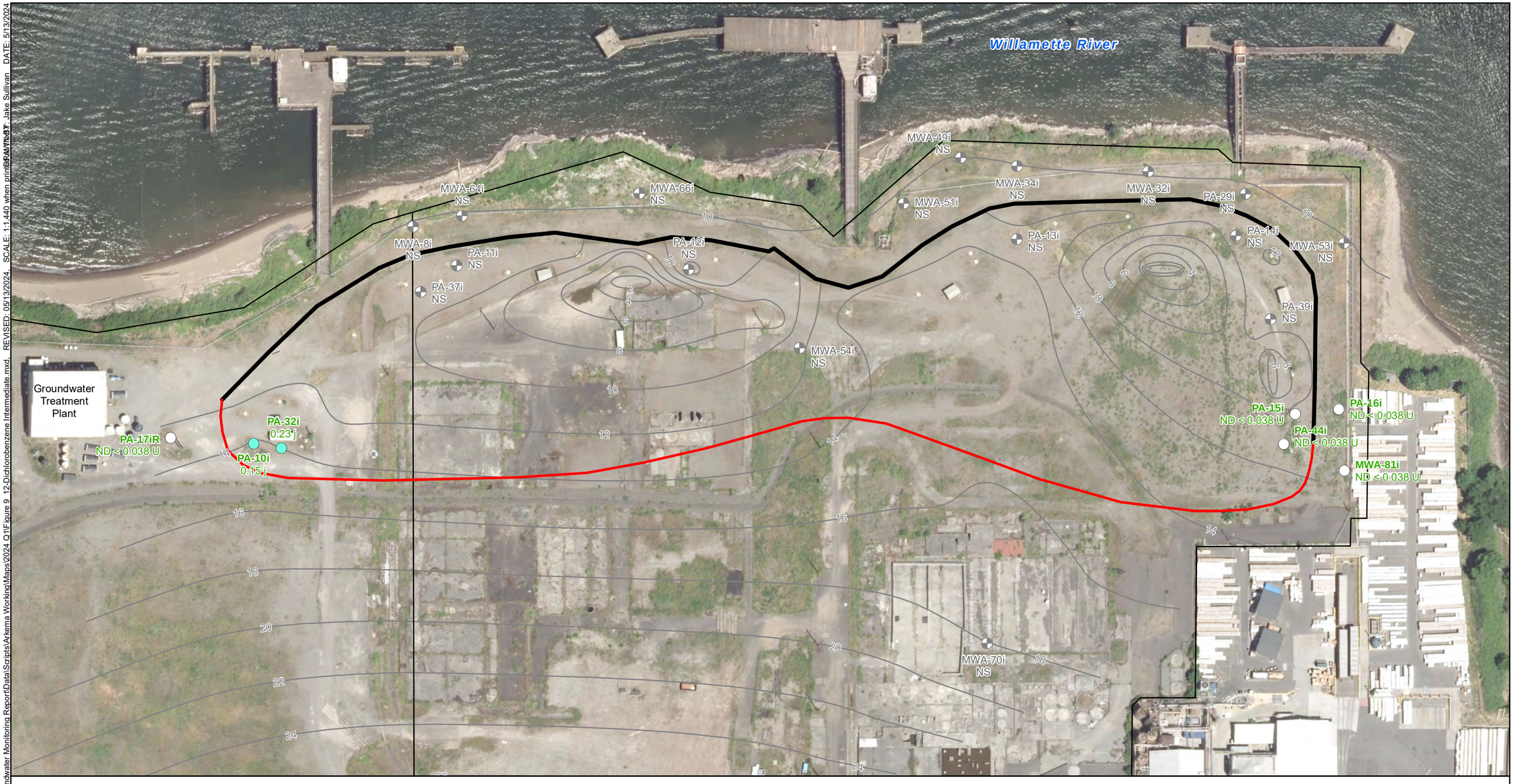
0 120 240
Feet

Figure 8
1,2-Dichlorobenzene Groundwater Concentrations
Shallow Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 8_1,2-Dichlorobenzene Shallow.mxd, REVISED: 05/13/2024, SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 5/13/2024



Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 µg/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

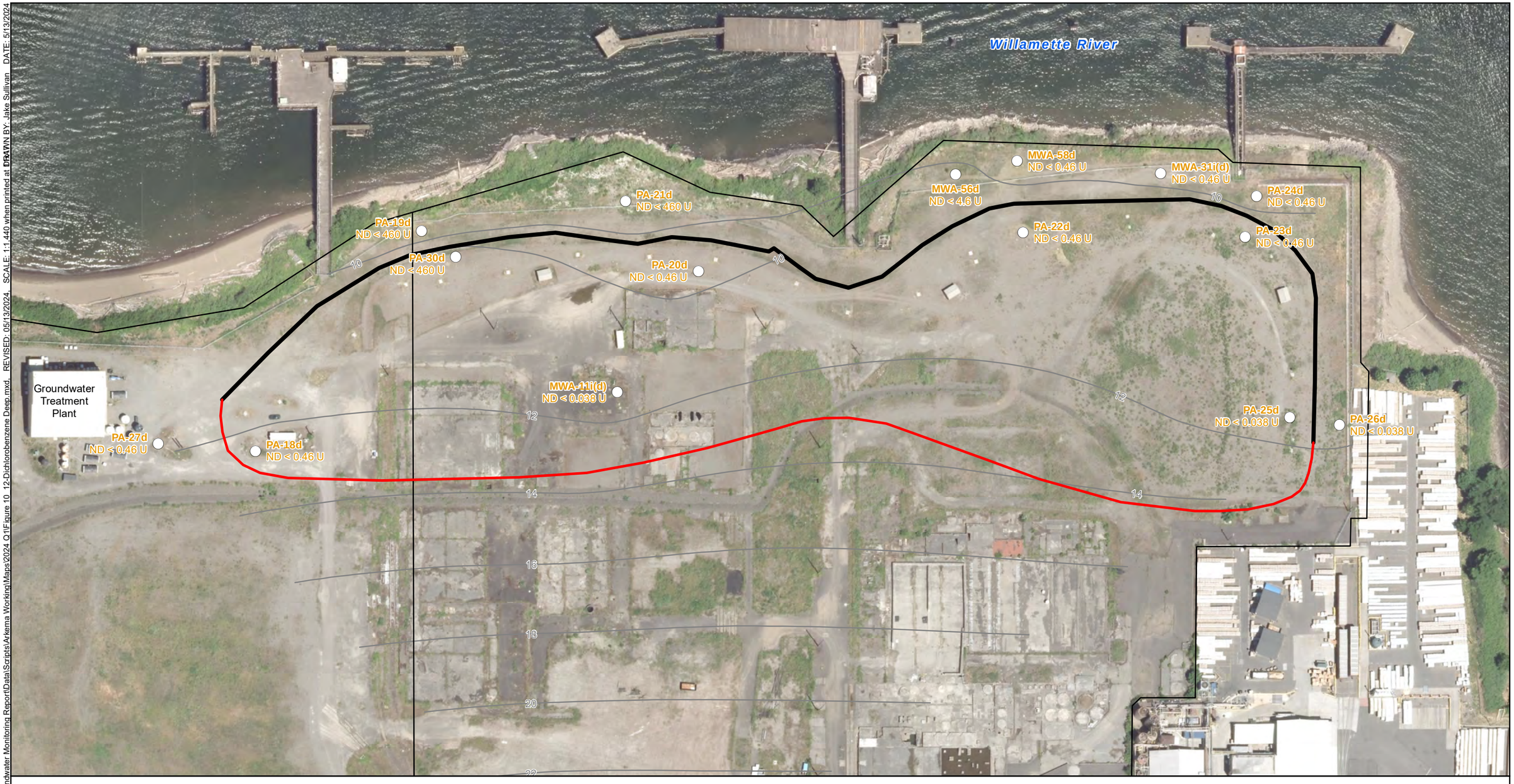
Figure 9
1,2-Dichlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\USI\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 9_12-Dichlorobenzene Intermediate.mxd REVISED: 05/13/2024, SCALE: 1:1,440 when printed at 11" DRAWN BY: Jake Sullivan DATE: 5/13/2024

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 10_12-Dichlorobenzene Deep.mxd_ REVISED: 06/13/2024_ SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan_ DATE: 5/13/2024



Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 µg/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Environmental Resources Management
www.erm.com
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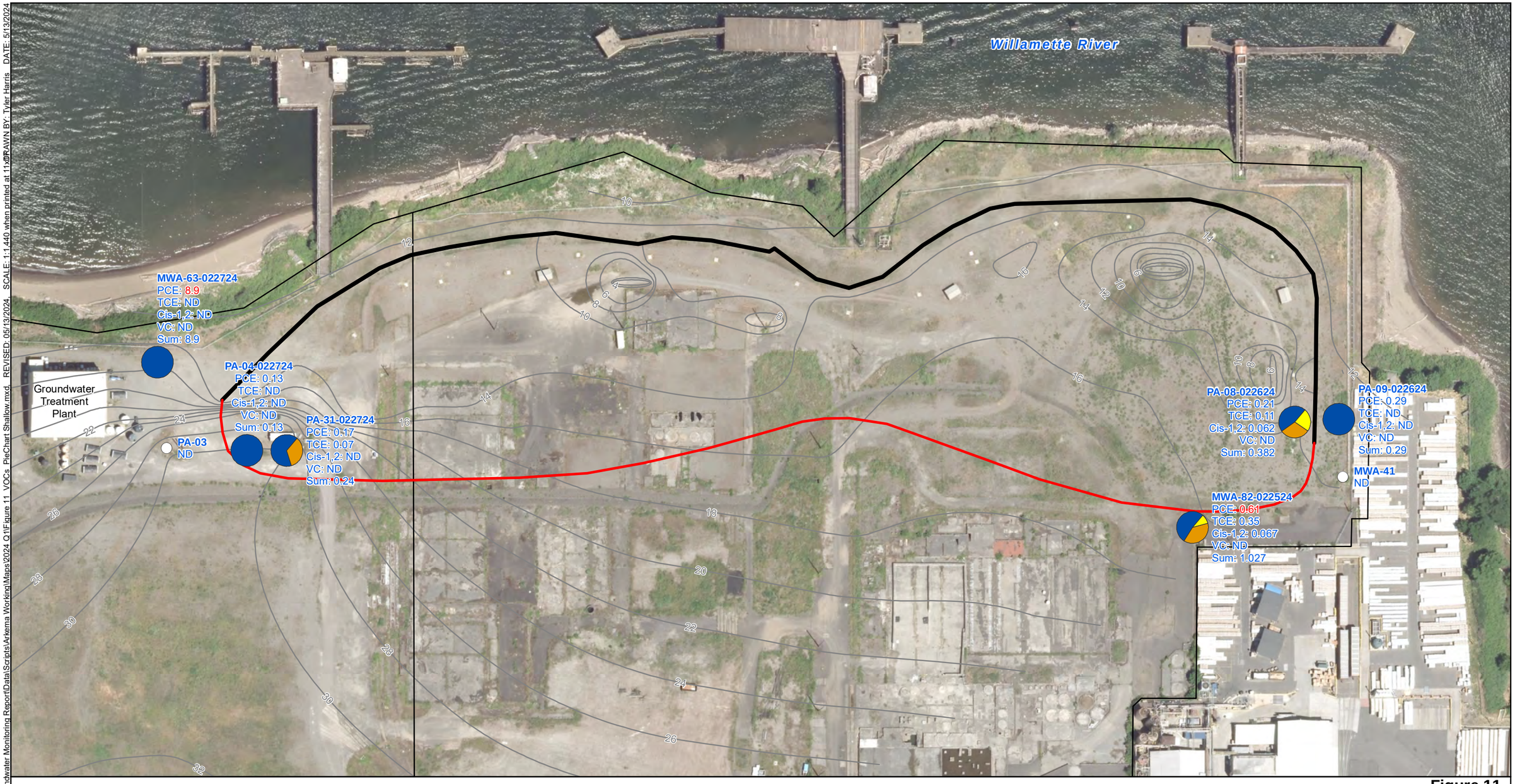
Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl



Legend

Molar Ratio

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

- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 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

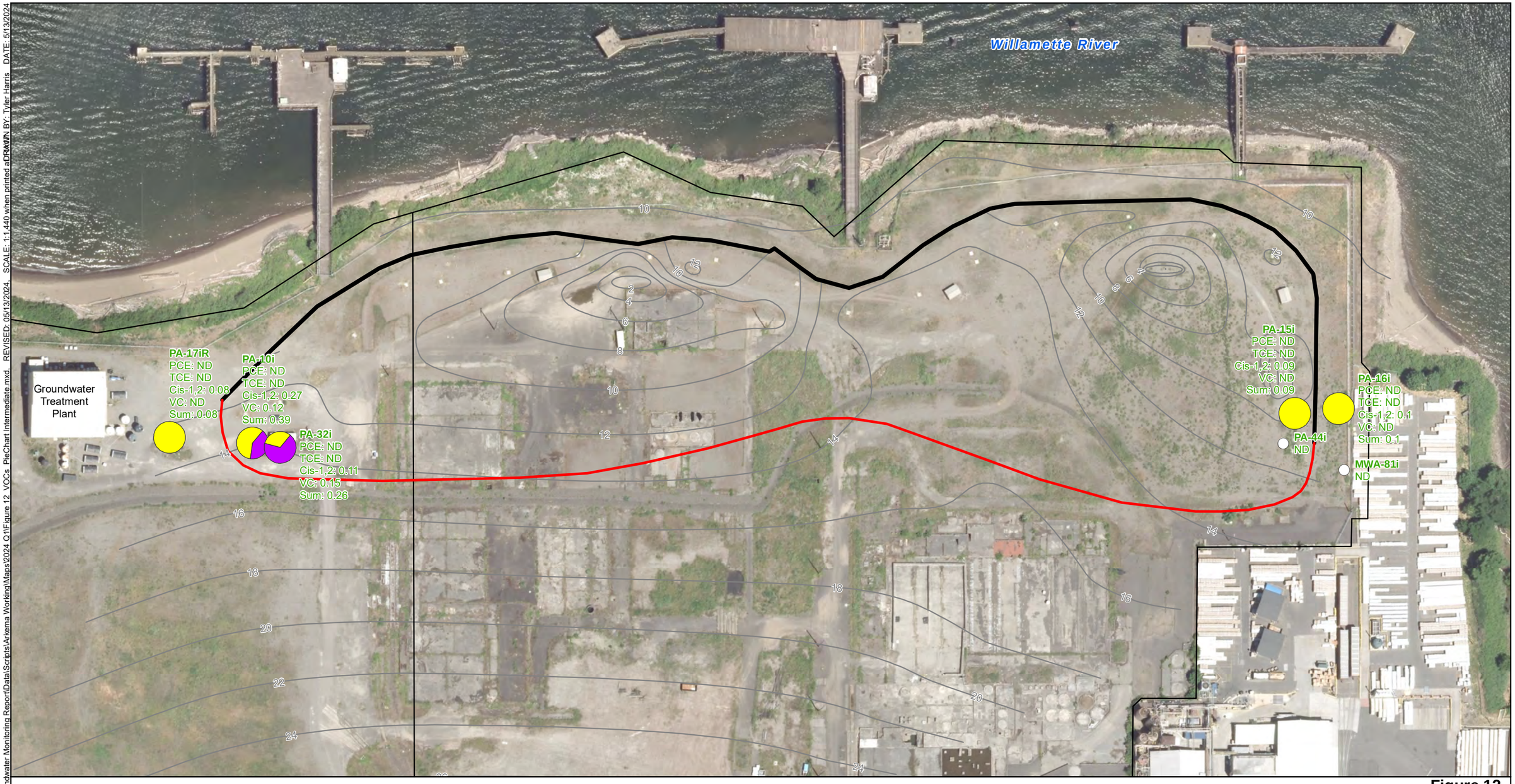
N

0 120 240
Feet

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

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

Environmental Resources Management
www.erm.com
ERM



Legend

Molar Ratio

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

- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 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

N

0 120 240
Feet

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

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

Environmental Resources Management
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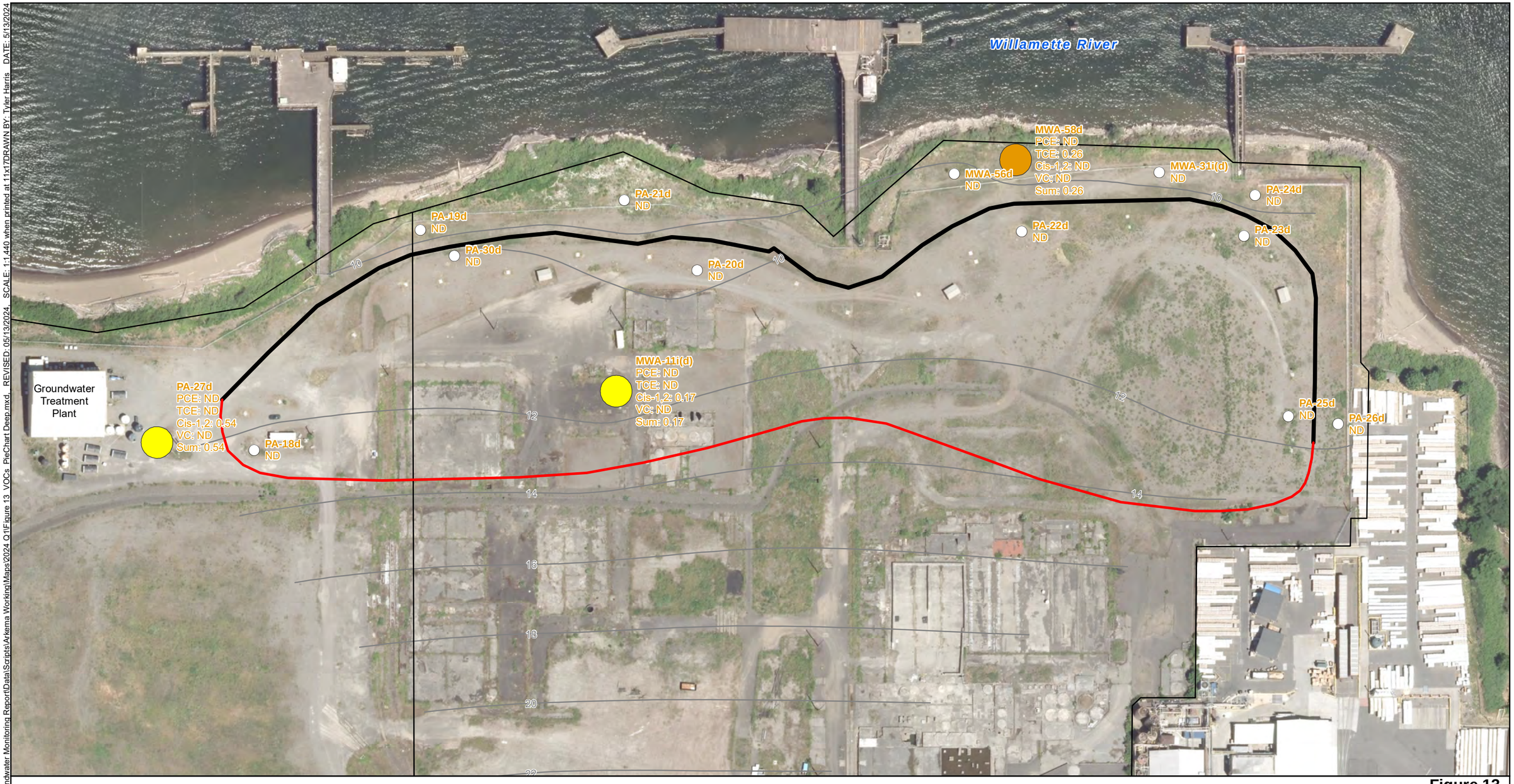
M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 12_VOCs_PieChart Intermediate.mxd REVISED: 05/13/2024 SCALE: 1:1,440 when printed at DRAWN BY: Tyler Harris DATE: 5/13/2024



Legend

Molar Ratio

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

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

Notes:
Samples Collected February 25–28, 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

N

0 120 240
Feet

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

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

Environmental Resources Management
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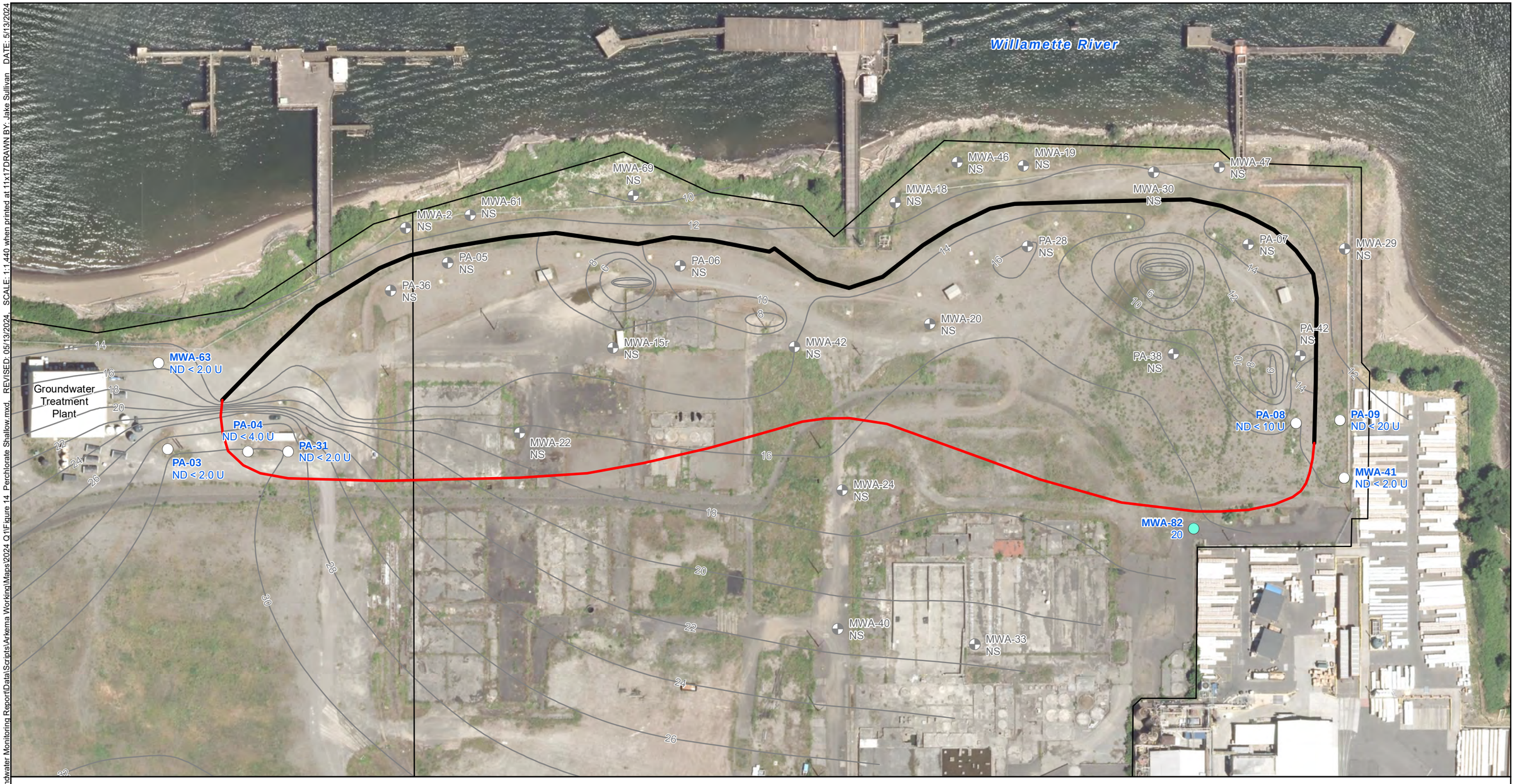
M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 14_Perchlorate Shallow.mxd REVISED: 05/13/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 5/13/2024



Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers
ND: Non-Detect

N

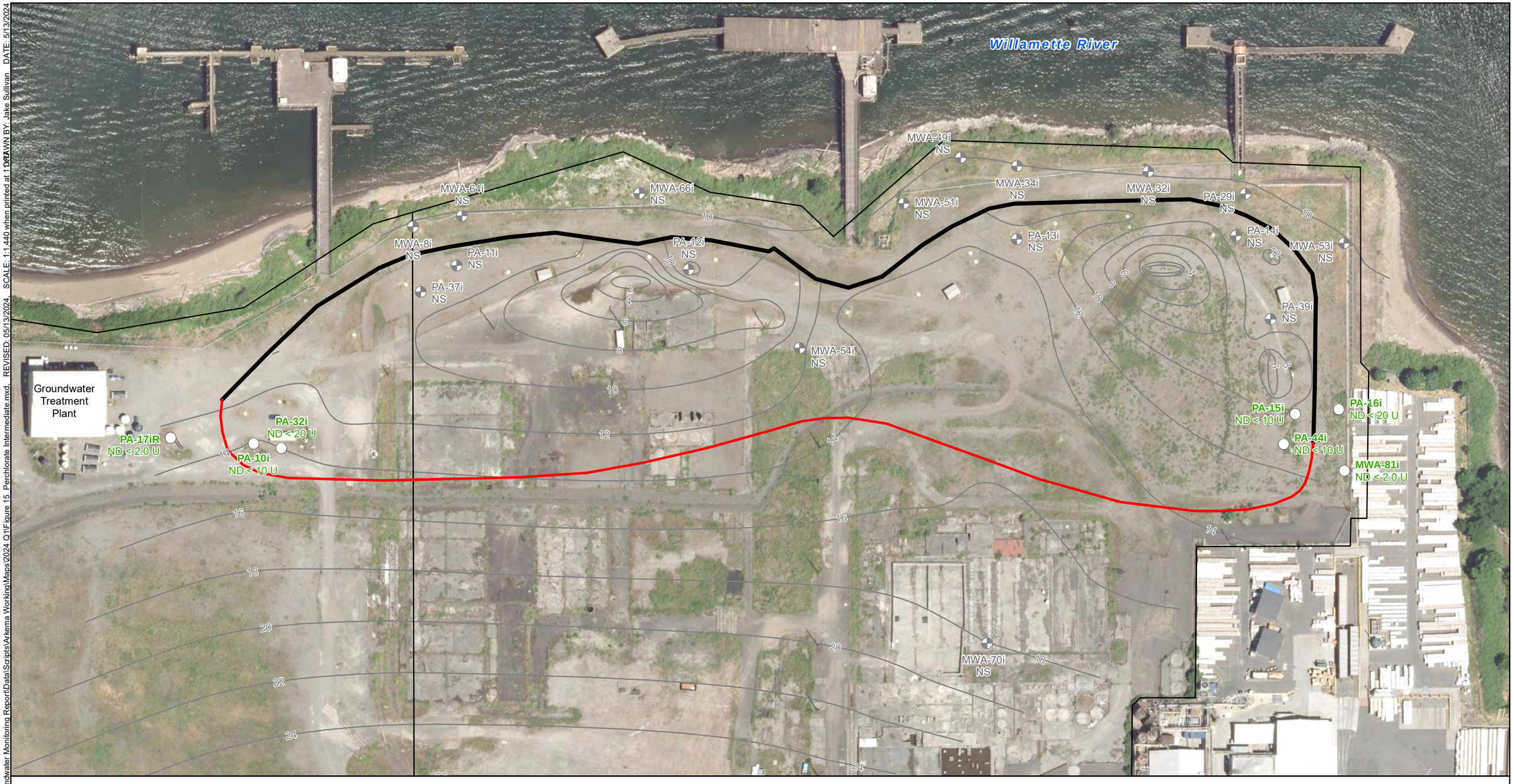
0 120 240
Feet

Figure 14
Perchlorate Groundwater Concentrations
Shallow Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 15_Perchlorate Intermediate.mxd REVISED: 05/13/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 5/13/2024



Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers
ND: Non-Detect

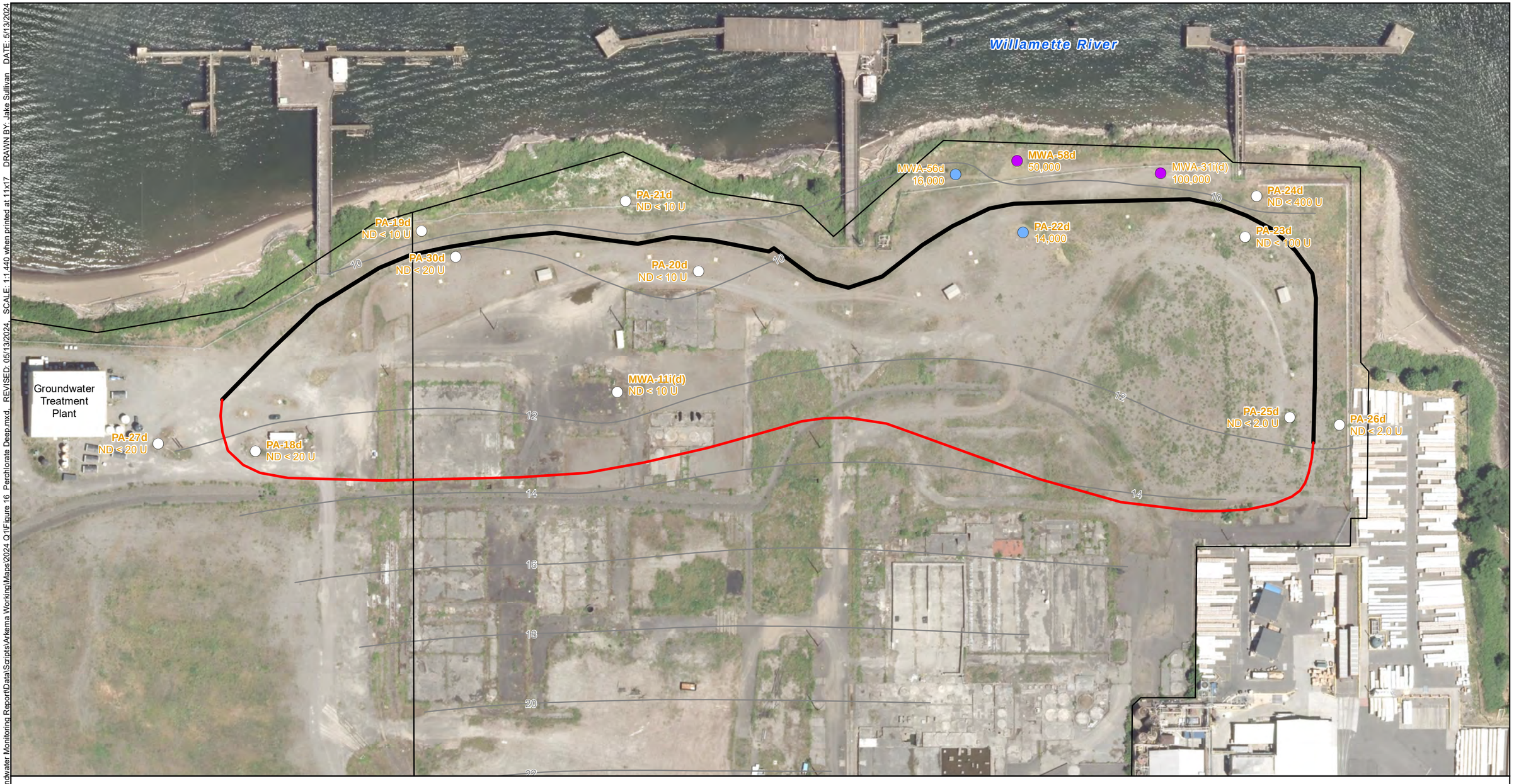
N

0 120 240
Feet

Figure 15
Perchlorate Groundwater Concentrations
Intermediate Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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



Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in micrograms per liter (µg/L)
Screening Criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Figure 16
Perchlorate Groundwater Concentrations
Deep Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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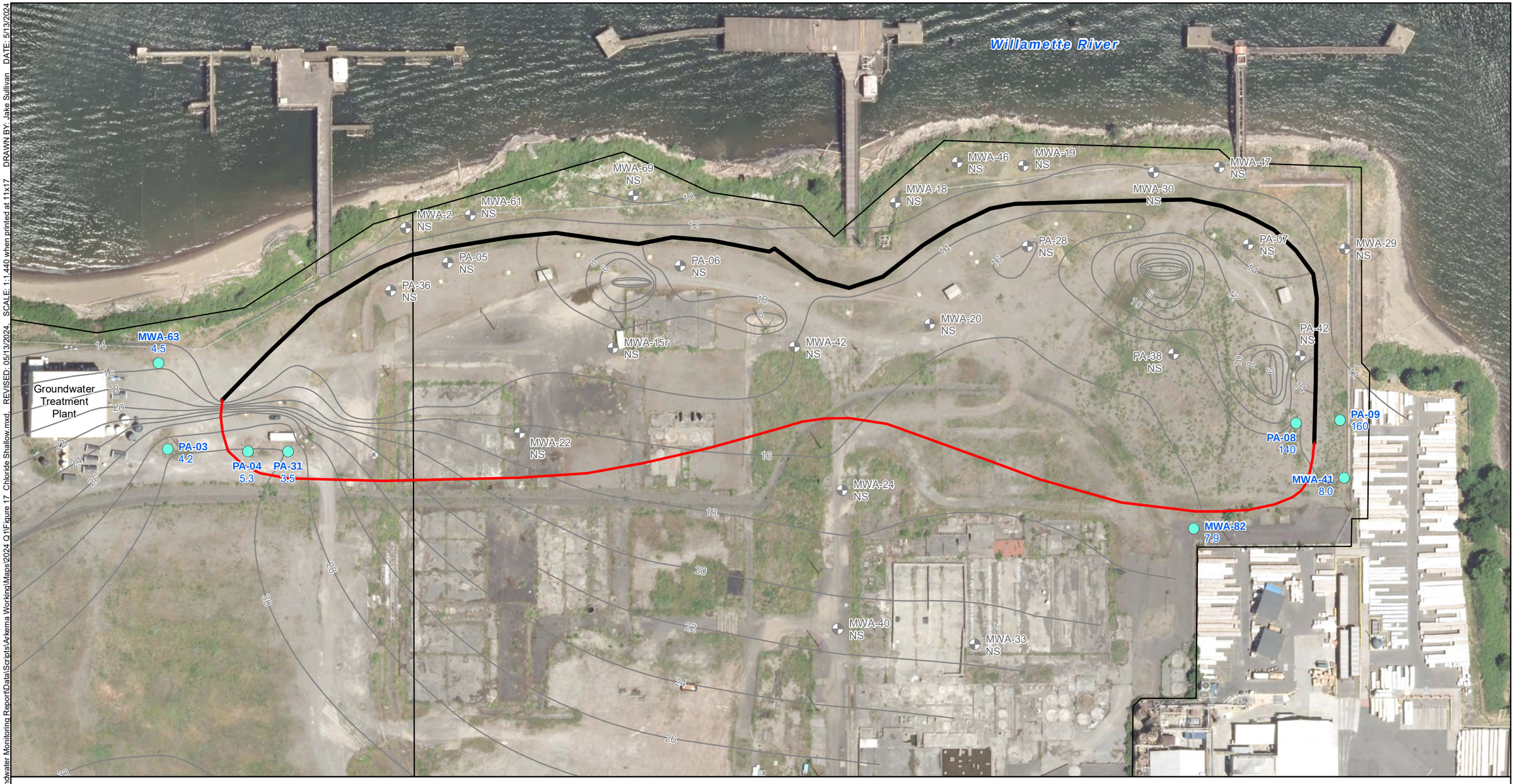
ERM

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 16_Perchlorate Deep.mxd REVISED: 05/13/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 5/13/2024



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) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

N

0 120 240
Feet

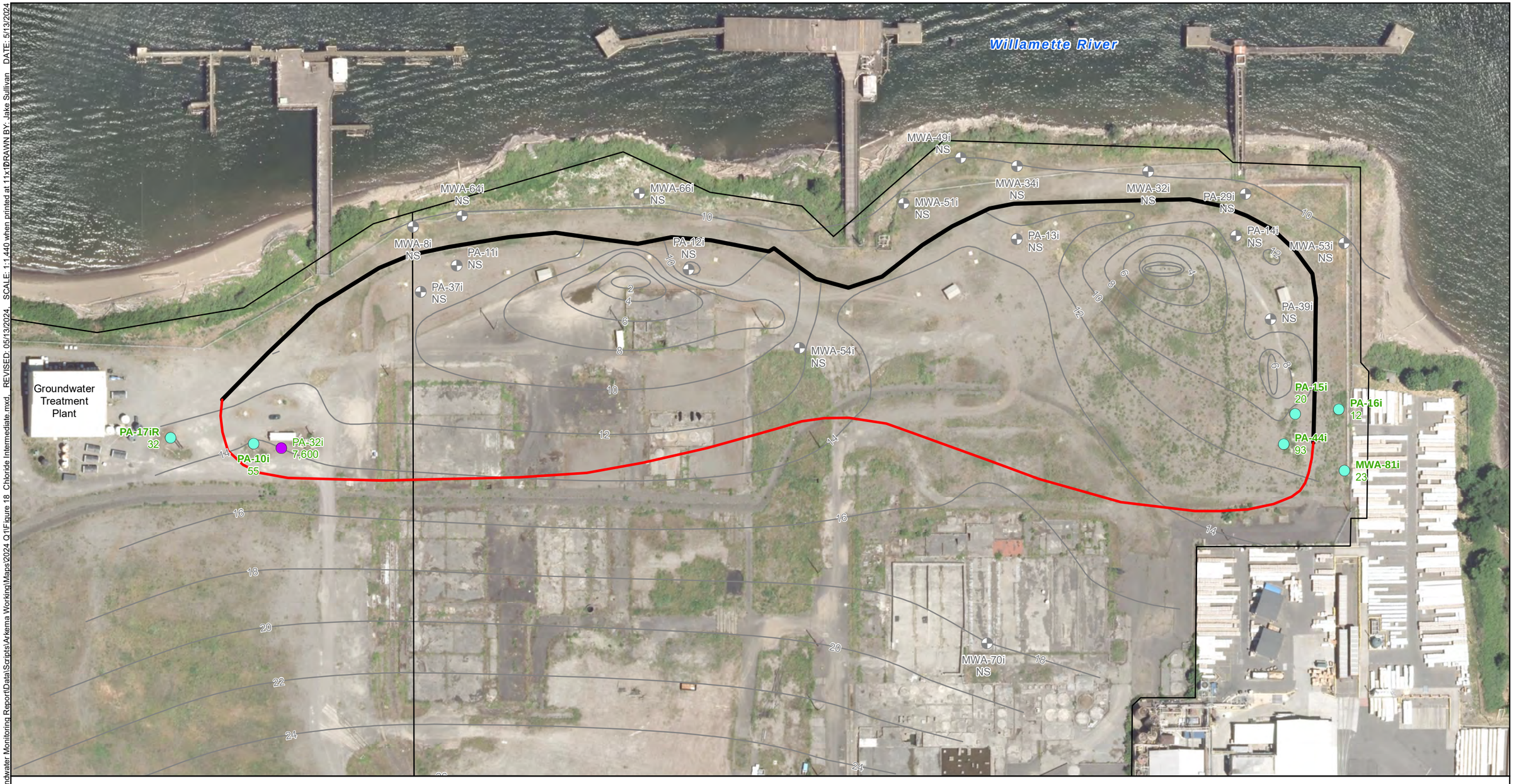
Figure 17
Chloride Groundwater Concentrations
Shallow Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 17_Chloride Shallow.mxd REVISED: 05/13/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 5/13/2024

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 18_Chloride Intermediate.mxd REVISED: 05/13/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 5/13/2024



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) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

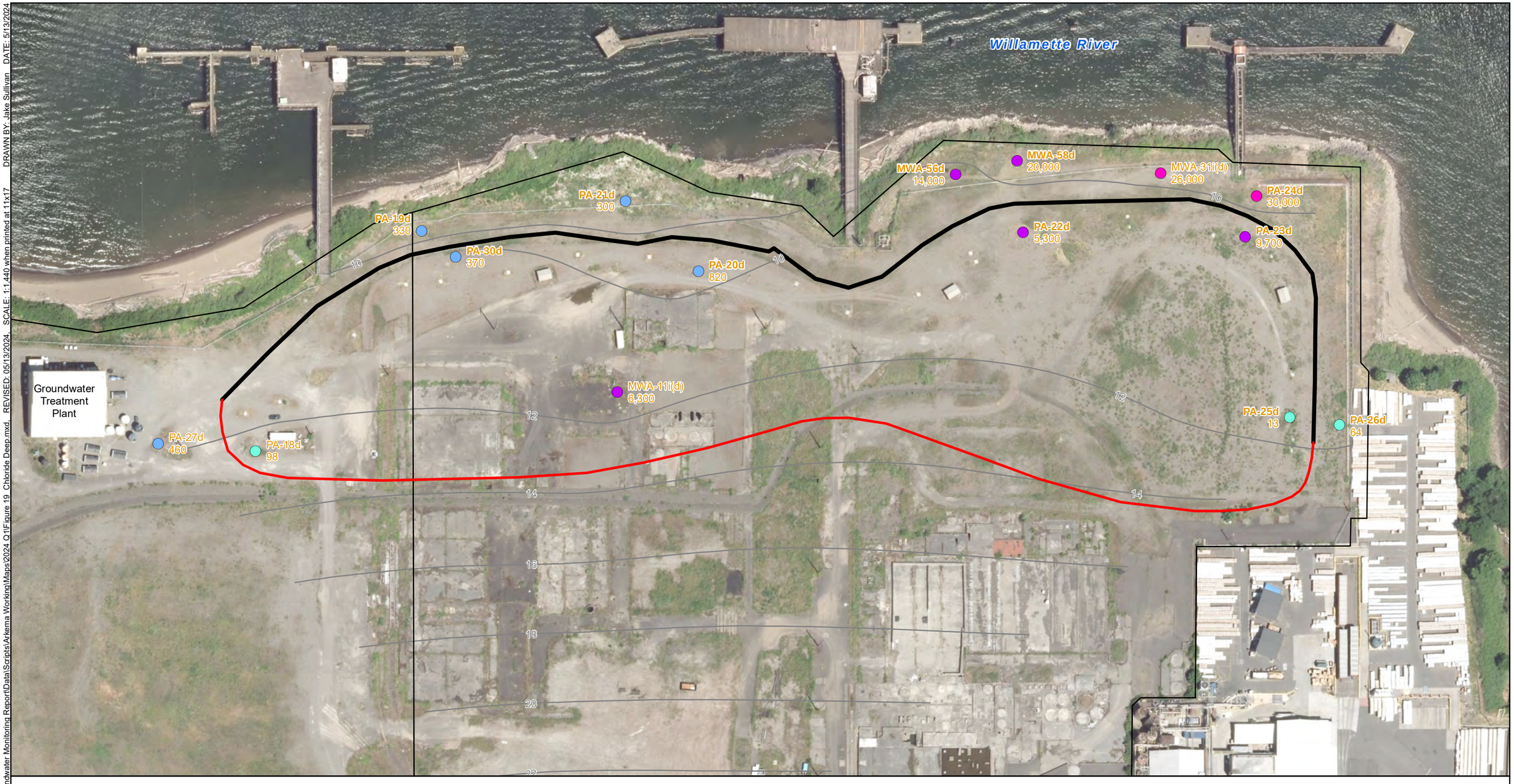
N

0 120 240
Feet

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

Figure 18
Chloride Groundwater Concentrations
Intermediate Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

- > 23,000 mg/L
- >= 2,300 - 23,000 mg/L
- >= 230 - < 2,300 mg/L
- < 230 mg/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) February 2024

Notes:
Samples Collected February 25–28, 2024
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

N

0 120 240
Feet

Figure 19
Chloride Groundwater Concentrations
Deep Zone
Quarter 1, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q1\Figure 19_Chloride Deep.mxd, REVISED: 05/13/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 5/13/2024

APPENDIX A FIELD FORMS

Low Flow Groundwater Sampling Field Data Form

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

Date: 2024/02/28
40 degrees cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 57 (ft)	**Reference Elevation** 38.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.6 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 136.1 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 3.65 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:14	28.23	100	0	13.3	6.15	31105	NM	5.5	169.4	71.25	NM	
07:17	28.24	200	0.4	14.4	6.38	60707	NM	2.1	166.2	38.36	NM	
07:20	28.19	123.7	0.75	14.3	6.47	63559	NM	1.11	158.4	19.03	NM	
07:23	28.19	122.5	1.05	14.1	6.49	64653	NM	0.84	154.3	14.37	NM	
07:26	28.19	101	1.4	14.2	6.5	64817	NM	0.72	150.8	11.11	NM	
07:29	28.17	123.7	1.75	14.2	6.51	64952	NM	0.62	148.4	10.89	NM	
07:32	28.18	141.4	2.15	14.3	6.52	65016	NM	0.55	146.4	8.32	NM	
07:35	28.17	132.7	2.475	14.3	6.52	65129	NM	0.49	144.6	7.1	NM	
07:38	28.17	113.6	2.9	14.2	6.52	65312	NM	0.44	143.3	5.54	NM	
07:41	28.1	175	3.25	14.2	6.52	65392	NM	0.41	142.4	5.16	NM	
07:44	28.12	163.3	3.65	14.2	6.52	65351	NM	0.37	141.4	5.49	NM	

Sample ID(s): MWA-31i(d)-022824	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2-inch bladder pump used RB-02 taken before purging	Paul Van Nevel 	02/28/2024 16:30

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-56D
Well Permit No:

Date: 2024/02/28
45 degrees cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 58 (ft)	**Reference Elevation** 36.68 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 26 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 153.1 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.65 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:26	26.2	125	0	13.4	7.68	4033	NM	8.58	98	17.43	NM	
10:29	26.23	153.1	0.375	14.5	6.69	30360	NM	3.57	157.3	3.52	NM	
10:32	26.25	150.3	0.8	14.6	6.68	35777	NM	1.41	156.8	4.02	NM	
10:35	26.28	142.3	1.25	14.7	6.69	37366	NM	0.9	153.9	1.61	NM	
10:38	26.31	183.7	1.7	14.7	6.69	37954	NM	0.7	151.2	0.59	NM	
10:41	26.3	159.1	2.15	14.8	6.69	38259	NM	0.63	148.9	0.49	NM	
10:44	26.3	158.1	2.65	14.8	6.69	38488	NM	0.53	146.7	0.2	NM	

Sample ID(s): MWA-56d-022824	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2-inch bladder pump used	Paul Van Nevel 	02/28/2024 18:55

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-58D
Well Permit No:

Date: 2024/02/28
40 degrees raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 58.5 (ft)	**Reference Elevation** 37.97 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.5 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 115.3 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 1.85 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:57	27.64	125	0	12.1	6.68	31380	NM	6.32	161.2	12.79	NM	
09:00	27.64	79.5	0.225	13.3	6.64	45148	NM	2.45	153.3	12.17	NM	
09:03	27.68	112.3	0.5	13.7	6.69	49933	NM	1.33	136.4	6.6	NM	
09:06	27.68	101	0.85	13.8	6.69	51080	NM	0.96	128.8	3.67	NM	
09:09	28.72	123.7	1.2	13.9	6.69	51444	NM	0.76	124.4	2.5	NM	
09:12	27.72	142.9	1.55	14	6.69	51616	NM	0.66	121.2	1.91	NM	
09:15	27.72	122.5	1.85	14	6.69	51772	NM	0.58	119	1.68	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
DUP-02-022824,MWA-58d-022824	2-inch bladder pump used.	Paul Van Nevel 	02/28/2024 17:33
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-63
Well Permit No:

Date: 2024/02/27
45 degrees cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 26.5 (ft)	**Reference Elevation** 36.29 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 23.6 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 82.8 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
13:26	23.2	100	0	13	7.19	635	NM	7.38	90.7	18.77	NM	
13:29	23.29	87.5	0.175	13.4	6.93	629	NM	6.3	108.6	18.25	NM	
13:32	23.33	71.2	0.4	13.4	6.89	627	NM	5.92	117.4	17.3	NM	
13:35	23.35	71.2	0.625	13.5	6.88	626	NM	5.75	122.8	16.46	NM	
13:38	23.36	88.4	0.875	13.6	6.88	625	NM	5.64	126.2	13.72	NM	
13:41	23.34	91.9	1.1	13.5	6.88	625	NM	5.62	128.4	10.91	NM	
13:44	23.34	70.7	1.35	13.5	6.88	625	NM	5.6	130.4	8.55	NM	
13:47	23.34	79.1	1.6	13.5	6.88	626	NM	5.62	131.5	7.94	NM	
13:50	23.35	79.1	1.85	13.5	6.88	626	NM	5.61	131.8	6.56	NM	
13:53	23.34	70.7	2.05	13.6	6.88	625	NM	5.61	132.4	5.91	NM	
13:56	23.34	88.4	2.3	13.6	6.88	626	NM	5.62	133.3	5.49	NM	
13:59	23.33	94.9	2.6	13.6	6.88	625	NM	5.59	133.8	5.22	NM	

Sample ID(s): MWA-63-022724	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	02/27/2024 22:12

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-26D
Well Permit No:

Date: 2024/02/26
40 and 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** 28.25 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 52.4 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:00	28.93	60	0	10	5.7	127.3	NM	5.16	267.5	11.75	NM	
08:03	28.89	50	0.15	10.2	5.98	139.9	NM	3.31	169.9	6.6	NM	
08:06	28.81	40.8	0.25	10.2	6.11	173.4	NM	2.43	88.2	2.69	NM	
08:09	28.79	51	0.375	10.1	6.2	254	NM	1.94	51.4	3.65	NM	
08:12	28.78	53	0.525	10	6.3	367.7	NM	1.65	26.9	1.73	NM	
08:15	28.78	57.7	0.725	9.9	6.35	427	NM	1.41	11.5	2.13	NM	
08:18	28.81	61.2	0.875	9.8	6.39	459.7	NM	1.25	-2.6	4.54	NM	
08:21	28.81	28.9	0.975	9.8	6.43	476.3	NM	1.1	-15.2	2.85	NM	
08:24	28.81	61.9	1.15	9.8	6.46	486	NM	0.99	-22.6	2.33	NM	
08:27	28.81	61.2	1.3	9.9	6.49	490.1	NM	0.83	-26.7	1.9	NM	
08:30	28.81	50.5	1.475	10	6.51	496.7	NM	0.73	-30.1	1.35	NM	

Sample ID(s): PA-26d-022624	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	PV 	02/26/2024 16:54

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-32I
Well Permit No:

Date: 2024/02/28
45 degrees cloudy

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** 21.96 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 140.3 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 5.45 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:39	22.03	125	0	14	8.14	193.3	NM	9.26	-11.8	11.71	NM	
12:42	22.04	81.6	0.2	13.5	8.25	100.8	NM	8.62	4.5	7.92	NM	
12:45	22.04	141.4	0.6	14	9.03	70.3	NM	8.23	4.4	6.68	NM	
12:48	21.95	142.3	1.05	14	8.58	176.5	NM	7.24	29	6.15	NM	
12:51	21.94	144.3	1.55	14	7.79	907	NM	3.44	15.8	4.76	NM	
12:54	21.95	126.5	1.95	14	7.71	1170	NM	1.63	-30.8	3.98	NM	
12:57	21.96	115.5	2.35	14	7.69	1238	NM	0.78	-55.1	3.2	NM	
13:00	21.95	163.3	2.75	14.3	7.68	1260	NM	0.46	-70.7	3.85	NM	
13:03	21.95	204.1	3.25	14.3	7.67	1269	NM	0.35	-78.8	4.2	NM	
13:06	21.95	115.5	3.65	14.3	7.67	1274	NM	0.26	-84.6	5.05	NM	
13:09	21.95	176.8	4.15	14.2	7.67	1278	NM	0.21	-88.4	5.81	NM	
13:12	22	142.3	4.6	14.2	7.66	1276	NM	0.18	-89.7	13.75	NM	
13:15	22	126.5	5	14.2	7.66	1279	NM	0.15	-91.4	13.25	NM	
13:18	22	159.1	5.45	14.2	7.65	1276	NM	0.13	-92.5	14.15	NM	

Sample ID(s): PA-32i-022824	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2-inch bladder pump used	Paul Van Nevel 	02/28/2024 21:26

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-03
Well Permit No:

Date: 2024/02/26
45 degrees cloudy

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** 7.35 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 141.5 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 4.25 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:37	8.6	100	0	11.7	9.95	759	NM	8.03	-114.3	55.91	NM	
12:40	8.62	159.1	0.45	12.7	10.06	805	NM	2.33	-141.2	80.53	NM	
12:43	8.69	142.9	0.8	12.6	10.06	802	NM	1.46	-147.2	89.97	NM	
12:46	8.75	126.5	1.2	12.8	10.09	802	NM	1.03	-153.4	79.81	NM	
12:49	8.83	126.5	1.6	12.7	10.11	804	NM	0.7	-160.3	57.7	NM	
12:52	8.89	141.4	2	13.1	10.13	802	NM	0.49	-165.1	48.33	NM	
12:55	8.94	158.1	2.5	12.9	10.15	803	NM	0.4	-169.8	41.42	NM	
12:58	8.97	126.5	2.9	13	10.17	802	NM	0.34	-172.9	37.82	NM	
13:01	9.03	115.5	3.3	13.4	10.18	802	NM	0.28	-175.6	35.41	NM	
13:04	9.05	176.8	3.8	13.4	10.2	800	NM	0.24	-177.7	33.24	NM	
13:07	9.09	183.7	4.25	13.2	10.22	799	NM	0.21	-179.4	30.8	NM	

Sample ID(s): PA-03-022624	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	02/26/2024 21:21

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-04
Well Permit No:

Date: 2024/02/27
40 degrees cloudy

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** 6.78 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 121.4 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.25 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:02	7.02	100	0	12.2	9.87	713	NM	6.69	-58.4	78.5	NM	
08:05	7.05	123.7	0.35	13.2	9.99	722	NM	2.12	-70.1	97.45	NM	
08:08	7.05	132.6	0.725	13.4	9.99	721	NM	0.98	-75.1	85.32	NM	
08:11	7.05	134.4	1.15	13.3	9.98	719	NM	0.68	-77.4	58.2	NM	
08:14	7.05	106.1	1.45	13.5	9.98	717	NM	0.55	-78.8	44.63	NM	
08:17	7.05	126.5	1.85	13.7	9.98	716	NM	0.43	-79.8	40.52	NM	
08:20	7.05	126.5	2.25	13.6	9.98	714	NM	0.37	-80.3	38.18	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
DUP-01-022724,PA-04-022724	Peri pump used	Paul Van Nevel 	02/27/2024 16:39
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-08
Well Permit No:

Date: 2024/02/26
45 degrees cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 29 (ft)	**Reference Elevation** 40.47 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 26.55 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 119.7 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 1.95 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:45	26.6		0	12.6	6.6	530	NM	5.05	-54.5	67.46	NM	
10:48	26.6	141.4	0.4	13.4	7.18	1269	NM	1.73	-53	80.16	NM	
10:51	26.59	144.3	0.9	13.6	7.24	1363	NM	1.02	-43	80.63	NM	
10:54	26.6	86.6	1.2	13.2	7.26	1356	NM	0.64	-42.6	81.37	NM	
10:57	26.6	110.7	1.55	13	7.27	1326	NM	0.54	-44.1	77.7	NM	
11:00	26.6	115.5	1.95	12.9	7.28	1283	NM	0.53	-47.3	74.15	NM	

Sample ID(s): PA-08-022624	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:	Peri pump used	Paul Van Nevel 	02/26/2024 19:09

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-09
Well Permit No:

Date: 2024/02/26
40 degrees partly cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 29.5 (ft)	**Reference Elevation** 40.24 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.44 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 118.9 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 3.1 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:27	27.51		0	11.8	6.72	1502	NM	7.47	127.2	95.3	NM	
09:30	27.56	123.7	0.35	12.8	6.54	1628	NM	3.31	129.6	83.87	NM	
09:33	27.57	110.7	0.7	13.3	6.55	1576	NM	2.28	129	91.64	NM	
09:36	27.57	114.9	1.025	13.5	6.56	1471	NM	1.55	128.9	103.64	NM	
09:39	27.57	102.8	1.35	13.5	6.57	1368	NM	0.82	129.8	103.67	NM	
09:42	27.58	142.9	1.7	13.5	6.56	1263	NM	0.58	131	118.3	NM	
09:45	27.58	94.9	2.025	13.9	6.56	1181	NM	0.57	131.6	124.2	NM	
09:48	27.58	132.6	2.4	14.1	6.56	1112	NM	0.56	131.2	137.66	NM	
09:51	27.58	123.7	2.75	14.2	6.57	1052	NM	0.49	131.3	140.92	NM	
09:54	27.59	123.7	3.1	14.2	6.57	1011	NM	0.37	132	144.12	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-09-022624	Peri pump used	Paul Van Nevel 	02/26/2024 18:11
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-10I
Well Permit No:

Date: 2024/02/27
40 degrees light rain

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** 22.46 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 116.9 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.85 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:23	22.59	100	0	12.8	7.7	768	NM	5.71	-88.2	62.17	NM	
09:26	22.59	102.1	0.25	13.1	7.51	872	NM	2.44	-124	24.69	NM	
09:29	22.59	163.3	0.65	13.3	7.51	925	NM	1.24	-135.2	9.23	NM	
09:32	22.59	123.7	1	13.1	7.51	933	NM	0.79	-144	4.36	NM	
09:35	22.59	110.7	1.35	13.1	7.52	936	NM	0.56	-149.8	2.89	NM	
09:38	22.59	115.5	1.75	13.1	7.52	936	NM	0.44	-152.1	1.78	NM	
09:41	22.59	115.5	2.15	12.9	7.53	937	NM	0.37	-155.3	0.7	NM	
09:44	22.59	94.9	2.45	12.9	7.53	936	NM	0.32	-157.5	0.29	NM	
09:47	22.59	126.5	2.85	12.8	7.53	936	NM	0.28	-159.3	0.37	NM	

Sample ID(s): PA-10i-022724	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	02/27/2024 18:14

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-17IR
Well Permit No:

Date: 2024/02/26
45 degrees raining

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** 25.5 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 93.9 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - (ft)
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.75 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
13:53	25.77	100	0	11.3	9.27	664	NM	5.72	-88.2	7.36	NM	
13:56	26.19	175	0.35	11.5	9.09	515	NM	2.07	-109.8	5.77	NM	
13:59	26.25	101	0.7	11.4	8.72	381.5	NM	1.2	-111.7	4.23	NM	
14:02	26.55	86.6	1	11.2	8.63	373	NM	0.8	-117.2	2.24	NM	
14:05	26.67	106.1	1.3	10.7	8.82	422.5	NM	0.61	-128.6	1.7	NM	
14:08	26.78	79.1	1.55	10.6	9.02	491.3	NM	0.44	-135.3	2.63	NM	
14:11	26.86	79.1	1.8	10.8	9.12	556	NM	0.3	-139.9	1.93	NM	
14:14	26.95	71.2	2.025	10.8	9.18	616	NM	0.2	-144.9	1.34	NM	
14:17	27	65	2.25	10.8	9.22	659	NM	0.16	-149	2.78	NM	
14:20	27.05	63.2	2.45	11	9.25	696	NM	0.13	-153	1.84	NM	
14:23	27.1	106.1	2.75	11.2	9.26	728	NM	0.11	-156	2.3	NM	

Sample ID(s): PA-17iR-022624	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	02/26/2024 23:08

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-18D
Well Permit No:

Date: 2024/02/27
40 degrees raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 42.5 (ft)	**Reference Elevation** 36.55 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 23.95 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 88.4 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 3.3 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:43	25.97	100	0	12.4	7.45	316.4	NM	6.74	1.6	7.31	NM	
10:46	26.45	94.9	0.3	13	7.46	454.3	NM	1.95	18.4	2.69	NM	
10:49	26.73	91.9	0.525	13.1	7.9	703	NM	1.39	4.4	4.18	NM	
10:52	26.93	97.2	0.8	12.9	8.38	1031	NM	0.95	-18	6.76	NM	
10:55	27.05	88.4	1.05	13	8.53	1219	NM	0.67	-42.4	6	NM	
10:58	27.1	72.2	1.3	13	8.56	1295	NM	0.52	-66.2	4.92	NM	
11:01	27.16	112.5	1.525	12.9	8.55	1313	NM	0.45	-80.3	8.83	NM	
11:04	27.25	71.2	1.75	13	8.58	1360	NM	0.35	-96.6	13.37	NM	
11:07	27.35	86.6	2.05	13.2	8.57	1372	NM	0.3	-110.8	18.43	NM	
11:10	27.43	110.7	2.4	13.3	8.58	1371	NM	0.26	-123.1	42.98	NM	
11:13	27.5	63.2	2.6	13.3	8.59	1365	NM	0.21	-131.1	51.15	NM	
11:16	27.55	79.1	2.85	13.3	8.6	1362	NM	0.18	-137.6	59.19	NM	
11:19	27.62	88.4	3.1	13.3	8.61	1365	NM	0.15	-142.7	64.28	NM	
11:22	27.67	81.6	3.3	13.5	8.61	1379	NM	0.14	-146.6	60.71	NM	

Sample ID(s): PA-18d-022724	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	02/27/2024 20:10

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-27D
Well Permit No:

Date: 2024/02/27
35 degrees cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 46 (ft)	**Reference Elevation** 37.1 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.93 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 72 (mL/min)	**Well Diameter / Well Screen Interval** 1 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
06:54	26.29	100	0	11.5	7.21	2495	NM	7.12	-101.8	6.44	NM	
06:57	26.61	88.4	0.25	11.9	7.06	2618	NM	2.39	-115.6	5.74	NM	
07:00	26.66	63.2	0.45	11.7	7.11	2696	NM	1.3	-122.8	3.08	NM	
07:03	26.56	50.5	0.625	11.6	7.13	2734	NM	0.94	-122	2.54	NM	
07:06	26.54	79.5	0.85	11.5	7.15	2736	NM	0.77	-126.9	3.55	NM	
07:09	26.56	63.2	1.05	11.4	7.16	2715	NM	0.6	-119.3	5.37	NM	
07:12	26.56	61.2	1.2	11.4	7.14	2697	NM	0.51	-115.5	7.45	NM	
07:15	26.6	88.4	1.45	11.6	7.15	2682	NM	0.44	-113.7	8.37	NM	
07:18	26.55	63.2	1.65	11.6	7.15	2668	NM	0.39	-112.3	9.24	NM	
07:21	26.5	61.9	1.825	11.6	7.16	2671	NM	0.36	-108.9	9.1	NM	

Sample ID(s): PA-27d-022724	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	02/27/2024 15:37

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-31
Well Permit No:

Date: 2024/02/27
40 degrees cloudy

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** 6.59 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 128.9 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 3.15 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:16	6.82	100	0	13.9	9.43	632	NM	5.78	27.2	4.61	NM	
12:19	6.8	142.9	0.35	13.8	9.49	710	NM	1.86	14.9	7.14	NM	
12:22	6.81	132.6	0.725	13.8	9.51	732	NM	0.94	6.7	19.18	NM	
12:25	6.83	118.6	1.1	13.8	9.5	732	NM	0.6	1.1	29.55	NM	
12:28	6.81	141.4	1.5	13.9	9.51	732	NM	0.51	-3.4	46.66	NM	
12:31	6.82	126.5	1.9	13.8	9.52	732	NM	0.47	-7	48.87	NM	
12:34	6.82	129.9	2.35	13.7	9.52	732	NM	0.44	-9.7	60	NM	
12:37	6.82	126.5	2.75	13.8	9.53	730	NM	0.42	-12.6	64.32	NM	
12:40	6.82	141.4	3.15	13.8	9.53	731	NM	0.39	-15	70.61	NM	

Sample ID(s): PA-31-022724	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Pau Van Nevel 	02/27/2024 20:48

Low Flow Groundwater Sampling Field Data Form

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

Date: 2024/02/28
45 degrees raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 48 (ft)	**Reference Elevation** 36.49 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 25.19 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 143.3 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.4 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:34	25.31	125	0	12.9	7.82	1646	NM	7.93	-70	15.94	NM	
11:37	25.25	183.7	0.45	13.4	7.13	2259	NM	3.03	-95.1	11.33	NM	
11:40	25.22	120.3	0.9	12.6	7.07	2522	NM	1.18	-100	5	NM	
11:43	25.2	150	1.2	12.6	7.06	2571	NM	0.93	-101.4	2.81	NM	
11:46	25.21	141.4	1.6	12.8	7.05	2603	NM	0.75	-103.1	2.23	NM	
11:49	25.22	123.7	1.95	12.7	7.05	2623	NM	0.62	-104.4	2.28	NM	
11:52	25.22	159.1	2.4	13	7.05	2632	NM	0.55	-105.6	2.96	NM	

Sample ID(s): MWA-11i(d)-022824	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2-inch bladder pump used	Paul Van Nevel 	02/28/2024 20:01

Low Flow Groundwater Sampling Field Data Form	Well ID: MWA-41 Well Permit No:	Date: 2024/02/26 Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 37 (ft)	**Reference Elevation** 45.14 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 31.61 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.88 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:02	31.61	160		12.1	8.51	431.2	NM	4.07	148.5	7.15	NM	
11:05	31.61	160		11.9	7.14	332.3	NM	1.45	211.1	6.44	NM	
11:08	31.61	160		12.3	6.83	318.4	NM	1.15	232.4	4.8	NM	
11:11	31.61	160		12.5	6.81	316.8	NM	1.1	241.3	4.09	NM	
11:14	31.61	160		12.4	6.76	314.7	NM	0.91	245.2	3.74	NM	
11:17	31.61	16	2.88	12.1	6.74	311.5	NM	0.93	249.5	3.1	NM	

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
MWA-41-022624	2 pump	ST 	02/26/2024 19:20
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-81I
Well Permit No:

Date: 2024/02/26
Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 47 (ft)	**Reference Elevation** 44.62 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 33.04 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:41	33.04	160		12.8	6.75	364.9	NM	3.3	246.4	2.4	NM	
11:44	33.04	160		13.4	6.67	377.9	NM	1.51	246.8	2.08	NM	
11:47	33.04	160		13.5	6.62	385.3	NM	1.15	245.2	1.46	NM	
11:50	33.04	160		13.8	6.62	389.6	NM	0.95	242.4	1.29	NM	
11:53	33.04	160	2.4	13.6	6.61	392.7	NM	0.91	239.2	1.53	NM	

Sample ID(s): MWA-81i-022624	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2 pump	ST 	02/26/2024 19:56

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-82
Well Permit No:

Date: 2024/02/25
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 27 (ft)	**Reference Elevation** 37.74 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 21.77 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.88 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:00	21.77	160		14.3	9.24	514	NM	1.72	57.6	20.83	NM	
10:03	21.77	160		14.4	9.34	463.9	NM	0.98	42.2	14.32	NM	
10:06	21.77	160		14.4	9.37	435.1	NM	0.64	37	12.48	NM	
10:09	21.77	160		14.6	9.35	431	NM	0.61	34.3	11.21	NM	
10:12	21.77	160	2.88	14.6	9.33	430.1	NM	0.58	31.7	12.39	NM	

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
MWA-82-022524	2 pump	ST 	02/25/2024 18:15
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-19D
Well Permit No:

Date: 2024/02/28
Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 47 (ft)	**Reference Elevation** 36.65 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 25.53 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 1.45 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:07	28.75	100		12.7	7.12	3111	NM	3.9	63.2	6.7	NM	
09:10	30.1	100		12.7	7.17	3066	NM	3.61	55	5.73	NM	
09:13	30.65	100		12.8	7.18	3060	NM	3.88	51.9	4.8	NM	
09:16	30.96	100		12.7	7.19	3064	NM	4.12	50.3	4.38	NM	
09:19	31.24	100	1.45	12.6	7.19	3062	NM	4.2	49.6	4.03	NM	

Sample ID(s): PA-19d-022824	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	02/28/2024 17:23

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-20D
Well Permit No:

Date: 2024/02/28
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** 27.85 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:02	29.63	100		13.8	6.9	4810	NM	4.45	125	16.83	NM	
07:05	30.83	100		14.1	6.69	4474	NM	2.75	112.1	7.98	NM	
07:08	31.32	100		14.1	6.64	4139	NM	2.41	100.2	3.23	NM	
07:11	31.87	100		14.4	6.63	3980	NM	2.24	90.7	2.78	NM	
07:14	32	100		14.1	6.62	4008	NM	2.2	88.7	3.79	NM	
07:17	32.11	100	2	14.2	6.63	3973	NM	2.22	86.2	2.67	NM	

Sample ID(s): PA-20d-022824	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	02/28/2024 15:22

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-21D
Well Permit No:

Date: 2024/02/28
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 53 (ft)	**Reference Elevation** 34.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 23.62 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 1.5 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:00	26.24	100		13.7	6.34	4456	NM	3.12	95.4	5.35	NM	
08:03	27.9	100		13.8	6.2	4035	NM	1.64	93.7	4.43	NM	
08:06	28.74	100		14	6.15	3830	NM	1.27	90.7	4.58	NM	
08:09	29.05	100		13.7	6.14	3763	NM	1.17	88.6	4.49	NM	
08:12	29.34	100	1.5	13.5	6.13	3730	NM	1.06	86.2	4.93	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-21d-022824	1 pump	ST	02/28/2024 16:16
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-22D
Well Permit No:

Date: 2024/02/27
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 60 (ft)	**Reference Elevation** 38.75 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.24 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:36	27.62	100		13.5	7.22	16632	NM	3.41	61.4	21.28	NM	
12:39	27.68	100		13.4	7.17	14728	NM	2.22	56.2	16.73	NM	
12:42	27.7	100		13.8	7.15	15624	NM	1.52	53.9	19.79	NM	
12:45	27.7	100		13.7	7.14	16635	NM	1.19	54.7	53.06	NM	
12:48	27.7	100		14.1	7.13	17005	NM	1.14	54.4	57.45	NM	
12:51	27.7	100	2	13.9	7.13	17157	NM	1.09	55.2	62.43	NM	

Sample ID(s): PA-22d-022724	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	02/27/2024 20:55

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-23D
Well Permit No:

Date: 2024/02/27
Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 39.31 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.6 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:28	29.35	100		10.7	6.49	44836	NM	4.95	114.4	10.15	NM	
10:31	30.45	100		10.9	6.62	36284	NM	4.75	80.5	10.12	NM	
10:34	30.92	100		10.9	6.55	24495	NM	5.27	68.4	9.74	NM	
10:37	31.4	100		10.8	6.46	19873	NM	5.59	67.4	9.82	NM	
10:40	31.8	100		10.8	6.4	17841	NM	5.64	68.5	9.91	NM	
10:43	32.07	100		11	6.34	16848	NM	5.7	69.4	10.43	NM	
10:46	32.19	100	2.4	10.8	6.32	17284	NM	5.6	70.5	10.61	NM	

Sample ID(s): PA-23d-022724	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	02/27/2024 18:49

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-24D
Well Permit No:

Date: 2024/02/27
Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 39.06 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 29.1 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.1 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:33	30.7	100		11.5	6.41	73405	NM	3.42	100.6	15.91	NM	
11:36	30.96	100		11.5	6.53	74034	NM	2.13	66.8	14.27	NM	
11:39	31	100		11.6	6.59	74322	NM	1.52	50.4	12.49	NM	
11:42	31.03	100		11.8	6.61	74387	NM	1.42	46.4	14.39	NM	
11:45	31.05	100		11.8	6.62	74433	NM	1.36	51.2	14.98	NM	
11:48	31.07	100	2.1	11.9	6.64	74383	NM	1.31	47.9	16.32	NM	

Sample ID(s): PA-24d-022724	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	02/27/2024 19:56

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-25D
Well Permit No:

Date: 2024/02/27
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** 27.82 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:27	29.8	100		9.7	7.26	164.6	NM	7.1	185.5	43.93	NM	
08:30	30.2	100		9.7	7.13	135	NM	6.34	186.1	41.41	NM	
08:33	30.6	100		9.9	7.02	104.7	NM	6.21	185.4	39.82	NM	
08:37	30.95	100		10.2	7	93.8	NM	6.28	187.5	39.75	NM	
08:40	31.15	100		10.3	6.98	89.7	NM	6.21	189.8	41.75	NM	
08:43	31.27	100	2.1	10.2	6.97	89.8	NM	6.06	195.7	39.58	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-25d-022724	1 pump. Took rb-01-022724 before purging	ST 	02/27/2024 17:27
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-30D
Well Permit No:

Date: 2024/02/28
Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 49 (ft)	**Reference Elevation** 37.34 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 26 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.85 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:16	26.28	100		13.9	8.01	3227	NM	3.18	72.6	32.33	NM	
11:19	26.36	100		14	8.04	3255	NM	1.93	70.5	108.27	NM	
11:22	26.4	100		14.4	8.13	3422	NM	1.08	64.4	117.64	NM	
11:25	26.4	100		14.5	8.17	3502	NM	0.89	56	107.92	NM	
11:28	26.4	100		14.6	8.19	3543	NM	0.74	46	85.63	NM	
11:31	26.4	100		14.6	8.21	3574	NM	0.59	27.7	67.15	NM	
11:34	26.4	100		14.7	8.21	3585	NM	0.54	20.1	67.52	NM	
11:37	26.4	100		14.6	8.22	3597	NM	0.51	19.7	73.64	NM	
11:40	26.4	100	2.85	14.6	8.22	3610	NM	0.48	16.4	70.84	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-30d-022824	1 pump	ST 	02/28/2024 19:43
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-15I
Well Permit No:

Date: 2024/02/26
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 43 (ft)	**Reference Elevation** 40.62 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 29.25 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.1 (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) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:33	29.42	100		11.2	7.2	171.6	NM	7.65	202.5	50.75	NM	
12:36	29.52	100		12	7.33	436.3	NM	3.35	182.1	60.73	NM	
12:39	29.56	100		11.8	7.38	503	NM	1.62	179.6	80.97	NM	
12:42	29.6	100		11.7	7.39	522	NM	1.32	175.6	82.57	NM	
12:45	29.6	100		11.8	7.38	526	NM	1.11	172.9	92.41	NM	
12:49	29.62	100		12	7.37	528	NM	1.03	170.2	86.54	NM	
12:52	29.62	100	2.1	12.3	7.36	530	NM	0.96	168.7	88.52	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-15i-022624	1 pump	ST 	02/26/2024 20:57
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-16I
Well Permit No:

Date: 2024/02/27
Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 43 (ft)	**Reference Elevation** 40.3 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.52 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 1.5 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:29	29.1	100		12.7	6.89	264.9	NM	3.3	80.1	71.25	NM	
09:32	29.2	100		13.1	6.95	320.5	NM	1.44	57.5	86.95	NM	
09:35	29.25	100		13	7	353.9	NM	1.04	52.1	96.39	NM	
09:38	29.25	100		12.7	7.01	366.9	NM	0.96	52.9	91.42	NM	
09:41	29.25	100	1.5	12.8	7.01	377.8	NM	0.91	51.4	94.39	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-16i-022724	1 pump	ST 	02/27/2024 17:45
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-44I
Well Permit No:

Date: 2024/02/25
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 43 (ft)	**Reference Elevation** 40.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.95 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20240226-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 3.36 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:58	28.95	160		13.4	7.7	208.8	NM	6.87	155.1	23.85	NM	
11:01	28.95	160		13.5	7.59	293.5	NM	3.46	168.6	15.24	NM	
11:04	28.95	160		13.5	6.91	474.3	NM	2.58	175.4	10.46	NM	
11:07	28.95	160		13.4	6.83	547	NM	1.88	169.8	12.37	NM	
11:10	28.95	160		13.4	6.8	578	NM	1.27	163.5	11.57	NM	
11:13	28.95	160		13.4	6.71	583	NM	1.22	160.2	10.73	NM	
11:16	28.95	160	3.36	13.6	6.7	590	NM	1.16	156.4	12.14	NM	

Sample ID(s): PA-44i-022524	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2 pump	ST 	02/25/2024 19:20

APPENDIX B LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/5/2024 11:01:17 AM Revision 1

JOB DESCRIPTION

Arkema - Q1 2024 Groundwater Event

JOB NUMBER

580-137038-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

Job Notes

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

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

Authorization

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Revision 1

Authorized for release by
Marie Walker, Senior Project Manager
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Table of Contents

Job ID: 580-137038-1 Eurofins Seattle

Job Narrative
580-137038-1

Revision 1: April 5, 2024
Report revised to correct the first paragraph in the GC/MS VOA section of the narrative, to include which analyte was out in the referenced CCV.

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

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

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

Receipt
The samples were received on 2/27/2024 2:25 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 1.3°C.

GC/MS VOA
Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-452860 recovered above the upper control limit for Trichloroethene. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The associated samples are impacted: PA-17iR-022624 (580-137038-11), PA-17iR-022624 (580-137038-11[MS]) and PA-17iR-022624 (580-137038-11[MSD]).

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-452860 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. 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 laboratory control sample (LCS) for analytical batch 580-452860 recovered outside control limits for the following analytes: Trichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D_LL: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-452860 were outside control limits for one or more analytes. See QC Sample Results for detail. .

Method 8260D_LL: The method blank for analytical batch 580-452739 contained Bromoform, 1,2,4-Trichlorobenzene, Hexachlorobutadiene, Naphthalene and 1,2,3-Trichlorobenzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-analysis of samples was not performed.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-452739 recovered above the upper control limit for Acetone, 2-Butanone (MEK), trans-1,3-Dichloropropene, Chlorodibromomethane and Bromoform. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-022524 (580-137038-1), MWA-82-022524 (580-137038-2), PA-44i-022524 (580-137038-3), MWA-41-022624 (580-137038-4), MWA-81i-022624 (580-137038-5), PA-15i-022624 (580-137038-6), PA-26d-022624 (580-137038-7), PA-09-022624 (580-137038-8), PA-08-022624 (580-137038-9), PA-03-022624 (580-137038-10) and (580-136979-B-4).

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-452739 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane and Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were below the RL for the analyte(s), the data are reported.

Method 8260D_LL: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-452739 recovered outside control limits for the following analytes: Chlorodibromomethane, Bromoform, 1,2-Dibromo-3-Chloropropane, 1,2,4-Trichlorobenzene, Hexachlorobutadiene and 1,2,3-Trichlorobenzene. These analytes were biased high in the LCS and were below the reporting limit in the associated samples; therefore, the data have been reported.

Job ID: 580-137038-1 (Continued) Eurofins Seattle

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 in analytical batch 320-744331 were diluted due to the nature of the sample matrix. Either the conductivity exceeded the method limit and required dilution, or the samples were extremely difficult to filter and required dilution to protect instrumentation: PA-44i-022524 (580-137038-3), PA-15i-022624 (580-137038-6) and PA-08-022624 (580-137038-9). Elevated reporting limits (RLs) are provided.

Method 314.0: The following sample in analytical batch 320-744330 was over-diluted based on historical data. The sample was re-analyzed at a lower dilution. MWA-82-022524 (580-137038-2). Elevated reporting limits (RLs) are provided.

Method 314.0: The following sample in analytical batch 320-744330 was diluted due to the nature of the sample matrix and to protect instrumentation. The sample was very difficult to filter. Elevated reporting limits (RLs) are provided. PA-09-022624 (580-137038-8)

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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.

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 ID: TB-022524
Lab Sample ID: 580-137038-1

Date Collected: 02/25/24 00:01
Matrix: Water

Date Received: 02/27/24 14:25

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			02/28/24 20:24	1
Chloromethane	ND		0.50	0.14	ug/L			02/28/24 20:24	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/28/24 20:24	1
Bromomethane	ND		0.50	0.13	ug/L			02/28/24 20:24	1
Chloroethane	ND		0.50	0.096	ug/L			02/28/24 20:24	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/28/24 20:24	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/28/24 20:24	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/28/24 20:24	1
Acetone	ND		10	3.1	ug/L			02/28/24 20:24	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/28/24 20:24	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/28/24 20:24	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/28/24 20:24	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/28/24 20:24	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			02/28/24 20:24	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/28/24 20:24	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/28/24 20:24	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/28/24 20:24	1
Chloroform	ND		0.20	0.030	ug/L			02/28/24 20:24	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/28/24 20:24	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/28/24 20:24	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/28/24 20:24	1
Benzene	ND		0.20	0.030	ug/L			02/28/24 20:24	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/28/24 20:24	1
Trichloroethene	ND		0.20	0.066	ug/L			02/28/24 20:24	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/28/24 20:24	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/28/24 20:24	1
Dibromomethane	ND		0.20	0.062	ug/L			02/28/24 20:24	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/28/24 20:24	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/28/24 20:24	1
Toluene	ND		0.20	0.050	ug/L			02/28/24 20:24	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/28/24 20:24	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/28/24 20:24	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/28/24 20:24	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/28/24 20:24	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/28/24 20:24	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/28/24 20:24	1
Chlorobenzene	**0.082**	**J**	0.20	0.060	ug/L			02/28/24 20:24	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/28/24 20:24	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/28/24 20:24	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/28/24 20:24	1
o-Xylene	ND		0.50	0.15	ug/L			02/28/24 20:24	1
Styrene	ND		1.0	0.19	ug/L			02/28/24 20:24	1
Bromoform	ND	*+	0.50	0.16	ug/L			02/28/24 20:24	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/28/24 20:24	1
Bromobenzene	ND		0.20	0.038	ug/L			02/28/24 20:24	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/28/24 20:24	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/28/24 20:24	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/28/24 20:24	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/28/24 20:24	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: TB-022524
Lab Sample ID: 580-137038-1
Date Collected: 02/25/24 00:01
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 20:24	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/28/24 20:24	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/28/24 20:24	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/28/24 20:24	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/28/24 20:24	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/28/24 20:24	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 20:24	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 20:24	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/28/24 20:24	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/28/24 20:24	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/28/24 20:24	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/28/24 20:24	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/28/24 20:24	1
Naphthalene	ND		1.0	0.22	ug/L			02/28/24 20:24	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/28/24 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*02/28/24 20:24*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*02/28/24 20:24*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*02/28/24 20:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*02/28/24 20:24*	*1*

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-82-022524
Lab Sample ID: 580-137038-2
Date Collected: 02/25/24 10:13
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 22:01	1
Chloromethane	ND		0.50	0.14	ug/L			02/28/24 22:01	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/28/24 22:01	1
Bromomethane	ND		0.50	0.13	ug/L			02/28/24 22:01	1
Chloroethane	ND		0.50	0.096	ug/L			02/28/24 22:01	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/28/24 22:01	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/28/24 22:01	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/28/24 22:01	1
Acetone	ND		10	3.1	ug/L			02/28/24 22:01	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/28/24 22:01	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/28/24 22:01	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/28/24 22:01	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/28/24 22:01	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			02/28/24 22:01	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/28/24 22:01	1
cis-1,2-Dichloroethene	**0.067**	**J**	0.20	0.055	ug/L			02/28/24 22:01	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/28/24 22:01	1
Chloroform	**0.64**		0.20	0.030	ug/L			02/28/24 22:01	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/28/24 22:01	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/28/24 22:01	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/28/24 22:01	1
Benzene	**0.082**	**J**	0.20	0.030	ug/L			02/28/24 22:01	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/28/24 22:01	1
Trichloroethene	**0.35**		0.20	0.066	ug/L			02/28/24 22:01	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/28/24 22:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/28/24 22:01	1
Dibromomethane	ND		0.20	0.062	ug/L			02/28/24 22:01	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/28/24 22:01	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/28/24 22:01	1
Toluene	ND		0.20	0.050	ug/L			02/28/24 22:01	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/28/24 22:01	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/28/24 22:01	1
Tetrachloroethene	**0.61**		0.24	0.084	ug/L			02/28/24 22:01	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/28/24 22:01	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/28/24 22:01	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/28/24 22:01	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/28/24 22:01	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/28/24 22:01	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/28/24 22:01	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/28/24 22:01	1
o-Xylene	ND		0.50	0.15	ug/L			02/28/24 22:01	1
Styrene	ND		1.0	0.19	ug/L			02/28/24 22:01	1
Bromoform	**0.35**	**J B *+**	0.50	0.16	ug/L			02/28/24 22:01	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/28/24 22:01	1
Bromobenzene	ND		0.20	0.038	ug/L			02/28/24 22:01	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/28/24 22:01	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/28/24 22:01	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/28/24 22:01	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/28/24 22:01	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-82-022524
Lab Sample ID: 580-137038-2
Date Collected: 02/25/24 10:13
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 22:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/28/24 22:01	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/28/24 22:01	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/28/24 22:01	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/28/24 22:01	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/28/24 22:01	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 22:01	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 22:01	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/28/24 22:01	1
1,2-Dichlorobenzene	**0.072**	**J**	0.30	0.038	ug/L			02/28/24 22:01	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/28/24 22:01	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/28/24 22:01	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/28/24 22:01	1
Naphthalene	ND		1.0	0.22	ug/L			02/28/24 22:01	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/28/24 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*02/28/24 22:01*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*02/28/24 22:01*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*02/28/24 22:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*02/28/24 22:01*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**20**		8.0	4.0	ug/L			03/05/24 11:35	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**7.9**		1.5	0.43	mg/L			03/14/24 11:53	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-44i-022524
Lab Sample ID: 580-137038-3
Date Collected: 02/25/24 11:17
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 22:25	1
Chloromethane	ND		0.50	0.14	ug/L			02/28/24 22:25	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/28/24 22:25	1
Bromomethane	ND		0.50	0.13	ug/L			02/28/24 22:25	1
Chloroethane	ND		0.50	0.096	ug/L			02/28/24 22:25	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/28/24 22:25	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/28/24 22:25	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/28/24 22:25	1
Acetone	ND		10	3.1	ug/L			02/28/24 22:25	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/28/24 22:25	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/28/24 22:25	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/28/24 22:25	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/28/24 22:25	1
1,1-Dichloroethane	**0.15**	**J**	0.20	0.025	ug/L			02/28/24 22:25	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/28/24 22:25	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/28/24 22:25	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/28/24 22:25	1
Chloroform	ND		0.20	0.030	ug/L			02/28/24 22:25	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/28/24 22:25	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/28/24 22:25	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/28/24 22:25	1
Benzene	ND		0.20	0.030	ug/L			02/28/24 22:25	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/28/24 22:25	1
Trichloroethene	ND		0.20	0.066	ug/L			02/28/24 22:25	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/28/24 22:25	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/28/24 22:25	1
Dibromomethane	ND		0.20	0.062	ug/L			02/28/24 22:25	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/28/24 22:25	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/28/24 22:25	1
Toluene	ND		0.20	0.050	ug/L			02/28/24 22:25	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/28/24 22:25	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/28/24 22:25	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/28/24 22:25	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/28/24 22:25	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/28/24 22:25	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/28/24 22:25	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/28/24 22:25	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/28/24 22:25	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/28/24 22:25	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/28/24 22:25	1
o-Xylene	ND		0.50	0.15	ug/L			02/28/24 22:25	1
Styrene	ND		1.0	0.19	ug/L			02/28/24 22:25	1
Bromoform	ND	*+	0.50	0.16	ug/L			02/28/24 22:25	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/28/24 22:25	1
Bromobenzene	ND		0.20	0.038	ug/L			02/28/24 22:25	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/28/24 22:25	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/28/24 22:25	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/28/24 22:25	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/28/24 22:25	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-44i-022524
Lab Sample ID: 580-137038-3
Date Collected: 02/25/24 11:17
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 22:25	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/28/24 22:25	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/28/24 22:25	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/28/24 22:25	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/28/24 22:25	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/28/24 22:25	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 22:25	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 22:25	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/28/24 22:25	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/28/24 22:25	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/28/24 22:25	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/28/24 22:25	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/28/24 22:25	1
Naphthalene	ND		1.0	0.22	ug/L			02/28/24 22:25	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/28/24 22:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*02/28/24 22:25*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*02/28/24 22:25*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*02/28/24 22:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*02/28/24 22:25*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			03/04/24 18:32	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**93**		1.5	0.43	mg/L			03/14/24 12:05	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-41-022624
Lab Sample ID: 580-137038-4
Date Collected: 02/26/24 11:18
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 22:49	1
Chloromethane	ND		0.50	0.14	ug/L			02/28/24 22:49	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/28/24 22:49	1
Bromomethane	ND		0.50	0.13	ug/L			02/28/24 22:49	1
Chloroethane	ND		0.50	0.096	ug/L			02/28/24 22:49	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/28/24 22:49	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/28/24 22:49	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/28/24 22:49	1
Acetone	ND		10	3.1	ug/L			02/28/24 22:49	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/28/24 22:49	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/28/24 22:49	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/28/24 22:49	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/28/24 22:49	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			02/28/24 22:49	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/28/24 22:49	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/28/24 22:49	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/28/24 22:49	1
Chloroform	ND		0.20	0.030	ug/L			02/28/24 22:49	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/28/24 22:49	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/28/24 22:49	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/28/24 22:49	1
Benzene	ND		0.20	0.030	ug/L			02/28/24 22:49	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/28/24 22:49	1
Trichloroethene	ND		0.20	0.066	ug/L			02/28/24 22:49	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/28/24 22:49	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/28/24 22:49	1
Dibromomethane	ND		0.20	0.062	ug/L			02/28/24 22:49	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/28/24 22:49	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/28/24 22:49	1
Toluene	ND		0.20	0.050	ug/L			02/28/24 22:49	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/28/24 22:49	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/28/24 22:49	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/28/24 22:49	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/28/24 22:49	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/28/24 22:49	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/28/24 22:49	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/28/24 22:49	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/28/24 22:49	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/28/24 22:49	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/28/24 22:49	1
o-Xylene	ND		0.50	0.15	ug/L			02/28/24 22:49	1
Styrene	ND		1.0	0.19	ug/L			02/28/24 22:49	1
Bromoform	ND	*+	0.50	0.16	ug/L			02/28/24 22:49	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/28/24 22:49	1
Bromobenzene	ND		0.20	0.038	ug/L			02/28/24 22:49	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/28/24 22:49	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/28/24 22:49	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/28/24 22:49	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/28/24 22:49	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-41-022624
Lab Sample ID: 580-137038-4
Date Collected: 02/26/24 11:18
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 22:49	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/28/24 22:49	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/28/24 22:49	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/28/24 22:49	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/28/24 22:49	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/28/24 22:49	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 22:49	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 22:49	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/28/24 22:49	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/28/24 22:49	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/28/24 22:49	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/28/24 22:49	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/28/24 22:49	1
Naphthalene	ND		1.0	0.22	ug/L			02/28/24 22:49	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/28/24 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*02/28/24 22:49*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*02/28/24 22:49*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*02/28/24 22:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*02/28/24 22:49*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/05/24 10:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**8.0**		1.5	0.43	mg/L			03/14/24 12:29	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-81i-022624
Lab Sample ID: 580-137038-5
Date Collected: 02/26/24 11:54
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 23:13	1
Chloromethane	ND		0.50	0.14	ug/L			02/28/24 23:13	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/28/24 23:13	1
Bromomethane	ND		0.50	0.13	ug/L			02/28/24 23:13	1
Chloroethane	ND		0.50	0.096	ug/L			02/28/24 23:13	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/28/24 23:13	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/28/24 23:13	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/28/24 23:13	1
Acetone	ND		10	3.1	ug/L			02/28/24 23:13	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/28/24 23:13	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/28/24 23:13	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/28/24 23:13	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/28/24 23:13	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			02/28/24 23:13	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/28/24 23:13	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/28/24 23:13	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/28/24 23:13	1
Chloroform	ND		0.20	0.030	ug/L			02/28/24 23:13	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/28/24 23:13	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/28/24 23:13	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/28/24 23:13	1
Benzene	ND		0.20	0.030	ug/L			02/28/24 23:13	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/28/24 23:13	1
Trichloroethene	ND		0.20	0.066	ug/L			02/28/24 23:13	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/28/24 23:13	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/28/24 23:13	1
Dibromomethane	ND		0.20	0.062	ug/L			02/28/24 23:13	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/28/24 23:13	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/28/24 23:13	1
Toluene	ND		0.20	0.050	ug/L			02/28/24 23:13	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/28/24 23:13	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/28/24 23:13	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/28/24 23:13	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/28/24 23:13	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/28/24 23:13	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/28/24 23:13	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/28/24 23:13	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/28/24 23:13	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/28/24 23:13	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/28/24 23:13	1
o-Xylene	ND		0.50	0.15	ug/L			02/28/24 23:13	1
Styrene	ND		1.0	0.19	ug/L			02/28/24 23:13	1
Bromoform	ND	*+	0.50	0.16	ug/L			02/28/24 23:13	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/28/24 23:13	1
Bromobenzene	ND		0.20	0.038	ug/L			02/28/24 23:13	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/28/24 23:13	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/28/24 23:13	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/28/24 23:13	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/28/24 23:13	1

Client Sample ID: MWA-81i-022624
Lab Sample ID: 580-137038-5
Date Collected: 02/26/24 11:54
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 23:13	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/28/24 23:13	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/28/24 23:13	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/28/24 23:13	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/28/24 23:13	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/28/24 23:13	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 23:13	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 23:13	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/28/24 23:13	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/28/24 23:13	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/28/24 23:13	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/28/24 23:13	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/28/24 23:13	1
Naphthalene	ND		1.0	0.22	ug/L			02/28/24 23:13	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/28/24 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*02/28/24 23:13*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*02/28/24 23:13*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*02/28/24 23:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*02/28/24 23:13*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/05/24 10:33	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			03/14/24 12:41	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-15i-022624
Lab Sample ID: 580-137038-6
Date Collected: 02/26/24 12:53
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 23:37	1
Chloromethane	ND		0.50	0.14	ug/L			02/28/24 23:37	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/28/24 23:37	1
Bromomethane	ND		0.50	0.13	ug/L			02/28/24 23:37	1
Chloroethane	ND		0.50	0.096	ug/L			02/28/24 23:37	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/28/24 23:37	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/28/24 23:37	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/28/24 23:37	1
Acetone	ND		10	3.1	ug/L			02/28/24 23:37	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/28/24 23:37	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/28/24 23:37	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/28/24 23:37	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/28/24 23:37	1
1,1-Dichloroethane	**0.23**		0.20	0.025	ug/L			02/28/24 23:37	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/28/24 23:37	1
cis-1,2-Dichloroethene	**0.090**	**J**	0.20	0.055	ug/L			02/28/24 23:37	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/28/24 23:37	1
Chloroform	ND		0.20	0.030	ug/L			02/28/24 23:37	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/28/24 23:37	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/28/24 23:37	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/28/24 23:37	1
Benzene	ND		0.20	0.030	ug/L			02/28/24 23:37	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/28/24 23:37	1
Trichloroethene	ND		0.20	0.066	ug/L			02/28/24 23:37	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/28/24 23:37	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/28/24 23:37	1
Dibromomethane	ND		0.20	0.062	ug/L			02/28/24 23:37	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/28/24 23:37	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/28/24 23:37	1
Toluene	ND		0.20	0.050	ug/L			02/28/24 23:37	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/28/24 23:37	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/28/24 23:37	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/28/24 23:37	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/28/24 23:37	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/28/24 23:37	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/28/24 23:37	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/28/24 23:37	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/28/24 23:37	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/28/24 23:37	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/28/24 23:37	1
o-Xylene	ND		0.50	0.15	ug/L			02/28/24 23:37	1
Styrene	ND		1.0	0.19	ug/L			02/28/24 23:37	1
Bromoform	**0.34**	**J *+ B**	0.50	0.16	ug/L			02/28/24 23:37	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/28/24 23:37	1
Bromobenzene	ND		0.20	0.038	ug/L			02/28/24 23:37	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/28/24 23:37	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/28/24 23:37	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/28/24 23:37	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/28/24 23:37	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-15i-022624
Lab Sample ID: 580-137038-6
Date Collected: 02/26/24 12:53
Matrix: Water
Date Received: 02/27/24 14:25

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			02/28/24 23:37	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/28/24 23:37	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/28/24 23:37	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/28/24 23:37	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/28/24 23:37	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/28/24 23:37	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 23:37	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 23:37	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/28/24 23:37	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/28/24 23:37	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/28/24 23:37	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/28/24 23:37	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/28/24 23:37	1
Naphthalene	ND		1.0	0.22	ug/L			02/28/24 23:37	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/28/24 23:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*02/28/24 23:37*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*02/28/24 23:37*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*02/28/24 23:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*02/28/24 23:37*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			03/04/24 18:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**20**		1.5	0.43	mg/L			03/14/24 12:53	1

Client Sample ID: PA-26d-022624
Lab Sample ID: 580-137038-7

Date Collected: 02/26/24 08:31
Matrix: Water

Date Received: 02/27/24 14:25

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			02/29/24 00:01	1
Chloromethane	ND		0.50	0.14	ug/L			02/29/24 00:01	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/29/24 00:01	1
Bromomethane	ND		0.50	0.13	ug/L			02/29/24 00:01	1
Chloroethane	ND		0.50	0.096	ug/L			02/29/24 00:01	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/29/24 00:01	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/29/24 00:01	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/29/24 00:01	1
Acetone	ND		10	3.1	ug/L			02/29/24 00:01	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/29/24 00:01	1
Methyl tert-butyl ether	**0.087**	**J**	0.30	0.070	ug/L			02/29/24 00:01	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/29/24 00:01	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/29/24 00:01	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			02/29/24 00:01	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/29/24 00:01	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/29/24 00:01	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/29/24 00:01	1
Chloroform	ND		0.20	0.030	ug/L			02/29/24 00:01	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/29/24 00:01	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/29/24 00:01	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/29/24 00:01	1
Benzene	**0.064**	**J**	0.20	0.030	ug/L			02/29/24 00:01	1
1,2-Dichloroethane	**0.30**		0.20	0.043	ug/L			02/29/24 00:01	1
Trichloroethene	ND		0.20	0.066	ug/L			02/29/24 00:01	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/29/24 00:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/29/24 00:01	1
Dibromomethane	ND		0.20	0.062	ug/L			02/29/24 00:01	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/29/24 00:01	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/29/24 00:01	1
Toluene	**0.082**	**J**	0.20	0.050	ug/L			02/29/24 00:01	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/29/24 00:01	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/29/24 00:01	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/29/24 00:01	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/29/24 00:01	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/29/24 00:01	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/29/24 00:01	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/29/24 00:01	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/29/24 00:01	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/29/24 00:01	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/29/24 00:01	1
o-Xylene	ND		0.50	0.15	ug/L			02/29/24 00:01	1
Styrene	ND		1.0	0.19	ug/L			02/29/24 00:01	1
Bromoform	ND	*+	0.50	0.16	ug/L			02/29/24 00:01	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/29/24 00:01	1
Bromobenzene	ND		0.20	0.038	ug/L			02/29/24 00:01	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/29/24 00:01	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/29/24 00:01	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/29/24 00:01	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/29/24 00:01	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-26d-022624
Lab Sample ID: 580-137038-7
Date Collected: 02/26/24 08:31
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 00:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/29/24 00:01	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/29/24 00:01	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/29/24 00:01	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/29/24 00:01	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/29/24 00:01	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 00:01	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 00:01	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/29/24 00:01	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/29/24 00:01	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/29/24 00:01	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/29/24 00:01	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/29/24 00:01	1
Naphthalene	ND		1.0	0.22	ug/L			02/29/24 00:01	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/29/24 00:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*02/29/24 00:01*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*02/29/24 00:01*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*02/29/24 00:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*02/29/24 00:01*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/05/24 10:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**64**		1.5	0.43	mg/L			03/14/24 13:05	1

Client Sample ID: PA-09-022624
Lab Sample ID: 580-137038-8
Date Collected: 02/26/24 09:55
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 00:25	1
Chloromethane	**0.16**	**J**	0.50	0.14	ug/L			02/29/24 00:25	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/29/24 00:25	1
Bromomethane	ND		0.50	0.13	ug/L			02/29/24 00:25	1
Chloroethane	ND		0.50	0.096	ug/L			02/29/24 00:25	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/29/24 00:25	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/29/24 00:25	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/29/24 00:25	1
Acetone	ND		10	3.1	ug/L			02/29/24 00:25	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/29/24 00:25	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/29/24 00:25	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/29/24 00:25	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/29/24 00:25	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			02/29/24 00:25	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/29/24 00:25	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/29/24 00:25	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/29/24 00:25	1
Chloroform	**0.24**		0.20	0.030	ug/L			02/29/24 00:25	1
1,1,1-Trichloroethane	**0.070**	**J**	0.20	0.025	ug/L			02/29/24 00:25	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/29/24 00:25	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/29/24 00:25	1
Benzene	**0.070**	**J**	0.20	0.030	ug/L			02/29/24 00:25	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/29/24 00:25	1
Trichloroethene	ND		0.20	0.066	ug/L			02/29/24 00:25	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/29/24 00:25	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/29/24 00:25	1
Dibromomethane	ND		0.20	0.062	ug/L			02/29/24 00:25	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/29/24 00:25	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/29/24 00:25	1
Toluene	**0.083**	**J**	0.20	0.050	ug/L			02/29/24 00:25	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/29/24 00:25	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/29/24 00:25	1
Tetrachloroethene	**0.29**		0.24	0.084	ug/L			02/29/24 00:25	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/29/24 00:25	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/29/24 00:25	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/29/24 00:25	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/29/24 00:25	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/29/24 00:25	1
Ethylbenzene	**0.035**	**J**	0.20	0.030	ug/L			02/29/24 00:25	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/29/24 00:25	1
o-Xylene	ND		0.50	0.15	ug/L			02/29/24 00:25	1
Styrene	ND		1.0	0.19	ug/L			02/29/24 00:25	1
Bromoform	ND	*+	0.50	0.16	ug/L			02/29/24 00:25	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/29/24 00:25	1
Bromobenzene	ND		0.20	0.038	ug/L			02/29/24 00:25	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/29/24 00:25	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/29/24 00:25	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/29/24 00:25	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/29/24 00:25	1

Client Sample ID: PA-09-022624
Lab Sample ID: 580-137038-8
Date Collected: 02/26/24 09:55
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 00:25	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/29/24 00:25	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/29/24 00:25	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/29/24 00:25	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/29/24 00:25	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/29/24 00:25	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 00:25	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 00:25	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/29/24 00:25	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/29/24 00:25	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/29/24 00:25	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/29/24 00:25	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/29/24 00:25	1
Naphthalene	ND		1.0	0.22	ug/L			02/29/24 00:25	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/29/24 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*02/29/24 00:25*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*02/29/24 00:25*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*02/29/24 00:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*02/29/24 00:25*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			03/05/24 09:34	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**160**		15	4.3	mg/L			03/14/24 13:41	10

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-08-022624
Lab Sample ID: 580-137038-9
Date Collected: 02/26/24 11:01
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 00:49	1
Chloromethane	ND		0.50	0.14	ug/L			02/29/24 00:49	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/29/24 00:49	1
Bromomethane	ND		0.50	0.13	ug/L			02/29/24 00:49	1
Chloroethane	ND		0.50	0.096	ug/L			02/29/24 00:49	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/29/24 00:49	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/29/24 00:49	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/29/24 00:49	1
Acetone	ND		10	3.1	ug/L			02/29/24 00:49	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/29/24 00:49	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/29/24 00:49	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/29/24 00:49	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/29/24 00:49	1
1,1-Dichloroethane	**0.10**	**J**	0.20	0.025	ug/L			02/29/24 00:49	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/29/24 00:49	1
cis-1,2-Dichloroethene	**0.062**	**J**	0.20	0.055	ug/L			02/29/24 00:49	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/29/24 00:49	1
Chloroform	**0.079**	**J**	0.20	0.030	ug/L			02/29/24 00:49	1
1,1,1-Trichloroethane	**0.037**	**J**	0.20	0.025	ug/L			02/29/24 00:49	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/29/24 00:49	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/29/24 00:49	1
Benzene	ND		0.20	0.030	ug/L			02/29/24 00:49	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/29/24 00:49	1
Trichloroethene	**0.11**	**J**	0.20	0.066	ug/L			02/29/24 00:49	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/29/24 00:49	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/29/24 00:49	1
Dibromomethane	ND		0.20	0.062	ug/L			02/29/24 00:49	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/29/24 00:49	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/29/24 00:49	1
Toluene	ND		0.20	0.050	ug/L			02/29/24 00:49	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/29/24 00:49	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/29/24 00:49	1
Tetrachloroethene	**0.21**	**J**	0.24	0.084	ug/L			02/29/24 00:49	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/29/24 00:49	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/29/24 00:49	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/29/24 00:49	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/29/24 00:49	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/29/24 00:49	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/29/24 00:49	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/29/24 00:49	1
o-Xylene	ND		0.50	0.15	ug/L			02/29/24 00:49	1
Styrene	ND		1.0	0.19	ug/L			02/29/24 00:49	1
Bromoform	**0.34**	**J *+ B**	0.50	0.16	ug/L			02/29/24 00:49	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/29/24 00:49	1
Bromobenzene	ND		0.20	0.038	ug/L			02/29/24 00:49	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/29/24 00:49	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/29/24 00:49	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/29/24 00:49	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/29/24 00:49	1

Client Sample ID: PA-08-022624
Lab Sample ID: 580-137038-9
Date Collected: 02/26/24 11:01
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 00:49	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/29/24 00:49	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/29/24 00:49	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/29/24 00:49	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/29/24 00:49	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/29/24 00:49	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 00:49	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 00:49	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/29/24 00:49	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/29/24 00:49	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/29/24 00:49	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/29/24 00:49	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/29/24 00:49	1
Naphthalene	ND		1.0	0.22	ug/L			02/29/24 00:49	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/29/24 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*02/29/24 00:49*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*02/29/24 00:49*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*02/29/24 00:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*02/29/24 00:49*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			03/04/24 18:50	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**140**		15	4.3	mg/L			03/14/24 14:29	10

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-03-022624
Lab Sample ID: 580-137038-10
Date Collected: 02/26/24 13:08
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 01:13	1
Chloromethane	ND		0.50	0.14	ug/L			02/29/24 01:13	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/29/24 01:13	1
Bromomethane	ND		0.50	0.13	ug/L			02/29/24 01:13	1
Chloroethane	ND		0.50	0.096	ug/L			02/29/24 01:13	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/29/24 01:13	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/29/24 01:13	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/29/24 01:13	1
Acetone	ND		10	3.1	ug/L			02/29/24 01:13	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/29/24 01:13	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/29/24 01:13	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/29/24 01:13	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/29/24 01:13	1
1,1-Dichloroethane	**0.13**	**J**	0.20	0.025	ug/L			02/29/24 01:13	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/29/24 01:13	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/29/24 01:13	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/29/24 01:13	1
Chloroform	ND		0.20	0.030	ug/L			02/29/24 01:13	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/29/24 01:13	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/29/24 01:13	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/29/24 01:13	1
Benzene	**0.086**	**J**	0.20	0.030	ug/L			02/29/24 01:13	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/29/24 01:13	1
Trichloroethene	ND		0.20	0.066	ug/L			02/29/24 01:13	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/29/24 01:13	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/29/24 01:13	1
Dibromomethane	ND		0.20	0.062	ug/L			02/29/24 01:13	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/29/24 01:13	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/29/24 01:13	1
Toluene	**0.18**	**J**	0.20	0.050	ug/L			02/29/24 01:13	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/29/24 01:13	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/29/24 01:13	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/29/24 01:13	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/29/24 01:13	1
Chlorodibromomethane	ND	*+	0.20	0.055	ug/L			02/29/24 01:13	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/29/24 01:13	1
Chlorobenzene	**0.065**	**J**	0.20	0.060	ug/L			02/29/24 01:13	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/29/24 01:13	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/29/24 01:13	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/29/24 01:13	1
o-Xylene	ND		0.50	0.15	ug/L			02/29/24 01:13	1
Styrene	ND		1.0	0.19	ug/L			02/29/24 01:13	1
Bromoform	**0.38**	**J *+ B**	0.50	0.16	ug/L			02/29/24 01:13	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/29/24 01:13	1
Bromobenzene	ND		0.20	0.038	ug/L			02/29/24 01:13	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/29/24 01:13	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/29/24 01:13	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/29/24 01:13	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/29/24 01:13	1

Client Sample ID: PA-03-022624
Lab Sample ID: 580-137038-10
Date Collected: 02/26/24 13:08
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 01:13	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/29/24 01:13	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/29/24 01:13	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/29/24 01:13	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/29/24 01:13	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/29/24 01:13	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 01:13	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 01:13	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/29/24 01:13	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/29/24 01:13	1
1,2-Dibromo-3-Chloropropane	ND	*+	2.0	0.17	ug/L			02/29/24 01:13	1
1,2,4-Trichlorobenzene	ND	*+	0.50	0.17	ug/L			02/29/24 01:13	1
Hexachlorobutadiene	ND	*+	0.50	0.067	ug/L			02/29/24 01:13	1
Naphthalene	ND		1.0	0.22	ug/L			02/29/24 01:13	1
1,2,3-Trichlorobenzene	ND	*+	0.50	0.15	ug/L			02/29/24 01:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*02/29/24 01:13*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*02/29/24 01:13*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*02/29/24 01:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*02/29/24 01:13*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/04/24 17:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.2**		1.5	0.43	mg/L			03/14/24 14:40	1

Client Sample ID: PA-17iR-022624
Lab Sample ID: 580-137038-11
Date Collected: 02/26/24 14:24
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 21:42	1
Chloromethane	ND		0.50	0.14	ug/L			02/29/24 21:42	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/29/24 21:42	1
Bromomethane	ND		0.50	0.13	ug/L			02/29/24 21:42	1
Chloroethane	ND	F1	0.50	0.096	ug/L			02/29/24 21:42	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/29/24 21:42	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/29/24 21:42	1
1,1-Dichloroethene	**0.15**	**J**	0.20	0.035	ug/L			02/29/24 21:42	1
Acetone	ND		10	3.1	ug/L			02/29/24 21:42	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/29/24 21:42	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/29/24 21:42	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/29/24 21:42	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/29/24 21:42	1
1,1-Dichloroethane	**0.087**	**J**	0.20	0.025	ug/L			02/29/24 21:42	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/29/24 21:42	1
cis-1,2-Dichloroethene	**0.080**	**J**	0.20	0.055	ug/L			02/29/24 21:42	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/29/24 21:42	1
Chloroform	ND		0.20	0.030	ug/L			02/29/24 21:42	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/29/24 21:42	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/29/24 21:42	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/29/24 21:42	1
Benzene	**0.15**	**J**	0.20	0.030	ug/L			02/29/24 21:42	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/29/24 21:42	1
Trichloroethene	ND	F1 *+	0.20	0.066	ug/L			02/29/24 21:42	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/29/24 21:42	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/29/24 21:42	1
Dibromomethane	ND		0.20	0.062	ug/L			02/29/24 21:42	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/29/24 21:42	1
cis-1,3-Dichloropropene	ND	F1	0.20	0.090	ug/L			02/29/24 21:42	1
Toluene	**0.15**	**J**	0.20	0.050	ug/L			02/29/24 21:42	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/29/24 21:42	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/29/24 21:42	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/29/24 21:42	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/29/24 21:42	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			02/29/24 21:42	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/29/24 21:42	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/29/24 21:42	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/29/24 21:42	1
Ethylbenzene	**0.078**	**J**	0.20	0.030	ug/L			02/29/24 21:42	1
m-Xylene & p-Xylene	**0.14**	**J**	0.50	0.12	ug/L			02/29/24 21:42	1
o-Xylene	ND		0.50	0.15	ug/L			02/29/24 21:42	1
Styrene	ND		1.0	0.19	ug/L			02/29/24 21:42	1
Bromoform	ND		0.50	0.16	ug/L			02/29/24 21:42	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/29/24 21:42	1
Bromobenzene	ND		0.20	0.038	ug/L			02/29/24 21:42	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/29/24 21:42	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/29/24 21:42	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/29/24 21:42	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/29/24 21:42	1

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-17iR-022624
Lab Sample ID: 580-137038-11
Date Collected: 02/26/24 14:24
Matrix: Water
Date Received: 02/27/24 14:25

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			02/29/24 21:42	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/29/24 21:42	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/29/24 21:42	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/29/24 21:42	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/29/24 21:42	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/29/24 21:42	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 21:42	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 21:42	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/29/24 21:42	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/29/24 21:42	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			02/29/24 21:42	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			02/29/24 21:42	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			02/29/24 21:42	1
Naphthalene	ND		1.0	0.22	ug/L			02/29/24 21:42	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			02/29/24 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*02/29/24 21:42*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*02/29/24 21:42*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*02/29/24 21:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*02/29/24 21:42*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/04/24 17:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**32**		1.5	0.43	mg/L			03/14/24 14:52	1

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

Lab Sample ID: MB 580-452739/7
Matrix: Water
Analysis Batch: 452739

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			02/28/24 19:35	1
Chloromethane	ND		0.50	0.14	ug/L			02/28/24 19:35	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/28/24 19:35	1
Bromomethane	ND		0.50	0.13	ug/L			02/28/24 19:35	1
Chloroethane	ND		0.50	0.096	ug/L			02/28/24 19:35	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/28/24 19:35	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/28/24 19:35	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/28/24 19:35	1
Acetone	ND		10	3.1	ug/L			02/28/24 19:35	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/28/24 19:35	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/28/24 19:35	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/28/24 19:35	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/28/24 19:35	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			02/28/24 19:35	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/28/24 19:35	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/28/24 19:35	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/28/24 19:35	1
Chloroform	ND		0.20	0.030	ug/L			02/28/24 19:35	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/28/24 19:35	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/28/24 19:35	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/28/24 19:35	1
Benzene	ND		0.20	0.030	ug/L			02/28/24 19:35	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/28/24 19:35	1
Trichloroethene	ND		0.20	0.066	ug/L			02/28/24 19:35	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/28/24 19:35	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/28/24 19:35	1
Dibromomethane	ND		0.20	0.062	ug/L			02/28/24 19:35	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/28/24 19:35	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/28/24 19:35	1
Toluene	ND		0.20	0.050	ug/L			02/28/24 19:35	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/28/24 19:35	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/28/24 19:35	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/28/24 19:35	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/28/24 19:35	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			02/28/24 19:35	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/28/24 19:35	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/28/24 19:35	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/28/24 19:35	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/28/24 19:35	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/28/24 19:35	1
o-Xylene	ND		0.50	0.15	ug/L			02/28/24 19:35	1
Styrene	ND		1.0	0.19	ug/L			02/28/24 19:35	1
Bromoform	0.364	J	0.50	0.16	ug/L			02/28/24 19:35	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/28/24 19:35	1
Bromobenzene	ND		0.20	0.038	ug/L			02/28/24 19:35	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/28/24 19:35	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/28/24 19:35	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/28/24 19:35	1

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

Lab Sample ID: MB 580-452739/7
Matrix: Water
Analysis Batch: 452739

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/28/24 19:35	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			02/28/24 19:35	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/28/24 19:35	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/28/24 19:35	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/28/24 19:35	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/28/24 19:35	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/28/24 19:35	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 19:35	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/28/24 19:35	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/28/24 19:35	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/28/24 19:35	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			02/28/24 19:35	1
1,2,4-Trichlorobenzene	0.221	J	0.50	0.17	ug/L			02/28/24 19:35	1
Hexachlorobutadiene	0.262	J	0.50	0.067	ug/L			02/28/24 19:35	1
Naphthalene	0.226	J	1.0	0.22	ug/L			02/28/24 19:35	1
1,2,3-Trichlorobenzene	0.352	J	0.50	0.15	ug/L			02/28/24 19:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*02/28/24 19:35*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*02/28/24 19:35*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*02/28/24 19:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*02/28/24 19:35*	*1*

Lab Sample ID: LCS 580-452739/4
Matrix: Water
Analysis Batch: 452739

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	4.27		ug/L		85	20 - 150
Chloromethane	5.00	4.39		ug/L		88	32 - 150
Vinyl chloride	5.00	4.56		ug/L		91	41 - 150
Bromomethane	5.00	4.73		ug/L		95	51 - 148
Chloroethane	5.00	4.84		ug/L		97	54 - 140
Carbon disulfide	5.00	5.08		ug/L		102	54 - 142
Trichlorofluoromethane	5.00	4.85		ug/L		97	60 - 132
1,1-Dichloroethene	5.00	4.63		ug/L		93	60 - 129
Acetone	25.0	23.1		ug/L		93	49 - 150
Methylene Chloride	5.00	5.26		ug/L		105	40 - 142
Methyl tert-butyl ether	5.00	4.96		ug/L		99	61 - 131
2-Butanone (MEK)	25.0	26.0		ug/L		104	37 - 150
trans-1,2-Dichloroethene	5.00	4.65		ug/L		93	69 - 121
1,1-Dichloroethane	5.00	4.87		ug/L		97	74 - 120
2,2-Dichloropropane	5.00	5.70		ug/L		114	55 - 140
cis-1,2-Dichloroethene	5.00	5.05		ug/L		101	72 - 120
Chlorobromomethane	5.00	5.09		ug/L		102	79 - 121
Chloroform	5.00	5.14		ug/L		103	75 - 120
1,1,1-Trichloroethane	5.00	4.94		ug/L		99	70 - 121
Carbon tetrachloride	5.00	5.67		ug/L		113	66 - 130

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

Lab Sample ID: LCS 580-452739/4
Matrix: Water
Analysis Batch: 452739

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloropropene	5.00	4.71		ug/L		94	72 - 125
Benzene	5.00	5.12		ug/L		102	80 - 120
1,2-Dichloroethane	5.00	4.85		ug/L		97	74 - 127
Trichloroethene	5.00	5.18		ug/L		104	72 - 120
1,2-Dichloropropane	5.00	5.24		ug/L		105	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	28.3		ug/L		113	63 - 137
Dibromomethane	5.00	5.37		ug/L		107	65 - 141
Dichlorobromomethane	5.00	6.30		ug/L		126	74 - 131
cis-1,3-Dichloropropene	5.00	5.80		ug/L		116	77 - 131
Toluene	5.00	4.94		ug/L		99	80 - 126
trans-1,3-Dichloropropene	5.00	6.67		ug/L		133	71 - 138
1,1,2-Trichloroethane	5.00	4.74		ug/L		95	73 - 127
Tetrachloroethene	5.00	5.24		ug/L		105	75 - 124
1,3-Dichloropropane	5.00	5.31		ug/L		106	69 - 138
Chlorodibromomethane	5.00	7.49	*+	ug/L		150	62 - 141
Ethylene Dibromide	5.00	5.44		ug/L		109	61 - 143
Chlorobenzene	5.00	5.53		ug/L		111	74 - 123
1,1,1,2-Tetrachloroethane	5.00	6.07		ug/L		121	69 - 127
Ethylbenzene	5.00	5.29		ug/L		106	80 - 124
m-Xylene & p-Xylene	5.00	5.33		ug/L		107	75 - 124
o-Xylene	5.00	5.38		ug/L		108	71 - 124
Styrene	5.00	5.56		ug/L		111	74 - 127
Bromoform	5.00	8.82	*+	ug/L		176	48 - 127
Isopropylbenzene	5.00	6.16		ug/L		123	71 - 123
Bromobenzene	5.00	5.58		ug/L		112	74 - 130
1,1,2,2-Tetrachloroethane	5.00	5.73		ug/L		115	67 - 136
1,2,3-Trichloropropane	5.00	5.48		ug/L		110	67 - 135
N-Propylbenzene	5.00	5.77		ug/L		115	72 - 126
2-Chlorotoluene	5.00	5.55		ug/L		111	73 - 120
4-Chlorotoluene	5.00	5.66		ug/L		113	75 - 124
1,3,5-Trimethylbenzene	5.00	5.89		ug/L		118	75 - 123
tert-Butylbenzene	5.00	6.06		ug/L		121	70 - 129
1,2,4-Trimethylbenzene	5.00	6.00		ug/L		120	71 - 127
sec-Butylbenzene	5.00	6.02		ug/L		120	75 - 126
4-Isopropyltoluene	5.00	5.94		ug/L		119	78 - 125
1,3-Dichlorobenzene	5.00	5.77		ug/L		115	72 - 125
1,4-Dichlorobenzene	5.00	5.64		ug/L		113	71 - 129
n-Butylbenzene	5.00	6.05		ug/L		121	69 - 127
1,2-Dichlorobenzene	5.00	5.79		ug/L		116	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	7.63	*+	ug/L		153	55 - 135
1,2,4-Trichlorobenzene	5.00	6.55	*+	ug/L		131	60 - 130
Hexachlorobutadiene	5.00	7.46	*+	ug/L		149	63 - 130
Naphthalene	5.00	6.43		ug/L		129	54 - 137
1,2,3-Trichlorobenzene	5.00	6.91	*+	ug/L		138	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

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

Lab Sample ID: LCS 580-452739/4
Matrix: Water
Analysis Batch: 452739

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

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

Lab Sample ID: LCSD 580-452739/5
Matrix: Water
Analysis Batch: 452739

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	4.23		ug/L		85	20 - 150	1	30
Chloromethane			5.00	4.43		ug/L		89	32 - 150	1	33
Vinyl chloride			5.00	4.39		ug/L		88	41 - 150	4	32
Bromomethane			5.00	4.48		ug/L		90	51 - 148	6	35
Chloroethane			5.00	4.38		ug/L		88	54 - 140	10	33
Carbon disulfide			5.00	4.97		ug/L		99	54 - 142	2	34
Trichlorofluoromethane			5.00	4.87		ug/L		97	60 - 132	0	32
1,1-Dichloroethene			5.00	4.54		ug/L		91	60 - 129	2	29
Acetone			25.0	20.6		ug/L		82	49 - 150	12	24
Methylene Chloride			5.00	5.06		ug/L		101	40 - 142	4	25
Methyl tert-butyl ether			5.00	4.90		ug/L		98	61 - 131	1	27
2-Butanone (MEK)			25.0	25.7		ug/L		103	37 - 150	1	35
trans-1,2-Dichloroethene			5.00	4.59		ug/L		92	69 - 121	1	27
1,1-Dichloroethane			5.00	4.85		ug/L		97	74 - 120	0	26
2,2-Dichloropropane			5.00	5.17		ug/L		103	55 - 140	10	31
cis-1,2-Dichloroethene			5.00	4.91		ug/L		98	72 - 120	3	22
Chlorobromomethane			5.00	4.87		ug/L		97	79 - 121	4	20
Chloroform			5.00	4.95		ug/L		99	75 - 120	4	21
1,1,1-Trichloroethane			5.00	4.97		ug/L		99	70 - 121	1	24
Carbon tetrachloride			5.00	5.60		ug/L		112	66 - 130	1	24
1,1-Dichloropropene			5.00	4.69		ug/L		94	72 - 125	1	23
Benzene			5.00	5.04		ug/L		101	80 - 120	2	22
1,2-Dichloroethane			5.00	4.75		ug/L		95	74 - 127	2	21
Trichloroethene			5.00	5.16		ug/L		103	72 - 120	0	22
1,2-Dichloropropane			5.00	5.04		ug/L		101	69 - 130	4	22
4-Methyl-2-pentanone (MIBK)			25.0	27.8		ug/L		111	63 - 137	2	26
Dibromomethane			5.00	5.36		ug/L		107	65 - 141	0	22
Dichlorobromomethane			5.00	6.09		ug/L		122	74 - 131	3	21
cis-1,3-Dichloropropene			5.00	5.78		ug/L		116	77 - 131	0	24
Toluene			5.00	4.96		ug/L		99	80 - 126	0	20
trans-1,3-Dichloropropene			5.00	6.58		ug/L		132	71 - 138	1	26
1,1,2-Trichloroethane			5.00	4.92		ug/L		98	73 - 127	4	22
Tetrachloroethene			5.00	5.35		ug/L		107	75 - 124	2	20
1,3-Dichloropropane			5.00	5.32		ug/L		106	69 - 138	0	19
Chlorodibromomethane			5.00	7.34	*+	ug/L		147	62 - 141	2	22
Ethylene Dibromide			5.00	5.26		ug/L		105	61 - 143	3	22
Chlorobenzene			5.00	5.35		ug/L		107	74 - 123	3	21
1,1,1,2-Tetrachloroethane			5.00	5.96		ug/L		119	69 - 127	2	22
Ethylbenzene			5.00	5.32		ug/L		106	80 - 124	1	22
m-Xylene & p-Xylene			5.00	5.33		ug/L		107	75 - 124	0	22

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

Lab Sample ID: LCSD 580-452739/5
Matrix: Water
Analysis Batch: 452739

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
o-Xylene			5.00	5.31		ug/L		106	71 - 124	1	23
Styrene			5.00	5.37		ug/L		107	74 - 127	4	22
Bromoform			5.00	8.35	*+	ug/L		167	48 - 127	5	23
Isopropylbenzene			5.00	6.06		ug/L		121	71 - 123	2	23
Bromobenzene			5.00	5.59		ug/L		112	74 - 130	0	23
1,1,2,2-Tetrachloroethane			5.00	5.57		ug/L		111	67 - 136	3	24
1,2,3-Trichloropropane			5.00	5.32		ug/L		106	67 - 135	3	25
N-Propylbenzene			5.00	5.81		ug/L		116	72 - 126	1	20
2-Chlorotoluene			5.00	5.37		ug/L		107	73 - 120	3	22
4-Chlorotoluene			5.00	5.55		ug/L		111	75 - 124	2	23
1,3,5-Trimethylbenzene			5.00	5.68		ug/L		114	75 - 123	4	23
tert-Butylbenzene			5.00	5.95		ug/L		119	70 - 129	2	24
1,2,4-Trimethylbenzene			5.00	5.81		ug/L		116	71 - 127	3	23
sec-Butylbenzene			5.00	5.99		ug/L		120	75 - 126	0	23
4-Isopropyltoluene			5.00	5.88		ug/L		118	78 - 125	1	24
1,3-Dichlorobenzene			5.00	5.54		ug/L		111	72 - 125	4	22
1,4-Dichlorobenzene			5.00	5.47		ug/L		109	71 - 129	3	22
n-Butylbenzene			5.00	5.85		ug/L		117	69 - 127	3	24
1,2-Dichlorobenzene			5.00	5.49		ug/L		110	72 - 129	5	22
1,2-Dibromo-3-Chloropropane			5.00	7.03	*+	ug/L		141	55 - 135	8	29
1,2,4-Trichlorobenzene			5.00	6.39		ug/L		128	60 - 130	2	26
Hexachlorobutadiene			5.00	6.91	*+	ug/L		138	63 - 130	8	26
Naphthalene			5.00	6.10		ug/L		122	54 - 137	5	28
1,2,3-Trichlorobenzene			5.00	6.58		ug/L		132	60 - 136	5	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*

Lab Sample ID: MB 580-452860/7
Matrix: Water
Analysis Batch: 452860

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			02/29/24 18:36	1
Chloromethane	ND		0.50	0.14	ug/L			02/29/24 18:36	1
Vinyl chloride	ND		0.10	0.040	ug/L			02/29/24 18:36	1
Bromomethane	ND		0.50	0.13	ug/L			02/29/24 18:36	1
Chloroethane	ND		0.50	0.096	ug/L			02/29/24 18:36	1
Carbon disulfide	ND		0.30	0.083	ug/L			02/29/24 18:36	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			02/29/24 18:36	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			02/29/24 18:36	1
Acetone	ND		10	3.1	ug/L			02/29/24 18:36	1
Methylene Chloride	ND		5.0	1.2	ug/L			02/29/24 18:36	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			02/29/24 18:36	1
2-Butanone (MEK)	ND		10	2.5	ug/L			02/29/24 18:36	1

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

Lab Sample ID: MB 580-452860/7
Matrix: Water
Analysis Batch: 452860

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			02/29/24 18:36	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			02/29/24 18:36	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			02/29/24 18:36	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			02/29/24 18:36	1
Chlorobromomethane	ND		0.20	0.050	ug/L			02/29/24 18:36	1
Chloroform	ND		0.20	0.030	ug/L			02/29/24 18:36	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			02/29/24 18:36	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			02/29/24 18:36	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			02/29/24 18:36	1
Benzene	ND		0.20	0.030	ug/L			02/29/24 18:36	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			02/29/24 18:36	1
Trichloroethene	ND		0.20	0.066	ug/L			02/29/24 18:36	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			02/29/24 18:36	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			02/29/24 18:36	1
Dibromomethane	ND		0.20	0.062	ug/L			02/29/24 18:36	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			02/29/24 18:36	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			02/29/24 18:36	1
Toluene	ND		0.20	0.050	ug/L			02/29/24 18:36	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			02/29/24 18:36	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			02/29/24 18:36	1
Tetrachloroethene	ND		0.24	0.084	ug/L			02/29/24 18:36	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			02/29/24 18:36	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			02/29/24 18:36	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			02/29/24 18:36	1
Chlorobenzene	ND		0.20	0.060	ug/L			02/29/24 18:36	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			02/29/24 18:36	1
Ethylbenzene	ND		0.20	0.030	ug/L			02/29/24 18:36	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			02/29/24 18:36	1
o-Xylene	ND		0.50	0.15	ug/L			02/29/24 18:36	1
Styrene	ND		1.0	0.19	ug/L			02/29/24 18:36	1
Bromoform	ND		0.50	0.16	ug/L			02/29/24 18:36	1
Isopropylbenzene	ND		1.0	0.19	ug/L			02/29/24 18:36	1
Bromobenzene	ND		0.20	0.038	ug/L			02/29/24 18:36	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			02/29/24 18:36	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			02/29/24 18:36	1
N-Propylbenzene	ND		0.30	0.091	ug/L			02/29/24 18:36	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			02/29/24 18:36	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			02/29/24 18:36	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			02/29/24 18:36	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			02/29/24 18:36	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			02/29/24 18:36	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			02/29/24 18:36	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			02/29/24 18:36	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 18:36	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			02/29/24 18:36	1
n-Butylbenzene	ND		1.0	0.23	ug/L			02/29/24 18:36	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			02/29/24 18:36	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			02/29/24 18:36	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			02/29/24 18:36	1

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

Lab Sample ID: MB 580-452860/7
Matrix: Water
Analysis Batch: 452860

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		0.50	0.067	ug/L			02/29/24 18:36	1
Naphthalene	ND		1.0	0.22	ug/L			02/29/24 18:36	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			02/29/24 18:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*02/29/24 18:36*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*02/29/24 18:36*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*02/29/24 18:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*02/29/24 18:36*	*1*

Lab Sample ID: LCS 580-452860/4
Matrix: Water
Analysis Batch: 452860

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	4.73		ug/L		95	20 - 150
Chloromethane	5.00	5.61		ug/L		112	32 - 150
Vinyl chloride	5.00	6.47		ug/L		129	41 - 150
Bromomethane	5.00	7.06		ug/L		141	51 - 148
Chloroethane	5.00	6.76		ug/L		135	54 - 140
Carbon disulfide	5.00	4.79		ug/L		96	54 - 142
Trichlorofluoromethane	5.00	5.70		ug/L		114	60 - 132
1,1-Dichloroethene	5.00	5.64		ug/L		113	60 - 129
Acetone	25.0	25.4		ug/L		102	49 - 150
Methylene Chloride	5.00	5.96		ug/L		119	40 - 142
Methyl tert-butyl ether	5.00	4.96		ug/L		99	61 - 131
2-Butanone (MEK)	25.0	26.6		ug/L		106	37 - 150
trans-1,2-Dichloroethene	5.00	5.72		ug/L		114	69 - 121
1,1-Dichloroethane	5.00	5.47		ug/L		109	74 - 120
2,2-Dichloropropane	5.00	5.22		ug/L		104	55 - 140
cis-1,2-Dichloroethene	5.00	5.83		ug/L		117	72 - 120
Chlorobromomethane	5.00	6.01		ug/L		120	79 - 121
Chloroform	5.00	5.85		ug/L		117	75 - 120
1,1,1-Trichloroethane	5.00	5.69		ug/L		114	70 - 121
Carbon tetrachloride	5.00	5.59		ug/L		112	66 - 130
1,1-Dichloropropene	5.00	5.40		ug/L		108	72 - 125
Benzene	5.00	5.68		ug/L		114	80 - 120
1,2-Dichloroethane	5.00	5.60		ug/L		112	74 - 127
Trichloroethene	5.00	6.03	*+	ug/L		121	72 - 120
1,2-Dichloropropane	5.00	5.82		ug/L		116	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	23.3		ug/L		93	63 - 137
Dibromomethane	5.00	6.39		ug/L		128	65 - 141
Dichlorobromomethane	5.00	5.68		ug/L		114	74 - 131
cis-1,3-Dichloropropene	5.00	4.23		ug/L		85	77 - 131
Toluene	5.00	5.13		ug/L		103	80 - 126
trans-1,3-Dichloropropene	5.00	4.71		ug/L		94	71 - 138
1,1,2-Trichloroethane	5.00	5.27		ug/L		105	73 - 127
Tetrachloroethene	5.00	4.85		ug/L		97	75 - 124

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

Lab Sample ID: LCS 580-452860/4
Matrix: Water
Analysis Batch: 452860

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichloropropane	5.00	5.06		ug/L		101	69 - 138
Chlorodibromomethane	5.00	4.84		ug/L		97	62 - 141
Ethylene Dibromide	5.00	5.19		ug/L		104	61 - 143
Chlorobenzene	5.00	5.41		ug/L		108	74 - 123
1,1,1,2-Tetrachloroethane	5.00	5.31		ug/L		106	69 - 127
Ethylbenzene	5.00	5.18		ug/L		104	80 - 124
m-Xylene & p-Xylene	5.00	5.08		ug/L		102	75 - 124
o-Xylene	5.00	5.06		ug/L		101	71 - 124
Styrene	5.00	5.33		ug/L		107	74 - 127
Bromoform	5.00	4.44		ug/L		89	48 - 127
Isopropylbenzene	5.00	5.77		ug/L		115	71 - 123
Bromobenzene	5.00	4.97		ug/L		99	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.91		ug/L		98	67 - 136
1,2,3-Trichloropropane	5.00	5.09		ug/L		102	67 - 135
N-Propylbenzene	5.00	4.88		ug/L		98	72 - 126
2-Chlorotoluene	5.00	5.14		ug/L		103	73 - 120
4-Chlorotoluene	5.00	5.03		ug/L		101	75 - 124
1,3,5-Trimethylbenzene	5.00	4.94		ug/L		99	75 - 123
tert-Butylbenzene	5.00	4.81		ug/L		96	70 - 129
1,2,4-Trimethylbenzene	5.00	4.88		ug/L		98	71 - 127
sec-Butylbenzene	5.00	4.84		ug/L		97	75 - 126
4-Isopropyltoluene	5.00	4.72		ug/L		94	78 - 125
1,3-Dichlorobenzene	5.00	5.19		ug/L		104	72 - 125
1,4-Dichlorobenzene	5.00	5.29		ug/L		106	71 - 129
n-Butylbenzene	5.00	4.69		ug/L		94	69 - 127
1,2-Dichlorobenzene	5.00	5.24		ug/L		105	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.15		ug/L		83	55 - 135
1,2,4-Trichlorobenzene	5.00	4.60		ug/L		92	60 - 130
Hexachlorobutadiene	5.00	4.78		ug/L		96	63 - 130
Naphthalene	5.00	4.09		ug/L		82	54 - 137
1,2,3-Trichlorobenzene	5.00	4.62		ug/L		92	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-452860/5
Matrix: Water
Analysis Batch: 452860

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	4.31		ug/L		86	20 - 150	9	30
Chloromethane	5.00	5.11		ug/L		102	32 - 150	9	33
Vinyl chloride	5.00	6.01		ug/L		120	41 - 150	7	32
Bromomethane	5.00	6.39		ug/L		128	51 - 148	10	35
Chloroethane	5.00	6.51		ug/L		130	54 - 140	4	33

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

Lab Sample ID: LCSD 580-452860/5
Matrix: Water
Analysis Batch: 452860

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide	5.00	4.41		ug/L		88	54 - 142	8	34
Trichlorofluoromethane	5.00	5.22		ug/L		104	60 - 132	9	32
1,1-Dichloroethene	5.00	5.21		ug/L		104	60 - 129	8	29
Acetone	25.0	24.1		ug/L		96	49 - 150	5	24
Methylene Chloride	5.00	5.65		ug/L		113	40 - 142	5	25
Methyl tert-butyl ether	5.00	4.69		ug/L		94	61 - 131	6	27
2-Butanone (MEK)	25.0	25.0		ug/L		100	37 - 150	6	35
trans-1,2-Dichloroethene	5.00	5.16		ug/L		103	69 - 121	10	27
1,1-Dichloroethane	5.00	5.18		ug/L		104	74 - 120	5	26
2,2-Dichloropropane	5.00	4.66		ug/L		93	55 - 140	11	31
cis-1,2-Dichloroethene	5.00	5.30		ug/L		106	72 - 120	10	22
Chlorobromomethane	5.00	5.71		ug/L		114	79 - 121	5	20
Chloroform	5.00	5.47		ug/L		109	75 - 120	7	21
1,1,1-Trichloroethane	5.00	5.29		ug/L		106	70 - 121	7	24
Carbon tetrachloride	5.00	5.09		ug/L		102	66 - 130	9	24
1,1-Dichloropropene	5.00	5.09		ug/L		102	72 - 125	6	23
Benzene	5.00	5.30		ug/L		106	80 - 120	7	22
1,2-Dichloroethane	5.00	5.13		ug/L		103	74 - 127	9	21
Trichloroethene	5.00	5.57		ug/L		111	72 - 120	8	22
1,2-Dichloropropane	5.00	5.37		ug/L		107	69 - 130	8	22
4-Methyl-2-pentanone (MIBK)	25.0	21.9		ug/L		88	63 - 137	6	26
Dibromomethane	5.00	5.93		ug/L		119	65 - 141	7	22
Dichlorobromomethane	5.00	5.23		ug/L		105	74 - 131	8	21
cis-1,3-Dichloropropene	5.00	3.91		ug/L		78	77 - 131	8	24
Toluene	5.00	4.73		ug/L		95	80 - 126	8	20
trans-1,3-Dichloropropene	5.00	4.38		ug/L		88	71 - 138	7	26
1,1,2-Trichloroethane	5.00	4.90		ug/L		98	73 - 127	7	22
Tetrachloroethene	5.00	4.60		ug/L		92	75 - 124	5	20
1,3-Dichloropropane	5.00	4.74		ug/L		95	69 - 138	7	19
Chlorodibromomethane	5.00	4.47		ug/L		89	62 - 141	8	22
Ethylene Dibromide	5.00	4.89		ug/L		98	61 - 143	6	22
Chlorobenzene	5.00	5.03		ug/L		101	74 - 123	7	21
1,1,1,2-Tetrachloroethane	5.00	4.93		ug/L		99	69 - 127	7	22
Ethylbenzene	5.00	4.80		ug/L		96	80 - 124	8	22
m-Xylene & p-Xylene	5.00	4.68		ug/L		94	75 - 124	8	22
o-Xylene	5.00	4.68		ug/L		94	71 - 124	8	23
Styrene	5.00	4.84		ug/L		97	74 - 127	10	22
Bromoform	5.00	4.09		ug/L		82	48 - 127	8	23
Isopropylbenzene	5.00	5.38		ug/L		108	71 - 123	7	23
Bromobenzene	5.00	4.72		ug/L		94	74 - 130	5	23
1,1,2,2-Tetrachloroethane	5.00	4.59		ug/L		92	67 - 136	7	24
1,2,3-Trichloropropane	5.00	4.82		ug/L		96	67 - 135	5	25
N-Propylbenzene	5.00	4.62		ug/L		92	72 - 126	6	20
2-Chlorotoluene	5.00	4.73		ug/L		95	73 - 120	8	22
4-Chlorotoluene	5.00	4.68		ug/L		94	75 - 124	7	23
1,3,5-Trimethylbenzene	5.00	4.64		ug/L		93	75 - 123	6	23
tert-Butylbenzene	5.00	4.56		ug/L		91	70 - 129	5	24
1,2,4-Trimethylbenzene	5.00	4.65		ug/L		93	71 - 127	5	23
sec-Butylbenzene	5.00	4.55		ug/L		91	75 - 126	6	23

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

Lab Sample ID: LCSD 580-452860/5
Matrix: Water
Analysis Batch: 452860

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4-Isopropyltoluene			5.00	4.47		ug/L		89	78 - 125	6	24
1,3-Dichlorobenzene			5.00	4.84		ug/L		97	72 - 125	7	22
1,4-Dichlorobenzene			5.00	4.95		ug/L		99	71 - 129	7	22
n-Butylbenzene			5.00	4.43		ug/L		89	69 - 127	6	24
1,2-Dichlorobenzene			5.00	4.92		ug/L		98	72 - 129	6	22
1,2-Dibromo-3-Chloropropane			5.00	4.01		ug/L		80	55 - 135	3	29
1,2,4-Trichlorobenzene			5.00	4.37		ug/L		87	60 - 130	5	26
Hexachlorobutadiene			5.00	4.52		ug/L		90	63 - 130	6	26
Naphthalene			5.00	3.92		ug/L		78	54 - 137	4	28
1,2,3-Trichlorobenzene			5.00	4.32		ug/L		86	60 - 136	7	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 120*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*

Lab Sample ID: 580-137038-11 MS
Matrix: Water
Analysis Batch: 452860

Client Sample ID: PA-17iR-022624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		5.00	4.73		ug/L		95	20 - 150
Chloromethane	ND		5.00	5.32		ug/L		106	32 - 150
Vinyl chloride	ND		5.00	6.84		ug/L		137	41 - 150
Bromomethane	ND		5.00	4.73		ug/L		95	51 - 148
Chloroethane	ND	F1	5.00	7.67	F1	ug/L		153	54 - 140
Carbon disulfide	ND		5.00	4.95		ug/L		99	54 - 142
Trichlorofluoromethane	ND		5.00	5.86		ug/L		117	60 - 132
1,1-Dichloroethene	0.15	J	5.00	5.76		ug/L		112	60 - 129
Acetone	ND		25.0	21.4		ug/L		86	49 - 150
Methylene Chloride	ND		5.00	5.25		ug/L		105	40 - 142
Methyl tert-butyl ether	ND		5.00	4.58		ug/L		92	61 - 131
2-Butanone (MEK)	ND		25.0	21.2		ug/L		85	37 - 150
trans-1,2-Dichloroethene	ND		5.00	5.47		ug/L		109	69 - 121
1,1-Dichloroethane	0.087	J	5.00	5.13		ug/L		101	74 - 120
2,2-Dichloropropane	ND		5.00	5.02		ug/L		100	55 - 140
cis-1,2-Dichloroethene	0.080	J	5.00	5.62		ug/L		111	72 - 120
Chlorobromomethane	ND		5.00	5.55		ug/L		111	79 - 121
Chloroform	ND		5.00	5.59		ug/L		112	75 - 120
1,1,1-Trichloroethane	ND		5.00	5.80		ug/L		116	70 - 121
Carbon tetrachloride	ND		5.00	5.73		ug/L		115	66 - 130
1,1-Dichloropropene	ND		5.00	5.51		ug/L		110	72 - 125
Benzene	0.15	J	5.00	5.65		ug/L		110	80 - 120
1,2-Dichloroethane	ND		5.00	5.15		ug/L		103	74 - 127
Trichloroethene	ND	F1 *+	5.00	5.93		ug/L		119	72 - 120
1,2-Dichloropropane	ND		5.00	5.34		ug/L		107	69 - 130
4-Methyl-2-pentanone (MIBK)	ND		25.0	18.6		ug/L		74	63 - 137

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

Lab Sample ID: 580-137038-11 MS
Matrix: Water
Analysis Batch: 452860

Client Sample ID: PA-17iR-022624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dibromomethane	ND		5.00	5.64		ug/L		113	65 - 141
Dichlorobromomethane	ND		5.00	5.19		ug/L		104	74 - 131
cis-1,3-Dichloropropene	ND	F1	5.00	3.74	F1	ug/L		75	77 - 131
Toluene	0.15	J	5.00	4.89		ug/L		95	80 - 126
trans-1,3-Dichloropropene	ND		5.00	4.04		ug/L		81	71 - 138
1,1,2-Trichloroethane	ND		5.00	4.55		ug/L		91	73 - 127
Tetrachloroethene	ND		5.00	4.73		ug/L		95	75 - 124
1,3-Dichloropropane	ND		5.00	4.43		ug/L		89	69 - 138
Chlorodibromomethane	ND		5.00	4.16		ug/L		83	62 - 141
Ethylene Dibromide	ND		5.00	4.47		ug/L		89	61 - 143
Chlorobenzene	ND		5.00	5.02		ug/L		100	74 - 123
1,1,1,2-Tetrachloroethane	ND		5.00	4.71		ug/L		94	69 - 127
Ethylbenzene	0.078	J	5.00	4.85		ug/L		95	80 - 124
m-Xylene & p-Xylene	0.14	J	5.00	4.78		ug/L		93	75 - 124
o-Xylene	ND		5.00	4.67		ug/L		93	71 - 124
Styrene	ND		5.00	4.53		ug/L		91	74 - 127
Bromoform	ND		5.00	3.63		ug/L		73	48 - 127
Isopropylbenzene	ND		5.00	5.36		ug/L		107	71 - 123
Bromobenzene	ND		5.00	4.42		ug/L		88	74 - 130
1,1,2,2-Tetrachloroethane	ND		5.00	3.89		ug/L		78	67 - 136
1,2,3-Trichloropropane	ND		5.00	4.13		ug/L		83	67 - 135
N-Propylbenzene	ND		5.00	4.50		ug/L		90	72 - 126
2-Chlorotoluene	ND		5.00	4.56		ug/L		91	73 - 120
4-Chlorotoluene	ND		5.00	4.46		ug/L		89	75 - 124
1,3,5-Trimethylbenzene	ND		5.00	4.48		ug/L		90	75 - 123
tert-Butylbenzene	ND		5.00	4.47		ug/L		89	70 - 129
1,2,4-Trimethylbenzene	ND		5.00	4.43		ug/L		89	71 - 127
sec-Butylbenzene	ND		5.00	4.49		ug/L		90	75 - 126
4-Isopropyltoluene	ND		5.00	4.42		ug/L		88	78 - 125
1,3-Dichlorobenzene	ND		5.00	4.50		ug/L		90	72 - 125
1,4-Dichlorobenzene	ND		5.00	4.50		ug/L		90	71 - 129
n-Butylbenzene	ND		5.00	4.34		ug/L		87	69 - 127
1,2-Dichlorobenzene	ND		5.00	4.46		ug/L		89	72 - 129
1,2-Dibromo-3-Chloropropane	ND		5.00	3.39		ug/L		68	55 - 135
1,2,4-Trichlorobenzene	ND		5.00	3.86		ug/L		77	60 - 130
Hexachlorobutadiene	ND		5.00	4.16		ug/L		83	63 - 130
Naphthalene	ND		5.00	3.50		ug/L		70	54 - 137
1,2,3-Trichlorobenzene	ND		5.00	3.78		ug/L		76	60 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

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

Lab Sample ID: 580-137038-11 MSD
Client Sample ID: PA-17iR-022624
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 452860

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		5.00	4.77		ug/L		95	20 - 150	1	30
Chloromethane	ND		5.00	5.45		ug/L		109	32 - 150	2	33
Vinyl chloride	ND		5.00	6.93		ug/L		139	41 - 150	1	32
Bromomethane	ND		5.00	4.49		ug/L		90	51 - 148	5	35
Chloroethane	ND	F1	5.00	8.66	F1	ug/L		173	54 - 140	12	33
Carbon disulfide	ND		5.00	5.08		ug/L		102	54 - 142	3	34
Trichlorofluoromethane	ND		5.00	5.88		ug/L		118	60 - 132	0	32
1,1-Dichloroethene	0.15	J	5.00	5.84		ug/L		114	60 - 129	1	29
Acetone	ND		25.0	21.3		ug/L		85	49 - 150	1	24
Methylene Chloride	ND		5.00	5.31		ug/L		106	40 - 142	1	25
Methyl tert-butyl ether	ND		5.00	4.59		ug/L		92	61 - 131	0	27
2-Butanone (MEK)	ND		25.0	21.6		ug/L		86	37 - 150	2	35
trans-1,2-Dichloroethene	ND		5.00	5.69		ug/L		114	69 - 121	4	27
1,1-Dichloroethane	0.087	J	5.00	5.49		ug/L		108	74 - 120	7	26
2,2-Dichloropropane	ND		5.00	5.17		ug/L		103	55 - 140	3	31
cis-1,2-Dichloroethene	0.080	J	5.00	5.77		ug/L		114	72 - 120	3	22
Chlorobromomethane	ND		5.00	5.85		ug/L		117	79 - 121	5	20
Chloroform	ND		5.00	5.64		ug/L		113	75 - 120	1	21
1,1,1-Trichloroethane	ND		5.00	5.85		ug/L		117	70 - 121	1	24
Carbon tetrachloride	ND		5.00	5.74		ug/L		115	66 - 130	0	24
1,1-Dichloropropene	ND		5.00	5.60		ug/L		112	72 - 125	2	23
Benzene	0.15	J	5.00	5.74		ug/L		112	80 - 120	2	22
1,2-Dichloroethane	ND		5.00	5.37		ug/L		107	74 - 127	4	21
Trichloroethene	ND	F1 *+	5.00	6.11	F1	ug/L		122	72 - 120	3	22
1,2-Dichloropropane	ND		5.00	5.55		ug/L		111	69 - 130	4	22
4-Methyl-2-pentanone (MIBK)	ND		25.0	19.1		ug/L		76	63 - 137	3	26
Dibromomethane	ND		5.00	5.68		ug/L		114	65 - 141	1	22
Dichlorobromomethane	ND		5.00	5.29		ug/L		106	74 - 131	2	21
cis-1,3-Dichloropropene	ND	F1	5.00	3.89		ug/L		78	77 - 131	4	24
Toluene	0.15	J	5.00	5.01		ug/L		97	80 - 126	2	20
trans-1,3-Dichloropropene	ND		5.00	4.16		ug/L		83	71 - 138	3	26
1,1,2-Trichloroethane	ND		5.00	4.63		ug/L		93	73 - 127	2	22
Tetrachloroethene	ND		5.00	4.85		ug/L		97	75 - 124	3	20
1,3-Dichloropropane	ND		5.00	4.56		ug/L		91	69 - 138	3	19
Chlorodibromomethane	ND		5.00	4.18		ug/L		84	62 - 141	0	22
Ethylene Dibromide	ND		5.00	4.63		ug/L		93	61 - 143	4	22
Chlorobenzene	ND		5.00	5.13		ug/L		103	74 - 123	2	21
1,1,1,2-Tetrachloroethane	ND		5.00	4.83		ug/L		97	69 - 127	2	22
Ethylbenzene	0.078	J	5.00	4.97		ug/L		98	80 - 124	2	22
m-Xylene & p-Xylene	0.14	J	5.00	4.91		ug/L		95	75 - 124	3	22
o-Xylene	ND		5.00	4.77		ug/L		95	71 - 124	2	23
Styrene	ND		5.00	4.66		ug/L		93	74 - 127	3	22
Bromoform	ND		5.00	3.76		ug/L		75	48 - 127	4	23
Isopropylbenzene	ND		5.00	5.52		ug/L		110	71 - 123	3	23
Bromobenzene	ND		5.00	4.69		ug/L		94	74 - 130	6	23
1,1,2,2-Tetrachloroethane	ND		5.00	4.17		ug/L		83	67 - 136	7	24
1,2,3-Trichloropropane	ND		5.00	4.24		ug/L		85	67 - 135	2	25
N-Propylbenzene	ND		5.00	4.78		ug/L		96	72 - 126	6	20

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

Lab Sample ID: 580-137038-11 MSD
Matrix: Water
Analysis Batch: 452860

Client Sample ID: PA-17iR-022624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Chlorotoluene	ND		5.00	4.84		ug/L		97	73 - 120	6	22
4-Chlorotoluene	ND		5.00	4.65		ug/L		93	75 - 124	4	23
1,3,5-Trimethylbenzene	ND		5.00	4.74		ug/L		95	75 - 123	6	23
tert-Butylbenzene	ND		5.00	4.62		ug/L		92	70 - 129	3	24
1,2,4-Trimethylbenzene	ND		5.00	4.70		ug/L		94	71 - 127	6	23
sec-Butylbenzene	ND		5.00	4.76		ug/L		95	75 - 126	6	23
4-Isopropyltoluene	ND		5.00	4.62		ug/L		92	78 - 125	4	24
1,3-Dichlorobenzene	ND		5.00	4.69		ug/L		94	72 - 125	4	22
1,4-Dichlorobenzene	ND		5.00	4.83		ug/L		97	71 - 129	7	22
n-Butylbenzene	ND		5.00	4.62		ug/L		92	69 - 127	6	24
1,2-Dichlorobenzene	ND		5.00	4.73		ug/L		95	72 - 129	6	22
1,2-Dibromo-3-Chloropropane	ND		5.00	3.67		ug/L		73	55 - 135	8	29
1,2,4-Trichlorobenzene	ND		5.00	4.12		ug/L		82	60 - 130	6	26
Hexachlorobutadiene	ND		5.00	4.37		ug/L		87	63 - 130	5	26
Naphthalene	ND		5.00	3.73		ug/L		75	54 - 137	6	28
1,2,3-Trichlorobenzene	ND		5.00	4.02		ug/L		80	60 - 136	6	28

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-744330/12
Matrix: Water
Analysis Batch: 744330

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/04/24 15:59	1

Lab Sample ID: LCS 320-744330/13
Matrix: Water
Analysis Batch: 744330

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	49.9	48.8		ug/L		98	85 - 115

Lab Sample ID: MRL 320-744330/11
Matrix: Water
Analysis Batch: 744330

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	4.16		ug/L		104	75 - 125

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MB 320-744331/12
Matrix: Water
Analysis Batch: 744331
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/04/24 16:27	1

Lab Sample ID: LCS 320-744331/13
Matrix: Water
Analysis Batch: 744331
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			49.9	51.2		ug/L		103	85 - 115		

Lab Sample ID: MRL 320-744331/11
Matrix: Water
Analysis Batch: 744331
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			3.99	4.33		ug/L		109	75 - 125		

Lab Sample ID: 580-137038-11 MS
Matrix: Water
Analysis Batch: 744331
Client Sample ID: PA-17iR-022624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	ND		49.9	46.3		ug/L		93	80 - 120		

Lab Sample ID: 580-137038-11 MSD
Matrix: Water
Analysis Batch: 744331
Client Sample ID: PA-17iR-022624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		49.9	48.6		ug/L		97	80 - 120	5	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-453923/3
Matrix: Water
Analysis Batch: 453923
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			03/14/24 08:59	1

Lab Sample ID: LCS 580-453923/4
Matrix: Water
Analysis Batch: 453923
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	52.2		mg/L		104	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 580-453923/5
Matrix: Water
Analysis Batch: 453923

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	52.2		mg/L		104	90 - 110	0	15

Lab Sample ID: 580-137038-11 MS
Matrix: Water
Analysis Batch: 453923

Client Sample ID: PA-17iR-022624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	32		50.0	81.2		mg/L		99	90 - 110		

Lab Sample ID: 580-137038-11 MSD
Matrix: Water
Analysis Batch: 453923

Client Sample ID: PA-17iR-022624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	32		50.0	78.0		mg/L		93	90 - 110	4	15

Client Sample ID: TB-022524
Lab Sample ID: 580-137038-1
Date Collected: 02/25/24 00:01
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/28/24 20:24

Client Sample ID: MWA-82-022524
Lab Sample ID: 580-137038-2
Date Collected: 02/25/24 10:13
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/28/24 22:01
Total/NA	Analysis	314.0		2	744330	JCB	EET SAC	03/05/24 11:35
Total/NA	Analysis	300.0		1	453923	CA	EET SEA	03/14/24 11:53

Client Sample ID: PA-44i-022524
Lab Sample ID: 580-137038-3
Date Collected: 02/25/24 11:17
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/28/24 22:25
Total/NA	Analysis	314.0		5	744331	JCB	EET SAC	03/04/24 18:32
Total/NA	Analysis	300.0		1	453923	CA	EET SEA	03/14/24 12:05

Client Sample ID: MWA-41-022624
Lab Sample ID: 580-137038-4
Date Collected: 02/26/24 11:18
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/28/24 22:49
Total/NA	Analysis	314.0		1	744330	JCB	EET SAC	03/05/24 10:18
Total/NA	Analysis	300.0		1	453923	CA	EET SEA	03/14/24 12:29

Client Sample ID: MWA-81i-022624
Lab Sample ID: 580-137038-5
Date Collected: 02/26/24 11:54
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/28/24 23:13
Total/NA	Analysis	314.0		1	744330	JCB	EET SAC	03/05/24 10:33
Total/NA	Analysis	300.0		1	453923	CA	EET SEA	03/14/24 12:41

Client Sample ID: PA-15i-022624
Lab Sample ID: 580-137038-6
Date Collected: 02/26/24 12:53
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/28/24 23:37
Total/NA	Analysis	314.0		5	744331	JCB	EET SAC	03/04/24 18:15

Lab Chronicle

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-15i-022624
Lab Sample ID: 580-137038-6
Date Collected: 02/26/24 12:53
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	453923	CA	EET SEA	03/14/24 12:53

Client Sample ID: PA-26d-022624
Lab Sample ID: 580-137038-7
Date Collected: 02/26/24 08:31
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/29/24 00:01
Total/NA	Analysis	314.0		1	744330	JCB	EET SAC	03/05/24 10:48
Total/NA	Analysis	300.0		1	453923	CA	EET SEA	03/14/24 13:05

Client Sample ID: PA-09-022624
Lab Sample ID: 580-137038-8
Date Collected: 02/26/24 09:55
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/29/24 00:25
Total/NA	Analysis	314.0		10	744330	JCB	EET SAC	03/05/24 09:34
Total/NA	Analysis	300.0		10	453923	CA	EET SEA	03/14/24 13:41

Client Sample ID: PA-08-022624
Lab Sample ID: 580-137038-9
Date Collected: 02/26/24 11:01
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/29/24 00:49
Total/NA	Analysis	314.0		5	744331	JCB	EET SAC	03/04/24 18:50
Total/NA	Analysis	300.0		10	453923	CA	EET SEA	03/14/24 14:29

Client Sample ID: PA-03-022624
Lab Sample ID: 580-137038-10
Date Collected: 02/26/24 13:08
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452739	TL1	EET SEA	02/29/24 01:13
Total/NA	Analysis	314.0		1	744331	JCB	EET SAC	03/04/24 17:57
Total/NA	Analysis	300.0		1	453923	CA	EET SEA	03/14/24 14:40

Client Sample ID: PA-17iR-022624
Lab Sample ID: 580-137038-11
Date Collected: 02/26/24 14:24
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	452860	VYF4	EET SEA	02/29/24 21:42
Total/NA	Analysis	314.0		1	744331	JCB	EET SAC	03/04/24 17:03

Lab Chronicle

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-17iR-022624
Lab Sample ID: 580-137038-11

Date Collected: 02/26/24 14:24
Matrix: Water
Date Received: 02/27/24 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	453923	CA	EET SEA	03/14/24 14:52

Laboratory References:

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

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Laboratory: Eurofins Seattle

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

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

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25

Sample Summary

Client: ERM-West
Job ID: 580-137038-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-137038-1	TB-022524	Water	02/25/24 00:01	02/27/24 14:25
580-137038-2	MWA-82-022524	Water	02/25/24 10:13	02/27/24 14:25
580-137038-3	PA-44i-022524	Water	02/25/24 11:17	02/27/24 14:25
580-137038-4	MWA-41-022624	Water	02/26/24 11:18	02/27/24 14:25
580-137038-5	MWA-81i-022624	Water	02/26/24 11:54	02/27/24 14:25
580-137038-6	PA-15i-022624	Water	02/26/24 12:53	02/27/24 14:25
580-137038-7	PA-26d-022624	Water	02/26/24 08:31	02/27/24 14:25
580-137038-8	PA-09-022624	Water	02/26/24 09:55	02/27/24 14:25
580-137038-9	PA-08-022624	Water	02/26/24 11:01	02/27/24 14:25
580-137038-10	PA-03-022624	Water	02/26/24 13:08	02/27/24 14:25
580-137038-11	PA-17iR-022624	Water	02/26/24 14:24	02/27/24 14:25

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

Chain of Custody Record

580-137038 Chain of Custody

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Client Information	Sampler: ST / PV	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 1
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q1 2024 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Wwater, Ssolid, Owaste/oil, BT=Tissue, 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:
			Preservation Code:			A	A	N	N			
TB-022524	2/25/24		G	Water			X				2	
MWA-32-022524		1013		Water			X	X	X		5	
PA-44I-022524		1117		Water			X	X	X		5	
MWA-41-022624	2/26/24	1118	G	Water			X	X	X		5	
MWA-31I-022624		1154		Water			X	X	X		5	
PA-15I-022624		1253		Water			X	X	X		5	
PA-36d-022624		0831		Water			X	X	X		5	
PA-09-022624		0955		Water			X	X	X		5	
PA-08-022624		1101		Water			X	X	X		5	
PA-03-022624		1308					X	X	X		5	
PA-17iR-022624		1424					X	X	X	X	15	

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

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

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2/27/24 1425	ERM		2/27/24 1425	TEGR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.3 PDX SC IR

Ver: 01/16/2019

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

Chain of Custody Record

580-137038 Chain of Custody

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Client Information	Sampler: ST / PV	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 1
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q1 2024 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	A	A	N	N			
TB-022524	2/25/24		G	Water				X				2	
MWA-82-022524		1013		Water				X	X	X		5	
PA-44I-022524		1117		Water				X	X	X		5	
MWA-41-022624	2/26/24	1118	G	Water				X	X	X		5	
MWA-81I-022624		1154		Water				X	X	X		5	
PA-15I-022624		1253		Water				X	X	X		5	
PA-26d-022624		0931		Water				X	X	X		5	
PA-09-022624		0955		Water				X	X	X		5	
PA-08-022624		1101		Water				X	X	X		5	
PA-03-022624		1308						X	X	X		5	
PA-17R-022624		1424						X	X	X	X	15	

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		2/27/24 1425	ERM		2/27/24 1425	TAL
		2/27/24 1700	TAL		2/28/24 0925	ERM
		Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: IR 11.2/11.1 1.3 PDS SC IR

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-137038-1

Login Number: 137038
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins Seattle

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

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Sacramento Sample Receiving Notes (SSRN)

Job:____ 580-137038 Field Sheet

Tracking #: 420071596322

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

GSL / OnTrac / Goldstreak / USPS / Other_____

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

Therm. ID: KM Corr. Factor: (+ / -) 0 °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: _____

Cooler ID: _____

Temp Observed: 1.0 °C Corrected: 1.0 °C

From: Temp Blank ☐ Sample ☐

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

Initials: _____ Date: 2-28-24

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

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

Initials: _____ Date: 2-28-24

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

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

Initials: _____ Date: 2-28-24

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 3/20/2024 2:49:19 PM

JOB DESCRIPTION

Arkema - Q1 2024 Groundwater Event

JOB NUMBER

580-137138-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

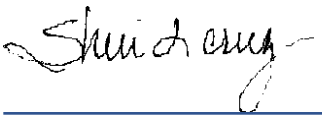
See page two for job notes and contact information.

Job Notes

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

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

Authorization



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3/20/2024 2:49:19 PM

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

Table of Contents

Job ID: 580-137138-1 Eurofins Seattle

Job Narrative
580-137138-1

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

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

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

Receipt
The samples were received on 2/29/2024 12:35 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 laboratory control sample duplicate (LCSD) for analytical batch 580-453269 recovered outside control limits for the following analytes: Dibromomethane and trans-1,3-Dichloropropene. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The [QC] associated with 580-453327 is compliant under 8260D criteria for 1,1,2,2-Tetrachloroethane. The software does not display the data to the whole number as is listed in the method (i.e. limit of 20%). When applying the evaluation to a whole number, the QC passes the criteria.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-453327 recovered above the upper control limit for Carbon disulfide, 1,1-Dichloroethene, Acetone, Methyl tert-butyl ether, 2-Butanone (MEK), 4-Methyl-2-pentanone (MIBK), Dibromomethane, Bromodichloromethane, trans-1,3-Dichloropropene, Ethylene Dibromide and Bromoform. The samples associated with this CCV were non-detects above the RL for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MWA-63-022724 (580-137138-14), PA-20d-022824 (580-137138-16), PA-21d-022824 (580-137138-17), PA-19d-022824 (580-137138-18), PA-30d-022824 (580-137138-19), MWA-58d-022824 (580-137138-21), MWA-56d-022824 (580-137138-23) and (CCVIS 580-453327/3).

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-453327 recovered outside control limits for the following analytes: Methyl tert-butyl ether, 2-Butanone (MEK), Chlorobromomethane and Dibromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-63-022724 (580-137138-14), PA-21d-022824 (580-137138-17), PA-19d-022824 (580-137138-18), PA-30d-022824 (580-137138-19), MWA-58d-022824 (580-137138-21) and MWA-56d-022824 (580-137138-23). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-453449 recovered above the upper control limit for Dichlorobromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-453449/3).

Method 8260D: The laboratory control sample (LCS) for analytical batch 580-453449 recovered outside control limits for the following analytes: Dichlorobromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-31i(d)-022824 (580-137138-20), MWA-31i(d)-022824 (580-137138-20[MS]), MWA-31i(d)-022824 (580-137138-20[MSD]) and Dup-02-022824 (580-137138-22). Elevated reporting limits (RLs) are provided.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-453018 recovered above the upper control limit for Vinyl chloride, Chloroethane and Trichlorofluoromethane. The samples associated with this CCV were below the

RL for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-022724 (580-137138-1), RB-01-022724 (580-137138-2), PA-25d-022724 (580-137138-3), PA-16i-022724 (580-137138-4), Dup-01-022724 (580-137138-9), PA-04-022724 (580-137138-10), PA-10i-022724 (580-137138-11), PA-31-022724 (580-137138-13), MWA-11i(d)-022824 (580-137138-24) and (CCVIS 580-453018/3).

Method 8260D_LL: The laboratory control sample (LCS) for analytical batch 580-453018 recovered outside control limits for the following analytes: Chlorobromomethane, Chloroform and Trichloroethene. These analytes were biased high in the LCS and were below the RL in the associated samples; therefore, the data have been reported.

Method 8260D_LL: The method blank for analytical batch 580-453018 contained Methylene Chloride above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL) in the method blank; therefore, re-extraction and re-analysis of samples was not performed.

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

HPLC/IC

Method 314.0: The following samples in analytical batch 320-744615 were diluted due to the nature of the sample matrix in order to instrumentation. The samples either had conductivity measurements that exceeded the method limit, were extremely difficult to filter, or were very dark in color post filtering. Elevated reporting limits (RLs) are provided.
PA-16i-022724 (580-137138-4), PA-23d-022724 (580-137138-5), PA-24d-022724 (580-137138-6), PA-27d-022724 (580-137138-8), Dup-01-022724 (580-137138-9), PA-04-022724 (580-137138-10) and PA-10i-022724 (580-137138-11).

Method 314.0: The following sample in analytical batch 320-744615 was diluted to bring the concentration of target analytes within the calibration range: PA-22d-022724 (580-137138-7). Elevated reporting limits (RLs) are provided.

Method 314.0: The following sample in analytical batch 320-745060 was diluted to bring the concentration of target analytes within the calibration range: MWA-31i(d)-022824 (580-137138-20), MWA-31i(d)-022824 (580-137138-20[MS]), MWA-31i(d)-022824 (580-137138-20[MSD]) and MWA-58d-022824 (580-137138-21). Elevated reporting limits (RLs) are provided.

Method 314.0: Due to the high concentration of perchlorate in the parent sample in analytical batch 320-745060 , the matrix spike / matrix spike duplicate (MS/MSD) for <PrepAnalyticalBatch> were over the upper calibration range and could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. The samples are being reported with this narration.

Method 314.0: The following sample in analytical batch 320-745060 was diluted due to the nature of the sample matrix. The conductivity exceeded the method limit. Elevated reporting limits (RLs) are provided.

MWA-11i(d)-022824 (580-137138-24)

Method 314.0: The following samples in analytical batch 320-744855 were diluted due to the nature of the sample matrix and to protect instrumentation. The samples were either very difficult to filter, had conductivities that exceeded the method limit, or were very dark in color with some viscosity. Elevated reporting limits (RLs) are provided.

PA-18d-022724 (580-137138-12), PA-20d-022824 (580-137138-16), PA-21d-022824 (580-137138-17), PA-19d-022824 (580-137138-18), PA-30d-022824 (580-137138-19), PA-32i-022824 (580-137138-25), (580-137138-H-17 MS) and (580-137138-H-17 MSD)

Method 314.0: The following samples in analytical batch 320-746596 were diluted to bring the concentration of target analytes within the calibration range: Dup-02-022824 (580-137138-22), MWA-56d-022824 (580-137138-23), (580-137138-E-23 MS) and (580-137138-E-23 MSD). 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

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

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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
E	Result exceeded calibration range.

Glossary

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

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: TB-022724
Lab Sample ID: 580-137138-1
Date Collected: 02/27/24 00:01
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 20:51	1
Chloromethane	ND		0.50	0.14	ug/L			03/04/24 20:51	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/04/24 20:51	1
Bromomethane	ND		0.50	0.13	ug/L			03/04/24 20:51	1
Chloroethane	ND		0.50	0.096	ug/L			03/04/24 20:51	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/04/24 20:51	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/04/24 20:51	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			03/04/24 20:51	1
Acetone	ND		10	3.1	ug/L			03/04/24 20:51	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/04/24 20:51	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/04/24 20:51	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/04/24 20:51	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/04/24 20:51	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			03/04/24 20:51	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/04/24 20:51	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			03/04/24 20:51	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/04/24 20:51	1
Chloroform	ND	*+	0.20	0.030	ug/L			03/04/24 20:51	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/04/24 20:51	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/04/24 20:51	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/04/24 20:51	1
Benzene	ND		0.20	0.030	ug/L			03/04/24 20:51	1
1,2-Dichloroethane	**0.069**	**J**	0.20	0.043	ug/L			03/04/24 20:51	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/04/24 20:51	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/04/24 20:51	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/04/24 20:51	1
Dibromomethane	ND		0.20	0.062	ug/L			03/04/24 20:51	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/04/24 20:51	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/04/24 20:51	1
Toluene	ND		0.20	0.050	ug/L			03/04/24 20:51	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/04/24 20:51	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/04/24 20:51	1
Tetrachloroethene	ND		0.24	0.084	ug/L			03/04/24 20:51	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/04/24 20:51	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/04/24 20:51	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/04/24 20:51	1
Chlorobenzene	ND		0.20	0.060	ug/L			03/04/24 20:51	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/04/24 20:51	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/04/24 20:51	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/04/24 20:51	1
o-Xylene	ND		0.50	0.15	ug/L			03/04/24 20:51	1
Styrene	ND		1.0	0.19	ug/L			03/04/24 20:51	1
Bromoform	ND		0.50	0.16	ug/L			03/04/24 20:51	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/04/24 20:51	1
Bromobenzene	ND		0.20	0.038	ug/L			03/04/24 20:51	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/04/24 20:51	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/04/24 20:51	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/04/24 20:51	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/04/24 20:51	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: TB-022724
Lab Sample ID: 580-137138-1
Date Collected: 02/27/24 00:01
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 20:51	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/04/24 20:51	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/04/24 20:51	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/04/24 20:51	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/04/24 20:51	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/04/24 20:51	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 20:51	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 20:51	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/04/24 20:51	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/04/24 20:51	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/04/24 20:51	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/04/24 20:51	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/04/24 20:51	1
Naphthalene	ND		1.0	0.22	ug/L			03/04/24 20:51	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/04/24 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*03/04/24 20:51*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/04/24 20:51*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*03/04/24 20:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*03/04/24 20:51*	*1*

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: RB-01-022724
Lab Sample ID: 580-137138-2
Date Collected: 02/27/24 08:00
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 21:14	1
Chloromethane	ND		0.50	0.14	ug/L			03/04/24 21:14	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/04/24 21:14	1
Bromomethane	ND		0.50	0.13	ug/L			03/04/24 21:14	1
Chloroethane	ND		0.50	0.096	ug/L			03/04/24 21:14	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/04/24 21:14	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/04/24 21:14	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			03/04/24 21:14	1
Acetone	ND		10	3.1	ug/L			03/04/24 21:14	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/04/24 21:14	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/04/24 21:14	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/04/24 21:14	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/04/24 21:14	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			03/04/24 21:14	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/04/24 21:14	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			03/04/24 21:14	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/04/24 21:14	1
Chloroform	ND	*+	0.20	0.030	ug/L			03/04/24 21:14	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/04/24 21:14	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/04/24 21:14	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/04/24 21:14	1
Benzene	ND		0.20	0.030	ug/L			03/04/24 21:14	1
1,2-Dichloroethane	**0.064**	**J**	0.20	0.043	ug/L			03/04/24 21:14	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/04/24 21:14	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/04/24 21:14	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/04/24 21:14	1
Dibromomethane	ND		0.20	0.062	ug/L			03/04/24 21:14	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/04/24 21:14	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/04/24 21:14	1
Toluene	ND		0.20	0.050	ug/L			03/04/24 21:14	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/04/24 21:14	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/04/24 21:14	1
Tetrachloroethene	ND		0.24	0.084	ug/L			03/04/24 21:14	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/04/24 21:14	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/04/24 21:14	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/04/24 21:14	1
Chlorobenzene	ND		0.20	0.060	ug/L			03/04/24 21:14	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/04/24 21:14	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/04/24 21:14	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/04/24 21:14	1
o-Xylene	ND		0.50	0.15	ug/L			03/04/24 21:14	1
Styrene	ND		1.0	0.19	ug/L			03/04/24 21:14	1
Bromoform	ND		0.50	0.16	ug/L			03/04/24 21:14	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/04/24 21:14	1
Bromobenzene	ND		0.20	0.038	ug/L			03/04/24 21:14	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/04/24 21:14	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/04/24 21:14	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/04/24 21:14	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/04/24 21:14	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: RB-01-022724
Lab Sample ID: 580-137138-2
Date Collected: 02/27/24 08:00
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 21:14	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/04/24 21:14	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/04/24 21:14	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/04/24 21:14	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/04/24 21:14	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/04/24 21:14	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 21:14	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 21:14	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/04/24 21:14	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/04/24 21:14	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/04/24 21:14	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/04/24 21:14	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/04/24 21:14	1
Naphthalene	ND		1.0	0.22	ug/L			03/04/24 21:14	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/04/24 21:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*80 - 120*		*03/04/24 21:14*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/04/24 21:14*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*03/04/24 21:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*03/04/24 21:14*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/05/24 14:35	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			03/14/24 22:14	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-25d-022724
Lab Sample ID: 580-137138-3
Date Collected: 02/27/24 08:44
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 23:10	1
Chloromethane	ND		0.50	0.14	ug/L			03/04/24 23:10	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/04/24 23:10	1
Bromomethane	ND		0.50	0.13	ug/L			03/04/24 23:10	1
Chloroethane	ND		0.50	0.096	ug/L			03/04/24 23:10	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/04/24 23:10	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/04/24 23:10	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			03/04/24 23:10	1
Acetone	ND		10	3.1	ug/L			03/04/24 23:10	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/04/24 23:10	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/04/24 23:10	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/04/24 23:10	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/04/24 23:10	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			03/04/24 23:10	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/04/24 23:10	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			03/04/24 23:10	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/04/24 23:10	1
Chloroform	ND	*+	0.20	0.030	ug/L			03/04/24 23:10	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/04/24 23:10	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/04/24 23:10	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/04/24 23:10	1
Benzene	ND		0.20	0.030	ug/L			03/04/24 23:10	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			03/04/24 23:10	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/04/24 23:10	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/04/24 23:10	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/04/24 23:10	1
Dibromomethane	ND		0.20	0.062	ug/L			03/04/24 23:10	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/04/24 23:10	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/04/24 23:10	1
Toluene	ND		0.20	0.050	ug/L			03/04/24 23:10	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/04/24 23:10	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/04/24 23:10	1
Tetrachloroethene	ND		0.24	0.084	ug/L			03/04/24 23:10	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/04/24 23:10	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/04/24 23:10	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/04/24 23:10	1
Chlorobenzene	ND		0.20	0.060	ug/L			03/04/24 23:10	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/04/24 23:10	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/04/24 23:10	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/04/24 23:10	1
o-Xylene	ND		0.50	0.15	ug/L			03/04/24 23:10	1
Styrene	ND		1.0	0.19	ug/L			03/04/24 23:10	1
Bromoform	ND		0.50	0.16	ug/L			03/04/24 23:10	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/04/24 23:10	1
Bromobenzene	ND		0.20	0.038	ug/L			03/04/24 23:10	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/04/24 23:10	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/04/24 23:10	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/04/24 23:10	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/04/24 23:10	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-25d-022724
Lab Sample ID: 580-137138-3
Date Collected: 02/27/24 08:44
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 23:10	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/04/24 23:10	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/04/24 23:10	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/04/24 23:10	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/04/24 23:10	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/04/24 23:10	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 23:10	1
1,4-Dichlorobenzene	**0.11**	**J**	0.30	0.050	ug/L			03/04/24 23:10	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/04/24 23:10	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/04/24 23:10	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/04/24 23:10	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/04/24 23:10	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/04/24 23:10	1
Naphthalene	ND		1.0	0.22	ug/L			03/04/24 23:10	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/04/24 23:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*03/04/24 23:10*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/04/24 23:10*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*03/04/24 23:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*03/04/24 23:10*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/05/24 14:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**13**		1.5	0.43	mg/L			03/15/24 08:08	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-16i-022724
Lab Sample ID: 580-137138-4
Date Collected: 02/27/24 09:42
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 23:33	1
Chloromethane	ND		0.50	0.14	ug/L			03/04/24 23:33	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/04/24 23:33	1
Bromomethane	ND		0.50	0.13	ug/L			03/04/24 23:33	1
Chloroethane	ND		0.50	0.096	ug/L			03/04/24 23:33	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/04/24 23:33	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/04/24 23:33	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			03/04/24 23:33	1
Acetone	ND		10	3.1	ug/L			03/04/24 23:33	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/04/24 23:33	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/04/24 23:33	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/04/24 23:33	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/04/24 23:33	1
1,1-Dichloroethane	**0.074**	**J**	0.20	0.025	ug/L			03/04/24 23:33	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/04/24 23:33	1
cis-1,2-Dichloroethene	**0.10**	**J**	0.20	0.055	ug/L			03/04/24 23:33	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/04/24 23:33	1
Chloroform	ND	*+	0.20	0.030	ug/L			03/04/24 23:33	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/04/24 23:33	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/04/24 23:33	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/04/24 23:33	1
Benzene	ND		0.20	0.030	ug/L			03/04/24 23:33	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			03/04/24 23:33	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/04/24 23:33	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/04/24 23:33	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/04/24 23:33	1
Dibromomethane	ND		0.20	0.062	ug/L			03/04/24 23:33	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/04/24 23:33	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/04/24 23:33	1
Toluene	ND		0.20	0.050	ug/L			03/04/24 23:33	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/04/24 23:33	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/04/24 23:33	1
Tetrachloroethene	ND		0.24	0.084	ug/L			03/04/24 23:33	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/04/24 23:33	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/04/24 23:33	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/04/24 23:33	1
Chlorobenzene	ND		0.20	0.060	ug/L			03/04/24 23:33	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/04/24 23:33	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/04/24 23:33	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/04/24 23:33	1
o-Xylene	ND		0.50	0.15	ug/L			03/04/24 23:33	1
Styrene	ND		1.0	0.19	ug/L			03/04/24 23:33	1
Bromoform	ND		0.50	0.16	ug/L			03/04/24 23:33	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/04/24 23:33	1
Bromobenzene	ND		0.20	0.038	ug/L			03/04/24 23:33	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/04/24 23:33	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/04/24 23:33	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/04/24 23:33	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/04/24 23:33	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-16i-022724
Lab Sample ID: 580-137138-4
Date Collected: 02/27/24 09:42
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 23:33	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/04/24 23:33	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/04/24 23:33	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/04/24 23:33	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/04/24 23:33	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/04/24 23:33	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 23:33	1
1,4-Dichlorobenzene	**0.065**	**J**	0.30	0.050	ug/L			03/04/24 23:33	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/04/24 23:33	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/04/24 23:33	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/04/24 23:33	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/04/24 23:33	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/04/24 23:33	1
Naphthalene	ND		1.0	0.22	ug/L			03/04/24 23:33	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/04/24 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*80 - 120*		*03/04/24 23:33*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/04/24 23:33*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*03/04/24 23:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*03/04/24 23:33*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			03/05/24 16:40	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**12**		1.5	0.43	mg/L			03/15/24 08:20	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-23d-022724
Lab Sample ID: 580-137138-5
Date Collected: 02/27/24 10:47
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 04:11	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 04:11	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 04:11	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 04:11	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 04:11	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 04:11	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 04:11	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 04:11	1
Acetone	ND		15	3.2	ug/L			03/07/24 04:11	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 04:11	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			03/07/24 04:11	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 04:11	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			03/07/24 04:11	1
2-Butanone (MEK)	ND		15	4.7	ug/L			03/07/24 04:11	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 04:11	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 04:11	1
Chlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 04:11	1
Chloroform	ND		1.0	0.26	ug/L			03/07/24 04:11	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 04:11	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 04:11	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 04:11	1
Benzene	ND		1.0	0.24	ug/L			03/07/24 04:11	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			03/07/24 04:11	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 04:11	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 04:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 04:11	1
Dibromomethane	ND	*+	1.0	0.34	ug/L			03/07/24 04:11	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 04:11	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 04:11	1
Toluene	**4.0**		1.0	0.39	ug/L			03/07/24 04:11	1
trans-1,3-Dichloropropene	ND	*+	1.0	0.41	ug/L			03/07/24 04:11	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 04:11	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 04:11	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 04:11	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 04:11	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 04:11	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 04:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 04:11	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 04:11	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 04:11	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 04:11	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 04:11	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 04:11	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 04:11	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 04:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 04:11	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 04:11	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 04:11	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 04:11	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-23d-022724
Lab Sample ID: 580-137138-5
Date Collected: 02/27/24 10:47
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 04:11	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 04:11	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 04:11	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 04:11	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 04:11	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 04:11	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 04:11	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 04:11	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 04:11	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 04:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 04:11	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 04:11	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 04:11	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 04:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 04:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*03/07/24 04:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*03/07/24 04:11*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/07/24 04:11*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/07/24 04:11*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	100	ug/L			03/05/24 17:51	50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**9700**		150	43	mg/L			03/15/24 08:32	100

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-24d-022724
Lab Sample ID: 580-137138-6
Date Collected: 02/27/24 11:49
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 04:34	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 04:34	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 04:34	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 04:34	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 04:34	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 04:34	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 04:34	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 04:34	1
Acetone	ND		15	3.2	ug/L			03/07/24 04:34	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 04:34	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			03/07/24 04:34	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 04:34	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			03/07/24 04:34	1
2-Butanone (MEK)	ND		15	4.7	ug/L			03/07/24 04:34	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 04:34	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 04:34	1
Chlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 04:34	1
Chloroform	ND		1.0	0.26	ug/L			03/07/24 04:34	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 04:34	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 04:34	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 04:34	1
Benzene	ND		1.0	0.24	ug/L			03/07/24 04:34	1
1,2-Dichloroethane	**1.2**		1.0	0.42	ug/L			03/07/24 04:34	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 04:34	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 04:34	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 04:34	1
Dibromomethane	ND	*+	1.0	0.34	ug/L			03/07/24 04:34	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 04:34	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 04:34	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 04:34	1
trans-1,3-Dichloropropene	ND	*+	1.0	0.41	ug/L			03/07/24 04:34	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 04:34	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 04:34	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 04:34	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 04:34	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 04:34	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 04:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 04:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 04:34	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 04:34	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 04:34	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 04:34	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 04:34	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 04:34	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 04:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 04:34	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 04:34	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 04:34	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 04:34	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-24d-022724
Lab Sample ID: 580-137138-6
Date Collected: 02/27/24 11:49
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 04:34	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 04:34	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 04:34	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 04:34	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 04:34	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 04:34	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 04:34	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 04:34	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 04:34	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 04:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 04:34	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 04:34	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 04:34	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 04:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 04:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/07/24 04:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*80 - 120*		*03/07/24 04:34*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*03/07/24 04:34*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*03/07/24 04:34*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		800	400	ug/L			03/05/24 18:09	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**30000**		1500	430	mg/L			03/15/24 09:08	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-22d-022724
Lab Sample ID: 580-137138-7
Date Collected: 02/27/24 12:52
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 04:57	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 04:57	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 04:57	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 04:57	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 04:57	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 04:57	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 04:57	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 04:57	1
Acetone	ND		15	3.2	ug/L			03/07/24 04:57	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 04:57	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			03/07/24 04:57	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 04:57	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			03/07/24 04:57	1
2-Butanone (MEK)	ND		15	4.7	ug/L			03/07/24 04:57	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 04:57	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 04:57	1
Chlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 04:57	1
Chloroform	**12**		1.0	0.26	ug/L			03/07/24 04:57	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 04:57	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 04:57	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 04:57	1
Benzene	ND		1.0	0.24	ug/L			03/07/24 04:57	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			03/07/24 04:57	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 04:57	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 04:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 04:57	1
Dibromomethane	ND	*+	1.0	0.34	ug/L			03/07/24 04:57	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 04:57	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 04:57	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 04:57	1
trans-1,3-Dichloropropene	ND	*+	1.0	0.41	ug/L			03/07/24 04:57	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 04:57	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 04:57	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 04:57	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 04:57	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 04:57	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 04:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 04:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 04:57	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 04:57	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 04:57	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 04:57	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 04:57	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 04:57	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 04:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 04:57	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 04:57	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 04:57	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 04:57	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-22d-022724
Lab Sample ID: 580-137138-7
Date Collected: 02/27/24 12:52
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 04:57	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 04:57	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 04:57	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 04:57	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 04:57	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 04:57	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 04:57	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 04:57	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 04:57	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 04:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 04:57	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 04:57	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 04:57	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 04:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*03/07/24 04:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*03/07/24 04:57*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*03/07/24 04:57*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/07/24 04:57*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**14000**		2000	1000	ug/L			03/05/24 18:27	500

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5300**		150	43	mg/L			03/15/24 09:44	100

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-27d-022724
Lab Sample ID: 580-137138-8
Date Collected: 02/27/24 07:22
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 05:21	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 05:21	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 05:21	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 05:21	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 05:21	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 05:21	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 05:21	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 05:21	1
Acetone	ND		15	3.2	ug/L			03/07/24 05:21	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 05:21	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			03/07/24 05:21	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 05:21	1
1,1-Dichloroethane	**0.28**	**J**	1.0	0.22	ug/L			03/07/24 05:21	1
2-Butanone (MEK)	ND		15	4.7	ug/L			03/07/24 05:21	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 05:21	1
cis-1,2-Dichloroethene	**0.54**	**J**	1.0	0.35	ug/L			03/07/24 05:21	1
Chlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 05:21	1
Chloroform	ND		1.0	0.26	ug/L			03/07/24 05:21	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 05:21	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 05:21	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 05:21	1
Benzene	ND		1.0	0.24	ug/L			03/07/24 05:21	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			03/07/24 05:21	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 05:21	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 05:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 05:21	1
Dibromomethane	ND	*+	1.0	0.34	ug/L			03/07/24 05:21	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 05:21	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 05:21	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 05:21	1
trans-1,3-Dichloropropene	ND	*+	1.0	0.41	ug/L			03/07/24 05:21	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 05:21	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 05:21	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 05:21	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 05:21	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 05:21	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 05:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 05:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 05:21	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 05:21	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 05:21	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 05:21	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 05:21	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 05:21	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 05:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 05:21	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 05:21	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 05:21	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 05:21	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-27d-022724
Lab Sample ID: 580-137138-8
Date Collected: 02/27/24 07:22
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 05:21	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 05:21	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 05:21	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 05:21	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 05:21	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 05:21	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 05:21	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 05:21	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 05:21	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 05:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 05:21	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 05:21	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 05:21	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 05:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 05:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*03/07/24 05:21*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*03/07/24 05:21*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/07/24 05:21*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/07/24 05:21*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			03/05/24 15:46	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**460**		150	43	mg/L			03/15/24 10:08	100

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: Dup-01-022724
Lab Sample ID: 580-137138-9
Date Collected: 02/27/24 08:22
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 23:57	1
Chloromethane	ND		0.50	0.14	ug/L			03/04/24 23:57	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/04/24 23:57	1
Bromomethane	ND		0.50	0.13	ug/L			03/04/24 23:57	1
Chloroethane	ND		0.50	0.096	ug/L			03/04/24 23:57	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/04/24 23:57	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/04/24 23:57	1
1,1-Dichloroethene	**0.16**	**J**	0.20	0.035	ug/L			03/04/24 23:57	1
Acetone	ND		10	3.1	ug/L			03/04/24 23:57	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/04/24 23:57	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/04/24 23:57	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/04/24 23:57	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/04/24 23:57	1
1,1-Dichloroethane	**0.21**		0.20	0.025	ug/L			03/04/24 23:57	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/04/24 23:57	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			03/04/24 23:57	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/04/24 23:57	1
Chloroform	**0.039**	**J *+**	0.20	0.030	ug/L			03/04/24 23:57	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/04/24 23:57	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/04/24 23:57	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/04/24 23:57	1
Benzene	**0.032**	**J**	0.20	0.030	ug/L			03/04/24 23:57	1
1,2-Dichloroethane	**0.068**	**J**	0.20	0.043	ug/L			03/04/24 23:57	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/04/24 23:57	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/04/24 23:57	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/04/24 23:57	1
Dibromomethane	ND		0.20	0.062	ug/L			03/04/24 23:57	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/04/24 23:57	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/04/24 23:57	1
Toluene	ND		0.20	0.050	ug/L			03/04/24 23:57	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/04/24 23:57	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/04/24 23:57	1
Tetrachloroethene	**0.12**	**J**	0.24	0.084	ug/L			03/04/24 23:57	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/04/24 23:57	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/04/24 23:57	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/04/24 23:57	1
Chlorobenzene	ND		0.20	0.060	ug/L			03/04/24 23:57	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/04/24 23:57	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/04/24 23:57	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/04/24 23:57	1
o-Xylene	ND		0.50	0.15	ug/L			03/04/24 23:57	1
Styrene	ND		1.0	0.19	ug/L			03/04/24 23:57	1
Bromoform	ND		0.50	0.16	ug/L			03/04/24 23:57	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/04/24 23:57	1
Bromobenzene	ND		0.20	0.038	ug/L			03/04/24 23:57	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/04/24 23:57	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/04/24 23:57	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/04/24 23:57	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/04/24 23:57	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: Dup-01-022724
Lab Sample ID: 580-137138-9
Date Collected: 02/27/24 08:22
Matrix: Water
Date Received: 02/29/24 12:35

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			03/04/24 23:57	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/04/24 23:57	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/04/24 23:57	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/04/24 23:57	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/04/24 23:57	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/04/24 23:57	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 23:57	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 23:57	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/04/24 23:57	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/04/24 23:57	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/04/24 23:57	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/04/24 23:57	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/04/24 23:57	1
Naphthalene	ND		1.0	0.22	ug/L			03/04/24 23:57	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/04/24 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*03/04/24 23:57*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/04/24 23:57*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*03/04/24 23:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*03/04/24 23:57*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			03/05/24 16:04	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.3**		1.5	0.43	mg/L			03/15/24 10:31	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-04-022724
Lab Sample ID: 580-137138-10
Date Collected: 02/27/24 08:21
Matrix: Water
Date Received: 02/29/24 12:35

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			03/05/24 00:20	1
Chloromethane	ND		0.50	0.14	ug/L			03/05/24 00:20	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/05/24 00:20	1
Bromomethane	ND		0.50	0.13	ug/L			03/05/24 00:20	1
Chloroethane	ND		0.50	0.096	ug/L			03/05/24 00:20	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/05/24 00:20	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/05/24 00:20	1
1,1-Dichloroethene	**0.20**		0.20	0.035	ug/L			03/05/24 00:20	1
Acetone	ND		10	3.1	ug/L			03/05/24 00:20	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/05/24 00:20	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/05/24 00:20	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/05/24 00:20	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/05/24 00:20	1
1,1-Dichloroethane	**0.23**		0.20	0.025	ug/L			03/05/24 00:20	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/05/24 00:20	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			03/05/24 00:20	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/05/24 00:20	1
Chloroform	**0.042**	**J *+**	0.20	0.030	ug/L			03/05/24 00:20	1
1,1,1-Trichloroethane	**0.029**	**J**	0.20	0.025	ug/L			03/05/24 00:20	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/05/24 00:20	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/05/24 00:20	1
Benzene	**0.033**	**J**	0.20	0.030	ug/L			03/05/24 00:20	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			03/05/24 00:20	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/05/24 00:20	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/05/24 00:20	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/05/24 00:20	1
Dibromomethane	ND		0.20	0.062	ug/L			03/05/24 00:20	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/05/24 00:20	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/05/24 00:20	1
Toluene	ND		0.20	0.050	ug/L			03/05/24 00:20	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/05/24 00:20	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/05/24 00:20	1
Tetrachloroethene	**0.13**	**J**	0.24	0.084	ug/L			03/05/24 00:20	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/05/24 00:20	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/05/24 00:20	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/05/24 00:20	1
Chlorobenzene	ND		0.20	0.060	ug/L			03/05/24 00:20	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/05/24 00:20	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/05/24 00:20	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/05/24 00:20	1
o-Xylene	ND		0.50	0.15	ug/L			03/05/24 00:20	1
Styrene	ND		1.0	0.19	ug/L			03/05/24 00:20	1
Bromoform	ND		0.50	0.16	ug/L			03/05/24 00:20	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/05/24 00:20	1
Bromobenzene	ND		0.20	0.038	ug/L			03/05/24 00:20	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/05/24 00:20	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/05/24 00:20	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/05/24 00:20	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/05/24 00:20	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-04-022724
Lab Sample ID: 580-137138-10
Date Collected: 02/27/24 08:21
Matrix: Water
Date Received: 02/29/24 12:35

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			03/05/24 00:20	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/05/24 00:20	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/05/24 00:20	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/05/24 00:20	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/05/24 00:20	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/05/24 00:20	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 00:20	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 00:20	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/05/24 00:20	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/05/24 00:20	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/05/24 00:20	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/05/24 00:20	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/05/24 00:20	1
Naphthalene	ND		1.0	0.22	ug/L			03/05/24 00:20	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/05/24 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*80 - 120*		*03/05/24 00:20*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/05/24 00:20*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*03/05/24 00:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*03/05/24 00:20*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			03/05/24 16:22	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.3**		1.5	0.43	mg/L			03/15/24 10:43	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-10i-022724
Lab Sample ID: 580-137138-11
Date Collected: 02/27/24 09:48
Matrix: Water
Date Received: 02/29/24 12:35

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			03/05/24 00:43	1
Chloromethane	ND		0.50	0.14	ug/L			03/05/24 00:43	1
Bromomethane	ND		0.50	0.13	ug/L			03/05/24 00:43	1
Chloroethane	ND		0.50	0.096	ug/L			03/05/24 00:43	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/05/24 00:43	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/05/24 00:43	1
1,1-Dichloroethene	**0.078**	**J**	0.20	0.035	ug/L			03/05/24 00:43	1
Acetone	ND		10	3.1	ug/L			03/05/24 00:43	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/05/24 00:43	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/05/24 00:43	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/05/24 00:43	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/05/24 00:43	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			03/05/24 00:43	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/05/24 00:43	1
cis-1,2-Dichloroethene	**0.27**		0.20	0.055	ug/L			03/05/24 00:43	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/05/24 00:43	1
Chloroform	ND	*+	0.20	0.030	ug/L			03/05/24 00:43	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/05/24 00:43	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/05/24 00:43	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/05/24 00:43	1
Benzene	**0.038**	**J**	0.20	0.030	ug/L			03/05/24 00:43	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			03/05/24 00:43	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/05/24 00:43	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/05/24 00:43	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/05/24 00:43	1
Dibromomethane	ND		0.20	0.062	ug/L			03/05/24 00:43	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/05/24 00:43	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/05/24 00:43	1
Toluene	ND		0.20	0.050	ug/L			03/05/24 00:43	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/05/24 00:43	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/05/24 00:43	1
Tetrachloroethene	ND		0.24	0.084	ug/L			03/05/24 00:43	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/05/24 00:43	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/05/24 00:43	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/05/24 00:43	1
Chlorobenzene	**0.53**		0.20	0.060	ug/L			03/05/24 00:43	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/05/24 00:43	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/05/24 00:43	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/05/24 00:43	1
o-Xylene	ND		0.50	0.15	ug/L			03/05/24 00:43	1
Styrene	ND		1.0	0.19	ug/L			03/05/24 00:43	1
Bromoform	ND		0.50	0.16	ug/L			03/05/24 00:43	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/05/24 00:43	1
Bromobenzene	ND		0.20	0.038	ug/L			03/05/24 00:43	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/05/24 00:43	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/05/24 00:43	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/05/24 00:43	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/05/24 00:43	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			03/05/24 00:43	1

Client Sample ID: PA-10i-022724
Lab Sample ID: 580-137138-11
Date Collected: 02/27/24 09:48
Matrix: Water
Date Received: 02/29/24 12:35

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	0.15	ug/L			03/05/24 00:43	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/05/24 00:43	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/05/24 00:43	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/05/24 00:43	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/05/24 00:43	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 00:43	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 00:43	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/05/24 00:43	1
1,2-Dichlorobenzene	**0.15**	**J**	0.30	0.038	ug/L			03/05/24 00:43	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/05/24 00:43	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/05/24 00:43	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/05/24 00:43	1
Naphthalene	ND		1.0	0.22	ug/L			03/05/24 00:43	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/05/24 00:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*80 - 120*		*03/05/24 00:43*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/05/24 00:43*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*03/05/24 00:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*03/05/24 00:43*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.12**		0.10	0.040	ug/L			03/07/24 03:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*03/07/24 03:48*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/07/24 03:48*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*03/07/24 03:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*03/07/24 03:48*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			03/05/24 17:33	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**55**		1.5	0.43	mg/L			03/15/24 10:55	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-18d-022724
Lab Sample ID: 580-137138-12
Date Collected: 02/27/24 11:23
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 05:44	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 05:44	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 05:44	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 05:44	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 05:44	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 05:44	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 05:44	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 05:44	1
Acetone	ND		15	3.2	ug/L			03/07/24 05:44	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 05:44	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			03/07/24 05:44	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 05:44	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			03/07/24 05:44	1
2-Butanone (MEK)	ND		15	4.7	ug/L			03/07/24 05:44	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 05:44	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 05:44	1
Chlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 05:44	1
Chloroform	ND		1.0	0.26	ug/L			03/07/24 05:44	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 05:44	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 05:44	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 05:44	1
Benzene	ND		1.0	0.24	ug/L			03/07/24 05:44	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			03/07/24 05:44	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 05:44	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 05:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 05:44	1
Dibromomethane	ND	*+	1.0	0.34	ug/L			03/07/24 05:44	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 05:44	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 05:44	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 05:44	1
trans-1,3-Dichloropropene	ND	*+	1.0	0.41	ug/L			03/07/24 05:44	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 05:44	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 05:44	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 05:44	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 05:44	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 05:44	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 05:44	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 05:44	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 05:44	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 05:44	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 05:44	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 05:44	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 05:44	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 05:44	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 05:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 05:44	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 05:44	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 05:44	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 05:44	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-18d-022724
Lab Sample ID: 580-137138-12
Date Collected: 02/27/24 11:23
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 05:44	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 05:44	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 05:44	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 05:44	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 05:44	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 05:44	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 05:44	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 05:44	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 05:44	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 05:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 05:44	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 05:44	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 05:44	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 05:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 05:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/07/24 05:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*03/07/24 05:44*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*03/07/24 05:44*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/07/24 05:44*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			03/06/24 16:18	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**98**		1.5	0.43	mg/L			03/15/24 11:19	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-31-022724
Lab Sample ID: 580-137138-13
Date Collected: 02/27/24 12:41
Matrix: Water
Date Received: 02/29/24 12:35

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			03/05/24 01:06	1
Chloromethane	ND		0.50	0.14	ug/L			03/05/24 01:06	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/05/24 01:06	1
Bromomethane	ND		0.50	0.13	ug/L			03/05/24 01:06	1
Chloroethane	ND		0.50	0.096	ug/L			03/05/24 01:06	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/05/24 01:06	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/05/24 01:06	1
1,1-Dichloroethene	**0.73**		0.20	0.035	ug/L			03/05/24 01:06	1
Acetone	ND		10	3.1	ug/L			03/05/24 01:06	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/05/24 01:06	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/05/24 01:06	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/05/24 01:06	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/05/24 01:06	1
1,1-Dichloroethane	**0.23**		0.20	0.025	ug/L			03/05/24 01:06	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/05/24 01:06	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			03/05/24 01:06	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/05/24 01:06	1
Chloroform	**0.063**	**J *+**	0.20	0.030	ug/L			03/05/24 01:06	1
1,1,1-Trichloroethane	**0.22**		0.20	0.025	ug/L			03/05/24 01:06	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/05/24 01:06	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/05/24 01:06	1
Benzene	**0.030**	**J**	0.20	0.030	ug/L			03/05/24 01:06	1
1,2-Dichloroethane	**0.066**	**J**	0.20	0.043	ug/L			03/05/24 01:06	1
Trichloroethene	**0.070**	**J *+**	0.20	0.066	ug/L			03/05/24 01:06	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/05/24 01:06	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/05/24 01:06	1
Dibromomethane	ND		0.20	0.062	ug/L			03/05/24 01:06	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/05/24 01:06	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/05/24 01:06	1
Toluene	ND		0.20	0.050	ug/L			03/05/24 01:06	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/05/24 01:06	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/05/24 01:06	1
Tetrachloroethene	**0.17**	**J**	0.24	0.084	ug/L			03/05/24 01:06	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/05/24 01:06	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/05/24 01:06	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/05/24 01:06	1
Chlorobenzene	ND		0.20	0.060	ug/L			03/05/24 01:06	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/05/24 01:06	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/05/24 01:06	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/05/24 01:06	1
o-Xylene	ND		0.50	0.15	ug/L			03/05/24 01:06	1
Styrene	ND		1.0	0.19	ug/L			03/05/24 01:06	1
Bromoform	ND		0.50	0.16	ug/L			03/05/24 01:06	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/05/24 01:06	1
Bromobenzene	ND		0.20	0.038	ug/L			03/05/24 01:06	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/05/24 01:06	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/05/24 01:06	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/05/24 01:06	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/05/24 01:06	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-31-022724
Lab Sample ID: 580-137138-13
Date Collected: 02/27/24 12:41
Matrix: Water
Date Received: 02/29/24 12:35

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			03/05/24 01:06	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/05/24 01:06	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/05/24 01:06	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/05/24 01:06	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/05/24 01:06	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/05/24 01:06	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 01:06	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 01:06	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/05/24 01:06	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/05/24 01:06	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/05/24 01:06	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/05/24 01:06	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/05/24 01:06	1
Naphthalene	ND		1.0	0.22	ug/L			03/05/24 01:06	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/05/24 01:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*80 - 120*		*03/05/24 01:06*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*03/05/24 01:06*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*03/05/24 01:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*03/05/24 01:06*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/06/24 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**3.5**		1.5	0.43	mg/L			03/15/24 12:07	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-63-022724
Lab Sample ID: 580-137138-14
Date Collected: 02/27/24 14:00
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 22:15	10
Chloromethane	ND		10	2.8	ug/L			03/07/24 22:15	10
Vinyl chloride	ND		10	2.2	ug/L			03/07/24 22:15	10
Bromomethane	ND		10	2.1	ug/L			03/07/24 22:15	10
Chloroethane	ND		10	3.5	ug/L			03/07/24 22:15	10
Trichlorofluoromethane	ND		10	3.6	ug/L			03/07/24 22:15	10
Carbon disulfide	ND		10	5.3	ug/L			03/07/24 22:15	10
1,1-Dichloroethene	ND		10	2.8	ug/L			03/07/24 22:15	10
Acetone	ND		150	32	ug/L			03/07/24 22:15	10
Methylene Chloride	ND		50	14	ug/L			03/07/24 22:15	10
Methyl tert-butyl ether	ND	*+	10	4.4	ug/L			03/07/24 22:15	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			03/07/24 22:15	10
1,1-Dichloroethane	ND		10	2.2	ug/L			03/07/24 22:15	10
2-Butanone (MEK)	ND	*+	150	47	ug/L			03/07/24 22:15	10
2,2-Dichloropropane	ND		10	3.2	ug/L			03/07/24 22:15	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			03/07/24 22:15	10
Chlorobromomethane	ND	*+	10	2.9	ug/L			03/07/24 22:15	10
Chloroform	**68**		10	2.6	ug/L			03/07/24 22:15	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			03/07/24 22:15	10
Carbon tetrachloride	ND		10	3.0	ug/L			03/07/24 22:15	10
1,1-Dichloropropene	ND		10	2.9	ug/L			03/07/24 22:15	10
Benzene	ND		10	2.4	ug/L			03/07/24 22:15	10
1,2-Dichloroethane	ND		10	4.2	ug/L			03/07/24 22:15	10
Trichloroethene	ND		10	2.6	ug/L			03/07/24 22:15	10
1,2-Dichloropropane	ND		10	1.8	ug/L			03/07/24 22:15	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			03/07/24 22:15	10
Dibromomethane	ND	*+	10	3.4	ug/L			03/07/24 22:15	10
Bromodichloromethane	ND		10	2.9	ug/L			03/07/24 22:15	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			03/07/24 22:15	10
Toluene	ND		10	3.9	ug/L			03/07/24 22:15	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			03/07/24 22:15	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			03/07/24 22:15	10
Tetrachloroethene	**8.9**	**J**	10	4.1	ug/L			03/07/24 22:15	10
1,3-Dichloropropane	ND		10	3.5	ug/L			03/07/24 22:15	10
Chlorodibromomethane	ND		10	4.3	ug/L			03/07/24 22:15	10
Ethylene Dibromide	ND		10	4.0	ug/L			03/07/24 22:15	10
Chlorobenzene	ND		10	4.4	ug/L			03/07/24 22:15	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			03/07/24 22:15	10
Ethylbenzene	ND		10	5.0	ug/L			03/07/24 22:15	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			03/07/24 22:15	10
o-Xylene	ND		10	3.9	ug/L			03/07/24 22:15	10
Styrene	ND		10	5.3	ug/L			03/07/24 22:15	10
Bromoform	ND		10	5.1	ug/L			03/07/24 22:15	10
Isopropylbenzene	ND		10	4.4	ug/L			03/07/24 22:15	10
Bromobenzene	ND		10	4.3	ug/L			03/07/24 22:15	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			03/07/24 22:15	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			03/07/24 22:15	10
N-Propylbenzene	ND		10	5.0	ug/L			03/07/24 22:15	10
2-Chlorotoluene	ND		10	5.1	ug/L			03/07/24 22:15	10

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-63-022724
Lab Sample ID: 580-137138-14
Date Collected: 02/27/24 14:00
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 22:15	10
tert-Butylbenzene	ND		20	5.8	ug/L			03/07/24 22:15	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			03/07/24 22:15	10
sec-Butylbenzene	ND		10	4.9	ug/L			03/07/24 22:15	10
4-Isopropyltoluene	ND		10	2.8	ug/L			03/07/24 22:15	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			03/07/24 22:15	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			03/07/24 22:15	10
n-Butylbenzene	ND		10	4.4	ug/L			03/07/24 22:15	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			03/07/24 22:15	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			03/07/24 22:15	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			03/07/24 22:15	10
Hexachlorobutadiene	ND		30	7.9	ug/L			03/07/24 22:15	10
Naphthalene	ND		30	9.3	ug/L			03/07/24 22:15	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			03/07/24 22:15	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			03/07/24 22:15	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/07/24 22:15*	*10*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*03/07/24 22:15*	*10*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*03/07/24 22:15*	*10*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/07/24 22:15*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/06/24 16:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.5**		1.5	0.43	mg/L			03/15/24 12:19	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: RB-02-022824
Lab Sample ID: 580-137138-15
Date Collected: 02/28/24 05:45
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 02:15	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 02:15	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 02:15	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 02:15	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 02:15	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 02:15	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 02:15	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 02:15	1
Acetone	ND		15	3.2	ug/L			03/07/24 02:15	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 02:15	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			03/07/24 02:15	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 02:15	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			03/07/24 02:15	1
2-Butanone (MEK)	ND		15	4.7	ug/L			03/07/24 02:15	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 02:15	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 02:15	1
Chlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 02:15	1
Chloroform	ND		1.0	0.26	ug/L			03/07/24 02:15	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 02:15	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 02:15	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 02:15	1
Benzene	ND		1.0	0.24	ug/L			03/07/24 02:15	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			03/07/24 02:15	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 02:15	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 02:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 02:15	1
Dibromomethane	ND	*+	1.0	0.34	ug/L			03/07/24 02:15	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 02:15	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 02:15	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 02:15	1
trans-1,3-Dichloropropene	ND	*+	1.0	0.41	ug/L			03/07/24 02:15	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 02:15	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 02:15	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 02:15	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 02:15	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 02:15	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 02:15	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 02:15	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 02:15	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 02:15	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 02:15	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 02:15	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 02:15	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 02:15	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 02:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 02:15	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 02:15	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 02:15	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 02:15	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: RB-02-022824
Lab Sample ID: 580-137138-15
Date Collected: 02/28/24 05:45
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 02:15	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 02:15	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 02:15	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 02:15	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 02:15	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 02:15	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 02:15	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 02:15	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 02:15	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 02:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 02:15	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 02:15	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 02:15	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 02:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 02:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*03/07/24 02:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*03/07/24 02:15*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*03/07/24 02:15*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/07/24 02:15*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/06/24 18:23	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			03/15/24 12:31	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-20d-022824
Lab Sample ID: 580-137138-16
Date Collected: 02/28/24 07:18
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 19:32	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 19:32	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 19:32	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 19:32	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 19:32	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 19:32	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 19:32	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 19:32	1
Acetone	ND		15	3.2	ug/L			03/07/24 19:32	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 19:32	1
Methyl tert-butyl ether	ND	*+	1.0	0.44	ug/L			03/07/24 19:32	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 19:32	1
1,1-Dichloroethane	**2.1**		1.0	0.22	ug/L			03/07/24 19:32	1
2-Butanone (MEK)	ND	*+	15	4.7	ug/L			03/07/24 19:32	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 19:32	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 19:32	1
Chlorobromomethane	ND	*+	1.0	0.29	ug/L			03/07/24 19:32	1
Chloroform	ND		1.0	0.26	ug/L			03/07/24 19:32	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 19:32	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 19:32	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 19:32	1
Benzene	**0.86**	**J**	1.0	0.24	ug/L			03/07/24 19:32	1
1,2-Dichloroethane	**1.8**		1.0	0.42	ug/L			03/07/24 19:32	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 19:32	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 19:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 19:32	1
Dibromomethane	ND	*+	1.0	0.34	ug/L			03/07/24 19:32	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 19:32	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 19:32	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 19:32	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			03/07/24 19:32	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 19:32	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 19:32	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 19:32	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 19:32	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 19:32	1
Chlorobenzene	**14**		1.0	0.44	ug/L			03/07/24 19:32	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 19:32	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 19:32	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 19:32	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 19:32	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 19:32	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 19:32	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 19:32	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 19:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 19:32	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 19:32	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 19:32	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 19:32	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-20d-022824
Lab Sample ID: 580-137138-16
Date Collected: 02/28/24 07:18
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 19:32	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 19:32	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 19:32	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 19:32	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 19:32	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 19:32	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 19:32	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 19:32	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 19:32	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 19:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 19:32	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 19:32	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 19:32	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 19:32	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/07/24 19:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*03/07/24 19:32*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*03/07/24 19:32*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/07/24 19:32*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			03/06/24 18:05	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**820**		150	43	mg/L			03/15/24 12:43	100

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-21d-022824
Lab Sample ID: 580-137138-17
Date Collected: 02/28/24 08:13
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 23:48	1000
Chloromethane	ND		1000	280	ug/L			03/07/24 23:48	1000
Vinyl chloride	ND		1000	220	ug/L			03/07/24 23:48	1000
Bromomethane	ND		1000	210	ug/L			03/07/24 23:48	1000
Chloroethane	ND		1000	350	ug/L			03/07/24 23:48	1000
Trichlorofluoromethane	ND		1000	360	ug/L			03/07/24 23:48	1000
Carbon disulfide	ND		1000	530	ug/L			03/07/24 23:48	1000
1,1-Dichloroethene	ND		1000	280	ug/L			03/07/24 23:48	1000
Acetone	ND		15000	3200	ug/L			03/07/24 23:48	1000
Methylene Chloride	ND		5000	1400	ug/L			03/07/24 23:48	1000
Methyl tert-butyl ether	ND	*+	1000	440	ug/L			03/07/24 23:48	1000
trans-1,2-Dichloroethene	ND		1000	390	ug/L			03/07/24 23:48	1000
1,1-Dichloroethane	ND		1000	220	ug/L			03/07/24 23:48	1000
2-Butanone (MEK)	ND	*+	15000	4700	ug/L			03/07/24 23:48	1000
2,2-Dichloropropane	ND		1000	320	ug/L			03/07/24 23:48	1000
cis-1,2-Dichloroethene	ND		1000	350	ug/L			03/07/24 23:48	1000
Chlorobromomethane	ND	*+	1000	290	ug/L			03/07/24 23:48	1000
Chloroform	ND		1000	260	ug/L			03/07/24 23:48	1000
1,1,1-Trichloroethane	ND		1000	390	ug/L			03/07/24 23:48	1000
Carbon tetrachloride	ND		1000	300	ug/L			03/07/24 23:48	1000
1,1-Dichloropropene	ND		1000	290	ug/L			03/07/24 23:48	1000
Benzene	ND		1000	240	ug/L			03/07/24 23:48	1000
1,2-Dichloroethane	ND		1000	420	ug/L			03/07/24 23:48	1000
Trichloroethene	ND		1000	260	ug/L			03/07/24 23:48	1000
1,2-Dichloropropane	ND		1000	180	ug/L			03/07/24 23:48	1000
4-Methyl-2-pentanone (MIBK)	ND		5000	2500	ug/L			03/07/24 23:48	1000
Dibromomethane	ND	*+	1000	340	ug/L			03/07/24 23:48	1000
Bromodichloromethane	ND		1000	290	ug/L			03/07/24 23:48	1000
cis-1,3-Dichloropropene	ND		1000	420	ug/L			03/07/24 23:48	1000
Toluene	ND		1000	390	ug/L			03/07/24 23:48	1000
trans-1,3-Dichloropropene	ND		1000	410	ug/L			03/07/24 23:48	1000
1,1,2-Trichloroethane	ND		1000	240	ug/L			03/07/24 23:48	1000
Tetrachloroethene	ND		1000	410	ug/L			03/07/24 23:48	1000
1,3-Dichloropropane	ND		1000	350	ug/L			03/07/24 23:48	1000
Chlorodibromomethane	ND		1000	430	ug/L			03/07/24 23:48	1000
Ethylene Dibromide	ND		1000	400	ug/L			03/07/24 23:48	1000
Chlorobenzene	**27000**		1000	440	ug/L			03/07/24 23:48	1000
1,1,1,2-Tetrachloroethane	ND		1000	180	ug/L			03/07/24 23:48	1000
Ethylbenzene	ND		1000	500	ug/L			03/07/24 23:48	1000
m-Xylene & p-Xylene	ND		2000	530	ug/L			03/07/24 23:48	1000
o-Xylene	ND		1000	390	ug/L			03/07/24 23:48	1000
Styrene	ND		1000	530	ug/L			03/07/24 23:48	1000
Bromoform	ND		1000	510	ug/L			03/07/24 23:48	1000
Isopropylbenzene	ND		1000	440	ug/L			03/07/24 23:48	1000
Bromobenzene	ND		1000	430	ug/L			03/07/24 23:48	1000
1,1,2,2-Tetrachloroethane	ND		1000	520	ug/L			03/07/24 23:48	1000
1,2,3-Trichloropropane	ND		1000	410	ug/L			03/07/24 23:48	1000
N-Propylbenzene	ND		1000	500	ug/L			03/07/24 23:48	1000
2-Chlorotoluene	ND		1000	510	ug/L			03/07/24 23:48	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-21d-022824
Lab Sample ID: 580-137138-17
Date Collected: 02/28/24 08:13
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 23:48	1000
tert-Butylbenzene	ND		2000	580	ug/L			03/07/24 23:48	1000
1,2,4-Trimethylbenzene	ND		3000	610	ug/L			03/07/24 23:48	1000
sec-Butylbenzene	ND		1000	490	ug/L			03/07/24 23:48	1000
4-Isopropyltoluene	ND		1000	280	ug/L			03/07/24 23:48	1000
1,3-Dichlorobenzene	ND		1000	480	ug/L			03/07/24 23:48	1000
1,4-Dichlorobenzene	ND		1000	460	ug/L			03/07/24 23:48	1000
n-Butylbenzene	ND		1000	440	ug/L			03/07/24 23:48	1000
1,2-Dichlorobenzene	ND		1000	460	ug/L			03/07/24 23:48	1000
1,2-Dibromo-3-Chloropropane	ND		3000	570	ug/L			03/07/24 23:48	1000
1,2,4-Trichlorobenzene	ND		1000	330	ug/L			03/07/24 23:48	1000
Hexachlorobutadiene	ND		3000	790	ug/L			03/07/24 23:48	1000
Naphthalene	ND		3000	930	ug/L			03/07/24 23:48	1000
1,2,3-Trichlorobenzene	ND		2000	430	ug/L			03/07/24 23:48	1000
1,3,5-Trimethylbenzene	ND		1000	550	ug/L			03/07/24 23:48	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/07/24 23:48*	*1000*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*03/07/24 23:48*	*1000*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/07/24 23:48*	*1000*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/07/24 23:48*	*1000*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			03/06/24 14:48	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**300**		150	43	mg/L			03/15/24 13:07	100

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-19d-022824
Lab Sample ID: 580-137138-18
Date Collected: 02/28/24 09:20
Matrix: Water
Date Received: 02/29/24 12:35

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			03/08/24 00:11	1000
Chloromethane	ND		1000	280	ug/L			03/08/24 00:11	1000
Vinyl chloride	ND		1000	220	ug/L			03/08/24 00:11	1000
Bromomethane	ND		1000	210	ug/L			03/08/24 00:11	1000
Chloroethane	ND		1000	350	ug/L			03/08/24 00:11	1000
Trichlorofluoromethane	ND		1000	360	ug/L			03/08/24 00:11	1000
Carbon disulfide	ND		1000	530	ug/L			03/08/24 00:11	1000
1,1-Dichloroethene	ND		1000	280	ug/L			03/08/24 00:11	1000
Acetone	ND		15000	3200	ug/L			03/08/24 00:11	1000
Methylene Chloride	ND		5000	1400	ug/L			03/08/24 00:11	1000
Methyl tert-butyl ether	ND	*+	1000	440	ug/L			03/08/24 00:11	1000
trans-1,2-Dichloroethene	ND		1000	390	ug/L			03/08/24 00:11	1000
1,1-Dichloroethane	ND		1000	220	ug/L			03/08/24 00:11	1000
2-Butanone (MEK)	ND	*+	15000	4700	ug/L			03/08/24 00:11	1000
2,2-Dichloropropane	ND		1000	320	ug/L			03/08/24 00:11	1000
cis-1,2-Dichloroethene	ND		1000	350	ug/L			03/08/24 00:11	1000
Chlorobromomethane	ND	*+	1000	290	ug/L			03/08/24 00:11	1000
Chloroform	ND		1000	260	ug/L			03/08/24 00:11	1000
1,1,1-Trichloroethane	ND		1000	390	ug/L			03/08/24 00:11	1000
Carbon tetrachloride	ND		1000	300	ug/L			03/08/24 00:11	1000
1,1-Dichloropropene	ND		1000	290	ug/L			03/08/24 00:11	1000
Benzene	ND		1000	240	ug/L			03/08/24 00:11	1000
1,2-Dichloroethane	ND		1000	420	ug/L			03/08/24 00:11	1000
Trichloroethene	ND		1000	260	ug/L			03/08/24 00:11	1000
1,2-Dichloropropane	ND		1000	180	ug/L			03/08/24 00:11	1000
4-Methyl-2-pentanone (MIBK)	ND		5000	2500	ug/L			03/08/24 00:11	1000
Dibromomethane	ND	*+	1000	340	ug/L			03/08/24 00:11	1000
Bromodichloromethane	ND		1000	290	ug/L			03/08/24 00:11	1000
cis-1,3-Dichloropropene	ND		1000	420	ug/L			03/08/24 00:11	1000
Toluene	ND		1000	390	ug/L			03/08/24 00:11	1000
trans-1,3-Dichloropropene	ND		1000	410	ug/L			03/08/24 00:11	1000
1,1,2-Trichloroethane	ND		1000	240	ug/L			03/08/24 00:11	1000
Tetrachloroethene	ND		1000	410	ug/L			03/08/24 00:11	1000
1,3-Dichloropropane	ND		1000	350	ug/L			03/08/24 00:11	1000
Chlorodibromomethane	ND		1000	430	ug/L			03/08/24 00:11	1000
Ethylene Dibromide	ND		1000	400	ug/L			03/08/24 00:11	1000
Chlorobenzene	**5700**		1000	440	ug/L			03/08/24 00:11	1000
1,1,1,2-Tetrachloroethane	ND		1000	180	ug/L			03/08/24 00:11	1000
Ethylbenzene	ND		1000	500	ug/L			03/08/24 00:11	1000
m-Xylene & p-Xylene	ND		2000	530	ug/L			03/08/24 00:11	1000
o-Xylene	ND		1000	390	ug/L			03/08/24 00:11	1000
Styrene	ND		1000	530	ug/L			03/08/24 00:11	1000
Bromoform	ND		1000	510	ug/L			03/08/24 00:11	1000
Isopropylbenzene	ND		1000	440	ug/L			03/08/24 00:11	1000
Bromobenzene	ND		1000	430	ug/L			03/08/24 00:11	1000
1,1,2,2-Tetrachloroethane	ND		1000	520	ug/L			03/08/24 00:11	1000
1,2,3-Trichloropropane	ND		1000	410	ug/L			03/08/24 00:11	1000
N-Propylbenzene	ND		1000	500	ug/L			03/08/24 00:11	1000
2-Chlorotoluene	ND		1000	510	ug/L			03/08/24 00:11	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-19d-022824
Lab Sample ID: 580-137138-18
Date Collected: 02/28/24 09:20
Matrix: Water
Date Received: 02/29/24 12:35

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			03/08/24 00:11	1000
tert-Butylbenzene	ND		2000	580	ug/L			03/08/24 00:11	1000
1,2,4-Trimethylbenzene	ND		3000	610	ug/L			03/08/24 00:11	1000
sec-Butylbenzene	ND		1000	490	ug/L			03/08/24 00:11	1000
4-Isopropyltoluene	ND		1000	280	ug/L			03/08/24 00:11	1000
1,3-Dichlorobenzene	ND		1000	480	ug/L			03/08/24 00:11	1000
1,4-Dichlorobenzene	ND		1000	460	ug/L			03/08/24 00:11	1000
n-Butylbenzene	ND		1000	440	ug/L			03/08/24 00:11	1000
1,2-Dichlorobenzene	ND		1000	460	ug/L			03/08/24 00:11	1000
1,2-Dibromo-3-Chloropropane	ND		3000	570	ug/L			03/08/24 00:11	1000
1,2,4-Trichlorobenzene	ND		1000	330	ug/L			03/08/24 00:11	1000
Hexachlorobutadiene	ND		3000	790	ug/L			03/08/24 00:11	1000
Naphthalene	ND		3000	930	ug/L			03/08/24 00:11	1000
1,2,3-Trichlorobenzene	ND		2000	430	ug/L			03/08/24 00:11	1000
1,3,5-Trimethylbenzene	ND		1000	550	ug/L			03/08/24 00:11	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*03/08/24 00:11*	*1000*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*03/08/24 00:11*	*1000*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/08/24 00:11*	*1000*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/08/24 00:11*	*1000*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			03/06/24 16:00	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**330**		15	4.3	mg/L			03/15/24 13:42	10

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-30d-022824
Lab Sample ID: 580-137138-19
Date Collected: 02/28/24 11:41
Matrix: Water
Date Received: 02/29/24 12:35

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			03/08/24 00:34	1000
Chloromethane	ND		1000	280	ug/L			03/08/24 00:34	1000
Vinyl chloride	ND		1000	220	ug/L			03/08/24 00:34	1000
Bromomethane	ND		1000	210	ug/L			03/08/24 00:34	1000
Chloroethane	ND		1000	350	ug/L			03/08/24 00:34	1000
Trichlorofluoromethane	ND		1000	360	ug/L			03/08/24 00:34	1000
Carbon disulfide	ND		1000	530	ug/L			03/08/24 00:34	1000
1,1-Dichloroethene	ND		1000	280	ug/L			03/08/24 00:34	1000
Acetone	ND		15000	3200	ug/L			03/08/24 00:34	1000
Methylene Chloride	ND		5000	1400	ug/L			03/08/24 00:34	1000
Methyl tert-butyl ether	ND	*+	1000	440	ug/L			03/08/24 00:34	1000
trans-1,2-Dichloroethene	ND		1000	390	ug/L			03/08/24 00:34	1000
1,1-Dichloroethane	ND		1000	220	ug/L			03/08/24 00:34	1000
2-Butanone (MEK)	ND	*+	15000	4700	ug/L			03/08/24 00:34	1000
2,2-Dichloropropane	ND		1000	320	ug/L			03/08/24 00:34	1000
cis-1,2-Dichloroethene	ND		1000	350	ug/L			03/08/24 00:34	1000
Chlorobromomethane	ND	*+	1000	290	ug/L			03/08/24 00:34	1000
Chloroform	ND		1000	260	ug/L			03/08/24 00:34	1000
1,1,1-Trichloroethane	ND		1000	390	ug/L			03/08/24 00:34	1000
Carbon tetrachloride	ND		1000	300	ug/L			03/08/24 00:34	1000
1,1-Dichloropropene	ND		1000	290	ug/L			03/08/24 00:34	1000
Benzene	ND		1000	240	ug/L			03/08/24 00:34	1000
1,2-Dichloroethane	ND		1000	420	ug/L			03/08/24 00:34	1000
Trichloroethene	ND		1000	260	ug/L			03/08/24 00:34	1000
1,2-Dichloropropane	ND		1000	180	ug/L			03/08/24 00:34	1000
4-Methyl-2-pentanone (MIBK)	ND		5000	2500	ug/L			03/08/24 00:34	1000
Dibromomethane	ND	*+	1000	340	ug/L			03/08/24 00:34	1000
Bromodichloromethane	ND		1000	290	ug/L			03/08/24 00:34	1000
cis-1,3-Dichloropropene	ND		1000	420	ug/L			03/08/24 00:34	1000
Toluene	ND		1000	390	ug/L			03/08/24 00:34	1000
trans-1,3-Dichloropropene	ND		1000	410	ug/L			03/08/24 00:34	1000
1,1,2-Trichloroethane	ND		1000	240	ug/L			03/08/24 00:34	1000
Tetrachloroethene	ND		1000	410	ug/L			03/08/24 00:34	1000
1,3-Dichloropropane	ND		1000	350	ug/L			03/08/24 00:34	1000
Chlorodibromomethane	ND		1000	430	ug/L			03/08/24 00:34	1000
Ethylene Dibromide	ND		1000	400	ug/L			03/08/24 00:34	1000
Chlorobenzene	**18000**		1000	440	ug/L			03/08/24 00:34	1000
1,1,1,2-Tetrachloroethane	ND		1000	180	ug/L			03/08/24 00:34	1000
Ethylbenzene	ND		1000	500	ug/L			03/08/24 00:34	1000
m-Xylene & p-Xylene	ND		2000	530	ug/L			03/08/24 00:34	1000
o-Xylene	ND		1000	390	ug/L			03/08/24 00:34	1000
Styrene	ND		1000	530	ug/L			03/08/24 00:34	1000
Bromoform	ND		1000	510	ug/L			03/08/24 00:34	1000
Isopropylbenzene	ND		1000	440	ug/L			03/08/24 00:34	1000
Bromobenzene	ND		1000	430	ug/L			03/08/24 00:34	1000
1,1,2,2-Tetrachloroethane	ND		1000	520	ug/L			03/08/24 00:34	1000
1,2,3-Trichloropropane	ND		1000	410	ug/L			03/08/24 00:34	1000
N-Propylbenzene	ND		1000	500	ug/L			03/08/24 00:34	1000
2-Chlorotoluene	ND		1000	510	ug/L			03/08/24 00:34	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-30d-022824
Lab Sample ID: 580-137138-19
Date Collected: 02/28/24 11:41
Matrix: Water
Date Received: 02/29/24 12:35

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			03/08/24 00:34	1000
tert-Butylbenzene	ND		2000	580	ug/L			03/08/24 00:34	1000
1,2,4-Trimethylbenzene	ND		3000	610	ug/L			03/08/24 00:34	1000
sec-Butylbenzene	ND		1000	490	ug/L			03/08/24 00:34	1000
4-Isopropyltoluene	ND		1000	280	ug/L			03/08/24 00:34	1000
1,3-Dichlorobenzene	ND		1000	480	ug/L			03/08/24 00:34	1000
1,4-Dichlorobenzene	ND		1000	460	ug/L			03/08/24 00:34	1000
n-Butylbenzene	ND		1000	440	ug/L			03/08/24 00:34	1000
1,2-Dichlorobenzene	ND		1000	460	ug/L			03/08/24 00:34	1000
1,2-Dibromo-3-Chloropropane	ND		3000	570	ug/L			03/08/24 00:34	1000
1,2,4-Trichlorobenzene	ND		1000	330	ug/L			03/08/24 00:34	1000
Hexachlorobutadiene	ND		3000	790	ug/L			03/08/24 00:34	1000
Naphthalene	ND		3000	930	ug/L			03/08/24 00:34	1000
1,2,3-Trichlorobenzene	ND		2000	430	ug/L			03/08/24 00:34	1000
1,3,5-Trimethylbenzene	ND		1000	550	ug/L			03/08/24 00:34	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*03/08/24 00:34*	*1000*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*03/08/24 00:34*	*1000*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/08/24 00:34*	*1000*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/08/24 00:34*	*1000*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			03/06/24 15:42	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**370**		15	4.3	mg/L			03/14/24 16:52	10

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-31i(d)-022824
Lab Sample ID: 580-137138-20
Date Collected: 02/28/24 07:45
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 20:19	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 20:19	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 20:19	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 20:19	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 20:19	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 20:19	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 20:19	1
1,1-Dichloroethene	ND	F1	1.0	0.28	ug/L			03/07/24 20:19	1
Acetone	ND	F1	15	3.2	ug/L			03/07/24 20:19	1
Methylene Chloride	**1.5**	**J F1**	5.0	1.4	ug/L			03/07/24 20:19	1
Methyl tert-butyl ether	ND	*+ F1	1.0	0.44	ug/L			03/07/24 20:19	1
trans-1,2-Dichloroethene	ND	F1	1.0	0.39	ug/L			03/07/24 20:19	1
1,1-Dichloroethane	**0.39**	**J F1**	1.0	0.22	ug/L			03/07/24 20:19	1
2-Butanone (MEK)	ND	*+ F1	15	4.7	ug/L			03/07/24 20:19	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 20:19	1
cis-1,2-Dichloroethene	ND	F1	1.0	0.35	ug/L			03/07/24 20:19	1
Chlorobromomethane	ND	*+ F1	1.0	0.29	ug/L			03/07/24 20:19	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 20:19	1
Carbon tetrachloride	ND	F1	1.0	0.30	ug/L			03/07/24 20:19	1
1,1-Dichloropropene	ND	F1	1.0	0.29	ug/L			03/07/24 20:19	1
Benzene	ND	F1	1.0	0.24	ug/L			03/07/24 20:19	1
1,2-Dichloroethane	ND	F1	1.0	0.42	ug/L			03/07/24 20:19	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 20:19	1
1,2-Dichloropropane	ND	F1	1.0	0.18	ug/L			03/07/24 20:19	1
4-Methyl-2-pentanone (MIBK)	ND	F1	5.0	2.5	ug/L			03/07/24 20:19	1
Dibromomethane	ND	*+ F1	1.0	0.34	ug/L			03/07/24 20:19	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 20:19	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 20:19	1
trans-1,3-Dichloropropene	ND	F1	1.0	0.41	ug/L			03/07/24 20:19	1
1,1,2-Trichloroethane	ND	F1	1.0	0.24	ug/L			03/07/24 20:19	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 20:19	1
1,3-Dichloropropane	ND	F1	1.0	0.35	ug/L			03/07/24 20:19	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 20:19	1
Ethylene Dibromide	ND	F1	1.0	0.40	ug/L			03/07/24 20:19	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 20:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 20:19	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 20:19	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 20:19	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 20:19	1
Styrene	ND	F1	1.0	0.53	ug/L			03/07/24 20:19	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 20:19	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 20:19	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 20:19	1
1,1,2,2-Tetrachloroethane	ND	F1	1.0	0.52	ug/L			03/07/24 20:19	1
1,2,3-Trichloropropane	ND	F1	1.0	0.41	ug/L			03/07/24 20:19	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 20:19	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 20:19	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			03/07/24 20:19	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 20:19	1

Client Sample ID: MWA-31i(d)-022824
Lab Sample ID: 580-137138-20
Date Collected: 02/28/24 07:45
Matrix: Water
Date Received: 02/29/24 12:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 20:19	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 20:19	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 20:19	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 20:19	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 20:19	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 20:19	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 20:19	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 20:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 20:19	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 20:19	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 20:19	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 20:19	1
1,3,5-Trimethylbenzene	ND	F1	1.0	0.55	ug/L			03/07/24 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/07/24 20:19*	*1*
Toluene-d8 (Surr)	*89*		*80 - 120*		*03/09/24 01:36*	*10*
1,2-Dichloroethane-d4 (Surr)	*117*		*80 - 120*		*03/07/24 20:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*80 - 120*		*03/09/24 01:36*	*10*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*03/07/24 20:19*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*03/09/24 01:36*	*10*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*03/07/24 20:19*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*03/09/24 01:36*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**66**	**F1**	10	2.6	ug/L			03/13/24 18:27	10
Bromodichloromethane	ND		10	2.9	ug/L			03/13/24 18:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/13/24 18:27*	*10*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/13/24 18:27*	*10*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*03/13/24 18:27*	*10*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*03/13/24 18:27*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**100000**		8000	4000	ug/L			03/07/24 15:43	2000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**26000**		1500	430	mg/L			03/15/24 14:30	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-58d-022824
Lab Sample ID: 580-137138-21
Date Collected: 02/28/24 09:16
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 22:38	10
Chloromethane	ND		10	2.8	ug/L			03/07/24 22:38	10
Vinyl chloride	ND		10	2.2	ug/L			03/07/24 22:38	10
Bromomethane	ND		10	2.1	ug/L			03/07/24 22:38	10
Chloroethane	ND		10	3.5	ug/L			03/07/24 22:38	10
Trichlorofluoromethane	ND		10	3.6	ug/L			03/07/24 22:38	10
Carbon disulfide	ND		10	5.3	ug/L			03/07/24 22:38	10
1,1-Dichloroethene	ND		10	2.8	ug/L			03/07/24 22:38	10
Acetone	ND		150	32	ug/L			03/07/24 22:38	10
Methylene Chloride	ND		50	14	ug/L			03/07/24 22:38	10
Methyl tert-butyl ether	ND	*+	10	4.4	ug/L			03/07/24 22:38	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			03/07/24 22:38	10
1,1-Dichloroethane	ND		10	2.2	ug/L			03/07/24 22:38	10
2-Butanone (MEK)	ND	*+	150	47	ug/L			03/07/24 22:38	10
2,2-Dichloropropane	ND		10	3.2	ug/L			03/07/24 22:38	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			03/07/24 22:38	10
Chlorobromomethane	ND	*+	10	2.9	ug/L			03/07/24 22:38	10
Chloroform	**190**		10	2.6	ug/L			03/07/24 22:38	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			03/07/24 22:38	10
Carbon tetrachloride	ND		10	3.0	ug/L			03/07/24 22:38	10
1,1-Dichloropropene	ND		10	2.9	ug/L			03/07/24 22:38	10
Benzene	ND		10	2.4	ug/L			03/07/24 22:38	10
1,2-Dichloroethane	ND		10	4.2	ug/L			03/07/24 22:38	10
Trichloroethene	ND		10	2.6	ug/L			03/07/24 22:38	10
1,2-Dichloropropane	ND		10	1.8	ug/L			03/07/24 22:38	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			03/07/24 22:38	10
Dibromomethane	ND	*+	10	3.4	ug/L			03/07/24 22:38	10
Bromodichloromethane	ND		10	2.9	ug/L			03/07/24 22:38	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			03/07/24 22:38	10
Toluene	ND		10	3.9	ug/L			03/07/24 22:38	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			03/07/24 22:38	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			03/07/24 22:38	10
Tetrachloroethene	ND		10	4.1	ug/L			03/07/24 22:38	10
1,3-Dichloropropane	ND		10	3.5	ug/L			03/07/24 22:38	10
Chlorodibromomethane	ND		10	4.3	ug/L			03/07/24 22:38	10
Ethylene Dibromide	ND		10	4.0	ug/L			03/07/24 22:38	10
Chlorobenzene	ND		10	4.4	ug/L			03/07/24 22:38	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			03/07/24 22:38	10
Ethylbenzene	ND		10	5.0	ug/L			03/07/24 22:38	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			03/07/24 22:38	10
o-Xylene	ND		10	3.9	ug/L			03/07/24 22:38	10
Styrene	ND		10	5.3	ug/L			03/07/24 22:38	10
Bromoform	ND		10	5.1	ug/L			03/07/24 22:38	10
Isopropylbenzene	ND		10	4.4	ug/L			03/07/24 22:38	10
Bromobenzene	ND		10	4.3	ug/L			03/07/24 22:38	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			03/07/24 22:38	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			03/07/24 22:38	10
N-Propylbenzene	ND		10	5.0	ug/L			03/07/24 22:38	10
2-Chlorotoluene	ND		10	5.1	ug/L			03/07/24 22:38	10

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-58d-022824
Lab Sample ID: 580-137138-21
Date Collected: 02/28/24 09:16
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 22:38	10
tert-Butylbenzene	ND		20	5.8	ug/L			03/07/24 22:38	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			03/07/24 22:38	10
sec-Butylbenzene	ND		10	4.9	ug/L			03/07/24 22:38	10
4-Isopropyltoluene	ND		10	2.8	ug/L			03/07/24 22:38	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			03/07/24 22:38	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			03/07/24 22:38	10
n-Butylbenzene	ND		10	4.4	ug/L			03/07/24 22:38	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			03/07/24 22:38	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			03/07/24 22:38	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			03/07/24 22:38	10
Hexachlorobutadiene	ND		30	7.9	ug/L			03/07/24 22:38	10
Naphthalene	ND		30	9.3	ug/L			03/07/24 22:38	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			03/07/24 22:38	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			03/07/24 22:38	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*03/07/24 22:38*	*10*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*03/07/24 22:38*	*10*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*03/07/24 22:38*	*10*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*03/07/24 22:38*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**50000**		4000	2000	ug/L			03/07/24 16:36	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**19000**		1500	430	mg/L			03/14/24 17:16	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: Dup-02-022824
Lab Sample ID: 580-137138-22
Date Collected: 02/28/24 09:17
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 19:55	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 19:55	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 19:55	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 19:55	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 19:55	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 19:55	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 19:55	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 19:55	1
Acetone	ND		15	3.2	ug/L			03/07/24 19:55	1
Methylene Chloride	**1.4**	**J**	5.0	1.4	ug/L			03/07/24 19:55	1
Methyl tert-butyl ether	ND	*+	1.0	0.44	ug/L			03/07/24 19:55	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 19:55	1
1,1-Dichloroethane	**0.22**	**J**	1.0	0.22	ug/L			03/07/24 19:55	1
2-Butanone (MEK)	ND	*+	15	4.7	ug/L			03/07/24 19:55	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 19:55	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 19:55	1
Chlorobromomethane	ND	*+	1.0	0.29	ug/L			03/07/24 19:55	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 19:55	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 19:55	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 19:55	1
Benzene	**0.28**	**J**	1.0	0.24	ug/L			03/07/24 19:55	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			03/07/24 19:55	1
Trichloroethene	**0.26**	**J**	1.0	0.26	ug/L			03/07/24 19:55	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 19:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 19:55	1
Dibromomethane	ND	*+	1.0	0.34	ug/L			03/07/24 19:55	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 19:55	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 19:55	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			03/07/24 19:55	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 19:55	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 19:55	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 19:55	1
Chlorodibromomethane	**0.44**	**J**	1.0	0.43	ug/L			03/07/24 19:55	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 19:55	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 19:55	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 19:55	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 19:55	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 19:55	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 19:55	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 19:55	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 19:55	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 19:55	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 19:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 19:55	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 19:55	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 19:55	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 19:55	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			03/07/24 19:55	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 19:55	1

Client Sample ID: Dup-02-022824
Lab Sample ID: 580-137138-22
Date Collected: 02/28/24 09:17
Matrix: Water
Date Received: 02/29/24 12:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 19:55	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 19:55	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 19:55	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 19:55	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 19:55	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 19:55	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 19:55	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 19:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 19:55	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 19:55	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 19:55	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 19:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/07/24 19:55*	*1*
Toluene-d8 (Surr)	*89*		*80 - 120*		*03/09/24 01:59*	*10*
1,2-Dichloroethane-d4 (Surr)	*117*		*80 - 120*		*03/07/24 19:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*80 - 120*		*03/09/24 01:59*	*10*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/07/24 19:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*03/09/24 01:59*	*10*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*03/07/24 19:55*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*03/09/24 01:59*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**150**		10	2.6	ug/L			03/13/24 18:50	10
Bromodichloromethane	ND		10	2.9	ug/L			03/13/24 18:50	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/13/24 18:50*	*10*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/13/24 18:50*	*10*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/13/24 18:50*	*10*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*03/13/24 18:50*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**49000**		8000	4000	ug/L			03/13/24 14:47	2000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**20000**		1500	430	mg/L			03/14/24 17:39	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-56d-022824
Lab Sample ID: 580-137138-23
Date Collected: 02/28/24 10:45
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 23:01	10
Chloromethane	ND		10	2.8	ug/L			03/07/24 23:01	10
Vinyl chloride	ND		10	2.2	ug/L			03/07/24 23:01	10
Bromomethane	ND		10	2.1	ug/L			03/07/24 23:01	10
Chloroethane	ND		10	3.5	ug/L			03/07/24 23:01	10
Trichlorofluoromethane	ND		10	3.6	ug/L			03/07/24 23:01	10
Carbon disulfide	ND		10	5.3	ug/L			03/07/24 23:01	10
1,1-Dichloroethene	ND		10	2.8	ug/L			03/07/24 23:01	10
Acetone	ND		150	32	ug/L			03/07/24 23:01	10
Methylene Chloride	ND		50	14	ug/L			03/07/24 23:01	10
Methyl tert-butyl ether	ND	*+	10	4.4	ug/L			03/07/24 23:01	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			03/07/24 23:01	10
1,1-Dichloroethane	ND		10	2.2	ug/L			03/07/24 23:01	10
2-Butanone (MEK)	ND	*+	150	47	ug/L			03/07/24 23:01	10
2,2-Dichloropropane	ND		10	3.2	ug/L			03/07/24 23:01	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			03/07/24 23:01	10
Chlorobromomethane	ND	*+	10	2.9	ug/L			03/07/24 23:01	10
Chloroform	**170**		10	2.6	ug/L			03/07/24 23:01	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			03/07/24 23:01	10
Carbon tetrachloride	ND		10	3.0	ug/L			03/07/24 23:01	10
1,1-Dichloropropene	ND		10	2.9	ug/L			03/07/24 23:01	10
Benzene	ND		10	2.4	ug/L			03/07/24 23:01	10
1,2-Dichloroethane	ND		10	4.2	ug/L			03/07/24 23:01	10
Trichloroethene	ND		10	2.6	ug/L			03/07/24 23:01	10
1,2-Dichloropropane	ND		10	1.8	ug/L			03/07/24 23:01	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			03/07/24 23:01	10
Dibromomethane	ND	*+	10	3.4	ug/L			03/07/24 23:01	10
Bromodichloromethane	ND		10	2.9	ug/L			03/07/24 23:01	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			03/07/24 23:01	10
Toluene	ND		10	3.9	ug/L			03/07/24 23:01	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			03/07/24 23:01	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			03/07/24 23:01	10
Tetrachloroethene	ND		10	4.1	ug/L			03/07/24 23:01	10
1,3-Dichloropropane	ND		10	3.5	ug/L			03/07/24 23:01	10
Chlorodibromomethane	ND		10	4.3	ug/L			03/07/24 23:01	10
Ethylene Dibromide	ND		10	4.0	ug/L			03/07/24 23:01	10
Chlorobenzene	ND		10	4.4	ug/L			03/07/24 23:01	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			03/07/24 23:01	10
Ethylbenzene	ND		10	5.0	ug/L			03/07/24 23:01	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			03/07/24 23:01	10
o-Xylene	ND		10	3.9	ug/L			03/07/24 23:01	10
Styrene	ND		10	5.3	ug/L			03/07/24 23:01	10
Bromoform	ND		10	5.1	ug/L			03/07/24 23:01	10
Isopropylbenzene	ND		10	4.4	ug/L			03/07/24 23:01	10
Bromobenzene	ND		10	4.3	ug/L			03/07/24 23:01	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			03/07/24 23:01	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			03/07/24 23:01	10
N-Propylbenzene	ND		10	5.0	ug/L			03/07/24 23:01	10
2-Chlorotoluene	ND		10	5.1	ug/L			03/07/24 23:01	10

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-56d-022824
Lab Sample ID: 580-137138-23
Date Collected: 02/28/24 10:45
Matrix: Water
Date Received: 02/29/24 12:35

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			03/07/24 23:01	10
tert-Butylbenzene	ND		20	5.8	ug/L			03/07/24 23:01	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			03/07/24 23:01	10
sec-Butylbenzene	ND		10	4.9	ug/L			03/07/24 23:01	10
4-Isopropyltoluene	ND		10	2.8	ug/L			03/07/24 23:01	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			03/07/24 23:01	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			03/07/24 23:01	10
n-Butylbenzene	ND		10	4.4	ug/L			03/07/24 23:01	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			03/07/24 23:01	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			03/07/24 23:01	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			03/07/24 23:01	10
Hexachlorobutadiene	ND		30	7.9	ug/L			03/07/24 23:01	10
Naphthalene	ND		30	9.3	ug/L			03/07/24 23:01	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			03/07/24 23:01	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			03/07/24 23:01	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*03/07/24 23:01*	*10*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*03/07/24 23:01*	*10*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/07/24 23:01*	*10*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*03/07/24 23:01*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**16000**		4000	2000	ug/L			03/13/24 15:05	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**14000**		1500	430	mg/L			03/14/24 18:03	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-11i(d)-022824
Lab Sample ID: 580-137138-24
Date Collected: 02/28/24 11:53
Matrix: Water
Date Received: 02/29/24 12:35

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			03/05/24 01:30	1
Chloromethane	ND		0.50	0.14	ug/L			03/05/24 01:30	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/05/24 01:30	1
Bromomethane	ND		0.50	0.13	ug/L			03/05/24 01:30	1
Chloroethane	ND		0.50	0.096	ug/L			03/05/24 01:30	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/05/24 01:30	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/05/24 01:30	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			03/05/24 01:30	1
Acetone	ND		10	3.1	ug/L			03/05/24 01:30	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/05/24 01:30	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/05/24 01:30	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/05/24 01:30	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/05/24 01:30	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			03/05/24 01:30	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/05/24 01:30	1
cis-1,2-Dichloroethene	**0.17**	**J**	0.20	0.055	ug/L			03/05/24 01:30	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/05/24 01:30	1
Chloroform	ND	*+	0.20	0.030	ug/L			03/05/24 01:30	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/05/24 01:30	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/05/24 01:30	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/05/24 01:30	1
Benzene	ND		0.20	0.030	ug/L			03/05/24 01:30	1
1,2-Dichloroethane	**0.074**	**J**	0.20	0.043	ug/L			03/05/24 01:30	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/05/24 01:30	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/05/24 01:30	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/05/24 01:30	1
Dibromomethane	ND		0.20	0.062	ug/L			03/05/24 01:30	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/05/24 01:30	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/05/24 01:30	1
Toluene	ND		0.20	0.050	ug/L			03/05/24 01:30	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/05/24 01:30	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/05/24 01:30	1
Tetrachloroethene	ND		0.24	0.084	ug/L			03/05/24 01:30	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/05/24 01:30	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/05/24 01:30	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/05/24 01:30	1
Chlorobenzene	**0.061**	**J**	0.20	0.060	ug/L			03/05/24 01:30	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/05/24 01:30	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/05/24 01:30	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/05/24 01:30	1
o-Xylene	ND		0.50	0.15	ug/L			03/05/24 01:30	1
Styrene	ND		1.0	0.19	ug/L			03/05/24 01:30	1
Bromoform	ND		0.50	0.16	ug/L			03/05/24 01:30	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/05/24 01:30	1
Bromobenzene	ND		0.20	0.038	ug/L			03/05/24 01:30	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/05/24 01:30	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/05/24 01:30	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/05/24 01:30	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/05/24 01:30	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: MWA-11i(d)-022824
Lab Sample ID: 580-137138-24
Date Collected: 02/28/24 11:53
Matrix: Water
Date Received: 02/29/24 12:35

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			03/05/24 01:30	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/05/24 01:30	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/05/24 01:30	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/05/24 01:30	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/05/24 01:30	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/05/24 01:30	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 01:30	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 01:30	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/05/24 01:30	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/05/24 01:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/05/24 01:30	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/05/24 01:30	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/05/24 01:30	1
Naphthalene	ND		1.0	0.22	ug/L			03/05/24 01:30	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/05/24 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*80 - 120*		*03/05/24 01:30*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/05/24 01:30*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*03/05/24 01:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*03/05/24 01:30*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			03/07/24 17:30	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**6300**		1500	430	mg/L			03/14/24 18:27	1000

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-32i-022824
Lab Sample ID: 580-137138-25
Date Collected: 02/28/24 13:19
Matrix: Water
Date Received: 02/29/24 12:35

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			03/05/24 01:53	1
Chloromethane	ND		0.50	0.14	ug/L			03/05/24 01:53	1
Bromomethane	ND		0.50	0.13	ug/L			03/05/24 01:53	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/05/24 01:53	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/05/24 01:53	1
1,1-Dichloroethene	**0.070**	**J**	0.20	0.035	ug/L			03/05/24 01:53	1
Acetone	ND		10	3.1	ug/L			03/05/24 01:53	1
Methylene Chloride	ND		5.0	1.2	ug/L			03/05/24 01:53	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/05/24 01:53	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/05/24 01:53	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/05/24 01:53	1
1,1-Dichloroethane	**0.057**	**J**	0.20	0.025	ug/L			03/05/24 01:53	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/05/24 01:53	1
cis-1,2-Dichloroethene	**0.11**	**J**	0.20	0.055	ug/L			03/05/24 01:53	1
Chlorobromomethane	ND	*+	0.20	0.050	ug/L			03/05/24 01:53	1
Chloroform	ND	*+	0.20	0.030	ug/L			03/05/24 01:53	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/05/24 01:53	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/05/24 01:53	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/05/24 01:53	1
Benzene	**0.089**	**J**	0.20	0.030	ug/L			03/05/24 01:53	1
1,2-Dichloroethane	**0.076**	**J**	0.20	0.043	ug/L			03/05/24 01:53	1
Trichloroethene	ND	*+	0.20	0.066	ug/L			03/05/24 01:53	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/05/24 01:53	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/05/24 01:53	1
Dibromomethane	ND		0.20	0.062	ug/L			03/05/24 01:53	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/05/24 01:53	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/05/24 01:53	1
Toluene	ND		0.20	0.050	ug/L			03/05/24 01:53	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/05/24 01:53	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/05/24 01:53	1
Tetrachloroethene	ND		0.24	0.084	ug/L			03/05/24 01:53	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/05/24 01:53	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/05/24 01:53	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/05/24 01:53	1
Chlorobenzene	**0.29**		0.20	0.060	ug/L			03/05/24 01:53	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/05/24 01:53	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/05/24 01:53	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/05/24 01:53	1
o-Xylene	ND		0.50	0.15	ug/L			03/05/24 01:53	1
Styrene	ND		1.0	0.19	ug/L			03/05/24 01:53	1
Bromoform	ND		0.50	0.16	ug/L			03/05/24 01:53	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/05/24 01:53	1
Bromobenzene	ND		0.20	0.038	ug/L			03/05/24 01:53	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/05/24 01:53	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/05/24 01:53	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/05/24 01:53	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/05/24 01:53	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			03/05/24 01:53	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/05/24 01:53	1

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-32i-022824
Lab Sample ID: 580-137138-25
Date Collected: 02/28/24 13:19
Matrix: Water
Date Received: 02/29/24 12:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/05/24 01:53	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/05/24 01:53	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/05/24 01:53	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/05/24 01:53	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 01:53	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/05/24 01:53	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/05/24 01:53	1
1,2-Dichlorobenzene	**0.23**	**J**	0.30	0.038	ug/L			03/05/24 01:53	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/05/24 01:53	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/05/24 01:53	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/05/24 01:53	1
Naphthalene	ND		1.0	0.22	ug/L			03/05/24 01:53	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/05/24 01:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*80 - 120*		*03/05/24 01:53*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/05/24 01:53*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*03/05/24 01:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*03/05/24 01:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.15**		0.10	0.040	ug/L			03/07/24 06:07	1
Chloroethane	**0.39**	**J**	0.50	0.096	ug/L			03/07/24 06:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*03/07/24 06:07*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/07/24 06:07*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/07/24 06:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*03/07/24 06:07*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			03/06/24 17:47	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**7600**		150	43	mg/L			03/14/24 19:15	100

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

Lab Sample ID: MB 580-453018/7
Matrix: Water
Analysis Batch: 453018

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			03/04/24 20:27	1
Chloromethane	ND		0.50	0.14	ug/L			03/04/24 20:27	1
Vinyl chloride	ND		0.10	0.040	ug/L			03/04/24 20:27	1
Bromomethane	ND		0.50	0.13	ug/L			03/04/24 20:27	1
Chloroethane	ND		0.50	0.096	ug/L			03/04/24 20:27	1
Carbon disulfide	ND		0.30	0.083	ug/L			03/04/24 20:27	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			03/04/24 20:27	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			03/04/24 20:27	1
Acetone	ND		10	3.1	ug/L			03/04/24 20:27	1
Methylene Chloride	1.28	J	5.0	1.2	ug/L			03/04/24 20:27	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			03/04/24 20:27	1
2-Butanone (MEK)	ND		10	2.5	ug/L			03/04/24 20:27	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			03/04/24 20:27	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			03/04/24 20:27	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			03/04/24 20:27	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			03/04/24 20:27	1
Chlorobromomethane	ND		0.20	0.050	ug/L			03/04/24 20:27	1
Chloroform	ND		0.20	0.030	ug/L			03/04/24 20:27	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			03/04/24 20:27	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			03/04/24 20:27	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			03/04/24 20:27	1
Benzene	ND		0.20	0.030	ug/L			03/04/24 20:27	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			03/04/24 20:27	1
Trichloroethene	ND		0.20	0.066	ug/L			03/04/24 20:27	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			03/04/24 20:27	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			03/04/24 20:27	1
Dibromomethane	ND		0.20	0.062	ug/L			03/04/24 20:27	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			03/04/24 20:27	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			03/04/24 20:27	1
Toluene	ND		0.20	0.050	ug/L			03/04/24 20:27	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			03/04/24 20:27	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			03/04/24 20:27	1
Tetrachloroethene	ND		0.24	0.084	ug/L			03/04/24 20:27	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			03/04/24 20:27	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			03/04/24 20:27	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			03/04/24 20:27	1
Chlorobenzene	ND		0.20	0.060	ug/L			03/04/24 20:27	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			03/04/24 20:27	1
Ethylbenzene	ND		0.20	0.030	ug/L			03/04/24 20:27	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			03/04/24 20:27	1
o-Xylene	ND		0.50	0.15	ug/L			03/04/24 20:27	1
Styrene	ND		1.0	0.19	ug/L			03/04/24 20:27	1
Bromoform	ND		0.50	0.16	ug/L			03/04/24 20:27	1
Isopropylbenzene	ND		1.0	0.19	ug/L			03/04/24 20:27	1
Bromobenzene	ND		0.20	0.038	ug/L			03/04/24 20:27	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			03/04/24 20:27	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			03/04/24 20:27	1
N-Propylbenzene	ND		0.30	0.091	ug/L			03/04/24 20:27	1

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

Lab Sample ID: MB 580-453018/7
Matrix: Water
Analysis Batch: 453018

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			03/04/24 20:27	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			03/04/24 20:27	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			03/04/24 20:27	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			03/04/24 20:27	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			03/04/24 20:27	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			03/04/24 20:27	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			03/04/24 20:27	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 20:27	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			03/04/24 20:27	1
n-Butylbenzene	ND		1.0	0.23	ug/L			03/04/24 20:27	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			03/04/24 20:27	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			03/04/24 20:27	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			03/04/24 20:27	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			03/04/24 20:27	1
Naphthalene	ND		1.0	0.22	ug/L			03/04/24 20:27	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			03/04/24 20:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*03/04/24 20:27*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/04/24 20:27*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*03/04/24 20:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*03/04/24 20:27*	*1*

Lab Sample ID: LCS 580-453018/4
Matrix: Water
Analysis Batch: 453018

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	4.82		ug/L		96	20 - 150
Chloromethane	5.00	5.32		ug/L		106	32 - 150
Vinyl chloride	5.00	6.35		ug/L		127	41 - 150
Bromomethane	5.00	6.06		ug/L		121	51 - 148
Chloroethane	5.00	6.86		ug/L		137	54 - 140
Carbon disulfide	5.00	5.03		ug/L		101	54 - 142
Trichlorofluoromethane	5.00	5.99		ug/L		120	60 - 132
1,1-Dichloroethene	5.00	5.74		ug/L		115	60 - 129
Acetone	25.0	27.9		ug/L		111	49 - 150
Methylene Chloride	5.00	6.95		ug/L		139	40 - 142
Methyl tert-butyl ether	5.00	5.31		ug/L		106	61 - 131
2-Butanone (MEK)	25.0	27.4		ug/L		109	37 - 150
trans-1,2-Dichloroethene	5.00	5.76		ug/L		115	69 - 121
1,1-Dichloroethane	5.00	5.81		ug/L		116	74 - 120
2,2-Dichloropropane	5.00	5.58		ug/L		112	55 - 140
cis-1,2-Dichloroethene	5.00	5.89		ug/L		118	72 - 120
Chlorobromomethane	5.00	6.21	*+	ug/L		124	79 - 121
Chloroform	5.00	6.15	*+	ug/L		123	75 - 120
1,1,1-Trichloroethane	5.00	5.94		ug/L		119	70 - 121
Carbon tetrachloride	5.00	5.87		ug/L		117	66 - 130

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

Lab Sample ID: LCS 580-453018/4
Matrix: Water
Analysis Batch: 453018

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloropropene	5.00	5.57		ug/L		111	72 - 125
Benzene	5.00	5.83		ug/L		117	80 - 120
1,2-Dichloroethane	5.00	5.86		ug/L		117	74 - 127
Trichloroethene	5.00	6.10	*+	ug/L		122	72 - 120
1,2-Dichloropropane	5.00	5.88		ug/L		118	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	21.7		ug/L		87	63 - 137
Dibromomethane	5.00	6.13		ug/L		123	65 - 141
Dichlorobromomethane	5.00	5.87		ug/L		117	74 - 131
cis-1,3-Dichloropropene	5.00	4.27		ug/L		85	77 - 131
Toluene	5.00	4.99		ug/L		100	80 - 126
trans-1,3-Dichloropropene	5.00	4.66		ug/L		93	71 - 138
1,1,2-Trichloroethane	5.00	5.01		ug/L		100	73 - 127
Tetrachloroethene	5.00	4.79		ug/L		96	75 - 124
1,3-Dichloropropane	5.00	4.94		ug/L		99	69 - 138
Chlorodibromomethane	5.00	4.66		ug/L		93	62 - 141
Ethylene Dibromide	5.00	4.91		ug/L		98	61 - 143
Chlorobenzene	5.00	5.16		ug/L		103	74 - 123
1,1,1,2-Tetrachloroethane	5.00	5.11		ug/L		102	69 - 127
Ethylbenzene	5.00	5.00		ug/L		100	80 - 124
m-Xylene & p-Xylene	5.00	4.95		ug/L		99	75 - 124
o-Xylene	5.00	4.90		ug/L		98	71 - 124
Styrene	5.00	5.06		ug/L		101	74 - 127
Bromoform	5.00	4.16		ug/L		83	48 - 127
Isopropylbenzene	5.00	5.58		ug/L		112	71 - 123
Bromobenzene	5.00	4.80		ug/L		96	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.47		ug/L		89	67 - 136
1,2,3-Trichloropropane	5.00	4.61		ug/L		92	67 - 135
N-Propylbenzene	5.00	4.87		ug/L		97	72 - 126
2-Chlorotoluene	5.00	4.84		ug/L		97	73 - 120
4-Chlorotoluene	5.00	4.83		ug/L		97	75 - 124
1,3,5-Trimethylbenzene	5.00	4.83		ug/L		97	75 - 123
tert-Butylbenzene	5.00	4.81		ug/L		96	70 - 129
1,2,4-Trimethylbenzene	5.00	4.77		ug/L		95	71 - 127
sec-Butylbenzene	5.00	4.72		ug/L		94	75 - 126
4-Isopropyltoluene	5.00	4.66		ug/L		93	78 - 125
1,3-Dichlorobenzene	5.00	4.94		ug/L		99	72 - 125
1,4-Dichlorobenzene	5.00	4.94		ug/L		99	71 - 129
n-Butylbenzene	5.00	4.61		ug/L		92	69 - 127
1,2-Dichlorobenzene	5.00	4.92		ug/L		98	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	3.93		ug/L		79	55 - 135
1,2,4-Trichlorobenzene	5.00	4.40		ug/L		88	60 - 130
Hexachlorobutadiene	5.00	4.79		ug/L		96	63 - 130
Naphthalene	5.00	3.80		ug/L		76	54 - 137
1,2,3-Trichlorobenzene	5.00	4.32		ug/L		86	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 120*

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

Lab Sample ID: LCS 580-453018/4
Matrix: Water
Analysis Batch: 453018

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*

Lab Sample ID: LCSD 580-453018/5
Matrix: Water
Analysis Batch: 453018

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	4.70		ug/L		94	20 - 150	2	30
Chloromethane			5.00	5.18		ug/L		104	32 - 150	3	33
Vinyl chloride			5.00	6.35		ug/L		127	41 - 150	0	32
Bromomethane			5.00	5.91		ug/L		118	51 - 148	2	35
Chloroethane			5.00	6.59		ug/L		132	54 - 140	4	33
Carbon disulfide			5.00	4.92		ug/L		98	54 - 142	2	34
Trichlorofluoromethane			5.00	5.87		ug/L		117	60 - 132	2	32
1,1-Dichloroethene			5.00	5.58		ug/L		112	60 - 129	3	29
Acetone			25.0	28.6		ug/L		114	49 - 150	2	24
Methylene Chloride			5.00	6.73		ug/L		135	40 - 142	3	25
Methyl tert-butyl ether			5.00	5.28		ug/L		106	61 - 131	1	27
2-Butanone (MEK)			25.0	25.9		ug/L		104	37 - 150	6	35
trans-1,2-Dichloroethene			5.00	5.61		ug/L		112	69 - 121	3	27
1,1-Dichloroethane			5.00	5.71		ug/L		114	74 - 120	2	26
2,2-Dichloropropane			5.00	5.39		ug/L		108	55 - 140	4	31
cis-1,2-Dichloroethene			5.00	5.68		ug/L		114	72 - 120	4	22
Chlorobromomethane			5.00	5.96		ug/L		119	79 - 121	4	20
Chloroform			5.00	5.93		ug/L		119	75 - 120	4	21
1,1,1-Trichloroethane			5.00	5.77		ug/L		115	70 - 121	3	24
Carbon tetrachloride			5.00	5.66		ug/L		113	66 - 130	4	24
1,1-Dichloropropene			5.00	5.51		ug/L		110	72 - 125	1	23
Benzene			5.00	5.64		ug/L		113	80 - 120	3	22
1,2-Dichloroethane			5.00	5.69		ug/L		114	74 - 127	3	21
Trichloroethene			5.00	6.00		ug/L		120	72 - 120	2	22
1,2-Dichloropropane			5.00	5.83		ug/L		117	69 - 130	1	22
4-Methyl-2-pentanone (MIBK)			25.0	22.0		ug/L		88	63 - 137	1	26
Dibromomethane			5.00	5.95		ug/L		119	65 - 141	3	22
Dichlorobromomethane			5.00	5.72		ug/L		114	74 - 131	3	21
cis-1,3-Dichloropropene			5.00	4.21		ug/L		84	77 - 131	1	24
Toluene			5.00	4.91		ug/L		98	80 - 126	2	20
trans-1,3-Dichloropropene			5.00	4.53		ug/L		91	71 - 138	3	26
1,1,2-Trichloroethane			5.00	4.92		ug/L		98	73 - 127	2	22
Tetrachloroethene			5.00	4.66		ug/L		93	75 - 124	3	20
1,3-Dichloropropane			5.00	4.79		ug/L		96	69 - 138	3	19
Chlorodibromomethane			5.00	4.51		ug/L		90	62 - 141	3	22
Ethylene Dibromide			5.00	4.77		ug/L		95	61 - 143	3	22
Chlorobenzene			5.00	5.06		ug/L		101	74 - 123	2	21
1,1,1,2-Tetrachloroethane			5.00	5.09		ug/L		102	69 - 127	0	22
Ethylbenzene			5.00	4.90		ug/L		98	80 - 124	2	22
m-Xylene & p-Xylene			5.00	4.88		ug/L		98	75 - 124	1	22

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

Lab Sample ID: LCSD 580-453018/5
Matrix: Water
Analysis Batch: 453018

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
o-Xylene			5.00	4.84		ug/L		97	71 - 124	1	23
Styrene			5.00	4.97		ug/L		99	74 - 127	2	22
Bromoform			5.00	4.12		ug/L		82	48 - 127	1	23
Isopropylbenzene			5.00	5.55		ug/L		111	71 - 123	1	23
Bromobenzene			5.00	4.67		ug/L		93	74 - 130	3	23
1,1,2,2-Tetrachloroethane			5.00	4.45		ug/L		89	67 - 136	0	24
1,2,3-Trichloropropane			5.00	4.59		ug/L		92	67 - 135	1	25
N-Propylbenzene			5.00	4.69		ug/L		94	72 - 126	4	20
2-Chlorotoluene			5.00	4.75		ug/L		95	73 - 120	2	22
4-Chlorotoluene			5.00	4.68		ug/L		94	75 - 124	3	23
1,3,5-Trimethylbenzene			5.00	4.65		ug/L		93	75 - 123	4	23
tert-Butylbenzene			5.00	4.55		ug/L		91	70 - 129	6	24
1,2,4-Trimethylbenzene			5.00	4.70		ug/L		94	71 - 127	2	23
sec-Butylbenzene			5.00	4.63		ug/L		93	75 - 126	2	23
4-Isopropyltoluene			5.00	4.59		ug/L		92	78 - 125	2	24
1,3-Dichlorobenzene			5.00	4.80		ug/L		96	72 - 125	3	22
1,4-Dichlorobenzene			5.00	4.80		ug/L		96	71 - 129	3	22
n-Butylbenzene			5.00	4.58		ug/L		92	69 - 127	1	24
1,2-Dichlorobenzene			5.00	4.81		ug/L		96	72 - 129	2	22
1,2-Dibromo-3-Chloropropane			5.00	3.80		ug/L		76	55 - 135	3	29
1,2,4-Trichlorobenzene			5.00	4.27		ug/L		85	60 - 130	3	26
Hexachlorobutadiene			5.00	4.55		ug/L		91	63 - 130	5	26
Naphthalene			5.00	3.73		ug/L		75	54 - 137	2	28
1,2,3-Trichlorobenzene			5.00	4.19		ug/L		84	60 - 136	3	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 120*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*

Lab Sample ID: MB 580-453269/7
Matrix: Water
Analysis Batch: 453269

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			03/07/24 01:28	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 01:28	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 01:28	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 01:28	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 01:28	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 01:28	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 01:28	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 01:28	1
Acetone	ND		15	3.2	ug/L			03/07/24 01:28	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 01:28	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			03/07/24 01:28	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 01:28	1

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

Lab Sample ID: MB 580-453269/7
Matrix: Water
Analysis Batch: 453269

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		1.0	0.22	ug/L			03/07/24 01:28	1
2-Butanone (MEK)	ND		15	4.7	ug/L			03/07/24 01:28	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 01:28	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 01:28	1
Chlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 01:28	1
Chloroform	ND		1.0	0.26	ug/L			03/07/24 01:28	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 01:28	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 01:28	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 01:28	1
Benzene	ND		1.0	0.24	ug/L			03/07/24 01:28	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			03/07/24 01:28	1
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 01:28	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 01:28	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 01:28	1
Dibromomethane	ND		1.0	0.34	ug/L			03/07/24 01:28	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 01:28	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 01:28	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 01:28	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 01:28	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			03/07/24 01:28	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 01:28	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 01:28	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 01:28	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 01:28	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 01:28	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 01:28	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 01:28	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 01:28	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 01:28	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 01:28	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 01:28	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 01:28	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 01:28	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 01:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 01:28	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 01:28	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 01:28	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 01:28	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			03/07/24 01:28	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 01:28	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 01:28	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 01:28	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 01:28	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 01:28	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 01:28	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 01:28	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 01:28	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 01:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 01:28	1

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

Lab Sample ID: MB 580-453269/7
Matrix: Water
Analysis Batch: 453269

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 01:28	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 01:28	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 01:28	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 01:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*03/07/24 01:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*03/07/24 01:28*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*03/07/24 01:28*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*03/07/24 01:28*	*1*

Lab Sample ID: LCS 580-453269/4
Matrix: Water
Analysis Batch: 453269

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	4.23		ug/L		85	20 - 150
Chloromethane	5.00	4.64		ug/L		93	25 - 150
Vinyl chloride	5.00	5.02		ug/L		100	31 - 150
Bromomethane	5.00	4.59		ug/L		92	36 - 150
Chloroethane	5.00	4.76		ug/L		95	38 - 150
Trichlorofluoromethane	5.00	4.94		ug/L		99	45 - 148
Carbon disulfide	5.00	5.39		ug/L		108	63 - 134
1,1-Dichloroethene	5.00	5.17		ug/L		103	70 - 129
Acetone	25.0	29.8		ug/L		119	44 - 150
Methylene Chloride	5.00	5.50		ug/L		110	77 - 125
Methyl tert-butyl ether	5.00	5.53		ug/L		111	72 - 120
trans-1,2-Dichloroethene	5.00	5.15		ug/L		103	75 - 120
1,1-Dichloroethane	5.00	5.42		ug/L		108	80 - 120
2-Butanone (MEK)	25.0	29.3		ug/L		117	65 - 137
2,2-Dichloropropane	5.00	4.86		ug/L		97	66 - 126
cis-1,2-Dichloroethene	5.00	5.38		ug/L		108	76 - 120
Chlorobromomethane	5.00	5.54		ug/L		111	78 - 120
Chloroform	5.00	5.41		ug/L		108	78 - 127
1,1,1-Trichloroethane	5.00	5.27		ug/L		105	74 - 130
Carbon tetrachloride	5.00	5.21		ug/L		104	72 - 129
1,1-Dichloropropene	5.00	5.28		ug/L		106	74 - 120
Benzene	5.00	5.32		ug/L		106	80 - 122
1,2-Dichloroethane	5.00	5.34		ug/L		107	69 - 126
Trichloroethene	5.00	5.23		ug/L		105	80 - 125
1,2-Dichloropropane	5.00	5.42		ug/L		108	80 - 120
4-Methyl-2-pentanone (MIBK)	25.0	29.6		ug/L		118	59 - 141
Dibromomethane	5.00	5.80		ug/L		116	80 - 120
Bromodichloromethane	5.00	5.49		ug/L		110	75 - 124
Dichlorobromomethane	5.00	5.49		ug/L		110	75 - 124
cis-1,3-Dichloropropene	5.00	4.92		ug/L		98	77 - 120
Toluene	5.00	4.90		ug/L		98	80 - 120
trans-1,3-Dichloropropene	5.00	5.96		ug/L		119	76 - 122

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

Lab Sample ID: LCS 580-453269/4
Matrix: Water
Analysis Batch: 453269

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1,2-Trichloroethane			5.00	5.58		ug/L		112	80 - 121		
Tetrachloroethene			5.00	5.01		ug/L		100	76 - 125		
1,3-Dichloropropane			5.00	5.58		ug/L		112	79 - 120		
Chlorodibromomethane			5.00	5.79		ug/L		116	73 - 125		
Ethylene Dibromide			5.00	5.91		ug/L		118	79 - 126		
Chlorobenzene			5.00	5.25		ug/L		105	80 - 120		
1,1,1,2-Tetrachloroethane			5.00	5.36		ug/L		107	79 - 120		
Ethylbenzene			5.00	5.20		ug/L		104	80 - 120		
m-Xylene & p-Xylene			5.00	5.06		ug/L		101	80 - 120		
o-Xylene			5.00	5.20		ug/L		104	80 - 120		
Styrene			5.00	5.03		ug/L		101	76 - 122		
Bromoform			5.00	5.30		ug/L		106	56 - 139		
Isopropylbenzene			5.00	5.76		ug/L		115	80 - 123		
Bromobenzene			5.00	5.32		ug/L		106	80 - 120		
1,1,2,2-Tetrachloroethane			5.00	5.43		ug/L		109	74 - 124		
1,2,3-Trichloropropane			5.00	5.72		ug/L		114	76 - 124		
N-Propylbenzene			5.00	5.22		ug/L		104	80 - 122		
2-Chlorotoluene			5.00	5.09		ug/L		102	80 - 120		
4-Chlorotoluene			5.00	5.24		ug/L		105	73 - 129		
tert-Butylbenzene			5.00	5.11		ug/L		102	75 - 123		
1,2,4-Trimethylbenzene			5.00	5.38		ug/L		108	80 - 120		
sec-Butylbenzene			5.00	5.27		ug/L		105	78 - 122		
4-Isopropyltoluene			5.00	5.19		ug/L		104	77 - 126		
1,3-Dichlorobenzene			5.00	5.19		ug/L		104	77 - 127		
1,4-Dichlorobenzene			5.00	5.08		ug/L		102	80 - 120		
n-Butylbenzene			5.00	4.81		ug/L		96	57 - 133		
1,2-Dichlorobenzene			5.00	5.29		ug/L		106	80 - 120		
1,2-Dibromo-3-Chloropropane			5.00	5.08		ug/L		102	65 - 133		
1,2,4-Trichlorobenzene			5.00	4.96		ug/L		99	61 - 148		
Hexachlorobutadiene			5.00	4.94		ug/L		99	74 - 131		
Naphthalene			5.00	4.73		ug/L		95	63 - 150		
1,2,3-Trichlorobenzene			5.00	5.12		ug/L		102	65 - 150		
1,3,5-Trimethylbenzene			5.00	5.38		ug/L		108	80 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: LCSD 580-453269/5
Matrix: Water
Analysis Batch: 453269

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	4.40		ug/L		88	20 - 150	4	33
Chloromethane			5.00	4.54		ug/L		91	25 - 150	2	26
Vinyl chloride			5.00	5.03		ug/L		101	31 - 150	0	26

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

Lab Sample ID: LCSD 580-453269/5
Matrix: Water
Analysis Batch: 453269

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
Bromomethane	5.00	4.53		ug/L		91	36 - 150	1	33
Chloroethane	5.00	4.65		ug/L		93	38 - 150	2	28
Trichlorofluoromethane	5.00	5.03		ug/L		101	45 - 148	2	35
Carbon disulfide	5.00	5.44		ug/L		109	63 - 134	1	24
1,1-Dichloroethene	5.00	5.54		ug/L		111	70 - 129	7	23
Acetone	25.0	31.5		ug/L		126	44 - 150	6	33
Methylene Chloride	5.00	5.63		ug/L		113	77 - 125	2	18
Methyl tert-butyl ether	5.00	5.84		ug/L		117	72 - 120	5	18
trans-1,2-Dichloroethene	5.00	5.27		ug/L		105	75 - 120	2	21
1,1-Dichloroethane	5.00	5.47		ug/L		109	80 - 120	1	15
2-Butanone (MEK)	25.0	30.1		ug/L		120	65 - 137	2	34
2,2-Dichloropropane	5.00	5.09		ug/L		102	66 - 126	5	22
cis-1,2-Dichloroethene	5.00	5.58		ug/L		112	76 - 120	4	20
Chlorobromomethane	5.00	5.60		ug/L		112	78 - 120	1	13
Chloroform	5.00	5.52		ug/L		110	78 - 127	2	14
1,1,1-Trichloroethane	5.00	5.42		ug/L		108	74 - 130	3	19
Carbon tetrachloride	5.00	5.39		ug/L		108	72 - 129	3	19
1,1-Dichloropropene	5.00	5.37		ug/L		107	74 - 120	2	14
Benzene	5.00	5.33		ug/L		107	80 - 122	0	14
1,2-Dichloroethane	5.00	5.46		ug/L		109	69 - 126	2	11
Trichloroethene	5.00	5.36		ug/L		107	80 - 125	2	13
1,2-Dichloropropane	5.00	5.65		ug/L		113	80 - 120	4	14
4-Methyl-2-pentanone (MIBK)	25.0	31.2		ug/L		125	59 - 141	5	22
Dibromomethane	5.00	6.03	*+	ug/L		121	80 - 120	4	11
Bromodichloromethane	5.00	5.75		ug/L		115	75 - 124	5	13
Dichlorobromomethane	5.00	5.75		ug/L		115	75 - 124	5	13
cis-1,3-Dichloropropene	5.00	5.13		ug/L		103	77 - 120	4	35
Toluene	5.00	5.07		ug/L		101	80 - 120	3	13
trans-1,3-Dichloropropene	5.00	6.16	*+	ug/L		123	76 - 122	3	20
1,1,2-Trichloroethane	5.00	5.79		ug/L		116	80 - 121	4	14
Tetrachloroethene	5.00	5.31		ug/L		106	76 - 125	6	13
1,3-Dichloropropane	5.00	5.75		ug/L		115	79 - 120	3	19
Chlorodibromomethane	5.00	5.86		ug/L		117	73 - 125	1	13
Ethylene Dibromide	5.00	6.07		ug/L		121	79 - 126	3	12
Chlorobenzene	5.00	5.44		ug/L		109	80 - 120	4	10
1,1,1,2-Tetrachloroethane	5.00	5.59		ug/L		112	79 - 120	4	16
Ethylbenzene	5.00	5.32		ug/L		106	80 - 120	2	14
m-Xylene & p-Xylene	5.00	5.25		ug/L		105	80 - 120	4	14
o-Xylene	5.00	5.45		ug/L		109	80 - 120	5	16
Styrene	5.00	5.22		ug/L		104	76 - 122	4	16
Bromoform	5.00	5.36		ug/L		107	56 - 139	1	21
Isopropylbenzene	5.00	6.01		ug/L		120	80 - 123	4	19
Bromobenzene	5.00	5.30		ug/L		106	80 - 120	0	24
1,1,2,2-Tetrachloroethane	5.00	5.69		ug/L		114	74 - 124	5	25
1,2,3-Trichloropropane	5.00	5.86		ug/L		117	76 - 124	2	26
N-Propylbenzene	5.00	5.46		ug/L		109	80 - 122	4	22
2-Chlorotoluene	5.00	5.31		ug/L		106	80 - 120	4	20
4-Chlorotoluene	5.00	5.36		ug/L		107	73 - 129	2	29
tert-Butylbenzene	5.00	5.27		ug/L		105	75 - 123	3	21

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

Lab Sample ID: LCSD 580-453269/5
Matrix: Water
Analysis Batch: 453269

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene			5.00	5.54		ug/L		111	80 - 120	3	16
sec-Butylbenzene			5.00	5.33		ug/L		107	78 - 122	1	15
4-Isopropyltoluene			5.00	5.36		ug/L		107	77 - 126	3	20
1,3-Dichlorobenzene			5.00	5.34		ug/L		107	77 - 127	3	35
1,4-Dichlorobenzene			5.00	5.27		ug/L		105	80 - 120	4	17
n-Butylbenzene			5.00	5.02		ug/L		100	57 - 133	4	14
1,2-Dichlorobenzene			5.00	5.42		ug/L		108	80 - 120	2	15
1,2-Dibromo-3-Chloropropane			5.00	5.20		ug/L		104	65 - 133	2	25
1,2,4-Trichlorobenzene			5.00	5.17		ug/L		103	61 - 148	4	27
Hexachlorobutadiene			5.00	4.93		ug/L		99	74 - 131	0	22
Naphthalene			5.00	4.98		ug/L		100	63 - 150	5	33
1,2,3-Trichlorobenzene			5.00	5.31		ug/L		106	65 - 150	4	33
1,3,5-Trimethylbenzene			5.00	5.63		ug/L		113	80 - 122	5	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 580-453327/7
Matrix: Water
Analysis Batch: 453327

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			03/07/24 17:14	1
Chloromethane	ND		1.0	0.28	ug/L			03/07/24 17:14	1
Vinyl chloride	ND		1.0	0.22	ug/L			03/07/24 17:14	1
Bromomethane	ND		1.0	0.21	ug/L			03/07/24 17:14	1
Chloroethane	ND		1.0	0.35	ug/L			03/07/24 17:14	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			03/07/24 17:14	1
Carbon disulfide	ND		1.0	0.53	ug/L			03/07/24 17:14	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			03/07/24 17:14	1
Acetone	ND		15	3.2	ug/L			03/07/24 17:14	1
Methylene Chloride	ND		5.0	1.4	ug/L			03/07/24 17:14	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			03/07/24 17:14	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			03/07/24 17:14	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			03/07/24 17:14	1
2-Butanone (MEK)	ND		15	4.7	ug/L			03/07/24 17:14	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			03/07/24 17:14	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			03/07/24 17:14	1
Chlorobromomethane	ND		1.0	0.29	ug/L			03/07/24 17:14	1
Chloroform	ND		1.0	0.26	ug/L			03/07/24 17:14	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			03/07/24 17:14	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			03/07/24 17:14	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			03/07/24 17:14	1
Benzene	ND		1.0	0.24	ug/L			03/07/24 17:14	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			03/07/24 17:14	1

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

Lab Sample ID: MB 580-453327/7
Matrix: Water
Analysis Batch: 453327

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.26	ug/L			03/07/24 17:14	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			03/07/24 17:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			03/07/24 17:14	1
Dibromomethane	ND		1.0	0.34	ug/L			03/07/24 17:14	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/07/24 17:14	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			03/07/24 17:14	1
Toluene	ND		1.0	0.39	ug/L			03/07/24 17:14	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			03/07/24 17:14	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			03/07/24 17:14	1
Tetrachloroethene	ND		1.0	0.41	ug/L			03/07/24 17:14	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			03/07/24 17:14	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			03/07/24 17:14	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			03/07/24 17:14	1
Chlorobenzene	ND		1.0	0.44	ug/L			03/07/24 17:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			03/07/24 17:14	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 17:14	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			03/07/24 17:14	1
o-Xylene	ND		1.0	0.39	ug/L			03/07/24 17:14	1
Styrene	ND		1.0	0.53	ug/L			03/07/24 17:14	1
Bromoform	ND		1.0	0.51	ug/L			03/07/24 17:14	1
Isopropylbenzene	ND		1.0	0.44	ug/L			03/07/24 17:14	1
Bromobenzene	ND		1.0	0.43	ug/L			03/07/24 17:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			03/07/24 17:14	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			03/07/24 17:14	1
N-Propylbenzene	ND		1.0	0.50	ug/L			03/07/24 17:14	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			03/07/24 17:14	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			03/07/24 17:14	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			03/07/24 17:14	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			03/07/24 17:14	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			03/07/24 17:14	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			03/07/24 17:14	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			03/07/24 17:14	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 17:14	1
n-Butylbenzene	ND		1.0	0.44	ug/L			03/07/24 17:14	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			03/07/24 17:14	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			03/07/24 17:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			03/07/24 17:14	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			03/07/24 17:14	1
Naphthalene	ND		3.0	0.93	ug/L			03/07/24 17:14	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			03/07/24 17:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			03/07/24 17:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/07/24 17:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*80 - 120*		*03/07/24 17:14*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*03/07/24 17:14*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/07/24 17:14*	*1*

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

Lab Sample ID: LCS 580-453327/4
Matrix: Water
Analysis Batch: 453327

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	4.51		ug/L		90	20 - 150
Chloromethane	5.00	4.55		ug/L		91	25 - 150
Vinyl chloride	5.00	4.78		ug/L		96	31 - 150
Bromomethane	5.00	4.21		ug/L		84	36 - 150
Chloroethane	5.00	4.66		ug/L		93	38 - 150
Trichlorofluoromethane	5.00	5.49		ug/L		110	45 - 148
Carbon disulfide	5.00	5.90		ug/L		118	63 - 134
1,1-Dichloroethene	5.00	5.79		ug/L		116	70 - 129
Acetone	25.0	34.2		ug/L		137	44 - 150
Methylene Chloride	5.00	5.96		ug/L		119	77 - 125
Methyl tert-butyl ether	5.00	6.29	*+	ug/L		126	72 - 120
trans-1,2-Dichloroethene	5.00	5.49		ug/L		110	75 - 120
1,1-Dichloroethane	5.00	5.32		ug/L		106	80 - 120
2-Butanone (MEK)	25.0	34.4	*+	ug/L		138	65 - 137
2,2-Dichloropropane	5.00	5.54		ug/L		111	66 - 126
cis-1,2-Dichloroethene	5.00	5.72		ug/L		114	76 - 120
Chlorobromomethane	5.00	6.06	*+	ug/L		121	78 - 120
Chloroform	5.00	5.60		ug/L		112	78 - 127
1,1,1-Trichloroethane	5.00	5.55		ug/L		111	74 - 130
Carbon tetrachloride	5.00	5.70		ug/L		114	72 - 129
1,1-Dichloropropene	5.00	5.55		ug/L		111	74 - 120
Benzene	5.00	5.57		ug/L		111	80 - 122
1,2-Dichloroethane	5.00	5.78		ug/L		116	69 - 126
Trichloroethene	5.00	5.50		ug/L		110	80 - 125
1,2-Dichloropropane	5.00	5.53		ug/L		111	80 - 120
4-Methyl-2-pentanone (MIBK)	25.0	31.7		ug/L		127	59 - 141
Dibromomethane	5.00	6.07	*+	ug/L		121	80 - 120
Bromodichloromethane	5.00	5.70		ug/L		114	75 - 124
cis-1,3-Dichloropropene	5.00	4.97		ug/L		99	77 - 120
Toluene	5.00	4.81		ug/L		96	80 - 120
trans-1,3-Dichloropropene	5.00	5.98		ug/L		120	76 - 122
1,1,2-Trichloroethane	5.00	5.59		ug/L		112	80 - 121
Tetrachloroethene	5.00	5.02		ug/L		100	76 - 125
1,3-Dichloropropane	5.00	5.51		ug/L		110	79 - 120
Chlorodibromomethane	5.00	5.69		ug/L		114	73 - 125
Ethylene Dibromide	5.00	5.82		ug/L		116	79 - 126
Chlorobenzene	5.00	4.94		ug/L		99	80 - 120
1,1,1,2-Tetrachloroethane	5.00	5.17		ug/L		103	79 - 120
Ethylbenzene	5.00	4.99		ug/L		100	80 - 120
m-Xylene & p-Xylene	5.00	4.77		ug/L		95	80 - 120
o-Xylene	5.00	4.83		ug/L		97	80 - 120
Styrene	5.00	4.83		ug/L		97	76 - 122
Bromoform	5.00	5.52		ug/L		110	56 - 139
Isopropylbenzene	5.00	5.39		ug/L		108	80 - 123
Bromobenzene	5.00	4.99		ug/L		100	80 - 120
1,1,2,2-Tetrachloroethane	5.00	5.77		ug/L		115	74 - 124
1,2,3-Trichloropropane	5.00	5.82		ug/L		116	76 - 124
N-Propylbenzene	5.00	4.98		ug/L		100	80 - 122

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

Lab Sample ID: LCS 580-453327/4
Matrix: Water
Analysis Batch: 453327

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2-Chlorotoluene			5.00	4.85		ug/L		97	80 - 120		
4-Chlorotoluene			5.00	4.99		ug/L		100	73 - 129		
tert-Butylbenzene			5.00	4.95		ug/L		99	75 - 123		
1,2,4-Trimethylbenzene			5.00	5.09		ug/L		102	80 - 120		
sec-Butylbenzene			5.00	5.09		ug/L		102	78 - 122		
4-Isopropyltoluene			5.00	4.94		ug/L		99	77 - 126		
1,3-Dichlorobenzene			5.00	5.01		ug/L		100	77 - 127		
1,4-Dichlorobenzene			5.00	4.93		ug/L		99	80 - 120		
n-Butylbenzene			5.00	4.64		ug/L		93	57 - 133		
1,2-Dichlorobenzene			5.00	5.12		ug/L		102	80 - 120		
1,2-Dibromo-3-Chloropropane			5.00	5.58		ug/L		112	65 - 133		
1,2,4-Trichlorobenzene			5.00	5.11		ug/L		102	61 - 148		
Hexachlorobutadiene			5.00	4.95		ug/L		99	74 - 131		
Naphthalene			5.00	4.98		ug/L		100	63 - 150		
1,2,3-Trichlorobenzene			5.00	5.41		ug/L		108	65 - 150		
1,3,5-Trimethylbenzene			5.00	5.00		ug/L		100	80 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*

Lab Sample ID: LCSD 580-453327/5
Matrix: Water
Analysis Batch: 453327

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	4.50		ug/L		90	20 - 150	0	33
Chloromethane			5.00	4.52		ug/L		90	25 - 150	1	26
Vinyl chloride			5.00	4.92		ug/L		98	31 - 150	3	26
Bromomethane			5.00	4.24		ug/L		85	36 - 150	1	33
Chloroethane			5.00	4.91		ug/L		98	38 - 150	5	28
Trichlorofluoromethane			5.00	5.45		ug/L		109	45 - 148	1	35
Carbon disulfide			5.00	5.91		ug/L		118	63 - 134	0	24
1,1-Dichloroethene			5.00	5.83		ug/L		117	70 - 129	1	23
Acetone			25.0	37.2		ug/L		149	44 - 150	9	33
Methylene Chloride			5.00	6.15		ug/L		123	77 - 125	3	18
Methyl tert-butyl ether			5.00	6.22	*+	ug/L		124	72 - 120	1	18
trans-1,2-Dichloroethene			5.00	5.43		ug/L		109	75 - 120	1	21
1,1-Dichloroethane			5.00	5.78		ug/L		116	80 - 120	8	15
2-Butanone (MEK)			25.0	35.4	*+	ug/L		142	65 - 137	3	34
2,2-Dichloropropane			5.00	5.56		ug/L		111	66 - 126	0	22
cis-1,2-Dichloroethene			5.00	5.61		ug/L		112	76 - 120	2	20
Chlorobromomethane			5.00	5.99		ug/L		120	78 - 120	1	13
Chloroform			5.00	5.56		ug/L		111	78 - 127	1	14
1,1,1-Trichloroethane			5.00	5.62		ug/L		112	74 - 130	1	19
Carbon tetrachloride			5.00	5.56		ug/L		111	72 - 129	2	19

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

Lab Sample ID: LCSD 580-453327/5
Matrix: Water
Analysis Batch: 453327

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloropropene			5.00	5.59		ug/L		112	74 - 120	1	14
Benzene			5.00	5.57		ug/L		111	80 - 122	0	14
1,2-Dichloroethane			5.00	5.83		ug/L		117	69 - 126	1	11
Trichloroethene			5.00	5.43		ug/L		109	80 - 125	1	13
1,2-Dichloropropane			5.00	5.59		ug/L		112	80 - 120	1	14
4-Methyl-2-pentanone (MIBK)			25.0	33.5		ug/L		134	59 - 141	5	22
Dibromomethane			5.00	6.15	*+	ug/L		123	80 - 120	1	11
Bromodichloromethane			5.00	5.68		ug/L		114	75 - 124	0	13
cis-1,3-Dichloropropene			5.00	4.97		ug/L		99	77 - 120	0	35
Toluene			5.00	4.85		ug/L		97	80 - 120	1	13
trans-1,3-Dichloropropene			5.00	5.96		ug/L		119	76 - 122	0	20
1,1,2-Trichloroethane			5.00	5.83		ug/L		117	80 - 121	4	14
Tetrachloroethene			5.00	4.97		ug/L		99	76 - 125	1	13
1,3-Dichloropropane			5.00	5.64		ug/L		113	79 - 120	2	19
Chlorodibromomethane			5.00	5.64		ug/L		113	73 - 125	1	13
Ethylene Dibromide			5.00	6.01		ug/L		120	79 - 126	3	12
Chlorobenzene			5.00	5.11		ug/L		102	80 - 120	3	10
1,1,1,2-Tetrachloroethane			5.00	5.28		ug/L		106	79 - 120	2	16
Ethylbenzene			5.00	5.06		ug/L		101	80 - 120	1	14
m-Xylene & p-Xylene			5.00	4.83		ug/L		97	80 - 120	1	14
o-Xylene			5.00	5.02		ug/L		100	80 - 120	4	16
Styrene			5.00	4.83		ug/L		97	76 - 122	0	16
Bromoform			5.00	5.53		ug/L		111	56 - 139	0	21
Isopropylbenzene			5.00	5.46		ug/L		109	80 - 123	1	19
Bromobenzene			5.00	4.97		ug/L		99	80 - 120	0	24
1,1,2,2-Tetrachloroethane			5.00	5.98		ug/L		120	74 - 124	4	25
1,2,3-Trichloropropane			5.00	6.14		ug/L		123	76 - 124	5	26
N-Propylbenzene			5.00	4.99		ug/L		100	80 - 122	0	22
2-Chlorotoluene			5.00	4.71		ug/L		94	80 - 120	3	20
4-Chlorotoluene			5.00	4.96		ug/L		99	73 - 129	1	29
tert-Butylbenzene			5.00	4.86		ug/L		97	75 - 123	2	21
1,2,4-Trimethylbenzene			5.00	5.10		ug/L		102	80 - 120	0	16
sec-Butylbenzene			5.00	5.04		ug/L		101	78 - 122	1	15
4-Isopropyltoluene			5.00	4.95		ug/L		99	77 - 126	0	20
1,3-Dichlorobenzene			5.00	4.98		ug/L		100	77 - 127	1	35
1,4-Dichlorobenzene			5.00	4.96		ug/L		99	80 - 120	1	17
n-Butylbenzene			5.00	4.73		ug/L		95	57 - 133	2	14
1,2-Dichlorobenzene			5.00	5.11		ug/L		102	80 - 120	0	15
1,2-Dibromo-3-Chloropropane			5.00	5.85		ug/L		117	65 - 133	5	25
1,2,4-Trichlorobenzene			5.00	5.08		ug/L		102	61 - 148	1	27
Hexachlorobutadiene			5.00	4.85		ug/L		97	74 - 131	2	22
Naphthalene			5.00	5.14		ug/L		103	63 - 150	3	33
1,2,3-Trichlorobenzene			5.00	5.39		ug/L		108	65 - 150	0	33
1,3,5-Trimethylbenzene			5.00	5.11		ug/L		102	80 - 122	2	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*

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

Lab Sample ID: LCSD 580-453327/5
Matrix: Water
Analysis Batch: 453327

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*

Lab Sample ID: 580-137138-20 MS
Matrix: Water
Analysis Batch: 453327

Client Sample ID: MWA-31i(d)-022824
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		5.00	4.89		ug/L		98	20 - 150
Chloromethane	ND		5.00	5.81		ug/L		116	25 - 150
Vinyl chloride	ND		5.00	6.19		ug/L		124	31 - 150
Bromomethane	ND		5.00	4.77		ug/L		95	36 - 150
Chloroethane	ND		5.00	5.88		ug/L		118	38 - 150
Trichlorofluoromethane	ND		5.00	6.13		ug/L		123	45 - 148
Carbon disulfide	ND		5.00	6.37		ug/L		127	63 - 134
1,1-Dichloroethene	ND	F1	5.00	6.58	F1	ug/L		132	70 - 129
Acetone	ND	F1	25.0	36.3		ug/L		145	44 - 150
Methylene Chloride	1.5	J F1	5.00	7.51		ug/L		120	77 - 125
Methyl tert-butyl ether	ND	*+ F1	5.00	6.88	F1	ug/L		138	72 - 120
trans-1,2-Dichloroethene	ND	F1	5.00	6.08	F1	ug/L		122	75 - 120
1,1-Dichloroethane	0.39	J F1	5.00	6.55	F1	ug/L		123	80 - 120
2-Butanone (MEK)	ND	*+ F1	25.0	36.9	F1	ug/L		148	65 - 137
2,2-Dichloropropane	ND		5.00	5.29		ug/L		106	66 - 126
cis-1,2-Dichloroethene	ND	F1	5.00	6.09	F1	ug/L		122	76 - 120
Chlorobromomethane	ND	*+ F1	5.00	6.72	F1	ug/L		134	78 - 120
1,1,1-Trichloroethane	ND		5.00	6.18		ug/L		124	74 - 130
Carbon tetrachloride	ND	F1	5.00	6.21		ug/L		124	72 - 129
1,1-Dichloropropene	ND	F1	5.00	6.08	F1	ug/L		122	74 - 120
Benzene	ND	F1	5.00	6.20	F1	ug/L		124	80 - 122
1,2-Dichloroethane	ND	F1	5.00	6.06		ug/L		121	69 - 126
Trichloroethene	ND		5.00	5.92		ug/L		118	80 - 125
1,2-Dichloropropane	ND	F1	5.00	5.97		ug/L		119	80 - 120
4-Methyl-2-pentanone (MIBK)	ND	F1	25.0	39.9	F1	ug/L		159	59 - 141
Dibromomethane	ND	*+ F1	5.00	6.82	F1	ug/L		136	80 - 120
cis-1,3-Dichloropropene	ND		5.00	4.78		ug/L		96	77 - 120
Toluene	ND		5.00	5.06		ug/L		101	80 - 120
trans-1,3-Dichloropropene	ND	F1	5.00	6.03		ug/L		121	76 - 122
1,1,2-Trichloroethane	ND	F1	5.00	6.05		ug/L		121	80 - 121
Tetrachloroethene	ND		5.00	5.24		ug/L		105	76 - 125
1,3-Dichloropropane	ND	F1	5.00	5.94		ug/L		119	79 - 120
Chlorodibromomethane	ND		5.00	5.82		ug/L		116	73 - 125
Ethylene Dibromide	ND	F1	5.00	6.12		ug/L		122	79 - 126
Chlorobenzene	ND		5.00	5.61		ug/L		112	80 - 120
1,1,1,2-Tetrachloroethane	ND		5.00	5.47		ug/L		109	79 - 120
Ethylbenzene	ND		5.00	5.23		ug/L		105	80 - 120
m-Xylene & p-Xylene	ND		5.00	4.97		ug/L		99	80 - 120
o-Xylene	ND		5.00	5.07		ug/L		101	80 - 120
Styrene	ND	F1	5.00	ND	F1	ug/L		0	76 - 122

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

Lab Sample ID: 580-137138-20 MS
Client Sample ID: MWA-31i(d)-022824
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 453327

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromoform	ND		5.00	5.69		ug/L		114	56 - 139
Isopropylbenzene	ND		5.00	5.50		ug/L		110	80 - 123
Bromobenzene	ND		5.00	4.91		ug/L		98	80 - 120
1,1,2,2-Tetrachloroethane	ND	F1	5.00	6.05		ug/L		121	74 - 124
1,2,3-Trichloropropane	ND	F1	5.00	6.19		ug/L		124	76 - 124
N-Propylbenzene	ND		5.00	4.94		ug/L		99	80 - 122
2-Chlorotoluene	ND		5.00	4.83		ug/L		97	80 - 120
4-Chlorotoluene	ND		5.00	4.80		ug/L		96	73 - 129
tert-Butylbenzene	ND		5.00	4.73		ug/L		95	75 - 123
1,2,4-Trimethylbenzene	ND		5.00	4.69		ug/L		94	80 - 120
sec-Butylbenzene	ND		5.00	4.93		ug/L		99	78 - 122
4-Isopropyltoluene	ND		5.00	4.71		ug/L		94	77 - 126
1,3-Dichlorobenzene	ND		5.00	4.84		ug/L		97	77 - 127
1,4-Dichlorobenzene	ND		5.00	4.82		ug/L		96	80 - 120
n-Butylbenzene	ND		5.00	4.45		ug/L		89	57 - 133
1,2-Dichlorobenzene	ND		5.00	5.04		ug/L		101	80 - 120
1,2-Dibromo-3-Chloropropane	ND		5.00	5.71		ug/L		114	65 - 133
1,2,4-Trichlorobenzene	ND		5.00	4.56		ug/L		91	61 - 148
Hexachlorobutadiene	ND		5.00	4.47		ug/L		89	74 - 131
Naphthalene	ND		5.00	5.53		ug/L		111	63 - 150
1,2,3-Trichlorobenzene	ND		5.00	5.20		ug/L		104	65 - 150
1,3,5-Trimethylbenzene	ND	F1	5.00	ND	F1	ug/L		0	80 - 122

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*114*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*

Lab Sample ID: 580-137138-20 MSD
Client Sample ID: MWA-31i(d)-022824
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 453327

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		5.00	5.08		ug/L		102	20 - 150	4	33
Chloromethane	ND		5.00	5.69		ug/L		114	25 - 150	2	26
Vinyl chloride	ND		5.00	6.21		ug/L		124	31 - 150	0	26
Bromomethane	ND		5.00	4.86		ug/L		97	36 - 150	2	33
Chloroethane	ND		5.00	5.94		ug/L		119	38 - 150	1	28
Trichlorofluoromethane	ND		5.00	6.41		ug/L		128	45 - 148	5	35
Carbon disulfide	ND		5.00	6.59		ug/L		132	63 - 134	3	24
1,1-Dichloroethene	ND	F1	5.00	6.63	F1	ug/L		133	70 - 129	1	23
Acetone	ND	F1	25.0	40.7	F1	ug/L		163	44 - 150	11	33
Methylene Chloride	1.5	J F1	5.00	7.90	F1	ug/L		128	77 - 125	5	18
Methyl tert-butyl ether	ND	*+ F1	5.00	7.38	F1	ug/L		148	72 - 120	7	18
trans-1,2-Dichloroethene	ND	F1	5.00	6.30	F1	ug/L		126	75 - 120	4	21
1,1-Dichloroethane	0.39	J F1	5.00	6.65	F1	ug/L		125	80 - 120	2	15
2-Butanone (MEK)	ND	*+ F1	25.0	40.0	F1	ug/L		160	65 - 137	8	34

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

Lab Sample ID: 580-137138-20 MSD
Client Sample ID: MWA-31i(d)-022824
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 453327

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,2-Dichloropropane	ND		5.00	5.33		ug/L		107	66 - 126	1	22
cis-1,2-Dichloroethene	ND	F1	5.00	6.31	F1	ug/L		126	76 - 120	4	20
Chlorobromomethane	ND	*+ F1	5.00	6.85	F1	ug/L		137	78 - 120	2	13
1,1,1-Trichloroethane	ND		5.00	6.46		ug/L		129	74 - 130	4	19
Carbon tetrachloride	ND	F1	5.00	6.62	F1	ug/L		132	72 - 129	6	19
1,1-Dichloropropene	ND	F1	5.00	6.38	F1	ug/L		128	74 - 120	5	14
Benzene	ND	F1	5.00	6.47	F1	ug/L		129	80 - 122	4	14
1,2-Dichloroethane	ND	F1	5.00	6.41	F1	ug/L		128	69 - 126	6	11
Trichloroethene	ND		5.00	6.22		ug/L		124	80 - 125	5	13
1,2-Dichloropropane	ND	F1	5.00	6.08	F1	ug/L		122	80 - 120	2	14
4-Methyl-2-pentanone (MIBK)	ND	F1	25.0	47.3	F1	ug/L		189	59 - 141	17	22
Dibromomethane	ND	*+ F1	5.00	7.15	F1	ug/L		143	80 - 120	5	11
cis-1,3-Dichloropropene	ND		5.00	5.06		ug/L		101	77 - 120	6	35
Toluene	ND		5.00	5.24		ug/L		105	80 - 120	4	13
trans-1,3-Dichloropropene	ND	F1	5.00	6.22	F1	ug/L		124	76 - 122	3	20
1,1,2-Trichloroethane	ND	F1	5.00	6.46	F1	ug/L		129	80 - 121	7	14
Tetrachloroethene	ND		5.00	5.53		ug/L		111	76 - 125	5	13
1,3-Dichloropropane	ND	F1	5.00	6.30	F1	ug/L		126	79 - 120	6	19
Chlorodibromomethane	ND		5.00	6.18		ug/L		124	73 - 125	6	13
Ethylene Dibromide	ND	F1	5.00	6.81	F1	ug/L		136	79 - 126	11	12
Chlorobenzene	ND		5.00	5.82		ug/L		116	80 - 120	4	10
1,1,1,2-Tetrachloroethane	ND		5.00	5.53		ug/L		111	79 - 120	1	16
Ethylbenzene	ND		5.00	5.36		ug/L		107	80 - 120	2	14
m-Xylene & p-Xylene	ND		5.00	5.12		ug/L		102	80 - 120	3	14
o-Xylene	ND		5.00	5.16		ug/L		103	80 - 120	2	16
Styrene	ND	F1	5.00	ND	F1	ug/L		0	76 - 122	NC	16
Bromoform	ND		5.00	6.16		ug/L		123	56 - 139	8	21
Isopropylbenzene	ND		5.00	5.70		ug/L		114	80 - 123	4	19
Bromobenzene	ND		5.00	5.06		ug/L		101	80 - 120	3	24
1,1,2,2-Tetrachloroethane	ND	F1	5.00	6.61	F1	ug/L		132	74 - 124	9	25
1,2,3-Trichloropropane	ND	F1	5.00	6.96	F1	ug/L		139	76 - 124	12	26
N-Propylbenzene	ND		5.00	5.10		ug/L		102	80 - 122	3	22
2-Chlorotoluene	ND		5.00	4.97		ug/L		99	80 - 120	3	20
4-Chlorotoluene	ND		5.00	4.91		ug/L		98	73 - 129	2	29
tert-Butylbenzene	ND		5.00	4.88		ug/L		98	75 - 123	3	21
1,2,4-Trimethylbenzene	ND		5.00	4.80		ug/L		96	80 - 120	2	16
sec-Butylbenzene	ND		5.00	5.08		ug/L		102	78 - 122	3	15
4-Isopropyltoluene	ND		5.00	4.89		ug/L		98	77 - 126	4	20
1,3-Dichlorobenzene	ND		5.00	4.98		ug/L		100	77 - 127	3	35
1,4-Dichlorobenzene	ND		5.00	5.06		ug/L		101	80 - 120	5	17
n-Butylbenzene	ND		5.00	4.56		ug/L		91	57 - 133	2	14
1,2-Dichlorobenzene	ND		5.00	5.30		ug/L		106	80 - 120	5	15
1,2-Dibromo-3-Chloropropane	ND		5.00	6.08		ug/L		122	65 - 133	6	25
1,2,4-Trichlorobenzene	ND		5.00	4.86		ug/L		97	61 - 148	6	27
Hexachlorobutadiene	ND		5.00	4.62		ug/L		92	74 - 131	3	22
Naphthalene	ND		5.00	5.93		ug/L		119	63 - 150	7	33
1,2,3-Trichlorobenzene	ND		5.00	5.46		ug/L		109	65 - 150	5	33
1,3,5-Trimethylbenzene	ND	F1	5.00	ND	F1	ug/L		0	80 - 122	NC	21

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

Lab Sample ID: 580-137138-20 MSD
Matrix: Water
Analysis Batch: 453327

Client Sample ID: MWA-31i(d)-022824
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*116*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*

Lab Sample ID: MB 580-453701/7
Matrix: Water
Analysis Batch: 453701

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			03/13/24 12:42	1
Bromodichloromethane	ND		1.0	0.29	ug/L			03/13/24 12:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/13/24 12:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*03/13/24 12:42*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*03/13/24 12:42*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*03/13/24 12:42*	*1*

Lab Sample ID: LCS 580-453701/4
Matrix: Water
Analysis Batch: 453701

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	4.65		ug/L		93	78 - 127		
Bromodichloromethane			5.00	4.75		ug/L		95	75 - 124		

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

Lab Sample ID: LCSD 580-453701/5
Matrix: Water
Analysis Batch: 453701

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	4.64		ug/L		93	78 - 127	0	14
Bromodichloromethane			5.00	4.87		ug/L		97	75 - 124	2	13

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

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

Lab Sample ID: 580-137138-20 MS
Client Sample ID: MWA-31i(d)-022824
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 453701

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform - DL	66	F1	50.0	130	F1	ug/L		128	78 - 127
Bromodichloromethane - DL	ND		50.0	54.4		ug/L		109	75 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr) - DL	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr) - DL	*102*		*80 - 120*
4-Bromofluorobenzene (Surr) - DL	*102*		*80 - 120*
Dibromofluoromethane (Surr) - DL	*101*		*80 - 120*

Lab Sample ID: 580-137138-20 MSD
Client Sample ID: MWA-31i(d)-022824
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 453701

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloroform - DL	66	F1	50.0	126		ug/L		120	78 - 127	3	14
Bromodichloromethane - DL	ND		50.0	51.7		ug/L		103	75 - 124	5	13

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr) - DL	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr) - DL	*103*		*80 - 120*
4-Bromofluorobenzene (Surr) - DL	*102*		*80 - 120*
Dibromofluoromethane (Surr) - DL	*104*		*80 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-744615/5
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 744615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/05/24 13:59	1

Lab Sample ID: LCS 320-744615/6
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 744615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	49.9	54.2		ug/L		109	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 320-744615/4
Matrix: Water
Analysis Batch: 744615

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			3.99	4.88		ug/L		122	75 - 125		

Lab Sample ID: 580-137138-3 MS
Matrix: Water
Analysis Batch: 744615

Client Sample ID: PA-25d-022724
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	ND		49.9	50.5		ug/L		101	80 - 120		

Lab Sample ID: 580-137138-3 MSD
Matrix: Water
Analysis Batch: 744615

Client Sample ID: PA-25d-022724
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		49.9	51.6		ug/L		104	80 - 120	2	20

Lab Sample ID: MB 320-744855/5
Matrix: Water
Analysis Batch: 744855

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/06/24 14:13	1

Lab Sample ID: LCS 320-744855/6
Matrix: Water
Analysis Batch: 744855

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			49.9	52.6		ug/L		105	85 - 115		

Lab Sample ID: MRL 320-744855/4
Matrix: Water
Analysis Batch: 744855

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			3.99	4.62		ug/L		116	75 - 125		

Lab Sample ID: 580-137138-17 MS
Matrix: Water
Analysis Batch: 744855

Client Sample ID: PA-21d-022824
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	ND		250	259		ug/L		104	80 - 120		

Lab Sample ID: 580-137138-17 MSD
Matrix: Water
Analysis Batch: 744855

Client Sample ID: PA-21d-022824
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		250	256		ug/L		102	80 - 120	1	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-745060/5
Matrix: Water
Analysis Batch: 745060

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/07/24 12:26	1

Lab Sample ID: LCS 320-745060/6
Matrix: Water
Analysis Batch: 745060

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			49.9	53.6		ug/L		107	85 - 115		

Lab Sample ID: MRL 320-745060/4
Matrix: Water
Analysis Batch: 745060

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			3.99	4.77		ug/L		119	75 - 125		

Lab Sample ID: 580-137138-20 MS
Matrix: Water
Analysis Batch: 745060

Client Sample ID: MWA-31i(d)-022824
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	100000		99800	219000	E	ug/L		118	80 - 120		

Lab Sample ID: 580-137138-20 MSD
Matrix: Water
Analysis Batch: 745060

Client Sample ID: MWA-31i(d)-022824
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	100000		99800	221000	E	ug/L		120	80 - 120	1	20

Lab Sample ID: MB 320-746596/5
Matrix: Water
Analysis Batch: 746596

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			03/13/24 13:55	1

Lab Sample ID: LCS 320-746596/6
Matrix: Water
Analysis Batch: 746596

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			49.9	55.6		ug/L		111	85 - 115		

Lab Sample ID: MRL 320-746596/4
Matrix: Water
Analysis Batch: 746596

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			3.99	4.55		ug/L		114	75 - 125		

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: 580-137138-23 MS
Matrix: Water
Analysis Batch: 746596

Client Sample ID: MWA-56d-022824
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	16000		49900	68400		ug/L		106	80 - 120		

Lab Sample ID: 580-137138-23 MSD
Matrix: Water
Analysis Batch: 746596

Client Sample ID: MWA-56d-022824
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	16000		49900	67000		ug/L		103	80 - 120	2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-453923/3
Matrix: Water
Analysis Batch: 453923

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			03/14/24 08:59	1

Lab Sample ID: LCS 580-453923/4
Matrix: Water
Analysis Batch: 453923

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	52.2		mg/L		104	90 - 110

Lab Sample ID: LCSD 580-453923/5
Matrix: Water
Analysis Batch: 453923

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	52.2		mg/L		104	90 - 110	0	15

Lab Sample ID: MB 580-453946/3
Matrix: Water
Analysis Batch: 453946

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			03/14/24 21:38	1

Lab Sample ID: LCS 580-453946/4
Matrix: Water
Analysis Batch: 453946

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	52.3		mg/L		105	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 580-453946/5
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 453946

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			50.0	52.3		mg/L		105	90 - 110	0	15

Lab Sample ID: 580-137138-20 MS
Client Sample ID: MWA-31i(d)-022824
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 453946

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	26000		50000	78200		mg/L		104	90 - 110

Lab Sample ID: 580-137138-20 MSD
Client Sample ID: MWA-31i(d)-022824
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 453946

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	26000		50000	76700		mg/L		101	90 - 110	2	15

Client Sample ID: TB-022724
Lab Sample ID: 580-137138-1
Date Collected: 02/27/24 00:01
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/04/24 20:51

Client Sample ID: RB-01-022724
Lab Sample ID: 580-137138-2
Date Collected: 02/27/24 08:00
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/04/24 21:14
Total/NA	Analysis	314.0		1	744615	JCB	EET SAC	03/05/24 14:35
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/14/24 22:14

Client Sample ID: PA-25d-022724
Lab Sample ID: 580-137138-3
Date Collected: 02/27/24 08:44
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/04/24 23:10
Total/NA	Analysis	314.0		1	744615	JCB	EET SAC	03/05/24 14:52
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 08:08

Client Sample ID: PA-16i-022724
Lab Sample ID: 580-137138-4
Date Collected: 02/27/24 09:42
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/04/24 23:33
Total/NA	Analysis	314.0		10	744615	JCB	EET SAC	03/05/24 16:40
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 08:20

Client Sample ID: PA-23d-022724
Lab Sample ID: 580-137138-5
Date Collected: 02/27/24 10:47
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453269	JBT	EET SEA	03/07/24 04:11
Total/NA	Analysis	314.0		50	744615	JCB	EET SAC	03/05/24 17:51
Total/NA	Analysis	300.0		100	453946	CA	EET SEA	03/15/24 08:32

Client Sample ID: PA-24d-022724
Lab Sample ID: 580-137138-6
Date Collected: 02/27/24 11:49
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453269	JBT	EET SEA	03/07/24 04:34
Total/NA	Analysis	314.0		200	744615	JCB	EET SAC	03/05/24 18:09

Client Sample ID: PA-24d-022724
Lab Sample ID: 580-137138-6

Date Collected: 02/27/24 11:49
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1000	453946	CA	EET SEA	03/15/24 09:08

Client Sample ID: PA-22d-022724
Lab Sample ID: 580-137138-7

Date Collected: 02/27/24 12:52
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453269	JBT	EET SEA	03/07/24 04:57
Total/NA	Analysis	314.0		500	744615	JCB	EET SAC	03/05/24 18:27
Total/NA	Analysis	300.0		100	453946	CA	EET SEA	03/15/24 09:44

Client Sample ID: PA-27d-022724
Lab Sample ID: 580-137138-8

Date Collected: 02/27/24 07:22
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453269	JBT	EET SEA	03/07/24 05:21
Total/NA	Analysis	314.0		10	744615	JCB	EET SAC	03/05/24 15:46
Total/NA	Analysis	300.0		100	453946	CA	EET SEA	03/15/24 10:08

Client Sample ID: Dup-01-022724
Lab Sample ID: 580-137138-9

Date Collected: 02/27/24 08:22
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/04/24 23:57
Total/NA	Analysis	314.0		2	744615	JCB	EET SAC	03/05/24 16:04
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 10:31

Client Sample ID: PA-04-022724
Lab Sample ID: 580-137138-10

Date Collected: 02/27/24 08:21
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/05/24 00:20
Total/NA	Analysis	314.0		2	744615	JCB	EET SAC	03/05/24 16:22
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 10:43

Client Sample ID: PA-10i-022724
Lab Sample ID: 580-137138-11

Date Collected: 02/27/24 09:48
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/05/24 00:43
Total/NA	Analysis	8260D	RA	1	453269	JBT	EET SEA	03/07/24 03:48

Lab Chronicle

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Client Sample ID: PA-10i-022724
Lab Sample ID: 580-137138-11
Date Collected: 02/27/24 09:48
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	314.0		5	744615	JCB	EET SAC	03/05/24 17:33
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 10:55

Client Sample ID: PA-18d-022724
Lab Sample ID: 580-137138-12
Date Collected: 02/27/24 11:23
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453269	JBT	EET SEA	03/07/24 05:44
Total/NA	Analysis	314.0		10	744855	JCB	EET SAC	03/06/24 16:18
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 11:19

Client Sample ID: PA-31-022724
Lab Sample ID: 580-137138-13
Date Collected: 02/27/24 12:41
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/05/24 01:06
Total/NA	Analysis	314.0		1	744855	JCB	EET SAC	03/06/24 16:36
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 12:07

Client Sample ID: MWA-63-022724
Lab Sample ID: 580-137138-14
Date Collected: 02/27/24 14:00
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	453327	JBT	EET SEA	03/07/24 22:15
Total/NA	Analysis	314.0		1	744855	JCB	EET SAC	03/06/24 16:54
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 12:19

Client Sample ID: RB-02-022824
Lab Sample ID: 580-137138-15
Date Collected: 02/28/24 05:45
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453269	JBT	EET SEA	03/07/24 02:15
Total/NA	Analysis	314.0		1	744855	JCB	EET SAC	03/06/24 18:23
Total/NA	Analysis	300.0		1	453946	CA	EET SEA	03/15/24 12:31

Client Sample ID: PA-20d-022824
Lab Sample ID: 580-137138-16
Date Collected: 02/28/24 07:18
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453327	JBT	EET SEA	03/07/24 19:32

Client Sample ID: PA-20d-022824
Lab Sample ID: 580-137138-16

Date Collected: 02/28/24 07:18
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	314.0		5	744855	JCB	EET SAC	03/06/24 18:05
Total/NA	Analysis	300.0		100	453946	CA	EET SEA	03/15/24 12:43

Client Sample ID: PA-21d-022824
Lab Sample ID: 580-137138-17

Date Collected: 02/28/24 08:13
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	453327	JBT	EET SEA	03/07/24 23:48
Total/NA	Analysis	314.0		5	744855	JCB	EET SAC	03/06/24 14:48
Total/NA	Analysis	300.0		100	453946	CA	EET SEA	03/15/24 13:07

Client Sample ID: PA-19d-022824
Lab Sample ID: 580-137138-18

Date Collected: 02/28/24 09:20
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	453327	JBT	EET SEA	03/08/24 00:11
Total/NA	Analysis	314.0		5	744855	JCB	EET SAC	03/06/24 16:00
Total/NA	Analysis	300.0		10	453946	CA	EET SEA	03/15/24 13:42

Client Sample ID: PA-30d-022824
Lab Sample ID: 580-137138-19

Date Collected: 02/28/24 11:41
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	453327	JBT	EET SEA	03/08/24 00:34
Total/NA	Analysis	314.0		10	744855	JCB	EET SAC	03/06/24 15:42
Total/NA	Analysis	300.0		10	453923	CA	EET SEA	03/14/24 16:52

Client Sample ID: MWA-31i(d)-022824
Lab Sample ID: 580-137138-20

Date Collected: 02/28/24 07:45
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453327	JBT	EET SEA	03/07/24 20:19
Total/NA	Analysis	8260D		10	453449	K1K	EET SEA	03/09/24 01:36
Total/NA	Analysis	8260D	DL	10	453701	JBT	EET SEA	03/13/24 18:27
Total/NA	Analysis	314.0		2000	745060	JCB	EET SAC	03/07/24 15:43
Total/NA	Analysis	300.0		1000	453946	CA	EET SEA	03/15/24 14:30

Client Sample ID: MWA-58d-022824
Lab Sample ID: 580-137138-21
Date Collected: 02/28/24 09:16
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	453327	JBT	EET SEA	03/07/24 22:38
Total/NA	Analysis	314.0		1000	745060	JCB	EET SAC	03/07/24 16:36
Total/NA	Analysis	300.0		1000	453923	CA	EET SEA	03/14/24 17:16

Client Sample ID: Dup-02-022824
Lab Sample ID: 580-137138-22
Date Collected: 02/28/24 09:17
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453327	JBT	EET SEA	03/07/24 19:55
Total/NA	Analysis	8260D		10	453449	K1K	EET SEA	03/09/24 01:59
Total/NA	Analysis	8260D	DL	10	453701	JBT	EET SEA	03/13/24 18:50
Total/NA	Analysis	314.0		2000	746596	Y1S	EET SAC	03/13/24 14:47
Total/NA	Analysis	300.0		1000	453923	CA	EET SEA	03/14/24 17:39

Client Sample ID: MWA-56d-022824
Lab Sample ID: 580-137138-23
Date Collected: 02/28/24 10:45
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	453327	JBT	EET SEA	03/07/24 23:01
Total/NA	Analysis	314.0		1000	746596	Y1S	EET SAC	03/13/24 15:05
Total/NA	Analysis	300.0		1000	453923	CA	EET SEA	03/14/24 18:03

Client Sample ID: MWA-11i(d)-022824
Lab Sample ID: 580-137138-24
Date Collected: 02/28/24 11:53
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/05/24 01:30
Total/NA	Analysis	314.0		5	745060	JCB	EET SAC	03/07/24 17:30
Total/NA	Analysis	300.0		1000	453923	CA	EET SEA	03/14/24 18:27

Client Sample ID: PA-32i-022824
Lab Sample ID: 580-137138-25
Date Collected: 02/28/24 13:19
Matrix: Water
Date Received: 02/29/24 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	453018	K1K	EET SEA	03/05/24 01:53
Total/NA	Analysis	8260D	RA	1	453269	JBT	EET SEA	03/07/24 06:07
Total/NA	Analysis	314.0		10	744855	JCB	EET SAC	03/06/24 17:47
Total/NA	Analysis	300.0		100	453923	CA	EET SEA	03/14/24 19:15

Lab Chronicle

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Laboratory References:

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

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Laboratory: Eurofins Seattle

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

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

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25

Sample Summary

Client: ERM-West
Job ID: 580-137138-1
Project/Site: Arkema - Q1 2024 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-137138-1	TB-022724	Water	02/27/24 00:01	02/29/24 12:35
580-137138-2	RB-01-022724	Water	02/27/24 08:00	02/29/24 12:35
580-137138-3	PA-25d-022724	Water	02/27/24 08:44	02/29/24 12:35
580-137138-4	PA-16i-022724	Water	02/27/24 09:42	02/29/24 12:35
580-137138-5	PA-23d-022724	Water	02/27/24 10:47	02/29/24 12:35
580-137138-6	PA-24d-022724	Water	02/27/24 11:49	02/29/24 12:35
580-137138-7	PA-22d-022724	Water	02/27/24 12:52	02/29/24 12:35
580-137138-8	PA-27d-022724	Water	02/27/24 07:22	02/29/24 12:35
580-137138-9	Dup-01-022724	Water	02/27/24 08:22	02/29/24 12:35
580-137138-10	PA-04-022724	Water	02/27/24 08:21	02/29/24 12:35
580-137138-11	PA-10i-022724	Water	02/27/24 09:48	02/29/24 12:35
580-137138-12	PA-18d-022724	Water	02/27/24 11:23	02/29/24 12:35
580-137138-13	PA-31-022724	Water	02/27/24 12:41	02/29/24 12:35
580-137138-14	MWA-63-022724	Water	02/27/24 14:00	02/29/24 12:35
580-137138-15	RB-02-022824	Water	02/28/24 05:45	02/29/24 12:35
580-137138-16	PA-20d-022824	Water	02/28/24 07:18	02/29/24 12:35
580-137138-17	PA-21d-022824	Water	02/28/24 08:13	02/29/24 12:35
580-137138-18	PA-19d-022824	Water	02/28/24 09:20	02/29/24 12:35
580-137138-19	PA-30d-022824	Water	02/28/24 11:41	02/29/24 12:35
580-137138-20	MWA-31i(d)-022824	Water	02/28/24 07:45	02/29/24 12:35
580-137138-21	MWA-58d-022824	Water	02/28/24 09:16	02/29/24 12:35
580-137138-22	Dup-02-022824	Water	02/28/24 09:17	02/29/24 12:35
580-137138-23	MWA-56d-022824	Water	02/28/24 10:45	02/29/24 12:35
580-137138-24	MWA-11i(d)-022824	Water	02/28/24 11:53	02/29/24 12:35
580-137138-25	PA-32i-022824	Water	02/28/24 13:19	02/29/24 12:35

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

Chain of Custody Record

580-137138 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST/PV	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 3
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q1 2024 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N		
TB-022724	2/27/24		G	Water				X			2	
RB-01-022724		0800		Water				X	X	X	5	
PA-25d-022724		0844		Water				X	X	X	5	
PA-16i-022724		0942		Water				X	X	X	5	
PA-23d-022724		1047		Water			X		X	X	5	
PA-24d-022724		1149		Water			X		X	X	5	
PA-22d-022724		1252		Water			X		X	X	5	
PA-27d-022724		0722		Water			X		X	X	5	
Dup-01-022724		0822		Water			X	X	X	X	5	
PA-04-022724		0821					X	X	X	X	5	
PA-10i-022724		0948						X	X	X	5	

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		2/29/24 1150	ERM		2/29/24 1150	M.E
2		2/29/24 1235	M.E		2/29/24 1235	ERM
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.5 PDX 5C IR

Ver: 01/16/2019

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

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST / PV	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 3
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q1 2024 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil, Tissue, Air)	Field Filtered Sample (Yes or No)	MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	N			
PA-18d-022724	2/27/24	1123	G	Water			X		X	X		5	
PA-31-022724	↓	1241	↓	Water				X	X	X		5	
MWA-63-022724		1400		Water			X		X	X		5	
RB-02-022824	2/28/24	0545	G	Water			X		X	X		5	
PA-20d-022824		0718		Water			X		X	X		5	
PA-21d-022824		0813		Water			X		X	X		8	Dil VOC
PA-19d-022824		0920		Water			X		X	X		8	Dil VOC
PA-30d-022824		1141		Water			X		X	X		8	Dil VOC
MWA-31(d)-022824		0745		Water			X		X	X	X	15	
MWA-58d-022824		0916		Water			X		X	X		5	
Dup-02-022824	↓	0917	↓	↓			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:	Company	Received by:	Date/Time:	Company
1		2/29/24	ERM		2/29/24 1150	M.E
2		2/29/24 1235	M.E		2/29/24 1235	
3						

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

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

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST/PV	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 3 of 3
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q1 2024 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Wwater, Ssolid, Owaste/oil, BTeTissue, AeAir)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	N		
MWA-56d-022824	2/28/24	1045	G	Water			X		X	X	5	
MWA-111(d)-022824	↓	1153	↓	Water				X	X	X	5	
PA-32i-022824	↓	1319	↓	Water				X	X	X	5	
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								

Preservation Codes:

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

Other:

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		2/29/24 1150	ERM		2/29/24 1150	M.E
2	Relinquished by:	Date/Time: 2/29/24 1235	Company	Received by:	Date/Time: 2/29/24 1235	Company EGR
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

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

Chain of Custody Record

580-137138 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST/PV	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 3
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q1 2024 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Therm. ID: IR11 Cor: 2.5 ° Unc: 2.7 °
Cooler Dsc: Lrg BLU
Packing: bub
Cust. Seal: Yes ✓ No ____
Blue Ice, Wet, Dry, None
FedEx: PO
UPS: ____
Lab Cour: ____
Other: ____

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	A	A	N	N	X	
TB-022724	2/27/24		G	Water				X			2	
RB-01-022724		0800		Water				X	X	X	5	
PA-25d-022724		0844		Water				X	X	X	5	
PA-16i-022724		0942		Water				X	X	X	5	
PA-23d-022724		1047		Water			X		X	X	5	
PA-24d-022724		1149		Water			X		X	X	5	
PA-22d-022724		1252		Water			X		X	X	5	
PA-27d-022724		0722		Water			X		X	X	5	
Dup-01-022724		0822		Water			X	X	X	X	5	
PA-04-022724		0821		Water			X		X	X	5	
PA-10i-022724		0948						X	X	X	5	

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		2/29/24 1150	ERM		2/29/24 1150	M.E
2		2/29/24 1235	M.E		2/29/24 1235	EETN
3		2/29/24 1700	EETN		03/01/24 0925	EETN

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.5 PDX 5C IR

Ver: 01/16/2019

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

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST / PV	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 3
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q1 2024 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Therm. ID: IR11 Cor: 2.5 ° Unc: 2.4 °
Cooler Dsc: Lg BLU
Packing: Bub
Cust. Seal: Yes ___ No ___
Blue Ice, Wet, Dry, None
FedEx: PC
UPS:
Lab Cour:
Other:

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	N			
PA-18d-022724	2/27/24	1123	G	Water			X		X	X		5	
PA-31-022724	↓	1241	↓	Water				X	X	X		5	
MWA-63-022724	↓	1400	↓	Water			X		X	X		5	
RB-02-022824	2/28/24	0545	G	Water			X		X	X		5	
PA-20d-022824	↓	0718	↓	Water			X		X	X		5	
PA-21d-022824	↓	0813	↓	Water			X		X	X		8	Dil VOC
PA-19d-022824	↓	0920	↓	Water			X		X	X		8	Dil VOC
PA-30d-022824	↓	1141	↓	Water			X		X	X		8	Dil VOC
MWA-31i(d)-022824	↓	0745	↓	Water			X		X	X	X	15	
MWA-58d-022824	↓	0916	↓	↓			X		X	X		5	
DUP-02-022824	↓	0917	↓	↓			X		X	X		5	

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

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

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

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 2/29/24	Company: ERM	Received by: Date/Time: 2/29/24 1150 Company: M.E
Relinquished by:	Date/Time: 2/29/24 1235	Company: M.E	Received by: Date/Time: 2/29/24 1235 Company: EEN
Relinquished by:	Date/Time: 2/29/24 1700	Company: EEN	Received by: Date/Time: 03/01/24 0925 Company: EETN
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

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

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST / PV	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 3 of 3
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q1 2024 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	A	A	N	N	X	
MW A-56d-022824	2/28/24	1045	G	Water			X		X	X	5	
MW A-111(d)-022824	↓	1153	↓	Water				X	X	X	5	
PA-32i-022824	↓	1319	↓	Water				X	X	X	5	
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								

Therm. ID: IR 11 Cor: 2.5 ° Unc: 2.4 °
Cooler Dsc: LG BLV
Packing: bub
FedEx: PO
UPS:
Cust. Seal: Yes ✓ No
Lab Cour:
Blue Ice, Wet, Dry, None
Other:

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		2/29/24 1150	ERM		2/29/24 1150	M.E
2		2/29/24 1235			2/29/24 1235	EGR
3		2/29/24 1700	EGR		03/01/24 0925	EETN

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

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-137138-1

Login Number: 137138

List Source: Eurofins Seattle

List Number: 1

Creator: Yee, Riley

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-137138-1

Login Number: 137138
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 03/01/24 03:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
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	1.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX C DATA VALIDATION MEMOS

1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

T +1 503 488 5282

erm.com

MEMO

TO	Sarah Seekins
FROM	Tyler Lucas and Rachel James
DATE	20 May 2024
REFERENCE	0726697
SUBJECT	Revised Data Review of Arkema First Quarter 2024 Groundwater Samples: Eurofins Data Packages: 580-137038-1 Rev(1) and 580-137138-1.

The data quality was assessed, and any necessary qualifiers were applied following the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, November 2020 and *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review*, November 2020. Field duplicates were assessed following *Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures*, September 2020.

MEMO REVISION 1

This memorandum was revised to correct a sample ID in Table 1.

LABORATORY REPORT REVISION

Data package 580-137038-1 Rev(1) was revised to complete a comment in the case narrative section.

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method-prescribed time period from the date of collection. The sample shipments were received at the laboratory within the method-prescribed temperature preservation requirements of less than six degrees Celsius. No qualifications were necessary.

CONTINUING CALIBRATION VERIFICATION EVALUATION

The continuing calibration verification (CCV) recoveries were within the laboratory's limits of acceptance, with the exceptions presented in Table 1. The laboratory noted the assigned bias for each analyte that was not within acceptance criteria. No qualification was necessary when a high bias was paired with a non-detect result, but when paired with a detect was qualified as an estimate with a high bias (J+), with the exception of bromoform results which were qualified as non-detected (U) at the reporting limit (RL) due to additional laboratory contamination. When the laboratory noted a low bias, the associated samples were qualified as estimates (J- for detects, UJ for non-detects).

BLANK EVALUATION

The method, rinse, and trip blank sample results were non-detected for each of the target analytes, with the exceptions presented in Tables 2 and 3. Non-detect results or results greater than five times that of the blank samples were considered not affected by the blank contamination and were not qualified. Associated sample results less than the report limit (RL) were qualified as non-detect (U) at the RL.

BLANK SPIKE EVALUATION

The laboratory control sample and laboratory control sample duplicate recoveries and relative percent differences (RPDs) were within the laboratory's limits of acceptance, with the exceptions noted in Table 4. No data were qualified if an outlier could be verified by another in-control recovery or if high LCS/LCSD recoveries were associated with non-detect sample results. Bromoform results associated with high LCS/LCSD recoveries were qualified as non-detect (U) at the RL due to additional laboratory contamination.

MATRIX SPIKE EVALUATION

The matrix spike (MS) and matrix spike duplicate (MSD) recoveries and RPDs were within the laboratory's limits of acceptance for samples prepared from project samples, with the exceptions presented in Table 5. No data were qualified if the outlier could be verified by an in-control result or if a high recovery was associated with a non-detected result. High MS/MSD recoveries associated with detect results were qualified as estimates with a high bias (J+).

The styrene and 1,3,5-trimethylbenzene recovery was very low (0%) in MS/MSD parent sample MWA-31i(d)-022824. However, the non-detect results were consistent with historical data and the results were not rejected and instead qualified as estimates (UJ).

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits. No qualifications were required based on surrogate recoveries. The surrogate recoveries indicate minimal matrix interference in the samples.

FIELD DUPLICATE EVALUATION

Two samples were submitted in duplicate. ERM calculated the differences or RPDs between detected results presented in Table 6. An RPD control limit of 30 was used when both the sample and the field duplicate results were greater than or equal to five times the RL. A control limit of ± two times the reporting limit was used when at least one of the results was less than five times the RL. The control limits were not applicable when both results were below the RLs. All analytes in the parent sample/field duplicate pairs met the control limits.

OVERALL ASSESSMENT

None of the data required rejection. All the data, including qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated

during this investigation is acceptable for the preparation of technically defensible documents.

Table 1
Calibration Verification Outside of Acceptable Limits
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	ICV/CCV Sample ID	Analyte	ICV/CCV (%)	ICV/CCV RRF	Limits	Associated Sample	Result	Units	ERM Qualifier
580-137038-1 Rev(1)	CCV 580-452860	Trichloroethene	High	--	NR	None for qualification, sample ND	--	--	--
		Dichlorodifluoromethane	Low	--	NR	PA-17iR-022624	ND	µg/L	UJ
	CCV 580-452739	Acetone	High	--	NR	None for qualification, samples ND	--	--	--
		2-Butanone (MEK)	High	--	NR	None for qualification, samples ND	--	--	--
		trans-1,3-Dichloropropene	High	--	NR	None for qualification, samples ND	--	--	--
		Chlorodibromomethane	High	--	NR	None for qualification, samples ND	--	--	--
		Bromoform	High	--	NR	MWA-82-022524	0.35	µg/L	0.50 U[1]
						PA-03-022624	0.38	µg/L	0.50 U[1]
						PA-08-022624	0.34	µg/L	0.50 U[1]
						PA-15I-022624	0.34	µg/L	0.50 U[1]
		Dichlorodifluoromethane	Low	--	NR	TB-022524	ND	µg/L	UJ
						MWA-82-022524	ND	µg/L	UJ
						PA-44i-022524	ND	µg/L	UJ
						MWA-41-022624	ND	µg/L	UJ
						MWA-81i-022624	ND	µg/L	UJ
						PA-15i-022624	ND	µg/L	UJ
						PA-26d-022624	ND	µg/L	UJ
						PA-09-022624	ND	µg/L	UJ
						PA-08-022624	ND	µg/L	UJ
						PA-03-022624	ND	µg/L	UJ
		Chloromethane	Low	--	NR	TB-022524	ND	µg/L	UJ
						MWA-82-022524	ND	µg/L	UJ
						PA-44i-022524	ND	µg/L	UJ
						MWA-41-022624	ND	µg/L	UJ
						MWA-81i-022624	ND	µg/L	UJ
						PA-15i-022624	ND	µg/L	UJ
						PA-26d-022624	ND	µg/L	UJ
						PA-09-022624	0.16	µg/L	J-

Table 1
Calibration Verification Outside of Acceptable Limits
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	ICV/CCV Sample ID	Analyte	ICV/CCV (%)	ICV/CCV RRF	Limits	Associated Sample	Result	Units	ERM Qualifier
580-137038-1 Rev(1)	CCV 580-452739	Chloromethane	Low	--	NR	PA-08-022624	ND	µg/L	UJ
						PA-03-022624	ND	µg/L	UJ
580-137138-1	CCVIS 580-453327/3	Carbon disulfide	High	--	NR	None for qualification, samples ND	--	--	--
		1,1-Dichloroethene	High	--	NR	None for qualification, samples ND	--	--	--
		Acetone	High	--	NR	None for qualification, samples ND	--	--	--
		Methyl tert-butyl ether	High	--	NR	None for qualification, samples ND	--	--	--
		2-Butanone (MEK)	High	--	NR	None for qualification, samples ND	--	--	--
		4-Methyl-2-pentanone (MIBK)	High	--	NR	None for qualification, samples ND	--	--	--
		Dibromomethane	High	--	NR	None for qualification, samples ND	--	--	--
		Bromodichloromethane	High	--	NR	None for qualification, samples ND	--	--	--
		trans-1,3-Dichloropropene	High	--	NR	None for qualification, samples ND	--	--	--
		Ethylene Dibromide	High	--	NR	None for qualification, samples ND	--	--	--
		Bromoform	High	--	NR	None for qualification, samples ND	--	--	--
	CCVIS 580-453449/3	Dichlorobromomethane	High	--	NR	None for qualification, samples ND	--	--	--
580-137138-1	CCVIS 580-453018/3	Vinyl chloride	Low	--	NR	DUP-01-022724	ND	µg/L	UJ
						MWA-11I(D)-022824	ND	µg/L	UJ
						PA-04-022724	ND	µg/L	UJ
						PA-16I-022724	ND	µg/L	UJ
						PA-25D-022724	ND	µg/L	UJ
						PA-31-022724	ND	µg/L	UJ
						RB-01-022724	ND	µg/L	UJ
						TB-022724	ND	µg/L	UJ

Table 1
Calibration Verification Outside of Acceptable Limits
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	ICV/CCV Sample ID	Analyte	ICV/CCV (%)	ICV/CCV RRF	Limits	Associated Sample	Result	Units	ERM Qualifier
580-137138-1	CCVIS 580-453018/3	Chloroethane	Low	--	NR	DUP-01-022724	ND	µg/L	UJ
						MWA-11I(D)-022824	ND	µg/L	UJ
						PA-04-022724	ND	µg/L	UJ
						PA-16I-022724	ND	µg/L	UJ
						PA-25D-022724	ND	µg/L	UJ
						PA-31-022724	ND	µg/L	UJ
						RB-01-022724	ND	µg/L	UJ
						TB-022724	ND	µg/L	UJ
		Trichlorofluoromethane	Low	--	NR	DUP-01-022724	ND	µg/L	UJ
						MWA-11I(D)-022824	ND	µg/L	UJ
						PA-04-022724	ND	µg/L	UJ
						PA-16I-022724	ND	µg/L	UJ
						PA-25D-022724	ND	µg/L	UJ
						PA-31-022724	ND	µg/L	UJ
						RB-01-022724	ND	µg/L	UJ
						TB-022724	ND	µg/L	UJ

Notes:
-- = not applicable; associated data not affected
1 = qualified as non-detect due to additional blank contamination
CCV = continuing calibration verification
High = recovery above maximum acceptable limit
ICV = initial calibration verification
J- = detected results are estimated with a low bias
J+ = detected results are estimated with a high bias
Low = recovery below minimum acceptable limit
µg/L = micrograms per liter
ND = not detected
NR = not reported
RRF = relative response factor
r^2 = correlation coefficient
U = non-detected
UJ = non-detected, estimated report limit

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

Lab Package	Blank ID	Analyte	Reported Blank Conc.	Blank RL	Associated Sample	Assoc. Sample Result	Assoc. Sample RL	Units	ERM Qualifier
580-137038-1 Rev(1)	MB 580-452739/7	Bromoform	0.364	0.50	MWA-82-022524	0.35	0.50	µg/L	0.50 U
					PA-15i-022624	0.34	0.50	µg/L	0.50 U
					PA-08-022624	0.34	0.50	µg/L	0.50 U
					PA-03-022624	0.38	0.50	µg/L	0.50 U
		1,2,4-Trichlorobenzene	0.221	0.50	None for qualification, samples ND	--	--	µg/L	--
		Hexachlorobutadiene	0.262	0.50		--	--	µg/L	--
		Naphthalene	0.226	1.0		--	--	µg/L	--
		1,2,3-Trichlorobenzene	0.352	0.50		--	--	µg/L	--
570-137138-1	MB 580-453018/7	Methylene Chloride	1.28	5.0	None for qualification, samples ND	--	--	--	--

Notes:
-- = not applicable; associated data not affected
Conc. = concentration
MB = method blank
µg/L = micrograms per liter
RL = reporting limit
U = non-detected

Table 3
Field Blank and Associated Suspect Sample Detections
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Analyte	Reported Blank Conc.	Blank RL	Associated Sample	Assoc. Sample Result	Assoc. Sample RL	Units	ERM Qualifier
580-137038-1 Rev(1)	TB-022524	Chlorobenzene	0.082	0.20	PA-03-022624	0.065	0.20	µg/L	0.20 U
580-137138-1	TB-022724	1,2-Dichloroethane	0.069	0.20	Dup-01-022724	0.068	0.20	µg/L	0.20 U
					PA-31-022724	0.066	0.20	µg/L	0.20 U
					MWA-11i(d)-022824	0.074	0.20	µg/L	0.20 U
					PA-32i-022824	0.076	0.20	µg/L	0.20 U
					RB-01-022724	0.064	0.20	µg/L	0.20 U

Notes:
Conc. = concentration
µg/L = micrograms per liter
RB = rinse blank
RL = reporting limit
U = non-detected
TB = trip blank

Table 4
Laboratory Control Spike Recoveries Outside of Acceptable Limits
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-137038-1 Rev(1)	LCS 580-452739/4 LCSD 580-452739/5	None for qualification, samples ND	Chlorodibromomethane	150/147	62-141	2	22	--	--	--
		MWA-82-022524	Bromoform	176/167	48-127	5	23	0.35	µg/L	0.50 U[1]
		PA-15i-022624						0.34	µg/L	0.50 U[1]
		PA-08-022624						0.34	µg/L	0.50 U[1]
		PA-03-022624						0.38	µg/L	0.50 U[1]
		None for qualification, samples ND	1,2-Dibromo-3-Chloropropane	153/141	55-135	8	29	--	--	--
		None for qualification, LCSD %R passes	1,2,4-Trichlorobenzene	131/128	60-130	2	26	--	--	--
		None for qualification, samples ND	Hexachlorobutadiene	149/138	63-130	8	26	--	--	--
		None for qualification, LCSD %R passes	1,2,3-Trichlorobenzene	138/132	60-136	5	28	--	--	--
	LCS 580-452860/4 LCSD 580-452860/5	None for qualification, LCSD %R passes	Trichloroethene	121/111	72-120	8	22	--	--	--
580-137138-1	LCS 580-453018/4 LCSD 580-453018/5	None for qualification, LCSD %R passes	Chlorobromomethane	124/119	79-121	4	20	--	--	--
		None for qualification, LCSD %R passes	Chloroform	123/119	75-120	4	21	--	--	--
		None for qualification, LCSD %R passes	Trichloroethene	122/120	72-120	2	22	--	--	--
	LCS 580-453269/4 LCSD 580-453269/5	None for qualification, LCS %R passes	Dibromomethane	116/121	80-120	4	11	--	--	--
		None for qualification, LCS %R passes	trans-1,3-Dichloropropene	119/123	76-122	3	20	--	--	--

Table 4
Laboratory Control Spike Recoveries Outside of Acceptable Limits
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-137138-1	LCS 580-453327/4 LCSD 580-453327/5	None for qualification, samples ND	Methyl tert-butyl ether	126/124	72-120	1	18	--	--	--
		None for qualification, samples ND	2-Butanone (MEK)	138/142	65-137	3	34	--	--	--
		None for qualification, LCSD %R passes	Chlorobromomethane	121/120	78-120	1	13	--	--	--
		None for qualification, samples ND	Dibromomethane	121/123	80-120	1	11	--	--	--

Notes:
-- = not applicable; associated data not affected
1 = qualified as non-detect due to additional blank contamination
LCS = laboratory control sample
LCSD = laboratory control sample duplicate
µg/L = micrograms per liter
ND = not detected
%R = percent recovery
RPD = relative percent difference
U = non-detected

Table 5
Matrix Spike Recoveries Outside of Acceptable Limits
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-137038-1 Rev(1)	PA-17iR-022624 MS/MSD	None for qualification, sample ND	Chloroethane	153/173	54-140	12	33	--	--	--
		None for qualification, MS %R passes	Trichloroethene	119/122	72-120	3	22	--	--	--
		None for qualification, MSD %R passes	cis-1,3-Dichloropropene	75/78	77-131	4	24	--	--	--
580-137138-1	MWA-31i(d)-022824 MS/MSD	None for qualification, sample ND	1,1-Dichloroethene	132/133	70-129	1	23	--	--	--
		None for qualification, sample ND	Acetone	145/163	44-150	11	33	--	--	--
		None for qualification, MS %R passes	Methylene Chloride	120/128	77-125	5	18	--	--	--
		None for qualification, sample ND	Methyl tert-butyl ether	138/148	72-120	7	18	--	--	--
		None for qualification, sample ND	trans-1,2-Dichloroethene	122/126	75-120	4	21	--	--	--
		MWA-31i(d)-022824	1,1-Dichloroethane	123/125	80-120	2	15	0.39	µg/L	J+
		None for qualification, sample ND	2-Butanone (MEK)	148/160	65-137	8	34	--	--	--
		None for qualification, sample ND	cis-1,2-Dichloroethene	122/126	76-120	4	20	--	--	--
		None for qualification, sample ND	Chlorobromomethane	134/137	78-120	2	13	--	--	--
		None for qualification, MS %R passes	Carbon tetrachloride	124/132	72-129	6	19	--	--	--
		None for qualification, sample ND	1,1-Dichloropropene	122/128	74-120	5	14	--	--	--
		None for qualification, sample ND	Benzene	124/129	80-122	4	14	--	--	--
		None for qualification, MS %R passes	1,2-Dichloroethane	121/128	69-126	6	11	--	--	--
		None for qualification, MS %R passes	1,2-Dichloropropane	119/122	80-120	2	14	--	--	--

Table 5
Matrix Spike Recoveries Outside of Acceptable Limits
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-137138-1	MWA-31i(d)-022824 MS/MSD	None for qualification, sample ND	4-Methyl-2-pentanone (MIBK)	159/189	59-141	17	22	--	--	--
		None for qualification, sample ND	Dibromomethane	136/143	80-120	5	11	--	--	--
		None for qualification, MS %R passes	trans-1,3-Dichloropropene	121/124	76-122	3	20	--	--	--
		None for qualification, MS %R passes	1,1,2-Trichloroethane	121/129	80-121	7	14	--	--	--
		None for qualification, MS %R passes	1,3-Dichloropropane	119/126	79-120	6	19	--	--	--
		None for qualification, MS %R passes	Ethylene Dibromide	122/136	79-126	11	12	--	--	--
		MWA-31i(d)-022824	Styrene	0/0	76-122	NC	16	ND	µg/L	UJ
		None for qualification, MS %R passes	1,1,2,2-Tetrachloroethane	121/132	74-124	9	25	--	--	--
		None for qualification, MS %R passes	1,2,3-Trichloropropane	124/139	76-124	12	26	--	--	--
		MWA-31i(d)-022824	1,3,5-Trimethylbenzene	0/0	80-122	NC	21	ND	µg/L	UJ
	MWA-31i(d)-022824 MS/MSD (Dilution)	None for qualification, MSD %R passes	Chloroform	130/126	78-127	3	14	--	--	--

Notes:
-- = not applicable; associated data not affected
J+ = detected results are estimated with a high bias
MS = matrix spike
MSD = matrix spike duplicate
µg/L = micrograms per liter
NC = not calculated
ND = not detected
RPD = relative percent difference
UJ = non-detected, estimated report limit

Table 6
Field Duplicate Evaluation
First Quarter 2024 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Primary / Duplicate Sample ID	Analyte	Concentration		Report Limit		Units	AbD	RPD	Limit	ERM Qualifier
			Sample	Duplicate	Sample	Duplicate					
580-137138-1	PA-04-022724 Dup-01-022724	1,1-Dichloroethene	0.20	0.16	0.20	0.20	µg/L	--	--	--	--
		1,1-Dichloroethane	0.23	0.21	0.20	0.20	µg/L	0.02	--	0.40	--
		Chloroform	0.042	0.039	0.20	0.20	µg/L	--	--	--	--
		1,1,1-Trichloroethane	0.029	0.032	0.20	0.20	µg/L	--	--	--	--
		Benzene	0.033	0.068	0.20	0.20	µg/L	--	--	--	--
		Tetrachloroethene	0.13	0.12	0.24	0.24	µg/L	--	--	--	--
		Chloride	5.3	5.3	1.5	1.5	mg/L	0.0	--	3.0	--
	MWA-58d-022824 Dup-02-022824	Chloroform	190	150	10	10	µg/L	--	24	30	--
		Methylene Chloride	ND	1.5	50	5.0	µg/L	--	--	--	--
		1,1-Dichloroethane	ND	0.22	10	1.0	µg/L	--	--	--	--
		Benzene	ND	0.28	10	1.0	µg/L	--	--	--	--
		Trichloroethene	ND	0.26	10	1.0	µg/L	--	--	--	--
		Chlorodibromomethane	ND	0.44	10	1.0	µg/L	--	--	--	--
		Perchlorate	50000	49000	4000	8000	µg/L	--	2.0	30	--
		Chloride	19000	20000	1500	1500	mg/L	--	5.1	30	--

Notes:
-- = not applicable; associated data not affected
AbD = absolute difference
µg/L = micrograms per liter
mg/L = milligrams per liter
ND = not detected
RPD = relative percent difference

APPENDIX D PRIOR GROUNDWATER MONITORING PROGRAM DATA TABLES AND GRAPHS

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 1, 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-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-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**

Appendix D
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Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
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	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-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*
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*

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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-04-121223	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-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-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-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*

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Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
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*
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*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-061323	06/13/2023	**27,000**	*< 0.060*	*< 2.0*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-082123	08/21/2023	**19,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-121023	12/10/2023	**39,000**	*< 0.20 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-022624	02/26/2024	**23,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-102519	10/25/2019	**119,000**	*< 0.44 U*	*< 4.8 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-021720	02/17/2020	**98,600**	**0.52**	*< 48 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-052620	05/26/2020	**82,000**	**0.51**	*< 48 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-081920	08/19/2020	**67,000**	**0.52**	*< 95 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-102920	10/29/2020	**82,000**	**0.70**	*< 4.8 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-032421	03/24/2021	**1,300,000**	*< 0.44 U*	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-092221	09/22/2021	**76,000**	**0.67**	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-121321	12/13/2021	**72,000**	**0.65**	*< 20*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-031722	03/17/2022	**90,000**	*< 0.060 U*	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-060822	06/08/2022	**84,000**	**0.37 j**	*< 2.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-110922	11/09/2022	**45,000**	**1.5**	*< 10 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-030823	03/08/2023	**41,000**	**5.7**	*< 10 UJ*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
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-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-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-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*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
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-32i	GCC1 & Proximal Wells	PA-32i-103019	10/30/2019	**161,000**	*< 0.44 U*	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-021820	02/18/2020	**170,000**	**0.50 J+**	*< 190 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-052220	05/22/2020	**160,000**	**0.28**	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-082120	08/21/2020	**150,000 J+**	**0.30**	*< 95 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-110220	11/02/2020	**170,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-040121	04/01/2021	**130,000**	**0.43**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-092321	09/23/2021	**100,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-121521	12/15/2021	**93,000**	**0.29**	*< 20*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-031522	03/15/2022	**89,000 J-**	**0.28 J+**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-060922	06/09/2022	**87,000**	*< 0.70 U*	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-110822	11/08/2022	**75,000 J-**	**0.28**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-030723	03/07/2023	**83,000 j**	*< 0.060 U*	*< 20 UJ*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-061623	06/16/2023	**31,000**	*< 0.29 U*	*< 40*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-082423	08/24/2023	**71,000**	**0.13 j**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-121323	12/13/2023	**32,000**	**0.15 j**	*< 4.0 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-022824	02/28/2024	**7,600,000**	**0.29**	*< 20 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**

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
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*
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-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-56d	GCC4 & Proximal Wells	MWA-56D-102419	10/24/2019	**20,100,000**	*< 0.44 U*	**3,300**

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-021420	02/14/2020	**22,300,000**	*< 2.0 U*	**3,500**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-052120	05/21/2020	**21,000,000**	*< 0.44 U*	**5,700**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-082020	08/20/2020	**24,000,000**	*< 0.44 U*	**6,400**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-102920	10/29/2020	**22,000,000**	*< 0.44 U*	**7,100**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-032521	03/25/2021	**26,000,000**	*< 4.4 U*	**6,500**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-092421	09/24/2021	**21,000,000**	*< 0.44 U*	**8,100**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-121621	12/16/2021	**18,000,000**	*< 0.44*	**8,400**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-031722	03/17/2022	**19,000,000**	*< 0.44 U*	**9,200**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-060822	06/08/2022	**18,000,000**	*< 0.30 U*	**11,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-110922	11/09/2022	**15,000,000**	*< 0.44 U*	**12,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-030923	03/09/2023	**16,000,000**	*< 0.44 U*	**15,000 J-**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-061523	06/15/2023	**15,000,000**	*< 4.4*	**13,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-082323	08/23/2023	**14,000,000**	*< 4.4 U*	**14,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-121223	12/12/2023	**14,000,000**	*< 4.4 U*	**14,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-022824	02/28/2024	**14,000,000**	*< 4.4 U*	**16,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-102519	10/25/2019	**18,900,000**	*< 0.44 U*	**61,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-021320	02/13/2020	**21,100,000**	*< 0.44 U*	**49,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-052120	05/21/2020	**19,000,000**	*< 0.44 U*	**46,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-082020	08/20/2020	**20,000,000**	*< 0.44 U*	**45,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-102920	10/29/2020	**20,000,000**	*< 0.44 U*	**44,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-032621	03/26/2021	**29,000,000 J-**	*< 0.44 U*	**43,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-092421	09/24/2021	**23,000,000**	*< 0.44 U*	**43,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-121621	12/16/2021	**23,000,000**	*< 4.4*	**38,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-031722	03/17/2022	**26,000,000**	*< 4.4 U*	**44,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-060822	06/08/2022	**23,000,000**	*< 0.30 U*	**47,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-110922	11/09/2022	**19,000,000**	*< 0.44 UJ*	**49,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-030923	03/09/2023	**22,000,000**	*< 2.2 U*	**49,000 J-**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-061523	06/15/2023	**19,000,000**	*< 2.2*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-082323	08/23/2023	**20,000,000**	*< 2.2 U*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-121223	12/12/2023	**19,000,000**	*< 2.2 U*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-022824	02/28/2024	**19,000,000**	*< 4.4 U*	**50,000**
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-032921	03/29/2021	**110,000**	**81**	*< 20 U*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-030923	03/09/2023	**50,000**	*< 0.44 U*	*< 20 UJ*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-061623	06/16/2023	**27,000 J-**	*< 0.44*	*< 40*
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-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*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
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-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-21d	GCC3	Pa-21d-110719	11/07/2019	**347,000**	**27,000**	**2,400**
Deep	PA-21d	GCC3	Pa-21d-022620	02/26/2020	**463,000**	**38,000**	**1,300**
Deep	PA-21d	GCC3	PA-21D-052120	05/21/2020	**420,000**	**49,000 J**	**1,200**
Deep	PA-21d	GCC3	PA-21D-082520	08/25/2020	**360,000**	**36,000**	**1,300**
Deep	PA-21d	GCC3	PA-21d-110420	11/04/2020	**370,000**	**40,000 J+**	**1,300**
Deep	PA-21d	GCC3	PA-21D-040121	04/01/2021	**430,000**	**47,000**	*< 20 U*
Deep	PA-21d	GCC3	PA-21D-092421	09/24/2021	**350,000**	**39,000 J**	**1,800**
Deep	PA-21d	GCC3	PA-21D-121521	12/15/2021	**320,000**	**49,000 J**	**1,200**
Deep	PA-21d	GCC3	PA-21D-031722	03/17/2022	**360,000**	**16,000**	**1,100**

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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-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-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-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*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
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-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*
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-26d	GCC6 & Proximal Wells	PA-26d-110419	11/04/2019	**7,400**	*< 0.44 U*	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	Pa-26d-021320	02/13/2020	**46,000**	**0.71**	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-051820	05/18/2020	**48,000**	*< 0.025 U*	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-081920	08/19/2020	**48,000**	*< 0.025 U*	*< 9.5 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-102820	10/28/2020	**52,000**	*< 0.025 U*	**1.1 j**
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-031621	03/16/2021	**37,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-092321	09/23/2021	**60,000**	*< 0.025 U*	*< 2.0 U*

Appendix D
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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
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-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-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*

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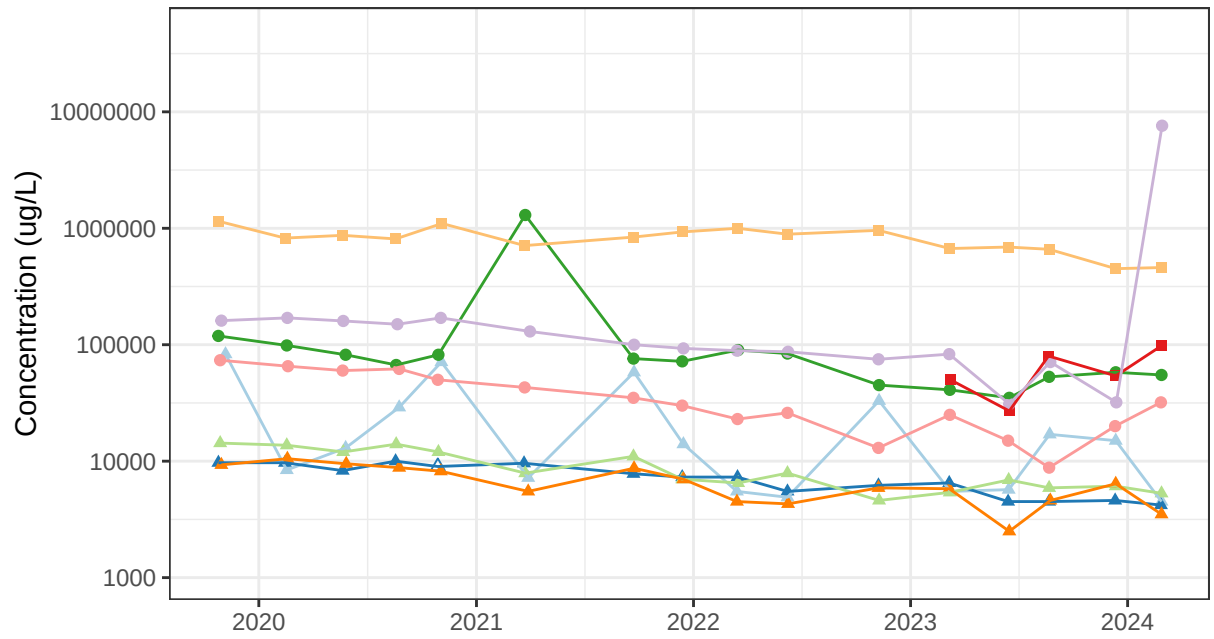
Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Deep	PA-30d	GCC2	PA-30D-121323	12/13/2023	**320,000**	**22,000**	*< 10 U*
Deep	PA-30d	GCC2	PA-30D-022824	02/28/2024	**370,000**	**18,000**	*< 20 U*

Notes:
Bolded values indicate concentrations above the Reportable Detection Limit.
< = Compound not detected. Reportable detection limit shown.
µg/L = micrograms per liter

Qualifiers:
j = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
U = Compound not detected based on quality assurance review.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).

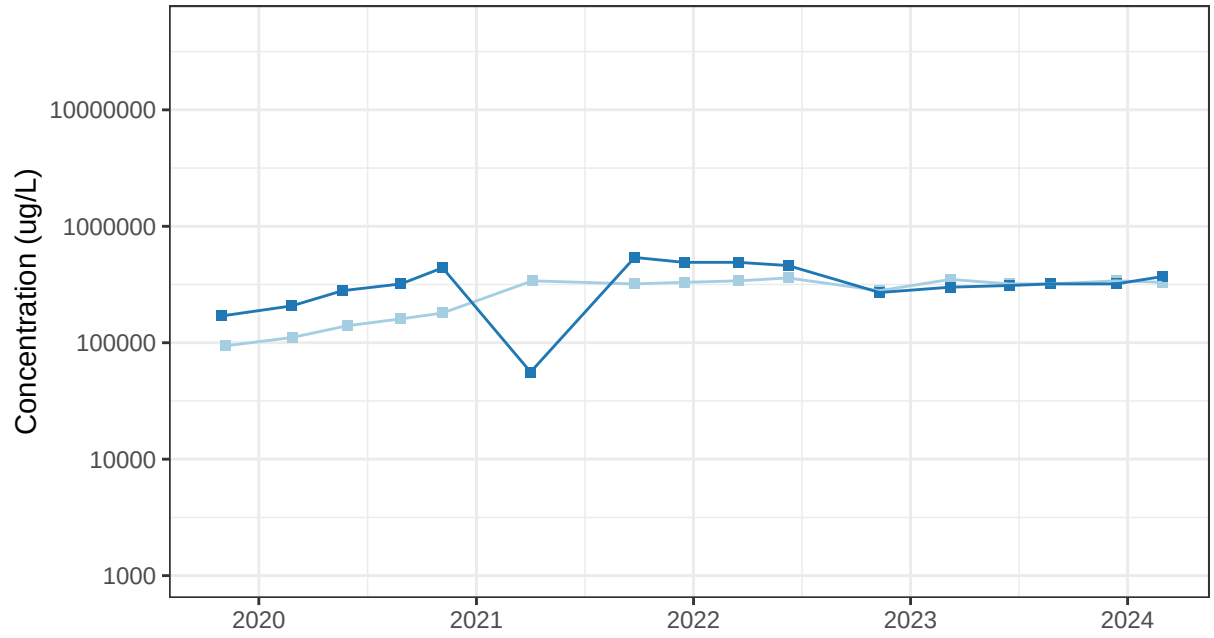
Chloride in GCC1 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−63
- PA−03
- PA−04
- PA−10I
- PA−17IR
- PA−18D
- PA−27D
- PA−31
- PA−32I

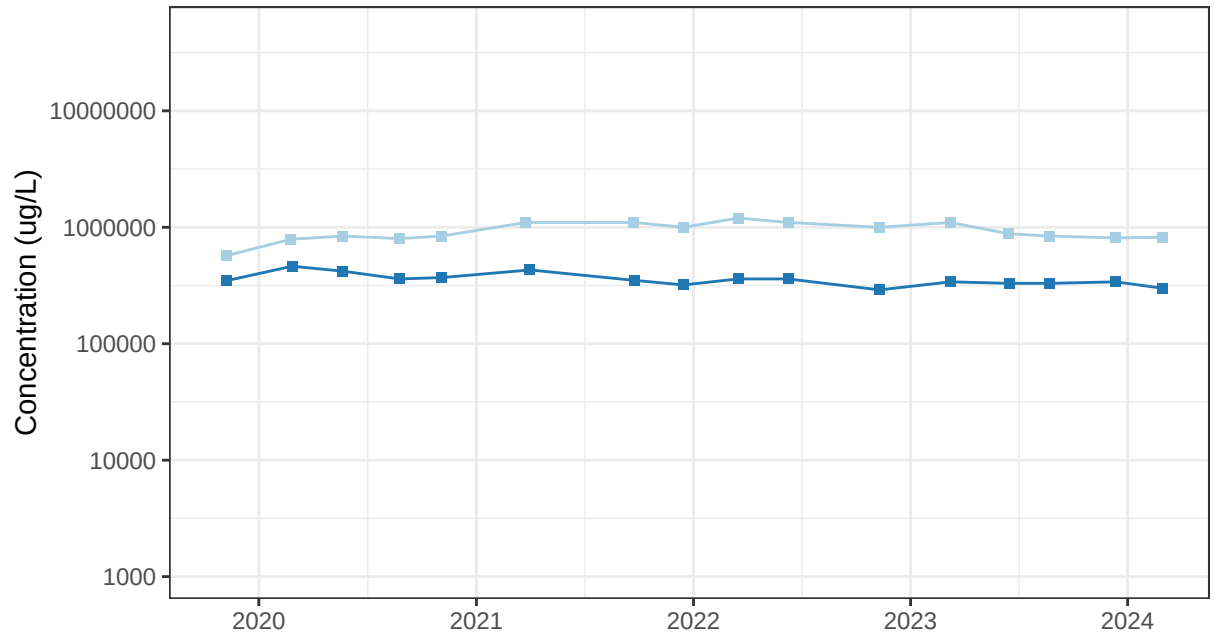
Chloride in GCC2



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−19D
- PA−30D

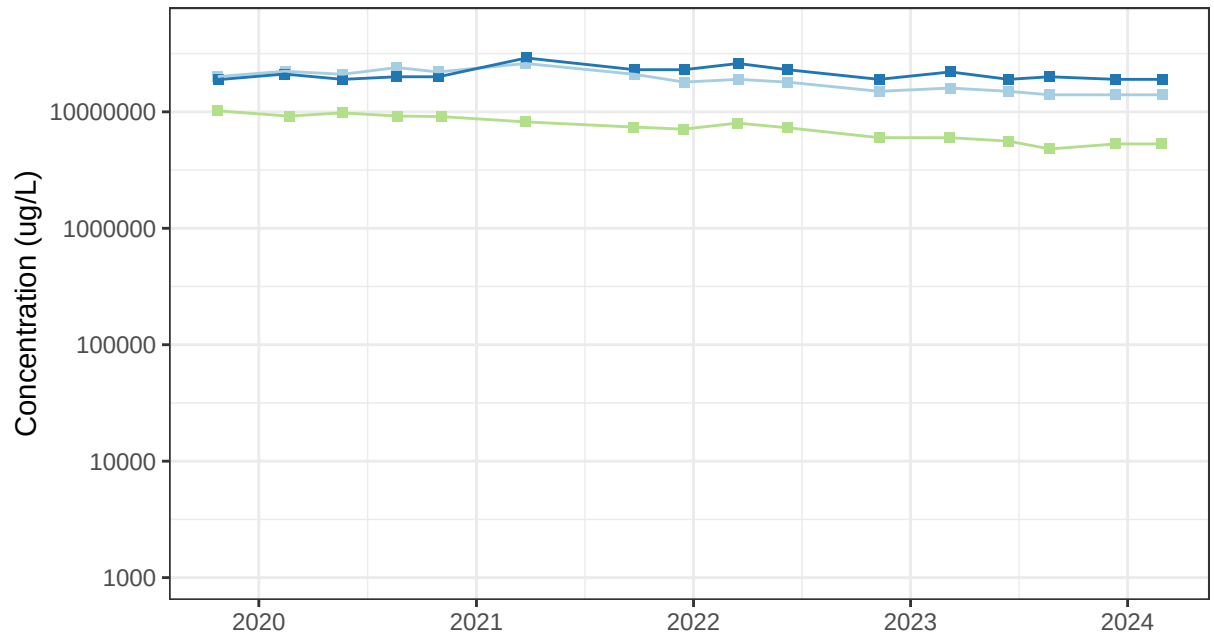
Chloride in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

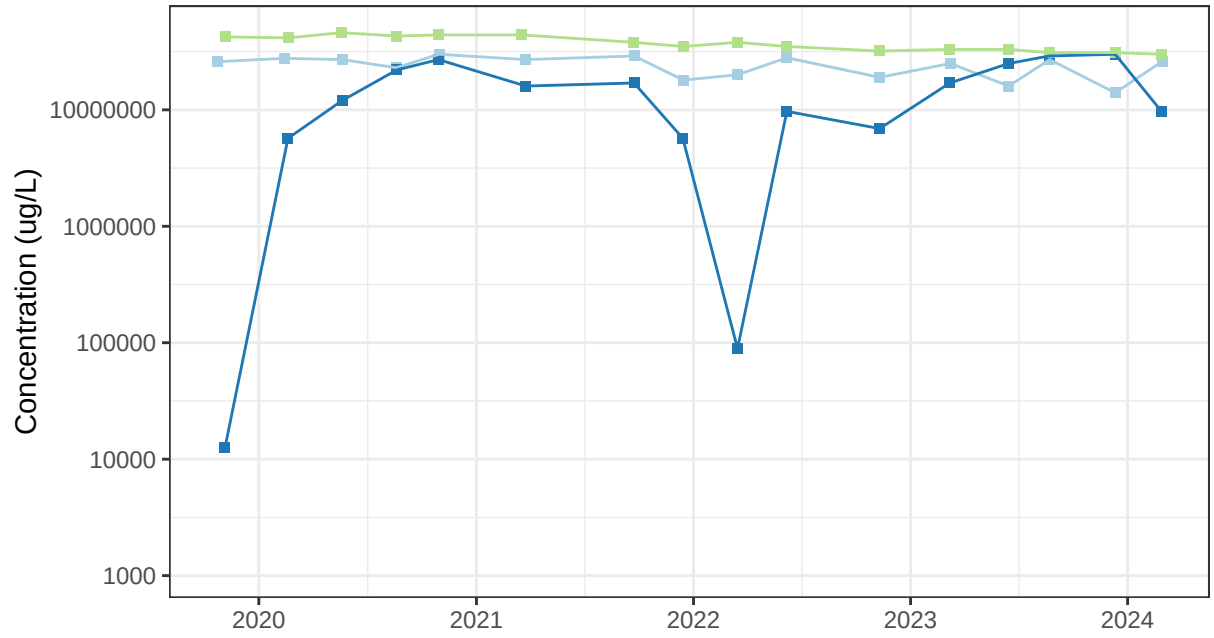
Chloride in GCC4 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−56D
- MWA−58D
- PA−22D

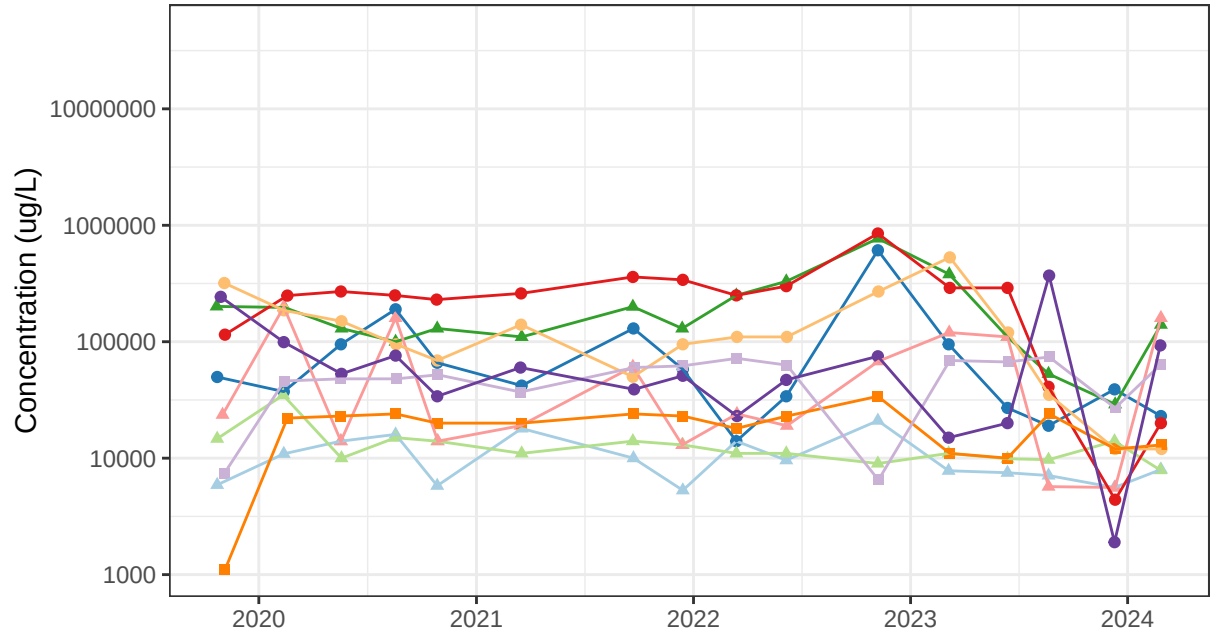
Chloride in GCC5 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

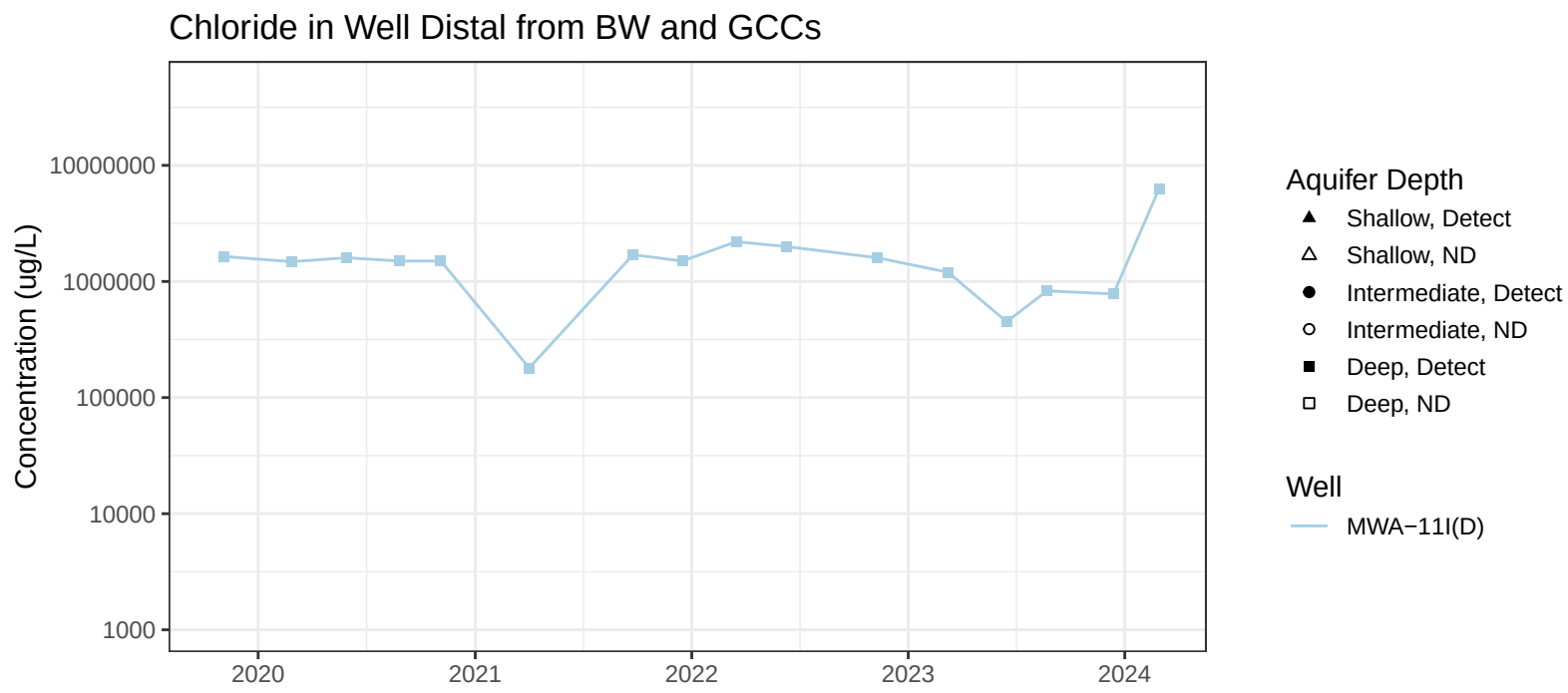
Well
- MWA−31I(D)
- PA−23D
- PA−24D

Chloride in GCC6 & Proximal Wells

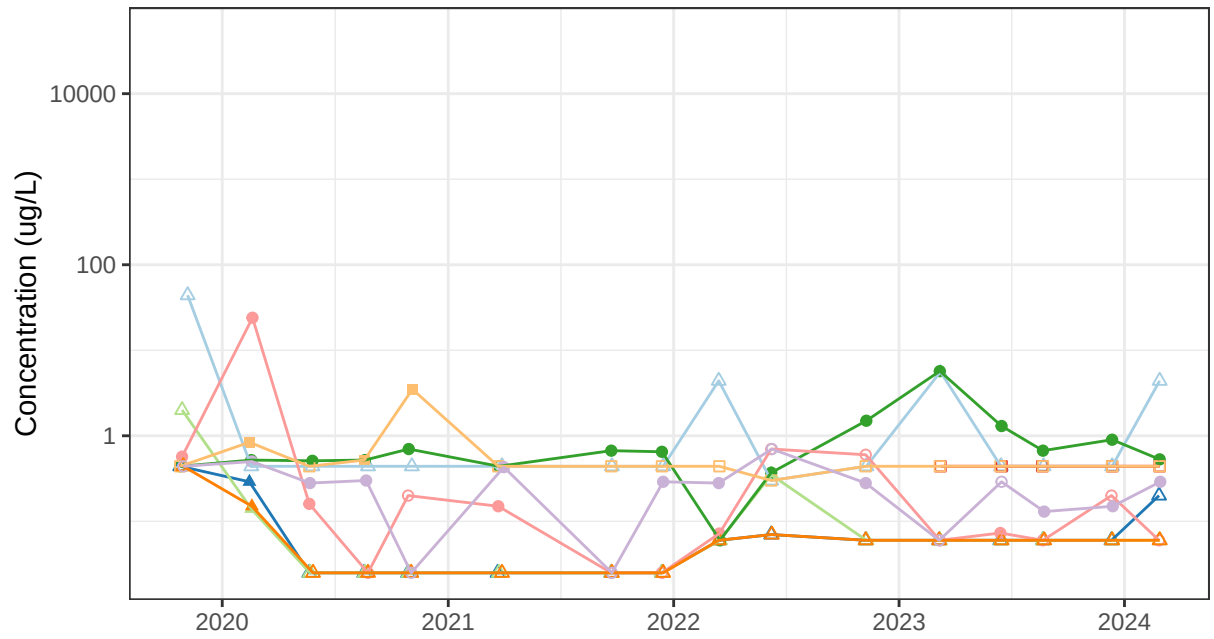


Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−81I
- MWA−82
- PA−08
- PA−09
- PA−15I
- PA−16I
- PA−25D
- PA−26D
- PA−44I


Chloride in Well Distal from BW and GCCs
Concentration (ug/L)
10000000
1000000
100000
10000
1000
2020
2021
2022
2023
2024
Aquifer Depth
Shallow, Detect
Shallow, ND
Intermediate, Detect
Intermediate, ND
Deep, Detect
Deep, ND
Well
MWA−11I(D)

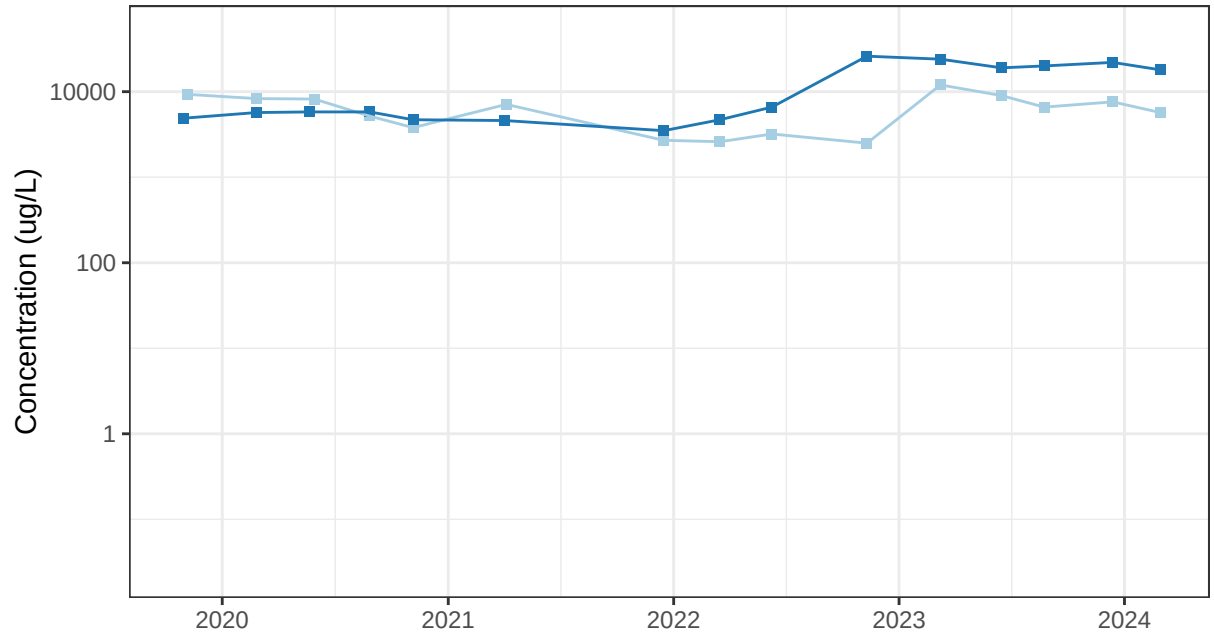
Chlorobenzene in GCC1 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−63
- PA−03
- PA−04
- PA−10I
- PA−17IR
- PA−18D
- PA−27D
- PA−31
- PA−32I

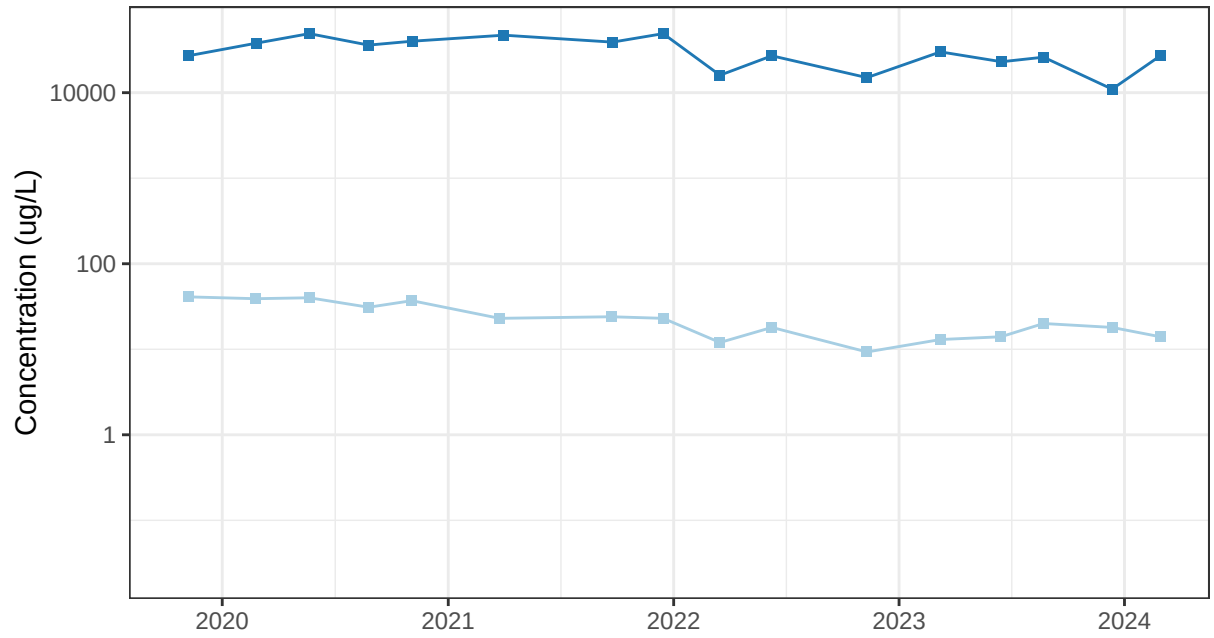
Chlorobenzene in GCC2



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−19D
- PA−30D

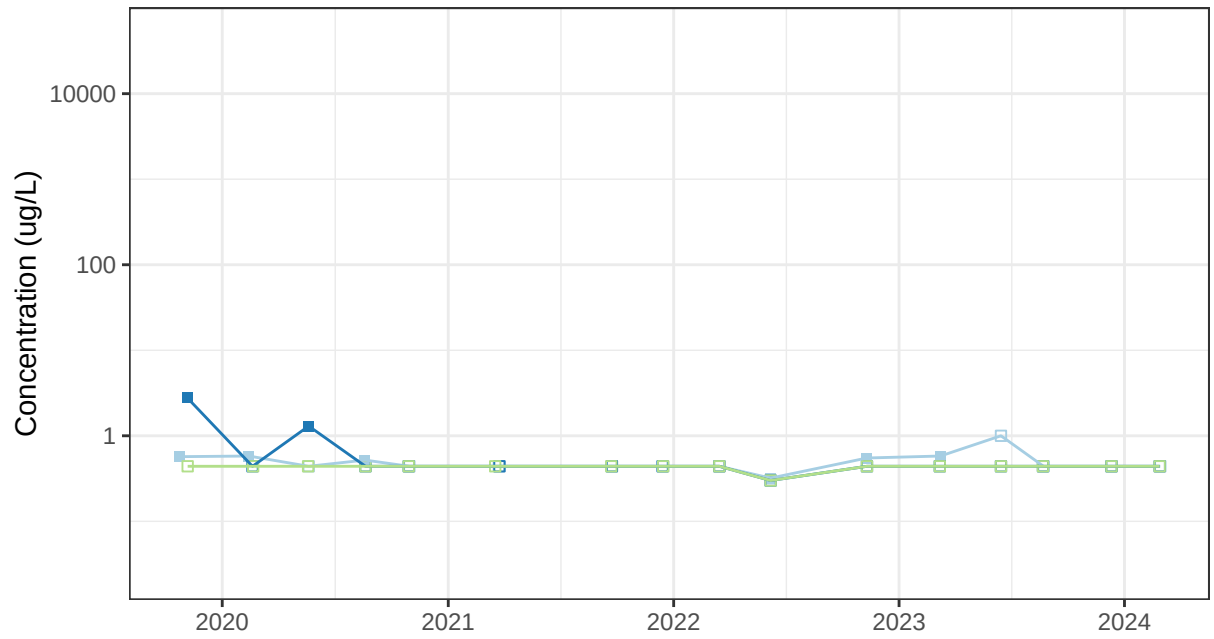
Chlorobenzene in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

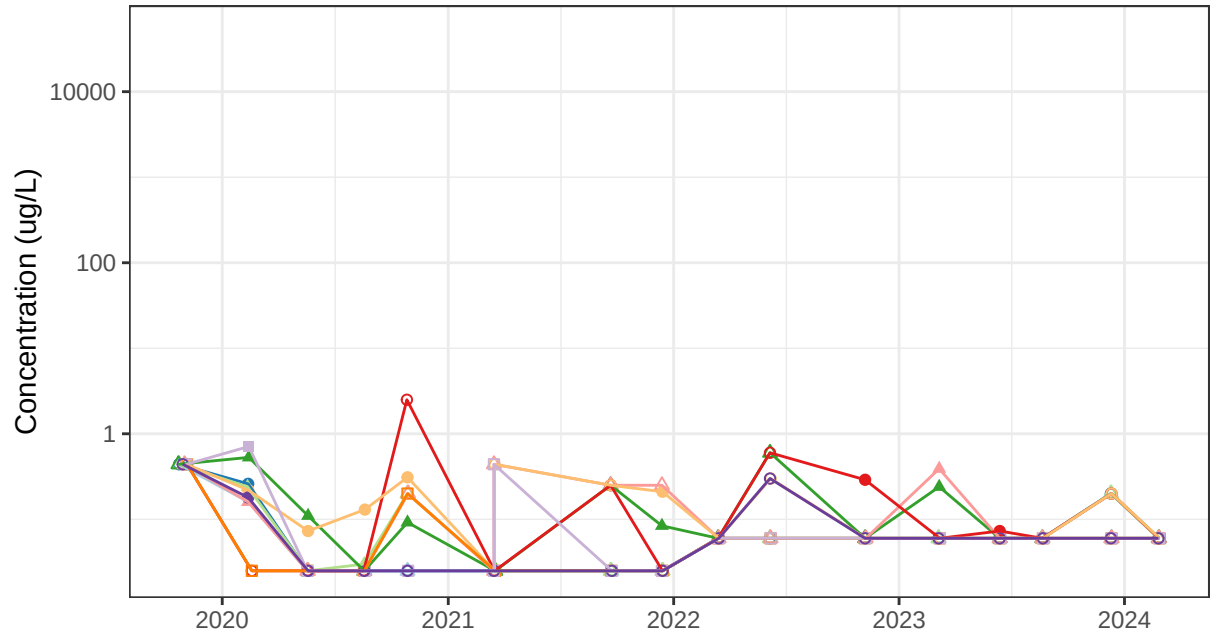
Chlorobenzene in GCC5 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−31I(D)
- PA−23D
- PA−24D

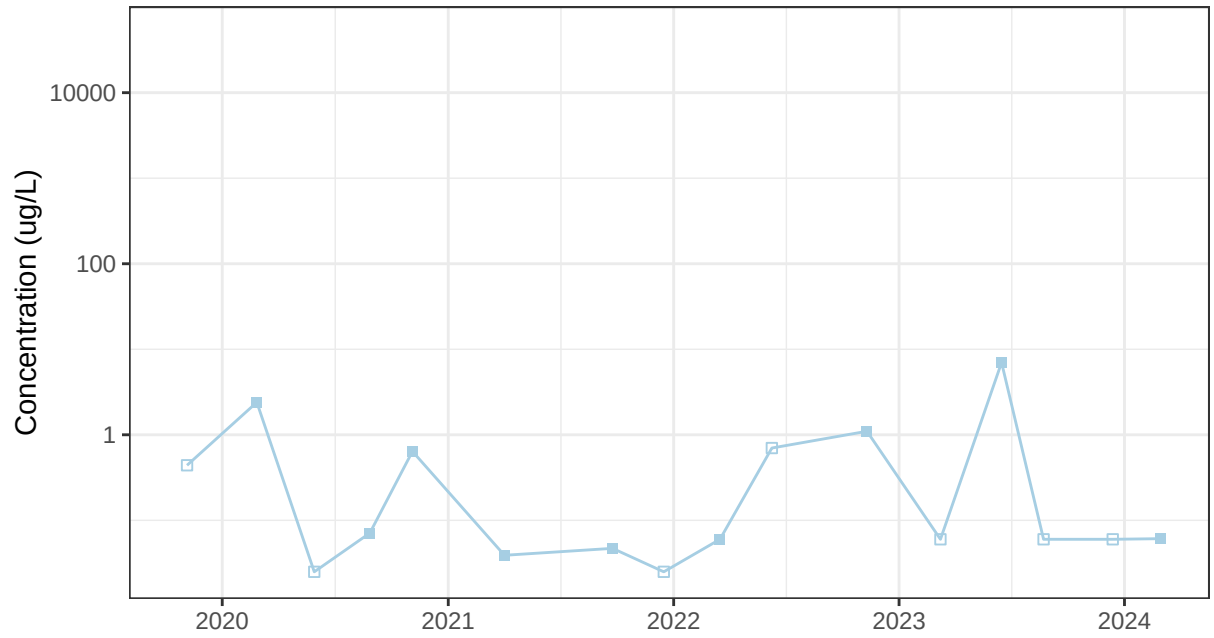
Chlorobenzene in GCC6 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−81I
- MWA−82
- PA−08
- PA−09
- PA−15I
- PA−16I
- PA−25D
- PA−26D
- PA−44I

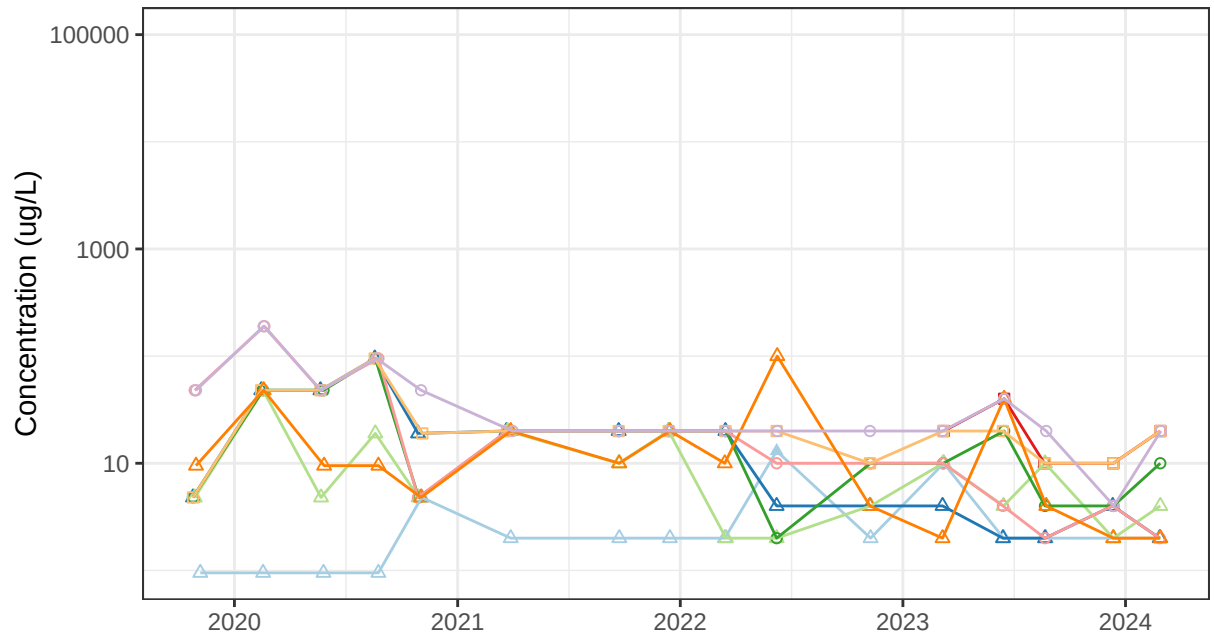
Chlorobenzene in Well Distal from BW and GCCs



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−11I(D)

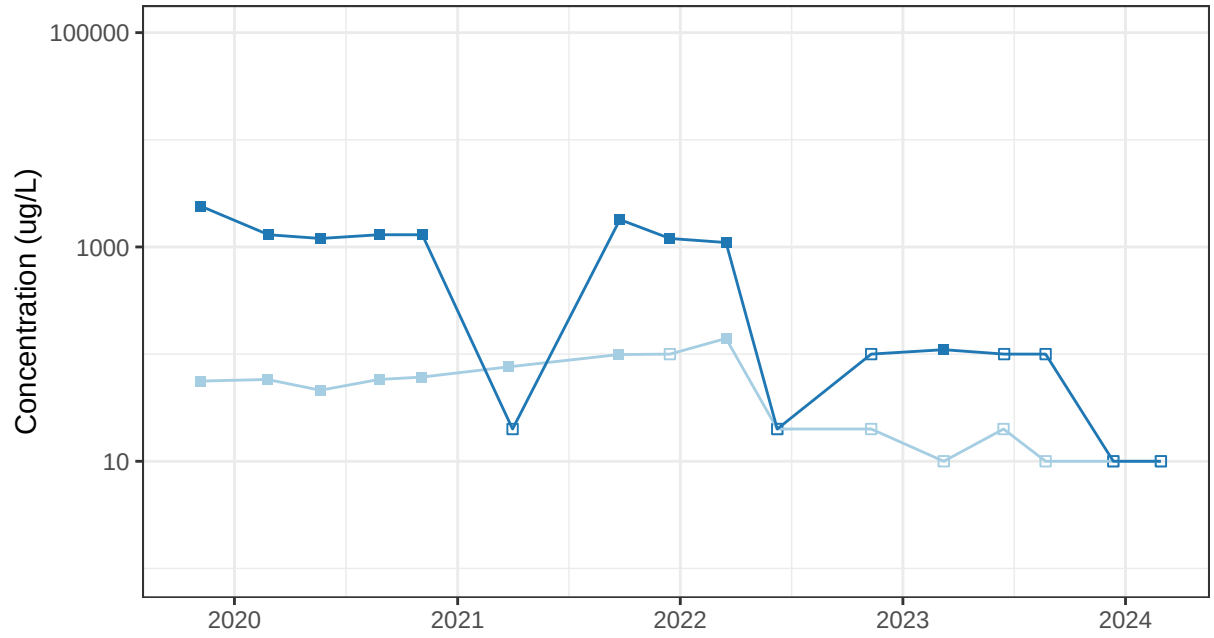
Perchlorate in GCC1 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−63
- PA−03
- PA−04
- PA−10I
- PA−17IR
- PA−18D
- PA−27D
- PA−31
- PA−32I

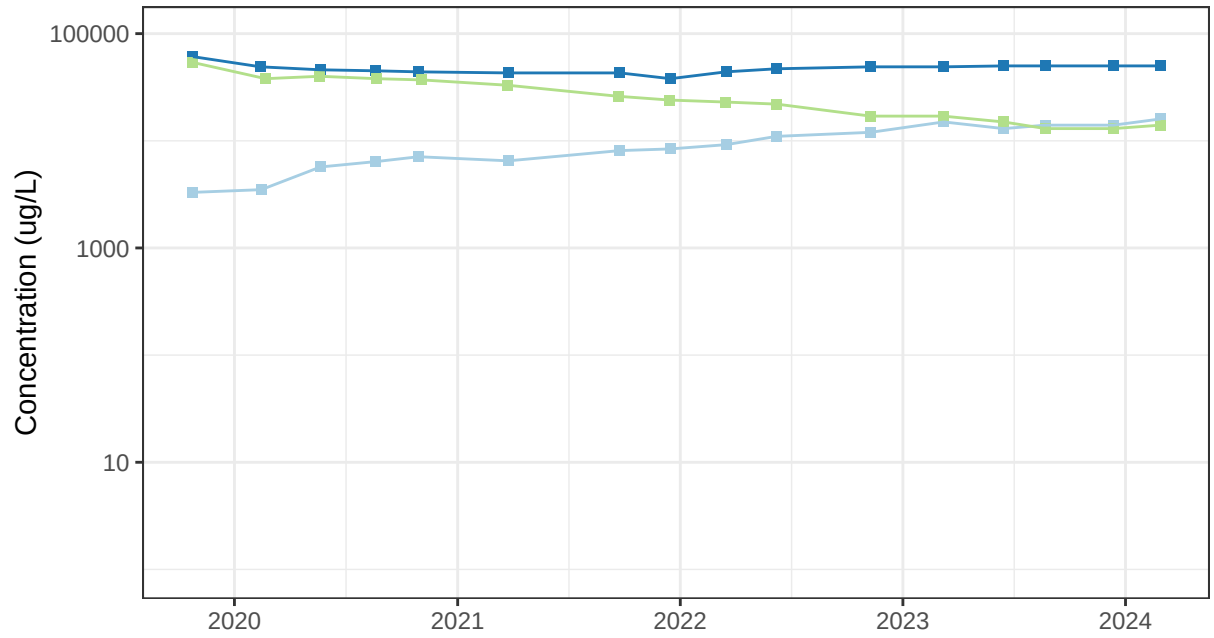
Perchlorate in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

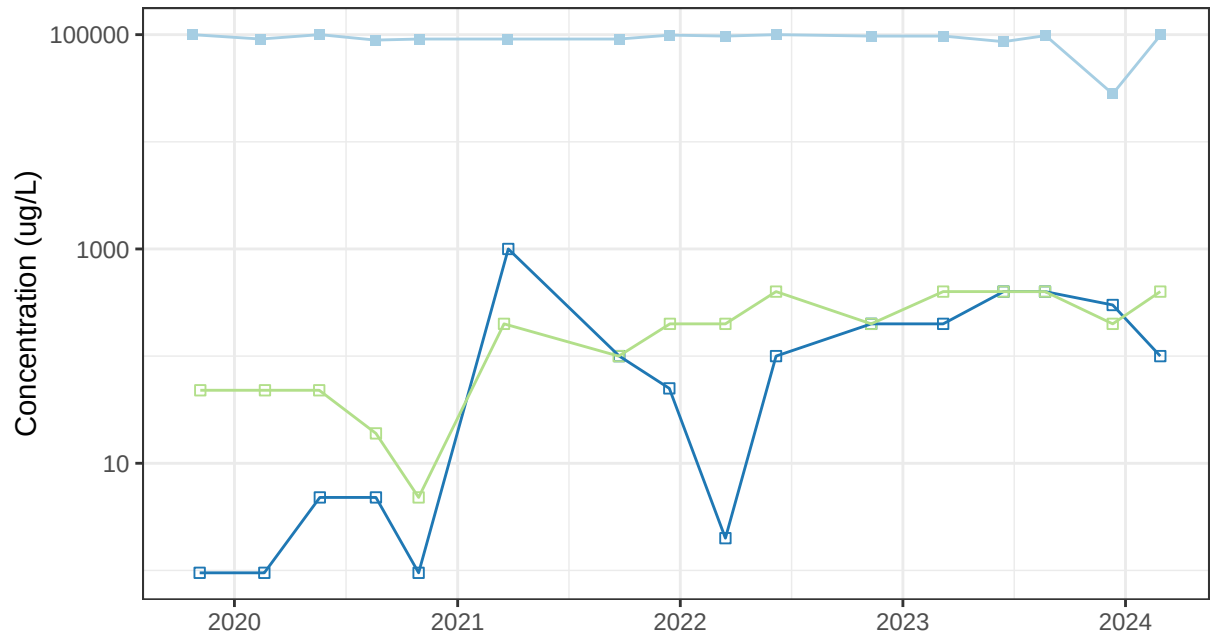
Perchlorate in GCC4 & Proximal Wells



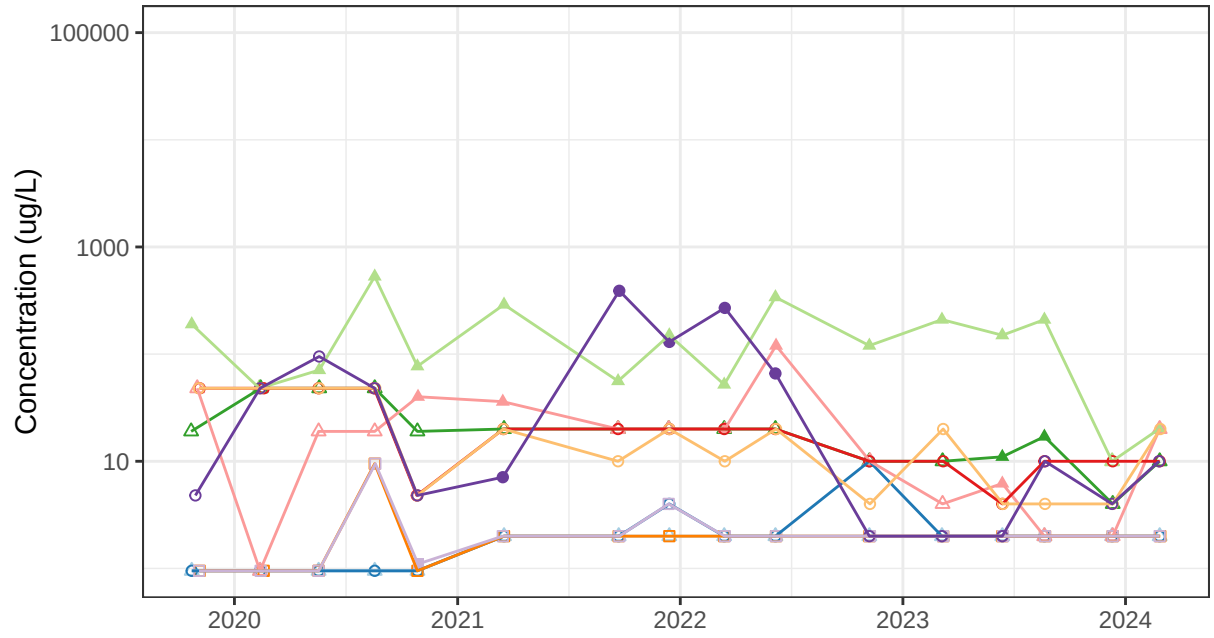
Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−56D
- MWA−58D
- PA−22D

Perchlorate in GCC5 & Proximal Wells



Perchlorate in GCC6 & Proximal Wells



APPENDIX E HISTORICAL DATA TABLE

Appendix E
Historical Data Table
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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-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	GW-061003-04	6/10/2003		**28.4 J**		< 3.40 U		**113**	**141 JT**	**388,000**	**13,300**		**350**
Shallow	MWA-15R	GW04160201	4/16/2002		**25**		**4.2 J**		**75 J**	**104 JT**	**407,000**	**48,000**		
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
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	

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				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
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**	
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**	

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				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
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**	
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**	

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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-42-040307	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**		
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**		

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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	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**		
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**	

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				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
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**	

Appendix E
Historical Data Table
Arkema Quarter 1, 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
Deep	MWA-31I(D)	MWA-31I-120905	12/9/2005										**25.1**	
Deep	MWA-31I(D)	MWA-31I-010906	1/9/2006										**45.3**	
Deep	MWA-31I(D)	MWA-31I-021006	2/10/2006										**104**	
Deep	MWA-31I(D)	MWA-31I-072606	7/26/2006										< 2 U	
Deep	MWA-31I(D)	MWA-31I(D)-040507	4/5/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**53,700,000**	**0.640**	< 6 UJ	**5,730**
Deep	MWA-31I(D)	MWA-31I(D)-081009	8/10/2009		< 0.00952 U		< 0.00952 U		< 0.00952 U	< 0.00952 UA	**54,300,000**	< 2.50 UJ	**9,300 J**	**1,840**
Deep	MWA-56D	MWA-56D-050605	5/6/2005										< 4.55 U	
Deep	MWA-56D	MWA-56D-071405	7/14/2005										**22.3**	
Deep	MWA-56D	MWA-56D-081605	8/16/2005										< 4.55 U	
Deep	MWA-56D	MWA-56D-091305	9/13/2005								**30,800,000**		< 4.55 U	
Deep	MWA-56D	MWA-56D-120905	12/9/2005										< 4.55 UJ	
Deep	MWA-56D	MWA-56D-010906	1/9/2006										< 4.55 U	
Deep	MWA-56D	MWA-56D-021306	2/13/2006										< 4.55 U	
Deep	MWA-56D	MWA-56D-072606	7/26/2006										< 2 U	
Deep	MWA-56D	MWA-56D-041107	4/11/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**27,900,000**	< 2.50 U	< 2 UJ	**2,430**
Deep	MWA-56D	MWA-56D-081009	8/10/2009		< 0.00976 U		< 0.00976 U		**0.00690 J**	**0.0069 JA**	**22,800,000**	< 5.00 U	< 25 UJ	**2,140**
Deep	MWA-58D	MWA-58D-050605	5/6/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-071405	7/14/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-081705	8/17/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-091305	9/13/2005								**60,700,000**		< 4.55 U	
Deep	MWA-58D	MWA-58D-120905	12/9/2005										< 4.55 UJ	
Deep	MWA-58D	MWA-58D-010906	1/9/2006										< 4.55 U	
Deep	MWA-58D	MWA-58D-021006	2/10/2006										< 4.55 U	
Deep	MWA-58D	MWA-58D-072606	7/26/2006										< 2 U	
Deep	MWA-58D	MWA-58D-040907	4/9/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**53,600,000**	< 2.50 U	**57.5**	**59,600**
Deep	MWA-58D	MWA-58D-081009	8/10/2009		< 0.00943 U		< 0.00943 U		**0.0286**	**0.0286 A**	**33,600,000**	**2.00 J**	< 25 UJ	**128,000**

Notes:
Bolded values indicate concentrations above the Reportable Detection Limit.
< = Compound not detected. Reportable detection limit shown.
µg/L = micrograms per liter
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane

Qualifers:
A = Total value based on limited number of analytes.
j = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
T = Sample temperature did not meet quality control criteria.
U = Compound not detected based on quality assurance review.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).

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