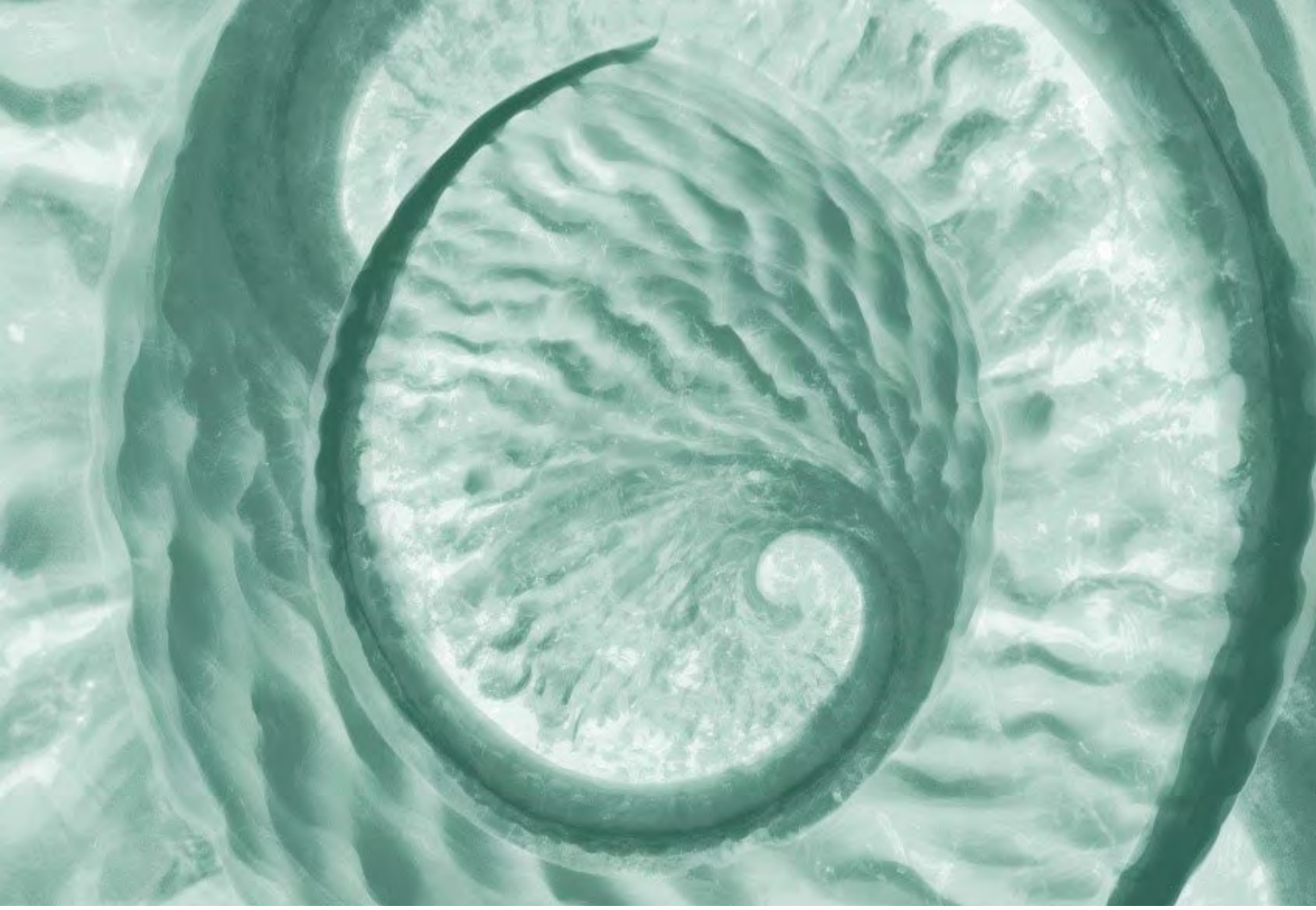


Prepared for: Legacy Site Services LLC

Arkema Quarter 2, 2023, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon

September 2023

Project No.: 0682894

The business of sustainability

ERM

Signature Page

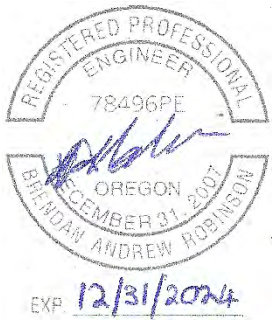
September 2023

Arkema Quarter 2, 2023, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon

Brendan Robinson
Partner-in-Charge

Josh Hancock
Project Manager



Environmental Resources Management, Inc.
1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

T: 503-488-5282
F: 503-488-5412

CONTENTS

List of Tables

List of Figures

Acronyms and Abbreviations

Name	Description
µg/L	Micrograms per liter
Arkema	Arkema Inc.
cis-1,2-DCE	cis-1,2-Dichloroethene
COC	Contaminant of concern
DI	De-ionized
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 2, 2023, Groundwater Monitoring Report
SEE	System Effectiveness Evaluation
Site	Former Arkema Portland Plant at 6400 NW Front Avenue, Portland, Oregon
TCE	Trichloroethene
VOC	Volatile organic compound

RESPONSES TO AGENCY COMMENTS

Legacy Site Services LLC (LSS) received the following comments on 16 August 2023 in response to the *Arkema Quarter 1, 2023, Groundwater Monitoring* Report submitted to the Oregon Department of Environmental Quality (ODEQ). Environmental Resources Management, Inc. (ERM) has prepared these responses on behalf of LSS. Responses to these comments are provided below.

ODEQ General Comments

1. *"Data quality issues continue to be noted. Laboratory issues (hold time exceedances, blank contamination, etc.) related to the analysis of VOCs seem to persist. DEQ requests that additional measures be taken to ensure high quality data is collected."*

LSS/ERM Response:

Comment noted. During the Quarter 2, 2023, groundwater monitoring event, ERM personnel collected a sample from the Eurofins laboratory-provided de-ionized (DI) water used onsite for decontamination and rinsate sample collection. The sample was submitted to Eurofins laboratory for analysis. The DI water sample results reported similar detects and concentrations with both rinsate blank samples collected and additional details regarding these detections and concentrations are included in the data validation memo included in Appendix C. The DI water sample results as well as correspondence with Eurofins laboratory indicates that the laboratory-provided DI water has contributed to blank contamination issues. Eurofins laboratory recommended the use of lab-purged DI water for groundwater sampling event decontamination and blank collection. Lab-purged DI water will be utilized during the Quarter 3, 2023, groundwater monitoring event and results will be provided in the upcoming Quarter 3, 2023, groundwater monitoring report.

1. INTRODUCTION

Environmental Resources Management, Inc. (ERM) has prepared this *Arkema Quarter 2, 2023, Groundwater Monitoring Report* (Report) for the Arkema Inc. Facility (the Site) on behalf of Legacy Site Services, LLC (LSS), agent for Arkema Inc. (Arkema). The Site is located at 6400 NW Front Avenue in the Northwest Industrial Area of Portland, Oregon and is bounded by Front Avenue on the north and west, the Willamette River on the east, and an asphalt roofing manufacturer on the south. The Site lies on the southwest bank of the lower Willamette River between river mile 6.9 and river mile 7.6, immediately upstream of the Burlington Northern Santa Fe Railroad Bridge and is adjacent to the Portland Harbor Superfund site.

The Site's operational and remedial history was documented in the *Revised Upland Feasibility Study Work Plan* (ERM 2017). This Report provides the field procedures, groundwater level data, and analytical results for the Quarter 2, 2023, groundwater monitoring at the former Arkema Portland Plant at 6400 NW Front Avenue, Portland, Oregon.

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

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

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

- Volatile organic compounds (VOCs)
- Perchlorate
- Chloride

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

2. FIELD PROCEDURES

ERM collected groundwater elevation data from 128 well locations on 9 June 2023 and groundwater samples from 30 well locations between 13 June and 16 June 2023. The locations of all monitoring wells and piezometers are presented on Figure 1. A summary of groundwater level and sampling locations and analyses are displayed in Table 1.

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

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

2.1 Groundwater Level Measurements

As shown in Table 1, ERM collected groundwater elevation data on 9 June 2023 from 128 well locations using a combination of transducer and manual measurements. Manual measurements were measured to the nearest 0.01 foot using a water level indicator in accordance with the GMWP. For locations with functioning transducers, transducer data were used for reporting in lieu of collecting manual measurements.

2.2 Groundwater Sample Collection Procedures

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

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

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

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

2.3 Sample Shipping and Investigation-Derived Waste

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

Investigation-derived waste generated during the groundwater monitoring included groundwater purged from monitoring wells, personal protective equipment, and disposable sampling equipment.

Decontamination fluids and purge water were contained in 5-gallon buckets and then processed in the GWET system. Disposable sampling equipment and used personal protective equipment were disposed of as non-hazardous solid waste.

2.4 Quality Assurance and Quality Control and Data Validation

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

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

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

In addition to the above-listed QA/QC samples, ERM collected a sample from the Eurofins laboratory-provided DI water used for decontamination and blank sample collection and submitted the sample to Eurofins laboratory for analysis of VOCs, perchlorate, and chloride. The DI water sample results reported similar detects and concentrations with both rinsate blank samples collected. These results as well as correspondence with Eurofins laboratory indicates that the laboratory-provided DI water has contributed to blank contamination issues. Eurofins laboratory recommended the use of lab-purged DI water for future decontamination and blank sample collection.

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 2, 2023, groundwater sampling event.

3. GROUNDWATER MONITORING RESULTS

3.1 Groundwater Elevations

On 9 June 2023, ERM manually measured depth to groundwater to the nearest 0.01 foot in 74 wells at the Site using an electronic water level indicator. For the additional 54 wells with functioning transducers, ERM collected transducer groundwater elevation data on 9 June 2023. ERM averaged transducer data recorded in the respective Shallow Zone, Intermediate Zone, and Deep Zone aquifer wells during the time period that manual water level measurements were collected to estimate groundwater elevations. Table 2 presents groundwater elevation data for all 128 well locations and the time period used for averaging transducer groundwater elevation data. These data were used to develop potentiometric surface maps for the Shallow, Intermediate, and Deep hydrogeological zones. These maps are presented on Figures 2 through 4, respectively.

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

3.2 Groundwater Sampling Results

ERM personnel completed groundwater sampling between 13 and 16 June 2023 at 30 monitoring well and piezometer locations, in accordance with the Approved Groundwater Monitoring Program. Results from the groundwater sampling and analyses of the well locations included in ERM's monitoring program are presented in further detail below.

3.2.1 Field Parameter Results

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

Thirteen monitoring locations did not stabilize for turbidity during the Quarter 2, 2023, groundwater monitoring event. Given the nature of analytes included in the monitoring program scope and the stabilization of other indicator parameters (dissolved oxygen, oxidation-reduction potential, specific conductance, and pH) consistent with ASTM International Standard D6771 (2018) as well as temperature, the unstable turbidity did not affect the quality of the data.

3.2.2 Analytical Results

Tables 4 and 5 present the analytical results for VOCs, and perchlorate and chloride, respectively, from the Quarter 2, 2023, groundwater monitoring event. Appendix B presents laboratory analytical reports. Appendix D includes previous groundwater monitoring data, beginning in October 2019, from well locations associated with the Approved Groundwater Monitoring Program. Appendix E includes historical groundwater data associated with the Site prior to implementation of the groundwater monitoring program in October 2019.

3.2.2.1 VOCs

The results for chlorobenzene in the Shallow, Intermediate, and Deep Zones are presented on Figures 5 through 7, respectively. Chlorobenzene was detected in 8 out of 30 samples. The highest detected

concentration of chlorobenzene was 23,000 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 0.31 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 8 out of 30 samples. The highest detected concentration of PCE was 11 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 1.8 µg/L at Shallow Zone monitoring well MWA-63.
- cis-1,2-DCE was detected in 11 out of 30 samples. The highest detected concentration of cis-1,2-DCE was 18 µg/L at Deep Zone monitoring well PA-19d.
- Vinyl chloride was detected in 4 out of 30 samples. The highest detected concentration of vinyl chloride was 0.34 j µg/L at Deep Zone monitoring well PA-18d.

3.2.2.2 Perchlorate

Perchlorate results for the Shallow, Intermediate, and Deep Zones are presented in Figures 14 through 16, respectively. Perchlorate was detected in 7 out of 30 samples. The highest detected concentration of perchlorate was 86,000 µg/L at Deep Zone monitoring well MWA-31i(d).

3.2.2.3 Chloride

Chloride results for the Shallow, Intermediate, and Deep Zones are presented in Figures 17 through 19, respectively. Chloride was detected in 30 out of 30 samples. The highest detected concentration of chloride was 33,000 milligrams per liter at Deep Zone piezometer PA-24d.

4. RECOMMENDATIONS

Following the Quarter 2, 2023, groundwater monitoring event, it is recommended to change the type of DI water to lab-purged DI water to be used in decontamination procedures and rinsate blank collection.

ERM will conduct the Quarter 3, 2023, groundwater monitoring event according to the following schedule:

- Water levels will be measured on 18 August 2023.
- Sampling will begin 21 August 2023 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 (September 2023).

The Quarter 3, 2023, Groundwater Monitoring Report will be submitted to the ODEQ within 60 days after data validation (November 2023).

5. REFERENCES

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

ERM. 2017. *Revised Upland Feasibility Study Work Plan*. Arkema Inc. Facility, Portland, Oregon. November 2017.

ERM. 2019. *Arkema Quarterly Groundwater Monitoring Work Plan*. Arkema Inc. Facility, Portland, Oregon. October 2019.

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

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

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

ODEQ. 2021. *2021 GWET System Effectiveness Evaluation Report. DEQ Review.*

TABLES

Table 1
Groundwater Sampling Matrix
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

		Analyte	Volatile Organic Compounds	Volatile Organic Compounds	Chloride	Perchlorate	
		Analytical Method	8260C	8260C_LL[1]	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	--	--	--	--	
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*	--	--	--	--	

Table 1
Groundwater Sampling Matrix
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

		Analyte	Volatile Organic Compounds	Volatile Organic Compounds	Chloride	Perchlorate	
		Analytical Method	8260C	8260C_LL[1]	300	314	
Location ID	Aquifer Classification	Groundwater Level Measurement					Comments
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	
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	--	--	--	--	

Table 1
Groundwater Sampling Matrix
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

		Analyte	Volatile Organic Compounds	Volatile Organic Compounds	Chloride	Perchlorate	
		Analytical Method	8260C	8260C_LL[1]	300	314	
Location ID	Aquifer Classification	Groundwater Level Measurement					Comments
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:
** = indicates locations where groundwater level measured with transducer*
[1] = low level test

Table 2
Groundwater Elevation Results
Arkema Quarter 2, 2023, 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)
MWA-02*	6/9/2023	*	Shallow	36.20	--	11.53
MWA-15r	6/9/2023	7:50:00 AM	Shallow	36.06	21.81	14.25
MWA-18	6/9/2023	9:40:00 AM	Shallow	39.43	27.57	11.86
MWA-19*	6/9/2023	*	Shallow	38.26	--	11.95
MWA-20	6/9/2023	9:17:00 AM	Shallow	40.95	24.74	16.21
MWA-22	6/9/2023	7:47:00 AM	Shallow	36.59	19.68	16.91
MWA-24	6/9/2023	10:54:00 AM	Shallow	37.58	19.91	17.67
MWA-29	6/9/2023	10:14:00 AM	Shallow	44.42	31.99	12.43
MWA-33	6/9/2023	10:46:00 AM	Shallow	37.26	19.01	18.25
MWA-40	6/9/2023	10:51:00 AM	Shallow	36.96	15.94	21.02
MWA-41	6/9/2023	10:38:00 AM	Shallow	45.14	30.58	14.56
MWA-42	6/9/2023	9:07:00 AM	Shallow	37.24	22.14	15.10
MWA-43	6/9/2023	10:25:00 AM	Shallow	44.53	31.96	12.57
MWA-46	6/9/2023	9:37:00 AM	Shallow	36.67	25.15	11.52
MWA-47**	6/9/2023	9:50:00 AM	Shallow	39.02	27.55	11.47
MWA-61	6/9/2023	7:41:00 AM	Shallow	36.21	24.79	11.42
MWA-63	6/9/2023	7:08:00 AM	Shallow	36.29	23.58	12.71
MWA-69*	6/9/2023	*	Shallow	33.73	--	12.21
MWA-71	6/9/2023	7:03:00 AM	Shallow	34.82	3.42	31.40
MWA-72	6/9/2023	11:17:00 AM	Shallow	34.16	2.89	31.27
MWA-73	6/9/2023	11:25:00 AM	Shallow	36.01	5.02	30.99
MWA-82	6/9/2023	10:42:00 AM	Shallow	37.74	20.42	17.32
PA-03*	6/9/2023	*	Shallow	37.10	--	27.32
PA-04*	6/9/2023	*	Shallow	36.67	--	27.49
PA-05*	6/9/2023	*	Shallow	37.22	--	13.65
PA-06*	6/9/2023	*	Shallow	38.03	--	15.98
PA-07*	6/9/2023	*	Shallow	39.30	--	16.48
PA-08*	6/9/2023	*	Shallow	40.47	--	16.83
PA-09*	6/9/2023	*	Shallow	40.24	--	13.91
PA-28*	6/9/2023	*	Shallow	38.58	--	16.68
PA-31	6/9/2023	7:15:00 AM	Shallow	36.25	21.40	14.85
PA-33	6/9/2023	7:16:00 AM	Shallow	36.29	8.50	27.79
PA-35	6/9/2023	7:18:00 AM	Shallow	35.91	22.42	13.49
PA-36	6/9/2023	7:32:00 AM	Shallow	36.90	23.63	13.27
PA-38	6/9/2023	10:21:00 AM	Shallow	42.93	26.45	16.48
PA-41	6/9/2023	10:12:00 AM	Shallow	39.69	24.62	15.07
PA-42	6/9/2023	10:23:00 AM	Shallow	40.60	25.74	14.86
PA-43	6/9/2023	10:36:00 AM	Shallow	40.41	24.89	15.52
RP-02-31	6/9/2023	6:53:00 AM	Shallow	42.49	28.25	14.24
RP-10-30	6/9/2023	6:57:00 AM	Shallow	37.47	7.18	30.29
RW-05*	6/9/2023	*	Shallow	34.80	--	23.95
RW-07	6/9/2023	7:27:00 AM	Shallow	33.98	20.48	13.50
RW-08	6/9/2023	7:44:00 AM	Shallow	34.21	20.18	14.03
RW-10	6/9/2023	8:47:00 AM	Shallow	34.33	20.10	14.23
RW-12	6/9/2023	9:05:00 AM	Shallow	35.58	20.51	15.07
RW-14*	6/9/2023	*	Shallow	36.08	--	16.07
RW-15	6/9/2023	9:24:00 AM	Shallow	35.81	20.50	15.31
RW-17*	6/9/2023	*	Shallow	36.55	--	15.97
RW-18	6/9/2023	9:56:00 AM	Shallow	36.51	20.28	16.23
RW-20	6/9/2023	10:02:00 AM	Shallow	37.07	20.90	16.17
RW-22*	6/9/2023	*	Shallow	38.02	--	15.64
RW-23*	6/9/2023	*	Shallow	33.63	--	13.52
RW-25*	6/9/2023	*	Shallow	38.06	--	15.03
EW-1*	6/9/2023	*	Shallow/Intermediate	33.84	--	12.76
EW-2*	6/9/2023	*	Shallow/Intermediate	34.20	--	11.30
EW-3*	6/9/2023	*	Shallow/Intermediate	34.43	--	12.83
EW-4*	6/9/2023	*	Shallow/Intermediate	34.61	--	12.85
EW-5*	6/9/2023	*	Shallow/Intermediate	35.03	--	11.58
EW-6*	6/9/2023	*	Shallow/Intermediate	35.43	--	11.71
EW-7*	6/9/2023	*	Shallow/Intermediate	35.24	--	13.61

Table 2
Groundwater Elevation Results
Arkema Quarter 2, 2023, 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)
EW-8*	6/9/2023	*	Shallow/Intermediate	35.07	--	13.59
EW-9*	6/9/2023	*	Shallow/Intermediate	36.77	--	11.87
EW-10*	6/9/2023	*	Shallow/Intermediate	36.35	--	11.85
EW-11*	6/9/2023	*	Shallow/Intermediate	37.38	--	4.03
EW-12*	6/9/2023	*	Shallow/Intermediate	38.24	--	2.90
EW-13*	6/9/2023	*	Shallow/Intermediate	39.79	--	13.79
EW-14*	6/9/2023	*	Shallow/Intermediate	40.03	--	12.87
MWA-83	6/9/2023	7:24:00 AM	Shallow/Intermediate	35.82	23.15	12.67
MWA-84	6/9/2023	7:30:00 AM	Shallow/Intermediate	36.31	23.12	13.19
MWA-85	6/9/2023	8:49:00 AM	Shallow/Intermediate	36.86	24.75	12.11
MWA-86	6/9/2023	9:02:00 AM	Shallow/Intermediate	37.15	22.89	14.26
MWA-87	6/9/2023	9:28:00 AM	Shallow/Intermediate	37.68	23.07	14.61
MWA-88	6/9/2023	9:47:00 AM	Shallow/Intermediate	39.36	35.60	3.76
MWA-89	6/9/2023	10:30:00 AM	Shallow/Intermediate	41.65	29.26	12.39
MWA-07(i)	6/9/2023	10:09:00 AM	Intermediate	36.24	5.52	30.72
MWA-08i*	6/9/2023	*	Intermediate	36.25	--	12.03
MWA-16i	6/9/2023	8:54:00 AM	Intermediate	36.58	25.40	11.18
MWA-34i*	6/9/2023	*	Intermediate	38.02	--	11.25
MWA-49i	6/9/2023	9:38:00 AM	Intermediate	36.68	25.33	11.35
MWA-53i	6/9/2023	10:13:00 AM	Intermediate	44.63	32.72	11.91
MWA-54i	6/9/2023	9:08:00 AM	Intermediate	37.35	23.42	13.93
MWA-66i*	6/9/2023	*	Intermediate	33.35	--	11.02
MWA-70i	6/9/2023	10:45:00 AM	Intermediate	37.62	18.80	18.82
MWA-74i	6/9/2023	7:01:00 AM	Intermediate	34.72	8.60	26.12
MWA-75i	6/9/2023	11:16:00 AM	Intermediate	34.09	2.34	31.75
MWA-81i	6/9/2023	10:37:00 AM	Intermediate	44.62	31.56	13.06
PA-10i*	6/9/2023	*	Intermediate	36.67	--	15.24
PA-11i**	6/9/2023	7:39:00 AM	Intermediate	37.63	24.41	13.22
PA-12i*	6/9/2023	*	Intermediate	38.03	--	14.57
PA-13i*	6/9/2023	*	Intermediate	38.48	--	14.15
PA-14i*	6/9/2023	*	Intermediate	39.30	--	14.09
PA-15i*	6/9/2023	*	Intermediate	40.62	--	13.67
PA-16i*	6/9/2023	*	Intermediate	40.30	--	13.23
PA-17iR*	6/9/2023	*	Intermediate	37.59	--	14.15
PA-29i*	6/9/2023	*	Intermediate	39.18	--	11.88
PA-32i	6/9/2023	7:14:00 AM	Intermediate	36.28	9.12	27.16
PA-34i	6/9/2023	7:17:00 AM	Intermediate	36.02	21.25	14.77
PA-37i	6/9/2023	7:33:00 AM	Intermediate	36.54	23.30	13.24
PA-39i	6/9/2023	10:18:00 AM	Intermediate	40.11	26.89	13.22
PA-40i	6/9/2023	10:19:00 AM	Intermediate	41.47	28.22	13.25
PA-44i	6/9/2023	10:35:00 AM	Intermediate	40.36	27.15	13.21
RW-06i	6/9/2023	*	Intermediate	35.59	--	14.74
RW-09i	6/9/2023	8:45:00 AM	Intermediate	33.73	20.75	12.98
RW-11i	6/9/2023	9:00:00 AM	Intermediate	34.77	21.77	13.00
RW-13i	6/9/2023	9:12:00 AM	Intermediate	36.09	12.29	23.80
RW-16i	6/9/2023	9:25:00 AM	Intermediate	35.77	19.89	15.88
RW-19i	6/9/2023	9:57:00 AM	Intermediate	36.56	23.19	13.37
RW-21i	6/9/2023	10:04:00 AM	Intermediate	37.38	24.14	13.24
RW-24i	6/9/2023	7:35:00 AM	Intermediate	34.03	20.61	13.42
RW-26i	6/9/2023	10:33:00 AM	Intermediate	38.10	24.86	13.24
MWA-11i(d)	6/9/2023	7:50:00 AM	Deep	36.49	23.08	13.41
MWA-12i(d)	6/9/2023	11:22:00 AM	Deep	35.86	9.01	26.85
MWA-31i(d)	6/9/2023	11:30:00 AM	Deep	38.36	27.00	11.36
MWA-56d	6/9/2023	9:32:00 AM	Deep	36.68	24.80	11.88
MWA-58d*	6/9/2023	*	Deep	37.97	--	11.27
PA-18d*	6/9/2023	*	Deep	36.55	--	13.72
PA-19d*	6/9/2023	*	Deep	36.65	--	11.94
PA-20d*	6/9/2023	*	Deep	37.91	--	13.40
PA-21d*	6/9/2023	*	Deep	34.36	--	11.82
PA-22d*	6/9/2023	*	Deep	38.75	--	13.10

Table 2
Groundwater Elevation Results
Arkema Quarter 2, 2023, 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)
PA-23d*	6/9/2023	*	Deep	39.31	--	11.32
PA-24d**	6/9/2023	9:52:00 AM	Deep	39.06	27.99	11.07
PA-25d*	6/9/2023	*	Deep	40.44	--	14.12
PA-26d*	6/9/2023	*	Deep	40.33	--	13.70
PA-27d*	6/9/2023	*	Deep	37.10	--	13.48
PA-30d*	6/9/2023	*	Deep	37.34	--	12.77
MWA-76g	6/9/2023	11:15:00 AM	Gravel	34.96	7.99	26.97
MWA-77g	6/9/2023	6:59:00 AM	Gravel	34.03	17.45	16.58

Notes:
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.
** = wells with transducers; transducer data were used to obtain groundwater elevation*
ft = feet
NAVD 88 = North American Vertical Datum 1988

Table 3
Field Parameters Measured in Groundwater
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

			Analyte Method Unit	pH Field Measure SU	Temperature Field Measure deg C	Specific Conductivity Field Measure uS/cm	Oxidation-Reduction Potential Field Measure mV	Dissolved Oxygen Field Measure mg/L	Turbidity Field Measure NTU
Location ID	Sample Date	Aquifer Classification	Sample ID						
MWA-41	13-Jun-23	Shallow	MWA-41-061323	6.55	18.6	317.9	182.7	0.78	2.95
MWA-63	15-Jun-23	Shallow	MWA-63-061523	7.48	16.3	608	67	6.32	28.31
MWA-82	13-Jun-23	Shallow	MWA-82-061323	9.02	16.9	361.9	156.1	0.62	44.82
PA-03	14-Jun-23	Shallow	PA-03-061423	10.4	16.39	841	-130.3	0.99	27.7
PA-04	15-Jun-23	Shallow	PA-04-061523	9.82	17.25	809	42.5	1.01	13.8
PA-08	13-Jun-23	Shallow	PA-08-061323	7.45	15.89	1,171	-22	2.09	26.5
PA-09	13-Jun-23	Shallow	PA-09-061323	6.72	18.3	816	156.3	0.74	49.71
PA-31	16-Jun-23	Shallow	PA-31-061623	9.6	14.89	783	51.5	1.67	17.7
MWA-81i	13-Jun-23	Intermediate	MWA-81I-061323	6.58	18.2	345.8	110.8	0.89	4.91
PA-10i	16-Jun-23	Intermediate	PA-10I-061623	7.46	17.32	1,094	-83.5	0.93	2.79
PA-15i	13-Jun-23	Intermediate	PA-15I-061323	7.22	17.59	1,683	-57.2	0.82	11.07
PA-16i	14-Jun-23	Intermediate	PA-16I-061423	7.14	14.92	1,042	6.7	1.55	17.8
PA-17iR	14-Jun-23	Intermediate	PA-17IR-061423	9.23	18.41	1,127	-128.7	0.96	2.36
PA-32i	16-Jun-23	Intermediate	PA-32I-061623	7.63	15.6	1,110	-76.8	0.88	0.25
PA-44i	13-Jun-23	Intermediate	PA-44I-061323	6.98	18.4	416.4	119.4	0.87	40.24
MWA-11i(d)	16-Jun-23	Deep	MWA-11I(D)-061623	9.88	17.97	641	37.1	1.45	0.76
MWA-31i(d)	15-Jun-23	Deep	MWA-31I(D)-061523	6.77	15.94	45,966	162.4	1.26	12.35
MWA-56d	15-Jun-23	Deep	MWA-56D-061523	6.51	16.9	41,259	197.7	1.5	2.41
MWA-58d	15-Jun-23	Deep	MWA-58D-061523	6.52	16.82	52,763	150.9	1.11	1
PA-18d	16-Jun-23	Deep	PA-18D-061623	8.72	17.3	1,086	-125.3	0.5	25.28
PA-19d	16-Jun-23	Deep	PA-19D-061623	7.23	15.8	3,071	-3.9	2.82	6.36
PA-20d	15-Jun-23	Deep	PA-20D-061523	6.72	17.8	4,093	-34.1	0.84	3.89
PA-21d	16-Jun-23	Deep	PA-21D-061623	6.29	16.1	3,214	-15.5	0.92	37.42
PA-22d	15-Jun-23	Deep	PA-22D-061523	7.15	17.7	17,292	25.5	0.85	11.78
PA-23d	15-Jun-23	Deep	PA-23D-061523	6.92	15.1	59,678	-23.6	0.97	14.05
PA-24d	15-Jun-23	Deep	PA-24D-061523	6.71	15.5	77,831	-48.7	0.85	7.42
PA-25d	13-Jun-23	Deep	PA-25D-061323	7.08	17.37	558	-0.6	1.37	7.17
PA-26d	14-Jun-23	Deep	PA-26D-061423	6.83	15.6	290.8	9.7	1.49	22.18
PA-27d	14-Jun-23	Deep	PA-27D-061423	7.11	18.42	3,593	-109.7	0.67	0.69
PA-30d	16-Jun-23	Deep	PA-30D-061623	8.02	18.5	3,384	-102.3	0.51	8.65

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 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	NE	NE	0.076	NE	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID												
MWA-41	6/13/2023	N	Shallow	MWA-41-061323	< 0.038	< 0.025	< 0.056	< 0.070	< 0.025	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
MWA-63	6/15/2023	N	Shallow	MWA-63-061523	< 0.18	< 0.39	< 0.52	< 0.24	< 0.22	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
MWA-63	6/15/2023	FD	Shallow	DUP-02-061523	< 0.18	< 0.39	< 0.52	< 0.24	< 0.22	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
MWA-82	6/13/2023	N	Shallow	MWA-82-061323	< 0.038	< 0.025	< 0.056	< 0.070	< 0.025	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-03	6/14/2023	N	Shallow	PA-03-061423	< 0.038	< 0.025	< 0.056	< 0.070	**0.14 j**	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-04	6/15/2023	N	Shallow	PA-04-061523	< 0.038	< 0.025	< 0.056	< 0.070	**0.17 j**	**0.18 j**	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-08	6/13/2023	N	Shallow	PA-08-061323	< 0.038	< 0.025	< 0.056	< 0.070	< 0.025	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-09	6/13/2023	N	Shallow	PA-09-061323	< 0.038	**0.063 j**	< 0.056	< 0.070	< 0.025	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-31	6/16/2023	N	Shallow	PA-31-061623	< 0.038	**0.23**	< 0.056	< 0.070	**0.41**	**0.79**	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
MWA-81i	6/13/2023	N	Intermediate	MWA-81I-061323	< 0.038	< 0.025	< 0.056	< 0.070	**0.11 j**	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-10i	6/16/2023	N	Intermediate	PA-10I-061623	< 0.038	< 0.025	< 0.056	< 0.070	< 0.025	**0.10 j**	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-15i	6/13/2023	N	Intermediate	PA-15I-061323	< 0.038	< 0.025	< 0.056	< 0.070	**0.35**	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-16i	6/14/2023	N	Intermediate	PA-16I-061423	< 0.038	< 0.025	< 0.056	< 0.070	**0.25**	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-17iR	6/14/2023	N	Intermediate	PA-17IR-061423	< 0.038	< 0.025	< 0.056	< 0.070	**0.12 j**	**0.35**	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-32i	6/16/2023	N	Intermediate	PA-32I-061623	< 0.038	< 0.025	< 0.056	< 0.070	< 0.025	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-44i	6/13/2023	N	Intermediate	PA-44I-061323	< 0.038	< 0.025	< 0.056	< 0.070	**0.092 j**	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
MWA-11i(d)	6/16/2023	N	Deep	MWA-11I(D)-061623	< 0.038	**1.2**	< 0.056	< 0.070	< 0.025	**0.044 j**	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
MWA-31i(d)	6/15/2023	N	Deep	MWA-31I(D)-061523	< 0.18	< 0.39	< 0.52	< 0.24	**0.35 j**	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
MWA-56d	6/15/2023	N	Deep	MWA-56D-061523	< 1.8	< 3.9	< 5.2	< 2.4	< 2.2	< 2.8	< 2.9	< 4.3	< 4.1	< 3.3	< 6.1	< 5.7
MWA-58d	6/15/2023	N	Deep	MWA-58D-061523	< 0.90	< 2.0	< 2.6	< 1.2	< 1.1	< 1.4	< 1.5	< 2.2	< 2.1	< 1.7	< 3.1	< 2.9
PA-18d	6/16/2023	N	Deep	PA-18D-061623	< 0.18	< 0.39	< 0.52	< 0.24	< 0.22	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
PA-19d	6/16/2023	N	Deep	PA-19D-061623	< 9.0	< 20	< 26	< 12	< 11	< 14	< 15	< 22	< 21	< 17	< 31	< 29
PA-20d	6/15/2023	N	Deep	PA-20D-061523	< 0.18	< 0.39	< 0.52	< 0.24	**2.2**	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
PA-21d	6/16/2023	N	Deep	PA-21D-061623	< 90	< 200	< 260	< 120	< 110	< 140	< 150	< 220	< 210	< 170	< 310	< 290
PA-22d	6/15/2023	N	Deep	PA-22D-061523	< 0.18	< 0.39	< 0.52	< 0.24	< 0.22	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
PA-23d	6/15/2023	N	Deep	PA-23D-061523	< 0.18	< 0.39	< 0.52	< 0.24	< 0.22	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
PA-24d	6/15/2023	N	Deep	PA-24D-061523	< 0.18	< 0.39	< 0.52	< 0.24	< 0.22	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
PA-25d	6/13/2023	N	Deep	PA-25D-061323	< 0.038	< 0.025	< 0.056	< 0.070	< 0.025	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-26d	6/14/2023	N	Deep	PA-26D-061423	< 0.038	< 0.025	< 0.056	< 0.070	< 0.025	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-26d	6/14/2023	FD	Deep	DUP-01-061423	< 0.038	< 0.025	< 0.056	< 0.070	< 0.025	< 0.035	< 0.084	< 0.15	< 0.050	< 0.17	< 0.20	< 0.17
PA-27d	6/14/2023	N	Deep	PA-27D-061423	< 0.18	< 0.39	< 0.52	< 0.24	**0.34 j**	< 0.28	< 0.29	< 0.43	< 0.41	< 0.33	< 0.61	< 0.57
PA-30d	6/16/2023	N	Deep	PA-30D-061623	< 9.0	< 20	< 26	< 12	< 11	< 14	< 15	< 22	< 21	< 17	< 31	< 29

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 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 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte					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	2-Butanone (Methyl ethyl ketone)	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					14	3.7	1.5	NE	10	NE	15	NE	14000	NE	NE	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID												
MWA-41	6/13/2023	N	Shallow	MWA-41-061323	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
MWA-63	6/15/2023	N	Shallow	MWA-63-061523	< 0.46	< 0.42	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
MWA-63	6/15/2023	FD	Shallow	DUP-02-061523	< 0.46	< 0.42	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
MWA-82	6/13/2023	N	Shallow	MWA-82-061323	**0.040 j**	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-03	6/14/2023	N	Shallow	PA-03-061423	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-04	6/15/2023	N	Shallow	PA-04-061523	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-08	6/13/2023	N	Shallow	PA-08-061323	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-09	6/13/2023	N	Shallow	PA-09-061323	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-31	6/16/2023	N	Shallow	PA-31-061623	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
MWA-81i	6/13/2023	N	Intermediate	MWA-81I-061323	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-10i	6/16/2023	N	Intermediate	PA-10I-061623	**0.18 j**	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-15i	6/13/2023	N	Intermediate	PA-15I-061323	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-16i	6/14/2023	N	Intermediate	PA-16I-061423	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-17iR	6/14/2023	N	Intermediate	PA-17IR-061423	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	**0.052 j**	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-32i	6/16/2023	N	Intermediate	PA-32I-061623	**0.31**	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-44i	6/13/2023	N	Intermediate	PA-44I-061323	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
MWA-11i(d)	6/16/2023	N	Deep	MWA-11I(D)-061623	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
MWA-31i(d)	6/15/2023	N	Deep	MWA-31I(D)-061523	< 0.46	< 0.42	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
MWA-56d	6/15/2023	N	Deep	MWA-56D-061523	< 4.6	< 4.2	< 1.8	< 5.5	< 4.8	< 3.5	< 4.6	< 3.2	< 47	< 3.8	< 2.8	< 25
MWA-58d	6/15/2023	N	Deep	MWA-58D-061523	< 2.3	< 2.1	< 0.90	< 2.8	< 2.4	< 1.8	< 2.3	< 1.6	< 24	< 1.9	< 1.4	< 13
PA-18d	6/16/2023	N	Deep	PA-18D-061623	< 0.46	< 0.42	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
PA-19d	6/16/2023	N	Deep	PA-19D-061623	< 23	< 21	< 9.0	< 28	< 24	< 18	< 23	< 16	< 240	< 19	< 14	< 130
PA-20d	6/15/2023	N	Deep	PA-20D-061523	< 0.46	**0.97 j**	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
PA-21d	6/16/2023	N	Deep	PA-21D-061623	< 230	< 210	< 90	< 280	< 240	< 180	< 230	< 160	< 2400	< 190	< 140	< 1300
PA-22d	6/15/2023	N	Deep	PA-22D-061523	< 0.46	< 0.42	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
PA-23d	6/15/2023	N	Deep	PA-23D-061523	< 0.46	< 0.42	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
PA-24d	6/15/2023	N	Deep	PA-24D-061523	< 0.46	**1.6**	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
PA-25d	6/13/2023	N	Deep	PA-25D-061323	< 0.038	< 0.043	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-26d	6/14/2023	N	Deep	PA-26D-061423	< 0.038	**0.27**	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-26d	6/14/2023	FD	Deep	DUP-01-061423	< 0.038	**0.28**	< 0.060	< 0.15	< 0.050	< 0.025	< 0.050	< 0.060	< 2.5	< 0.12	< 0.15	< 1.7
PA-27d	6/14/2023	N	Deep	PA-27D-061423	< 0.46	< 0.42	< 0.18	< 0.55	< 0.48	< 0.35	< 0.46	< 0.32	< 4.7	< 0.38	< 0.28	< 2.5
PA-30d	6/16/2023	N	Deep	PA-30D-061623	< 23	< 21	< 9.0	< 28	< 24	< 18	< 23	< 16	< 240	< 19	< 14	< 130

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 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 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte					Acetone	Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					1500	1.4	NE	1.7	14	150	0.92	0.16	64	NE	NE	28
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID												
MWA-41	6/13/2023	N	Shallow	MWA-41-061323	**3.7 j**	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
MWA-63	6/15/2023	N	Shallow	MWA-63-061523	*< 15 U*	*< 0.24*	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	*< 0.44*	*< 0.29*	*< 0.35*	**48**
MWA-63	6/15/2023	FD	Shallow	DUP-02-061523	*< 15 U*	*< 0.24*	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	*< 0.44*	*< 0.29*	*< 0.35*	**48**
MWA-82	6/13/2023	N	Shallow	MWA-82-061323	**4.5 j**	**0.033 j**	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	**1.7**
PA-03	6/14/2023	N	Shallow	PA-03-061423	*< 3.1*	**0.055 j**	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
PA-04	6/15/2023	N	Shallow	PA-04-061523	*< 3.1*	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
PA-08	6/13/2023	N	Shallow	PA-08-061323	*< 3.1*	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	**0.064 j**
PA-09	6/13/2023	N	Shallow	PA-09-061323	**3.5 j**	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	**0.27**
PA-31	6/16/2023	N	Shallow	PA-31-061623	*< 3.1*	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.20 U*
MWA-81i	6/13/2023	N	Intermediate	MWA-81I-061323	**4.8 j**	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
PA-10i	6/16/2023	N	Intermediate	PA-10I-061623	**3.2 j**	**0.071 j**	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	**1.3 J+**	*< 0.050*	*< 0.096*	*< 0.030*
PA-15i	6/13/2023	N	Intermediate	PA-15I-061323	*< 3.1*	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	**0.073 j**	*< 0.050*	*< 0.096*	*< 0.030*
PA-16i	6/14/2023	N	Intermediate	PA-16I-061423	**3.5 j**	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
PA-17iR	6/14/2023	N	Intermediate	PA-17IR-061423	**3.9 j**	**0.070 j**	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	**0.50**	*< 0.025*	**0.073 j**	*< 0.050*	*< 0.096*	*< 0.030*
PA-32i	6/16/2023	N	Intermediate	PA-32I-061623	*< 10 U*	**0.049 j**	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.29 U*	*< 0.050*	**0.25 j**	*< 0.030*
PA-44i	6/13/2023	N	Intermediate	PA-44I-061323	*< 3.1*	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
MWA-11i(d)	6/16/2023	N	Deep	MWA-11I(D)-061623	*< 10 U*	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	**7.0**	*< 0.050*	*< 0.096*	*< 0.55 U*
MWA-31i(d)	6/15/2023	N	Deep	MWA-31I(D)-061523	*< 15 U*	*< 0.24*	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	*< 1.0 U*	*< 0.29*	*< 0.35*	**49**
MWA-56d	6/15/2023	N	Deep	MWA-56D-061523	*< 32*	*< 2.4*	*< 4.3*	*< 2.9*	*< 5.1*	*< 2.1*	*< 5.3*	*< 3.0*	*< 4.4*	*< 2.9*	*< 3.5*	**160**
MWA-58d	6/15/2023	N	Deep	MWA-58D-061523	*< 16*	*< 1.2*	*< 2.2*	*< 1.5*	*< 2.6*	*< 1.1*	*< 2.7*	*< 1.5*	*< 2.2*	*< 1.5*	*< 1.8*	**210**
PA-18d	6/16/2023	N	Deep	PA-18D-061623	*< 3.2*	*< 0.24*	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	*< 0.44*	*< 0.29*	*< 0.35*	*< 0.26*
PA-19d	6/16/2023	N	Deep	PA-19D-061623	*< 160*	**44 j**	*< 22*	*< 15*	*< 26*	*< 11*	*< 27*	*< 15*	**9,000**	*< 15*	*< 18*	*< 13*
PA-20d	6/15/2023	N	Deep	PA-20D-061523	*< 15 U*	**1.4**	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	**14**	*< 0.29*	*< 0.35*	*< 0.26*
PA-21d	6/16/2023	N	Deep	PA-21D-061623	*< 1600*	*< 120*	*< 220*	*< 150*	*< 260*	*< 110*	*< 270*	*< 150*	**23,000**	*< 150*	*< 180*	*< 130*
PA-22d	6/15/2023	N	Deep	PA-22D-061523	*< 15 U*	*< 0.24*	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	*< 0.44*	*< 0.29*	*< 0.35*	**12**
PA-23d	6/15/2023	N	Deep	PA-23D-061523	*< 15 U*	*< 0.24*	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	*< 0.44*	*< 0.29*	*< 0.35*	*< 0.26*
PA-24d	6/15/2023	N	Deep	PA-24D-061523	*< 3.2*	*< 0.24*	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	*< 0.44*	*< 0.29*	*< 0.35*	*< 0.26*
PA-25d	6/13/2023	N	Deep	PA-25D-061323	*< 3.1*	*< 0.030*	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
PA-26d	6/14/2023	N	Deep	PA-26D-061423	*< 3.1*	**0.040 j**	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
PA-26d	6/14/2023	FD	Deep	DUP-01-061423	*< 3.1*	**0.034 j**	*< 0.038*	*< 0.060*	*< 0.16*	*< 0.13*	*< 0.083*	*< 0.025*	*< 0.060*	*< 0.050*	*< 0.096*	*< 0.030*
PA-27d	6/14/2023	N	Deep	PA-27D-061423	*< 3.2*	*< 0.24*	*< 0.43*	*< 0.29*	*< 0.51*	*< 0.21*	*< 0.53*	*< 0.30*	*< 0.44*	*< 0.29*	*< 0.35*	*< 0.26*
PA-30d	6/16/2023	N	Deep	PA-30D-061623	*< 160*	*< 12*	*< 22*	*< 15*	*< 26*	*< 11*	*< 27*	*< 15*	**19,000**	*< 15*	*< 18*	*< 13*

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 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 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte					Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl tert-butyl ether
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	590	NE	1.3	NE	NE	7.3	NE	0.01	NE	1.8	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID												
MWA-41	6/13/2023	N	Shallow	MWA-41-061323	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
MWA-63	6/15/2023	N	Shallow	MWA-63-061523	< 0.28	**1.8**	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
MWA-63	6/15/2023	FD	Shallow	DUP-02-061523	< 0.28	**1.9**	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
MWA-82	6/13/2023	N	Shallow	MWA-82-061323	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-03	6/14/2023	N	Shallow	PA-03-061423	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-04	6/15/2023	N	Shallow	PA-04-061523	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-08	6/13/2023	N	Shallow	PA-08-061323	< 0.14	**0.070 j**	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-09	6/13/2023	N	Shallow	PA-09-061323	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-31	6/16/2023	N	Shallow	PA-31-061623	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
MWA-81i	6/13/2023	N	Intermediate	MWA-81I-061323	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-10i	6/16/2023	N	Intermediate	PA-10I-061623	< 0.14	**0.20**	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-15i	6/13/2023	N	Intermediate	PA-15I-061323	< 0.14	**0.16 j**	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-16i	6/14/2023	N	Intermediate	PA-16I-061423	< 0.14	**0.12 j**	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-17iR	6/14/2023	N	Intermediate	PA-17IR-061423	< 0.14	**0.11 j**	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-32i	6/16/2023	N	Intermediate	PA-32I-061623	< 0.14	**0.089 j**	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-44i	6/13/2023	N	Intermediate	PA-44I-061323	< 0.14	**0.071 j**	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
MWA-11i(d)	6/16/2023	N	Deep	MWA-11I(D)-061623	< 0.14	**0.16 j**	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
MWA-31i(d)	6/15/2023	N	Deep	MWA-31I(D)-061523	< 0.28	< 0.35	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
MWA-56d	6/15/2023	N	Deep	MWA-56D-061523	< 2.8	< 3.5	< 4.2	< 4.3	< 3.4	< 5.3	< 5.0	< 4.0	< 7.9	< 4.4	< 5.3	< 4.4
MWA-58d	6/15/2023	N	Deep	MWA-58D-061523	< 1.4	< 1.8	< 2.1	< 2.2	< 1.7	< 2.7	< 2.5	< 2.0	< 4.0	< 2.2	< 2.7	< 2.2
PA-18d	6/16/2023	N	Deep	PA-18D-061623	< 0.28	< 0.35	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
PA-19d	6/16/2023	N	Deep	PA-19D-061623	< 14	**18 j**	< 21	< 22	< 17	< 27	< 25	< 20	< 40	< 22	< 27	< 22
PA-20d	6/15/2023	N	Deep	PA-20D-061523	< 0.28	< 0.35	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
PA-21d	6/16/2023	N	Deep	PA-21D-061623	< 140	< 180	< 210	< 220	< 170	< 270	< 250	< 200	< 400	< 220	< 270	< 220
PA-22d	6/15/2023	N	Deep	PA-22D-061523	< 0.28	< 0.35	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
PA-23d	6/15/2023	N	Deep	PA-23D-061523	< 0.28	< 0.35	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
PA-24d	6/15/2023	N	Deep	PA-24D-061523	< 0.28	< 0.35	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
PA-25d	6/13/2023	N	Deep	PA-25D-061323	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-26d	6/14/2023	N	Deep	PA-26D-061423	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-26d	6/14/2023	FD	Deep	DUP-01-061423	< 0.14	< 0.055	< 0.090	< 0.055	< 0.062	< 0.13	< 0.030	< 0.025	< 0.067	< 0.19	< 0.12	< 0.070
PA-27d	6/14/2023	N	Deep	PA-27D-061423	< 0.28	**0.58 j**	< 0.42	< 0.43	< 0.34	< 0.53	< 0.50	< 0.40	< 0.79	< 0.44	< 0.53	< 0.44
PA-30d	6/16/2023	N	Deep	PA-30D-061623	< 14	< 18	< 21	< 22	< 17	< 27	< 25	< 20	< 40	< 22	< 27	< 22

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 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 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte					Methylene chloride	Naphthalene	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	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					59	12	NE	NE	NE	13	NE	NE	NE	0.33	9.8	1000
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID												
MWA-41	6/13/2023	N	Shallow	MWA-41-061323	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
MWA-63	6/15/2023	N	Shallow	MWA-63-061523	*< 1.4*	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	**11**	*< 0.39*	*< 0.39*
MWA-63	6/15/2023	FD	Shallow	DUP-02-061523	*< 1.4*	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	**11**	*< 0.39*	*< 0.39*
MWA-82	6/13/2023	N	Shallow	MWA-82-061323	*< 1.2*	*< 0.22 UJ*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	**0.52**	*< 0.050*	*< 0.033*
PA-03	6/14/2023	N	Shallow	PA-03-061423	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	**0.11 j**	*< 0.033*
PA-04	6/15/2023	N	Shallow	PA-04-061523	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	**0.17 j**	*< 0.050*	*< 0.033*
PA-08	6/13/2023	N	Shallow	PA-08-061323	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	**0.26**	*< 0.050*	*< 0.033*
PA-09	6/13/2023	N	Shallow	PA-09-061323	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	**0.29**	*< 0.050*	*< 0.033*
PA-31	6/16/2023	N	Shallow	PA-31-061623	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	**0.23 j**	*< 0.050*	*< 0.033*
MWA-81i	6/13/2023	N	Intermediate	MWA-81I-061323	*< 1.2*	*< 0.22 UJ*	*< 1.0 U*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-10i	6/16/2023	N	Intermediate	PA-10I-061623	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-15i	6/13/2023	N	Intermediate	PA-15I-061323	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-16i	6/14/2023	N	Intermediate	PA-16I-061423	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-17iR	6/14/2023	N	Intermediate	PA-17IR-061423	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-32i	6/16/2023	N	Intermediate	PA-32I-061623	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-44i	6/13/2023	N	Intermediate	PA-44I-061323	*< 1.2*	*< 0.22 UJ*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
MWA-11i(d)	6/16/2023	N	Deep	MWA-11I(D)-061623	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	**0.11 j**	*< 0.050*	*< 0.033*
MWA-31i(d)	6/15/2023	N	Deep	MWA-31I(D)-061523	**1.4 j**	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	**0.52 j**	*< 0.39*	*< 0.39*
MWA-56d	6/15/2023	N	Deep	MWA-56D-061523	*< 14*	*< 9.3*	*< 4.4*	*< 5.0*	*< 5.1*	*< 3.9*	*< 4.9*	*< 5.3*	*< 5.8*	*< 4.1*	*< 3.9*	*< 3.9*
MWA-58d	6/15/2023	N	Deep	MWA-58D-061523	*< 7.2*	*< 4.7*	*< 2.2*	*< 2.5*	*< 2.6*	*< 2.0*	*< 2.5*	*< 2.7*	*< 2.9*	*< 2.1*	*< 2.0*	*< 2.0*
PA-18d	6/16/2023	N	Deep	PA-18D-061623	*< 1.4*	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	*< 0.41*	*< 0.39*	*< 0.39*
PA-19d	6/16/2023	N	Deep	PA-19D-061623	*< 72*	*< 47*	*< 22*	*< 25*	*< 26*	*< 20*	*< 25*	*< 27*	*< 29*	*< 21*	*< 20*	*< 20*
PA-20d	6/15/2023	N	Deep	PA-20D-061523	*< 1.4*	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	*< 0.41*	*< 0.39*	*< 0.39*
PA-21d	6/16/2023	N	Deep	PA-21D-061623	*< 720*	*< 470*	*< 220*	*< 250*	*< 260*	*< 200*	*< 250*	*< 270*	*< 290*	*< 210*	*< 200*	*< 200*
PA-22d	6/15/2023	N	Deep	PA-22D-061523	*< 1.4*	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	*< 0.41*	*< 0.39*	*< 0.39*
PA-23d	6/15/2023	N	Deep	PA-23D-061523	*< 1.4*	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	*< 0.41*	**1.2**	*< 0.39*
PA-24d	6/15/2023	N	Deep	PA-24D-061523	*< 1.4*	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	*< 0.41*	*< 0.39*	*< 0.39*
PA-25d	6/13/2023	N	Deep	PA-25D-061323	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-26d	6/14/2023	N	Deep	PA-26D-061423	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-26d	6/14/2023	FD	Deep	DUP-01-061423	*< 1.2*	*< 0.22*	*< 0.23*	*< 0.091*	*< 0.12*	*< 0.15*	*< 0.17*	*< 0.19*	*< 0.26*	*< 0.084*	*< 0.050*	*< 0.033*
PA-27d	6/14/2023	N	Deep	PA-27D-061423	*< 1.4*	*< 0.93*	*< 0.44*	*< 0.50*	*< 0.51*	*< 0.39*	*< 0.49*	*< 0.53*	*< 0.58*	*< 0.41*	*< 0.39*	*< 0.39*
PA-30d	6/16/2023	N	Deep	PA-30D-061623	*< 72*	*< 47*	*< 22*	*< 25*	*< 26*	*< 20*	*< 25*	*< 27*	*< 29*	*< 21*	*< 20*	*< 20*

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 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 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte					trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane (Freon 11)	Vinyl chloride
Unit					µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	3	NE	0.24
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID				
MWA-41	6/13/2023	N	Shallow	MWA-41-061323	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
MWA-63	6/15/2023	N	Shallow	MWA-63-061523	*< 0.41*	**1.8**	*< 0.36*	*< 0.22*
MWA-63	6/15/2023	FD	Shallow	DUP-02-061523	*< 0.41*	**1.8**	*< 0.36*	*< 0.22*
MWA-82	6/13/2023	N	Shallow	MWA-82-061323	*< 0.092*	**0.21**	*< 0.12*	*< 0.040*
PA-03	6/14/2023	N	Shallow	PA-03-061423	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-04	6/15/2023	N	Shallow	PA-04-061523	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-08	6/13/2023	N	Shallow	PA-08-061323	*< 0.092*	**0.14 j**	*< 0.12*	*< 0.040*
PA-09	6/13/2023	N	Shallow	PA-09-061323	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-31	6/16/2023	N	Shallow	PA-31-061623	*< 0.092*	**0.077 j**	*< 0.12*	*< 0.040*
MWA-81i	6/13/2023	N	Intermediate	MWA-81I-061323	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-10i	6/16/2023	N	Intermediate	PA-10I-061623	*< 0.092*	*< 0.066*	*< 0.12*	**0.15**
PA-15i	6/13/2023	N	Intermediate	PA-15I-061323	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-16i	6/14/2023	N	Intermediate	PA-16I-061423	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-17iR	6/14/2023	N	Intermediate	PA-17IR-061423	*< 0.092*	*< 0.066*	*< 0.12*	**0.18**
PA-32i	6/16/2023	N	Intermediate	PA-32I-061623	*< 0.092*	*< 0.066*	*< 0.12*	**0.12**
PA-44i	6/13/2023	N	Intermediate	PA-44I-061323	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
MWA-11i(d)	6/16/2023	N	Deep	MWA-11I(D)-061623	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
MWA-31i(d)	6/15/2023	N	Deep	MWA-31I(D)-061523	*< 0.41*	*< 0.26*	*< 0.36*	*< 0.22*
MWA-56d	6/15/2023	N	Deep	MWA-56D-061523	*< 4.1*	*< 2.6*	*< 3.6*	*< 2.2*
MWA-58d	6/15/2023	N	Deep	MWA-58D-061523	*< 2.1*	*< 1.3*	*< 1.8*	*< 1.1*
PA-18d	6/16/2023	N	Deep	PA-18D-061623	*< 0.41*	*< 0.26*	*< 0.36*	**0.34 j**
PA-19d	6/16/2023	N	Deep	PA-19D-061623	*< 21*	*< 13*	*< 18*	*< 11*
PA-20d	6/15/2023	N	Deep	PA-20D-061523	*< 0.41*	*< 0.26*	*< 0.36*	*< 0.22*
PA-21d	6/16/2023	N	Deep	PA-21D-061623	*< 210*	*< 130*	*< 180*	*< 110*
PA-22d	6/15/2023	N	Deep	PA-22D-061523	*< 0.41*	*< 0.26*	*< 0.36*	*< 0.22*
PA-23d	6/15/2023	N	Deep	PA-23D-061523	*< 0.41*	*< 0.26*	*< 0.36*	*< 0.22*
PA-24d	6/15/2023	N	Deep	PA-24D-061523	*< 0.41*	*< 0.26*	*< 0.36*	*< 0.22*
PA-25d	6/13/2023	N	Deep	PA-25D-061323	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-26d	6/14/2023	N	Deep	PA-26D-061423	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-26d	6/14/2023	FD	Deep	DUP-01-061423	*< 0.092*	*< 0.066*	*< 0.12*	*< 0.040*
PA-27d	6/14/2023	N	Deep	PA-27D-061423	*< 0.41*	*< 0.26*	*< 0.36*	*< 0.22*
PA-30d	6/16/2023	N	Deep	PA-30D-061623	*< 21*	*< 13*	*< 18*	*< 11*

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 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 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	Chloride	Perchlorate
				Unit	mg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	230	1,800
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID		
MWA-41	6/13/2023	N	Shallow	MWA-41-061323	**7.5**	*< 2.0*
MWA-63	6/15/2023	N	Shallow	MWA-63-061523	**5.7 j**	*< 2.0*
MWA-63	6/15/2023	FD	Shallow	DUP-02-061523	**5.8 j**	*< 2.0*
MWA-82	6/13/2023	N	Shallow	MWA-82-061323	**9.9**	**150**
PA-03	6/14/2023	N	Shallow	PA-03-061423	**4.5**	*< 2.0*
PA-04	6/15/2023	N	Shallow	PA-04-061523	**6.9 j**	*< 4.0*
PA-08	6/13/2023	N	Shallow	PA-08-061323	**110**	**11**
PA-09	6/13/2023	N	Shallow	PA-09-061323	**110**	**6.2**
PA-31	6/16/2023	N	Shallow	PA-31-061623	**2.5**	*< 40*
MWA-81i	6/13/2023	N	Intermediate	MWA-81I-061323	**27**	*< 2.0*
PA-10i	6/16/2023	N	Intermediate	PA-10I-061623	**35**	*< 20*
PA-15i	6/13/2023	N	Intermediate	PA-15I-061323	**290**	*< 4.0*
PA-16i	6/14/2023	N	Intermediate	PA-16I-061423	**120 J-**	*< 4.0*
PA-17iR	6/14/2023	N	Intermediate	PA-17IR-061423	**15**	*< 4.0*
PA-32i	6/16/2023	N	Intermediate	PA-32I-061623	**31**	*< 40*
PA-44i	6/13/2023	N	Intermediate	PA-44I-061323	**20**	*< 2.0*
MWA-11i(d)	6/16/2023	N	Deep	MWA-11I(D)-061623	**450**	*< 10*
MWA-31i(d)	6/15/2023	N	Deep	MWA-31I(D)-061523	**16,000**	**86,000**
MWA-56d	6/15/2023	N	Deep	MWA-56D-061523	**15,000**	**13,000**
MWA-58d	6/15/2023	N	Deep	MWA-58D-061523	**19,000**	**50,000**
PA-18d	6/16/2023	N	Deep	PA-18D-061623	**27 J-**	*< 40*
PA-19d	6/16/2023	N	Deep	PA-19D-061623	**320**	*< 40*
PA-20d	6/15/2023	N	Deep	PA-20D-061523	**880**	*< 20*
PA-21d	6/16/2023	N	Deep	PA-21D-061623	**330**	*< 100*
PA-22d	6/15/2023	N	Deep	PA-22D-061523	**5,600**	**15,000**
PA-23d	6/15/2023	N	Deep	PA-23D-061523	**25,000**	*< 400*
PA-24d	6/15/2023	N	Deep	PA-24D-061523	**33,000**	*< 400*
PA-25d	6/13/2023	N	Deep	PA-25D-061323	**10**	*< 2.0*
PA-26d	6/14/2023	N	Deep	PA-26D-061423	**67 J**	*< 2.0*
PA-26d	6/14/2023	FD	Deep	DUP-01-061423	**39 J**	*< 2.0*
PA-27d	6/14/2023	N	Deep	PA-27D-061423	**690**	*< 20*
PA-30d	6/16/2023	N	Deep	PA-30D-061623	**310**	*< 40*

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.

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 concentrations of the sample pair are outside of the duplicate criteria limits and associated results are qualified as estimates.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.

FIGURES

DRAWN BY: Kelly Lyons DATE: 5/24/2023

\\SCUSPRDGISFS01\Data\US\Projects\S-UT\total\Arkema_Portland\Groundwater Monitoring Report\Maps\2021 Q1\Figure 1 Site Layout.mxd REVISED: 05/24/2023 SCALE: 1:2,040 when printed at 11x17

Willamette River

GCC1 & Proximal Wells

GCC2

GCC3

GCC4 & Proximal Wells

GCC5 & Proximal Wells

GCC6 & Proximal Wells

Well Distal from BW and GCCs

Groundwater Treatment Plant

Sand Filter Basin

Detention Basin

RP-02-31

RP-10-30

MWA-63 MWA-64i MWA-8i MWA-2 MWA-61 PA-19d PA-05 RW-23 PA-36 PA-37i RW-24i PA-11i RW-7 PA-35 EW-3 EW-4 MWA-84 RW-5 RW-6i PA-34i PA-33 PA-31 PA-32i EW-2 EW-1 MWA-83 PA-17iR PA-27d PA-03 PA-10i PA-04 PA-18d RW-9i RW-8 PA-30d MWA-85 MWA-66i PA-21d EW-6 RW-10 PA-06 RW-11i MWA-6r MWA-16i PA-12i EW-5 PA-20d EW-7 EW-8 RW-12 RW-13i MWA-86 MWA-42 MWA-54i MWA-15R MWA-22 MWA-11i(d) MWA-24 MWA-40 MWA-33 MWA-70i MWA-39 MWA-23 MWA-73 MWA-12i(d) MWA-7(i) MWA-71 MWA-74i MWA-77g MWA-72 MWA-75i MWA-76g

MWA-32i MWA-30 MWA-31i(d) MWA-47 PA-29i PA-24d MWA-49i MWA-46 MWA-56d MWA-58d MWA-34i MWA-19 MWA-18 MWA-51i RW-17 RW-16i PA-22d RW-18 RW-20 RW-21i MWA-53i MWA-29 PA-14i PA-23d PA-07 PA-41 RW-16i RW-15 PA-13i PA-28 EW-9 EW-11 EW-10 MWA-88 EW-12 PA-39i PA-40i EW-13 MWA-43 PA-38 MWA-89 PA-42 RW-22 PA-16i EW-14 PA-15i PA-25d PA-09 PA-26d PA-08 PA-44i RW-26i PA-43 MWA-81i MWA-41 RW-25 MWA-82 MW-30 MW-29 RW-14 MWA-20 MWA-87

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

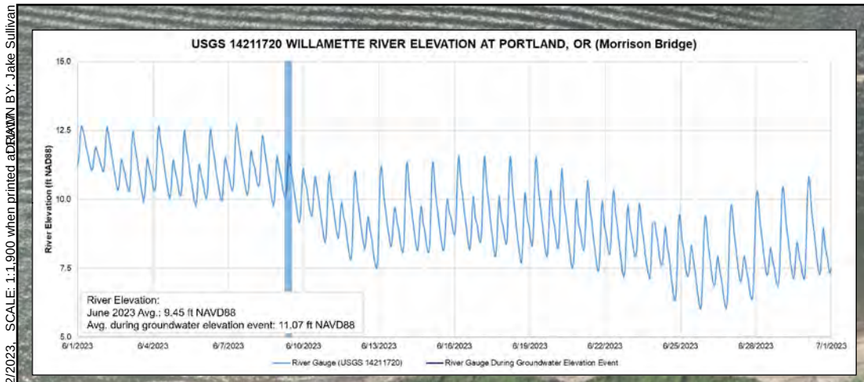
0 170 340

Feet

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

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

Environmental Resources Management
www.erm.com
ERM



Legend

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

Notes:
* Value not used for contouring.
Water levels collected June 9, 2023.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

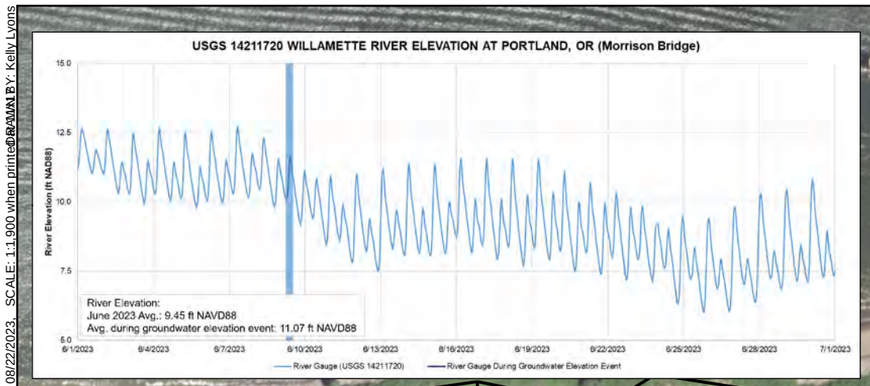
N

0 160 320
Feet

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

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

Environmental Resources Management
www.erm.com



Legend

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

Notes:
* Value not used for contouring.
Water levels collected June 9, 2023.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

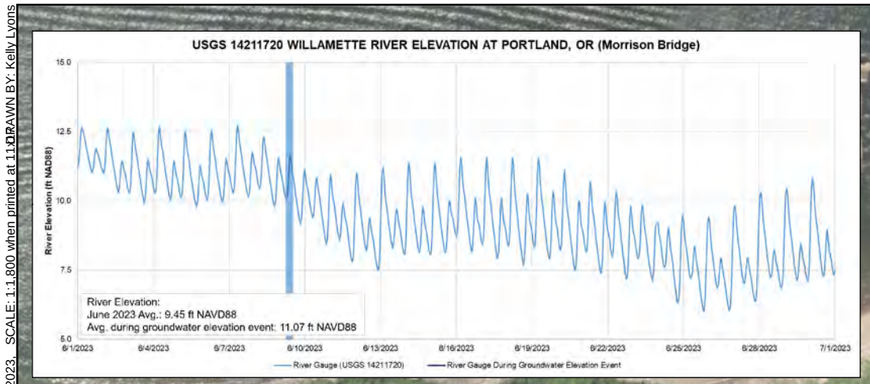
0 160 320
Feet

Figure 3
June 2023 Intermediate Zone Groundwater Contours
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

\\SCUSPRDGISFS01\Data\USIProjects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 3 June 2023 Intermediate Zone.mxd REVISED: 08/22/2023 SCALE: 1:1,900 when printed at 8.5x11 BY: Kelly Lyons



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 June 9, 2023.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 150 300
Feet

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

Environmental Resources Management
www.erm.com

\\SCUSPROGIS\FS01\Data\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema WorkingMaps\2023 Q2\Figure 4 June 2023 Deep Zone.mxd REVISED: 08/22/2023 SCALE: 1:1,800 when printed at 11.0 DRAWN BY: Kelly Lyons

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 5_Chlorobenzene Shallow.mxd, REVISED: 08/30/2023, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 8/30/2023

Willamette River

MWA-69 NS
MWA-61 NS
MWA-2 NS
MWA-18 NS
MWA-46 NS
MWA-19 NS
MWA-30 NS
MWA-47 NS
MWA-29 NS
PA-28 NS
PA-07 NS
PA-06 NS
PA-05 NS
PA-36 NS
MWA-20 NS
MWA-15r NS
MWA-42 NS
PA-38 NS
PA-42 NS
MWA-22 NS
MWA-24 NS
MWA-40 NS
MWA-33 NS

Groundwater Treatment Plant

MWA-63 ND < 0.44
PA-03 ND < 0.06
PA-04 ND < 0.06
PA-31 ND < 0.06
PA-08 ND < 0.06
PA-09 ND < 0.06
MWA-41 ND < 0.06
MWA-82 ND < 0.06

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Figure 5
Chlorobenzene Groundwater Concentrations
Shallow Zone
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

M:\US\Projects\S_UT\otal\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 6_Chlorobenzene Intermediate.mxd REVISED: 08/30/2023 SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 8/30/2023

Willamette River

Groundwater Treatment Plant

MWA-8i NS
MWA-64i NS
MWA-66i NS
PA-11i NS
PA-37i NS
PA-12i NS
MWA-54i NS
MWA-49i NS
MWA-34i NS
MWA-32i NS
MWA-51i NS
PA-13i NS
PA-29i NS
PA-14i NS
MWA-53i NS
PA-39i NS
MWA-70i NS

PA-17iR 0.073 j
PA-10i 1.3 J+
PA-32i ND < 0.29 U
PA-15j 0.073 j
PA-16i ND < 0.06
PA-44i ND < 0.06
MWA-81i ND < 0.06

12 14 16 18 20 22 24

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 7
Chlorobenzene Groundwater Concentrations
Deep Zone
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 7 Chlorobenzene Deep.mxd. REVISED: 09/01/2023. SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 9/1/2023

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Environmental Resources Management
www.erm.com
ERM

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 8 12-Dichlorobenzene Shallow.mxd. REVISED: 08/30/2023. SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 8/30/2023

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
- Intermediate Zone Groundwater Contours (ft NAVD88) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Environmental Resources Management
www.erm.com
ERM

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

Legend

- > 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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Environmental Resources Management
www.erm.com
ERM

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 10_12-Dichlorobenzene Deep.mxd, REVISED: 09/30/2023, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 8/30/2023

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L.
ND: Non-Detect

N

0 120 240
Feet

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

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

Environmental Resources Management
www.erm.com

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 11_VOCs_PieChart_Shallow.mxd REVISED: 08/30/2023, SCALE: 1:1,440 when printed at 11x8.5 DRAWN BY: Tyler Harris DATE: 8/30/2023

M:\US\Projects\S-UT\total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 12_VOCs_PieChart Intermediate.mxd REVISED: 08/30/2023, SCALE: 1:1,440 when printed at DRAWN BY: Tyler Harris DATE: 8/30/2023

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L.
ND: Non-Detect

N

0 120 240
Feet

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

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

Environmental Resources Management
www.erm.com

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 13_VOCs_PieChart_Deep.mxd, REVISED: 08/30/2023, SCALE: 1:1,440 when printed at 11x17DRAWN BY: Tyler Harris DATE: 8/30/2023

Willamette River

PA-19d
PCE: ND
TCE: ND
Cis-1,2: 18
VC: ND
Sum: 18

PA-21d
ND

PA-30d
ND

PA-20d
ND

MWA-56d
ND

MWA-58d
ND

MWA-31i(d)
PCE: 0.52
TCE: ND
Cis-1,2: ND
VC: ND
Sum: 0.52

PA-24d
ND

PA-22d
ND

PA-23d
ND

Groundwater Treatment Plant

MWA-11i(d)
PCE: 0.11
TCE: ND
Cis-1,2: 0.16
VC: ND
Sum: 0.27

PA-25d
ND

PA-26d
ND

PA-27d
PCE: ND
TCE: ND
Cis-1,2: 0.58
VC: ND
Sum: 0.58

PA-18d
PCE: ND
TCE: ND
Cis-1,2: ND
VC: 0.34
Sum: 0.34

12
14
16
18
20
22

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L.
ND: Non-Detect

N

0 120 240
Feet

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

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

Environmental Resources Management
www.erm.com
ERM

Willamette River

MWA-69 NS
MWA-61 NS
MWA-2 NS
MWA-18 NS
MWA-46 NS
MWA-19 NS
MWA-30 NS
MWA-47 NS
MWA-29 NS
PA-28 NS
PA-07 NS
PA-06 NS
PA-05 NS
PA-36 NS
MWA-20 NS
PA-42 NS
PA-38 NS
MWA-15r NS
MWA-42 NS
MWA-22 NS
MWA-24 NS
MWA-40 NS
MWA-33 NS

MWA-63 ND < 2
PA-03 ND < 2
PA-04 ND < 4
PA-31 ND < 40
PA-08 11
PA-09 6.2
MWA-41 ND < 2
MWA-82 150

Groundwater Treatment Plant

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 5 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Figure 14
Perchlorate Groundwater Concentrations
Shallow Zone
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 15_Perchlorate Intermediate.mxd REVISED: 09/31/2023, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 8/31/2023

Willamette River

MWA-49i NS
MWA-34i NS
MWA-32i NS
PA-29i NS
MWA-66i NS
MWA-64i NS
MWA-51i NS
PA-14i NS
MWA-53i NS
MWA-8i NS
PA-11i NS
PA-13i NS
PA-12i NS
PA-37i NS
PA-39i NS
MWA-54i NS
Groundwater Treatment Plant
PA-15i ND < 4
PA-16i ND < 4
PA-17iR ND < 4
PA-32i ND < 40
PA-10i ND < 20
PA-44i ND < 2
MWA-81i ND < 2
MWA-70i NS

Legend

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

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 5 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Figure 15
Perchlorate Groundwater Concentrations
Intermediate Zone
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 5 for definition of qualifiers
ND: Non-Detect

N

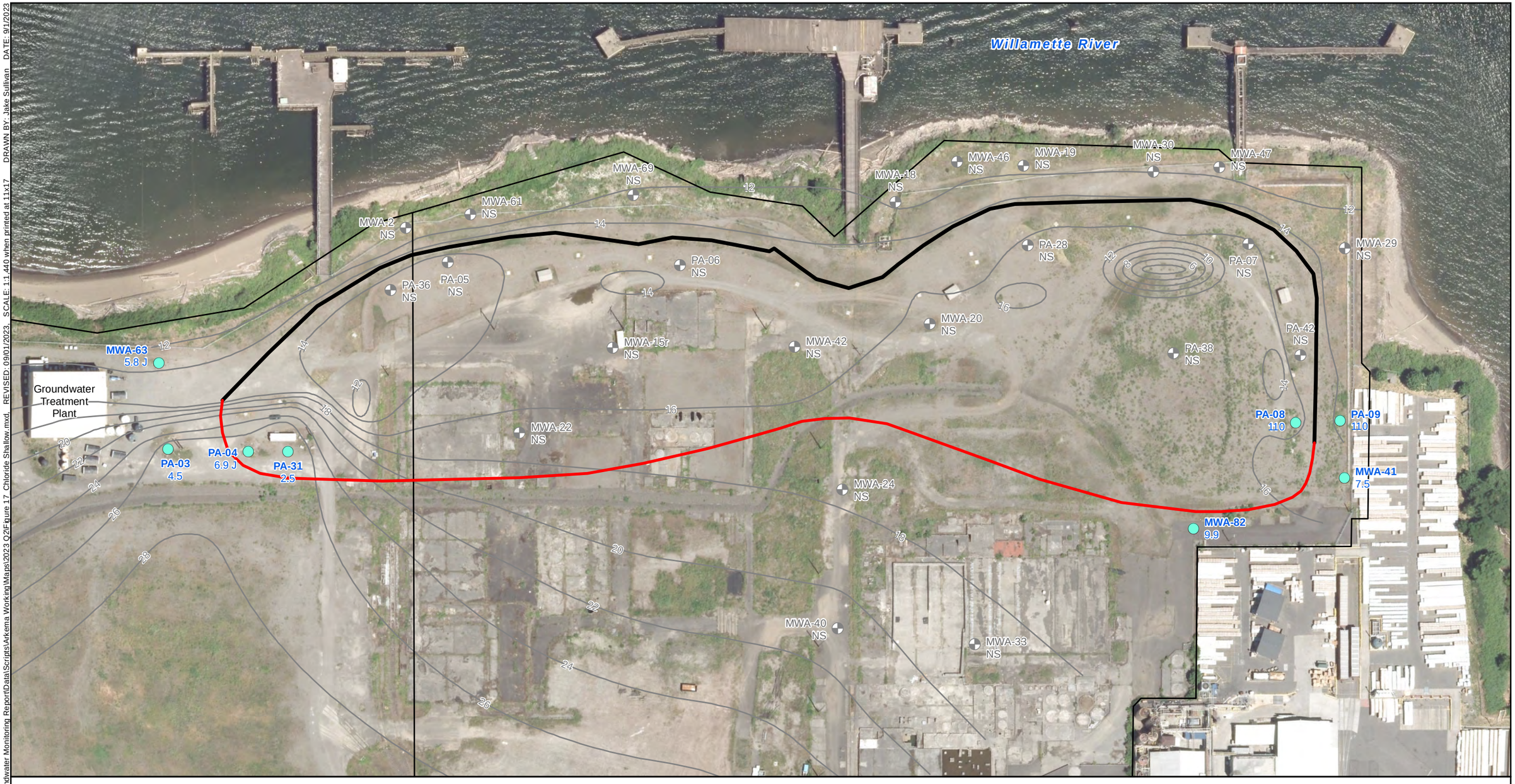
0 120 240
Feet

Figure 16
Perchlorate Groundwater Concentrations
Deep Zone
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 16_Perchlorate Deep.mxd REVISED: 08/31/2023, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 8/31/2023



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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

N

0 120 240
Feet

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

Figure 17
Chloride Groundwater Concentrations
Shallow Zone
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

M:\USP\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 17_Chloride Shallow.mxd, REVISED: 09/01/2023, SCALE: 1:1,440 when printed at 11x17, DRAWN BY: Jake Sullivan, DATE: 9/1/2023

M:\US\Projects\S_UT\total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 18_Chloride Intermediate.mxd REVISED: 08/31/2023 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 8/31/2023

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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

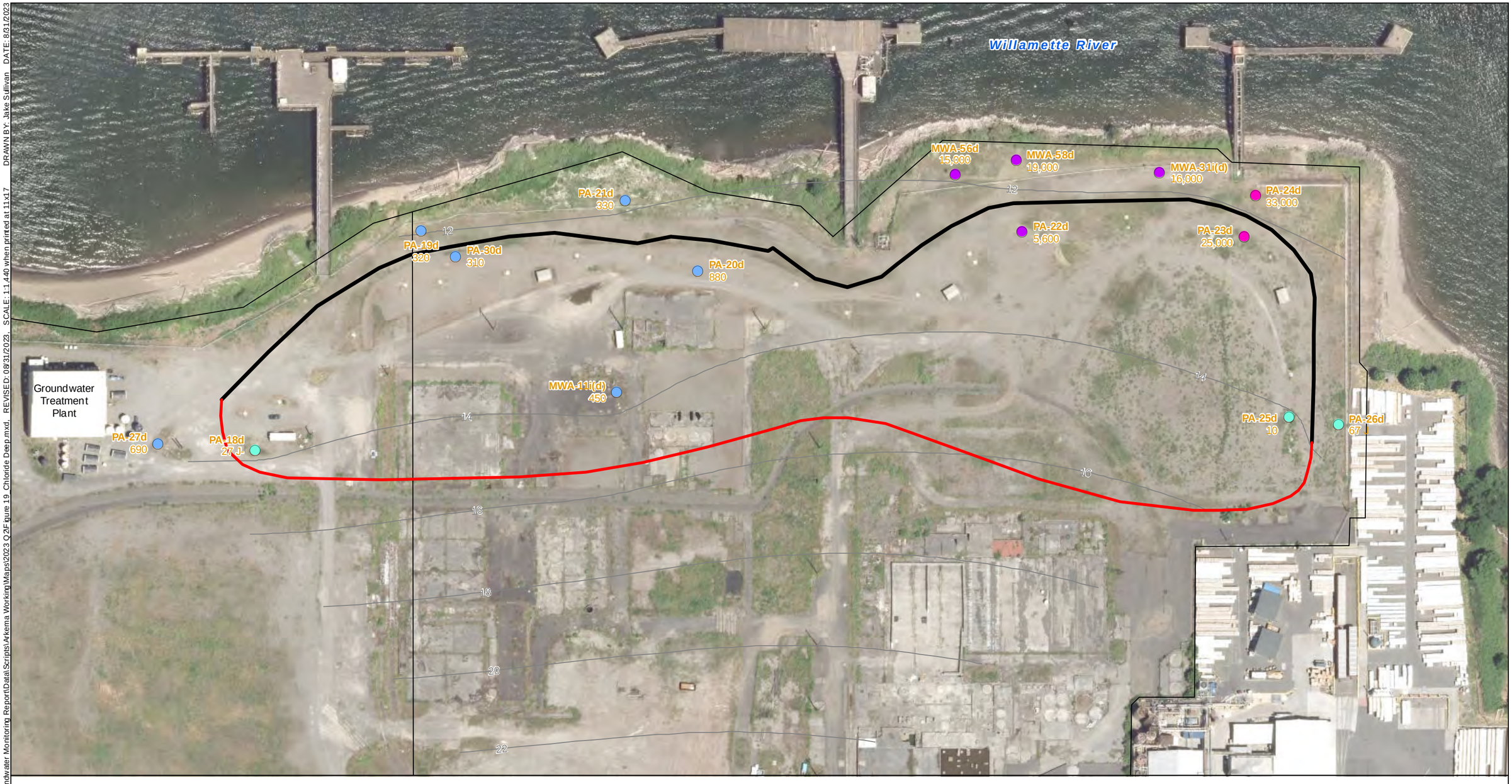
N

0 120 240
Feet

Figure 18
Chloride Groundwater Concentrations
Intermediate Zone
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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



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) June 2023

Notes:
Samples Collected June 13 - 16, 2023
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

N

0 120 240
Feet

Figure 19
Chloride Groundwater Concentrations
Deep Zone
Quarter 2, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q2\Figure 19_Chloride Deep.mxd, REVISED: 09/31/2023, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 8/31/2023

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

APPENDIX A FIELD FORMS

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-41
Well Permit No:

Date: 2023/06/13
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 38 (ft)	**Reference Elevation** 45.14 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 32.35 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
09:46	31.35	160		19	6.54	323	NM	3.74	214.6	3.95	NM	
09:49	31.35	160		19	6.54	318.5	NM	1.31	199.4	3.53	NM	
09:52	31.35	160		18.9	6.55	318.7	NM	0.9	192.6	3.1	NM	
09:55	31.35	160		18.7	6.55	318.3	NM	0.83	186.7	2.97	NM	
09:58	31.35	160	2.4	18.6	6.55	317.9	NM	0.78	182.7	2.95	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
MWA-41-061323	2 pump	ST 	06/13/2023 17:02
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-63
Well Permit No:

Date: 2023/06/15
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 27 (ft)	**Reference Elevation** 36.29 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.51 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
11:49	24.9	160		16.7	7.49	1165	NM	6.8	47.5	28.21	NM	
11:52	25.05	160		16.1	7.49	793	NM	6.56	57	29.58	NM	
11:55	25.1	160		16.1	7.49	735	NM	6.48	59.8	28.87	NM	
11:58	25.1	160		16.3	7.48	672	NM	6.4	63.7	28.16	NM	
12:01	25.1	160	2.4	16.3	7.48	608	NM	6.32	67	28.31	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
DUP-02-061523,MWA-63-061523	Peri pump	ST 	06/15/2023 19:05
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-81I
Well Permit No:

Date: 2023/06/13
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 48 (ft)	**Reference Elevation** 44.62 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 32.78 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
10:30	32.8	160		19.3	6.54	312.2	NM	3.23	203.3	6.04	NM	
10:33	32.8	160		18.6	6.52	311.8	NM	1.23	200.2	5.68	NM	
10:36	32.8	160		18.4	6.52	309.9	NM	1.06	189	5.35	NM	
10:39	32.8	160		18.4	6.54	318.7	NM	0.97	118.4	5.27	NM	
10:42	32.8	160		18.3	6.56	340.8	NM	0.95	115.7	5.08	NM	
10:45	32.8	160	2.88	18.2	6.58	345.8	NM	0.89	110.8	4.91	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
MWA-81i-061323	2 pump	ST 	06/13/2023 17:47
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-82
Well Permit No:

Date: 2023/06/13
Cool clear

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** 21.31 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
08:27	21.35	160		17.2	9.01	398.2	NM	3.25	157	42.97	NM	
08:30	21.35	160		17.3	9.05	365.7	NM	0.94	156.7	42.94	NM	
08:33	21.35	160		17.2	9.05	362.7	NM	0.7	158.4	43.13	NM	
08:36	21.35	160		17	9.02	362.3	NM	0.65	158.2	46.54	NM	
08:39	21.35	160	2.4	16.9	9.02	361.9	NM	0.62	156.1	44.82	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
MWA-82-061323	2 pump	ST 	06/13/2023 15:45
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-19D
Well Permit No:

Date: 2023/06/16
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 47 (ft)	**Reference Elevation** 36.65 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
07:44	28.52	100		15.9	7.27	4214	NM	2.89	-32.1	31.94	NM	
07:47	29.65	100		15.9	7.28	3550	NM	3.17	-22.7	14.28	NM	
07:50	30.13	100		15.9	7.26	3365	NM	3.38	-12.7	10.27	NM	
07:53	30.51	100		15.8	7.25	3241	NM	3.25	-8.6	9.35	NM	
07:56	30.73	100		15.8	7.24	3111	NM	2.92	-7.4	8.5	NM	
07:59	30.97	100		15.7	7.23	3080	NM	2.88	-6.3	7.37	NM	
08:02	31.11	100	2.1	15.8	7.23	3071	NM	2.82	-3.9	6.36	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-19d-061623	1 pump	ST 	06/16/2023 15:05
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-21D
Well Permit No:

Date: 2023/06/16
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 54 (ft)	**Reference Elevation** 34.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.35 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
06:49	26.97	100		15.8	6.34	3234	NM	2.67	-12.3	70.64	NM	
06:52	28.18	100		15.7	6.31	3215	NM	1.54	-11	53.9	NM	
06:55	29.03	100		15.6	6.3	3211	NM	1.29	-11.8	35.67	NM	
06:58	30.47	100		15.6	6.3	3212	NM	1.09	-13.3	30.95	NM	
07:01	30.87	100		15.9	6.3	3207	NM	1.01	-14.3	37.91	NM	
07:04	31.22	100		16	6.29	3217	NM	0.96	-15	36.31	NM	
07:07	31.58	100	2.1	16.1	6.29	3214	NM	0.92	-15.5	37.42	NM	

Sample ID(s): PA-21d-061623	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:	1 pump	ST 	06/16/2023 14:11

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-22D
Well Permit No:

Date: 2023/06/15
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** 27.46 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
10:30	27.35	100		17.9	7.15	16294	NM	2.08	-25.7	8.65	NM	
10:33	27.4	100		18	7.15	15877	NM	1.37	-10.9	10.1	NM	
10:35	27.42	100		17.6	7.14	16182	NM	1.12	7.9	13.24	NM	
10:38	27.45	100		17.4	7.14	16657	NM	1	13.6	15.19	NM	
10:41	27.45	100		17.6	7.14	16972	NM	0.94	19.6	12.15	NM	
10:44	27.45	100		17.5	7.15	17223	NM	0.89	23.5	15.42	NM	
10:47	27.45	100	2.1	17.7	7.15	17292	NM	0.85	25.5	11.78	NM	

Sample ID(s): PA-22d-061523	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	06/15/2023 17:50

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-23D
Well Permit No:

Date: 2023/06/15
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 39.31 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.5 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
08:46	29.5	100		14.9	6.89	62665	NM	2.14	-30.7	8.04	NM	
08:49	30.64	100		15	6.9	60307	NM	1.32	-24.9	12.49	NM	
08:52	31.74	100		15	6.89	58797	NM	1.15	-22.5	15.39	NM	
08:55	32.63	100		14.9	6.9	58304	NM	1.09	-20.4	14.21	NM	
08:58	32.95	100		14.9	6.9	58762	NM	1.02	-20.7	15.79	NM	
09:01	33.42	100	1.8	15.1	6.92	59678	NM	0.97	-23.6	14.05	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-23d-061523	1 pump. DI-061523 taken. RB-01-061523 taken before purging.	ST 	06/15/2023 16:05
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-24D
Well Permit No:

Date: 2023/06/15
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 39.06 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 30.05 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
09:35	31.6	100		15.2	6.71	78142	NM	2.43	-41.8	5.92	NM	
09:38	32.25	100		15.2	6.7	77489	NM	1.18	-43.6	5.49	NM	
09:41	32.75	100		15.6	6.7	77375	NM	0.94	-45.8	5.47	NM	
09:44	33.11	100		15.5	6.7	78277	NM	0.89	-47	5.51	NM	
09:47	33.49	100	1.5	15.5	6.71	77831	NM	0.85	-48.7	7.42	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-24d-061523	1 pump	ST 	06/15/2023 16:49
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-26D
Well Permit No:

Date: 2023/06/14
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 40.33 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.8 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 120 (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
06:58	28.37	120		15.5	6.53	182.2	NM	2.84	59.4	74.93	NM	
07:01	28.58	120		15.5	6.61	195.6	NM	2.43	16.9	50.68	NM	
07:04	28.7	120		15.7	6.79	280.8	NM	1.59	15.9	34.21	NM	
07:07	28.75	120		15.7	6.81	293.6	NM	1.54	11.4	29.83	NM	
07:10	28.75	120	1.8	15.6	6.83	290.8	NM	1.49	9.7	22.18	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
DUP-01-061423,PA-26d-061423	Peri pump	ST 	06/14/2023 14:17
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-30D
Well Permit No:

Date: 2023/06/16
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 49 (ft)	**Reference Elevation** 37.34 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 25.85 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
08:42	25.85	100		18	7.76	3351	NM	2.01	-52.7	11.04	NM	
08:45	25.85	100		18	7.84	3154	NM	0.97	-85.9	6.61	NM	
08:48	25.85	100		18.1	7.81	2987	NM	0.6	-90.8	13.65	NM	
08:51	25.85	100		18.2	7.95	3142	NM	0.54	-99.2	11.57	NM	
08:54	25.85	100		18.4	7.97	3263	NM	0.5	-99.9	9.89	NM	
08:57	25.85	100	1.8	18.5	8.02	3384	NM	0.51	-102.3	8.65	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-30d-061623	1 pump	ST 	06/16/2023 16:05
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-09
Well Permit No:

Date: 2023/06/13
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 30 (ft)	**Reference Elevation** 40.24 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.4 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
12:01	27.4	160		18.5	6.77	768	NM	2.7	158.4	60.87	NM	
12:04	27.4	160		18.1	6.73	794	NM	0.92	158.1	55.13	NM	
12:07	27.4	160		18	6.72	806	NM	0.83	157.6	53.1	NM	
12:10	27.4	160		18.1	6.72	815	NM	0.76	156.6	50.88	NM	
12:13	27.4	160	2.4	18.3	6.72	816	NM	0.74	156.3	49.71	NM	

Sample ID(s): PA-09-061323	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump	ST 	06/13/2023 19:15

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-18D
Well Permit No:

Date: 2023/06/16
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 42 (ft)	**Reference Elevation** 36.55 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.45 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 120 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.16 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:36	26.3	120		17.2	8.64	1141	NM	1.24	-83.6	46.53	NM	
09:39	27.05	120		17.2	8.65	1104	NM	0.73	-93.4	28.61	NM	
09:42	27.52	120		17	8.66	1080	NM	0.64	-112.8	27.64	NM	
09:45	27.7	120		17.1	8.67	1077	NM	0.59	-119.9	25.61	NM	
09:48	27.85	120		17.1	8.71	1083	NM	0.54	-122.7	27.31	NM	
09:51	27.89	120	2.16	17.3	8.72	1086	NM	0.5	-125.3	25.28	NM	

Sample ID(s): PA-18d-061623	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump	ST	06/16/2023 16:58

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-44I
Well Permit No:

Date: 2023/06/13
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** 28.15 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
11:12	28.15	160		19.1	6.98	395.9	NM	2.07	118.7	34.65	NM	
11:15	28.15	160		18.9	6.98	403.6	NM	1.16	125	38.67	NM	
11:17	28.15	160		18.6	6.98	409.6	NM	0.98	126.2	43.41	NM	
11:20	28.15	160		18.4	6.98	413.6	NM	0.93	122.8	41.96	NM	
11:23	28.15	160	2.4	18.4	6.98	416.4	NM	0.87	119.4	40.24	NM	

Sample ID(s): PA-44i-061323	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2 pump	ST 	06/13/2023 18:25

Low Flow Groundwater Sampling Field Data Form	Well ID: PA-20D Well Permit No:	Date: 2023/06/15 Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 60 (ft)	**Reference Elevation** 37.91 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.58 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-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
12:37	28.6	100		18.4	6.72	3872	NM	2.14	-26.5	4.11	NM	
12:40	29.5	100		18.1	6.71	3997	NM	1.18	-27.6	3.45	NM	
12:43	30.22	100		18.1	6.71	4069	NM	1.02	-29.7	3.78	NM	
12:46	30.85	100		17.9	6.71	4104	NM	0.96	-31.3	3.56	NM	
12:49	31.14	100		17.9	6.72	4106	NM	0.88	-33	3.78	NM	
12:52	31.48	100	1.8	17.8	6.72	4093	NM	0.84	-34.1	3.89	NM	

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
PA-20d-061523	1 pump	ST	06/15/2023 19:55
Analysis:			

Low Flow Groundwater Sampling Field Data Form	Well ID: MWA-11I(D) Well Permit No:	Date: 2023/06/16 Sunny

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 48 (ft)	**Reference Elevation** 36.49 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 23.82 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 200 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 3 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:39	24.11	200	0	1747	9.62	608	NM	3.9	45.2	2.27	NM	
09:42	24.11	200	0.6	17.52	9.76	625	NM	2.21	44.5	0.53	NM	
09:45	24.08	200	1.2	17.53	9.81	631	NM	1.79	40.3	0.89	NM	
09:48	24.08	200	1.8	17.59	9.84	633	NM	1.58	38.5	0.45	NM	
09:51	24.08	200	2.4	17.78	9.86	635	NM	1.5	38.2	0.69	NM	
09:54	24.08	200	3	17.97	9.88	641	NM	1.45	37.1	0.76	NM	

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
MWA-11i(d)-061623			
Analysis:		Mlr 	06/16/2023 16:56

Low Flow Groundwater Sampling Field Data Form

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

Date: 2023/06/15
Sunny

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** 28.31 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 204.2 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 3.375 (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
08:01	25.65	225	0	16.31	6.77	38762	NM	4.77	164.9	12.8	NM	
08:04	28.8	225	0.675	16.43	6.79	44599	NM	2	162.7	13.7	NM	
08:07	28.8	225	1.35	16.35	6.78	45416	NM	1.59	162.3	13	NM	
08:10	28.2	225	2.025	16.28	6.77	45630	NM	1.43	162.2	11.8	NM	
08:13	28.85	225	2.7	16.04	6.77	45853	NM	1.34	162.2	11.2	NM	
08:16	28.88	100	3.375	15.94	6.77	45966	NM	1.26	162.4	12.35	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
MWA-31i(d)-061523		Mlr 	06/15/2023 15:24
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-56D
Well Permit No:

Date: 2023/06/15
Sunny

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** 26.7 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 225 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 1.35 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:47	26.95	225	0	16.94	6.46	31525	NM	6.73	183.5	3.36	NM	
10:50	26.95	225	0.675	16.87	6.47	39514	NM	2.63	188.8	20.6	NM	
10:53	26.97	225	1.35	16.76	6.48	40654	NM	2.03	190.7	16.3	NM	
10:56	27.01	225	2.025	16.67	6.48	41077	NM	1.79	1.79	7.19	NM	
10:59	27	225	2.7	16.74	6.49	41145	NM	1.67	193.3	5.32	NM	
11:02	27.02	225	3.375	16.74	6.49	41241	NM	1.56	194.4	4.45	NM	
11:05	27	225	4.05	16.79	6.5	41271	NM	1.51	196	3.45	NM	
11:08	27	225	4.725	16.9	6.51	41259	NM	1.5	197.7	2.41	NM	

Sample ID(s): MWA-56d-061523	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/15/2023 19:00

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-58D
Well Permit No:

Date: 2023/06/15
Sunny

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 58 (ft)	**Reference Elevation** 37.97 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.32 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 225 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 5.4 (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
09:32	28.55	225	0	16.88	6.28	38779	NM	52.62	215.9	8.13	NM	
09:35	28.55	225	0.675	16.78	6.29	43700	NM	17.09	211.2	9.3	NM	
09:38	28.55	225	1.35	16.59	6.33	46112	NM	4.42	204.3	4.12	NM	
09:41	28.55	225	2.025	16.55	6.39	49222	NM	2.44	195.5	2.33	NM	
09:44	28.6	225	2.7	16.52	6.46	51660	NM	1.66	174.5	1.56	NM	
09:47	28.58	225	3.375	16.89	6.5	52308	NM	1.31	161.2	1.07	NM	
09:50	28.6	225	4.05	17.35	6.51	52487	NM	1.17	155.4	0.83	NM	
09:53	28.63	225	4.725	17.05	6.52	52792	NM	1.14	153.9	0.81	NM	
09:56	28.68	225	5.4	16.82	6.52	52763	NM	1.11	150.9	1	NM	

Sample ID(s): MWA-58d-061523	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/15/2023 16:59

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-32I
Well Permit No:

Date: 2023/06/16
Sunny

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 38 (ft)	**Reference Elevation** 36.28 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 22 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 225 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 5.4 (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
08:07	22.12	225	0	15.58	9.86	277	NM	6.13	82.4	7.34	NM	
08:10	22.12	225	0.675	15.53	9.42	530	NM	3.82	89.5	3.3	NM	
08:13	22.1	225	1.35	15.55	7.97	990	NM	1.76	31.2	0.02	NM	
08:16	22.08	225	2.025	15.56	7.7	1068	NM	1.08	-49.2	0.32	NM	
08:19	22.08	225	2.7	15.53	7.66	1091	NM	0.97	-53	0.18	NM	
08:22	22.09	225	3.375	15.56	7.65	1098	NM	0.93	-61.7	0.27	NM	
08:25	22.08	225	4.05	15.55	7.64	1103	NM	0.93	-76.4	0.25	NM	
08:28	22.07	225	4.725	15.55	7.64	1107	NM	0.88	-72.1	0.27	NM	
08:31	22.08	225	5.4	15.6	7.63	1110	NM	0.88	-76.8	0.25	NM	

Sample ID(s): PA-32i-061623	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/16/2023 15:33

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-03
Well Permit No:

Date: 2023/06/14
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** 10.15 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 200 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler madison rosen	**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
11:00	12.09	200	0	15.96	10.36	1072	NM	1.44	-102.8	21	NM	
11:03	11.81	200	0.6	16.4	10.37	909	NM	1.13	-121.9	36.6	NM	
11:06	12.02	200	1.2	16.28	10.37	903	NM	1.12	-129.8	31.7	NM	
11:09	11.9	200	1.8	16.22	10.39	875	NM	1.04	-132.9	29.9	NM	
11:12	11.97	200	2.4	16.39	10.4	841	NM	0.99	-130.3	27.7	NM	

Sample ID(s): PA-03-061423	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/14/2023 20:01

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-04
Well Permit No:

Date: 2023/06/15
Sunny

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** 9.65 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 4.5 (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
12:19	10.05	100	0	17.3	9.63	2051	NM	5.48	83.3	185	NM	
12:22	9.91	100	0.3	17.46	9.7	1456	NM	2.87	73.8	190	NM	
12:25	9.91	100	0.6	17.45	9.71	1212	NM	2.07	67.8	166	NM	
12:28	9.9	100	0.9	17.45	9.75	1057	NM	1.67	63.9	140	NM	
12:31	9.9	100	1.2	17.33	9.78	951	NM	1.46	56.5	104	NM	
12:34	9.9	100	1.5	17.46	9.81	897	NM	1.31	54	75	NM	
12:37	9.9	100	1.8	17.46	9.82	878	NM	1.25	49.8	55.4	NM	
12:40	9.9	100	2.1	17.35	9.82	863	NM	1.23	48.8	41.9	NM	
12:43	9.9	100	2.4	17.36	9.82	856	NM	1.16	47.3	30.6	NM	
12:46	9.9	100	2.7	17.32	9.82	846	NM	1.12	46.6	27.9	NM	
12:49	9.9	100	3	17.3	9.82	835	NM	1.08	46.3	21.7	NM	
12:52	9.9	100	3.3	17.4	9.82	826	NM	1.06	45.2	21.9	NM	
12:55	9.9	100	3.6	17.41	9.82	821	NM	1.05	44.4	19.6	NM	
12:59	9.9	100	3.9	17.35	9.82	816	NM	1.03	44	16.3	NM	
13:02	9.9	100	4.2	17.36	9.83	808	NM	1.03	43.4	14.9	NM	
13:05	9.9	100	4.5	17.25	9.82	809	NM	1.01	42.5	13.8	NM	

Sample ID(s): PA-04-061523	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/15/2023 20:10

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-08
Well Permit No:

Date: 2023/06/13
Sunny

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** 26.08 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler madison rosen	**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
07:53	26.17	100	0	15.49	7.31	1442	NM	6.36	-104.1	18.4	NM	
07:56	26.17	100	0.3	15.42	7.35	1457	NM	5.05	-93.1	23.3	NM	
07:59	26.17	100	0.6	15.42	7.39	1443	NM	4.19	-56.7	22.8	NM	
08:02	26.17	100	0.9	15.52	7.41	1403	NM	3.62	-34.1	23	NM	
08:05	26.17	100	1.2	15.59	7.42	1358	NM	3.05	-21.7	25.3	NM	
08:08	26.17	100	1.5	15.63	7.43	1313	NM	2.7	-24	25.3	NM	
08:11	26.17	100	1.8	15.73	7.44	1262	NM	2.42	-23.9	26.1	NM	
08:14	26.17	100	2.1	15.78	7.45	1216	NM	2.24	-25	26.3	NM	
08:17	26.17	100	2.4	15.89	7.45	1171	NM	2.09	-22	26.5	NM	

Sample ID(s): PA-08-061323	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/14/2023 14:40

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-10I
Well Permit No:

Date: 2023/06/16
Sunny

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** 22.25 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 150 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler madison rosen	**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
10:34	22.53	150	0	17.41	7.62	1085	NM	2.91	-31.8	2.31	NM	
10:37	22.55	150	0.45	16.96	7.49	1091	NM	1.34	-63.6	1.57	NM	
10:40	22.53	150	0.9	17	7.46	1093	NM	1.02	-76.1	1.44	NM	
10:43	22.5	150	1.35	17.29	7.46	1088	NM	0.94	-75.9	0.48	NM	
10:46	22.5	150	1.8	17.32	7.46	1094	NM	0.93	-83.5	2.79	NM	

Sample ID(s): PA-10i-061623	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr	06/16/2023 17:48

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-15I
Well Permit No:

Date: 2023/06/13
Sunny

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** 28.18 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 2.7 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:26	28.46	100	0	18.28	7.19	1344	NM	1.68	-50.4	14.5	NM	
11:29	28.4	100	0.3	17.96	7.22	1488	NM	1.12	-56.8	12.1	NM	
11:32	28.45	100	0.6	17.67	7.24	1564	NM	0.95	-58	12.42	NM	
11:35	28.48	100	0.9	17.59	7.25	1590	NM	0.9	-55.8	11.35	NM	
11:38	28.43	100	1.2	17.64	7.26	1595	NM	0.86	-44.6	11.44	NM	
11:45	28.4	100	1.5	18.57	7.26	1601	NM	0.95	-33	11.74	NM	
11:48	28.5	100	1.8	18.03	7.25	1641	NM	0.88	-52	11.35	NM	
11:51	28.45	100	2.1	17.71	7.24	1646	NM	0.86	-62.1	12.37	NM	
11:54	28.51	100	2.4	17.59	7.23	1669	NM	0.83	-55.1	11.58	NM	
11:58	28.47	100	2.7	17.59	7.22	1683	NM	0.82	-57.2	11.07	NM	

Sample ID(s): PA-15i-061323	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/14/2023 14:41

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-16I
Well Permit No:

Date: 2023/06/14
Cloudy

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** 28.32 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 2.7 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
06:56	28.62	100	0	14.78	6.42	419	NM	4.32	20.5	8.9	NM	
06:59	28.65	100	0.3	14.75	6.61	552	NM	3.48	-1.5	10.79	NM	
07:02	28.68	100	0.6	14.74	6.85	787	NM	2.87	-15.8	12.5	NM	
07:05	28.7	100	0.9	14.76	6.99	898	NM	2.39	-22.6	13.9	NM	
07:08	28.72	100	1.2	14.72	7.06	960	NM	2.08	-20.3	16.7	NM	
07:11	28.74	100	1.5	14.72	7.09	1003	NM	1.86	-16.3	18.3	NM	
07:14	28.77	100	1.8	14.73	7.11	1021	NM	1.79	-9	18.6	NM	
07:17	28.78	100	2.1	14.73	7.13	1030	NM	1.67	5.7	17.8	NM	
07:20	28.8	100	2.4	14.81	7.15	1038	NM	1.47	9.6	18.5	NM	
07:23	28.74	100	2.7	14.92	7.14	1042	NM	1.55	6.7	17.8	NM	

Sample ID(s): PA-16i-061423	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/14/2023 14:38

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-17IR
Well Permit No:

Date: 2023/06/14
Sunny

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 41 (ft)	**Reference Elevation** 37.59 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 25.08 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - (ft)
Sampler madison rosen	**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
12:25	26.1	100	0	17.11	8.96	1480	NM	3.15	-102.6	10.53	NM	
12:28	26.32	100	0.3	17.22	9.03	1435	NM	1.29	-124.4	4.37	NM	
12:31	26.46	100	0.6	17.28	9.14	1350	NM	1.14	-132.5	2.97	NM	
12:34	26.57	100	0.9	17.43	9.23	1295	NM	1.14	-131.5	2.34	NM	
12:37	26.6	100	1.2	17.67	9.24	1240	NM	1.07	-130.8	1.96	NM	
12:40	26.6	100	1.5	17.84	9.26	1198	NM	1.03	-121.4	2.63	NM	
12:43	26.6	100	1.8	18.2	9.25	1155	NM	0.97	-122.7	1.82	NM	
12:46	26.6	100	2.1	18.41	9.23	1127	NM	0.96	-128.7	2.36	NM	

Sample ID(s): PA-17iR-061423	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/14/2023 20:00

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-27D
Well Permit No:

Date: 2023/06/14
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** 25.22 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler madison rosen	**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
13:37	27.52	100	0	18.25	7.11	3583	NM	1.11	-94.3	0.95	NM	
13:40	27.52	100	0.3	18.38	7.12	3580	NM	0.74	-105.4	0.64	NM	
13:43	27.54	100	0.6	18.46	7.13	3581	NM	0.71	-105	0.72	NM	
13:46	27.42	100	0.9	18.34	7.12	3594	NM	0.7	-116.6	0.58	NM	
13:49	27.3	100	1.2	18.35	7.11	3596	NM	0.68	-118	0.58	NM	
13:52	27.22	100	1.5	18.42	7.11	3593	NM	0.67	-109.7	0.69	NM	

Sample ID(s): PA-27d-061423	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/14/2023 20:58

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-31
Well Permit No:

Date: 2023/06/16
Sunny

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 23 (ft)	**Reference Elevation** 36.25 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 9.41 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 225 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 6.075 (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
06:34	10.05	225	0	14.94	9.58	801	NM	28.86	61.6	101.4	NM	
06:37	10.07	225	0.675	14.85	9.58	786	NM	25.55	59.5	83.1	NM	
06:40	10.13	225	1.35	14.83	9.59	784	NM	21.03	58.2	99.5	NM	
06:43	10.15	225	2.025	14.83	9.6	784	NM	15.87	57.3	107.4	NM	
06:46	10.17	225	2.7	14.81	9.61	785	NM	12.01	56.3	79.3	NM	
06:49	10.18	225	3.375	14.8	9.62	786	NM	9.09	55.5	51.2	NM	
06:52	10.2	225	4.05	14.8	9.62	785	NM	7.08	54.9	43.5	NM	
06:55	10.22	225	4.725	14.82	9.61	785	NM	5.52	54.6	41.4	NM	
06:58	10.2	225	5.4	14.81	9.61	784	NM	4.64	54.2	34.7	NM	
07:01	10.18	225	6.075	14.83	9.61	784	NM	3.82	53.8	32.7	NM	
07:04	10.25	225	6.75	14.84	9.61	783	NM	3.18	53.4	28	NM	
07:07	10.17	225	7.425	14.83	9.6	783	NM	2.82	53.3	27.4	NM	
07:10	10.18	225	8.1	14.85	9.61	783	NM	2.53	52.9	23.6	NM	
07:13	10.21	225	8.775	14.86	9.61	783	NM	2.22	52.5	22.8	NM	
07:16	10.3	225	9.45	14.87	9.61	783	NM	2.02	52.1	18.9	NM	
07:19	10.2	225	10.125	14.88	9.6	782	NM	1.82	51.9	19.2	NM	
07:22	10.2	225	10.8	14.89	9.6	783	NM	1.67	51.5	17.7	NM	

Sample ID(s): PA-31-061623	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/16/2023 14:25

Low Flow Groundwater Sampling Field Data Form

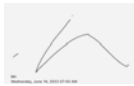
Well ID: PA-25D
Well Permit No:

Date: 2023/06/13
Sunny

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** 28.62 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20230612-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler madison rosen	**Volume of Water in Well / Total Volume Purged** () / 2.7 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:41	30.73	100	0	17.45	7.12	615	NM	1.98	-40.1	89.7	NM	
09:44	31.5	100	0.3	17.45	7.12	603	NM	1.72	-34.5	81.2	NM	
09:47	32.55	100	0.6	17.46	7.12	587	NM	1.67	-25.4	55.2	NM	
09:50	33.45	100	0.9	17.42	7.12	575	NM	1.62	-15.5	36.6	NM	
09:53	34.2	100	1.2	17.39	7.12	566	NM	1.55	-8.6	26.6	NM	
09:56	35.1	100	1.5	17.3	7.12	560	NM	1.53	-6.3	18.4	NM	
09:59	35.71	100	1.8	17.2	7.11	558	NM	1.49	-4.3	13.9	NM	
10:02	36.24	100	2.1	17.23	7.1	558	NM	1.44	-2.9	10.85	NM	
10:05	36.74	100	2.4	17.29	7.09	557	NM	1.41	-0.8	8.49	NM	
10:08	37.24	100	2.7	17.37	7.08	558	NM	1.37	-0.6	7.17	NM	

Sample ID(s): PA-25d-061323	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Mlr 	06/14/2023 14:45

APPENDIX B LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 7/13/2023 2:33:51 PM

JOB DESCRIPTION

Arkema - Q2 2023 Groundwater Event

JOB NUMBER

580-128390-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

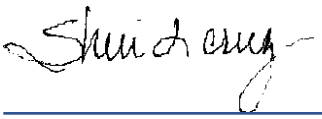
See page two for job notes and contact information.

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



Generated
7/13/2023 2:33:51 PM

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

Table of Contents

Case Narrative

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Job ID: 580-128390-1

Laboratory: Eurofins Seattle

Narrative

Job Narrative
580-128390-1

Comments
No additional comments.

Receipt
The samples were received on 6/15/2023 1:55 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.3º C.

GC/MS VOA
Method 8260D: The CCV for analytical batch 580-429367 recovered outside control limits for the following analyte: Naphthalene. Naphthalene has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The method blank for analytical batch 580-429367 contained n-Butylbenzene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, 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.

General Chemistry
Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-429934 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 314.0: Due to the nature of the matrix and/or the high conductivity measurement for the following samples, the samples in analytical batch 320-684144 were diluted. In order to protect instrumentation, the samples were diluted. Elevated reporting limits (RLs) are provided. MWA-82--061323 (580-128390-2), PA-08-061323 (580-128390-7), PA-15i-061323 (580-128390-9), PA-16i-061423 (580-128390-12), PA-16i-061423 (580-128390-12[MS]) and PA-16i-061423 (580-128390-12[MSD])

Method 314.0: Due to the nature of the matrix and the high conductivity measurement for the following samples, the samples in analytical batch 320-686931 were diluted. In order to protect instrumentation, the samples were diluted. Elevated reporting limits (RLs) are provided. PA-17ir-061423 (580-128390-14)

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

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

General Chemistry

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

Glossary

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

Client Sample ID: TB-061323
Lab Sample ID: 580-128390-1
Date Collected: 06/13/23 00:01
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/20/23 14:18	1
Chloromethane	ND		0.50	0.14	ug/L			06/20/23 14:18	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/20/23 14:18	1
Bromomethane	ND		0.50	0.13	ug/L			06/20/23 14:18	1
Chloroethane	ND		0.50	0.096	ug/L			06/20/23 14:18	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/20/23 14:18	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/20/23 14:18	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/20/23 14:18	1
Acetone	ND		10	3.1	ug/L			06/20/23 14:18	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/20/23 14:18	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/20/23 14:18	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/20/23 14:18	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/20/23 14:18	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/20/23 14:18	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/20/23 14:18	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/20/23 14:18	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/20/23 14:18	1
Chloroform	ND		0.20	0.030	ug/L			06/20/23 14:18	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/20/23 14:18	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/20/23 14:18	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/20/23 14:18	1
Benzene	ND		0.20	0.030	ug/L			06/20/23 14:18	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/20/23 14:18	1
Trichloroethene	ND		0.20	0.066	ug/L			06/20/23 14:18	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/20/23 14:18	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/20/23 14:18	1
Dibromomethane	ND		0.20	0.062	ug/L			06/20/23 14:18	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/20/23 14:18	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/20/23 14:18	1
Toluene	ND		0.20	0.050	ug/L			06/20/23 14:18	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/20/23 14:18	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/20/23 14:18	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/20/23 14:18	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/20/23 14:18	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/20/23 14:18	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/20/23 14:18	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/20/23 14:18	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/20/23 14:18	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/20/23 14:18	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/20/23 14:18	1
o-Xylene	ND		0.50	0.15	ug/L			06/20/23 14:18	1
Styrene	ND		1.0	0.19	ug/L			06/20/23 14:18	1
Bromoform	ND		0.50	0.16	ug/L			06/20/23 14:18	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/20/23 14:18	1
Bromobenzene	ND		0.20	0.038	ug/L			06/20/23 14:18	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/20/23 14:18	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/20/23 14:18	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/20/23 14:18	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/20/23 14:18	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: TB-061323
Lab Sample ID: 580-128390-1
Date Collected: 06/13/23 00:01
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/20/23 14:18	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/20/23 14:18	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/20/23 14:18	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/20/23 14:18	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/20/23 14:18	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/20/23 14:18	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 14:18	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 14:18	1
n-Butylbenzene	**0.34**	**J B**	1.0	0.23	ug/L			06/20/23 14:18	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/20/23 14:18	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/20/23 14:18	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/20/23 14:18	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/20/23 14:18	1
Naphthalene	ND		1.0	0.22	ug/L			06/20/23 14:18	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/20/23 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/20/23 14:18*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*06/20/23 14:18*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*06/20/23 14:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*80 - 120*		*06/20/23 14:18*	*1*

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-82--061323
Lab Sample ID: 580-128390-2
Date Collected: 06/13/23 08:40
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/20/23 16:28	1
Chloromethane	ND		0.50	0.14	ug/L			06/20/23 16:28	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/20/23 16:28	1
Bromomethane	ND		0.50	0.13	ug/L			06/20/23 16:28	1
Chloroethane	ND		0.50	0.096	ug/L			06/20/23 16:28	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/20/23 16:28	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/20/23 16:28	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/20/23 16:28	1
Acetone	**4.5**	**J**	10	3.1	ug/L			06/20/23 16:28	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/20/23 16:28	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/20/23 16:28	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/20/23 16:28	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/20/23 16:28	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/20/23 16:28	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/20/23 16:28	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/20/23 16:28	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/20/23 16:28	1
Chloroform	**1.7**		0.20	0.030	ug/L			06/20/23 16:28	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/20/23 16:28	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/20/23 16:28	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/20/23 16:28	1
Benzene	**0.033**	**J**	0.20	0.030	ug/L			06/20/23 16:28	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/20/23 16:28	1
Trichloroethene	**0.21**		0.20	0.066	ug/L			06/20/23 16:28	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/20/23 16:28	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/20/23 16:28	1
Dibromomethane	ND		0.20	0.062	ug/L			06/20/23 16:28	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/20/23 16:28	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/20/23 16:28	1
Toluene	ND		0.20	0.050	ug/L			06/20/23 16:28	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/20/23 16:28	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/20/23 16:28	1
Tetrachloroethene	**0.52**		0.24	0.084	ug/L			06/20/23 16:28	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/20/23 16:28	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/20/23 16:28	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/20/23 16:28	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/20/23 16:28	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/20/23 16:28	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/20/23 16:28	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/20/23 16:28	1
o-Xylene	ND		0.50	0.15	ug/L			06/20/23 16:28	1
Styrene	ND		1.0	0.19	ug/L			06/20/23 16:28	1
Bromoform	ND		0.50	0.16	ug/L			06/20/23 16:28	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/20/23 16:28	1
Bromobenzene	ND		0.20	0.038	ug/L			06/20/23 16:28	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/20/23 16:28	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/20/23 16:28	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/20/23 16:28	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/20/23 16:28	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-82--061323
Lab Sample ID: 580-128390-2
Date Collected: 06/13/23 08:40
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/20/23 16:28	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/20/23 16:28	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/20/23 16:28	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/20/23 16:28	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/20/23 16:28	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/20/23 16:28	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 16:28	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 16:28	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/20/23 16:28	1
1,2-Dichlorobenzene	**0.040**	**J**	0.30	0.038	ug/L			06/20/23 16:28	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/20/23 16:28	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/20/23 16:28	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/20/23 16:28	1
Naphthalene	ND		1.0	0.22	ug/L			06/20/23 16:28	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/20/23 16:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/20/23 16:28*	*1*
Dibromofluoromethane (Surr)	*113*		*80 - 120*		*06/20/23 16:28*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/20/23 16:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*80 - 120*		*06/20/23 16:28*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**150**		40	20	ug/L			06/19/23 15:34	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**9.9**		1.5	0.43	mg/L			06/24/23 01:55	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-41-061323
Lab Sample ID: 580-128390-3
Date Collected: 06/13/23 09:59
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 17:48	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 17:48	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 17:48	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 17:48	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 17:48	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 17:48	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 17:48	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 17:48	1
Acetone	**3.7**	**J**	10	3.1	ug/L			06/23/23 17:48	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 17:48	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 17:48	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 17:48	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 17:48	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 17:48	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 17:48	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 17:48	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 17:48	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 17:48	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 17:48	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 17:48	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 17:48	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 17:48	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 17:48	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 17:48	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 17:48	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 17:48	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 17:48	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 17:48	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 17:48	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 17:48	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 17:48	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 17:48	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 17:48	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 17:48	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 17:48	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 17:48	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 17:48	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 17:48	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 17:48	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 17:48	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 17:48	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 17:48	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 17:48	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 17:48	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 17:48	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 17:48	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 17:48	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 17:48	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 17:48	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-41-061323
Lab Sample ID: 580-128390-3
Date Collected: 06/13/23 09:59
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 17:48	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 17:48	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 17:48	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 17:48	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 17:48	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 17:48	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 17:48	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 17:48	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 17:48	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 17:48	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 17:48	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 17:48	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 17:48	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 17:48	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/23/23 17:48*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*06/23/23 17:48*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/23/23 17:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*06/23/23 17:48*	*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			06/19/23 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**7.5**		1.5	0.43	mg/L			06/24/23 02:07	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-81i-061323
Lab Sample ID: 580-128390-4
Date Collected: 06/13/23 10:46
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/20/23 17:11	1
Chloromethane	ND		0.50	0.14	ug/L			06/20/23 17:11	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/20/23 17:11	1
Bromomethane	ND		0.50	0.13	ug/L			06/20/23 17:11	1
Chloroethane	ND		0.50	0.096	ug/L			06/20/23 17:11	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/20/23 17:11	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/20/23 17:11	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/20/23 17:11	1
Acetone	**4.8**	**J**	10	3.1	ug/L			06/20/23 17:11	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/20/23 17:11	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/20/23 17:11	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/20/23 17:11	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/20/23 17:11	1
1,1-Dichloroethane	**0.11**	**J**	0.20	0.025	ug/L			06/20/23 17:11	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/20/23 17:11	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/20/23 17:11	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/20/23 17:11	1
Chloroform	ND		0.20	0.030	ug/L			06/20/23 17:11	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/20/23 17:11	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/20/23 17:11	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/20/23 17:11	1
Benzene	ND		0.20	0.030	ug/L			06/20/23 17:11	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/20/23 17:11	1
Trichloroethene	ND		0.20	0.066	ug/L			06/20/23 17:11	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/20/23 17:11	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/20/23 17:11	1
Dibromomethane	ND		0.20	0.062	ug/L			06/20/23 17:11	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/20/23 17:11	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/20/23 17:11	1
Toluene	ND		0.20	0.050	ug/L			06/20/23 17:11	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/20/23 17:11	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/20/23 17:11	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/20/23 17:11	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/20/23 17:11	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/20/23 17:11	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/20/23 17:11	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/20/23 17:11	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/20/23 17:11	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/20/23 17:11	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/20/23 17:11	1
o-Xylene	ND		0.50	0.15	ug/L			06/20/23 17:11	1
Styrene	ND		1.0	0.19	ug/L			06/20/23 17:11	1
Bromoform	ND		0.50	0.16	ug/L			06/20/23 17:11	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/20/23 17:11	1
Bromobenzene	ND		0.20	0.038	ug/L			06/20/23 17:11	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/20/23 17:11	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/20/23 17:11	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/20/23 17:11	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/20/23 17:11	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-81i-061323
Lab Sample ID: 580-128390-4
Date Collected: 06/13/23 10:46
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/20/23 17:11	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/20/23 17:11	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/20/23 17:11	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/20/23 17:11	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/20/23 17:11	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/20/23 17:11	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 17:11	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 17:11	1
n-Butylbenzene	**0.33**	**J B**	1.0	0.23	ug/L			06/20/23 17:11	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/20/23 17:11	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/20/23 17:11	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/20/23 17:11	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/20/23 17:11	1
Naphthalene	ND		1.0	0.22	ug/L			06/20/23 17:11	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/20/23 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/20/23 17:11*	*1*
Dibromofluoromethane (Surr)	*112*		*80 - 120*		*06/20/23 17:11*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/20/23 17:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*80 - 120*		*06/20/23 17:11*	*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			06/19/23 17:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**27**		1.5	0.43	mg/L			06/24/23 02:19	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-44i-061323
Lab Sample ID: 580-128390-5
Date Collected: 06/13/23 11:24
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/20/23 17:33	1
Chloromethane	ND		0.50	0.14	ug/L			06/20/23 17:33	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/20/23 17:33	1
Bromomethane	ND		0.50	0.13	ug/L			06/20/23 17:33	1
Chloroethane	ND		0.50	0.096	ug/L			06/20/23 17:33	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/20/23 17:33	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/20/23 17:33	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/20/23 17:33	1
Acetone	ND		10	3.1	ug/L			06/20/23 17:33	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/20/23 17:33	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/20/23 17:33	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/20/23 17:33	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/20/23 17:33	1
1,1-Dichloroethane	**0.092**	**J**	0.20	0.025	ug/L			06/20/23 17:33	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/20/23 17:33	1
cis-1,2-Dichloroethene	**0.071**	**J**	0.20	0.055	ug/L			06/20/23 17:33	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/20/23 17:33	1
Chloroform	ND		0.20	0.030	ug/L			06/20/23 17:33	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/20/23 17:33	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/20/23 17:33	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/20/23 17:33	1
Benzene	ND		0.20	0.030	ug/L			06/20/23 17:33	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/20/23 17:33	1
Trichloroethene	ND		0.20	0.066	ug/L			06/20/23 17:33	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/20/23 17:33	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/20/23 17:33	1
Dibromomethane	ND		0.20	0.062	ug/L			06/20/23 17:33	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/20/23 17:33	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/20/23 17:33	1
Toluene	ND		0.20	0.050	ug/L			06/20/23 17:33	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/20/23 17:33	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/20/23 17:33	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/20/23 17:33	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/20/23 17:33	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/20/23 17:33	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/20/23 17:33	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/20/23 17:33	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/20/23 17:33	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/20/23 17:33	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/20/23 17:33	1
o-Xylene	ND		0.50	0.15	ug/L			06/20/23 17:33	1
Styrene	ND		1.0	0.19	ug/L			06/20/23 17:33	1
Bromoform	ND		0.50	0.16	ug/L			06/20/23 17:33	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/20/23 17:33	1
Bromobenzene	ND		0.20	0.038	ug/L			06/20/23 17:33	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/20/23 17:33	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/20/23 17:33	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/20/23 17:33	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/20/23 17:33	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-44i-061323
Lab Sample ID: 580-128390-5
Date Collected: 06/13/23 11:24
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/20/23 17:33	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/20/23 17:33	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/20/23 17:33	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/20/23 17:33	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/20/23 17:33	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/20/23 17:33	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 17:33	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 17:33	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/20/23 17:33	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/20/23 17:33	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/20/23 17:33	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/20/23 17:33	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/20/23 17:33	1
Naphthalene	ND		1.0	0.22	ug/L			06/20/23 17:33	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/20/23 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/20/23 17:33*	*1*
Dibromofluoromethane (Surr)	*112*		*80 - 120*		*06/20/23 17:33*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/20/23 17:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*80 - 120*		*06/20/23 17:33*	*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			06/19/23 17:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**20**		1.5	0.43	mg/L			06/24/23 02:31	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-09-061323
Lab Sample ID: 580-128390-6
Date Collected: 06/13/23 12:14
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 18:12	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 18:12	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 18:12	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 18:12	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 18:12	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 18:12	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 18:12	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 18:12	1
Acetone	**3.5**	**J**	10	3.1	ug/L			06/23/23 18:12	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 18:12	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 18:12	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 18:12	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 18:12	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 18:12	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 18:12	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 18:12	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 18:12	1
Chloroform	**0.27**		0.20	0.030	ug/L			06/23/23 18:12	1
1,1,1-Trichloroethane	**0.063**	**J**	0.20	0.025	ug/L			06/23/23 18:12	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 18:12	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 18:12	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 18:12	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 18:12	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 18:12	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 18:12	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 18:12	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 18:12	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 18:12	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 18:12	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 18:12	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 18:12	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 18:12	1
Tetrachloroethene	**0.29**		0.24	0.084	ug/L			06/23/23 18:12	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 18:12	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 18:12	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 18:12	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 18:12	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 18:12	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 18:12	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 18:12	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 18:12	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 18:12	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 18:12	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 18:12	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 18:12	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 18:12	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 18:12	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 18:12	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 18:12	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-09-061323
Lab Sample ID: 580-128390-6
Date Collected: 06/13/23 12:14
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 18:12	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 18:12	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 18:12	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 18:12	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 18:12	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 18:12	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 18:12	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 18:12	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 18:12	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 18:12	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 18:12	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 18:12	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 18:12	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 18:12	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/23/23 18:12*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*06/23/23 18:12*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/23/23 18:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*06/23/23 18:12*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**6.2**		4.0	2.0	ug/L			06/19/23 18:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**110**		15	4.3	mg/L			06/24/23 02:54	10

Client Sample ID: PA-08-061323
Lab Sample ID: 580-128390-7
Date Collected: 06/13/23 08:25
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 18:36	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 18:36	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 18:36	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 18:36	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 18:36	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 18:36	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 18:36	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 18:36	1
Acetone	ND		10	3.1	ug/L			06/23/23 18:36	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 18:36	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 18:36	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 18:36	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 18:36	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 18:36	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 18:36	1
cis-1,2-Dichloroethene	**0.070**	**J**	0.20	0.055	ug/L			06/23/23 18:36	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 18:36	1
Chloroform	**0.064**	**J**	0.20	0.030	ug/L			06/23/23 18:36	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 18:36	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 18:36	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 18:36	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 18:36	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 18:36	1
Trichloroethene	**0.14**	**J**	0.20	0.066	ug/L			06/23/23 18:36	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 18:36	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 18:36	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 18:36	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 18:36	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 18:36	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 18:36	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 18:36	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 18:36	1
Tetrachloroethene	**0.26**		0.24	0.084	ug/L			06/23/23 18:36	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 18:36	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 18:36	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 18:36	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 18:36	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 18:36	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 18:36	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 18:36	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 18:36	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 18:36	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 18:36	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 18:36	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 18:36	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 18:36	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 18:36	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 18:36	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 18:36	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-08-061323
Lab Sample ID: 580-128390-7
Date Collected: 06/13/23 08:25
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 18:36	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 18:36	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 18:36	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 18:36	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 18:36	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 18:36	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 18:36	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 18:36	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 18:36	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 18:36	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 18:36	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 18:36	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 18:36	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 18:36	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/23/23 18:36*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/23/23 18:36*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*06/23/23 18:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*06/23/23 18:36*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**11**		8.0	4.0	ug/L			06/19/23 18:33	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**110**		15	4.3	mg/L			06/24/23 03:41	10

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-25d-061323
Lab Sample ID: 580-128390-8
Date Collected: 06/13/23 10:15
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 19:00	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 19:00	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 19:00	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 19:00	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 19:00	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 19:00	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 19:00	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 19:00	1
Acetone	ND		10	3.1	ug/L			06/23/23 19:00	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 19:00	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 19:00	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 19:00	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 19:00	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 19:00	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 19:00	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 19:00	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 19:00	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 19:00	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 19:00	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 19:00	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 19:00	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 19:00	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 19:00	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 19:00	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 19:00	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 19:00	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 19:00	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 19:00	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 19:00	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 19:00	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 19:00	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 19:00	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 19:00	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 19:00	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 19:00	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 19:00	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 19:00	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 19:00	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 19:00	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 19:00	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 19:00	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 19:00	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 19:00	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 19:00	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 19:00	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 19:00	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 19:00	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 19:00	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 19:00	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-25d-061323
Lab Sample ID: 580-128390-8
Date Collected: 06/13/23 10:15
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 19:00	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 19:00	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 19:00	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 19:00	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 19:00	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 19:00	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 19:00	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 19:00	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 19:00	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 19:00	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 19:00	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 19:00	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 19:00	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 19:00	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/23/23 19:00*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*06/23/23 19:00*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/23/23 19:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*06/23/23 19:00*	*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			06/19/23 18:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**10**		1.5	0.43	mg/L			06/24/23 03:53	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-15i-061323
Lab Sample ID: 580-128390-9
Date Collected: 06/13/23 12:10
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 19:24	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 19:24	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 19:24	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 19:24	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 19:24	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 19:24	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 19:24	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 19:24	1
Acetone	ND		10	3.1	ug/L			06/23/23 19:24	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 19:24	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 19:24	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 19:24	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 19:24	1
1,1-Dichloroethane	**0.35**		0.20	0.025	ug/L			06/23/23 19:24	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 19:24	1
cis-1,2-Dichloroethene	**0.16**	**J**	0.20	0.055	ug/L			06/23/23 19:24	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 19:24	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 19:24	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 19:24	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 19:24	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 19:24	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 19:24	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 19:24	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 19:24	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 19:24	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 19:24	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 19:24	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 19:24	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 19:24	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 19:24	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 19:24	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 19:24	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 19:24	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 19:24	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 19:24	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 19:24	1
Chlorobenzene	**0.073**	**J**	0.20	0.060	ug/L			06/23/23 19:24	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 19:24	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 19:24	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 19:24	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 19:24	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 19:24	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 19:24	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 19:24	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 19:24	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 19:24	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 19:24	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 19:24	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 19:24	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-15i-061323
Lab Sample ID: 580-128390-9
Date Collected: 06/13/23 12:10
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 19:24	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 19:24	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 19:24	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 19:24	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 19:24	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 19:24	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 19:24	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 19:24	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 19:24	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 19:24	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 19:24	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 19:24	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 19:24	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 19:24	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 19:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/23/23 19:24*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/23/23 19:24*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*06/23/23 19:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*06/23/23 19:24*	*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			06/19/23 19:09	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**290**		15	4.3	mg/L			06/24/23 04:16	10

Client Sample ID: PA-26d-061423
Lab Sample ID: 580-128390-10
Date Collected: 06/14/23 07:11
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 19:48	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 19:48	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 19:48	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 19:48	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 19:48	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 19:48	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 19:48	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 19:48	1
Acetone	ND		10	3.1	ug/L			06/23/23 19:48	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 19:48	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 19:48	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 19:48	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 19:48	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 19:48	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 19:48	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 19:48	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 19:48	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 19:48	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 19:48	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 19:48	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 19:48	1
Benzene	**0.040**	**J**	0.20	0.030	ug/L			06/23/23 19:48	1
1,2-Dichloroethane	**0.27**		0.20	0.043	ug/L			06/23/23 19:48	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 19:48	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 19:48	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 19:48	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 19:48	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 19:48	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 19:48	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 19:48	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 19:48	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 19:48	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 19:48	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 19:48	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 19:48	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 19:48	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 19:48	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 19:48	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 19:48	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 19:48	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 19:48	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 19:48	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 19:48	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 19:48	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 19:48	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 19:48	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 19:48	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 19:48	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 19:48	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-26d-061423
Lab Sample ID: 580-128390-10
Date Collected: 06/14/23 07:11
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 19:48	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 19:48	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 19:48	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 19:48	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 19:48	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 19:48	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 19:48	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 19:48	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 19:48	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 19:48	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 19:48	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 19:48	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 19:48	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 19:48	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/23/23 19:48*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/23/23 19:48*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*06/23/23 19:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*06/23/23 19:48*	*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			06/19/23 19:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**67**		7.5	2.2	mg/L			06/24/23 04:39	5

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: Dup-01-061423
Lab Sample ID: 580-128390-11
Date Collected: 06/14/23 07:12
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 20:12	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 20:12	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 20:12	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 20:12	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 20:12	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 20:12	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 20:12	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 20:12	1
Acetone	ND		10	3.1	ug/L			06/23/23 20:12	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 20:12	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 20:12	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 20:12	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 20:12	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 20:12	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 20:12	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 20:12	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 20:12	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 20:12	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 20:12	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 20:12	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 20:12	1
Benzene	**0.034**	**J**	0.20	0.030	ug/L			06/23/23 20:12	1
1,2-Dichloroethane	**0.28**		0.20	0.043	ug/L			06/23/23 20:12	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 20:12	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 20:12	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 20:12	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 20:12	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 20:12	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 20:12	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 20:12	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 20:12	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 20:12	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 20:12	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 20:12	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 20:12	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 20:12	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 20:12	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 20:12	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 20:12	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 20:12	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 20:12	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 20:12	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 20:12	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 20:12	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 20:12	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 20:12	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 20:12	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 20:12	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 20:12	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: Dup-01-061423
Lab Sample ID: 580-128390-11
Date Collected: 06/14/23 07:12
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 20:12	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 20:12	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 20:12	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 20:12	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 20:12	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 20:12	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 20:12	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 20:12	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 20:12	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 20:12	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 20:12	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 20:12	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 20:12	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 20:12	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/23/23 20:12*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*06/23/23 20:12*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*06/23/23 20:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*06/23/23 20:12*	*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			06/29/23 12:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**39**		1.5	0.43	mg/L			06/24/23 04:51	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-16i-061423
Lab Sample ID: 580-128390-12
Date Collected: 06/14/23 07:30
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 20:36	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 20:36	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 20:36	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 20:36	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 20:36	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 20:36	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 20:36	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 20:36	1
Acetone	**3.5**	**J**	10	3.1	ug/L			06/23/23 20:36	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 20:36	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 20:36	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 20:36	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 20:36	1
1,1-Dichloroethane	**0.25**		0.20	0.025	ug/L			06/23/23 20:36	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 20:36	1
cis-1,2-Dichloroethene	**0.12**	**J**	0.20	0.055	ug/L			06/23/23 20:36	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 20:36	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 20:36	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 20:36	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 20:36	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 20:36	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 20:36	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 20:36	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 20:36	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 20:36	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 20:36	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 20:36	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 20:36	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 20:36	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 20:36	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 20:36	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 20:36	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 20:36	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 20:36	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 20:36	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 20:36	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 20:36	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 20:36	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 20:36	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 20:36	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 20:36	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 20:36	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 20:36	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 20:36	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 20:36	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 20:36	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 20:36	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 20:36	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 20:36	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-16i-061423
Lab Sample ID: 580-128390-12
Date Collected: 06/14/23 07:30
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 20:36	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 20:36	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 20:36	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 20:36	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 20:36	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 20:36	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 20:36	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 20:36	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 20:36	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 20:36	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 20:36	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 20:36	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 20:36	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 20:36	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/23/23 20:36*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*06/23/23 20:36*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/23/23 20:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*80 - 120*		*06/23/23 20:36*	*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			06/19/23 16:45	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**120**		15	4.3	mg/L			06/24/23 05:14	10

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-03-061423
Lab Sample ID: 580-128390-13
Date Collected: 06/14/23 11:20
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 21:00	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 21:00	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 21:00	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 21:00	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 21:00	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 21:00	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 21:00	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 21:00	1
Acetone	ND		10	3.1	ug/L			06/23/23 21:00	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 21:00	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 21:00	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 21:00	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 21:00	1
1,1-Dichloroethane	**0.14**	**J**	0.20	0.025	ug/L			06/23/23 21:00	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 21:00	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 21:00	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 21:00	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 21:00	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 21:00	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 21:00	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 21:00	1
Benzene	**0.055**	**J**	0.20	0.030	ug/L			06/23/23 21:00	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 21:00	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 21:00	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 21:00	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 21:00	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 21:00	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 21:00	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 21:00	1
Toluene	**0.11**	**J**	0.20	0.050	ug/L			06/23/23 21:00	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 21:00	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 21:00	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 21:00	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 21:00	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 21:00	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 21:00	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 21:00	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 21:00	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 21:00	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 21:00	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 21:00	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 21:00	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 21:00	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 21:00	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 21:00	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 21:00	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 21:00	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 21:00	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 21:00	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-03-061423
Lab Sample ID: 580-128390-13
Date Collected: 06/14/23 11:20
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 21:00	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 21:00	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 21:00	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 21:00	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 21:00	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 21:00	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 21:00	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 21:00	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 21:00	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 21:00	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 21:00	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 21:00	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 21:00	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 21:00	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/23/23 21:00*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*06/23/23 21:00*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/23/23 21:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*80 - 120*		*06/23/23 21:00*	*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			06/29/23 13:34	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			06/24/23 06:13	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-17ir-061423
Lab Sample ID: 580-128390-14
Date Collected: 06/14/23 12:55
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/23/23 21:24	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 21:24	1
Vinyl chloride	**0.18**		0.10	0.040	ug/L			06/23/23 21:24	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 21:24	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 21:24	1
Carbon disulfide	**0.50**		0.30	0.083	ug/L			06/23/23 21:24	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 21:24	1
1,1-Dichloroethene	**0.35**		0.20	0.035	ug/L			06/23/23 21:24	1
Acetone	**3.9**	**J**	10	3.1	ug/L			06/23/23 21:24	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 21:24	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 21:24	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 21:24	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 21:24	1
1,1-Dichloroethane	**0.12**	**J**	0.20	0.025	ug/L			06/23/23 21:24	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 21:24	1
cis-1,2-Dichloroethene	**0.11**	**J**	0.20	0.055	ug/L			06/23/23 21:24	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 21:24	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 21:24	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 21:24	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 21:24	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 21:24	1
Benzene	**0.070**	**J**	0.20	0.030	ug/L			06/23/23 21:24	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 21:24	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 21:24	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 21:24	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 21:24	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 21:24	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 21:24	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 21:24	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 21:24	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 21:24	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 21:24	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 21:24	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 21:24	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 21:24	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 21:24	1
Chlorobenzene	**0.073**	**J**	0.20	0.060	ug/L			06/23/23 21:24	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 21:24	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 21:24	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 21:24	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 21:24	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 21:24	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 21:24	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 21:24	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 21:24	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 21:24	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 21:24	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 21:24	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 21:24	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-17ir-061423
Lab Sample ID: 580-128390-14
Date Collected: 06/14/23 12:55
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 21:24	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 21:24	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 21:24	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 21:24	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 21:24	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 21:24	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 21:24	1
1,4-Dichlorobenzene	**0.052**	**J**	0.30	0.050	ug/L			06/23/23 21:24	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 21:24	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 21:24	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 21:24	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 21:24	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 21:24	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 21:24	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/23/23 21:24*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*06/23/23 21:24*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/23/23 21:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*06/23/23 21:24*	*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			06/29/23 13:51	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**15**		1.5	0.43	mg/L			06/24/23 06:25	1

Client Sample ID: PA-27d-061423
Lab Sample ID: 580-128390-15
Date Collected: 06/14/23 14:00
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			06/19/23 07:34	1
Chloromethane	ND		1.0	0.28	ug/L			06/19/23 07:34	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/19/23 07:34	1
Bromomethane	ND		1.0	0.21	ug/L			06/19/23 07:34	1
Chloroethane	ND		1.0	0.35	ug/L			06/19/23 07:34	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/19/23 07:34	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/19/23 07:34	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/19/23 07:34	1
Acetone	ND		15	3.2	ug/L			06/19/23 07:34	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/19/23 07:34	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/19/23 07:34	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/19/23 07:34	1
1,1-Dichloroethane	**0.34**	**J**	1.0	0.22	ug/L			06/19/23 07:34	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/19/23 07:34	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/19/23 07:34	1
cis-1,2-Dichloroethene	**0.58**	**J**	1.0	0.35	ug/L			06/19/23 07:34	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/19/23 07:34	1
Chloroform	ND		1.0	0.26	ug/L			06/19/23 07:34	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/19/23 07:34	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/19/23 07:34	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/19/23 07:34	1
Benzene	ND		1.0	0.24	ug/L			06/19/23 07:34	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/19/23 07:34	1
Trichloroethene	ND		1.0	0.26	ug/L			06/19/23 07:34	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/19/23 07:34	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/19/23 07:34	1
Dibromomethane	ND		1.0	0.34	ug/L			06/19/23 07:34	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/19/23 07:34	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/19/23 07:34	1
Toluene	ND		1.0	0.39	ug/L			06/19/23 07:34	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/19/23 07:34	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/19/23 07:34	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/19/23 07:34	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/19/23 07:34	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/19/23 07:34	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/19/23 07:34	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/19/23 07:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/19/23 07:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/19/23 07:34	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/19/23 07:34	1
o-Xylene	ND		1.0	0.39	ug/L			06/19/23 07:34	1
Styrene	ND		1.0	0.53	ug/L			06/19/23 07:34	1
Bromoform	ND		1.0	0.51	ug/L			06/19/23 07:34	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/19/23 07:34	1
Bromobenzene	ND		1.0	0.43	ug/L			06/19/23 07:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/19/23 07:34	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/19/23 07:34	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/19/23 07:34	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/19/23 07:34	1

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-27d-061423
Lab Sample ID: 580-128390-15
Date Collected: 06/14/23 14:00
Matrix: Water
Date Received: 06/15/23 13:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			06/19/23 07:34	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/19/23 07:34	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/19/23 07:34	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/19/23 07:34	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/19/23 07:34	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/19/23 07:34	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 07:34	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/19/23 07:34	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 07:34	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/19/23 07:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/19/23 07:34	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/19/23 07:34	1
Naphthalene	ND		3.0	0.93	ug/L			06/19/23 07:34	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/19/23 07:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/19/23 07:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/19/23 07:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*06/19/23 07:34*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/19/23 07:34*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/19/23 07:34*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			06/29/23 14:09	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**690**		75	22	mg/L			06/24/23 06:48	50

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

Lab Sample ID: MB 580-429217/6
Matrix: Water
Analysis Batch: 429217

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			06/19/23 03:33	1
Chloromethane	ND		1.0	0.28	ug/L			06/19/23 03:33	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/19/23 03:33	1
Bromomethane	ND		1.0	0.21	ug/L			06/19/23 03:33	1
Chloroethane	ND		1.0	0.35	ug/L			06/19/23 03:33	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/19/23 03:33	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/19/23 03:33	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/19/23 03:33	1
Acetone	ND		15	3.2	ug/L			06/19/23 03:33	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/19/23 03:33	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/19/23 03:33	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/19/23 03:33	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/19/23 03:33	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/19/23 03:33	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/19/23 03:33	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/19/23 03:33	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/19/23 03:33	1
Chloroform	ND		1.0	0.26	ug/L			06/19/23 03:33	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/19/23 03:33	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/19/23 03:33	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/19/23 03:33	1
Benzene	ND		1.0	0.24	ug/L			06/19/23 03:33	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/19/23 03:33	1
Trichloroethene	ND		1.0	0.26	ug/L			06/19/23 03:33	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/19/23 03:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/19/23 03:33	1
Dibromomethane	ND		1.0	0.34	ug/L			06/19/23 03:33	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/19/23 03:33	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/19/23 03:33	1
Toluene	ND		1.0	0.39	ug/L			06/19/23 03:33	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/19/23 03:33	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/19/23 03:33	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/19/23 03:33	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/19/23 03:33	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/19/23 03:33	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/19/23 03:33	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/19/23 03:33	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/19/23 03:33	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/19/23 03:33	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/19/23 03:33	1
o-Xylene	ND		1.0	0.39	ug/L			06/19/23 03:33	1
Styrene	ND		1.0	0.53	ug/L			06/19/23 03:33	1
Bromoform	ND		1.0	0.51	ug/L			06/19/23 03:33	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/19/23 03:33	1
Bromobenzene	ND		1.0	0.43	ug/L			06/19/23 03:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/19/23 03:33	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/19/23 03:33	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/19/23 03:33	1

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

Lab Sample ID: MB 580-429217/6
Matrix: Water
Analysis Batch: 429217

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/19/23 03:33	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			06/19/23 03:33	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/19/23 03:33	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/19/23 03:33	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/19/23 03:33	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/19/23 03:33	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/19/23 03:33	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 03:33	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/19/23 03:33	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 03:33	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/19/23 03:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/19/23 03:33	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/19/23 03:33	1
Naphthalene	ND		3.0	0.93	ug/L			06/19/23 03:33	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/19/23 03:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/19/23 03:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/19/23 03:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/19/23 03:33*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/19/23 03:33*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/19/23 03:33*	*1*

Lab Sample ID: LCS 580-429217/7
Matrix: Water
Analysis Batch: 429217

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	10.0	9.64		ug/L		96	20 - 150
Chloromethane	10.0	9.94		ug/L		99	25 - 150
Vinyl chloride	10.0	10.1		ug/L		101	31 - 150
Bromomethane	10.0	11.0		ug/L		110	36 - 150
Chloroethane	10.0	10.2		ug/L		102	38 - 150
Trichlorofluoromethane	10.0	9.70		ug/L		97	45 - 148
Carbon disulfide	10.0	9.24		ug/L		92	63 - 134
1,1-Dichloroethene	10.0	9.45		ug/L		95	70 - 129
Acetone	50.0	48.7		ug/L		97	44 - 150
Methylene Chloride	10.0	9.48		ug/L		95	77 - 125
Methyl tert-butyl ether	10.0	9.68		ug/L		97	72 - 120
trans-1,2-Dichloroethene	10.0	9.48		ug/L		95	75 - 120
1,1-Dichloroethane	10.0	9.27		ug/L		93	80 - 120
2-Butanone (MEK)	50.0	49.0		ug/L		98	65 - 137
2,2-Dichloropropane	10.0	8.56		ug/L		86	66 - 126
cis-1,2-Dichloroethene	10.0	9.35		ug/L		94	76 - 120
Bromochloromethane	10.0	9.36		ug/L		94	78 - 120
Chloroform	10.0	9.31		ug/L		93	78 - 127
1,1,1-Trichloroethane	10.0	9.20		ug/L		92	74 - 130
Carbon tetrachloride	10.0	9.47		ug/L		95	72 - 129

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

Lab Sample ID: LCS 580-429217/7
Matrix: Water
Analysis Batch: 429217

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	10.0	9.38		ug/L		94	74 - 120
Benzene	10.0	9.60		ug/L		96	80 - 122
1,2-Dichloroethane	10.0	9.35		ug/L		93	69 - 126
Trichloroethene	10.0	9.96		ug/L		100	80 - 125
1,2-Dichloropropane	10.0	9.48		ug/L		95	80 - 120
4-Methyl-2-pentanone (MIBK)	50.0	47.4		ug/L		95	59 - 141
Dibromomethane	10.0	9.54		ug/L		95	80 - 120
Bromodichloromethane	10.0	9.18		ug/L		92	75 - 124
cis-1,3-Dichloropropene	10.0	8.63		ug/L		86	77 - 120
Toluene	10.0	9.62		ug/L		96	80 - 120
trans-1,3-Dichloropropene	10.0	8.90		ug/L		89	76 - 122
1,1,2-Trichloroethane	10.0	9.43		ug/L		94	80 - 121
Tetrachloroethene	10.0	9.66		ug/L		97	76 - 125
1,3-Dichloropropane	10.0	9.48		ug/L		95	79 - 120
Dibromochloromethane	10.0	9.23		ug/L		92	73 - 125
1,2-Dibromoethane	10.0	9.55		ug/L		95	79 - 126
Chlorobenzene	10.0	9.74		ug/L		97	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.21		ug/L		92	79 - 120
Ethylbenzene	10.0	9.68		ug/L		97	80 - 120
m-Xylene & p-Xylene	10.0	9.73		ug/L		97	80 - 120
o-Xylene	10.0	9.75		ug/L		97	80 - 120
Styrene	10.0	9.84		ug/L		98	76 - 122
Bromoform	10.0	9.04		ug/L		90	56 - 139
Isopropylbenzene	10.0	9.74		ug/L		97	80 - 123
Bromobenzene	10.0	9.32		ug/L		93	80 - 120
1,1,2,2-Tetrachloroethane	10.0	8.33		ug/L		83	74 - 124
1,2,3-Trichloropropane	10.0	9.12		ug/L		91	76 - 124
N-Propylbenzene	10.0	9.13		ug/L		91	80 - 122
2-Chlorotoluene	10.0	9.25		ug/L		93	80 - 120
4-Chlorotoluene	10.0	9.02		ug/L		90	73 - 129
t-Butylbenzene	10.0	10.3		ug/L		103	75 - 123
1,2,4-Trimethylbenzene	10.0	9.40		ug/L		94	80 - 120
sec-Butylbenzene	10.0	9.26		ug/L		93	78 - 122
4-Isopropyltoluene	10.0	9.16		ug/L		92	77 - 126
1,3-Dichlorobenzene	10.0	9.47		ug/L		95	77 - 127
1,4-Dichlorobenzene	10.0	9.16		ug/L		92	80 - 120
n-Butylbenzene	10.0	8.71		ug/L		87	57 - 133
1,2-Dichlorobenzene	10.0	9.10		ug/L		91	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.02		ug/L		90	65 - 133
1,2,4-Trichlorobenzene	10.0	9.20		ug/L		92	61 - 148
Hexachlorobutadiene	10.0	8.25		ug/L		83	74 - 131
Naphthalene	10.0	8.59		ug/L		86	63 - 150
1,2,3-Trichlorobenzene	10.0	8.76		ug/L		88	65 - 150
1,3,5-Trimethylbenzene	10.0	9.29		ug/L		93	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*

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

Lab Sample ID: LCS 580-429217/7
Matrix: Water
Analysis Batch: 429217

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-429217/8
Matrix: Water
Analysis Batch: 429217

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			10.0	9.62		ug/L		96	20 - 150	0	33
Chloromethane			10.0	10.1		ug/L		101	25 - 150	1	26
Vinyl chloride			10.0	10.1		ug/L		101	31 - 150	0	26
Bromomethane			10.0	10.8		ug/L		108	36 - 150	2	33
Chloroethane			10.0	10.4		ug/L		104	38 - 150	2	28
Trichlorofluoromethane			10.0	9.55		ug/L		96	45 - 148	2	35
Carbon disulfide			10.0	9.19		ug/L		92	63 - 134	1	24
1,1-Dichloroethene			10.0	9.29		ug/L		93	70 - 129	2	23
Acetone			50.0	48.5		ug/L		97	44 - 150	0	33
Methylene Chloride			10.0	9.35		ug/L		93	77 - 125	1	18
Methyl tert-butyl ether			10.0	9.62		ug/L		96	72 - 120	1	18
trans-1,2-Dichloroethene			10.0	9.30		ug/L		93	75 - 120	2	21
1,1-Dichloroethane			10.0	9.18		ug/L		92	80 - 120	1	15
2-Butanone (MEK)			50.0	49.5		ug/L		99	65 - 137	1	34
2,2-Dichloropropane			10.0	8.41		ug/L		84	66 - 126	2	22
cis-1,2-Dichloroethene			10.0	9.45		ug/L		95	76 - 120	1	20
Bromochloromethane			10.0	9.34		ug/L		93	78 - 120	0	13
Chloroform			10.0	9.14		ug/L		91	78 - 127	2	14
1,1,1-Trichloroethane			10.0	9.18		ug/L		92	74 - 130	0	19
Carbon tetrachloride			10.0	9.17		ug/L		92	72 - 129	3	19
1,1-Dichloropropene			10.0	9.33		ug/L		93	74 - 120	1	14
Benzene			10.0	9.43		ug/L		94	80 - 122	2	14
1,2-Dichloroethane			10.0	9.31		ug/L		93	69 - 126	0	11
Trichloroethene			10.0	9.68		ug/L		97	80 - 125	3	13
1,2-Dichloropropane			10.0	9.07		ug/L		91	80 - 120	4	14
4-Methyl-2-pentanone (MIBK)			50.0	47.8		ug/L		96	59 - 141	1	22
Dibromomethane			10.0	9.47		ug/L		95	80 - 120	1	11
Bromodichloromethane			10.0	9.37		ug/L		94	75 - 124	2	13
cis-1,3-Dichloropropene			10.0	8.46		ug/L		85	77 - 120	2	35
Toluene			10.0	9.50		ug/L		95	80 - 120	1	13
trans-1,3-Dichloropropene			10.0	8.68		ug/L		87	76 - 122	3	20
1,1,2-Trichloroethane			10.0	9.44		ug/L		94	80 - 121	0	14
Tetrachloroethene			10.0	9.66		ug/L		97	76 - 125	0	13
1,3-Dichloropropane			10.0	9.49		ug/L		95	79 - 120	0	19
Dibromochloromethane			10.0	9.14		ug/L		91	73 - 125	1	13
1,2-Dibromoethane			10.0	9.55		ug/L		95	79 - 126	0	12
Chlorobenzene			10.0	9.45		ug/L		94	80 - 120	3	10
1,1,1,2-Tetrachloroethane			10.0	9.23		ug/L		92	79 - 120	0	16
Ethylbenzene			10.0	9.63		ug/L		96	80 - 120	0	14
m-Xylene & p-Xylene			10.0	9.48		ug/L		95	80 - 120	3	14

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

Lab Sample ID: LCSD 580-429217/8
Matrix: Water
Analysis Batch: 429217

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			10.0	9.79		ug/L		98	80 - 120	0	16
Styrene			10.0	9.63		ug/L		96	76 - 122	2	16
Bromoform			10.0	9.18		ug/L		92	56 - 139	2	21
Isopropylbenzene			10.0	9.58		ug/L		96	80 - 123	2	19
Bromobenzene			10.0	9.16		ug/L		92	80 - 120	2	24
1,1,2,2-Tetrachloroethane			10.0	8.59		ug/L		86	74 - 124	3	25
1,2,3-Trichloropropane			10.0	9.16		ug/L		92	76 - 124	0	26
N-Propylbenzene			10.0	9.03		ug/L		90	80 - 122	1	22
2-Chlorotoluene			10.0	9.15		ug/L		91	80 - 120	1	20
4-Chlorotoluene			10.0	8.89		ug/L		89	73 - 129	1	29
t-Butylbenzene			10.0	9.91		ug/L		99	75 - 123	4	21
1,2,4-Trimethylbenzene			10.0	9.24		ug/L		92	80 - 120	2	16
sec-Butylbenzene			10.0	9.11		ug/L		91	78 - 122	2	15
4-Isopropyltoluene			10.0	9.14		ug/L		91	77 - 126	0	20
1,3-Dichlorobenzene			10.0	9.49		ug/L		95	77 - 127	0	35
1,4-Dichlorobenzene			10.0	8.89		ug/L		89	80 - 120	3	17
n-Butylbenzene			10.0	8.74		ug/L		87	57 - 133	0	14
1,2-Dichlorobenzene			10.0	9.14		ug/L		91	80 - 120	1	15
1,2-Dibromo-3-Chloropropane			10.0	9.01		ug/L		90	65 - 133	0	25
1,2,4-Trichlorobenzene			10.0	9.31		ug/L		93	61 - 148	1	27
Hexachlorobutadiene			10.0	8.46		ug/L		85	74 - 131	2	22
Naphthalene			10.0	8.91		ug/L		89	63 - 150	4	33
1,2,3-Trichlorobenzene			10.0	9.18		ug/L		92	65 - 150	5	33
1,3,5-Trimethylbenzene			10.0	9.04		ug/L		90	80 - 122	3	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*

Lab Sample ID: MB 580-429367/7
Matrix: Water
Analysis Batch: 429367

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			06/20/23 12:31	1
Chloromethane	ND		0.50	0.14	ug/L			06/20/23 12:31	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/20/23 12:31	1
Bromomethane	ND		0.50	0.13	ug/L			06/20/23 12:31	1
Chloroethane	ND		0.50	0.096	ug/L			06/20/23 12:31	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/20/23 12:31	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/20/23 12:31	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/20/23 12:31	1
Acetone	ND		10	3.1	ug/L			06/20/23 12:31	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/20/23 12:31	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/20/23 12:31	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/20/23 12:31	1

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

Lab Sample ID: MB 580-429367/7
Matrix: Water
Analysis Batch: 429367

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			06/20/23 12:31	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/20/23 12:31	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/20/23 12:31	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/20/23 12:31	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/20/23 12:31	1
Chloroform	ND		0.20	0.030	ug/L			06/20/23 12:31	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/20/23 12:31	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/20/23 12:31	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/20/23 12:31	1
Benzene	ND		0.20	0.030	ug/L			06/20/23 12:31	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/20/23 12:31	1
Trichloroethene	ND		0.20	0.066	ug/L			06/20/23 12:31	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/20/23 12:31	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/20/23 12:31	1
Dibromomethane	ND		0.20	0.062	ug/L			06/20/23 12:31	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/20/23 12:31	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/20/23 12:31	1
Toluene	ND		0.20	0.050	ug/L			06/20/23 12:31	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/20/23 12:31	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/20/23 12:31	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/20/23 12:31	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/20/23 12:31	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/20/23 12:31	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/20/23 12:31	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/20/23 12:31	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/20/23 12:31	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/20/23 12:31	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/20/23 12:31	1
o-Xylene	ND		0.50	0.15	ug/L			06/20/23 12:31	1
Styrene	ND		1.0	0.19	ug/L			06/20/23 12:31	1
Bromoform	ND		0.50	0.16	ug/L			06/20/23 12:31	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/20/23 12:31	1
Bromobenzene	ND		0.20	0.038	ug/L			06/20/23 12:31	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/20/23 12:31	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/20/23 12:31	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/20/23 12:31	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/20/23 12:31	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/20/23 12:31	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/20/23 12:31	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/20/23 12:31	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/20/23 12:31	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/20/23 12:31	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/20/23 12:31	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 12:31	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/20/23 12:31	1
n-Butylbenzene	0.346	J	1.0	0.23	ug/L			06/20/23 12:31	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/20/23 12:31	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/20/23 12:31	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/20/23 12:31	1

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

Lab Sample ID: MB 580-429367/7
Matrix: Water
Analysis Batch: 429367

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			06/20/23 12:31	1
Naphthalene	ND		1.0	0.22	ug/L			06/20/23 12:31	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/20/23 12:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/20/23 12:31*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 120*		*06/20/23 12:31*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/20/23 12:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*80 - 120*		*06/20/23 12:31*	*1*

Lab Sample ID: LCS 580-429367/4
Matrix: Water
Analysis Batch: 429367

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	4.79		ug/L		96	20 - 150
Chloromethane	5.00	4.71		ug/L		94	32 - 150
Vinyl chloride	5.00	4.59		ug/L		92	41 - 150
Bromomethane	5.00	4.53		ug/L		91	51 - 148
Chloroethane	5.00	4.88		ug/L		98	54 - 140
Carbon disulfide	5.00	4.30		ug/L		86	54 - 142
Trichlorofluoromethane	5.00	4.52		ug/L		90	60 - 132
1,1-Dichloroethene	5.00	4.30		ug/L		86	60 - 129
Acetone	25.0	27.0		ug/L		108	49 - 150
Methylene Chloride	5.00	5.43		ug/L		109	40 - 142
Methyl tert-butyl ether	5.00	5.03		ug/L		101	61 - 131
2-Butanone (MEK)	25.0	25.6		ug/L		102	37 - 150
trans-1,2-Dichloroethene	5.00	4.58		ug/L		92	69 - 121
1,1-Dichloroethane	5.00	4.73		ug/L		95	74 - 120
2,2-Dichloropropane	5.00	4.54		ug/L		91	55 - 140
cis-1,2-Dichloroethene	5.00	4.81		ug/L		96	72 - 120
Chlorobromomethane	5.00	4.71		ug/L		94	79 - 121
Chloroform	5.00	4.67		ug/L		93	75 - 120
1,1,1-Trichloroethane	5.00	4.52		ug/L		90	70 - 121
Carbon tetrachloride	5.00	4.65		ug/L		93	66 - 130
1,1-Dichloropropene	5.00	4.64		ug/L		93	72 - 125
Benzene	5.00	4.77		ug/L		95	80 - 120
1,2-Dichloroethane	5.00	4.84		ug/L		97	74 - 127
Trichloroethene	5.00	4.46		ug/L		89	72 - 120
1,2-Dichloropropane	5.00	4.83		ug/L		97	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	22.8		ug/L		91	63 - 137
Dibromomethane	5.00	4.74		ug/L		95	65 - 141
Dichlorobromomethane	5.00	4.76		ug/L		95	74 - 131
cis-1,3-Dichloropropene	5.00	4.98		ug/L		100	77 - 131
Toluene	5.00	4.59		ug/L		92	80 - 126
trans-1,3-Dichloropropene	5.00	4.97		ug/L		99	71 - 138
1,1,2-Trichloroethane	5.00	4.74		ug/L		95	73 - 127
Tetrachloroethene	5.00	4.23		ug/L		85	75 - 124

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

Lab Sample ID: LCS 580-429367/4
Matrix: Water
Analysis Batch: 429367

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	5.03		ug/L		101	69 - 138
Chlorodibromomethane	5.00	4.92		ug/L		98	62 - 141
Ethylene Dibromide	5.00	4.95		ug/L		99	61 - 143
Chlorobenzene	5.00	4.73		ug/L		95	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.65		ug/L		93	69 - 127
Ethylbenzene	5.00	4.84		ug/L		97	80 - 124
m-Xylene & p-Xylene	5.00	4.88		ug/L		98	75 - 124
o-Xylene	5.00	4.89		ug/L		98	71 - 124
Styrene	5.00	4.96		ug/L		99	74 - 127
Bromoform	5.00	4.96		ug/L		99	48 - 127
Isopropylbenzene	5.00	4.71		ug/L		94	71 - 123
Bromobenzene	5.00	4.65		ug/L		93	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.66		ug/L		93	67 - 136
1,2,3-Trichloropropane	5.00	4.47		ug/L		89	67 - 135
N-Propylbenzene	5.00	4.62		ug/L		92	72 - 126
2-Chlorotoluene	5.00	4.64		ug/L		93	73 - 120
4-Chlorotoluene	5.00	4.82		ug/L		96	75 - 124
1,3,5-Trimethylbenzene	5.00	4.67		ug/L		93	75 - 123
tert-Butylbenzene	5.00	4.62		ug/L		92	70 - 129
1,2,4-Trimethylbenzene	5.00	4.68		ug/L		94	71 - 127
sec-Butylbenzene	5.00	4.72		ug/L		94	75 - 126
4-Isopropyltoluene	5.00	4.42		ug/L		88	78 - 125
1,3-Dichlorobenzene	5.00	4.72		ug/L		94	72 - 125
1,4-Dichlorobenzene	5.00	4.80		ug/L		96	71 - 129
n-Butylbenzene	5.00	4.35		ug/L		87	69 - 127
1,2-Dichlorobenzene	5.00	4.76		ug/L		95	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.75		ug/L		95	55 - 135
1,2,4-Trichlorobenzene	5.00	4.95		ug/L		99	60 - 130
Hexachlorobutadiene	5.00	4.61		ug/L		92	63 - 130
Naphthalene	5.00	5.58		ug/L		112	54 - 137
1,2,3-Trichlorobenzene	5.00	4.98		ug/L		100	60 - 136

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

Lab Sample ID: LCSD 580-429367/5
Matrix: Water
Analysis Batch: 429367

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	5.33		ug/L		107	20 - 150	11	30
Chloromethane	5.00	5.32		ug/L		106	32 - 150	12	33
Vinyl chloride	5.00	4.98		ug/L		100	41 - 150	8	32
Bromomethane	5.00	5.06		ug/L		101	51 - 148	11	35
Chloroethane	5.00	5.34		ug/L		107	54 - 140	9	33

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

Lab Sample ID: LCSD 580-429367/5
Matrix: Water
Analysis Batch: 429367

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	4.80		ug/L		96	54 - 142	11	34
Trichlorofluoromethane	5.00	4.67		ug/L		93	60 - 132	3	32
1,1-Dichloroethene	5.00	4.79		ug/L		96	60 - 129	11	29
Acetone	25.0	29.2		ug/L		117	49 - 150	8	24
Methylene Chloride	5.00	6.11		ug/L		122	40 - 142	12	25
Methyl tert-butyl ether	5.00	5.52		ug/L		110	61 - 131	9	27
2-Butanone (MEK)	25.0	28.3		ug/L		113	37 - 150	10	35
trans-1,2-Dichloroethene	5.00	5.16		ug/L		103	69 - 121	12	27
1,1-Dichloroethane	5.00	5.31		ug/L		106	74 - 120	12	26
2,2-Dichloropropane	5.00	5.18		ug/L		104	55 - 140	13	31
cis-1,2-Dichloroethene	5.00	5.36		ug/L		107	72 - 120	11	22
Chlorobromomethane	5.00	5.29		ug/L		106	79 - 121	12	20
Chloroform	5.00	5.35		ug/L		107	75 - 120	14	21
1,1,1-Trichloroethane	5.00	5.15		ug/L		103	70 - 121	13	24
Carbon tetrachloride	5.00	5.26		ug/L		105	66 - 130	12	24
1,1-Dichloropropene	5.00	5.20		ug/L		104	72 - 125	11	23
Benzene	5.00	5.32		ug/L		106	80 - 120	11	22
1,2-Dichloroethane	5.00	5.32		ug/L		106	74 - 127	9	21
Trichloroethene	5.00	5.03		ug/L		101	72 - 120	12	22
1,2-Dichloropropane	5.00	5.40		ug/L		108	69 - 130	11	22
4-Methyl-2-pentanone (MIBK)	25.0	24.9		ug/L		100	63 - 137	9	26
Dibromomethane	5.00	5.36		ug/L		107	65 - 141	12	22
Dichlorobromomethane	5.00	5.30		ug/L		106	74 - 131	11	21
cis-1,3-Dichloropropene	5.00	5.64		ug/L		113	77 - 131	12	24
Toluene	5.00	5.24		ug/L		105	80 - 126	13	20
trans-1,3-Dichloropropene	5.00	5.53		ug/L		111	71 - 138	11	26
1,1,2-Trichloroethane	5.00	5.34		ug/L		107	73 - 127	12	22
Tetrachloroethene	5.00	4.74		ug/L		95	75 - 124	11	20
1,3-Dichloropropane	5.00	5.61		ug/L		112	69 - 138	11	19
Chlorodibromomethane	5.00	5.53		ug/L		111	62 - 141	12	22
Ethylene Dibromide	5.00	5.54		ug/L		111	61 - 143	11	22
Chlorobenzene	5.00	5.39		ug/L		108	74 - 123	13	21
1,1,1,2-Tetrachloroethane	5.00	5.48		ug/L		110	69 - 127	16	22
Ethylbenzene	5.00	5.52		ug/L		110	80 - 124	13	22
m-Xylene & p-Xylene	5.00	5.60		ug/L		112	75 - 124	14	22
o-Xylene	5.00	5.63		ug/L		113	71 - 124	14	23
Styrene	5.00	5.69		ug/L		114	74 - 127	14	22
Bromoform	5.00	5.59		ug/L		112	48 - 127	12	23
Isopropylbenzene	5.00	5.51		ug/L		110	71 - 123	16	23
Bromobenzene	5.00	5.31		ug/L		106	74 - 130	13	23
1,1,2,2-Tetrachloroethane	5.00	5.25		ug/L		105	67 - 136	12	24
1,2,3-Trichloropropane	5.00	5.41		ug/L		108	67 - 135	19	25
N-Propylbenzene	5.00	5.30		ug/L		106	72 - 126	14	20
2-Chlorotoluene	5.00	5.30		ug/L		106	73 - 120	13	22
4-Chlorotoluene	5.00	5.57		ug/L		111	75 - 124	14	23
1,3,5-Trimethylbenzene	5.00	5.29		ug/L		106	75 - 123	13	23
tert-Butylbenzene	5.00	5.29		ug/L		106	70 - 129	14	24
1,2,4-Trimethylbenzene	5.00	5.39		ug/L		108	71 - 127	14	23
sec-Butylbenzene	5.00	5.40		ug/L		108	75 - 126	13	23

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

Lab Sample ID: LCSD 580-429367/5
Matrix: Water
Analysis Batch: 429367

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	5.03		ug/L		101	78 - 125	13	24
1,3-Dichlorobenzene			5.00	5.42		ug/L		108	72 - 125	14	22
1,4-Dichlorobenzene			5.00	5.55		ug/L		111	71 - 129	14	22
n-Butylbenzene			5.00	4.90		ug/L		98	69 - 127	12	24
1,2-Dichlorobenzene			5.00	5.47		ug/L		109	72 - 129	14	22
1,2-Dibromo-3-Chloropropane			5.00	5.14		ug/L		103	55 - 135	8	29
1,2,4-Trichlorobenzene			5.00	5.53		ug/L		111	60 - 130	11	26
Hexachlorobutadiene			5.00	4.99		ug/L		100	63 - 130	8	26
Naphthalene			5.00	6.12		ug/L		122	54 - 137	9	28
1,2,3-Trichlorobenzene			5.00	5.48		ug/L		110	60 - 136	9	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 580-429779/7
Matrix: Water
Analysis Batch: 429779

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			06/23/23 15:01	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 15:01	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 15:01	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 15:01	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 15:01	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 15:01	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 15:01	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 15:01	1
Acetone	ND		10	3.1	ug/L			06/23/23 15:01	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 15:01	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 15:01	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 15:01	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 15:01	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 15:01	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 15:01	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 15:01	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 15:01	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 15:01	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 15:01	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 15:01	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 15:01	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 15:01	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 15:01	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 15:01	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 15:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 15:01	1

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

Lab Sample ID: MB 580-429779/7
Matrix: Water
Analysis Batch: 429779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 15:01	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 15:01	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 15:01	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 15:01	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 15:01	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 15:01	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 15:01	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 15:01	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 15:01	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 15:01	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 15:01	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 15:01	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 15:01	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 15:01	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 15:01	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 15:01	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 15:01	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 15:01	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 15:01	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 15:01	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 15:01	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 15:01	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 15:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 15:01	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 15:01	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 15:01	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 15:01	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 15:01	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 15:01	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 15:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 15:01	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 15:01	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 15:01	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 15:01	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 15:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/23/23 15:01*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/23/23 15:01*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/23/23 15:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/23/23 15:01*	*1*

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

Lab Sample ID: LCS 580-429779/4
Matrix: Water
Analysis Batch: 429779

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	4.70		ug/L		94	20 - 150
Chloromethane	5.00	4.57		ug/L		91	32 - 150
Vinyl chloride	5.00	4.55		ug/L		91	41 - 150
Bromomethane	5.00	4.65		ug/L		93	51 - 148
Chloroethane	5.00	4.64		ug/L		93	54 - 140
Carbon disulfide	5.00	4.57		ug/L		91	54 - 142
Trichlorofluoromethane	5.00	4.45		ug/L		89	60 - 132
1,1-Dichloroethene	5.00	5.08		ug/L		102	60 - 129
Acetone	25.0	27.2		ug/L		109	49 - 150
Methylene Chloride	5.00	4.65	J	ug/L		93	40 - 142
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131
2-Butanone (MEK)	25.0	25.1		ug/L		101	37 - 150
trans-1,2-Dichloroethene	5.00	4.96		ug/L		99	69 - 121
1,1-Dichloroethane	5.00	4.85		ug/L		97	74 - 120
2,2-Dichloropropane	5.00	4.96		ug/L		99	55 - 140
cis-1,2-Dichloroethene	5.00	4.98		ug/L		100	72 - 120
Chlorobromomethane	5.00	5.18		ug/L		104	79 - 121
Chloroform	5.00	4.83		ug/L		97	75 - 120
1,1,1-Trichloroethane	5.00	4.84		ug/L		97	70 - 121
Carbon tetrachloride	5.00	4.76		ug/L		95	66 - 130
1,1-Dichloropropene	5.00	4.90		ug/L		98	72 - 125
Benzene	5.00	4.81		ug/L		96	80 - 120
1,2-Dichloroethane	5.00	4.56		ug/L		91	74 - 127
Trichloroethene	5.00	4.87		ug/L		97	72 - 120
1,2-Dichloropropane	5.00	4.80		ug/L		96	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.9		ug/L		100	63 - 137
Dibromomethane	5.00	5.17		ug/L		103	65 - 141
Dichlorobromomethane	5.00	4.79		ug/L		96	74 - 131
cis-1,3-Dichloropropene	5.00	4.93		ug/L		99	77 - 131
Toluene	5.00	4.89		ug/L		98	80 - 126
trans-1,3-Dichloropropene	5.00	4.88		ug/L		98	71 - 138
1,1,2-Trichloroethane	5.00	4.75		ug/L		95	73 - 127
Tetrachloroethene	5.00	5.07		ug/L		101	75 - 124
1,3-Dichloropropane	5.00	4.84		ug/L		97	69 - 138
Chlorodibromomethane	5.00	4.93		ug/L		99	62 - 141
Ethylene Dibromide	5.00	4.96		ug/L		99	61 - 143
Chlorobenzene	5.00	4.97		ug/L		99	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.82		ug/L		96	69 - 127
Ethylbenzene	5.00	5.07		ug/L		101	80 - 124
m-Xylene & p-Xylene	5.00	5.11		ug/L		102	75 - 124
o-Xylene	5.00	5.28		ug/L		106	71 - 124
Styrene	5.00	4.94		ug/L		99	74 - 127
Bromoform	5.00	4.68		ug/L		94	48 - 127
Isopropylbenzene	5.00	5.08		ug/L		102	71 - 123
Bromobenzene	5.00	4.90		ug/L		98	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.52		ug/L		90	67 - 136
1,2,3-Trichloropropane	5.00	5.36		ug/L		107	67 - 135
N-Propylbenzene	5.00	4.97		ug/L		99	72 - 126

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

Lab Sample ID: LCS 580-429779/4
Matrix: Water
Analysis Batch: 429779

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	5.34		ug/L		107	73 - 120
4-Chlorotoluene	5.00	5.37		ug/L		107	75 - 124
1,3,5-Trimethylbenzene	5.00	5.28		ug/L		106	75 - 123
tert-Butylbenzene	5.00	5.09		ug/L		102	70 - 129
1,2,4-Trimethylbenzene	5.00	5.41		ug/L		108	71 - 127
sec-Butylbenzene	5.00	5.13		ug/L		103	75 - 126
4-Isopropyltoluene	5.00	5.18		ug/L		104	78 - 125
1,3-Dichlorobenzene	5.00	5.21		ug/L		104	72 - 125
1,4-Dichlorobenzene	5.00	5.02		ug/L		100	71 - 129
n-Butylbenzene	5.00	4.93		ug/L		99	69 - 127
1,2-Dichlorobenzene	5.00	5.08		ug/L		102	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.04		ug/L		101	55 - 135
1,2,4-Trichlorobenzene	5.00	5.30		ug/L		106	60 - 130
Hexachlorobutadiene	5.00	5.06		ug/L		101	63 - 130
Naphthalene	5.00	5.47		ug/L		109	54 - 137
1,2,3-Trichlorobenzene	5.00	5.41		ug/L		108	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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	4.18		ug/L		84	32 - 150	9	33
Vinyl chloride	5.00	4.23		ug/L		85	41 - 150	7	32
Bromomethane	5.00	4.27		ug/L		85	51 - 148	8	35
Chloroethane	5.00	4.31		ug/L		86	54 - 140	7	33
Carbon disulfide	5.00	4.16		ug/L		83	54 - 142	9	34
Trichlorofluoromethane	5.00	4.13		ug/L		83	60 - 132	7	32
1,1-Dichloroethene	5.00	4.69		ug/L		94	60 - 129	8	29
Acetone	25.0	25.5		ug/L		102	49 - 150	6	24
Methylene Chloride	5.00	4.35	J	ug/L		87	40 - 142	7	25
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131	0	27
2-Butanone (MEK)	25.0	24.8		ug/L		99	37 - 150	2	35
trans-1,2-Dichloroethene	5.00	4.70		ug/L		94	69 - 121	5	27
1,1-Dichloroethane	5.00	4.60		ug/L		92	74 - 120	5	26
2,2-Dichloropropane	5.00	4.51		ug/L		90	55 - 140	10	31
cis-1,2-Dichloroethene	5.00	4.73		ug/L		95	72 - 120	5	22
Chlorobromomethane	5.00	5.04		ug/L		101	79 - 121	3	20
Chloroform	5.00	4.57		ug/L		91	75 - 120	6	21
1,1,1-Trichloroethane	5.00	4.62		ug/L		92	70 - 121	5	24
Carbon tetrachloride	5.00	4.41		ug/L		88	66 - 130	8	24

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

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloropropene			5.00	4.73		ug/L		95	72 - 125	4	23
Benzene			5.00	4.69		ug/L		94	80 - 120	2	22
1,2-Dichloroethane			5.00	4.57		ug/L		91	74 - 127	0	21
Trichloroethene			5.00	4.69		ug/L		94	72 - 120	4	22
1,2-Dichloropropane			5.00	4.66		ug/L		93	69 - 130	3	22
4-Methyl-2-pentanone (MIBK)			25.0	24.9		ug/L		100	63 - 137	0	26
Dibromomethane			5.00	5.07		ug/L		101	65 - 141	2	22
Dichlorobromomethane			5.00	4.57		ug/L		91	74 - 131	5	21
cis-1,3-Dichloropropene			5.00	4.84		ug/L		97	77 - 131	2	24
Toluene			5.00	4.69		ug/L		94	80 - 126	4	20
trans-1,3-Dichloropropene			5.00	4.87		ug/L		97	71 - 138	0	26
1,1,2-Trichloroethane			5.00	4.70		ug/L		94	73 - 127	1	22
Tetrachloroethene			5.00	4.71		ug/L		94	75 - 124	7	20
1,3-Dichloropropane			5.00	4.69		ug/L		94	69 - 138	3	19
Chlorodibromomethane			5.00	4.69		ug/L		94	62 - 141	5	22
Ethylene Dibromide			5.00	4.88		ug/L		98	61 - 143	1	22
Chlorobenzene			5.00	4.77		ug/L		95	74 - 123	4	21
1,1,1,2-Tetrachloroethane			5.00	4.70		ug/L		94	69 - 127	3	22
Ethylbenzene			5.00	4.88		ug/L		98	80 - 124	4	22
m-Xylene & p-Xylene			5.00	4.92		ug/L		98	75 - 124	4	22
o-Xylene			5.00	5.12		ug/L		102	71 - 124	3	23
Styrene			5.00	4.75		ug/L		95	74 - 127	4	22
Bromoform			5.00	4.69		ug/L		94	48 - 127	0	23
Isopropylbenzene			5.00	4.96		ug/L		99	71 - 123	3	23
Bromobenzene			5.00	4.63		ug/L		93	74 - 130	6	23
1,1,2,2-Tetrachloroethane			5.00	4.28		ug/L		86	67 - 136	5	24
1,2,3-Trichloropropane			5.00	5.03		ug/L		101	67 - 135	6	25
N-Propylbenzene			5.00	4.61		ug/L		92	72 - 126	8	20
2-Chlorotoluene			5.00	4.93		ug/L		99	73 - 120	8	22
4-Chlorotoluene			5.00	5.01		ug/L		100	75 - 124	7	23
1,3,5-Trimethylbenzene			5.00	4.87		ug/L		97	75 - 123	8	23
tert-Butylbenzene			5.00	4.69		ug/L		94	70 - 129	8	24
1,2,4-Trimethylbenzene			5.00	5.02		ug/L		100	71 - 127	8	23
sec-Butylbenzene			5.00	4.85		ug/L		97	75 - 126	6	23
4-Isopropyltoluene			5.00	4.92		ug/L		98	78 - 125	5	24
1,3-Dichlorobenzene			5.00	4.91		ug/L		98	72 - 125	6	22
1,4-Dichlorobenzene			5.00	4.80		ug/L		96	71 - 129	5	22
n-Butylbenzene			5.00	4.70		ug/L		94	69 - 127	5	24
1,2-Dichlorobenzene			5.00	4.89		ug/L		98	72 - 129	4	22
1,2-Dibromo-3-Chloropropane			5.00	5.17		ug/L		103	55 - 135	3	29
1,2,4-Trichlorobenzene			5.00	5.24		ug/L		105	60 - 130	1	26
Hexachlorobutadiene			5.00	5.10		ug/L		102	63 - 130	1	26
Naphthalene			5.00	5.47		ug/L		109	54 - 137	0	28
1,2,3-Trichlorobenzene			5.00	5.45		ug/L		109	60 - 136	1	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*

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

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*

Lab Sample ID: 580-128390-12 MS
Matrix: Water
Analysis Batch: 429779

Client Sample ID: PA-16i-061423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		5.00	6.09		ug/L		122	20 - 150
Chloromethane	ND		5.00	5.44		ug/L		109	32 - 150
Vinyl chloride	ND		5.00	5.40		ug/L		108	41 - 150
Bromomethane	ND		5.00	5.11		ug/L		102	51 - 148
Chloroethane	ND		5.00	5.53		ug/L		111	54 - 140
Carbon disulfide	ND		5.00	5.06		ug/L		101	54 - 142
Trichlorofluoromethane	ND		5.00	5.43		ug/L		109	60 - 132
1,1-Dichloroethene	ND		5.00	5.61		ug/L		112	60 - 129
Acetone	3.5	J	25.0	23.5		ug/L		80	49 - 150
Methylene Chloride	ND		5.00	4.88	J	ug/L		98	40 - 142
Methyl tert-butyl ether	ND		5.00	5.09		ug/L		102	61 - 131
2-Butanone (MEK)	ND		25.0	24.5		ug/L		98	37 - 150
trans-1,2-Dichloroethene	ND		5.00	5.50		ug/L		110	69 - 121
1,1-Dichloroethane	0.25		5.00	5.54		ug/L		106	74 - 120
2,2-Dichloropropane	ND		5.00	4.76		ug/L		95	55 - 140
cis-1,2-Dichloroethene	0.12	J	5.00	5.49		ug/L		107	72 - 120
Chlorobromomethane	ND		5.00	5.61		ug/L		112	79 - 121
Chloroform	ND		5.00	5.25		ug/L		105	75 - 120
1,1,1-Trichloroethane	ND		5.00	5.42		ug/L		108	70 - 121
Carbon tetrachloride	ND		5.00	5.29		ug/L		106	66 - 130
1,1-Dichloropropene	ND		5.00	5.55		ug/L		111	72 - 125
Benzene	ND		5.00	5.39		ug/L		108	80 - 120
1,2-Dichloroethane	ND		5.00	4.98		ug/L		100	74 - 127
Trichloroethene	ND		5.00	5.43		ug/L		109	72 - 120
1,2-Dichloropropane	ND		5.00	5.13		ug/L		103	69 - 130
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.7		ug/L		99	63 - 137
Dibromomethane	ND		5.00	5.46		ug/L		109	65 - 141
Dichlorobromomethane	ND		5.00	5.07		ug/L		101	74 - 131
cis-1,3-Dichloropropene	ND		5.00	4.78		ug/L		96	77 - 131
Toluene	ND		5.00	5.30		ug/L		106	80 - 126
trans-1,3-Dichloropropene	ND		5.00	4.84		ug/L		97	71 - 138
1,1,2-Trichloroethane	ND		5.00	5.06		ug/L		101	73 - 127
Tetrachloroethene	ND		5.00	5.55		ug/L		111	75 - 124
1,3-Dichloropropane	ND		5.00	5.11		ug/L		102	69 - 138
Chlorodibromomethane	ND		5.00	4.84		ug/L		97	62 - 141
Ethylene Dibromide	ND		5.00	5.13		ug/L		103	61 - 143
Chlorobenzene	ND		5.00	5.31		ug/L		106	74 - 123
1,1,1,2-Tetrachloroethane	ND		5.00	5.02		ug/L		100	69 - 127
Ethylbenzene	ND		5.00	5.51		ug/L		110	80 - 124
m-Xylene & p-Xylene	ND		5.00	5.46		ug/L		109	75 - 124

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

Lab Sample ID: 580-128390-12 MS
Matrix: Water
Analysis Batch: 429779

Client Sample ID: PA-16i-061423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	ND		5.00	5.45		ug/L		109	71 - 124
Styrene	ND		5.00	5.07		ug/L		101	74 - 127
Bromoform	ND		5.00	4.62		ug/L		92	48 - 127
Isopropylbenzene	ND		5.00	5.34		ug/L		107	71 - 123
Bromobenzene	ND		5.00	4.90		ug/L		98	74 - 130
1,1,2,2-Tetrachloroethane	ND		5.00	4.63		ug/L		93	67 - 136
1,2,3-Trichloropropane	ND		5.00	5.30		ug/L		106	67 - 135
N-Propylbenzene	ND		5.00	5.17		ug/L		103	72 - 126
2-Chlorotoluene	ND		5.00	5.42		ug/L		108	73 - 120
4-Chlorotoluene	ND		5.00	5.44		ug/L		109	75 - 124
1,3,5-Trimethylbenzene	ND		5.00	5.48		ug/L		110	75 - 123
tert-Butylbenzene	ND		5.00	5.21		ug/L		104	70 - 129
1,2,4-Trimethylbenzene	ND		5.00	5.46		ug/L		109	71 - 127
sec-Butylbenzene	ND		5.00	5.34		ug/L		107	75 - 126
4-Isopropyltoluene	ND		5.00	5.27		ug/L		105	78 - 125
1,3-Dichlorobenzene	ND		5.00	5.26		ug/L		105	72 - 125
1,4-Dichlorobenzene	ND		5.00	5.02		ug/L		100	71 - 129
n-Butylbenzene	ND		5.00	4.81		ug/L		96	69 - 127
1,2-Dichlorobenzene	ND		5.00	5.07		ug/L		101	72 - 129
1,2-Dibromo-3-Chloropropane	ND		5.00	4.23		ug/L		85	55 - 135
1,2,4-Trichlorobenzene	ND		5.00	4.30		ug/L		86	60 - 130
Hexachlorobutadiene	ND		5.00	4.26		ug/L		85	63 - 130
Naphthalene	ND		5.00	4.16		ug/L		83	54 - 137
1,2,3-Trichlorobenzene	ND		5.00	4.20		ug/L		84	60 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: 580-128390-12 MSD
Matrix: Water
Analysis Batch: 429779

Client Sample ID: PA-16i-061423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		5.00	5.68		ug/L		114	20 - 150	7	30
Chloromethane	ND		5.00	5.24		ug/L		105	32 - 150	4	33
Vinyl chloride	ND		5.00	5.30		ug/L		106	41 - 150	2	32
Bromomethane	ND		5.00	4.94		ug/L		99	51 - 148	3	35
Chloroethane	ND		5.00	5.31		ug/L		106	54 - 140	4	33
Carbon disulfide	ND		5.00	4.61		ug/L		92	54 - 142	9	34
Trichlorofluoromethane	ND		5.00	5.29		ug/L		106	60 - 132	3	32
1,1-Dichloroethene	ND		5.00	5.18		ug/L		104	60 - 129	8	29
Acetone	3.5	J	25.0	23.7		ug/L		80	49 - 150	1	24
Methylene Chloride	ND		5.00	4.53	J	ug/L		91	40 - 142	7	25
Methyl tert-butyl ether	ND		5.00	4.51		ug/L		90	61 - 131	12	27
2-Butanone (MEK)	ND		25.0	24.4		ug/L		98	37 - 150	0	35

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

Lab Sample ID: 580-128390-12 MSD
Client Sample ID: PA-16i-061423
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 429779

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	ND		5.00	5.13		ug/L		103	69 - 121	7	27
1,1-Dichloroethane	0.25		5.00	5.16		ug/L		98	74 - 120	7	26
2,2-Dichloropropane	ND		5.00	4.61		ug/L		92	55 - 140	3	31
cis-1,2-Dichloroethene	0.12	J	5.00	5.00		ug/L		98	72 - 120	9	22
Chlorobromomethane	ND		5.00	5.12		ug/L		102	79 - 121	9	20
Chloroform	ND		5.00	4.90		ug/L		98	75 - 120	7	21
1,1,1-Trichloroethane	ND		5.00	5.02		ug/L		100	70 - 121	8	24
Carbon tetrachloride	ND		5.00	4.91		ug/L		98	66 - 130	8	24
1,1-Dichloropropene	ND		5.00	5.36		ug/L		107	72 - 125	3	23
Benzene	ND		5.00	5.14		ug/L		103	80 - 120	5	22
1,2-Dichloroethane	ND		5.00	4.81		ug/L		96	74 - 127	3	21
Trichloroethene	ND		5.00	5.25		ug/L		105	72 - 120	3	22
1,2-Dichloropropane	ND		5.00	5.18		ug/L		104	69 - 130	1	22
4-Methyl-2-pentanone (MIBK)	ND		25.0	23.1		ug/L		92	63 - 137	7	26
Dibromomethane	ND		5.00	5.29		ug/L		106	65 - 141	3	22
Dichlorobromomethane	ND		5.00	5.02		ug/L		100	74 - 131	1	21
cis-1,3-Dichloropropene	ND		5.00	4.84		ug/L		97	77 - 131	1	24
Toluene	ND		5.00	5.17		ug/L		103	80 - 126	2	20
trans-1,3-Dichloropropene	ND		5.00	4.85		ug/L		97	71 - 138	0	26
1,1,2-Trichloroethane	ND		5.00	4.94		ug/L		99	73 - 127	2	22
Tetrachloroethene	ND		5.00	5.32		ug/L		106	75 - 124	4	20
1,3-Dichloropropane	ND		5.00	4.96		ug/L		99	69 - 138	3	19
Chlorodibromomethane	ND		5.00	4.69		ug/L		94	62 - 141	3	22
Ethylene Dibromide	ND		5.00	4.84		ug/L		97	61 - 143	6	22
Chlorobenzene	ND		5.00	5.17		ug/L		103	74 - 123	3	21
1,1,1,2-Tetrachloroethane	ND		5.00	4.64		ug/L		93	69 - 127	8	22
Ethylbenzene	ND		5.00	5.32		ug/L		106	80 - 124	4	22
m-Xylene & p-Xylene	ND		5.00	5.29		ug/L		106	75 - 124	3	22
o-Xylene	ND		5.00	5.27		ug/L		105	71 - 124	3	23
Styrene	ND		5.00	4.90		ug/L		98	74 - 127	3	22
Bromoform	ND		5.00	4.21		ug/L		84	48 - 127	9	23
Isopropylbenzene	ND		5.00	5.21		ug/L		104	71 - 123	3	23
Bromobenzene	ND		5.00	4.85		ug/L		97	74 - 130	1	23
1,1,2,2-Tetrachloroethane	ND		5.00	4.30		ug/L		86	67 - 136	7	24
1,2,3-Trichloropropane	ND		5.00	4.87		ug/L		97	67 - 135	8	25
N-Propylbenzene	ND		5.00	5.09		ug/L		102	72 - 126	2	20
2-Chlorotoluene	ND		5.00	5.23		ug/L		105	73 - 120	4	22
4-Chlorotoluene	ND		5.00	5.29		ug/L		106	75 - 124	3	23
1,3,5-Trimethylbenzene	ND		5.00	5.25		ug/L		105	75 - 123	4	23
tert-Butylbenzene	ND		5.00	5.17		ug/L		103	70 - 129	1	24
1,2,4-Trimethylbenzene	ND		5.00	5.32		ug/L		106	71 - 127	3	23
sec-Butylbenzene	ND		5.00	5.24		ug/L		105	75 - 126	2	23
4-Isopropyltoluene	ND		5.00	5.13		ug/L		103	78 - 125	3	24
1,3-Dichlorobenzene	ND		5.00	5.02		ug/L		100	72 - 125	5	22
1,4-Dichlorobenzene	ND		5.00	4.85		ug/L		97	71 - 129	3	22
n-Butylbenzene	ND		5.00	4.66		ug/L		93	69 - 127	3	24
1,2-Dichlorobenzene	ND		5.00	4.88		ug/L		98	72 - 129	4	22
1,2-Dibromo-3-Chloropropane	ND		5.00	4.15		ug/L		83	55 - 135	2	29
1,2,4-Trichlorobenzene	ND		5.00	4.48		ug/L		90	60 - 130	4	26

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

Lab Sample ID: 580-128390-12 MSD — **Client Sample ID: PA-16i-061423**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 429779

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexachlorobutadiene	ND		5.00	4.07		ug/L		81	63 - 130	5	26
Naphthalene	ND		5.00	4.59		ug/L		92	54 - 137	10	28
1,2,3-Trichlorobenzene	ND		5.00	4.61		ug/L		92	60 - 136	9	28

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-684144/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 684144

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			06/19/23 13:11	1

Lab Sample ID: LCS 320-684144/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 684144

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	49.9	53.3		ug/L		107	85 - 115

Lab Sample ID: MRL 320-684144/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 684144

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

Lab Sample ID: 580-128390-12 MS — **Client Sample ID: PA-16i-061423**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 684144

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	ND		99.8	102		ug/L		102	80 - 120

Lab Sample ID: 580-128390-12 MSD — **Client Sample ID: PA-16i-061423**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 684144

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		99.8	86.9		ug/L		87	80 - 120	16	20

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MB 320-686931/5
Matrix: Water
Analysis Batch: 686931

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			06/29/23 12:04	1

Lab Sample ID: LCS 320-686931/6
Matrix: Water
Analysis Batch: 686931

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	46.5		ug/L		93	85 - 115		

Lab Sample ID: MRL 320-686931/4
Matrix: Water
Analysis Batch: 686931

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			3.99	3.49	J	ug/L		87	75 - 125		

Lab Sample ID: 580-128390-11 MS
Matrix: Water
Analysis Batch: 686931

Client Sample ID: Dup-01-061423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	ND		49.9	43.1		ug/L		86	80 - 120		

Lab Sample ID: 580-128390-11 MSD
Matrix: Water
Analysis Batch: 686931

Client Sample ID: Dup-01-061423
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	42.9		ug/L		86	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-429934/3
Matrix: Water
Analysis Batch: 429934

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			06/24/23 01:20	1

Lab Sample ID: LCS 580-429934/4
Matrix: Water
Analysis Batch: 429934

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 580-429934/5
Matrix: Water
Analysis Batch: 429934

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: 580-128390-12 MS
Matrix: Water
Analysis Batch: 429934

Client Sample ID: PA-16i-061423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	72	F1	50.0	109	F1	mg/L		75	90 - 110		

Lab Sample ID: 580-128390-12 MSD
Matrix: Water
Analysis Batch: 429934

Client Sample ID: PA-16i-061423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	72	F1	50.0	110	F1	mg/L		75	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: TB-061323
Lab Sample ID: 580-128390-1
Date Collected: 06/13/23 00:01
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429367	ITR	EET SEA	06/20/23 14:18

Client Sample ID: MWA-82--061323
Lab Sample ID: 580-128390-2
Date Collected: 06/13/23 08:40
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429367	ITR	EET SEA	06/20/23 16:28
Total/NA	Analysis	314.0		10	684144	AP1	EET SAC	06/19/23 15:34
Total/NA	Analysis	300.0		1	429934	CA	EET SEA	06/24/23 01:55

Client Sample ID: MWA-41-061323
Lab Sample ID: 580-128390-3
Date Collected: 06/13/23 09:59
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 17:48
Total/NA	Analysis	314.0		1	684144	AP1	EET SAC	06/19/23 15:52
Total/NA	Analysis	300.0		1	429934	CA	EET SEA	06/24/23 02:07

Client Sample ID: MWA-81i-061323
Lab Sample ID: 580-128390-4
Date Collected: 06/13/23 10:46
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429367	ITR	EET SEA	06/20/23 17:11
Total/NA	Analysis	314.0		1	684144	AP1	EET SAC	06/19/23 17:39
Total/NA	Analysis	300.0		1	429934	CA	EET SEA	06/24/23 02:19

Client Sample ID: PA-44i-061323
Lab Sample ID: 580-128390-5
Date Collected: 06/13/23 11:24
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429367	ITR	EET SEA	06/20/23 17:33
Total/NA	Analysis	314.0		1	684144	AP1	EET SAC	06/19/23 17:57
Total/NA	Analysis	300.0		1	429934	CA	EET SEA	06/24/23 02:31

Client Sample ID: PA-09-061323
Lab Sample ID: 580-128390-6
Date Collected: 06/13/23 12:14
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 18:12
Total/NA	Analysis	314.0		1	684144	AP1	EET SAC	06/19/23 18:15

Client Sample ID: PA-09-061323
Lab Sample ID: 580-128390-6
Date Collected: 06/13/23 12:14
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	429934	CA	EET SEA	06/24/23 02:54

Client Sample ID: PA-08-061323
Lab Sample ID: 580-128390-7
Date Collected: 06/13/23 08:25
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 18:36
Total/NA	Analysis	314.0		2	684144	AP1	EET SAC	06/19/23 18:33
Total/NA	Analysis	300.0		10	429934	CA	EET SEA	06/24/23 03:41

Client Sample ID: PA-25d-061323
Lab Sample ID: 580-128390-8
Date Collected: 06/13/23 10:15
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 19:00
Total/NA	Analysis	314.0		1	684144	AP1	EET SAC	06/19/23 18:51
Total/NA	Analysis	300.0		1	429934	CA	EET SEA	06/24/23 03:53

Client Sample ID: PA-15i-061323
Lab Sample ID: 580-128390-9
Date Collected: 06/13/23 12:10
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 19:24
Total/NA	Analysis	314.0		2	684144	AP1	EET SAC	06/19/23 19:09
Total/NA	Analysis	300.0		10	429934	CA	EET SEA	06/24/23 04:16

Client Sample ID: PA-26d-061423
Lab Sample ID: 580-128390-10
Date Collected: 06/14/23 07:11
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 19:48
Total/NA	Analysis	314.0		1	684144	AP1	EET SAC	06/19/23 19:27
Total/NA	Analysis	300.0		5	429934	CA	EET SEA	06/24/23 04:39

Client Sample ID: Dup-01-061423
Lab Sample ID: 580-128390-11
Date Collected: 06/14/23 07:12
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 20:12
Total/NA	Analysis	314.0		1	686931	TCS	EET SAC	06/29/23 12:40

Client Sample ID: Dup-01-061423
Lab Sample ID: 580-128390-11
Date Collected: 06/14/23 07:12
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	429934	CA	EET SEA	06/24/23 04:51

Client Sample ID: PA-16i-061423
Lab Sample ID: 580-128390-12
Date Collected: 06/14/23 07:30
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 20:36
Total/NA	Analysis	314.0		2	684144	AP1	EET SAC	06/19/23 16:45
Total/NA	Analysis	300.0		10	429934	CA	EET SEA	06/24/23 05:14

Client Sample ID: PA-03-061423
Lab Sample ID: 580-128390-13
Date Collected: 06/14/23 11:20
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 21:00
Total/NA	Analysis	314.0		1	686931	TCS	EET SAC	06/29/23 13:34
Total/NA	Analysis	300.0		1	429934	CA	EET SEA	06/24/23 06:13

Client Sample ID: PA-17ir-061423
Lab Sample ID: 580-128390-14
Date Collected: 06/14/23 12:55
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 21:24
Total/NA	Analysis	314.0		2	686931	TCS	EET SAC	06/29/23 13:51
Total/NA	Analysis	300.0		1	429934	CA	EET SEA	06/24/23 06:25

Client Sample ID: PA-27d-061423
Lab Sample ID: 580-128390-15
Date Collected: 06/14/23 14:00
Matrix: Water
Date Received: 06/15/23 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429217	JBT	EET SEA	06/19/23 07:34
Total/NA	Analysis	314.0		10	686931	TCS	EET SAC	06/29/23 14:09
Total/NA	Analysis	300.0		50	429934	CA	EET SEA	06/24/23 06:48

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: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Laboratory: Eurofins Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4167	07-07-23

Laboratory: Eurofins Sacramento

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

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

Sample Summary

Client: ERM-West
Job ID: 580-128390-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-128390-1	TB-061323	Water	06/13/23 00:01	06/15/23 13:55
580-128390-2	MWA-82--061323	Water	06/13/23 08:40	06/15/23 13:55
580-128390-3	MWA-41-061323	Water	06/13/23 09:59	06/15/23 13:55
580-128390-4	MWA-81i-061323	Water	06/13/23 10:46	06/15/23 13:55
580-128390-5	PA-44i-061323	Water	06/13/23 11:24	06/15/23 13:55
580-128390-6	PA-09-061323	Water	06/13/23 12:14	06/15/23 13:55
580-128390-7	PA-08-061323	Water	06/13/23 08:25	06/15/23 13:55
580-128390-8	PA-25d-061323	Water	06/13/23 10:15	06/15/23 13:55
580-128390-9	PA-15i-061323	Water	06/13/23 12:10	06/15/23 13:55
580-128390-10	PA-26d-061423	Water	06/14/23 07:11	06/15/23 13:55
580-128390-11	Dup-01-061423	Water	06/14/23 07:12	06/15/23 13:55
580-128390-12	PA-16i-061423	Water	06/14/23 07:30	06/15/23 13:55
580-128390-13	PA-03-061423	Water	06/14/23 11:20	06/15/23 13:55
580-128390-14	PA-17ir-061423	Water	06/14/23 12:55	06/15/23 13:55
580-128390-15	PA-27d-061423	Water	06/14/23 14:00	06/15/23 13:55

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

Chain of Custody Record

580-128390 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST / MR	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 2
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:		
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	A	A	N	N	X	
TB-061323	6/13/23		G	Water				X			2	
MWA-82-061323		0840		Water				X	X	X	5	
MWA-41-061323		0959		Water				X	X	X	5	
MWA-81i-061323		1046		Water				X	X	X	5	
PA-44i-061323		1124		Water				X	X	X	5	
PA-09-061323		1214		Water				X	X	X	5	
PA-08-061323		0825		Water				X	X	X	5	
PA-25d-061323		1015		Water				X	X	X	5	
PA-15i-061323		1210		Water				X	X	X	5	
PA-26d-061323	6/14/23	0711	G					X	X	X	5	
Dup-01-061423		0712						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	[signature]	6/15/23 1215	ERM	[signature]	6/15/23 1215	M.E.
2	[signature]	6/15/23 1355	M.E	[signature]	6/15/23 1355	ERM
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.3

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: MR, ST	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 2
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:			
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	A	A	N	N		X	
PA-16i-061423	6/14/23	0730	G	Water				X	X	X	X	15	
~~PA-26d-061423~~ ST				~~Water~~ S			X		X	X		5	ST
PA-03-061423	6/14/23	1120	G	Water				X	X	X		5	
PA-17iR-061423		1255		Water				X	X	X		5	
PA-27d-061423		1400		Water			X		X	X		5	
				Water									
				Water									
				Water									
				Water									

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	6/15/23 1215	ERM	[signature]	6/15/23 1215	M.E.
2	[signature]	6/15/23 1355	M.E.	[signature]	6/15/23 1355	ERM
3						

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

580-128390 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST / MR	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 2
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:		
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Y 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-061323	6/13/23		G	Water				X			2	
MWA-82-061323		0840		Water				X	X	X	5	
MWA-41-061323		0959		Water				X	X	X	5	
MWA-81i-061323		1046		Water				X	X	X	5	
PA-44i-061323		1124		Water				X	X	X	5	
PA-09-061323		1214		Water				X	X	X	5	
PA-08-061323		0825		Water				X	X	X	5	
PA-25d-061323		1015		Water				X	X	X	5	
PA-15i-061323		1210		Water				X	X	X	5	
PA-26d-061323	6/14/23	0711	G					X	X	X	5	
Dup-01-061423		0712						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: 6/15/23	1215	Company ERM	Received by:	Date/Time: 6/15/23	1215	Company M.E.
Relinquished by:	Date/Time: 6/15/23	1355	Company M.E	Received by:	Date/Time: 6/15/23	1355	Company ERM
Relinquished by:	Date/Time:		Company	Received by:	Date/Time:		Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.3

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: MR, ST	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 2
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:			
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	A	N	N			
PA-16i-061423	6/14/23	0730	G	Water				X	X	X	X	15	
~~PA-26d-061423~~ ST				~~Water~~ S			X		X	X		5	ST
PA-03-061423	6/14/23	1120	G	Water				X	X	X		5	
PA-17iR-061423		1255		Water				X	X	X		5	
PA-27d-061423		1400		Water			X		X	X		5	
				Water									
				Water									
				Water									
				Water									

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/15/23 1215	ERM		6/15/23 1215	M.E.
2		6/15/23 1355	M.E.		6/15/23 1355	ERM
3						

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

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Page 64 of 70

7/13/2023

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

Chain of Custody Record

580-128390 Chain of Custody

eurofins Environment Testing TestAmerica

Client Information	Sampler: ST / MR	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 2
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:		
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	A	N	N	X	
TB-061323	6/13/23		G	Water				X			2	
MWA-82-061323		0840		Water				X	X	X	5	
MWA-41-061323		0959		Water				X	X	X	5	
MWA-81i-061323		1046		Water				X	X	X	5	
PA-44i-061323		1124		Water				X	X	X	5	
PA-09-061323		1214		Water				X	X	X	5	
PA-08-061323		0825		Water				X	X	X	5	
PA-25d-061323		1015		Water				X	X	X	5	
PA-15i-061323		1210		Water				X	X	X	5	
PA-26d-061323	6/14/23	0711	G					X	X	X	5	
Dup-01-061423		0712						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	[signature]	6/15/23 1215	ERM	[signature]	6/15/23 1215	M.E.
2	[signature]	6/15/23 1355	M.E	[signature]	6/15/23 1355	EETN
3	[signature]	6/15/23 1720	EETN	[signature]	6/16/23 0735	EETN

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

Cooler Temperature(s) °C and Other Remarks: IR9 13/1.6 0.3

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: MR, ST	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 2
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:			
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	N			
PA-16i-061423	6/14/23	0730	G	Water				X	X	X	X	15	
~~PA-26d-061423~~ ST				Water			X		X	X		5	ST
PA-03-061423	6/14/23	1120	G	Water				X	X	X		5	
PA-17iR-061423		1255		Water				X	X	X		5	
PA-27d-061423		1400		Water			X		X	X		5	
				Water									
				Water									
				Water									
				Water									

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		6/15/23 1215	ERM		6/15/23 1215	M.E.
2		6/15/23 1355	M.E.		6/15/23 1355	ERM
3		6/15/23 1700	ERM		6/16/23 0935	ERM

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

Cooler Temperature(s) °C and Other Remarks: IR4 1.3/1.6

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

Chain of Custody Record

580-128390 Chain of Custody

eurofins Environment Testing TestAmerica

Client Information	Sampler: ST / MR	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 2
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:		
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	A	N	N	X	
TB-061323	6/13/23		G	Water				X			2	
MWA-82-061323		0840		Water				X	X	X	5	
MWA-41-061323		0959		Water				X	X	X	5	
MWA-81i-061323		1046		Water				X	X	X	5	
PA-44i-061323		1124		Water				X	X	X	5	
PA-09-061323		1214		Water				X	X	X	5	
PA-08-061323		0825		Water				X	X	X	5	
PA-25d-061323		1015		Water				X	X	X	5	
PA-15i-061323		1210		Water				X	X	X	5	
PA-26d-061323	6/14/23	0711	G					X	X	X	5	
Dup-01-061423		0712						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	[signature]	6/15/23 1215	ERM	[signature]	6/15/23 1215	M.E.
2	[signature]	6/15/23 1355	M.E	[signature]	6/15/23 1355	EETN
3	[signature]	6/15/23 1720	EETN	[signature]	6/16/23 0735	EETN

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

Cooler Temperature(s) °C and Other Remarks: IR9 13/1.6 0.3

7/13/2023

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: MR, ST	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 2
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:			
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	A	N	N			
PA-16i-061423	6/14/23	0730	G	Water				X	X	X	X	15	
~~PA-26d-061423~~ ST				Water			X		X	X		5	ST
PA-03-061423	6/14/23	1120	G	Water				X	X	X		5	
PA-17iR-061423		1255		Water				X	X	X		5	
PA-27d-061423		1400		Water			X		X	X		5	
				Water									
				Water									
				Water									
				Water									

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:

	Date/Time	Company		Date/Time	Company
Relinquished by:	6/15/23 1215	ERM	Received by:	6/15/23 1215	M.E.
Relinquished by:	6/15/23 1355	M.E.	Received by:	6/15/23 1355	ERM
Relinquished by:	6/15/23 1700	ERM	Received by:	6/16/23 0935	ERM

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: IR4 1.3/1.6

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-128390-1

Login Number: 128390
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-128390-1

Login Number: 128390
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 06/16/23 12:29 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	2098843
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 7/26/2023 9:58:08 AM Revision 1

JOB DESCRIPTION

Arkema - Q2 2023 Groundwater Event

JOB NUMBER

580-128402-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

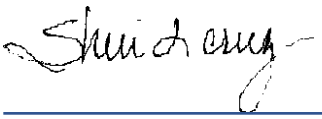
See page two for job notes and contact information.

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



Generated
7/26/2023 9:58:08 AM
Revision 1

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

Table of Contents

Job ID: 580-128402-1

Laboratory: Eurofins Seattle

Narrative

Job Narrative
580-128402-1

Revised 7/26/23 to fix sample names for samples 3, 5, 6 and 7.

Receipt
The samples were received on 6/15/2023 2:35 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 was 3.1º C.

GC/MS VOA
Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-58d-061523 (580-128402-11) and MWA-56d-061523 (580-128402-12). Elevated reporting limits (RLs) are provided.

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

General Chemistry
Method 314.0: Due to the nature of the matrix and the high conductivity measurement for the following samples, the samples in analytical batch 320-686931 were diluted. In order to protect instrumentation, the samples were diluted. Elevated reporting limits (RLs) are provided. PA-23d-061523 (580-128402-4), PA-24d-61523 (580-128402-5), PA-20d-061523 (580-128402-9), MWA-56d-061523 (580-128402-12) and PA-04-061523 (580-128402-13)

Method 314.0: The following samples in analytical batch 320-687304 were diluted to bring the concentration of target analytes within the calibration range: PA-22d-61523 (580-128402-6), MWA-31i(d)-061523 (580-128402-10) and MWA-58d-061523 (580-128402-11). 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.

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Qualifiers

GC/MS VOA

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

HPLC/IC

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

General Chemistry

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

Glossary

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

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: TB-061523A
Lab Sample ID: 580-128402-1
Date Collected: 06/15/23 00:01
Matrix: Water
Date Received: 06/15/23 14:35

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			06/23/23 16:13	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 16:13	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 16:13	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 16:13	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 16:13	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 16:13	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 16:13	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 16:13	1
Acetone	ND		10	3.1	ug/L			06/23/23 16:13	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 16:13	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 16:13	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 16:13	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 16:13	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 16:13	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 16:13	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 16:13	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 16:13	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 16:13	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 16:13	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 16:13	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 16:13	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 16:13	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 16:13	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 16:13	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 16:13	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 16:13	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 16:13	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 16:13	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 16:13	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 16:13	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 16:13	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 16:13	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 16:13	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 16:13	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 16:13	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 16:13	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 16:13	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 16:13	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 16:13	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 16:13	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 16:13	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 16:13	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 16:13	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 16:13	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 16:13	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 16:13	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 16:13	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 16:13	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 16:13	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: TB-061523A
Lab Sample ID: 580-128402-1
Date Collected: 06/15/23 00:01
Matrix: Water
Date Received: 06/15/23 14:35

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			06/23/23 16:13	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 16:13	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 16:13	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 16:13	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 16:13	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 16:13	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 16:13	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 16:13	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 16:13	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 16:13	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 16:13	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 16:13	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 16:13	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 16:13	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/23/23 16:13*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*06/23/23 16:13*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/23/23 16:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*06/23/23 16:13*	*1*

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: DI-061523
Lab Sample ID: 580-128402-2
Date Collected: 06/15/23 06:45
Matrix: Water
Date Received: 06/15/23 14:35

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			06/23/23 17:01	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 17:01	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 17:01	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 17:01	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 17:01	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 17:01	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 17:01	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 17:01	1
Acetone	**39**		10	3.1	ug/L			06/23/23 17:01	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 17:01	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 17:01	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 17:01	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 17:01	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 17:01	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 17:01	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 17:01	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 17:01	1
Chloroform	**1.1**		0.20	0.030	ug/L			06/23/23 17:01	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 17:01	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 17:01	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 17:01	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 17:01	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 17:01	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 17:01	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 17:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 17:01	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 17:01	1
Dichlorobromomethane	**0.064**	**J**	0.20	0.060	ug/L			06/23/23 17:01	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 17:01	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 17:01	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 17:01	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 17:01	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 17:01	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 17:01	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 17:01	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 17:01	1
Chlorobenzene	**0.57**		0.20	0.060	ug/L			06/23/23 17:01	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 17:01	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 17:01	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 17:01	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 17:01	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 17:01	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 17:01	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 17:01	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 17:01	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 17:01	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 17:01	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 17:01	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 17:01	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: DI-061523
Lab Sample ID: 580-128402-2
Date Collected: 06/15/23 06:45
Matrix: Water
Date Received: 06/15/23 14:35

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			06/23/23 17:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 17:01	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 17:01	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 17:01	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 17:01	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 17:01	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 17:01	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 17:01	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 17:01	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 17:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 17:01	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 17:01	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 17:01	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 17:01	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/23/23 17:01*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*06/23/23 17:01*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/23/23 17:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*06/23/23 17:01*	*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			06/29/23 14:27	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			06/24/23 15:47	1

Client Sample ID: RB-01-061523
Lab Sample ID: 580-128402-3
Date Collected: 06/15/23 07:55
Matrix: Water
Date Received: 06/15/23 14:35

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			06/19/23 18:42	1
Chloromethane	ND		1.0	0.28	ug/L			06/19/23 18:42	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/19/23 18:42	1
Bromomethane	ND		1.0	0.21	ug/L			06/19/23 18:42	1
Chloroethane	ND		1.0	0.35	ug/L			06/19/23 18:42	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/19/23 18:42	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/19/23 18:42	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/19/23 18:42	1
Acetone	**43**		15	3.2	ug/L			06/19/23 18:42	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/19/23 18:42	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/19/23 18:42	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/19/23 18:42	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/19/23 18:42	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/19/23 18:42	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/19/23 18:42	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/19/23 18:42	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/19/23 18:42	1
Chloroform	**0.93**	**J**	1.0	0.26	ug/L			06/19/23 18:42	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/19/23 18:42	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/19/23 18:42	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/19/23 18:42	1
Benzene	ND		1.0	0.24	ug/L			06/19/23 18:42	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/19/23 18:42	1
Trichloroethene	ND		1.0	0.26	ug/L			06/19/23 18:42	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/19/23 18:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/19/23 18:42	1
Dibromomethane	ND		1.0	0.34	ug/L			06/19/23 18:42	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/19/23 18:42	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/19/23 18:42	1
Toluene	ND		1.0	0.39	ug/L			06/19/23 18:42	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/19/23 18:42	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/19/23 18:42	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/19/23 18:42	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/19/23 18:42	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/19/23 18:42	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/19/23 18:42	1
Chlorobenzene	**0.48**	**J**	1.0	0.44	ug/L			06/19/23 18:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/19/23 18:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/19/23 18:42	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/19/23 18:42	1
o-Xylene	ND		1.0	0.39	ug/L			06/19/23 18:42	1
Styrene	ND		1.0	0.53	ug/L			06/19/23 18:42	1
Bromoform	ND		1.0	0.51	ug/L			06/19/23 18:42	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/19/23 18:42	1
Bromobenzene	ND		1.0	0.43	ug/L			06/19/23 18:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/19/23 18:42	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/19/23 18:42	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/19/23 18:42	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/19/23 18:42	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: RB-01-061523
Lab Sample ID: 580-128402-3
Date Collected: 06/15/23 07:55
Matrix: Water
Date Received: 06/15/23 14:35

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			06/19/23 18:42	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/19/23 18:42	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/19/23 18:42	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/19/23 18:42	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/19/23 18:42	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/19/23 18:42	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 18:42	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/19/23 18:42	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 18:42	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/19/23 18:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/19/23 18:42	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/19/23 18:42	1
Naphthalene	ND		3.0	0.93	ug/L			06/19/23 18:42	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/19/23 18:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/19/23 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/19/23 18:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/19/23 18:42*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/19/23 18:42*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/19/23 18:42*	*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			06/29/23 14:45	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			06/24/23 16:22	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-23d-061523
Lab Sample ID: 580-128402-4
Date Collected: 06/15/23 09:02
Matrix: Water
Date Received: 06/15/23 14:35

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			06/19/23 22:42	1
Chloromethane	ND		1.0	0.28	ug/L			06/19/23 22:42	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/19/23 22:42	1
Bromomethane	ND		1.0	0.21	ug/L			06/19/23 22:42	1
Chloroethane	ND		1.0	0.35	ug/L			06/19/23 22:42	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/19/23 22:42	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/19/23 22:42	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/19/23 22:42	1
Acetone	**3.4**	**J**	15	3.2	ug/L			06/19/23 22:42	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/19/23 22:42	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/19/23 22:42	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/19/23 22:42	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/19/23 22:42	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/19/23 22:42	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/19/23 22:42	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/19/23 22:42	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/19/23 22:42	1
Chloroform	ND		1.0	0.26	ug/L			06/19/23 22:42	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/19/23 22:42	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/19/23 22:42	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/19/23 22:42	1
Benzene	ND		1.0	0.24	ug/L			06/19/23 22:42	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/19/23 22:42	1
Trichloroethene	ND		1.0	0.26	ug/L			06/19/23 22:42	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/19/23 22:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/19/23 22:42	1
Dibromomethane	ND		1.0	0.34	ug/L			06/19/23 22:42	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/19/23 22:42	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/19/23 22:42	1
Toluene	**1.2**		1.0	0.39	ug/L			06/19/23 22:42	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/19/23 22:42	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/19/23 22:42	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/19/23 22:42	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/19/23 22:42	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/19/23 22:42	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/19/23 22:42	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/19/23 22:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/19/23 22:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/19/23 22:42	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/19/23 22:42	1
o-Xylene	ND		1.0	0.39	ug/L			06/19/23 22:42	1
Styrene	ND		1.0	0.53	ug/L			06/19/23 22:42	1
Bromoform	ND		1.0	0.51	ug/L			06/19/23 22:42	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/19/23 22:42	1
Bromobenzene	ND		1.0	0.43	ug/L			06/19/23 22:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/19/23 22:42	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/19/23 22:42	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/19/23 22:42	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/19/23 22:42	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-23d-061523
Lab Sample ID: 580-128402-4
Date Collected: 06/15/23 09:02
Matrix: Water
Date Received: 06/15/23 14:35

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			06/19/23 22:42	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/19/23 22:42	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/19/23 22:42	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/19/23 22:42	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/19/23 22:42	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/19/23 22:42	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 22:42	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/19/23 22:42	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 22:42	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/19/23 22:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/19/23 22:42	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/19/23 22:42	1
Naphthalene	ND		3.0	0.93	ug/L			06/19/23 22:42	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/19/23 22:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/19/23 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/19/23 22:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*06/19/23 22:42*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/19/23 22:42*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*06/19/23 22:42*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		800	400	ug/L			06/29/23 15:39	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**25000**		1500	430	mg/L			06/24/23 16:46	1000

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-24d-061523
Lab Sample ID: 580-128402-5
Date Collected: 06/15/23 09:48
Matrix: Water
Date Received: 06/15/23 14:35

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			06/19/23 23:06	1
Chloromethane	ND		1.0	0.28	ug/L			06/19/23 23:06	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/19/23 23:06	1
Bromomethane	ND		1.0	0.21	ug/L			06/19/23 23:06	1
Chloroethane	ND		1.0	0.35	ug/L			06/19/23 23:06	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/19/23 23:06	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/19/23 23:06	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/19/23 23:06	1
Acetone	ND		15	3.2	ug/L			06/19/23 23:06	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/19/23 23:06	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/19/23 23:06	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/19/23 23:06	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/19/23 23:06	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/19/23 23:06	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/19/23 23:06	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/19/23 23:06	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/19/23 23:06	1
Chloroform	ND		1.0	0.26	ug/L			06/19/23 23:06	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/19/23 23:06	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/19/23 23:06	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/19/23 23:06	1
Benzene	ND		1.0	0.24	ug/L			06/19/23 23:06	1
1,2-Dichloroethane	**1.6**		1.0	0.42	ug/L			06/19/23 23:06	1
Trichloroethene	ND		1.0	0.26	ug/L			06/19/23 23:06	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/19/23 23:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/19/23 23:06	1
Dibromomethane	ND		1.0	0.34	ug/L			06/19/23 23:06	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/19/23 23:06	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/19/23 23:06	1
Toluene	ND		1.0	0.39	ug/L			06/19/23 23:06	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/19/23 23:06	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/19/23 23:06	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/19/23 23:06	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/19/23 23:06	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/19/23 23:06	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/19/23 23:06	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/19/23 23:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/19/23 23:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/19/23 23:06	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/19/23 23:06	1
o-Xylene	ND		1.0	0.39	ug/L			06/19/23 23:06	1
Styrene	ND		1.0	0.53	ug/L			06/19/23 23:06	1
Bromoform	ND		1.0	0.51	ug/L			06/19/23 23:06	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/19/23 23:06	1
Bromobenzene	ND		1.0	0.43	ug/L			06/19/23 23:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/19/23 23:06	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/19/23 23:06	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/19/23 23:06	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/19/23 23:06	1

Client Sample ID: PA-24d-061523
Lab Sample ID: 580-128402-5
Date Collected: 06/15/23 09:48
Matrix: Water
Date Received: 06/15/23 14:35

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			06/19/23 23:06	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/19/23 23:06	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/19/23 23:06	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/19/23 23:06	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/19/23 23:06	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/19/23 23:06	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 23:06	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/19/23 23:06	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 23:06	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/19/23 23:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/19/23 23:06	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/19/23 23:06	1
Naphthalene	ND		3.0	0.93	ug/L			06/19/23 23:06	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/19/23 23:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/19/23 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/19/23 23:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*80 - 120*		*06/19/23 23:06*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/19/23 23:06*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*06/19/23 23:06*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		800	400	ug/L			06/29/23 15:57	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**33000**		1500	430	mg/L			06/24/23 17:33	1000

Client Sample ID: PA-22d-061523
Lab Sample ID: 580-128402-6

Date Collected: 06/15/23 10:48
Matrix: Water

Date Received: 06/15/23 14:35

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			06/19/23 23:30	1
Chloromethane	ND		1.0	0.28	ug/L			06/19/23 23:30	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/19/23 23:30	1
Bromomethane	ND		1.0	0.21	ug/L			06/19/23 23:30	1
Chloroethane	ND		1.0	0.35	ug/L			06/19/23 23:30	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/19/23 23:30	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/19/23 23:30	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/19/23 23:30	1
Acetone	**4.6**	**J**	15	3.2	ug/L			06/19/23 23:30	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/19/23 23:30	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/19/23 23:30	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/19/23 23:30	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/19/23 23:30	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/19/23 23:30	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/19/23 23:30	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/19/23 23:30	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/19/23 23:30	1
Chloroform	**12**		1.0	0.26	ug/L			06/19/23 23:30	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/19/23 23:30	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/19/23 23:30	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/19/23 23:30	1
Benzene	ND		1.0	0.24	ug/L			06/19/23 23:30	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/19/23 23:30	1
Trichloroethene	ND		1.0	0.26	ug/L			06/19/23 23:30	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/19/23 23:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/19/23 23:30	1
Dibromomethane	ND		1.0	0.34	ug/L			06/19/23 23:30	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/19/23 23:30	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/19/23 23:30	1
Toluene	ND		1.0	0.39	ug/L			06/19/23 23:30	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/19/23 23:30	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/19/23 23:30	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/19/23 23:30	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/19/23 23:30	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/19/23 23:30	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/19/23 23:30	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/19/23 23:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/19/23 23:30	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/19/23 23:30	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/19/23 23:30	1
o-Xylene	ND		1.0	0.39	ug/L			06/19/23 23:30	1
Styrene	ND		1.0	0.53	ug/L			06/19/23 23:30	1
Bromoform	ND		1.0	0.51	ug/L			06/19/23 23:30	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/19/23 23:30	1
Bromobenzene	ND		1.0	0.43	ug/L			06/19/23 23:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/19/23 23:30	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/19/23 23:30	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/19/23 23:30	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/19/23 23:30	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-22d-061523
Lab Sample ID: 580-128402-6
Date Collected: 06/15/23 10:48
Matrix: Water
Date Received: 06/15/23 14:35

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			06/19/23 23:30	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/19/23 23:30	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/19/23 23:30	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/19/23 23:30	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/19/23 23:30	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/19/23 23:30	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 23:30	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/19/23 23:30	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 23:30	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/19/23 23:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/19/23 23:30	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/19/23 23:30	1
Naphthalene	ND		3.0	0.93	ug/L			06/19/23 23:30	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/19/23 23:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/19/23 23:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/19/23 23:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*06/19/23 23:30*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*06/19/23 23:30*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/19/23 23:30*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**15000**		800	400	ug/L			06/30/23 19:05	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5600**		150	43	mg/L			06/24/23 17:45	100

Client Sample ID: MWA-63-061523
Lab Sample ID: 580-128402-7
Date Collected: 06/15/23 12:02
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 08:19	1
Chloromethane	ND		1.0	0.28	ug/L			06/20/23 08:19	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/20/23 08:19	1
Bromomethane	ND		1.0	0.21	ug/L			06/20/23 08:19	1
Chloroethane	ND		1.0	0.35	ug/L			06/20/23 08:19	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/20/23 08:19	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/20/23 08:19	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/20/23 08:19	1
Acetone	**3.9**	**J**	15	3.2	ug/L			06/20/23 08:19	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/20/23 08:19	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/20/23 08:19	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/20/23 08:19	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/20/23 08:19	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/20/23 08:19	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/20/23 08:19	1
cis-1,2-Dichloroethene	**1.8**		1.0	0.35	ug/L			06/20/23 08:19	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/20/23 08:19	1
Chloroform	**48**		1.0	0.26	ug/L			06/20/23 08:19	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/20/23 08:19	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/20/23 08:19	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/20/23 08:19	1
Benzene	ND		1.0	0.24	ug/L			06/20/23 08:19	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/20/23 08:19	1
Trichloroethene	**1.8**		1.0	0.26	ug/L			06/20/23 08:19	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/20/23 08:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/23 08:19	1
Dibromomethane	ND		1.0	0.34	ug/L			06/20/23 08:19	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/20/23 08:19	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/20/23 08:19	1
Toluene	ND		1.0	0.39	ug/L			06/20/23 08:19	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/20/23 08:19	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/20/23 08:19	1
Tetrachloroethene	**11**		1.0	0.41	ug/L			06/20/23 08:19	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/20/23 08:19	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/20/23 08:19	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/20/23 08:19	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/20/23 08:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/20/23 08:19	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/20/23 08:19	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/20/23 08:19	1
o-Xylene	ND		1.0	0.39	ug/L			06/20/23 08:19	1
Styrene	ND		1.0	0.53	ug/L			06/20/23 08:19	1
Bromoform	ND		1.0	0.51	ug/L			06/20/23 08:19	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/20/23 08:19	1
Bromobenzene	ND		1.0	0.43	ug/L			06/20/23 08:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/20/23 08:19	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/20/23 08:19	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/20/23 08:19	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/20/23 08:19	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-63-061523
Lab Sample ID: 580-128402-7
Date Collected: 06/15/23 12:02
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 08:19	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/20/23 08:19	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/20/23 08:19	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/20/23 08:19	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/20/23 08:19	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/20/23 08:19	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 08:19	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/20/23 08:19	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 08:19	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/20/23 08:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/20/23 08:19	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/20/23 08:19	1
Naphthalene	ND		3.0	0.93	ug/L			06/20/23 08:19	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/20/23 08:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/20/23 08:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/20/23 08:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/20/23 08:19*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/20/23 08:19*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/20/23 08:19*	*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			06/29/23 16:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.7**	**J**	7.5	2.2	mg/L			06/24/23 18:20	5

Client Sample ID: Dup-02-061523
Lab Sample ID: 580-128402-8
Date Collected: 06/15/23 12:03
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 08:43	1
Chloromethane	ND		1.0	0.28	ug/L			06/20/23 08:43	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/20/23 08:43	1
Bromomethane	ND		1.0	0.21	ug/L			06/20/23 08:43	1
Chloroethane	ND		1.0	0.35	ug/L			06/20/23 08:43	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/20/23 08:43	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/20/23 08:43	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/20/23 08:43	1
Acetone	**3.2**	**J**	15	3.2	ug/L			06/20/23 08:43	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/20/23 08:43	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/20/23 08:43	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/20/23 08:43	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/20/23 08:43	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/20/23 08:43	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/20/23 08:43	1
cis-1,2-Dichloroethene	**1.9**		1.0	0.35	ug/L			06/20/23 08:43	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/20/23 08:43	1
Chloroform	**48**		1.0	0.26	ug/L			06/20/23 08:43	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/20/23 08:43	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/20/23 08:43	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/20/23 08:43	1
Benzene	ND		1.0	0.24	ug/L			06/20/23 08:43	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/20/23 08:43	1
Trichloroethene	**1.8**		1.0	0.26	ug/L			06/20/23 08:43	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/20/23 08:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/23 08:43	1
Dibromomethane	ND		1.0	0.34	ug/L			06/20/23 08:43	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/20/23 08:43	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/20/23 08:43	1
Toluene	ND		1.0	0.39	ug/L			06/20/23 08:43	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/20/23 08:43	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/20/23 08:43	1
Tetrachloroethene	**11**		1.0	0.41	ug/L			06/20/23 08:43	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/20/23 08:43	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/20/23 08:43	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/20/23 08:43	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/20/23 08:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/20/23 08:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/20/23 08:43	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/20/23 08:43	1
o-Xylene	ND		1.0	0.39	ug/L			06/20/23 08:43	1
Styrene	ND		1.0	0.53	ug/L			06/20/23 08:43	1
Bromoform	ND		1.0	0.51	ug/L			06/20/23 08:43	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/20/23 08:43	1
Bromobenzene	ND		1.0	0.43	ug/L			06/20/23 08:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/20/23 08:43	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/20/23 08:43	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/20/23 08:43	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/20/23 08:43	1

Client Sample ID: Dup-02-061523
Lab Sample ID: 580-128402-8
Date Collected: 06/15/23 12:03
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 08:43	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/20/23 08:43	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/20/23 08:43	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/20/23 08:43	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/20/23 08:43	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/20/23 08:43	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 08:43	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/20/23 08:43	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 08:43	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/20/23 08:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/20/23 08:43	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/20/23 08:43	1
Naphthalene	ND		3.0	0.93	ug/L			06/20/23 08:43	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/20/23 08:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/20/23 08:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/20/23 08:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*06/20/23 08:43*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/20/23 08:43*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*06/20/23 08:43*	*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			06/29/23 16:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.8**	**J**	7.5	2.2	mg/L			06/24/23 18:43	5

Client Sample ID: PA-20d-061523
Lab Sample ID: 580-128402-9
Date Collected: 06/15/23 12:53
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 09:31	1
Chloromethane	ND		1.0	0.28	ug/L			06/20/23 09:31	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/20/23 09:31	1
Bromomethane	ND		1.0	0.21	ug/L			06/20/23 09:31	1
Chloroethane	ND		1.0	0.35	ug/L			06/20/23 09:31	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/20/23 09:31	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/20/23 09:31	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/20/23 09:31	1
Acetone	**4.0**	**J**	15	3.2	ug/L			06/20/23 09:31	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/20/23 09:31	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/20/23 09:31	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/20/23 09:31	1
1,1-Dichloroethane	**2.2**		1.0	0.22	ug/L			06/20/23 09:31	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/20/23 09:31	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/20/23 09:31	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/20/23 09:31	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/20/23 09:31	1
Chloroform	ND		1.0	0.26	ug/L			06/20/23 09:31	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/20/23 09:31	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/20/23 09:31	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/20/23 09:31	1
Benzene	**1.4**		1.0	0.24	ug/L			06/20/23 09:31	1
1,2-Dichloroethane	**0.97**	**J**	1.0	0.42	ug/L			06/20/23 09:31	1
Trichloroethene	ND		1.0	0.26	ug/L			06/20/23 09:31	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/20/23 09:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/23 09:31	1
Dibromomethane	ND		1.0	0.34	ug/L			06/20/23 09:31	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/20/23 09:31	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/20/23 09:31	1
Toluene	ND		1.0	0.39	ug/L			06/20/23 09:31	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/20/23 09:31	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/20/23 09:31	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/20/23 09:31	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/20/23 09:31	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/20/23 09:31	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/20/23 09:31	1
Chlorobenzene	**14**		1.0	0.44	ug/L			06/20/23 09:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/20/23 09:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/20/23 09:31	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/20/23 09:31	1
o-Xylene	ND		1.0	0.39	ug/L			06/20/23 09:31	1
Styrene	ND		1.0	0.53	ug/L			06/20/23 09:31	1
Bromoform	ND		1.0	0.51	ug/L			06/20/23 09:31	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/20/23 09:31	1
Bromobenzene	ND		1.0	0.43	ug/L			06/20/23 09:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/20/23 09:31	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/20/23 09:31	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/20/23 09:31	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/20/23 09:31	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-20d-061523
Lab Sample ID: 580-128402-9
Date Collected: 06/15/23 12:53
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 09:31	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/20/23 09:31	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/20/23 09:31	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/20/23 09:31	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/20/23 09:31	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/20/23 09:31	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 09:31	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/20/23 09:31	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 09:31	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/20/23 09:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/20/23 09:31	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/20/23 09:31	1
Naphthalene	ND		3.0	0.93	ug/L			06/20/23 09:31	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/20/23 09:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/20/23 09:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/20/23 09:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*06/20/23 09:31*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/20/23 09:31*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/20/23 09:31*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			06/29/23 17:08	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**880**		150	43	mg/L			06/24/23 18:55	100

Client Sample ID: MWA-31i(d)-061523
Lab Sample ID: 580-128402-10
Date Collected: 06/15/23 08:25
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 09:55	1
Chloromethane	ND		1.0	0.28	ug/L			06/20/23 09:55	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/20/23 09:55	1
Bromomethane	ND		1.0	0.21	ug/L			06/20/23 09:55	1
Chloroethane	ND		1.0	0.35	ug/L			06/20/23 09:55	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/20/23 09:55	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/20/23 09:55	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/20/23 09:55	1
Acetone	**6.8**	**J**	15	3.2	ug/L			06/20/23 09:55	1
Methylene Chloride	**1.4**	**J**	5.0	1.4	ug/L			06/20/23 09:55	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/20/23 09:55	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/20/23 09:55	1
1,1-Dichloroethane	**0.35**	**J**	1.0	0.22	ug/L			06/20/23 09:55	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/20/23 09:55	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/20/23 09:55	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/20/23 09:55	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/20/23 09:55	1
Chloroform	**49**		1.0	0.26	ug/L			06/20/23 09:55	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/20/23 09:55	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/20/23 09:55	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/20/23 09:55	1
Benzene	ND		1.0	0.24	ug/L			06/20/23 09:55	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/20/23 09:55	1
Trichloroethene	ND		1.0	0.26	ug/L			06/20/23 09:55	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/20/23 09:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/23 09:55	1
Dibromomethane	ND		1.0	0.34	ug/L			06/20/23 09:55	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/20/23 09:55	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/20/23 09:55	1
Toluene	ND		1.0	0.39	ug/L			06/20/23 09:55	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/20/23 09:55	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/20/23 09:55	1
Tetrachloroethene	**0.52**	**J**	1.0	0.41	ug/L			06/20/23 09:55	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/20/23 09:55	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/20/23 09:55	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/20/23 09:55	1
Chlorobenzene	**0.53**	**J**	1.0	0.44	ug/L			06/20/23 09:55	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/20/23 09:55	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/20/23 09:55	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/20/23 09:55	1
o-Xylene	ND		1.0	0.39	ug/L			06/20/23 09:55	1
Styrene	ND		1.0	0.53	ug/L			06/20/23 09:55	1
Bromoform	ND		1.0	0.51	ug/L			06/20/23 09:55	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/20/23 09:55	1
Bromobenzene	ND		1.0	0.43	ug/L			06/20/23 09:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/20/23 09:55	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/20/23 09:55	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/20/23 09:55	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/20/23 09:55	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-31i(d)-061523
Lab Sample ID: 580-128402-10
Date Collected: 06/15/23 08:25
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 09:55	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/20/23 09:55	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/20/23 09:55	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/20/23 09:55	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/20/23 09:55	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/20/23 09:55	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 09:55	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/20/23 09:55	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 09:55	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/20/23 09:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/20/23 09:55	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/20/23 09:55	1
Naphthalene	ND		3.0	0.93	ug/L			06/20/23 09:55	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/20/23 09:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/20/23 09:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/20/23 09:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*06/20/23 09:55*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/20/23 09:55*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/20/23 09:55*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**86000**		4000	2000	ug/L			06/30/23 19:23	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**16000**		1500	430	mg/L			06/24/23 19:18	1000

Client Sample ID: MWA-58d-061523
Lab Sample ID: 580-128402-11
Date Collected: 06/15/23 10:00
Matrix: Water
Date Received: 06/15/23 14:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		5.0	2.7	ug/L			06/20/23 11:07	5
Chloromethane	ND		5.0	1.4	ug/L			06/20/23 11:07	5
Vinyl chloride	ND		5.0	1.1	ug/L			06/20/23 11:07	5
Bromomethane	ND		5.0	1.1	ug/L			06/20/23 11:07	5
Chloroethane	ND		5.0	1.8	ug/L			06/20/23 11:07	5
Trichlorofluoromethane	ND		5.0	1.8	ug/L			06/20/23 11:07	5
Carbon disulfide	ND		5.0	2.7	ug/L			06/20/23 11:07	5
1,1-Dichloroethene	ND		5.0	1.4	ug/L			06/20/23 11:07	5
Acetone	ND		75	16	ug/L			06/20/23 11:07	5
Methylene Chloride	ND		25	7.2	ug/L			06/20/23 11:07	5
Methyl tert-butyl ether	ND		5.0	2.2	ug/L			06/20/23 11:07	5
trans-1,2-Dichloroethene	ND		5.0	2.0	ug/L			06/20/23 11:07	5
1,1-Dichloroethane	ND		5.0	1.1	ug/L			06/20/23 11:07	5
2-Butanone (MEK)	ND		75	24	ug/L			06/20/23 11:07	5
2,2-Dichloropropane	ND		5.0	1.6	ug/L			06/20/23 11:07	5
cis-1,2-Dichloroethene	ND		5.0	1.8	ug/L			06/20/23 11:07	5
Bromochloromethane	ND		5.0	1.5	ug/L			06/20/23 11:07	5
Chloroform	**210**		5.0	1.3	ug/L			06/20/23 11:07	5
1,1,1-Trichloroethane	ND		5.0	2.0	ug/L			06/20/23 11:07	5
Carbon tetrachloride	ND		5.0	1.5	ug/L			06/20/23 11:07	5
1,1-Dichloropropene	ND		5.0	1.5	ug/L			06/20/23 11:07	5
Benzene	ND		5.0	1.2	ug/L			06/20/23 11:07	5
1,2-Dichloroethane	ND		5.0	2.1	ug/L			06/20/23 11:07	5
Trichloroethene	ND		5.0	1.3	ug/L			06/20/23 11:07	5
1,2-Dichloropropane	ND		5.0	0.90	ug/L			06/20/23 11:07	5
4-Methyl-2-pentanone (MIBK)	ND		25	13	ug/L			06/20/23 11:07	5
Dibromomethane	ND		5.0	1.7	ug/L			06/20/23 11:07	5
Bromodichloromethane	ND		5.0	1.5	ug/L			06/20/23 11:07	5
cis-1,3-Dichloropropene	ND		5.0	2.1	ug/L			06/20/23 11:07	5
Toluene	ND		5.0	2.0	ug/L			06/20/23 11:07	5
trans-1,3-Dichloropropene	ND		5.0	2.1	ug/L			06/20/23 11:07	5
1,1,2-Trichloroethane	ND		5.0	1.2	ug/L			06/20/23 11:07	5
Tetrachloroethene	ND		5.0	2.1	ug/L			06/20/23 11:07	5
1,3-Dichloropropane	ND		5.0	1.8	ug/L			06/20/23 11:07	5
Dibromochloromethane	ND		5.0	2.2	ug/L			06/20/23 11:07	5
1,2-Dibromoethane	ND		5.0	2.0	ug/L			06/20/23 11:07	5
Chlorobenzene	ND		5.0	2.2	ug/L			06/20/23 11:07	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.90	ug/L			06/20/23 11:07	5
Ethylbenzene	ND		5.0	2.5	ug/L			06/20/23 11:07	5
m-Xylene & p-Xylene	ND		10	2.7	ug/L			06/20/23 11:07	5
o-Xylene	ND		5.0	2.0	ug/L			06/20/23 11:07	5
Styrene	ND		5.0	2.7	ug/L			06/20/23 11:07	5
Bromoform	ND		5.0	2.6	ug/L			06/20/23 11:07	5
Isopropylbenzene	ND		5.0	2.2	ug/L			06/20/23 11:07	5
Bromobenzene	ND		5.0	2.2	ug/L			06/20/23 11:07	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.6	ug/L			06/20/23 11:07	5
1,2,3-Trichloropropane	ND		5.0	2.1	ug/L			06/20/23 11:07	5
N-Propylbenzene	ND		5.0	2.5	ug/L			06/20/23 11:07	5
2-Chlorotoluene	ND		5.0	2.6	ug/L			06/20/23 11:07	5

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-58d-061523
Lab Sample ID: 580-128402-11
Date Collected: 06/15/23 10:00
Matrix: Water
Date Received: 06/15/23 14:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		5.0	1.9	ug/L			06/20/23 11:07	5
t-Butylbenzene	ND		10	2.9	ug/L			06/20/23 11:07	5
1,2,4-Trimethylbenzene	ND		15	3.1	ug/L			06/20/23 11:07	5
sec-Butylbenzene	ND		5.0	2.5	ug/L			06/20/23 11:07	5
4-Isopropyltoluene	ND		5.0	1.4	ug/L			06/20/23 11:07	5
1,3-Dichlorobenzene	ND		5.0	2.4	ug/L			06/20/23 11:07	5
1,4-Dichlorobenzene	ND		5.0	2.3	ug/L			06/20/23 11:07	5
n-Butylbenzene	ND		5.0	2.2	ug/L			06/20/23 11:07	5
1,2-Dichlorobenzene	ND		5.0	2.3	ug/L			06/20/23 11:07	5
1,2-Dibromo-3-Chloropropane	ND		15	2.9	ug/L			06/20/23 11:07	5
1,2,4-Trichlorobenzene	ND		5.0	1.7	ug/L			06/20/23 11:07	5
Hexachlorobutadiene	ND		15	4.0	ug/L			06/20/23 11:07	5
Naphthalene	ND		15	4.7	ug/L			06/20/23 11:07	5
1,2,3-Trichlorobenzene	ND		10	2.2	ug/L			06/20/23 11:07	5
1,3,5-Trimethylbenzene	ND		5.0	2.8	ug/L			06/20/23 11:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/20/23 11:07*	*5*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*06/20/23 11:07*	*5*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/20/23 11:07*	*5*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*06/20/23 11:07*	*5*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**50000**		4000	2000	ug/L			06/30/23 19:41	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**19000**		1500	430	mg/L			06/24/23 20:05	1000

Client Sample ID: MWA-56d-061523
Lab Sample ID: 580-128402-12
Date Collected: 06/15/23 11:15
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 11:31	10
Chloromethane	ND		10	2.8	ug/L			06/20/23 11:31	10
Vinyl chloride	ND		10	2.2	ug/L			06/20/23 11:31	10
Bromomethane	ND		10	2.1	ug/L			06/20/23 11:31	10
Chloroethane	ND		10	3.5	ug/L			06/20/23 11:31	10
Trichlorofluoromethane	ND		10	3.6	ug/L			06/20/23 11:31	10
Carbon disulfide	ND		10	5.3	ug/L			06/20/23 11:31	10
1,1-Dichloroethene	ND		10	2.8	ug/L			06/20/23 11:31	10
Acetone	ND		150	32	ug/L			06/20/23 11:31	10
Methylene Chloride	ND		50	14	ug/L			06/20/23 11:31	10
Methyl tert-butyl ether	ND		10	4.4	ug/L			06/20/23 11:31	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			06/20/23 11:31	10
1,1-Dichloroethane	ND		10	2.2	ug/L			06/20/23 11:31	10
2-Butanone (MEK)	ND		150	47	ug/L			06/20/23 11:31	10
2,2-Dichloropropane	ND		10	3.2	ug/L			06/20/23 11:31	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			06/20/23 11:31	10
Bromochloromethane	ND		10	2.9	ug/L			06/20/23 11:31	10
Chloroform	**160**		10	2.6	ug/L			06/20/23 11:31	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			06/20/23 11:31	10
Carbon tetrachloride	ND		10	3.0	ug/L			06/20/23 11:31	10
1,1-Dichloropropene	ND		10	2.9	ug/L			06/20/23 11:31	10
Benzene	ND		10	2.4	ug/L			06/20/23 11:31	10
1,2-Dichloroethane	ND		10	4.2	ug/L			06/20/23 11:31	10
Trichloroethene	ND		10	2.6	ug/L			06/20/23 11:31	10
1,2-Dichloropropane	ND		10	1.8	ug/L			06/20/23 11:31	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			06/20/23 11:31	10
Dibromomethane	ND		10	3.4	ug/L			06/20/23 11:31	10
Bromodichloromethane	ND		10	2.9	ug/L			06/20/23 11:31	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			06/20/23 11:31	10
Toluene	ND		10	3.9	ug/L			06/20/23 11:31	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			06/20/23 11:31	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			06/20/23 11:31	10
Tetrachloroethene	ND		10	4.1	ug/L			06/20/23 11:31	10
1,3-Dichloropropane	ND		10	3.5	ug/L			06/20/23 11:31	10
Dibromochloromethane	ND		10	4.3	ug/L			06/20/23 11:31	10
1,2-Dibromoethane	ND		10	4.0	ug/L			06/20/23 11:31	10
Chlorobenzene	ND		10	4.4	ug/L			06/20/23 11:31	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			06/20/23 11:31	10
Ethylbenzene	ND		10	5.0	ug/L			06/20/23 11:31	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			06/20/23 11:31	10
o-Xylene	ND		10	3.9	ug/L			06/20/23 11:31	10
Styrene	ND		10	5.3	ug/L			06/20/23 11:31	10
Bromoform	ND		10	5.1	ug/L			06/20/23 11:31	10
Isopropylbenzene	ND		10	4.4	ug/L			06/20/23 11:31	10
Bromobenzene	ND		10	4.3	ug/L			06/20/23 11:31	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			06/20/23 11:31	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			06/20/23 11:31	10
N-Propylbenzene	ND		10	5.0	ug/L			06/20/23 11:31	10
2-Chlorotoluene	ND		10	5.1	ug/L			06/20/23 11:31	10

Client Sample ID: MWA-56d-061523
Lab Sample ID: 580-128402-12
Date Collected: 06/15/23 11:15
Matrix: Water
Date Received: 06/15/23 14:35

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			06/20/23 11:31	10
t-Butylbenzene	ND		20	5.8	ug/L			06/20/23 11:31	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			06/20/23 11:31	10
sec-Butylbenzene	ND		10	4.9	ug/L			06/20/23 11:31	10
4-Isopropyltoluene	ND		10	2.8	ug/L			06/20/23 11:31	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			06/20/23 11:31	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			06/20/23 11:31	10
n-Butylbenzene	ND		10	4.4	ug/L			06/20/23 11:31	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			06/20/23 11:31	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			06/20/23 11:31	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			06/20/23 11:31	10
Hexachlorobutadiene	ND		30	7.9	ug/L			06/20/23 11:31	10
Naphthalene	ND		30	9.3	ug/L			06/20/23 11:31	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			06/20/23 11:31	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			06/20/23 11:31	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/20/23 11:31*	*10*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*06/20/23 11:31*	*10*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/20/23 11:31*	*10*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/20/23 11:31*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**13000**		800	400	ug/L			06/29/23 18:02	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**15000**		1500	430	mg/L			06/24/23 20:28	1000

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-04-061523
Lab Sample ID: 580-128402-13
Date Collected: 06/15/23 13:15
Matrix: Water
Date Received: 06/15/23 14:35

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			06/23/23 22:12	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 22:12	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 22:12	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 22:12	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 22:12	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 22:12	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 22:12	1
1,1-Dichloroethene	**0.18**	**J**	0.20	0.035	ug/L			06/23/23 22:12	1
Acetone	ND		10	3.1	ug/L			06/23/23 22:12	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 22:12	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 22:12	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 22:12	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 22:12	1
1,1-Dichloroethane	**0.17**	**J**	0.20	0.025	ug/L			06/23/23 22:12	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 22:12	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 22:12	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 22:12	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 22:12	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 22:12	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 22:12	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 22:12	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 22:12	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 22:12	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 22:12	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 22:12	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 22:12	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 22:12	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 22:12	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 22:12	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 22:12	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 22:12	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 22:12	1
Tetrachloroethene	**0.17**	**J**	0.24	0.084	ug/L			06/23/23 22:12	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 22:12	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 22:12	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 22:12	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 22:12	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 22:12	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 22:12	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 22:12	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 22:12	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 22:12	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 22:12	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 22:12	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 22:12	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 22:12	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 22:12	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 22:12	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 22:12	1

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-04-061523
Lab Sample ID: 580-128402-13
Date Collected: 06/15/23 13:15
Matrix: Water
Date Received: 06/15/23 14:35

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			06/23/23 22:12	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 22:12	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 22:12	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 22:12	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 22:12	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 22:12	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 22:12	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 22:12	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 22:12	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 22:12	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 22:12	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 22:12	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 22:12	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 22:12	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/23/23 22:12*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 120*		*06/23/23 22:12*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/23/23 22:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*80 - 120*		*06/23/23 22:12*	*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			06/29/23 18:20	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**6.9**	**J**	7.5	2.2	mg/L			06/24/23 20:52	5

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

Lab Sample ID: MB 580-429311/6
Matrix: Water
Analysis Batch: 429311

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			06/19/23 16:41	1
Chloromethane	ND		1.0	0.28	ug/L			06/19/23 16:41	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/19/23 16:41	1
Bromomethane	ND		1.0	0.21	ug/L			06/19/23 16:41	1
Chloroethane	ND		1.0	0.35	ug/L			06/19/23 16:41	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/19/23 16:41	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/19/23 16:41	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/19/23 16:41	1
Acetone	ND		15	3.2	ug/L			06/19/23 16:41	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/19/23 16:41	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/19/23 16:41	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/19/23 16:41	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/19/23 16:41	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/19/23 16:41	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/19/23 16:41	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/19/23 16:41	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/19/23 16:41	1
Chloroform	ND		1.0	0.26	ug/L			06/19/23 16:41	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/19/23 16:41	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/19/23 16:41	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/19/23 16:41	1
Benzene	ND		1.0	0.24	ug/L			06/19/23 16:41	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/19/23 16:41	1
Trichloroethene	ND		1.0	0.26	ug/L			06/19/23 16:41	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/19/23 16:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/19/23 16:41	1
Dibromomethane	ND		1.0	0.34	ug/L			06/19/23 16:41	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/19/23 16:41	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/19/23 16:41	1
Toluene	ND		1.0	0.39	ug/L			06/19/23 16:41	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/19/23 16:41	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/19/23 16:41	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/19/23 16:41	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/19/23 16:41	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/19/23 16:41	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/19/23 16:41	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/19/23 16:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/19/23 16:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/19/23 16:41	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/19/23 16:41	1
o-Xylene	ND		1.0	0.39	ug/L			06/19/23 16:41	1
Styrene	ND		1.0	0.53	ug/L			06/19/23 16:41	1
Bromoform	ND		1.0	0.51	ug/L			06/19/23 16:41	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/19/23 16:41	1
Bromobenzene	ND		1.0	0.43	ug/L			06/19/23 16:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/19/23 16:41	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/19/23 16:41	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/19/23 16:41	1

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

Lab Sample ID: MB 580-429311/6
Matrix: Water
Analysis Batch: 429311

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/19/23 16:41	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			06/19/23 16:41	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/19/23 16:41	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/19/23 16:41	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/19/23 16:41	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/19/23 16:41	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/19/23 16:41	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 16:41	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/19/23 16:41	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/19/23 16:41	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/19/23 16:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/19/23 16:41	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/19/23 16:41	1
Naphthalene	ND		3.0	0.93	ug/L			06/19/23 16:41	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/19/23 16:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/19/23 16:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/19/23 16:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*06/19/23 16:41*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/19/23 16:41*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/19/23 16:41*	*1*

Lab Sample ID: LCS 580-429311/7
Matrix: Water
Analysis Batch: 429311

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	10.0	10.3		ug/L		103	20 - 150
Chloromethane	10.0	10.6		ug/L		106	25 - 150
Vinyl chloride	10.0	10.7		ug/L		107	31 - 150
Bromomethane	10.0	11.4		ug/L		114	36 - 150
Chloroethane	10.0	11.1		ug/L		111	38 - 150
Trichlorofluoromethane	10.0	10.1		ug/L		101	45 - 148
Carbon disulfide	10.0	10.0		ug/L		100	63 - 134
1,1-Dichloroethene	10.0	10.1		ug/L		101	70 - 129
Acetone	50.0	55.1		ug/L		110	44 - 150
Methylene Chloride	10.0	10.4		ug/L		104	77 - 125
Methyl tert-butyl ether	10.0	10.3		ug/L		103	72 - 120
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	75 - 120
1,1-Dichloroethane	10.0	10.3		ug/L		103	80 - 120
2-Butanone (MEK)	50.0	54.4		ug/L		109	65 - 137
2,2-Dichloropropane	10.0	10.3		ug/L		103	66 - 126
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	76 - 120
Bromochloromethane	10.0	9.90		ug/L		99	78 - 120
Chloroform	10.0	10.0		ug/L		100	78 - 127
1,1,1-Trichloroethane	10.0	9.77		ug/L		98	74 - 130
Carbon tetrachloride	10.0	9.88		ug/L		99	72 - 129

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

Lab Sample ID: LCS 580-429311/7
Matrix: Water
Analysis Batch: 429311

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	10.0	10.2		ug/L		102	74 - 120
Benzene	10.0	10.0		ug/L		100	80 - 122
1,2-Dichloroethane	10.0	10.1		ug/L		101	69 - 126
Trichloroethene	10.0	10.1		ug/L		101	80 - 125
1,2-Dichloropropane	10.0	9.70		ug/L		97	80 - 120
4-Methyl-2-pentanone (MIBK)	50.0	52.8		ug/L		106	59 - 141
Dibromomethane	10.0	9.81		ug/L		98	80 - 120
Bromodichloromethane	10.0	9.36		ug/L		94	75 - 124
cis-1,3-Dichloropropene	10.0	9.35		ug/L		94	77 - 120
Toluene	10.0	10.1		ug/L		101	80 - 120
trans-1,3-Dichloropropene	10.0	9.64		ug/L		96	76 - 122
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	80 - 121
Tetrachloroethene	10.0	9.98		ug/L		100	76 - 125
1,3-Dichloropropane	10.0	10.1		ug/L		101	79 - 120
Dibromochloromethane	10.0	9.52		ug/L		95	73 - 125
1,2-Dibromoethane	10.0	10.1		ug/L		101	79 - 126
Chlorobenzene	10.0	10.0		ug/L		100	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.50		ug/L		95	79 - 120
Ethylbenzene	10.0	10.0		ug/L		100	80 - 120
m-Xylene & p-Xylene	10.0	10.2		ug/L		102	80 - 120
o-Xylene	10.0	10.3		ug/L		103	80 - 120
Styrene	10.0	10.3		ug/L		103	76 - 122
Bromoform	10.0	9.68		ug/L		97	56 - 139
Isopropylbenzene	10.0	10.2		ug/L		102	80 - 123
Bromobenzene	10.0	9.69		ug/L		97	80 - 120
1,1,2,2-Tetrachloroethane	10.0	9.65		ug/L		96	74 - 124
1,2,3-Trichloropropane	10.0	9.94		ug/L		99	76 - 124
N-Propylbenzene	10.0	9.87		ug/L		99	80 - 122
2-Chlorotoluene	10.0	10.0		ug/L		100	80 - 120
4-Chlorotoluene	10.0	9.61		ug/L		96	73 - 129
t-Butylbenzene	10.0	9.62		ug/L		96	75 - 123
1,2,4-Trimethylbenzene	10.0	10.1		ug/L		101	80 - 120
sec-Butylbenzene	10.0	9.91		ug/L		99	78 - 122
4-Isopropyltoluene	10.0	9.76		ug/L		98	77 - 126
1,3-Dichlorobenzene	10.0	9.87		ug/L		99	77 - 127
1,4-Dichlorobenzene	10.0	9.65		ug/L		97	80 - 120
n-Butylbenzene	10.0	9.54		ug/L		95	57 - 133
1,2-Dichlorobenzene	10.0	9.61		ug/L		96	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.65		ug/L		97	65 - 133
1,2,4-Trichlorobenzene	10.0	8.69		ug/L		87	61 - 148
Hexachlorobutadiene	10.0	8.40		ug/L		84	74 - 131
Naphthalene	10.0	8.96		ug/L		90	63 - 150
1,2,3-Trichlorobenzene	10.0	8.33		ug/L		83	65 - 150
1,3,5-Trimethylbenzene	10.0	9.92		ug/L		99	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

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

Lab Sample ID: LCS 580-429311/7
Matrix: Water
Analysis Batch: 429311

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 580-429311/8
Matrix: Water
Analysis Batch: 429311

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			10.0	9.77		ug/L		98	20 - 150	5	33
Chloromethane			10.0	9.80		ug/L		98	25 - 150	7	26
Vinyl chloride			10.0	9.99		ug/L		100	31 - 150	7	26
Bromomethane			10.0	10.9		ug/L		109	36 - 150	5	33
Chloroethane			10.0	10.5		ug/L		105	38 - 150	5	28
Trichlorofluoromethane			10.0	9.79		ug/L		98	45 - 148	3	35
Carbon disulfide			10.0	9.57		ug/L		96	63 - 134	5	24
1,1-Dichloroethene			10.0	9.29		ug/L		93	70 - 129	8	23
Acetone			50.0	50.0		ug/L		100	44 - 150	10	33
Methylene Chloride			10.0	9.59		ug/L		96	77 - 125	8	18
Methyl tert-butyl ether			10.0	10.2		ug/L		102	72 - 120	1	18
trans-1,2-Dichloroethene			10.0	9.57		ug/L		96	75 - 120	7	21
1,1-Dichloroethane			10.0	9.30		ug/L		93	80 - 120	10	15
2-Butanone (MEK)			50.0	51.0		ug/L		102	65 - 137	6	34
2,2-Dichloropropane			10.0	9.64		ug/L		96	66 - 126	7	22
cis-1,2-Dichloroethene			10.0	9.61		ug/L		96	76 - 120	8	20
Bromochloromethane			10.0	9.42		ug/L		94	78 - 120	5	13
Chloroform			10.0	9.48		ug/L		95	78 - 127	5	14
1,1,1-Trichloroethane			10.0	9.48		ug/L		95	74 - 130	3	19
Carbon tetrachloride			10.0	9.55		ug/L		96	72 - 129	3	19
1,1-Dichloropropene			10.0	9.77		ug/L		98	74 - 120	5	14
Benzene			10.0	9.87		ug/L		99	80 - 122	1	14
1,2-Dichloroethane			10.0	9.41		ug/L		94	69 - 126	7	11
Trichloroethene			10.0	10.1		ug/L		101	80 - 125	1	13
1,2-Dichloropropane			10.0	9.75		ug/L		98	80 - 120	0	14
4-Methyl-2-pentanone (MIBK)			50.0	49.5		ug/L		99	59 - 141	6	22
Dibromomethane			10.0	9.58		ug/L		96	80 - 120	2	11
Bromodichloromethane			10.0	9.47		ug/L		95	75 - 124	1	13
cis-1,3-Dichloropropene			10.0	8.94		ug/L		89	77 - 120	4	35
Toluene			10.0	9.97		ug/L		100	80 - 120	1	13
trans-1,3-Dichloropropene			10.0	9.28		ug/L		93	76 - 122	4	20
1,1,2-Trichloroethane			10.0	9.83		ug/L		98	80 - 121	3	14
Tetrachloroethene			10.0	9.96		ug/L		100	76 - 125	0	13
1,3-Dichloropropane			10.0	9.76		ug/L		98	79 - 120	3	19
Dibromochloromethane			10.0	9.63		ug/L		96	73 - 125	1	13
1,2-Dibromoethane			10.0	9.95		ug/L		100	79 - 126	1	12
Chlorobenzene			10.0	10.0		ug/L		100	80 - 120	0	10
1,1,1,2-Tetrachloroethane			10.0	9.84		ug/L		98	79 - 120	3	16
Ethylbenzene			10.0	10.1		ug/L		101	80 - 120	1	14
m-Xylene & p-Xylene			10.0	10.1		ug/L		101	80 - 120	1	14

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

Lab Sample ID: LCSD 580-429311/8
Matrix: Water
Analysis Batch: 429311

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			10.0	10.3		ug/L		103	80 - 120	0	16
Styrene			10.0	10.3		ug/L		103	76 - 122	0	16
Bromoform			10.0	9.31		ug/L		93	56 - 139	4	21
Isopropylbenzene			10.0	10.3		ug/L		103	80 - 123	0	19
Bromobenzene			10.0	9.69		ug/L		97	80 - 120	0	24
1,1,2,2-Tetrachloroethane			10.0	9.06		ug/L		91	74 - 124	6	25
1,2,3-Trichloropropane			10.0	9.61		ug/L		96	76 - 124	3	26
N-Propylbenzene			10.0	9.69		ug/L		97	80 - 122	2	22
2-Chlorotoluene			10.0	9.86		ug/L		99	80 - 120	2	20
4-Chlorotoluene			10.0	9.38		ug/L		94	73 - 129	2	29
t-Butylbenzene			10.0	9.89		ug/L		99	75 - 123	3	21
1,2,4-Trimethylbenzene			10.0	9.86		ug/L		99	80 - 120	3	16
sec-Butylbenzene			10.0	9.76		ug/L		98	78 - 122	2	15
4-Isopropyltoluene			10.0	9.84		ug/L		98	77 - 126	1	20
1,3-Dichlorobenzene			10.0	9.88		ug/L		99	77 - 127	0	35
1,4-Dichlorobenzene			10.0	9.69		ug/L		97	80 - 120	0	17
n-Butylbenzene			10.0	9.32		ug/L		93	57 - 133	2	14
1,2-Dichlorobenzene			10.0	9.70		ug/L		97	80 - 120	1	15
1,2-Dibromo-3-Chloropropane			10.0	9.27		ug/L		93	65 - 133	4	25
1,2,4-Trichlorobenzene			10.0	9.54		ug/L		95	61 - 148	9	27
Hexachlorobutadiene			10.0	8.85		ug/L		88	74 - 131	5	22
Naphthalene			10.0	9.04		ug/L		90	63 - 150	1	33
1,2,3-Trichlorobenzene			10.0	8.95		ug/L		90	65 - 150	7	33
1,3,5-Trimethylbenzene			10.0	9.69		ug/L		97	80 - 122	2	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*

Lab Sample ID: MB 580-429336/6
Matrix: Water
Analysis Batch: 429336

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			06/20/23 05:07	1
Chloromethane	ND		1.0	0.28	ug/L			06/20/23 05:07	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/20/23 05:07	1
Bromomethane	ND		1.0	0.21	ug/L			06/20/23 05:07	1
Chloroethane	ND		1.0	0.35	ug/L			06/20/23 05:07	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/20/23 05:07	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/20/23 05:07	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/20/23 05:07	1
Acetone	ND		15	3.2	ug/L			06/20/23 05:07	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/20/23 05:07	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/20/23 05:07	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/20/23 05:07	1

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

Lab Sample ID: MB 580-429336/6
Matrix: Water
Analysis Batch: 429336

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			06/20/23 05:07	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/20/23 05:07	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/20/23 05:07	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/20/23 05:07	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/20/23 05:07	1
Chloroform	ND		1.0	0.26	ug/L			06/20/23 05:07	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/20/23 05:07	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/20/23 05:07	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/20/23 05:07	1
Benzene	ND		1.0	0.24	ug/L			06/20/23 05:07	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/20/23 05:07	1
Trichloroethene	ND		1.0	0.26	ug/L			06/20/23 05:07	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/20/23 05:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/23 05:07	1
Dibromomethane	ND		1.0	0.34	ug/L			06/20/23 05:07	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/20/23 05:07	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/20/23 05:07	1
Toluene	ND		1.0	0.39	ug/L			06/20/23 05:07	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/20/23 05:07	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/20/23 05:07	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/20/23 05:07	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/20/23 05:07	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/20/23 05:07	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/20/23 05:07	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/20/23 05:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/20/23 05:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/20/23 05:07	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/20/23 05:07	1
o-Xylene	ND		1.0	0.39	ug/L			06/20/23 05:07	1
Styrene	ND		1.0	0.53	ug/L			06/20/23 05:07	1
Bromoform	ND		1.0	0.51	ug/L			06/20/23 05:07	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/20/23 05:07	1
Bromobenzene	ND		1.0	0.43	ug/L			06/20/23 05:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/20/23 05:07	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/20/23 05:07	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/20/23 05:07	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/20/23 05:07	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			06/20/23 05:07	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/20/23 05:07	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/20/23 05:07	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/20/23 05:07	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/20/23 05:07	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/20/23 05:07	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 05:07	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/20/23 05:07	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 05:07	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/20/23 05:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/20/23 05:07	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/20/23 05:07	1

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

Lab Sample ID: MB 580-429336/6
Matrix: Water
Analysis Batch: 429336

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		3.0	0.93	ug/L			06/20/23 05:07	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/20/23 05:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/20/23 05:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/20/23 05:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*06/20/23 05:07*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/20/23 05:07*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/20/23 05:07*	*1*

Lab Sample ID: LCS 580-429336/7
Matrix: Water
Analysis Batch: 429336

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	10.0	10.2		ug/L		102	20 - 150
Chloromethane	10.0	10.2		ug/L		102	25 - 150
Vinyl chloride	10.0	10.3		ug/L		103	31 - 150
Bromomethane	10.0	11.1		ug/L		111	36 - 150
Chloroethane	10.0	10.7		ug/L		107	38 - 150
Trichlorofluoromethane	10.0	10.3		ug/L		103	45 - 148
Carbon disulfide	10.0	9.49		ug/L		95	63 - 134
1,1-Dichloroethene	10.0	9.58		ug/L		96	70 - 129
Acetone	50.0	46.9		ug/L		94	44 - 150
Methylene Chloride	10.0	9.66		ug/L		97	77 - 125
Methyl tert-butyl ether	10.0	9.91		ug/L		99	72 - 120
trans-1,2-Dichloroethene	10.0	9.84		ug/L		98	75 - 120
1,1-Dichloroethane	10.0	9.50		ug/L		95	80 - 120
2-Butanone (MEK)	50.0	47.4		ug/L		95	65 - 137
2,2-Dichloropropane	10.0	8.67		ug/L		87	66 - 126
cis-1,2-Dichloroethene	10.0	9.86		ug/L		99	76 - 120
Bromochloromethane	10.0	9.63		ug/L		96	78 - 120
Chloroform	10.0	9.42		ug/L		94	78 - 127
1,1,1-Trichloroethane	10.0	9.45		ug/L		94	74 - 130
Carbon tetrachloride	10.0	9.42		ug/L		94	72 - 129
1,1-Dichloropropene	10.0	9.79		ug/L		98	74 - 120
Benzene	10.0	9.70		ug/L		97	80 - 122
1,2-Dichloroethane	10.0	9.33		ug/L		93	69 - 126
Trichloroethene	10.0	9.97		ug/L		100	80 - 125
1,2-Dichloropropane	10.0	9.44		ug/L		94	80 - 120
4-Methyl-2-pentanone (MIBK)	50.0	45.7		ug/L		91	59 - 141
Dibromomethane	10.0	9.51		ug/L		95	80 - 120
Bromodichloromethane	10.0	8.92		ug/L		89	75 - 124
cis-1,3-Dichloropropene	10.0	8.38		ug/L		84	77 - 120
Toluene	10.0	9.82		ug/L		98	80 - 120
trans-1,3-Dichloropropene	10.0	8.41		ug/L		84	76 - 122
1,1,2-Trichloroethane	10.0	9.48		ug/L		95	80 - 121
Tetrachloroethene	10.0	9.80		ug/L		98	76 - 125

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

Lab Sample ID: LCS 580-429336/7
Matrix: Water
Analysis Batch: 429336

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	10.0	9.71		ug/L		97	79 - 120
Dibromochloromethane	10.0	8.78		ug/L		88	73 - 125
1,2-Dibromoethane	10.0	9.48		ug/L		95	79 - 126
Chlorobenzene	10.0	9.99		ug/L		100	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.33		ug/L		93	79 - 120
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
m-Xylene & p-Xylene	10.0	9.87		ug/L		99	80 - 120
o-Xylene	10.0	10.1		ug/L		101	80 - 120
Styrene	10.0	10.1		ug/L		101	76 - 122
Bromoform	10.0	8.68		ug/L		87	56 - 139
Isopropylbenzene	10.0	9.89		ug/L		99	80 - 123
Bromobenzene	10.0	9.70		ug/L		97	80 - 120
1,1,2,2-Tetrachloroethane	10.0	8.63		ug/L		86	74 - 124
1,2,3-Trichloropropane	10.0	9.16		ug/L		92	76 - 124
N-Propylbenzene	10.0	9.69		ug/L		97	80 - 122
2-Chlorotoluene	10.0	9.59		ug/L		96	80 - 120
4-Chlorotoluene	10.0	9.38		ug/L		94	73 - 129
t-Butylbenzene	10.0	9.61		ug/L		96	75 - 123
1,2,4-Trimethylbenzene	10.0	9.74		ug/L		97	80 - 120
sec-Butylbenzene	10.0	9.66		ug/L		97	78 - 122
4-Isopropyltoluene	10.0	9.53		ug/L		95	77 - 126
1,3-Dichlorobenzene	10.0	9.70		ug/L		97	77 - 127
1,4-Dichlorobenzene	10.0	9.53		ug/L		95	80 - 120
n-Butylbenzene	10.0	9.00		ug/L		90	57 - 133
1,2-Dichlorobenzene	10.0	9.54		ug/L		95	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.12		ug/L		81	65 - 133
1,2,4-Trichlorobenzene	10.0	8.83		ug/L		88	61 - 148
Hexachlorobutadiene	10.0	8.27		ug/L		83	74 - 131
Naphthalene	10.0	7.85		ug/L		79	63 - 150
1,2,3-Trichlorobenzene	10.0	7.99		ug/L		80	65 - 150
1,3,5-Trimethylbenzene	10.0	9.68		ug/L		97	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*

Lab Sample ID: LCSD 580-429336/8
Matrix: Water
Analysis Batch: 429336

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	10.0	10.1		ug/L		101	20 - 150	1	33
Chloromethane	10.0	10.8		ug/L		108	25 - 150	6	26
Vinyl chloride	10.0	10.8		ug/L		108	31 - 150	4	26
Bromomethane	10.0	11.2		ug/L		112	36 - 150	1	33
Chloroethane	10.0	11.0		ug/L		110	38 - 150	3	28

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

Lab Sample ID: LCSD 580-429336/8
Matrix: Water
Analysis Batch: 429336

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
Trichlorofluoromethane			10.0	10.2		ug/L		102	45 - 148	0	35
Carbon disulfide			10.0	9.77		ug/L		98	63 - 134	3	24
1,1-Dichloroethene			10.0	9.51		ug/L		95	70 - 129	1	23
Acetone			50.0	51.4		ug/L		103	44 - 150	9	33
Methylene Chloride			10.0	9.67		ug/L		97	77 - 125	0	18
Methyl tert-butyl ether			10.0	10.0		ug/L		100	72 - 120	1	18
trans-1,2-Dichloroethene			10.0	9.62		ug/L		96	75 - 120	2	21
1,1-Dichloroethane			10.0	9.65		ug/L		97	80 - 120	2	15
2-Butanone (MEK)			50.0	51.2		ug/L		102	65 - 137	8	34
2,2-Dichloropropane			10.0	8.48		ug/L		85	66 - 126	2	22
cis-1,2-Dichloroethene			10.0	9.62		ug/L		96	76 - 120	2	20
Bromochloromethane			10.0	9.17		ug/L		92	78 - 120	5	13
Chloroform			10.0	9.32		ug/L		93	78 - 127	1	14
1,1,1-Trichloroethane			10.0	9.56		ug/L		96	74 - 130	1	19
Carbon tetrachloride			10.0	9.46		ug/L		95	72 - 129	0	19
1,1-Dichloropropene			10.0	9.89		ug/L		99	74 - 120	1	14
Benzene			10.0	9.80		ug/L		98	80 - 122	1	14
1,2-Dichloroethane			10.0	9.66		ug/L		97	69 - 126	3	11
Trichloroethene			10.0	9.95		ug/L		99	80 - 125	0	13
1,2-Dichloropropane			10.0	9.83		ug/L		98	80 - 120	4	14
4-Methyl-2-pentanone (MIBK)			50.0	51.5		ug/L		103	59 - 141	12	22
Dibromomethane			10.0	9.66		ug/L		97	80 - 120	2	11
Bromodichloromethane			10.0	9.38		ug/L		94	75 - 124	5	13
cis-1,3-Dichloropropene			10.0	8.92		ug/L		89	77 - 120	6	35
Toluene			10.0	9.72		ug/L		97	80 - 120	1	13
trans-1,3-Dichloropropene			10.0	8.87		ug/L		89	76 - 122	5	20
1,1,2-Trichloroethane			10.0	9.64		ug/L		96	80 - 121	2	14
Tetrachloroethene			10.0	9.14		ug/L		91	76 - 125	7	13
1,3-Dichloropropane			10.0	9.76		ug/L		98	79 - 120	0	19
Dibromochloromethane			10.0	8.85		ug/L		88	73 - 125	1	13
1,2-Dibromoethane			10.0	9.55		ug/L		96	79 - 126	1	12
Chlorobenzene			10.0	9.62		ug/L		96	80 - 120	4	10
1,1,1,2-Tetrachloroethane			10.0	9.28		ug/L		93	79 - 120	1	16
Ethylbenzene			10.0	9.76		ug/L		98	80 - 120	3	14
m-Xylene & p-Xylene			10.0	9.67		ug/L		97	80 - 120	2	14
o-Xylene			10.0	9.77		ug/L		98	80 - 120	4	16
Styrene			10.0	9.76		ug/L		98	76 - 122	3	16
Bromoform			10.0	8.13		ug/L		81	56 - 139	7	21
Isopropylbenzene			10.0	9.67		ug/L		97	80 - 123	2	19
Bromobenzene			10.0	9.48		ug/L		95	80 - 120	2	24
1,1,2,2-Tetrachloroethane			10.0	9.03		ug/L		90	74 - 124	5	25
1,2,3-Trichloropropane			10.0	9.63		ug/L		96	76 - 124	5	26
N-Propylbenzene			10.0	9.47		ug/L		95	80 - 122	2	22
2-Chlorotoluene			10.0	9.59		ug/L		96	80 - 120	0	20
4-Chlorotoluene			10.0	9.56		ug/L		96	73 - 129	2	29
t-Butylbenzene			10.0	9.72		ug/L		97	75 - 123	1	21
1,2,4-Trimethylbenzene			10.0	9.95		ug/L		99	80 - 120	2	16
sec-Butylbenzene			10.0	9.92		ug/L		99	78 - 122	3	15
4-Isopropyltoluene			10.0	9.73		ug/L		97	77 - 126	2	20

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

Lab Sample ID: LCSD 580-429336/8
Matrix: Water
Analysis Batch: 429336

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
1,3-Dichlorobenzene			10.0	9.25		ug/L		93	77 - 127	5	35
1,4-Dichlorobenzene			10.0	9.30		ug/L		93	80 - 120	2	17
n-Butylbenzene			10.0	9.47		ug/L		95	57 - 133	5	14
1,2-Dichlorobenzene			10.0	9.60		ug/L		96	80 - 120	1	15
1,2-Dibromo-3-Chloropropane			10.0	9.00		ug/L		90	65 - 133	10	25
1,2,4-Trichlorobenzene			10.0	9.33		ug/L		93	61 - 148	5	27
Hexachlorobutadiene			10.0	8.77		ug/L		88	74 - 131	6	22
Naphthalene			10.0	9.47		ug/L		95	63 - 150	19	33
1,2,3-Trichlorobenzene			10.0	9.39		ug/L		94	65 - 150	16	33
1,3,5-Trimethylbenzene			10.0	9.74		ug/L		97	80 - 122	1	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*

Lab Sample ID: MB 580-429779/7
Matrix: Water
Analysis Batch: 429779

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			06/23/23 15:01	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 15:01	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 15:01	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 15:01	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 15:01	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 15:01	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 15:01	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 15:01	1
Acetone	ND		10	3.1	ug/L			06/23/23 15:01	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 15:01	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 15:01	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 15:01	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 15:01	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 15:01	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 15:01	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 15:01	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 15:01	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 15:01	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 15:01	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 15:01	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 15:01	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 15:01	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 15:01	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 15:01	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 15:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 15:01	1

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

Lab Sample ID: MB 580-429779/7
Matrix: Water
Analysis Batch: 429779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 15:01	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 15:01	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 15:01	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 15:01	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 15:01	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 15:01	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 15:01	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 15:01	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 15:01	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 15:01	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 15:01	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 15:01	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 15:01	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 15:01	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 15:01	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 15:01	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 15:01	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 15:01	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 15:01	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 15:01	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 15:01	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 15:01	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 15:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 15:01	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 15:01	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 15:01	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 15:01	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 15:01	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 15:01	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 15:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 15:01	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 15:01	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 15:01	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 15:01	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 15:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/23/23 15:01*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/23/23 15:01*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/23/23 15:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/23/23 15:01*	*1*

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

Lab Sample ID: LCS 580-429779/4
Matrix: Water
Analysis Batch: 429779

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	4.70		ug/L		94	20 - 150
Chloromethane	5.00	4.57		ug/L		91	32 - 150
Vinyl chloride	5.00	4.55		ug/L		91	41 - 150
Bromomethane	5.00	4.65		ug/L		93	51 - 148
Chloroethane	5.00	4.64		ug/L		93	54 - 140
Carbon disulfide	5.00	4.57		ug/L		91	54 - 142
Trichlorofluoromethane	5.00	4.45		ug/L		89	60 - 132
1,1-Dichloroethene	5.00	5.08		ug/L		102	60 - 129
Acetone	25.0	27.2		ug/L		109	49 - 150
Methylene Chloride	5.00	4.65	J	ug/L		93	40 - 142
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131
2-Butanone (MEK)	25.0	25.1		ug/L		101	37 - 150
trans-1,2-Dichloroethene	5.00	4.96		ug/L		99	69 - 121
1,1-Dichloroethane	5.00	4.85		ug/L		97	74 - 120
2,2-Dichloropropane	5.00	4.96		ug/L		99	55 - 140
cis-1,2-Dichloroethene	5.00	4.98		ug/L		100	72 - 120
Chlorobromomethane	5.00	5.18		ug/L		104	79 - 121
Chloroform	5.00	4.83		ug/L		97	75 - 120
1,1,1-Trichloroethane	5.00	4.84		ug/L		97	70 - 121
Carbon tetrachloride	5.00	4.76		ug/L		95	66 - 130
1,1-Dichloropropene	5.00	4.90		ug/L		98	72 - 125
Benzene	5.00	4.81		ug/L		96	80 - 120
1,2-Dichloroethane	5.00	4.56		ug/L		91	74 - 127
Trichloroethene	5.00	4.87		ug/L		97	72 - 120
1,2-Dichloropropane	5.00	4.80		ug/L		96	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.9		ug/L		100	63 - 137
Dibromomethane	5.00	5.17		ug/L		103	65 - 141
Dichlorobromomethane	5.00	4.79		ug/L		96	74 - 131
cis-1,3-Dichloropropene	5.00	4.93		ug/L		99	77 - 131
Toluene	5.00	4.89		ug/L		98	80 - 126
trans-1,3-Dichloropropene	5.00	4.88		ug/L		98	71 - 138
1,1,2-Trichloroethane	5.00	4.75		ug/L		95	73 - 127
Tetrachloroethene	5.00	5.07		ug/L		101	75 - 124
1,3-Dichloropropane	5.00	4.84		ug/L		97	69 - 138
Chlorodibromomethane	5.00	4.93		ug/L		99	62 - 141
Ethylene Dibromide	5.00	4.96		ug/L		99	61 - 143
Chlorobenzene	5.00	4.97		ug/L		99	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.82		ug/L		96	69 - 127
Ethylbenzene	5.00	5.07		ug/L		101	80 - 124
m-Xylene & p-Xylene	5.00	5.11		ug/L		102	75 - 124
o-Xylene	5.00	5.28		ug/L		106	71 - 124
Styrene	5.00	4.94		ug/L		99	74 - 127
Bromoform	5.00	4.68		ug/L		94	48 - 127
Isopropylbenzene	5.00	5.08		ug/L		102	71 - 123
Bromobenzene	5.00	4.90		ug/L		98	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.52		ug/L		90	67 - 136
1,2,3-Trichloropropane	5.00	5.36		ug/L		107	67 - 135
N-Propylbenzene	5.00	4.97		ug/L		99	72 - 126

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

Lab Sample ID: LCS 580-429779/4
Matrix: Water
Analysis Batch: 429779

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	5.34		ug/L		107	73 - 120
4-Chlorotoluene	5.00	5.37		ug/L		107	75 - 124
1,3,5-Trimethylbenzene	5.00	5.28		ug/L		106	75 - 123
tert-Butylbenzene	5.00	5.09		ug/L		102	70 - 129
1,2,4-Trimethylbenzene	5.00	5.41		ug/L		108	71 - 127
sec-Butylbenzene	5.00	5.13		ug/L		103	75 - 126
4-Isopropyltoluene	5.00	5.18		ug/L		104	78 - 125
1,3-Dichlorobenzene	5.00	5.21		ug/L		104	72 - 125
1,4-Dichlorobenzene	5.00	5.02		ug/L		100	71 - 129
n-Butylbenzene	5.00	4.93		ug/L		99	69 - 127
1,2-Dichlorobenzene	5.00	5.08		ug/L		102	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.04		ug/L		101	55 - 135
1,2,4-Trichlorobenzene	5.00	5.30		ug/L		106	60 - 130
Hexachlorobutadiene	5.00	5.06		ug/L		101	63 - 130
Naphthalene	5.00	5.47		ug/L		109	54 - 137
1,2,3-Trichlorobenzene	5.00	5.41		ug/L		108	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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	4.18		ug/L		84	32 - 150	9	33
Vinyl chloride	5.00	4.23		ug/L		85	41 - 150	7	32
Bromomethane	5.00	4.27		ug/L		85	51 - 148	8	35
Chloroethane	5.00	4.31		ug/L		86	54 - 140	7	33
Carbon disulfide	5.00	4.16		ug/L		83	54 - 142	9	34
Trichlorofluoromethane	5.00	4.13		ug/L		83	60 - 132	7	32
1,1-Dichloroethene	5.00	4.69		ug/L		94	60 - 129	8	29
Acetone	25.0	25.5		ug/L		102	49 - 150	6	24
Methylene Chloride	5.00	4.35	J	ug/L		87	40 - 142	7	25
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131	0	27
2-Butanone (MEK)	25.0	24.8		ug/L		99	37 - 150	2	35
trans-1,2-Dichloroethene	5.00	4.70		ug/L		94	69 - 121	5	27
1,1-Dichloroethane	5.00	4.60		ug/L		92	74 - 120	5	26
2,2-Dichloropropane	5.00	4.51		ug/L		90	55 - 140	10	31
cis-1,2-Dichloroethene	5.00	4.73		ug/L		95	72 - 120	5	22
Chlorobromomethane	5.00	5.04		ug/L		101	79 - 121	3	20
Chloroform	5.00	4.57		ug/L		91	75 - 120	6	21
1,1,1-Trichloroethane	5.00	4.62		ug/L		92	70 - 121	5	24
Carbon tetrachloride	5.00	4.41		ug/L		88	66 - 130	8	24

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

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloropropene			5.00	4.73		ug/L		95	72 - 125	4	23
Benzene			5.00	4.69		ug/L		94	80 - 120	2	22
1,2-Dichloroethane			5.00	4.57		ug/L		91	74 - 127	0	21
Trichloroethene			5.00	4.69		ug/L		94	72 - 120	4	22
1,2-Dichloropropane			5.00	4.66		ug/L		93	69 - 130	3	22
4-Methyl-2-pentanone (MIBK)			25.0	24.9		ug/L		100	63 - 137	0	26
Dibromomethane			5.00	5.07		ug/L		101	65 - 141	2	22
Dichlorobromomethane			5.00	4.57		ug/L		91	74 - 131	5	21
cis-1,3-Dichloropropene			5.00	4.84		ug/L		97	77 - 131	2	24
Toluene			5.00	4.69		ug/L		94	80 - 126	4	20
trans-1,3-Dichloropropene			5.00	4.87		ug/L		97	71 - 138	0	26
1,1,2-Trichloroethane			5.00	4.70		ug/L		94	73 - 127	1	22
Tetrachloroethene			5.00	4.71		ug/L		94	75 - 124	7	20
1,3-Dichloropropane			5.00	4.69		ug/L		94	69 - 138	3	19
Chlorodibromomethane			5.00	4.69		ug/L		94	62 - 141	5	22
Ethylene Dibromide			5.00	4.88		ug/L		98	61 - 143	1	22
Chlorobenzene			5.00	4.77		ug/L		95	74 - 123	4	21
1,1,1,2-Tetrachloroethane			5.00	4.70		ug/L		94	69 - 127	3	22
Ethylbenzene			5.00	4.88		ug/L		98	80 - 124	4	22
m-Xylene & p-Xylene			5.00	4.92		ug/L		98	75 - 124	4	22
o-Xylene			5.00	5.12		ug/L		102	71 - 124	3	23
Styrene			5.00	4.75		ug/L		95	74 - 127	4	22
Bromoform			5.00	4.69		ug/L		94	48 - 127	0	23
Isopropylbenzene			5.00	4.96		ug/L		99	71 - 123	3	23
Bromobenzene			5.00	4.63		ug/L		93	74 - 130	6	23
1,1,2,2-Tetrachloroethane			5.00	4.28		ug/L		86	67 - 136	5	24
1,2,3-Trichloropropane			5.00	5.03		ug/L		101	67 - 135	6	25
N-Propylbenzene			5.00	4.61		ug/L		92	72 - 126	8	20
2-Chlorotoluene			5.00	4.93		ug/L		99	73 - 120	8	22
4-Chlorotoluene			5.00	5.01		ug/L		100	75 - 124	7	23
1,3,5-Trimethylbenzene			5.00	4.87		ug/L		97	75 - 123	8	23
tert-Butylbenzene			5.00	4.69		ug/L		94	70 - 129	8	24
1,2,4-Trimethylbenzene			5.00	5.02		ug/L		100	71 - 127	8	23
sec-Butylbenzene			5.00	4.85		ug/L		97	75 - 126	6	23
4-Isopropyltoluene			5.00	4.92		ug/L		98	78 - 125	5	24
1,3-Dichlorobenzene			5.00	4.91		ug/L		98	72 - 125	6	22
1,4-Dichlorobenzene			5.00	4.80		ug/L		96	71 - 129	5	22
n-Butylbenzene			5.00	4.70		ug/L		94	69 - 127	5	24
1,2-Dichlorobenzene			5.00	4.89		ug/L		98	72 - 129	4	22
1,2-Dibromo-3-Chloropropane			5.00	5.17		ug/L		103	55 - 135	3	29
1,2,4-Trichlorobenzene			5.00	5.24		ug/L		105	60 - 130	1	26
Hexachlorobutadiene			5.00	5.10		ug/L		102	63 - 130	1	26
Naphthalene			5.00	5.47		ug/L		109	54 - 137	0	28
1,2,3-Trichlorobenzene			5.00	5.45		ug/L		109	60 - 136	1	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*

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

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-686931/5
Matrix: Water
Analysis Batch: 686931

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			06/29/23 12:04	1

Lab Sample ID: LCS 320-686931/6
Matrix: Water
Analysis Batch: 686931

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	46.5		ug/L		93	85 - 115

Lab Sample ID: MRL 320-686931/4
Matrix: Water
Analysis Batch: 686931

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	3.49	J	ug/L		87	75 - 125

Lab Sample ID: MB 320-687304/12
Matrix: Water
Analysis Batch: 687304

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			06/30/23 14:19	1

Lab Sample ID: LCS 320-687304/13
Matrix: Water
Analysis Batch: 687304

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	51.0		ug/L		102	85 - 115

Lab Sample ID: MRL 320-687304/11
Matrix: Water
Analysis Batch: 687304

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	3.69	J	ug/L		92	75 - 125

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-429938/1
Matrix: Water
Analysis Batch: 429938

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			06/24/23 15:12	1

Lab Sample ID: LCS 580-429938/2
Matrix: Water
Analysis Batch: 429938

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	52.1		mg/L		104	90 - 110		

Lab Sample ID: LCSD 580-429938/3
Matrix: Water
Analysis Batch: 429938

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	52.1		mg/L		104	90 - 110	0	15

Lab Sample ID: 580-128402-2 MS
Matrix: Water
Analysis Batch: 429938

Client Sample ID: DI-061523
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	ND		50.0	53.9		mg/L		108	90 - 110		

Lab Sample ID: 580-128402-2 MSD
Matrix: Water
Analysis Batch: 429938

Client Sample ID: DI-061523
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND		50.0	53.9		mg/L		108	90 - 110	0	15

Client Sample ID: TB-061523A
Lab Sample ID: 580-128402-1
Date Collected: 06/15/23 00:01
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 16:13

Client Sample ID: DI-061523
Lab Sample ID: 580-128402-2
Date Collected: 06/15/23 06:45
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 17:01
Total/NA	Analysis	314.0		1	686931	TCS	EET SAC	06/29/23 14:27
Total/NA	Analysis	300.0		1	429938	CA	EET SEA	06/24/23 15:47

Client Sample ID: RB-01-061523
Lab Sample ID: 580-128402-3
Date Collected: 06/15/23 07:55
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429311	JBT	EET SEA	06/19/23 18:42
Total/NA	Analysis	314.0		1	686931	TCS	EET SAC	06/29/23 14:45
Total/NA	Analysis	300.0		1	429938	CA	EET SEA	06/24/23 16:22

Client Sample ID: PA-23d-061523
Lab Sample ID: 580-128402-4
Date Collected: 06/15/23 09:02
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429311	JBT	EET SEA	06/19/23 22:42
Total/NA	Analysis	314.0		200	686931	TCS	EET SAC	06/29/23 15:39
Total/NA	Analysis	300.0		1000	429938	CA	EET SEA	06/24/23 16:46

Client Sample ID: PA-24d-061523
Lab Sample ID: 580-128402-5
Date Collected: 06/15/23 09:48
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429311	JBT	EET SEA	06/19/23 23:06
Total/NA	Analysis	314.0		200	686931	TCS	EET SAC	06/29/23 15:57
Total/NA	Analysis	300.0		1000	429938	CA	EET SEA	06/24/23 17:33

Client Sample ID: PA-22d-061523
Lab Sample ID: 580-128402-6
Date Collected: 06/15/23 10:48
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429311	JBT	EET SEA	06/19/23 23:30
Total/NA	Analysis	314.0		200	687304	TCS	EET SAC	06/30/23 19:05

Client Sample ID: PA-22d-061523
Lab Sample ID: 580-128402-6
Date Collected: 06/15/23 10:48
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		100	429938	CA	EET SEA	06/24/23 17:45

Client Sample ID: MWA-63-061523
Lab Sample ID: 580-128402-7
Date Collected: 06/15/23 12:02
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429336	JBT	EET SEA	06/20/23 08:19
Total/NA	Analysis	314.0		1	686931	TCS	EET SAC	06/29/23 16:32
Total/NA	Analysis	300.0		5	429938	CA	EET SEA	06/24/23 18:20

Client Sample ID: Dup-02-061523
Lab Sample ID: 580-128402-8
Date Collected: 06/15/23 12:03
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429336	JBT	EET SEA	06/20/23 08:43
Total/NA	Analysis	314.0		1	686931	TCS	EET SAC	06/29/23 16:50
Total/NA	Analysis	300.0		5	429938	CA	EET SEA	06/24/23 18:43

Client Sample ID: PA-20d-061523
Lab Sample ID: 580-128402-9
Date Collected: 06/15/23 12:53
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429336	JBT	EET SEA	06/20/23 09:31
Total/NA	Analysis	314.0		10	686931	TCS	EET SAC	06/29/23 17:08
Total/NA	Analysis	300.0		100	429938	CA	EET SEA	06/24/23 18:55

Client Sample ID: MWA-31i(d)-061523
Lab Sample ID: 580-128402-10
Date Collected: 06/15/23 08:25
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429336	JBT	EET SEA	06/20/23 09:55
Total/NA	Analysis	314.0		1000	687304	TCS	EET SAC	06/30/23 19:23
Total/NA	Analysis	300.0		1000	429938	CA	EET SEA	06/24/23 19:18

Client Sample ID: MWA-58d-061523
Lab Sample ID: 580-128402-11
Date Collected: 06/15/23 10:00
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	429336	JBT	EET SEA	06/20/23 11:07
Total/NA	Analysis	314.0		1000	687304	TCS	EET SAC	06/30/23 19:41

Lab Chronicle

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-58d-061523
Lab Sample ID: 580-128402-11
Date Collected: 06/15/23 10:00
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1000	429938	CA	EET SEA	06/24/23 20:05

Client Sample ID: MWA-56d-061523
Lab Sample ID: 580-128402-12
Date Collected: 06/15/23 11:15
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	429336	JBT	EET SEA	06/20/23 11:31
Total/NA	Analysis	314.0		200	686931	TCS	EET SAC	06/29/23 18:02
Total/NA	Analysis	300.0		1000	429938	CA	EET SEA	06/24/23 20:28

Client Sample ID: PA-04-061523
Lab Sample ID: 580-128402-13
Date Collected: 06/15/23 13:15
Matrix: Water
Date Received: 06/15/23 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 22:12
Total/NA	Analysis	314.0		2	686931	TCS	EET SAC	06/29/23 18:20
Total/NA	Analysis	300.0		5	429938	CA	EET SEA	06/24/23 20:52

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: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Laboratory: Eurofins Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4167	07-07-23

Laboratory: Eurofins Sacramento

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

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

Sample Summary

Client: ERM-West
Job ID: 580-128402-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-128402-1	TB-061523A	Water	06/15/23 00:01	06/15/23 14:35
580-128402-2	DI-061523	Water	06/15/23 06:45	06/15/23 14:35
580-128402-3	RB-01-061523	Water	06/15/23 07:55	06/15/23 14:35
580-128402-4	PA-23d-061523	Water	06/15/23 09:02	06/15/23 14:35
580-128402-5	PA-24d-061523	Water	06/15/23 09:48	06/15/23 14:35
580-128402-6	PA-22d-061523	Water	06/15/23 10:48	06/15/23 14:35
580-128402-7	MWA-63-061523	Water	06/15/23 12:02	06/15/23 14:35
580-128402-8	Dup-02-061523	Water	06/15/23 12:03	06/15/23 14:35
580-128402-9	PA-20d-061523	Water	06/15/23 12:53	06/15/23 14:35
580-128402-10	MWA-31i(d)-061523	Water	06/15/23 08:25	06/15/23 14:35
580-128402-11	MWA-58d-061523	Water	06/15/23 10:00	06/15/23 14:35
580-128402-12	MWA-56d-061523	Water	06/15/23 11:15	06/15/23 14:35
580-128402-13	PA-04-061523	Water	06/15/23 13:15	06/15/23 14:35

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

Chain of Custody Record

580-128402 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST/MR	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 2
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:		
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

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:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	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-061523A	6/15/23			Water						2	
DI-061523		0645	G	Water			X	X	X	5	
~~FB-061~~ RB-01-061523		0755		Water		X		X	X	5	
PA-23d-061523		0902		Water		X		X	X	5	
PA-24d-061523		0948		Water		X		X	X	5	
PA-22d-061523		1048		Water		X		X	X	5	
MWA-63-061523		1202		Water		X		X	X	5	
Dup-02-061523		1203		Water		X		X	X	5	
PA-20d-061523		1253		Water		X		X	X	5	
MWA-31i(d)-061523		0825				X		X	X	5	
MWA-58d-061523		1000				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: 6/15/23	Company ERM	Received by:	Date/Time: 6/15/23 1435	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.1		

Ver 06/16/2019

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 / MR	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 2
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:			
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers
			Preservation Code:			A	A	N	N	
MWA-56d-061523	6/15/23	1115	G	Water		X		X	X	5
~~MW~~PA-04-061523	↓	1315	↓	Water			X	X	X	5
				Water						
				Water						
				Water						
				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:

Special Instructions/Note:

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: 6/15/23	Company: ERM	Received by: Date/Time: 6/15/23 1435 Company: CGT
Relinquished by:	Date/Time:	Company:	Received by: Date/Time: Company:
Relinquished by:	Date/Time:	Company:	Received by: Date/Time: Company:

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

Cooler Temperature(s) °C and Other Remarks:

Ver: 07/16/2019

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

Chain of Custody Record

580-128402 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins
Company: ERM-West
Address: 1050 SW 6th Avenue Suite 1650
City: Portland
State, Zip: OR, 97204
Phone:
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com
Project Name: Arkema - Q2 2023 Groundwater event
Site:

Sampler: ST/MR
Phone:
Lab PM: Cruz, Sheri L
E-Mail: sheri.cruz@testamericainc.com
Due Date Requested:
TAT Requested (days): 15BD
PO #: PN 0682894.207
WO #:
Project #: 0682894
SSOW#:

COC No:
Page: 1 of 2
Job #:

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:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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-061523A	6/15/23			Water							2	
DI-061523		0645	G	Water				X	X	X	5	
~~FB-061~~ RB-01-061523		0755		Water			X		X	X	5	
PA-23d-061523		0902		Water			X		X	X	5	
PA-24d-061523		0948		Water			X		X	X	5	
PA-22d-061523		1048		Water			X		X	X	5	
MWA-63-061523		1202		Water			X		X	X	5	
Dup-02-061523		1203		Water			X		X	X	5	
PA-20d-061523		1253		Water			X		X	X	5	
MWA-31i(d)-061523		0825		Water			X		X	X	5	
MWA-58d-061523		1000		Water			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:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	6/15/23	ERM		6/15/23 1435	EETN
Relinquished by:	6/15/23 1700	EETN		6/16/23 0935	EETN
Relinquished by:			Received by:		

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: IR9 1.3/1.6 3.1

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

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST / MR	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 2
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com	WO #:			
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	A	N	N	X	
MWA-56d-061523	6/15/23	1115	G	Water			X		X	X	5	
~~MW~~PA-04-061523	↓	1315	↓	Water				X	X	X	5	
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/15/23	ERM		6/15/23 1435	CGTN
2		6/15/23 1700	EETN		6/16/23 0935	EETN
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: TBG 1.3/1.6

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-128402-1

Login Number: 128402
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-128402-1

Login Number: 128402
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 06/16/23 12:29 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	2098843
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 7/26/2023 11:25:54 AM Revision 1

JOB DESCRIPTION

Arkema - Q2 2023 Groundwater Event

JOB NUMBER

580-128445-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

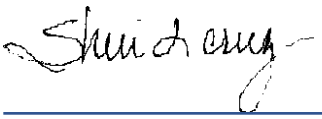
See page two for job notes and contact information.

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



Generated
7/26/2023 11:25:54 AM
Revision 1

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

Table of Contents

Job ID: 580-128445-1

Laboratory: Eurofins Seattle

Narrative

Job Narrative
580-128445-1

Revised report 7/26/23. Sample 5 for 8260 has a F1 qualifier that needs to be removed.

Receipt
The samples were received on 6/16/2023 12:25 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 was 0.4º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): PA-10i-061623 (580-128445-10). Sample 10 is listed on ICOC but was not received in Sacramento.

GC/MS VOA
Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: PA-21d-061623 (580-128445-2), PA-19d-061623 (580-128445-3) and PA-30d-061623 (580-128445-4). Elevated reporting limits (RLs) are provided.

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

General Chemistry
Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-429936 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 314.0: The following samples in analytical batch 320-688161 were diluted due to the nature of the sample matrix: PA-21d-061623 (580-128445-2), PA-19d-061623 (580-128445-3), PA-30d-061623 (580-128445-4), PA-18d-061623 (580-128445-5), PA-18d-061623 (580-128445-5[MS]) and PA-18d-061623 (580-128445-5[MSD]). Elevated reporting limits (RLs) are provided.

Method 314.0: Due to the nature of the matrix and the high conductivity measurement for the following samples, the samples in analytical batch 320-689241 were diluted. In order to protect instrumentation, the samples were diluted. Elevated reporting limits (RLs) are provided. PA-31-061623 (580-128445-7) and PA-32i-061623 (580-128445-8)

Method 314.0: Due to the nature of the matrix and the high conductivity measurement for the following samples, the samples in analytical batch 320-689312 were diluted. In order to protect instrumentation, the samples were diluted. Elevated reporting limits (RLs) are provided. PA-10i-061623 (580-128445-10)

Method 314.0: Due to the nature of the matrix and the high conductivity measurement for the following sample, the sample in analytical batch 320-689566 was diluted. In order to protect instrumentation, the samples were diluted. Elevated reporting limits (RLs) are provided. MWA-11i(d)-061623 (580-128445-9)

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Qualifiers

GC/MS VOA

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

HPLC/IC

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

General Chemistry

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

Glossary

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

Client Sample ID: TB-061623
Lab Sample ID: 580-128445-1
Date Collected: 06/16/23 00:01
Matrix: Water
Date Received: 06/16/23 12:25

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			06/23/23 16:37	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 16:37	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 16:37	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 16:37	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 16:37	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 16:37	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 16:37	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 16:37	1
Acetone	ND		10	3.1	ug/L			06/23/23 16:37	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 16:37	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 16:37	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 16:37	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 16:37	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 16:37	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 16:37	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 16:37	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 16:37	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 16:37	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 16:37	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 16:37	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 16:37	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 16:37	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 16:37	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 16:37	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 16:37	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 16:37	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 16:37	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 16:37	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 16:37	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 16:37	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 16:37	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 16:37	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 16:37	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 16:37	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 16:37	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 16:37	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 16:37	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 16:37	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 16:37	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 16:37	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 16:37	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 16:37	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 16:37	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 16:37	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 16:37	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 16:37	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 16:37	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 16:37	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 16:37	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: TB-061623
Lab Sample ID: 580-128445-1
Date Collected: 06/16/23 00:01
Matrix: Water
Date Received: 06/16/23 12:25

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			06/23/23 16:37	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 16:37	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 16:37	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 16:37	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 16:37	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 16:37	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 16:37	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 16:37	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 16:37	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 16:37	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 16:37	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 16:37	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 16:37	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 16:37	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/23/23 16:37*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/23/23 16:37*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*06/23/23 16:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*06/23/23 16:37*	*1*

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-21d-061623
Lab Sample ID: 580-128445-2
Date Collected: 06/16/23 07:08
Matrix: Water
Date Received: 06/16/23 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		500	270	ug/L			06/20/23 12:43	500
Chloromethane	ND		500	140	ug/L			06/20/23 12:43	500
Vinyl chloride	ND		500	110	ug/L			06/20/23 12:43	500
Bromomethane	ND		500	110	ug/L			06/20/23 12:43	500
Chloroethane	ND		500	180	ug/L			06/20/23 12:43	500
Trichlorofluoromethane	ND		500	180	ug/L			06/20/23 12:43	500
Carbon disulfide	ND		500	270	ug/L			06/20/23 12:43	500
1,1-Dichloroethene	ND		500	140	ug/L			06/20/23 12:43	500
Acetone	ND		7500	1600	ug/L			06/20/23 12:43	500
Methylene Chloride	ND		2500	720	ug/L			06/20/23 12:43	500
Methyl tert-butyl ether	ND		500	220	ug/L			06/20/23 12:43	500
trans-1,2-Dichloroethene	ND		500	200	ug/L			06/20/23 12:43	500
1,1-Dichloroethane	ND		500	110	ug/L			06/20/23 12:43	500
2-Butanone (MEK)	ND		7500	2400	ug/L			06/20/23 12:43	500
2,2-Dichloropropane	ND		500	160	ug/L			06/20/23 12:43	500
cis-1,2-Dichloroethene	ND		500	180	ug/L			06/20/23 12:43	500
Bromochloromethane	ND		500	150	ug/L			06/20/23 12:43	500
Chloroform	ND		500	130	ug/L			06/20/23 12:43	500
1,1,1-Trichloroethane	ND		500	200	ug/L			06/20/23 12:43	500
Carbon tetrachloride	ND		500	150	ug/L			06/20/23 12:43	500
1,1-Dichloropropene	ND		500	150	ug/L			06/20/23 12:43	500
Benzene	ND		500	120	ug/L			06/20/23 12:43	500
1,2-Dichloroethane	ND		500	210	ug/L			06/20/23 12:43	500
Trichloroethene	ND		500	130	ug/L			06/20/23 12:43	500
1,2-Dichloropropane	ND		500	90	ug/L			06/20/23 12:43	500
4-Methyl-2-pentanone (MIBK)	ND		2500	1300	ug/L			06/20/23 12:43	500
Dibromomethane	ND		500	170	ug/L			06/20/23 12:43	500
Bromodichloromethane	ND		500	150	ug/L			06/20/23 12:43	500
cis-1,3-Dichloropropene	ND		500	210	ug/L			06/20/23 12:43	500
Toluene	ND		500	200	ug/L			06/20/23 12:43	500
trans-1,3-Dichloropropene	ND		500	210	ug/L			06/20/23 12:43	500
1,1,2-Trichloroethane	ND		500	120	ug/L			06/20/23 12:43	500
Tetrachloroethene	ND		500	210	ug/L			06/20/23 12:43	500
1,3-Dichloropropane	ND		500	180	ug/L			06/20/23 12:43	500
Dibromochloromethane	ND		500	220	ug/L			06/20/23 12:43	500
1,2-Dibromoethane	ND		500	200	ug/L			06/20/23 12:43	500
Chlorobenzene	**23000**		500	220	ug/L			06/20/23 12:43	500
1,1,1,2-Tetrachloroethane	ND		500	90	ug/L			06/20/23 12:43	500
Ethylbenzene	ND		500	250	ug/L			06/20/23 12:43	500
m-Xylene & p-Xylene	ND		1000	270	ug/L			06/20/23 12:43	500
o-Xylene	ND		500	200	ug/L			06/20/23 12:43	500
Styrene	ND		500	270	ug/L			06/20/23 12:43	500
Bromoform	ND		500	260	ug/L			06/20/23 12:43	500
Isopropylbenzene	ND		500	220	ug/L			06/20/23 12:43	500
Bromobenzene	ND		500	220	ug/L			06/20/23 12:43	500
1,1,2,2-Tetrachloroethane	ND		500	260	ug/L			06/20/23 12:43	500
1,2,3-Trichloropropane	ND		500	210	ug/L			06/20/23 12:43	500
N-Propylbenzene	ND		500	250	ug/L			06/20/23 12:43	500
2-Chlorotoluene	ND		500	260	ug/L			06/20/23 12:43	500

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-21d-061623
Lab Sample ID: 580-128445-2
Date Collected: 06/16/23 07:08
Matrix: Water
Date Received: 06/16/23 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		500	190	ug/L			06/20/23 12:43	500
t-Butylbenzene	ND		1000	290	ug/L			06/20/23 12:43	500
1,2,4-Trimethylbenzene	ND		1500	310	ug/L			06/20/23 12:43	500
sec-Butylbenzene	ND		500	250	ug/L			06/20/23 12:43	500
4-Isopropyltoluene	ND		500	140	ug/L			06/20/23 12:43	500
1,3-Dichlorobenzene	ND		500	240	ug/L			06/20/23 12:43	500
1,4-Dichlorobenzene	ND		500	230	ug/L			06/20/23 12:43	500
n-Butylbenzene	ND		500	220	ug/L			06/20/23 12:43	500
1,2-Dichlorobenzene	ND		500	230	ug/L			06/20/23 12:43	500
1,2-Dibromo-3-Chloropropane	ND		1500	290	ug/L			06/20/23 12:43	500
1,2,4-Trichlorobenzene	ND		500	170	ug/L			06/20/23 12:43	500
Hexachlorobutadiene	ND		1500	400	ug/L			06/20/23 12:43	500
Naphthalene	ND		1500	470	ug/L			06/20/23 12:43	500
1,2,3-Trichlorobenzene	ND		1000	220	ug/L			06/20/23 12:43	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			06/20/23 12:43	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/20/23 12:43*	*500*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/20/23 12:43*	*500*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/20/23 12:43*	*500*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/20/23 12:43*	*500*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	100	ug/L			07/05/23 19:00	50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**330**		15	4.3	mg/L			06/24/23 09:44	10

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-19d-061623
Lab Sample ID: 580-128445-3
Date Collected: 06/16/23 08:03
Matrix: Water
Date Received: 06/16/23 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		50	27	ug/L			06/20/23 11:55	50
Chloromethane	ND		50	14	ug/L			06/20/23 11:55	50
Vinyl chloride	ND		50	11	ug/L			06/20/23 11:55	50
Bromomethane	ND		50	11	ug/L			06/20/23 11:55	50
Chloroethane	ND		50	18	ug/L			06/20/23 11:55	50
Trichlorofluoromethane	ND		50	18	ug/L			06/20/23 11:55	50
Carbon disulfide	ND		50	27	ug/L			06/20/23 11:55	50
1,1-Dichloroethene	ND		50	14	ug/L			06/20/23 11:55	50
Acetone	ND		750	160	ug/L			06/20/23 11:55	50
Methylene Chloride	ND		250	72	ug/L			06/20/23 11:55	50
Methyl tert-butyl ether	ND		50	22	ug/L			06/20/23 11:55	50
trans-1,2-Dichloroethene	ND		50	20	ug/L			06/20/23 11:55	50
1,1-Dichloroethane	ND		50	11	ug/L			06/20/23 11:55	50
2-Butanone (MEK)	ND		750	240	ug/L			06/20/23 11:55	50
2,2-Dichloropropane	ND		50	16	ug/L			06/20/23 11:55	50
cis-1,2-Dichloroethene	**18**	**J**	50	18	ug/L			06/20/23 11:55	50
Bromochloromethane	ND		50	15	ug/L			06/20/23 11:55	50
Chloroform	ND		50	13	ug/L			06/20/23 11:55	50
1,1,1-Trichloroethane	ND		50	20	ug/L			06/20/23 11:55	50
Carbon tetrachloride	ND		50	15	ug/L			06/20/23 11:55	50
1,1-Dichloropropene	ND		50	15	ug/L			06/20/23 11:55	50
Benzene	**44**	**J**	50	12	ug/L			06/20/23 11:55	50
1,2-Dichloroethane	ND		50	21	ug/L			06/20/23 11:55	50
Trichloroethene	ND		50	13	ug/L			06/20/23 11:55	50
1,2-Dichloropropane	ND		50	9.0	ug/L			06/20/23 11:55	50
4-Methyl-2-pentanone (MIBK)	ND		250	130	ug/L			06/20/23 11:55	50
Dibromomethane	ND		50	17	ug/L			06/20/23 11:55	50
Bromodichloromethane	ND		50	15	ug/L			06/20/23 11:55	50
cis-1,3-Dichloropropene	ND		50	21	ug/L			06/20/23 11:55	50
Toluene	ND		50	20	ug/L			06/20/23 11:55	50
trans-1,3-Dichloropropene	ND		50	21	ug/L			06/20/23 11:55	50
1,1,2-Trichloroethane	ND		50	12	ug/L			06/20/23 11:55	50
Tetrachloroethene	ND		50	21	ug/L			06/20/23 11:55	50
1,3-Dichloropropane	ND		50	18	ug/L			06/20/23 11:55	50
Dibromochloromethane	ND		50	22	ug/L			06/20/23 11:55	50
1,2-Dibromoethane	ND		50	20	ug/L			06/20/23 11:55	50
1,1,1,2-Tetrachloroethane	ND		50	9.0	ug/L			06/20/23 11:55	50
Ethylbenzene	ND		50	25	ug/L			06/20/23 11:55	50
m-Xylene & p-Xylene	ND		100	27	ug/L			06/20/23 11:55	50
o-Xylene	ND		50	20	ug/L			06/20/23 11:55	50
Styrene	ND		50	27	ug/L			06/20/23 11:55	50
Bromoform	ND		50	26	ug/L			06/20/23 11:55	50
Isopropylbenzene	ND		50	22	ug/L			06/20/23 11:55	50
Bromobenzene	ND		50	22	ug/L			06/20/23 11:55	50
1,1,2,2-Tetrachloroethane	ND		50	26	ug/L			06/20/23 11:55	50
1,2,3-Trichloropropane	ND		50	21	ug/L			06/20/23 11:55	50
N-Propylbenzene	ND		50	25	ug/L			06/20/23 11:55	50
2-Chlorotoluene	ND		50	26	ug/L			06/20/23 11:55	50
4-Chlorotoluene	ND		50	19	ug/L			06/20/23 11:55	50

Client Sample ID: PA-19d-061623
Lab Sample ID: 580-128445-3
Date Collected: 06/16/23 08:03
Matrix: Water
Date Received: 06/16/23 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		100	29	ug/L			06/20/23 11:55	50
1,2,4-Trimethylbenzene	ND		150	31	ug/L			06/20/23 11:55	50
sec-Butylbenzene	ND		50	25	ug/L			06/20/23 11:55	50
4-Isopropyltoluene	ND		50	14	ug/L			06/20/23 11:55	50
1,3-Dichlorobenzene	ND		50	24	ug/L			06/20/23 11:55	50
1,4-Dichlorobenzene	ND		50	23	ug/L			06/20/23 11:55	50
n-Butylbenzene	ND		50	22	ug/L			06/20/23 11:55	50
1,2-Dichlorobenzene	ND		50	23	ug/L			06/20/23 11:55	50
1,2-Dibromo-3-Chloropropane	ND		150	29	ug/L			06/20/23 11:55	50
1,2,4-Trichlorobenzene	ND		50	17	ug/L			06/20/23 11:55	50
Hexachlorobutadiene	ND		150	40	ug/L			06/20/23 11:55	50
Naphthalene	ND		150	47	ug/L			06/20/23 11:55	50
1,2,3-Trichlorobenzene	ND		100	22	ug/L			06/20/23 11:55	50
1,3,5-Trimethylbenzene	ND		50	28	ug/L			06/20/23 11:55	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/20/23 11:55*	*50*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*06/20/23 11:55*	*50*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/20/23 11:55*	*50*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/20/23 11:55*	*50*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**9000**		100	44	ug/L			06/20/23 21:15	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/20/23 21:15*	*100*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/20/23 21:15*	*100*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/20/23 21:15*	*100*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/20/23 21:15*	*100*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		80	40	ug/L			07/05/23 19:18	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**320**		15	4.3	mg/L			06/24/23 10:07	10

Client Sample ID: PA-30d-061623
Lab Sample ID: 580-128445-4
Date Collected: 06/16/23 08:58
Matrix: Water
Date Received: 06/16/23 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		50	27	ug/L			06/20/23 12:19	50
Chloromethane	ND		50	14	ug/L			06/20/23 12:19	50
Vinyl chloride	ND		50	11	ug/L			06/20/23 12:19	50
Bromomethane	ND		50	11	ug/L			06/20/23 12:19	50
Chloroethane	ND		50	18	ug/L			06/20/23 12:19	50
Trichlorofluoromethane	ND		50	18	ug/L			06/20/23 12:19	50
Carbon disulfide	ND		50	27	ug/L			06/20/23 12:19	50
1,1-Dichloroethene	ND		50	14	ug/L			06/20/23 12:19	50
Acetone	ND		750	160	ug/L			06/20/23 12:19	50
Methylene Chloride	ND		250	72	ug/L			06/20/23 12:19	50
Methyl tert-butyl ether	ND		50	22	ug/L			06/20/23 12:19	50
trans-1,2-Dichloroethene	ND		50	20	ug/L			06/20/23 12:19	50
1,1-Dichloroethane	ND		50	11	ug/L			06/20/23 12:19	50
2-Butanone (MEK)	ND		750	240	ug/L			06/20/23 12:19	50
2,2-Dichloropropane	ND		50	16	ug/L			06/20/23 12:19	50
cis-1,2-Dichloroethene	ND		50	18	ug/L			06/20/23 12:19	50
Bromochloromethane	ND		50	15	ug/L			06/20/23 12:19	50
Chloroform	ND		50	13	ug/L			06/20/23 12:19	50
1,1,1-Trichloroethane	ND		50	20	ug/L			06/20/23 12:19	50
Carbon tetrachloride	ND		50	15	ug/L			06/20/23 12:19	50
1,1-Dichloropropene	ND		50	15	ug/L			06/20/23 12:19	50
Benzene	ND		50	12	ug/L			06/20/23 12:19	50
1,2-Dichloroethane	ND		50	21	ug/L			06/20/23 12:19	50
Trichloroethene	ND		50	13	ug/L			06/20/23 12:19	50
1,2-Dichloropropane	ND		50	9.0	ug/L			06/20/23 12:19	50
4-Methyl-2-pentanone (MIBK)	ND		250	130	ug/L			06/20/23 12:19	50
Dibromomethane	ND		50	17	ug/L			06/20/23 12:19	50
Bromodichloromethane	ND		50	15	ug/L			06/20/23 12:19	50
cis-1,3-Dichloropropene	ND		50	21	ug/L			06/20/23 12:19	50
Toluene	ND		50	20	ug/L			06/20/23 12:19	50
trans-1,3-Dichloropropene	ND		50	21	ug/L			06/20/23 12:19	50
1,1,2-Trichloroethane	ND		50	12	ug/L			06/20/23 12:19	50
Tetrachloroethene	ND		50	21	ug/L			06/20/23 12:19	50
1,3-Dichloropropane	ND		50	18	ug/L			06/20/23 12:19	50
Dibromochloromethane	ND		50	22	ug/L			06/20/23 12:19	50
1,2-Dibromoethane	ND		50	20	ug/L			06/20/23 12:19	50
1,1,1,2-Tetrachloroethane	ND		50	9.0	ug/L			06/20/23 12:19	50
Ethylbenzene	ND		50	25	ug/L			06/20/23 12:19	50
m-Xylene & p-Xylene	ND		100	27	ug/L			06/20/23 12:19	50
o-Xylene	ND		50	20	ug/L			06/20/23 12:19	50
Styrene	ND		50	27	ug/L			06/20/23 12:19	50
Bromoform	ND		50	26	ug/L			06/20/23 12:19	50
Isopropylbenzene	ND		50	22	ug/L			06/20/23 12:19	50
Bromobenzene	ND		50	22	ug/L			06/20/23 12:19	50
1,1,2,2-Tetrachloroethane	ND		50	26	ug/L			06/20/23 12:19	50
1,2,3-Trichloropropane	ND		50	21	ug/L			06/20/23 12:19	50
N-Propylbenzene	ND		50	25	ug/L			06/20/23 12:19	50
2-Chlorotoluene	ND		50	26	ug/L			06/20/23 12:19	50
4-Chlorotoluene	ND		50	19	ug/L			06/20/23 12:19	50

Client Sample ID: PA-30d-061623
Lab Sample ID: 580-128445-4
Date Collected: 06/16/23 08:58
Matrix: Water
Date Received: 06/16/23 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		100	29	ug/L			06/20/23 12:19	50
1,2,4-Trimethylbenzene	ND		150	31	ug/L			06/20/23 12:19	50
sec-Butylbenzene	ND		50	25	ug/L			06/20/23 12:19	50
4-Isopropyltoluene	ND		50	14	ug/L			06/20/23 12:19	50
1,3-Dichlorobenzene	ND		50	24	ug/L			06/20/23 12:19	50
1,4-Dichlorobenzene	ND		50	23	ug/L			06/20/23 12:19	50
n-Butylbenzene	ND		50	22	ug/L			06/20/23 12:19	50
1,2-Dichlorobenzene	ND		50	23	ug/L			06/20/23 12:19	50
1,2-Dibromo-3-Chloropropane	ND		150	29	ug/L			06/20/23 12:19	50
1,2,4-Trichlorobenzene	ND		50	17	ug/L			06/20/23 12:19	50
Hexachlorobutadiene	ND		150	40	ug/L			06/20/23 12:19	50
Naphthalene	ND		150	47	ug/L			06/20/23 12:19	50
1,2,3-Trichlorobenzene	ND		100	22	ug/L			06/20/23 12:19	50
1,3,5-Trimethylbenzene	ND		50	28	ug/L			06/20/23 12:19	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/20/23 12:19*	*50*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*06/20/23 12:19*	*50*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/20/23 12:19*	*50*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/20/23 12:19*	*50*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**19000**		500	220	ug/L			06/20/23 21:39	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/20/23 21:39*	*500*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*06/20/23 21:39*	*500*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/20/23 21:39*	*500*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*06/20/23 21:39*	*500*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		80	40	ug/L			07/05/23 19:36	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**310**		15	4.3	mg/L			06/24/23 10:31	10

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-18d-061623
Lab Sample ID: 580-128445-5
Date Collected: 06/16/23 09:52
Matrix: Water
Date Received: 06/16/23 12:25

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			06/20/23 10:43	1
Chloromethane	ND		1.0	0.28	ug/L			06/20/23 10:43	1
Vinyl chloride	**0.34**	**J**	1.0	0.22	ug/L			06/20/23 10:43	1
Bromomethane	ND		1.0	0.21	ug/L			06/20/23 10:43	1
Chloroethane	ND		1.0	0.35	ug/L			06/20/23 10:43	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/20/23 10:43	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/20/23 10:43	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/20/23 10:43	1
Acetone	ND		15	3.2	ug/L			06/20/23 10:43	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/20/23 10:43	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/20/23 10:43	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/20/23 10:43	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/20/23 10:43	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/20/23 10:43	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/20/23 10:43	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/20/23 10:43	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/20/23 10:43	1
Chloroform	ND		1.0	0.26	ug/L			06/20/23 10:43	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/20/23 10:43	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/20/23 10:43	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/20/23 10:43	1
Benzene	ND		1.0	0.24	ug/L			06/20/23 10:43	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/20/23 10:43	1
Trichloroethene	ND		1.0	0.26	ug/L			06/20/23 10:43	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/20/23 10:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/23 10:43	1
Dibromomethane	ND		1.0	0.34	ug/L			06/20/23 10:43	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/20/23 10:43	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/20/23 10:43	1
Toluene	ND		1.0	0.39	ug/L			06/20/23 10:43	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/20/23 10:43	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/20/23 10:43	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/20/23 10:43	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/20/23 10:43	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/20/23 10:43	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/20/23 10:43	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/20/23 10:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/20/23 10:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/20/23 10:43	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/20/23 10:43	1
o-Xylene	ND		1.0	0.39	ug/L			06/20/23 10:43	1
Styrene	ND		1.0	0.53	ug/L			06/20/23 10:43	1
Bromoform	ND		1.0	0.51	ug/L			06/20/23 10:43	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/20/23 10:43	1
Bromobenzene	ND		1.0	0.43	ug/L			06/20/23 10:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/20/23 10:43	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/20/23 10:43	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/20/23 10:43	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/20/23 10:43	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-18d-061623
Lab Sample ID: 580-128445-5
Date Collected: 06/16/23 09:52
Matrix: Water
Date Received: 06/16/23 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			06/20/23 10:43	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/20/23 10:43	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/20/23 10:43	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/20/23 10:43	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/20/23 10:43	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/20/23 10:43	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 10:43	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/20/23 10:43	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 10:43	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/20/23 10:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/20/23 10:43	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/20/23 10:43	1
Naphthalene	ND		3.0	0.93	ug/L			06/20/23 10:43	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/20/23 10:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/20/23 10:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/20/23 10:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*06/20/23 10:43*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*06/20/23 10:43*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/20/23 10:43*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		80	40	ug/L			07/05/23 19:54	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**27**	**F1**	1.5	0.43	mg/L			06/24/23 10:42	1

Client Sample ID: RB-02-061623
Lab Sample ID: 580-128445-6
Date Collected: 06/16/23 06:00
Matrix: Water
Date Received: 06/16/23 12:25

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			06/23/23 17:24	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 17:24	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 17:24	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 17:24	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 17:24	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 17:24	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 17:24	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 17:24	1
Acetone	**43**		10	3.1	ug/L			06/23/23 17:24	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 17:24	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 17:24	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 17:24	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 17:24	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 17:24	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 17:24	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 17:24	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 17:24	1
Chloroform	**1.1**		0.20	0.030	ug/L			06/23/23 17:24	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 17:24	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 17:24	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 17:24	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 17:24	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 17:24	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 17:24	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 17:24	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 17:24	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 17:24	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 17:24	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 17:24	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 17:24	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 17:24	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 17:24	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 17:24	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 17:24	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 17:24	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 17:24	1
Chlorobenzene	**0.50**		0.20	0.060	ug/L			06/23/23 17:24	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 17:24	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 17:24	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 17:24	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 17:24	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 17:24	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 17:24	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 17:24	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 17:24	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 17:24	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 17:24	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 17:24	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 17:24	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: RB-02-061623
Lab Sample ID: 580-128445-6
Date Collected: 06/16/23 06:00
Matrix: Water
Date Received: 06/16/23 12:25

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			06/23/23 17:24	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 17:24	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 17:24	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 17:24	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 17:24	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 17:24	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 17:24	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 17:24	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 17:24	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 17:24	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 17:24	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 17:24	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 17:24	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 17:24	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/23/23 17:24*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/23/23 17:24*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*06/23/23 17:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*06/23/23 17:24*	*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			07/07/23 15:03	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			06/24/23 11:41	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-31-061623
Lab Sample ID: 580-128445-7
Date Collected: 06/16/23 07:30
Matrix: Water
Date Received: 06/16/23 12:25

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			06/24/23 04:11	1
Chloromethane	ND		0.50	0.14	ug/L			06/24/23 04:11	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/24/23 04:11	1
Bromomethane	ND		0.50	0.13	ug/L			06/24/23 04:11	1
Chloroethane	ND		0.50	0.096	ug/L			06/24/23 04:11	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/24/23 04:11	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/24/23 04:11	1
1,1-Dichloroethene	**0.79**		0.20	0.035	ug/L			06/24/23 04:11	1
Acetone	ND		10	3.1	ug/L			06/24/23 04:11	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/24/23 04:11	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/24/23 04:11	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/24/23 04:11	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/24/23 04:11	1
1,1-Dichloroethane	**0.41**		0.20	0.025	ug/L			06/24/23 04:11	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/24/23 04:11	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/24/23 04:11	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/24/23 04:11	1
Chloroform	**0.19**	**J**	0.20	0.030	ug/L			06/24/23 04:11	1
1,1,1-Trichloroethane	**0.23**		0.20	0.025	ug/L			06/24/23 04:11	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/24/23 04:11	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/24/23 04:11	1
Benzene	ND		0.20	0.030	ug/L			06/24/23 04:11	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/24/23 04:11	1
Trichloroethene	**0.077**	**J**	0.20	0.066	ug/L			06/24/23 04:11	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/24/23 04:11	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/24/23 04:11	1
Dibromomethane	ND		0.20	0.062	ug/L			06/24/23 04:11	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/24/23 04:11	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/24/23 04:11	1
Toluene	ND		0.20	0.050	ug/L			06/24/23 04:11	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/24/23 04:11	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/24/23 04:11	1
Tetrachloroethene	**0.23**	**J**	0.24	0.084	ug/L			06/24/23 04:11	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/24/23 04:11	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/24/23 04:11	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/24/23 04:11	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/24/23 04:11	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/24/23 04:11	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/24/23 04:11	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/24/23 04:11	1
o-Xylene	ND		0.50	0.15	ug/L			06/24/23 04:11	1
Styrene	ND		1.0	0.19	ug/L			06/24/23 04:11	1
Bromoform	ND		0.50	0.16	ug/L			06/24/23 04:11	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/24/23 04:11	1
Bromobenzene	ND		0.20	0.038	ug/L			06/24/23 04:11	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/24/23 04:11	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/24/23 04:11	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/24/23 04:11	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/24/23 04:11	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-31-061623
Lab Sample ID: 580-128445-7
Date Collected: 06/16/23 07:30
Matrix: Water
Date Received: 06/16/23 12:25

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			06/24/23 04:11	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/24/23 04:11	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/24/23 04:11	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/24/23 04:11	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/24/23 04:11	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/24/23 04:11	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 04:11	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 04:11	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/24/23 04:11	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/24/23 04:11	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/24/23 04:11	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/24/23 04:11	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/24/23 04:11	1
Naphthalene	ND		1.0	0.22	ug/L			06/24/23 04:11	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/24/23 04:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/24/23 04:11*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/24/23 04:11*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/24/23 04:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*06/24/23 04:11*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		80	40	ug/L			07/07/23 14:45	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**2.5**		1.5	0.43	mg/L			06/24/23 11:53	1

Client Sample ID: PA-32i-061623
Lab Sample ID: 580-128445-8

Date Collected: 06/16/23 08:40
Matrix: Water

Date Received: 06/16/23 12:25

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			06/24/23 04:35	1
Chloromethane	ND		0.50	0.14	ug/L			06/24/23 04:35	1
Vinyl chloride	**0.12**		0.10	0.040	ug/L			06/24/23 04:35	1
Bromomethane	ND		0.50	0.13	ug/L			06/24/23 04:35	1
Chloroethane	**0.25**	**J**	0.50	0.096	ug/L			06/24/23 04:35	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/24/23 04:35	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/24/23 04:35	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/24/23 04:35	1
Acetone	**6.3**	**J**	10	3.1	ug/L			06/24/23 04:35	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/24/23 04:35	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/24/23 04:35	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/24/23 04:35	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/24/23 04:35	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/24/23 04:35	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/24/23 04:35	1
cis-1,2-Dichloroethene	**0.089**	**J**	0.20	0.055	ug/L			06/24/23 04:35	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/24/23 04:35	1
Chloroform	ND		0.20	0.030	ug/L			06/24/23 04:35	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/24/23 04:35	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/24/23 04:35	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/24/23 04:35	1
Benzene	**0.049**	**J**	0.20	0.030	ug/L			06/24/23 04:35	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/24/23 04:35	1
Trichloroethene	ND		0.20	0.066	ug/L			06/24/23 04:35	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/24/23 04:35	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/24/23 04:35	1
Dibromomethane	ND		0.20	0.062	ug/L			06/24/23 04:35	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/24/23 04:35	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/24/23 04:35	1
Toluene	ND		0.20	0.050	ug/L			06/24/23 04:35	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/24/23 04:35	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/24/23 04:35	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/24/23 04:35	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/24/23 04:35	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/24/23 04:35	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/24/23 04:35	1
Chlorobenzene	**0.29**		0.20	0.060	ug/L			06/24/23 04:35	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/24/23 04:35	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/24/23 04:35	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/24/23 04:35	1
o-Xylene	ND		0.50	0.15	ug/L			06/24/23 04:35	1
Styrene	ND		1.0	0.19	ug/L			06/24/23 04:35	1
Bromoform	ND		0.50	0.16	ug/L			06/24/23 04:35	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/24/23 04:35	1
Bromobenzene	ND		0.20	0.038	ug/L			06/24/23 04:35	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/24/23 04:35	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/24/23 04:35	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/24/23 04:35	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/24/23 04:35	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-32i-061623
Lab Sample ID: 580-128445-8
Date Collected: 06/16/23 08:40
Matrix: Water
Date Received: 06/16/23 12:25

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			06/24/23 04:35	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/24/23 04:35	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/24/23 04:35	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/24/23 04:35	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/24/23 04:35	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/24/23 04:35	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 04:35	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 04:35	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/24/23 04:35	1
1,2-Dichlorobenzene	**0.31**		0.30	0.038	ug/L			06/24/23 04:35	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/24/23 04:35	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/24/23 04:35	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/24/23 04:35	1
Naphthalene	ND		1.0	0.22	ug/L			06/24/23 04:35	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/24/23 04:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/24/23 04:35*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*06/24/23 04:35*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/24/23 04:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*06/24/23 04:35*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		80	40	ug/L			07/07/23 14:27	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**31**		1.5	0.43	mg/L			06/24/23 12:05	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-11i(d)-061623
Lab Sample ID: 580-128445-9
Date Collected: 06/16/23 10:00
Matrix: Water
Date Received: 06/16/23 12:25

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			06/24/23 04:59	1
Chloromethane	ND		0.50	0.14	ug/L			06/24/23 04:59	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/24/23 04:59	1
Bromomethane	ND		0.50	0.13	ug/L			06/24/23 04:59	1
Chloroethane	ND		0.50	0.096	ug/L			06/24/23 04:59	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/24/23 04:59	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/24/23 04:59	1
1,1-Dichloroethene	**0.044**	**J**	0.20	0.035	ug/L			06/24/23 04:59	1
Acetone	**5.7**	**J**	10	3.1	ug/L			06/24/23 04:59	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/24/23 04:59	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/24/23 04:59	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/24/23 04:59	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/24/23 04:59	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/24/23 04:59	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/24/23 04:59	1
cis-1,2-Dichloroethene	**0.16**	**J**	0.20	0.055	ug/L			06/24/23 04:59	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/24/23 04:59	1
Chloroform	**0.55**		0.20	0.030	ug/L			06/24/23 04:59	1
1,1,1-Trichloroethane	**1.2**		0.20	0.025	ug/L			06/24/23 04:59	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/24/23 04:59	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/24/23 04:59	1
Benzene	ND		0.20	0.030	ug/L			06/24/23 04:59	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/24/23 04:59	1
Trichloroethene	ND		0.20	0.066	ug/L			06/24/23 04:59	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/24/23 04:59	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/24/23 04:59	1
Dibromomethane	ND		0.20	0.062	ug/L			06/24/23 04:59	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/24/23 04:59	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/24/23 04:59	1
Toluene	ND		0.20	0.050	ug/L			06/24/23 04:59	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/24/23 04:59	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/24/23 04:59	1
Tetrachloroethene	**0.11**	**J**	0.24	0.084	ug/L			06/24/23 04:59	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/24/23 04:59	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/24/23 04:59	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/24/23 04:59	1
Chlorobenzene	**7.0**		0.20	0.060	ug/L			06/24/23 04:59	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/24/23 04:59	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/24/23 04:59	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/24/23 04:59	1
o-Xylene	ND		0.50	0.15	ug/L			06/24/23 04:59	1
Styrene	ND		1.0	0.19	ug/L			06/24/23 04:59	1
Bromoform	ND		0.50	0.16	ug/L			06/24/23 04:59	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/24/23 04:59	1
Bromobenzene	ND		0.20	0.038	ug/L			06/24/23 04:59	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/24/23 04:59	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/24/23 04:59	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/24/23 04:59	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/24/23 04:59	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: MWA-11i(d)-061623
Lab Sample ID: 580-128445-9
Date Collected: 06/16/23 10:00
Matrix: Water
Date Received: 06/16/23 12:25

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			06/24/23 04:59	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/24/23 04:59	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/24/23 04:59	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/24/23 04:59	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/24/23 04:59	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/24/23 04:59	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 04:59	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 04:59	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/24/23 04:59	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/24/23 04:59	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/24/23 04:59	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/24/23 04:59	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/24/23 04:59	1
Naphthalene	ND		1.0	0.22	ug/L			06/24/23 04:59	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/24/23 04:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/24/23 04:59*	*1*
Dibromofluoromethane (Surr)	*112*		*80 - 120*		*06/24/23 04:59*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/24/23 04:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*06/24/23 04:59*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			07/11/23 14:53	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**450**		15	4.3	mg/L			06/24/23 12:28	10

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-10i-061623
Lab Sample ID: 580-128445-10
Date Collected: 06/16/23 10:50
Matrix: Water
Date Received: 06/16/23 12:25

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			06/24/23 05:23	1
Chloromethane	ND		0.50	0.14	ug/L			06/24/23 05:23	1
Vinyl chloride	**0.15**		0.10	0.040	ug/L			06/24/23 05:23	1
Bromomethane	ND		0.50	0.13	ug/L			06/24/23 05:23	1
Chloroethane	ND		0.50	0.096	ug/L			06/24/23 05:23	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/24/23 05:23	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/24/23 05:23	1
1,1-Dichloroethene	**0.10**	**J**	0.20	0.035	ug/L			06/24/23 05:23	1
Acetone	**3.2**	**J**	10	3.1	ug/L			06/24/23 05:23	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/24/23 05:23	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/24/23 05:23	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/24/23 05:23	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/24/23 05:23	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/24/23 05:23	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/24/23 05:23	1
cis-1,2-Dichloroethene	**0.20**		0.20	0.055	ug/L			06/24/23 05:23	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/24/23 05:23	1
Chloroform	ND		0.20	0.030	ug/L			06/24/23 05:23	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/24/23 05:23	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/24/23 05:23	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/24/23 05:23	1
Benzene	**0.071**	**J**	0.20	0.030	ug/L			06/24/23 05:23	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/24/23 05:23	1
Trichloroethene	ND		0.20	0.066	ug/L			06/24/23 05:23	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/24/23 05:23	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/24/23 05:23	1
Dibromomethane	ND		0.20	0.062	ug/L			06/24/23 05:23	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/24/23 05:23	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/24/23 05:23	1
Toluene	ND		0.20	0.050	ug/L			06/24/23 05:23	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/24/23 05:23	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/24/23 05:23	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/24/23 05:23	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/24/23 05:23	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/24/23 05:23	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/24/23 05:23	1
Chlorobenzene	**1.3**		0.20	0.060	ug/L			06/24/23 05:23	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/24/23 05:23	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/24/23 05:23	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/24/23 05:23	1
o-Xylene	ND		0.50	0.15	ug/L			06/24/23 05:23	1
Styrene	ND		1.0	0.19	ug/L			06/24/23 05:23	1
Bromoform	ND		0.50	0.16	ug/L			06/24/23 05:23	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/24/23 05:23	1
Bromobenzene	ND		0.20	0.038	ug/L			06/24/23 05:23	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/24/23 05:23	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/24/23 05:23	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/24/23 05:23	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/24/23 05:23	1

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: PA-10i-061623
Lab Sample ID: 580-128445-10
Date Collected: 06/16/23 10:50
Matrix: Water
Date Received: 06/16/23 12:25

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			06/24/23 05:23	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/24/23 05:23	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/24/23 05:23	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/24/23 05:23	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/24/23 05:23	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/24/23 05:23	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 05:23	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 05:23	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/24/23 05:23	1
1,2-Dichlorobenzene	**0.18**	**J**	0.30	0.038	ug/L			06/24/23 05:23	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/24/23 05:23	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/24/23 05:23	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/24/23 05:23	1
Naphthalene	ND		1.0	0.22	ug/L			06/24/23 05:23	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/24/23 05:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/24/23 05:23*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 120*		*06/24/23 05:23*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/24/23 05:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*80 - 120*		*06/24/23 05:23*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	20	ug/L			07/10/23 18:12	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**35**		1.5	0.43	mg/L			06/24/23 12:40	1

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

Lab Sample ID: MB 580-429336/6
Matrix: Water
Analysis Batch: 429336

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			06/20/23 05:07	1
Chloromethane	ND		1.0	0.28	ug/L			06/20/23 05:07	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/20/23 05:07	1
Bromomethane	ND		1.0	0.21	ug/L			06/20/23 05:07	1
Chloroethane	ND		1.0	0.35	ug/L			06/20/23 05:07	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			06/20/23 05:07	1
Carbon disulfide	ND		1.0	0.53	ug/L			06/20/23 05:07	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			06/20/23 05:07	1
Acetone	ND		15	3.2	ug/L			06/20/23 05:07	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/20/23 05:07	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			06/20/23 05:07	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/20/23 05:07	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/20/23 05:07	1
2-Butanone (MEK)	ND		15	4.7	ug/L			06/20/23 05:07	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			06/20/23 05:07	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			06/20/23 05:07	1
Bromochloromethane	ND		1.0	0.29	ug/L			06/20/23 05:07	1
Chloroform	ND		1.0	0.26	ug/L			06/20/23 05:07	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			06/20/23 05:07	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/20/23 05:07	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			06/20/23 05:07	1
Benzene	ND		1.0	0.24	ug/L			06/20/23 05:07	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			06/20/23 05:07	1
Trichloroethene	ND		1.0	0.26	ug/L			06/20/23 05:07	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/20/23 05:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/20/23 05:07	1
Dibromomethane	ND		1.0	0.34	ug/L			06/20/23 05:07	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/20/23 05:07	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			06/20/23 05:07	1
Toluene	ND		1.0	0.39	ug/L			06/20/23 05:07	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			06/20/23 05:07	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/20/23 05:07	1
Tetrachloroethene	ND		1.0	0.41	ug/L			06/20/23 05:07	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			06/20/23 05:07	1
Dibromochloromethane	ND		1.0	0.43	ug/L			06/20/23 05:07	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			06/20/23 05:07	1
Chlorobenzene	ND		1.0	0.44	ug/L			06/20/23 05:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			06/20/23 05:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			06/20/23 05:07	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			06/20/23 05:07	1
o-Xylene	ND		1.0	0.39	ug/L			06/20/23 05:07	1
Styrene	ND		1.0	0.53	ug/L			06/20/23 05:07	1
Bromoform	ND		1.0	0.51	ug/L			06/20/23 05:07	1
Isopropylbenzene	ND		1.0	0.44	ug/L			06/20/23 05:07	1
Bromobenzene	ND		1.0	0.43	ug/L			06/20/23 05:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			06/20/23 05:07	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			06/20/23 05:07	1
N-Propylbenzene	ND		1.0	0.50	ug/L			06/20/23 05:07	1

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

Lab Sample ID: MB 580-429336/6
Matrix: Water
Analysis Batch: 429336

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		1.0	0.51	ug/L			06/20/23 05:07	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			06/20/23 05:07	1
t-Butylbenzene	ND		2.0	0.58	ug/L			06/20/23 05:07	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/20/23 05:07	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			06/20/23 05:07	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			06/20/23 05:07	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			06/20/23 05:07	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 05:07	1
n-Butylbenzene	ND		1.0	0.44	ug/L			06/20/23 05:07	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			06/20/23 05:07	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			06/20/23 05:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			06/20/23 05:07	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			06/20/23 05:07	1
Naphthalene	ND		3.0	0.93	ug/L			06/20/23 05:07	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			06/20/23 05:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			06/20/23 05:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/20/23 05:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*06/20/23 05:07*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/20/23 05:07*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/20/23 05:07*	*1*

Lab Sample ID: LCS 580-429336/7
Matrix: Water
Analysis Batch: 429336

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	10.0	10.2		ug/L		102	20 - 150
Chloromethane	10.0	10.2		ug/L		102	25 - 150
Vinyl chloride	10.0	10.3		ug/L		103	31 - 150
Bromomethane	10.0	11.1		ug/L		111	36 - 150
Chloroethane	10.0	10.7		ug/L		107	38 - 150
Trichlorofluoromethane	10.0	10.3		ug/L		103	45 - 148
Carbon disulfide	10.0	9.49		ug/L		95	63 - 134
1,1-Dichloroethene	10.0	9.58		ug/L		96	70 - 129
Acetone	50.0	46.9		ug/L		94	44 - 150
Methylene Chloride	10.0	9.66		ug/L		97	77 - 125
Methyl tert-butyl ether	10.0	9.91		ug/L		99	72 - 120
trans-1,2-Dichloroethene	10.0	9.84		ug/L		98	75 - 120
1,1-Dichloroethane	10.0	9.50		ug/L		95	80 - 120
2-Butanone (MEK)	50.0	47.4		ug/L		95	65 - 137
2,2-Dichloropropane	10.0	8.67		ug/L		87	66 - 126
cis-1,2-Dichloroethene	10.0	9.86		ug/L		99	76 - 120
Bromochloromethane	10.0	9.63		ug/L		96	78 - 120
Chloroform	10.0	9.42		ug/L		94	78 - 127
1,1,1-Trichloroethane	10.0	9.45		ug/L		94	74 - 130
Carbon tetrachloride	10.0	9.42		ug/L		94	72 - 129

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

Lab Sample ID: LCS 580-429336/7
Matrix: Water
Analysis Batch: 429336

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	10.0	9.79		ug/L		98	74 - 120
Benzene	10.0	9.70		ug/L		97	80 - 122
1,2-Dichloroethane	10.0	9.33		ug/L		93	69 - 126
Trichloroethene	10.0	9.97		ug/L		100	80 - 125
1,2-Dichloropropane	10.0	9.44		ug/L		94	80 - 120
4-Methyl-2-pentanone (MIBK)	50.0	45.7		ug/L		91	59 - 141
Dibromomethane	10.0	9.51		ug/L		95	80 - 120
Bromodichloromethane	10.0	8.92		ug/L		89	75 - 124
cis-1,3-Dichloropropene	10.0	8.38		ug/L		84	77 - 120
Toluene	10.0	9.82		ug/L		98	80 - 120
trans-1,3-Dichloropropene	10.0	8.41		ug/L		84	76 - 122
1,1,2-Trichloroethane	10.0	9.48		ug/L		95	80 - 121
Tetrachloroethene	10.0	9.80		ug/L		98	76 - 125
1,3-Dichloropropane	10.0	9.71		ug/L		97	79 - 120
Dibromochloromethane	10.0	8.78		ug/L		88	73 - 125
1,2-Dibromoethane	10.0	9.48		ug/L		95	79 - 126
Chlorobenzene	10.0	9.99		ug/L		100	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.33		ug/L		93	79 - 120
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
m-Xylene & p-Xylene	10.0	9.87		ug/L		99	80 - 120
o-Xylene	10.0	10.1		ug/L		101	80 - 120
Styrene	10.0	10.1		ug/L		101	76 - 122
Bromoform	10.0	8.68		ug/L		87	56 - 139
Isopropylbenzene	10.0	9.89		ug/L		99	80 - 123
Bromobenzene	10.0	9.70		ug/L		97	80 - 120
1,1,2,2-Tetrachloroethane	10.0	8.63		ug/L		86	74 - 124
1,2,3-Trichloropropane	10.0	9.16		ug/L		92	76 - 124
N-Propylbenzene	10.0	9.69		ug/L		97	80 - 122
2-Chlorotoluene	10.0	9.59		ug/L		96	80 - 120
4-Chlorotoluene	10.0	9.38		ug/L		94	73 - 129
t-Butylbenzene	10.0	9.61		ug/L		96	75 - 123
1,2,4-Trimethylbenzene	10.0	9.74		ug/L		97	80 - 120
sec-Butylbenzene	10.0	9.66		ug/L		97	78 - 122
4-Isopropyltoluene	10.0	9.53		ug/L		95	77 - 126
1,3-Dichlorobenzene	10.0	9.70		ug/L		97	77 - 127
1,4-Dichlorobenzene	10.0	9.53		ug/L		95	80 - 120
n-Butylbenzene	10.0	9.00		ug/L		90	57 - 133
1,2-Dichlorobenzene	10.0	9.54		ug/L		95	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.12		ug/L		81	65 - 133
1,2,4-Trichlorobenzene	10.0	8.83		ug/L		88	61 - 148
Hexachlorobutadiene	10.0	8.27		ug/L		83	74 - 131
Naphthalene	10.0	7.85		ug/L		79	63 - 150
1,2,3-Trichlorobenzene	10.0	7.99		ug/L		80	65 - 150
1,3,5-Trimethylbenzene	10.0	9.68		ug/L		97	80 - 122

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

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

Lab Sample ID: LCS 580-429336/7
Matrix: Water
Analysis Batch: 429336

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*

Lab Sample ID: LCSD 580-429336/8
Matrix: Water
Analysis Batch: 429336

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			10.0	10.1		ug/L		101	20 - 150	1	33
Chloromethane			10.0	10.8		ug/L		108	25 - 150	6	26
Vinyl chloride			10.0	10.8		ug/L		108	31 - 150	4	26
Bromomethane			10.0	11.2		ug/L		112	36 - 150	1	33
Chloroethane			10.0	11.0		ug/L		110	38 - 150	3	28
Trichlorofluoromethane			10.0	10.2		ug/L		102	45 - 148	0	35
Carbon disulfide			10.0	9.77		ug/L		98	63 - 134	3	24
1,1-Dichloroethene			10.0	9.51		ug/L		95	70 - 129	1	23
Acetone			50.0	51.4		ug/L		103	44 - 150	9	33
Methylene Chloride			10.0	9.67		ug/L		97	77 - 125	0	18
Methyl tert-butyl ether			10.0	10.0		ug/L		100	72 - 120	1	18
trans-1,2-Dichloroethene			10.0	9.62		ug/L		96	75 - 120	2	21
1,1-Dichloroethane			10.0	9.65		ug/L		97	80 - 120	2	15
2-Butanone (MEK)			50.0	51.2		ug/L		102	65 - 137	8	34
2,2-Dichloropropane			10.0	8.48		ug/L		85	66 - 126	2	22
cis-1,2-Dichloroethene			10.0	9.62		ug/L		96	76 - 120	2	20
Bromochloromethane			10.0	9.17		ug/L		92	78 - 120	5	13
Chloroform			10.0	9.32		ug/L		93	78 - 127	1	14
1,1,1-Trichloroethane			10.0	9.56		ug/L		96	74 - 130	1	19
Carbon tetrachloride			10.0	9.46		ug/L		95	72 - 129	0	19
1,1-Dichloropropene			10.0	9.89		ug/L		99	74 - 120	1	14
Benzene			10.0	9.80		ug/L		98	80 - 122	1	14
1,2-Dichloroethane			10.0	9.66		ug/L		97	69 - 126	3	11
Trichloroethene			10.0	9.95		ug/L		99	80 - 125	0	13
1,2-Dichloropropane			10.0	9.83		ug/L		98	80 - 120	4	14
4-Methyl-2-pentanone (MIBK)			50.0	51.5		ug/L		103	59 - 141	12	22
Dibromomethane			10.0	9.66		ug/L		97	80 - 120	2	11
Bromodichloromethane			10.0	9.38		ug/L		94	75 - 124	5	13
cis-1,3-Dichloropropene			10.0	8.92		ug/L		89	77 - 120	6	35
Toluene			10.0	9.72		ug/L		97	80 - 120	1	13
trans-1,3-Dichloropropene			10.0	8.87		ug/L		89	76 - 122	5	20
1,1,2-Trichloroethane			10.0	9.64		ug/L		96	80 - 121	2	14
Tetrachloroethene			10.0	9.14		ug/L		91	76 - 125	7	13
1,3-Dichloropropane			10.0	9.76		ug/L		98	79 - 120	0	19
Dibromochloromethane			10.0	8.85		ug/L		88	73 - 125	1	13
1,2-Dibromoethane			10.0	9.55		ug/L		96	79 - 126	1	12
Chlorobenzene			10.0	9.62		ug/L		96	80 - 120	4	10
1,1,1,2-Tetrachloroethane			10.0	9.28		ug/L		93	79 - 120	1	16
Ethylbenzene			10.0	9.76		ug/L		98	80 - 120	3	14
m-Xylene & p-Xylene			10.0	9.67		ug/L		97	80 - 120	2	14

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

Lab Sample ID: LCSD 580-429336/8
Matrix: Water
Analysis Batch: 429336

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			10.0	9.77		ug/L		98	80 - 120	4	16
Styrene			10.0	9.76		ug/L		98	76 - 122	3	16
Bromoform			10.0	8.13		ug/L		81	56 - 139	7	21
Isopropylbenzene			10.0	9.67		ug/L		97	80 - 123	2	19
Bromobenzene			10.0	9.48		ug/L		95	80 - 120	2	24
1,1,2,2-Tetrachloroethane			10.0	9.03		ug/L		90	74 - 124	5	25
1,2,3-Trichloropropane			10.0	9.63		ug/L		96	76 - 124	5	26
N-Propylbenzene			10.0	9.47		ug/L		95	80 - 122	2	22
2-Chlorotoluene			10.0	9.59		ug/L		96	80 - 120	0	20
4-Chlorotoluene			10.0	9.56		ug/L		96	73 - 129	2	29
t-Butylbenzene			10.0	9.72		ug/L		97	75 - 123	1	21
1,2,4-Trimethylbenzene			10.0	9.95		ug/L		99	80 - 120	2	16
sec-Butylbenzene			10.0	9.92		ug/L		99	78 - 122	3	15
4-Isopropyltoluene			10.0	9.73		ug/L		97	77 - 126	2	20
1,3-Dichlorobenzene			10.0	9.25		ug/L		93	77 - 127	5	35
1,4-Dichlorobenzene			10.0	9.30		ug/L		93	80 - 120	2	17
n-Butylbenzene			10.0	9.47		ug/L		95	57 - 133	5	14
1,2-Dichlorobenzene			10.0	9.60		ug/L		96	80 - 120	1	15
1,2-Dibromo-3-Chloropropane			10.0	9.00		ug/L		90	65 - 133	10	25
1,2,4-Trichlorobenzene			10.0	9.33		ug/L		93	61 - 148	5	27
Hexachlorobutadiene			10.0	8.77		ug/L		88	74 - 131	6	22
Naphthalene			10.0	9.47		ug/L		95	63 - 150	19	33
1,2,3-Trichlorobenzene			10.0	9.39		ug/L		94	65 - 150	16	33
1,3,5-Trimethylbenzene			10.0	9.74		ug/L		97	80 - 122	1	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*

Lab Sample ID: 580-128445-5 MS
Matrix: Water
Analysis Batch: 429336

Client Sample ID: PA-18d-061623
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		10.0	12.1		ug/L		121	20 - 150
Chloromethane	ND		10.0	11.4		ug/L		114	25 - 150
Vinyl chloride	0.34	J	10.0	12.7		ug/L		123	31 - 150
Bromomethane	ND		10.0	12.2		ug/L		122	36 - 150
Chloroethane	ND		10.0	12.3		ug/L		123	38 - 150
Trichlorofluoromethane	ND		10.0	11.9		ug/L		119	45 - 148
Carbon disulfide	ND		10.0	11.3		ug/L		113	63 - 134
1,1-Dichloroethene	ND		10.0	11.6		ug/L		116	70 - 129
Acetone	ND		50.0	51.9		ug/L		104	44 - 150
Methylene Chloride	ND		10.0	10.5		ug/L		105	77 - 125
Methyl tert-butyl ether	ND		10.0	10.5		ug/L		105	72 - 120
trans-1,2-Dichloroethene	ND		10.0	10.9		ug/L		109	75 - 120

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

Lab Sample ID: 580-128445-5 MS
Matrix: Water
Analysis Batch: 429336

Client Sample ID: PA-18d-061623
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethane	ND		10.0	10.6		ug/L		106	80 - 120
2-Butanone (MEK)	ND		50.0	52.1		ug/L		104	65 - 137
2,2-Dichloropropane	ND		10.0	8.30		ug/L		83	66 - 126
cis-1,2-Dichloroethene	ND		10.0	11.0		ug/L		110	76 - 120
Bromochloromethane	ND		10.0	10.5		ug/L		105	78 - 120
Chloroform	ND		10.0	10.3		ug/L		103	78 - 127
1,1,1-Trichloroethane	ND		10.0	10.9		ug/L		109	74 - 130
Carbon tetrachloride	ND		10.0	11.0		ug/L		110	72 - 129
1,1-Dichloropropene	ND		10.0	11.1		ug/L		111	74 - 120
Benzene	ND		10.0	10.8		ug/L		108	80 - 122
1,2-Dichloroethane	ND		10.0	9.99		ug/L		100	69 - 126
Trichloroethene	ND		10.0	11.2		ug/L		112	80 - 125
1,2-Dichloropropane	ND		10.0	10.3		ug/L		103	80 - 120
4-Methyl-2-pentanone (MIBK)	ND		50.0	51.0		ug/L		102	59 - 141
Dibromomethane	ND		10.0	10.3		ug/L		103	80 - 120
Bromodichloromethane	ND		10.0	10.1		ug/L		101	75 - 124
cis-1,3-Dichloropropene	ND		10.0	9.09		ug/L		91	77 - 120
Toluene	ND		10.0	10.7		ug/L		107	80 - 120
trans-1,3-Dichloropropene	ND		10.0	9.10		ug/L		91	76 - 122
1,1,2-Trichloroethane	ND		10.0	10.2		ug/L		102	80 - 121
Tetrachloroethene	ND		10.0	11.3		ug/L		113	76 - 125
1,3-Dichloropropane	ND		10.0	10.2		ug/L		102	79 - 120
Dibromochloromethane	ND		10.0	9.84		ug/L		98	73 - 125
1,2-Dibromoethane	ND		10.0	10.2		ug/L		102	79 - 126
Chlorobenzene	ND		10.0	11.0		ug/L		110	80 - 120
1,1,1,2-Tetrachloroethane	ND		10.0	10.0		ug/L		100	79 - 120
Ethylbenzene	ND		10.0	10.9		ug/L		109	80 - 120
m-Xylene & p-Xylene	ND		10.0	10.7		ug/L		107	80 - 120
o-Xylene	ND		10.0	10.7		ug/L		107	80 - 120
Styrene	ND		10.0	9.63		ug/L		96	76 - 122
Bromoform	ND		10.0	9.50		ug/L		95	56 - 139
Isopropylbenzene	ND		10.0	10.8		ug/L		108	80 - 123
Bromobenzene	ND		10.0	10.2		ug/L		102	80 - 120
1,1,2,2-Tetrachloroethane	ND		10.0	9.55		ug/L		95	74 - 124
1,2,3-Trichloropropane	ND		10.0	10.0		ug/L		100	76 - 124
N-Propylbenzene	ND		10.0	10.5		ug/L		105	80 - 122
2-Chlorotoluene	ND		10.0	10.5		ug/L		105	80 - 120
4-Chlorotoluene	ND		10.0	9.99		ug/L		100	73 - 129
t-Butylbenzene	ND		10.0	10.4		ug/L		104	75 - 123
1,2,4-Trimethylbenzene	ND		10.0	10.3		ug/L		103	80 - 120
sec-Butylbenzene	ND		10.0	10.4		ug/L		104	78 - 122
4-Isopropyltoluene	ND		10.0	10.2		ug/L		102	77 - 126
1,3-Dichlorobenzene	ND		10.0	10.3		ug/L		103	77 - 127
1,4-Dichlorobenzene	ND		10.0	9.93		ug/L		99	80 - 120
n-Butylbenzene	ND		10.0	9.43		ug/L		94	57 - 133
1,2-Dichlorobenzene	ND		10.0	9.99		ug/L		100	80 - 120
1,2-Dibromo-3-Chloropropane	ND		10.0	9.82		ug/L		98	65 - 133
1,2,4-Trichlorobenzene	ND		10.0	8.53		ug/L		85	61 - 148
Hexachlorobutadiene	ND		10.0	7.90		ug/L		79	74 - 131

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

Lab Sample ID: 580-128445-5 MS
Matrix: Water
Analysis Batch: 429336

Client Sample ID: PA-18d-061623
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Naphthalene	ND		10.0	8.61		ug/L		86	63 - 150
1,2,3-Trichlorobenzene	ND		10.0	8.25		ug/L		83	65 - 150
1,3,5-Trimethylbenzene	ND		10.0	10.2		ug/L		102	80 - 122

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

Lab Sample ID: 580-128445-5 MSD
Matrix: Water
Analysis Batch: 429336

Client Sample ID: PA-18d-061623
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		10.0	12.1		ug/L		121	20 - 150	0	33
Chloromethane	ND		10.0	11.8		ug/L		118	25 - 150	4	26
Vinyl chloride	0.34	J	10.0	13.1		ug/L		127	31 - 150	3	26
Bromomethane	ND		10.0	12.2		ug/L		122	36 - 150	0	33
Chloroethane	ND		10.0	12.3		ug/L		123	38 - 150	0	28
Trichlorofluoromethane	ND		10.0	11.7		ug/L		117	45 - 148	2	35
Carbon disulfide	ND		10.0	11.5		ug/L		115	63 - 134	3	24
1,1-Dichloroethene	ND		10.0	11.6		ug/L		116	70 - 129	1	23
Acetone	ND		50.0	53.9		ug/L		108	44 - 150	4	33
Methylene Chloride	ND		10.0	10.6		ug/L		106	77 - 125	2	18
Methyl tert-butyl ether	ND		10.0	11.1		ug/L		111	72 - 120	5	18
trans-1,2-Dichloroethene	ND		10.0	11.1		ug/L		111	75 - 120	2	21
1,1-Dichloroethane	ND		10.0	10.6		ug/L		106	80 - 120	0	15
2-Butanone (MEK)	ND		50.0	55.9		ug/L		112	65 - 137	7	34
2,2-Dichloropropane	ND		10.0	7.91		ug/L		79	66 - 126	5	22
cis-1,2-Dichloroethene	ND		10.0	10.9		ug/L		109	76 - 120	1	20
Bromochloromethane	ND		10.0	10.4		ug/L		104	78 - 120	1	13
Chloroform	ND		10.0	10.4		ug/L		104	78 - 127	0	14
1,1,1-Trichloroethane	ND		10.0	11.1		ug/L		111	74 - 130	2	19
Carbon tetrachloride	ND		10.0	11.2		ug/L		112	72 - 129	2	19
1,1-Dichloropropene	ND		10.0	11.4		ug/L		114	74 - 120	2	14
Benzene	ND		10.0	10.9		ug/L		109	80 - 122	1	14
1,2-Dichloroethane	ND		10.0	10.4		ug/L		104	69 - 126	4	11
Trichloroethene	ND		10.0	11.2		ug/L		112	80 - 125	0	13
1,2-Dichloropropane	ND		10.0	10.6		ug/L		106	80 - 120	4	14
4-Methyl-2-pentanone (MIBK)	ND		50.0	54.6		ug/L		109	59 - 141	7	22
Dibromomethane	ND		10.0	10.5		ug/L		105	80 - 120	2	11
Bromodichloromethane	ND		10.0	10.0		ug/L		100	75 - 124	1	13
cis-1,3-Dichloropropene	ND		10.0	9.11		ug/L		91	77 - 120	0	35
Toluene	ND		10.0	10.8		ug/L		108	80 - 120	1	13
trans-1,3-Dichloropropene	ND		10.0	9.31		ug/L		93	76 - 122	2	20
1,1,2-Trichloroethane	ND		10.0	10.5		ug/L		105	80 - 121	2	14
Tetrachloroethene	ND		10.0	10.9		ug/L		109	76 - 125	3	13

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

Lab Sample ID: 580-128445-5 MSD
Matrix: Water
Analysis Batch: 429336

Client Sample ID: PA-18d-061623
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichloropropane	ND		10.0	10.6		ug/L		106	79 - 120	4	19
Dibromochloromethane	ND		10.0	9.85		ug/L		99	73 - 125	0	13
1,2-Dibromoethane	ND		10.0	10.2		ug/L		102	79 - 126	0	12
Chlorobenzene	ND		10.0	10.9		ug/L		109	80 - 120	1	10
1,1,1,2-Tetrachloroethane	ND		10.0	10.0		ug/L		100	79 - 120	0	16
Ethylbenzene	ND		10.0	11.1		ug/L		111	80 - 120	2	14
m-Xylene & p-Xylene	ND		10.0	10.9		ug/L		109	80 - 120	1	14
o-Xylene	ND		10.0	10.9		ug/L		109	80 - 120	2	16
Styrene	ND		10.0	9.86		ug/L		99	76 - 122	2	16
Bromoform	ND		10.0	9.31		ug/L		93	56 - 139	2	21
Isopropylbenzene	ND		10.0	10.9		ug/L		109	80 - 123	1	19
Bromobenzene	ND		10.0	10.2		ug/L		102	80 - 120	0	24
1,1,2,2-Tetrachloroethane	ND		10.0	9.74		ug/L		97	74 - 124	2	25
1,2,3-Trichloropropane	ND		10.0	10.4		ug/L		104	76 - 124	4	26
N-Propylbenzene	ND		10.0	10.5		ug/L		105	80 - 122	0	22
2-Chlorotoluene	ND		10.0	10.3		ug/L		103	80 - 120	1	20
4-Chlorotoluene	ND		10.0	9.95		ug/L		100	73 - 129	0	29
t-Butylbenzene	ND		10.0	10.3		ug/L		103	75 - 123	1	21
1,2,4-Trimethylbenzene	ND		10.0	10.4		ug/L		104	80 - 120	0	16
sec-Butylbenzene	ND		10.0	10.3		ug/L		103	78 - 122	1	15
4-Isopropyltoluene	ND		10.0	10.2		ug/L		102	77 - 126	1	20
1,3-Dichlorobenzene	ND		10.0	10.2		ug/L		102	77 - 127	1	35
1,4-Dichlorobenzene	ND		10.0	9.88		ug/L		99	80 - 120	1	17
n-Butylbenzene	ND		10.0	9.35		ug/L		94	57 - 133	1	14
1,2-Dichlorobenzene	ND		10.0	9.84		ug/L		98	80 - 120	1	15
1,2-Dibromo-3-Chloropropane	ND		10.0	9.98		ug/L		100	65 - 133	2	25
1,2,4-Trichlorobenzene	ND		10.0	8.68		ug/L		87	61 - 148	2	27
Hexachlorobutadiene	ND		10.0	7.91		ug/L		79	74 - 131	0	22
Naphthalene	ND		10.0	9.12		ug/L		91	63 - 150	6	33
1,2,3-Trichlorobenzene	ND		10.0	8.61		ug/L		86	65 - 150	4	33
1,3,5-Trimethylbenzene	ND		10.0	10.3		ug/L		103	80 - 122	1	21

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*

Lab Sample ID: MB 580-429416/6
Matrix: Water
Analysis Batch: 429416

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.44	ug/L			06/20/23 17:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/20/23 17:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*06/20/23 17:15*	*1*

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

Lab Sample ID: MB 580-429416/6
Matrix: Water
Analysis Batch: 429416

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		80 - 120		06/20/23 17:15	1
Dibromofluoromethane (Surr)	106		80 - 120		06/20/23 17:15	1

Lab Sample ID: LCS 580-429416/7
Matrix: Water
Analysis Batch: 429416

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorobenzene			10.0	9.91		ug/L		99	80 - 120		

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

Lab Sample ID: LCSD 580-429416/8
Matrix: Water
Analysis Batch: 429416

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
Chlorobenzene			10.0	10.1		ug/L		101	80 - 120	2	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 120
1,2-Dichloroethane-d4 (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	96		80 - 120

Lab Sample ID: MB 580-429779/7
Matrix: Water
Analysis Batch: 429779

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			06/23/23 15:01	1
Chloromethane	ND		0.50	0.14	ug/L			06/23/23 15:01	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/23/23 15:01	1
Bromomethane	ND		0.50	0.13	ug/L			06/23/23 15:01	1
Chloroethane	ND		0.50	0.096	ug/L			06/23/23 15:01	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/23/23 15:01	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/23/23 15:01	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/23/23 15:01	1
Acetone	ND		10	3.1	ug/L			06/23/23 15:01	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/23/23 15:01	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/23/23 15:01	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/23/23 15:01	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/23/23 15:01	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/23/23 15:01	1

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

Lab Sample ID: MB 580-429779/7
Matrix: Water
Analysis Batch: 429779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/23/23 15:01	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/23/23 15:01	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/23/23 15:01	1
Chloroform	ND		0.20	0.030	ug/L			06/23/23 15:01	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/23/23 15:01	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/23/23 15:01	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/23/23 15:01	1
Benzene	ND		0.20	0.030	ug/L			06/23/23 15:01	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/23/23 15:01	1
Trichloroethene	ND		0.20	0.066	ug/L			06/23/23 15:01	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/23/23 15:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/23/23 15:01	1
Dibromomethane	ND		0.20	0.062	ug/L			06/23/23 15:01	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/23/23 15:01	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/23/23 15:01	1
Toluene	ND		0.20	0.050	ug/L			06/23/23 15:01	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/23/23 15:01	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/23/23 15:01	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/23/23 15:01	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/23/23 15:01	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/23/23 15:01	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/23/23 15:01	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/23/23 15:01	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/23/23 15:01	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/23/23 15:01	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/23/23 15:01	1
o-Xylene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
Styrene	ND		1.0	0.19	ug/L			06/23/23 15:01	1
Bromoform	ND		0.50	0.16	ug/L			06/23/23 15:01	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/23/23 15:01	1
Bromobenzene	ND		0.20	0.038	ug/L			06/23/23 15:01	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/23/23 15:01	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/23/23 15:01	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/23/23 15:01	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/23/23 15:01	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/23/23 15:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/23/23 15:01	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/23/23 15:01	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/23/23 15:01	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/23/23 15:01	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 15:01	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/23/23 15:01	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/23/23 15:01	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/23/23 15:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/23/23 15:01	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/23/23 15:01	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/23/23 15:01	1
Naphthalene	ND		1.0	0.22	ug/L			06/23/23 15:01	1

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

Lab Sample ID: MB 580-429779/7
Matrix: Water
Analysis Batch: 429779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/23/23 15:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/23/23 15:01*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/23/23 15:01*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/23/23 15:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/23/23 15:01*	*1*

Lab Sample ID: LCS 580-429779/4
Matrix: Water
Analysis Batch: 429779

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	4.70		ug/L		94	20 - 150
Chloromethane	5.00	4.57		ug/L		91	32 - 150
Vinyl chloride	5.00	4.55		ug/L		91	41 - 150
Bromomethane	5.00	4.65		ug/L		93	51 - 148
Chloroethane	5.00	4.64		ug/L		93	54 - 140
Carbon disulfide	5.00	4.57		ug/L		91	54 - 142
Trichlorofluoromethane	5.00	4.45		ug/L		89	60 - 132
1,1-Dichloroethene	5.00	5.08		ug/L		102	60 - 129
Acetone	25.0	27.2		ug/L		109	49 - 150
Methylene Chloride	5.00	4.65	J	ug/L		93	40 - 142
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131
2-Butanone (MEK)	25.0	25.1		ug/L		101	37 - 150
trans-1,2-Dichloroethene	5.00	4.96		ug/L		99	69 - 121
1,1-Dichloroethane	5.00	4.85		ug/L		97	74 - 120
2,2-Dichloropropane	5.00	4.96		ug/L		99	55 - 140
cis-1,2-Dichloroethene	5.00	4.98		ug/L		100	72 - 120
Chlorobromomethane	5.00	5.18		ug/L		104	79 - 121
Chloroform	5.00	4.83		ug/L		97	75 - 120
1,1,1-Trichloroethane	5.00	4.84		ug/L		97	70 - 121
Carbon tetrachloride	5.00	4.76		ug/L		95	66 - 130
1,1-Dichloropropene	5.00	4.90		ug/L		98	72 - 125
Benzene	5.00	4.81		ug/L		96	80 - 120
1,2-Dichloroethane	5.00	4.56		ug/L		91	74 - 127
Trichloroethene	5.00	4.87		ug/L		97	72 - 120
1,2-Dichloropropane	5.00	4.80		ug/L		96	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.9		ug/L		100	63 - 137
Dibromomethane	5.00	5.17		ug/L		103	65 - 141
Dichlorobromomethane	5.00	4.79		ug/L		96	74 - 131
cis-1,3-Dichloropropene	5.00	4.93		ug/L		99	77 - 131
Toluene	5.00	4.89		ug/L		98	80 - 126
trans-1,3-Dichloropropene	5.00	4.88		ug/L		98	71 - 138
1,1,2-Trichloroethane	5.00	4.75		ug/L		95	73 - 127
Tetrachloroethene	5.00	5.07		ug/L		101	75 - 124
1,3-Dichloropropane	5.00	4.84		ug/L		97	69 - 138
Chlorodibromomethane	5.00	4.93		ug/L		99	62 - 141

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

Lab Sample ID: LCS 580-429779/4
Matrix: Water
Analysis Batch: 429779

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylene Dibromide	5.00	4.96		ug/L		99	61 - 143
Chlorobenzene	5.00	4.97		ug/L		99	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.82		ug/L		96	69 - 127
Ethylbenzene	5.00	5.07		ug/L		101	80 - 124
m-Xylene & p-Xylene	5.00	5.11		ug/L		102	75 - 124
o-Xylene	5.00	5.28		ug/L		106	71 - 124
Styrene	5.00	4.94		ug/L		99	74 - 127
Bromoform	5.00	4.68		ug/L		94	48 - 127
Isopropylbenzene	5.00	5.08		ug/L		102	71 - 123
Bromobenzene	5.00	4.90		ug/L		98	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.52		ug/L		90	67 - 136
1,2,3-Trichloropropane	5.00	5.36		ug/L		107	67 - 135
N-Propylbenzene	5.00	4.97		ug/L		99	72 - 126
2-Chlorotoluene	5.00	5.34		ug/L		107	73 - 120
4-Chlorotoluene	5.00	5.37		ug/L		107	75 - 124
1,3,5-Trimethylbenzene	5.00	5.28		ug/L		106	75 - 123
tert-Butylbenzene	5.00	5.09		ug/L		102	70 - 129
1,2,4-Trimethylbenzene	5.00	5.41		ug/L		108	71 - 127
sec-Butylbenzene	5.00	5.13		ug/L		103	75 - 126
4-Isopropyltoluene	5.00	5.18		ug/L		104	78 - 125
1,3-Dichlorobenzene	5.00	5.21		ug/L		104	72 - 125
1,4-Dichlorobenzene	5.00	5.02		ug/L		100	71 - 129
n-Butylbenzene	5.00	4.93		ug/L		99	69 - 127
1,2-Dichlorobenzene	5.00	5.08		ug/L		102	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.04		ug/L		101	55 - 135
1,2,4-Trichlorobenzene	5.00	5.30		ug/L		106	60 - 130
Hexachlorobutadiene	5.00	5.06		ug/L		101	63 - 130
Naphthalene	5.00	5.47		ug/L		109	54 - 137
1,2,3-Trichlorobenzene	5.00	5.41		ug/L		108	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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	4.18		ug/L		84	32 - 150	9	33
Vinyl chloride	5.00	4.23		ug/L		85	41 - 150	7	32
Bromomethane	5.00	4.27		ug/L		85	51 - 148	8	35
Chloroethane	5.00	4.31		ug/L		86	54 - 140	7	33
Carbon disulfide	5.00	4.16		ug/L		83	54 - 142	9	34
Trichlorofluoromethane	5.00	4.13		ug/L		83	60 - 132	7	32

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

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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-Dichloroethene	5.00	4.69		ug/L		94	60 - 129	8	29
Acetone	25.0	25.5		ug/L		102	49 - 150	6	24
Methylene Chloride	5.00	4.35	J	ug/L		87	40 - 142	7	25
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131	0	27
2-Butanone (MEK)	25.0	24.8		ug/L		99	37 - 150	2	35
trans-1,2-Dichloroethene	5.00	4.70		ug/L		94	69 - 121	5	27
1,1-Dichloroethane	5.00	4.60		ug/L		92	74 - 120	5	26
2,2-Dichloropropane	5.00	4.51		ug/L		90	55 - 140	10	31
cis-1,2-Dichloroethene	5.00	4.73		ug/L		95	72 - 120	5	22
Chlorobromomethane	5.00	5.04		ug/L		101	79 - 121	3	20
Chloroform	5.00	4.57		ug/L		91	75 - 120	6	21
1,1,1-Trichloroethane	5.00	4.62		ug/L		92	70 - 121	5	24
Carbon tetrachloride	5.00	4.41		ug/L		88	66 - 130	8	24
1,1-Dichloropropene	5.00	4.73		ug/L		95	72 - 125	4	23
Benzene	5.00	4.69		ug/L		94	80 - 120	2	22
1,2-Dichloroethane	5.00	4.57		ug/L		91	74 - 127	0	21
Trichloroethene	5.00	4.69		ug/L		94	72 - 120	4	22
1,2-Dichloropropane	5.00	4.66		ug/L		93	69 - 130	3	22
4-Methyl-2-pentanone (MIBK)	25.0	24.9		ug/L		100	63 - 137	0	26
Dibromomethane	5.00	5.07		ug/L		101	65 - 141	2	22
Dichlorobromomethane	5.00	4.57		ug/L		91	74 - 131	5	21
cis-1,3-Dichloropropene	5.00	4.84		ug/L		97	77 - 131	2	24
Toluene	5.00	4.69		ug/L		94	80 - 126	4	20
trans-1,3-Dichloropropene	5.00	4.87		ug/L		97	71 - 138	0	26
1,1,2-Trichloroethane	5.00	4.70		ug/L		94	73 - 127	1	22
Tetrachloroethene	5.00	4.71		ug/L		94	75 - 124	7	20
1,3-Dichloropropane	5.00	4.69		ug/L		94	69 - 138	3	19
Chlorodibromomethane	5.00	4.69		ug/L		94	62 - 141	5	22
Ethylene Dibromide	5.00	4.88		ug/L		98	61 - 143	1	22
Chlorobenzene	5.00	4.77		ug/L		95	74 - 123	4	21
1,1,1,2-Tetrachloroethane	5.00	4.70		ug/L		94	69 - 127	3	22
Ethylbenzene	5.00	4.88		ug/L		98	80 - 124	4	22
m-Xylene & p-Xylene	5.00	4.92		ug/L		98	75 - 124	4	22
o-Xylene	5.00	5.12		ug/L		102	71 - 124	3	23
Styrene	5.00	4.75		ug/L		95	74 - 127	4	22
Bromoform	5.00	4.69		ug/L		94	48 - 127	0	23
Isopropylbenzene	5.00	4.96		ug/L		99	71 - 123	3	23
Bromobenzene	5.00	4.63		ug/L		93	74 - 130	6	23
1,1,2,2-Tetrachloroethane	5.00	4.28		ug/L		86	67 - 136	5	24
1,2,3-Trichloropropane	5.00	5.03		ug/L		101	67 - 135	6	25
N-Propylbenzene	5.00	4.61		ug/L		92	72 - 126	8	20
2-Chlorotoluene	5.00	4.93		ug/L		99	73 - 120	8	22
4-Chlorotoluene	5.00	5.01		ug/L		100	75 - 124	7	23
1,3,5-Trimethylbenzene	5.00	4.87		ug/L		97	75 - 123	8	23
tert-Butylbenzene	5.00	4.69		ug/L		94	70 - 129	8	24
1,2,4-Trimethylbenzene	5.00	5.02		ug/L		100	71 - 127	8	23
sec-Butylbenzene	5.00	4.85		ug/L		97	75 - 126	6	23
4-Isopropyltoluene	5.00	4.92		ug/L		98	78 - 125	5	24
1,3-Dichlorobenzene	5.00	4.91		ug/L		98	72 - 125	6	22

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

Lab Sample ID: LCSD 580-429779/5
Matrix: Water
Analysis Batch: 429779

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dichlorobenzene			5.00	4.80		ug/L		96	71 - 129	5	22
n-Butylbenzene			5.00	4.70		ug/L		94	69 - 127	5	24
1,2-Dichlorobenzene			5.00	4.89		ug/L		98	72 - 129	4	22
1,2-Dibromo-3-Chloropropane			5.00	5.17		ug/L		103	55 - 135	3	29
1,2,4-Trichlorobenzene			5.00	5.24		ug/L		105	60 - 130	1	26
Hexachlorobutadiene			5.00	5.10		ug/L		102	63 - 130	1	26
Naphthalene			5.00	5.47		ug/L		109	54 - 137	0	28
1,2,3-Trichlorobenzene			5.00	5.45		ug/L		109	60 - 136	1	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*

Lab Sample ID: MB 580-429791/7
Matrix: Water
Analysis Batch: 429791

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			06/24/23 02:59	1
Chloromethane	ND		0.50	0.14	ug/L			06/24/23 02:59	1
Vinyl chloride	ND		0.10	0.040	ug/L			06/24/23 02:59	1
Bromomethane	ND		0.50	0.13	ug/L			06/24/23 02:59	1
Chloroethane	ND		0.50	0.096	ug/L			06/24/23 02:59	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/24/23 02:59	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			06/24/23 02:59	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/24/23 02:59	1
Acetone	ND		10	3.1	ug/L			06/24/23 02:59	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/24/23 02:59	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/24/23 02:59	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/24/23 02:59	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/24/23 02:59	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/24/23 02:59	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/24/23 02:59	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/24/23 02:59	1
Chlorobromomethane	ND		0.20	0.050	ug/L			06/24/23 02:59	1
Chloroform	ND		0.20	0.030	ug/L			06/24/23 02:59	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/24/23 02:59	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/24/23 02:59	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			06/24/23 02:59	1
Benzene	ND		0.20	0.030	ug/L			06/24/23 02:59	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/24/23 02:59	1
Trichloroethene	ND		0.20	0.066	ug/L			06/24/23 02:59	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/24/23 02:59	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/24/23 02:59	1
Dibromomethane	ND		0.20	0.062	ug/L			06/24/23 02:59	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/24/23 02:59	1

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

Lab Sample ID: MB 580-429791/7
Matrix: Water
Analysis Batch: 429791

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/24/23 02:59	1
Toluene	ND		0.20	0.050	ug/L			06/24/23 02:59	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/24/23 02:59	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/24/23 02:59	1
Tetrachloroethene	ND		0.24	0.084	ug/L			06/24/23 02:59	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/24/23 02:59	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/24/23 02:59	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/24/23 02:59	1
Chlorobenzene	ND		0.20	0.060	ug/L			06/24/23 02:59	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			06/24/23 02:59	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/24/23 02:59	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/24/23 02:59	1
o-Xylene	ND		0.50	0.15	ug/L			06/24/23 02:59	1
Styrene	ND		1.0	0.19	ug/L			06/24/23 02:59	1
Bromoform	ND		0.50	0.16	ug/L			06/24/23 02:59	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/24/23 02:59	1
Bromobenzene	ND		0.20	0.038	ug/L			06/24/23 02:59	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/24/23 02:59	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/24/23 02:59	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/24/23 02:59	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/24/23 02:59	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			06/24/23 02:59	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/24/23 02:59	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/24/23 02:59	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			06/24/23 02:59	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/24/23 02:59	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/24/23 02:59	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 02:59	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/24/23 02:59	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/24/23 02:59	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			06/24/23 02:59	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			06/24/23 02:59	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/24/23 02:59	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/24/23 02:59	1
Naphthalene	ND		1.0	0.22	ug/L			06/24/23 02:59	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/24/23 02:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/24/23 02:59*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*06/24/23 02:59*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/24/23 02:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*06/24/23 02:59*	*1*

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

Lab Sample ID: LCS 580-429791/4
Matrix: Water
Analysis Batch: 429791

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	4.54		ug/L		91	20 - 150
Chloromethane	5.00	4.42		ug/L		88	32 - 150
Vinyl chloride	5.00	4.33		ug/L		87	41 - 150
Bromomethane	5.00	4.33		ug/L		87	51 - 148
Chloroethane	5.00	4.28		ug/L		86	54 - 140
Carbon disulfide	5.00	4.24		ug/L		85	54 - 142
Trichlorofluoromethane	5.00	4.27		ug/L		85	60 - 132
1,1-Dichloroethene	5.00	4.82		ug/L		96	60 - 129
Acetone	25.0	23.2		ug/L		93	49 - 150
Methylene Chloride	5.00	4.36	J	ug/L		87	40 - 142
Methyl tert-butyl ether	5.00	4.55		ug/L		91	61 - 131
2-Butanone (MEK)	25.0	24.8		ug/L		99	37 - 150
trans-1,2-Dichloroethene	5.00	4.78		ug/L		96	69 - 121
1,1-Dichloroethane	5.00	4.66		ug/L		93	74 - 120
2,2-Dichloropropane	5.00	4.48		ug/L		90	55 - 140
cis-1,2-Dichloroethene	5.00	4.65		ug/L		93	72 - 120
Chlorobromomethane	5.00	4.92		ug/L		98	79 - 121
Chloroform	5.00	4.63		ug/L		93	75 - 120
1,1,1-Trichloroethane	5.00	4.66		ug/L		93	70 - 121
Carbon tetrachloride	5.00	4.51		ug/L		90	66 - 130
1,1-Dichloropropene	5.00	4.97		ug/L		99	72 - 125
Benzene	5.00	4.90		ug/L		98	80 - 120
1,2-Dichloroethane	5.00	4.63		ug/L		93	74 - 127
Trichloroethene	5.00	5.03		ug/L		101	72 - 120
1,2-Dichloropropane	5.00	4.91		ug/L		98	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.2		ug/L		97	63 - 137
Dibromomethane	5.00	5.12		ug/L		102	65 - 141
Dichlorobromomethane	5.00	4.74		ug/L		95	74 - 131
cis-1,3-Dichloropropene	5.00	4.82		ug/L		96	77 - 131
Toluene	5.00	4.95		ug/L		99	80 - 126
trans-1,3-Dichloropropene	5.00	4.78		ug/L		96	71 - 138
1,1,2-Trichloroethane	5.00	4.74		ug/L		95	73 - 127
Tetrachloroethene	5.00	4.88		ug/L		98	75 - 124
1,3-Dichloropropane	5.00	4.87		ug/L		97	69 - 138
Chlorodibromomethane	5.00	4.58		ug/L		92	62 - 141
Ethylene Dibromide	5.00	4.75		ug/L		95	61 - 143
Chlorobenzene	5.00	4.92		ug/L		98	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.49		ug/L		90	69 - 127
Ethylbenzene	5.00	5.08		ug/L		102	80 - 124
m-Xylene & p-Xylene	5.00	5.10		ug/L		102	75 - 124
o-Xylene	5.00	5.12		ug/L		102	71 - 124
Styrene	5.00	4.87		ug/L		97	74 - 127
Bromoform	5.00	4.16		ug/L		83	48 - 127
Isopropylbenzene	5.00	5.04		ug/L		101	71 - 123
Bromobenzene	5.00	4.97		ug/L		99	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.21		ug/L		84	67 - 136
1,2,3-Trichloropropane	5.00	5.23		ug/L		105	67 - 135
N-Propylbenzene	5.00	5.06		ug/L		101	72 - 126

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

Lab Sample ID: LCS 580-429791/4
Matrix: Water
Analysis Batch: 429791

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	5.34		ug/L		107	73 - 120		
4-Chlorotoluene			5.00	5.37		ug/L		107	75 - 124		
1,3,5-Trimethylbenzene			5.00	5.32		ug/L		106	75 - 123		
tert-Butylbenzene			5.00	5.26		ug/L		105	70 - 129		
1,2,4-Trimethylbenzene			5.00	5.37		ug/L		107	71 - 127		
sec-Butylbenzene			5.00	5.30		ug/L		106	75 - 126		
4-Isopropyltoluene			5.00	5.21		ug/L		104	78 - 125		
1,3-Dichlorobenzene			5.00	5.08		ug/L		102	72 - 125		
1,4-Dichlorobenzene			5.00	4.92		ug/L		98	71 - 129		
n-Butylbenzene			5.00	4.87		ug/L		97	69 - 127		
1,2-Dichlorobenzene			5.00	4.91		ug/L		98	72 - 129		
1,2-Dibromo-3-Chloropropane			5.00	4.35		ug/L		87	55 - 135		
1,2,4-Trichlorobenzene			5.00	4.86		ug/L		97	60 - 130		
Hexachlorobutadiene			5.00	4.59		ug/L		92	63 - 130		
Naphthalene			5.00	4.92		ug/L		98	54 - 137		
1,2,3-Trichlorobenzene			5.00	5.06		ug/L		101	60 - 136		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*

Lab Sample ID: LCSD 580-429791/5
Matrix: Water
Analysis Batch: 429791

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	7	30
Chloromethane			5.00	4.20		ug/L		84	32 - 150	5	33
Vinyl chloride			5.00	4.08		ug/L		82	41 - 150	6	32
Bromomethane			5.00	4.03		ug/L		81	51 - 148	7	35
Chloroethane			5.00	4.14		ug/L		83	54 - 140	3	33
Carbon disulfide			5.00	3.99		ug/L		80	54 - 142	6	34
Trichlorofluoromethane			5.00	3.95		ug/L		79	60 - 132	8	32
1,1-Dichloroethene			5.00	4.56		ug/L		91	60 - 129	5	29
Acetone			25.0	28.3		ug/L		113	49 - 150	20	24
Methylene Chloride			5.00	4.18	J	ug/L		84	40 - 142	4	25
Methyl tert-butyl ether			5.00	4.67		ug/L		93	61 - 131	2	27
2-Butanone (MEK)			25.0	26.5		ug/L		106	37 - 150	7	35
trans-1,2-Dichloroethene			5.00	4.59		ug/L		92	69 - 121	4	27
1,1-Dichloroethane			5.00	4.51		ug/L		90	74 - 120	3	26
2,2-Dichloropropane			5.00	4.06		ug/L		81	55 - 140	10	31
cis-1,2-Dichloroethene			5.00	4.61		ug/L		92	72 - 120	1	22
Chlorobromomethane			5.00	4.84		ug/L		97	79 - 121	2	20
Chloroform			5.00	4.52		ug/L		90	75 - 120	2	21
1,1,1-Trichloroethane			5.00	4.47		ug/L		89	70 - 121	4	24
Carbon tetrachloride			5.00	4.33		ug/L		87	66 - 130	4	24

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

Lab Sample ID: LCSD 580-429791/5
Matrix: Water
Analysis Batch: 429791

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloropropene			5.00	4.82		ug/L		96	72 - 125	3	23
Benzene			5.00	4.81		ug/L		96	80 - 120	2	22
1,2-Dichloroethane			5.00	4.59		ug/L		92	74 - 127	1	21
Trichloroethene			5.00	4.99		ug/L		100	72 - 120	1	22
1,2-Dichloropropane			5.00	4.73		ug/L		95	69 - 130	4	22
4-Methyl-2-pentanone (MIBK)			25.0	24.7		ug/L		99	63 - 137	2	26
Dibromomethane			5.00	5.22		ug/L		104	65 - 141	2	22
Dichlorobromomethane			5.00	4.66		ug/L		93	74 - 131	2	21
cis-1,3-Dichloropropene			5.00	4.76		ug/L		95	77 - 131	1	24
Toluene			5.00	4.85		ug/L		97	80 - 126	2	20
trans-1,3-Dichloropropene			5.00	4.68		ug/L		94	71 - 138	2	26
1,1,2-Trichloroethane			5.00	4.73		ug/L		95	73 - 127	0	22
Tetrachloroethene			5.00	4.84		ug/L		97	75 - 124	1	20
1,3-Dichloropropane			5.00	4.80		ug/L		96	69 - 138	2	19
Chlorodibromomethane			5.00	4.44		ug/L		89	62 - 141	3	22
Ethylene Dibromide			5.00	4.85		ug/L		97	61 - 143	2	22
Chlorobenzene			5.00	4.85		ug/L		97	74 - 123	1	21
1,1,1,2-Tetrachloroethane			5.00	4.51		ug/L		90	69 - 127	0	22
Ethylbenzene			5.00	5.00		ug/L		100	80 - 124	2	22
m-Xylene & p-Xylene			5.00	4.97		ug/L		99	75 - 124	3	22
o-Xylene			5.00	5.06		ug/L		101	71 - 124	1	23
Styrene			5.00	4.78		ug/L		96	74 - 127	2	22
Bromoform			5.00	4.19		ug/L		84	48 - 127	1	23
Isopropylbenzene			5.00	4.91		ug/L		98	71 - 123	3	23
Bromobenzene			5.00	4.79		ug/L		96	74 - 130	4	23
1,1,2,2-Tetrachloroethane			5.00	4.22		ug/L		84	67 - 136	0	24
1,2,3-Trichloropropane			5.00	5.04		ug/L		101	67 - 135	4	25
N-Propylbenzene			5.00	4.84		ug/L		97	72 - 126	4	20
2-Chlorotoluene			5.00	5.05		ug/L		101	73 - 120	6	22
4-Chlorotoluene			5.00	5.27		ug/L		105	75 - 124	2	23
1,3,5-Trimethylbenzene			5.00	5.13		ug/L		103	75 - 123	4	23
tert-Butylbenzene			5.00	5.06		ug/L		101	70 - 129	4	24
1,2,4-Trimethylbenzene			5.00	5.20		ug/L		104	71 - 127	3	23
sec-Butylbenzene			5.00	5.05		ug/L		101	75 - 126	5	23
4-Isopropyltoluene			5.00	5.08		ug/L		102	78 - 125	2	24
1,3-Dichlorobenzene			5.00	4.98		ug/L		100	72 - 125	2	22
1,4-Dichlorobenzene			5.00	4.83		ug/L		97	71 - 129	2	22
n-Butylbenzene			5.00	4.72		ug/L		94	69 - 127	3	24
1,2-Dichlorobenzene			5.00	4.86		ug/L		97	72 - 129	1	22
1,2-Dibromo-3-Chloropropane			5.00	4.65		ug/L		93	55 - 135	7	29
1,2,4-Trichlorobenzene			5.00	4.92		ug/L		98	60 - 130	1	26
Hexachlorobutadiene			5.00	4.73		ug/L		95	63 - 130	3	26
Naphthalene			5.00	5.01		ug/L		100	54 - 137	2	28
1,2,3-Trichlorobenzene			5.00	4.92		ug/L		98	60 - 136	3	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*

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

Lab Sample ID: LCSD 580-429791/5
Matrix: Water
Analysis Batch: 429791

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

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-688161/5
Matrix: Water
Analysis Batch: 688161

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			07/05/23 12:08	1

Lab Sample ID: LCS 320-688161/6
Matrix: Water
Analysis Batch: 688161

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	50.6		ug/L		101	85 - 115

Lab Sample ID: MRL 320-688161/4
Matrix: Water
Analysis Batch: 688161

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	3.93	J	ug/L		99	75 - 125

Lab Sample ID: 580-128445-5 MS
Matrix: Water
Analysis Batch: 688161

Client Sample ID: PA-18d-061623
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	ND		998	1020		ug/L		102	80 - 120

Lab Sample ID: 580-128445-5 MSD
Matrix: Water
Analysis Batch: 688161

Client Sample ID: PA-18d-061623
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		998	1030		ug/L		103	80 - 120	1	20

Lab Sample ID: MB 320-689241/12
Matrix: Water
Analysis Batch: 689241

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			07/07/23 13:51	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 320-689241/13
Matrix: Water
Analysis Batch: 689241

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	50.3		ug/L		101	85 - 115

Lab Sample ID: MRL 320-689241/11
Matrix: Water
Analysis Batch: 689241

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	3.84	J	ug/L		96	75 - 125

Lab Sample ID: MB 320-689312/5
Matrix: Water
Analysis Batch: 689312

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			07/10/23 15:08	1

Lab Sample ID: LCS 320-689312/6
Matrix: Water
Analysis Batch: 689312

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	55.5		ug/L		111	85 - 115

Lab Sample ID: MRL 320-689312/4
Matrix: Water
Analysis Batch: 689312

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	4.01		ug/L		100	75 - 125

Lab Sample ID: MB 320-689566/5
Matrix: Water
Analysis Batch: 689566

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			07/11/23 13:42	1

Lab Sample ID: LCS 320-689566/6
Matrix: Water
Analysis Batch: 689566

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	57.4		ug/L		115	85 - 115

Lab Sample ID: MRL 320-689566/4
Matrix: Water
Analysis Batch: 689566

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	4.18		ug/L		105	75 - 125

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-429936/3
Matrix: Water
Analysis Batch: 429936

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			06/24/23 08:57	1

Lab Sample ID: LCS 580-429936/4
Matrix: Water
Analysis Batch: 429936

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	52.1		mg/L		104	90 - 110		

Lab Sample ID: 580-128445-5 MS
Matrix: Water
Analysis Batch: 429936

Client Sample ID: PA-18d-061623
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	27	F1	50.0	62.5	F1	mg/L		71	90 - 110		

Lab Sample ID: 580-128445-5 MSD
Matrix: Water
Analysis Batch: 429936

Client Sample ID: PA-18d-061623
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	27	F1	50.0	62.6	F1	mg/L		71	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: TB-061623
Lab Sample ID: 580-128445-1
Date Collected: 06/16/23 00:01
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 16:37

Client Sample ID: PA-21d-061623
Lab Sample ID: 580-128445-2
Date Collected: 06/16/23 07:08
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		500	429336	JBT	EET SEA	06/20/23 12:43
Total/NA	Analysis	314.0		50	688161	AP1	EET SAC	07/05/23 19:00
Total/NA	Analysis	300.0		10	429936	CA	EET SEA	06/24/23 09:44

Client Sample ID: PA-19d-061623
Lab Sample ID: 580-128445-3
Date Collected: 06/16/23 08:03
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	429336	JBT	EET SEA	06/20/23 11:55
Total/NA	Analysis	8260D	DL	100	429416	JBT	EET SEA	06/20/23 21:15
Total/NA	Analysis	314.0		20	688161	AP1	EET SAC	07/05/23 19:18
Total/NA	Analysis	300.0		10	429936	CA	EET SEA	06/24/23 10:07

Client Sample ID: PA-30d-061623
Lab Sample ID: 580-128445-4
Date Collected: 06/16/23 08:58
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	429336	JBT	EET SEA	06/20/23 12:19
Total/NA	Analysis	8260D	DL	500	429416	JBT	EET SEA	06/20/23 21:39
Total/NA	Analysis	314.0		20	688161	AP1	EET SAC	07/05/23 19:36
Total/NA	Analysis	300.0		10	429936	CA	EET SEA	06/24/23 10:31

Client Sample ID: PA-18d-061623
Lab Sample ID: 580-128445-5
Date Collected: 06/16/23 09:52
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429336	JBT	EET SEA	06/20/23 10:43
Total/NA	Analysis	314.0		20	688161	AP1	EET SAC	07/05/23 19:54
Total/NA	Analysis	300.0		1	429936	CA	EET SEA	06/24/23 10:42

Lab Chronicle

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Client Sample ID: RB-02-061623
Lab Sample ID: 580-128445-6
Date Collected: 06/16/23 06:00
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429779	JSM	EET SEA	06/23/23 17:24
Total/NA	Analysis	314.0		1	689241	AP1	EET SAC	07/07/23 15:03
Total/NA	Analysis	300.0		1	429936	CA	EET SEA	06/24/23 11:41

Client Sample ID: PA-31-061623
Lab Sample ID: 580-128445-7
Date Collected: 06/16/23 07:30
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429791	ITR	EET SEA	06/24/23 04:11
Total/NA	Analysis	314.0		20	689241	AP1	EET SAC	07/07/23 14:45
Total/NA	Analysis	300.0		1	429936	CA	EET SEA	06/24/23 11:53

Client Sample ID: PA-32i-061623
Lab Sample ID: 580-128445-8
Date Collected: 06/16/23 08:40
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429791	ITR	EET SEA	06/24/23 04:35
Total/NA	Analysis	314.0		20	689241	AP1	EET SAC	07/07/23 14:27
Total/NA	Analysis	300.0		1	429936	CA	EET SEA	06/24/23 12:05

Client Sample ID: MWA-11i(d)-061623
Lab Sample ID: 580-128445-9
Date Collected: 06/16/23 10:00
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429791	ITR	EET SEA	06/24/23 04:59
Total/NA	Analysis	314.0		5	689566	TCS	EET SAC	07/11/23 14:53
Total/NA	Analysis	300.0		10	429936	CA	EET SEA	06/24/23 12:28

Client Sample ID: PA-10i-061623
Lab Sample ID: 580-128445-10
Date Collected: 06/16/23 10:50
Matrix: Water
Date Received: 06/16/23 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	429791	ITR	EET SEA	06/24/23 05:23
Total/NA	Analysis	314.0		10	689312	AP1	EET SAC	07/10/23 18:12
Total/NA	Analysis	300.0		1	429936	CA	EET SEA	06/24/23 12:40

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: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Laboratory: Eurofins Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4167	07-07-23

Laboratory: Eurofins Sacramento

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

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

Sample Summary

Client: ERM-West
Job ID: 580-128445-1
Project/Site: Arkema - Q2 2023 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-128445-1	TB-061623	Water	06/16/23 00:01	06/16/23 12:25
580-128445-2	PA-21d-061623	Water	06/16/23 07:08	06/16/23 12:25
580-128445-3	PA-19d-061623	Water	06/16/23 08:03	06/16/23 12:25
580-128445-4	PA-30d-061623	Water	06/16/23 08:58	06/16/23 12:25
580-128445-5	PA-18d-061623	Water	06/16/23 09:52	06/16/23 12:25
580-128445-6	RB-02-061623	Water	06/16/23 06:00	06/16/23 12:25
580-128445-7	PA-31-061623	Water	06/16/23 07:30	06/16/23 12:25
580-128445-8	PA-32i-061623	Water	06/16/23 08:40	06/16/23 12:25
580-128445-9	MWA-11i(d)-061623	Water	06/16/23 10:00	06/16/23 12:25
580-128445-10	PA-10i-061623	Water	06/16/23 10:50	06/16/23 12:25

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

Chain of Custody Record


580-128445 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST/MR	Lab PM: Cruz, Sheri L	C No:
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins	Phone:	E-Mail: sheri.cruz@testamericainc.com	e: 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 and sarah.seekins@erm.com	WO #:		
Project Name: Arkema - Q2 2023 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N			
TB-061623	6/16/23		G	Water				X				2	
PA-21d-061623		0708	G	Water			X		X	X		5	Dil VOC
PA-19d-061623		0803		Water			X		X	X		8	Dil VOC
PA-30d-061623		0858		Water			X		X	X		8	Dil VOC
PA-18d-061623		0952		Water			X		X	X	X	15	
RB-02-061623		0600		Water				X	X	X		5	
PA-31-061623		0730		Water				X	X	X		5	
PA-32i-061623		0840		Water				X	X	X		5	
MWA-11i(d)-061623		1000		Water				X	X	X		5	
PA-10i-061623		1050						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: 6/16/23	Company: ERM	Received by:	Date/Time: 6/16/23 1225	Company: ERM
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.4

Ver: 01/16/2019

7/26/2023 (Rev. 1)

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

Chain of Custody Record

580-128445 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information
Client Contact: Avery Soplata, Andrew Gardner, and Sarah Seekins
Company: ERM-West
Address: 1050 SW 6th Avenue Suite 1650
City: Portland
State, Zip: OR, 97204
Phone:
Email: avery.sopiata@erm.com, andrew.gardner@erm.com and sarah.seekins@erm.com
Project Name: Arkema - Q2 2023 Groundwater event
Site:

Sampler: ST/AR
Phone:
Lab PM: Cruz, Sheri L
E-Mail: sheri.cruz@testamericainc.com

Due Date Requested:
TAT Requested (days): 15BD
PO #: PN 0682894.207
WO #:
Project #: 0682894
SSOW#:

Job #:
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:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	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-061623	6/16/23		G	Water				X				2	
PA-21d-061623		0708	G	Water			X		X	X		2	Dil VOC
PA-19d-061623		0803		Water			X		X	X		2	Dil VOC
PA-30d-061623		0858		Water			X		X	X		2	Dil VOC
PA-18d-061623		0952		Water			X		X	X	X	15	
RB-02-061623		0600		Water				X	X	X		5	
PA-31-061623		0730		Water				X	X	X		5	
PA-32i-061623		0840		Water				X	X	X		5	
MWA-11i(d)-061623		1000		Water				X	X	X		5	
PA-10i-061623		1050						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:

	Date/Time	Company		Date/Time	Company
Relinquished by:	6/16/23	ERM	Received by:	6/16/23 1225	GTEL
Relinquished by:	6/16/23 1700	GTEL	Received by:	6/17/23 0945	GTEL
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: 0.4

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-128445-1

Login Number: 128445
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-128445-1

Login Number: 128445
List Number: 2
Creator: Oropeza, Salvador

List Source: Eurofins Sacramento
List Creation: 06/19/23 11:43 AM

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	2098852
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	0.7C
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?	False	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
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.	False	314 has headspace sample 1-6. Sample 7-9 are completely full
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	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-128445-1

Login Number: 128445
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 06/20/23 02:49 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	2197794
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2c
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

ERM

1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

Telephone: +1 503 488-5282

www.erm.com

Memo

To	Sarah Seekins
From	Tyler Lucas
Date	11 September 2023
Reference	0682868
Subject	Data Review of Arkema Second Quarter 2023 Groundwater Samples: Eurofins Data Packages: 580-128390-1, 580-128402-1 rev.1, and 580-128445-1 rev.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 the *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.

REVISION

Modified text in the Chain-of-Custody Discrepancies section to clarify laboratory comments.

CHAIN-OF-CUSTODY DISCREPANCIES

In laboratory report 580-128445-1, the case narrative states sample PA-10i-061623 was listed on the Chain of Custody but was no received by the laboratory in Sacramento. However, the laboratory did receive this sample in an additional shipment. The laboratory includes additional receiving documents with different dates, indicating an additional receipt. The sample was noted as being process by the laboratory via the chronicle section in the report.

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 6°C. No qualifications were necessary.

BLANK EVALUATION

The method, DI water, rinse, and trip blank sample results were non-detected for each of the target analytes, with the exceptions noted in Table 1. Non-detected results or results greater than five times the blank concentration for organics (or 10 times for the common laboratory contaminant acetone and inorganics) were considered not affected by the blank contamination and were not qualified. Associated sample results were less than the RL and less than five times (ten times for acetone and inorganics) the method blank concentration, as adjusted for dilution, were qualified as non-detect (U) at the reporting limit, or qualified U at the detection limit if the detection limit succeeded the reporting limit. Associated detect results within five times the blank concentrations were qualified as estimates with a high bias (J+).

In laboratory package 580-128402-1 and 580-128445-1, the DI water used for the rinse blank samples (RB-01-61523 and RB-02-061623) was also analyzed (DI-061523). Both rinse blanks reported similar detects and concentration with the DI water sample. Professional judgement was used, all applicable samples were reviewed in comparison to the DI sample instead of their associated rinse blank samples.

In laboratory package 580-128390-1, both a method blank (MB 580-429367/7) and a trip blank sample (TB-061323) reported a detect for n-butylbenzene. The trip blank sample was qualified as non-detect due to the method blank detection. No further action was taken based on the initial detect of the trip blank sample.

CONTINUING CALIBRATION VERIFICATION EVALUATION

The CCV recoveries were within the laboratory's limits of acceptance, with the exceptions noted in Table 2. Sample results associated with CCV recoveries that were described as "out" with no bias indicated were qualified. All associated data were reported as non-detect as were qualified as non-detects as estimates (UJ).

BLANK SPIKE EVALUATION

The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries and relative percent differences (RPDs) were within the laboratory's limits of acceptance. No data was qualified as a result of LCS/LCSD non-conformance.

MATRIX SPIKE EVALUATION

The laboratory prepared a few samples for matrix spike (MS) and matrix spike duplicate (MSD) analysis. The recoveries and RPDs were within laboratory limits of acceptance, with several exceptions listed in Table 3. Detected sample results associated with low recoveries were qualified as estimates with a low bias (J-).

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits. No data was qualified on the bases of surrogate performance.

FIELD DUPLICATE EVALUATION

Two samples were submitted in duplicate. ERM calculated the differences or RPDs between detected results in Table 4. An RPD control limit of 30 was used when both the sample and the field duplicate results were greater than or equal to five times the reporting limit (RL). A control limit of ± two times the reporting limit was used when at least one of the results was less than five times the RL. The control limits were not applicable when both results were below the RLs or if one result was not detected and the other was less than the RL. All analytes in the parent sample/field duplicate pairs met the control limits, with a single exception. In sample pair "PA-26d-061423/Dup-01-061423" chloride was outside of these criteria limits and qualified as an estimated concentration (J).

OVERALL ASSESSMENT

No results were rejected. All of the data, including qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be

considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents.

Table 1
Blank and Associated Suspect Sample Detections
Second Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-128390-1	MB 580-429367/7	TB-061323	n-Butylbenzene	0.346	1.0	0.34	1.0	µg/L	1.0 U
		MWA-81i-061323				0.33	1.0	µg/L	1.0 U
580-128402-1/ 580-128445-1	DI-061523	PA-23d-061523	Acetone	39	10	3.4	15	µg/L	15 U
		PA-22d-61523				4.6	15	µg/L	15 U
		MWA-63-61523				3.9	15	µg/L	15 U
		Dup-02-061523				3.2	15	µg/L	15 U
		PA-20d-061523				4.0	15	µg/L	15 U
		MWA-31i(d)-061523				6.8	15	µg/L	15 U
		PA-10i-061623				3.2	10	µg/L	10 U
		PA-32i-061623				6.3	10	µg/L	10 U
		MWA-11i(d)-061623				5.7	10	µg/L	10 U
		RB-01-61523				43	15	µg/L	43 U
		RB-02-061623				43	10	µg/L	43 U
		PA-31-061623	Chloroform	1.1	0.20	0.19	0.20	µg/L	0.20 U
		MWA-11i(d)-061623				0.55	0.20	µg/L	0.55 U
		RB-01-61523				0.93	1.0	µg/L	1.0 U
		RB-02-061623				1.1	0.20	µg/L	1.1 U

Table 1
Blank and Associated Suspect Sample Detections
Second Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
		None for qualification, samples ND	Dichlorobromomethane	0.064	0.20	--	--	µg/L	--
		MWA-31i(d)-061523	Chlorobenzene	0.57	0.20	0.53	1.0	µg/L	1.0 U
		PA-32i-061623				0.29	0.20	µg/L	0.29 U
		PA-10i-061623				1.3	0.20	µg/L	J+
		RB-01-61523				0.48	1.0	µg/L	1.0 U
		RB-02-061623				0.50	0.20	µg/L	0.50 U

Lab packages reviewed: 580-128390-1, 580-128402-1 rev.1, and 580-128445-1 rev.1

Notes:
U = Sample result are non-detected at a raised reporting limit
ND = Not detected
TB = Trip blank
RB = Rinse blank
DI = DI Water Blank
µg/L = Micrograms per liter

Table 2
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-128390-1	Batch 580-429367 CCV	Naphthalene	Out	NR	TB-061323	ND	µg/L	UJ
					MWA-82--061323	ND	µg/L	UJ
					MWA-81i-061323	ND	µg/L	UJ
					PA-44i-061323	ND	µg/L	UJ

Lab packages reviewed: 580-128390-1, 580-128402-1 rev.1, and 580-128445-1 rev.1

Notes:
CCV = Continuing calibration verification
ND = Not detected
NR = Not reported
Out = Result was outside of control limits
µg/L = Micrograms per liter
UJ = Non-detected, estimated report limit

Table 3
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
MS/MSD										
580-128390-1	PA-16i-061423 MS/ PA-16i-061423 MSD	PA-16i-061423	Chloride	75/75	90-110	0	15	72	mg/L	J-
580-128445-1	PA-18d-061623 MS/ PA-18d-061623 MSD	PA-18d-061623	Chloride	71/71	90-110	0	15	27	mg/L	J-

Lab packages reviewed: 580-128390-1, 580-128402-1 rev.1, and 580-128445-1 rev.1

Notes:
J- = Detected results are estimated with a low bias
mg/L = Milligrams per liter
MS/MSD = Matrix spike/matrix spike duplicate
RPD = Relative percent difference

Table 4
Field Duplicate Evaluation
Second Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Primary/Duplicate Sample ID	Analyte	Concentration		Report Limit		Difference	Difference Limit	Units	RPD	RPD Limit	ERM Qualifier
			Sample	Duplicate	Sample	Duplicate						
580-128390-1	PA-26d-061423/ Dup-01-061423	Benzene	0.040	0.034	0.20	0.20	NA	NA	µg/L	--	--	--
		1,2-Dichloroethane	0.27	0.28	0.20	0.20	0.01	0.40	µg/L	--	--	--
		Chloride	67	39	7.5	1.5	--	--	mg/L	53	30	J
580-128402-1	MWA-63-61523/ Dup-02-061523	Acetone	3.9	3.2	15	15	NA	NA	µg/L	--	--	--
		cis-1,2-Dichloroethene	1.8	1.9	1.0	1.0	0.1	2.0	µg/L	--	--	--
		Chloroform	48	48	1.0	1.0	--	--	µg/L	0.0	30	--
		Trichloroethene	1.8	1.8	1.0	1.0	0.0	2.0	µg/L	--	--	--
		Tetrachloroethene	11	11	1.0	1.0	--	--	µg/L	0.0	30	--
		Chloride	5.7	5.8	7.5	7.5	NA	NA	mg/L	--	--	--

Lab packages reviewed: 580-128390-1, 580-128402-1 rev.1, and 580-128445-1 rev.1

Notes:
µg/L = Micrograms per liter
mg/L = Milligrams per liter
NA = Not applicable, both results below reporting limits
J = Detected results are estimated

APPENDIX D PRIOR GROUNDWATER MONITORING PROGRAM DATA TABLES AND GRAPHS

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride ug/L	Chlorobenzene ug/L	Perchlorate ug/L
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-102319	10/23/2019	**5,900**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-021220	02/12/2020	**10,900**	**0.16 j**	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-051820	05/18/2020	**14,000**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-081820	08/18/2020	**16,000**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-102720	10/27/2020	**5,800**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-031821	03/18/2021	**18,000**	*< 0.025 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-092221	09/22/2021	**10,000**	*< 0.025 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-121421	12/14/2021	**5,300**	*< 0.025*	*< 2.0*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-031422	03/14/2022	**14,000 J-**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-060622	06/06/2022	**9,600**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-110722	11/07/2022	**21,000**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-030623	03/06/2023	**7,800**	*< 0.060 U*	*< 2.0 UJ*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-061323	06/13/2023	**7,500**	*< 0.060*	*< 2.0*
Shallow	MWA-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-82	GCC6 & Proximal Wells	MWA-82-102319	10/23/2019	**14,700**	*< 0.44 U*	**190**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-021120	02/11/2020	**34,800**	**0.24**	*< 48 U*
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-051920	05/19/2020	**10,000**	*< 0.025 U*	**71 j**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-081820	08/18/2020	**15,000**	**0.030 j**	**530**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-102720	10/27/2020	**14,000**	*< 0.20 U*	**77**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-031821	03/18/2021	**11,000 J**	*< 0.025 U*	**290**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-092121	09/21/2021	**14,000**	*< 0.025 U*	**56**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-121421	12/14/2021	**13,000**	*< 0.025*	**150**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-031422	03/14/2022	**11,000 J-**	*< 0.060 U*	**52**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-060622	06/06/2022	**11,000**	*< 0.060 U*	**340**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-110722	11/07/2022	**9,000**	*< 0.060 U*	**120**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-030623	03/06/2023	**11,000**	*< 0.060 U*	**210 J-**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-061323	06/13/2023	**9,900**	*< 0.060*	**150**
Shallow	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-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-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**

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride ug/L	Chlorobenzene ug/L	Perchlorate ug/L
Shallow	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-31	GCC1 & Proximal Wells	PA-31-103019	10/30/2019	**9,300**	*< 0.44 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-021820	02/18/2020	**10,500**	**0.15 j**	*< 48 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-052720	05/27/2020	**9,500**	*< 0.025 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-082420	08/24/2020	**8,800 J+**	*< 0.025 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-110220	11/02/2020	**8,200 j**	*< 0.025 U*	*< 4.8 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-032921	03/29/2021	**5,500 J**	*< 0.025 U*	*< 20 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-092321	09/23/2021	**8,700**	*< 0.025 U*	*< 10 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-121521	12/15/2021	**7,000**	*< 0.025*	*< 20*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-031522	03/15/2022	**4,500 J-**	*< 0.060 U*	*< 10 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-060922	06/09/2022	**4,300**	*< 0.070 U*	*< 100 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-110822	11/08/2022	**5,900**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-030723	03/07/2023	**5,800 J+**	*< 0.060 U*	*< 2.0 UJ*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-061623	06/16/2023	**2,500**	*< 0.060*	*< 40*
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	PA-10i	GCC1 & Proximal Wells	PA-10i-102519	10/25/2019	**119,000**	*< 0.44 U*	*< 4.8 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-021720	02/17/2020	**98,600**	**0.52**	*< 48 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-052620	05/26/2020	**82,000**	**0.51**	*< 48 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-081920	08/19/2020	**67,000**	**0.52**	*< 95 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-102920	10/29/2020	**82,000**	**0.70**	*< 4.8 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-032421	03/24/2021	**1,300,000**	*< 0.44 U*	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-092221	09/22/2021	**76,000**	**0.67**	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-121321	12/13/2021	**72,000**	**0.65**	*< 20*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-031722	03/17/2022	**90,000**	*< 0.060 U*	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-060822	06/08/2022	**84,000**	**0.37 j**	*< 2.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-110922	11/09/2022	**45,000**	**1.5**	*< 10 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-030823	03/08/2023	**41,000**	**5.7**	*< 10 UJ*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-061623	06/16/2023	**35,000**	**1.3 J+**	*< 20*
Intermediate	PA-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-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*

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride ug/L	Chlorobenzene ug/L	Perchlorate ug/L
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-102819	10/28/2019	**73,600**	**0.57 j**	*< 48 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-021920	02/19/2020	**65,400**	**24**	*< 190 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-052120	05/21/2020	**60,000**	**0.16 j**	*< 48 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-082420	08/24/2020	**62,000**	*< 0.025 U*	*< 95 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-102820	10/28/2020	**50,000**	*< 0.20 U*	*< 4.8 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-032321	03/23/2021	**43,000**	**0.15 J**	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-092221	09/22/2021	**35,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-121321	12/13/2021	**30,000**	*< 0.025*	*< 20*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-031622	03/16/2022	**23,000**	**0.072 j**	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-060822	06/08/2022	**26,000**	*< 0.70 U*	*< 10 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-110822	11/08/2022	**13,000**	*< 0.60 U*	*< 10 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-030823	03/08/2023	**25,000**	*< 0.060 U*	*< 10 UJ*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-061423	06/14/2023	**15,000**	**0.073 j**	*< 4.0*
Intermediate	PA-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-44i	GCC6 & Proximal Wells	PA-44i-102919	10/29/2019	**243,000**	*< 0.44 U*	*< 4.8 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-021220	02/12/2020	**99,200**	**0.18 j**	*< 48 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-051920	05/19/2020	**53,000**	*< 0.025 U*	*< 95 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-081820	08/18/2020	**76,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-102720	10/27/2020	**34,000**	*< 0.025 U*	*< 4.8 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-031621	03/16/2021	**60,000**	*< 0.025 U*	**7.1 J**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-092321	09/23/2021	**39,000**	*< 0.025 U*	**390**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-121421	12/14/2021	**51,000**	*< 0.025*	**130**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-031522	03/15/2022	**23,000 J-**	*< 0.060 U*	**270**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-060622	06/06/2022	**47,000**	*< 0.30 U*	**66**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-110722	11/07/2022	**75,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-030623	03/06/2023	**15,000**	*< 0.060 U*	*< 2.0 UJ*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-061323	06/13/2023	**20,000**	*< 0.060*	*< 2.0*
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-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-56d	GCC4 & Proximal Wells	MWA-56D-102419	10/24/2019	**20,100,000**	*< 0.44 U*	**3,300**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-021420	02/14/2020	**22,300,000**	*< 2.0 U*	**3,500**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-052120	05/21/2020	**21,000,000**	*< 0.44 U*	**5,700**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-082020	08/20/2020	**24,000,000**	*< 0.44 U*	**6,400**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-102920	10/29/2020	**22,000,000**	*< 0.44 U*	**7,100**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-032521	03/25/2021	**26,000,000**	*< 4.4 U*	**6,500**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-092421	09/24/2021	**21,000,000**	*< 0.44 U*	**8,100**
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**

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride ug/L	Chlorobenzene ug/L	Perchlorate ug/L
Deep	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	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-19d	GCC2	Pa-19d-110619	11/06/2019	**94,000**	**9,300 J-**	*< 48 U*
Deep	PA-19d	GCC2	Pa-19d-022620	02/26/2020	**111,000**	**8,300**	*< 48 U*
Deep	PA-19d	GCC2	PA-19d-052920	05/29/2020	**140,000**	**8,200**	*< 48 U*
Deep	PA-19d	GCC2	PA-19D-082620	08/26/2020	**160,000**	**5,200**	*< 95 U*
Deep	PA-19d	GCC2	PA-19d-110520	11/05/2020	**180,000**	**3,800**	*< 48 U*
Deep	PA-19d	GCC2	PA-19D-040521	04/05/2021	**340,000**	**7,100**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-092321	09/23/2021	**320,000 J**	*< 0.44 R*	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-121621	12/16/2021	**330,000**	**2,700 J**	*< 200*
Deep	PA-19d	GCC2	PA-19D-031722	03/17/2022	**340,000**	**2,600**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-060922	06/09/2022	**360,000**	**3,200**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-111022	11/10/2022	**280,000**	**2,500**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-030923	03/09/2023	**350,000**	**12,000 J**	*< 10 UJ*
Deep	PA-19d	GCC2	PA-19D-061623	06/16/2023	**320,000**	**9,000**	*< 40*
Deep	PA-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-21d	GCC3	Pa-21d-110719	11/07/2019	**347,000**	**27,000**	**2,400**
Deep	PA-21d	GCC3	Pa-21d-022620	02/26/2020	**463,000**	**38,000**	**1,300**
Deep	PA-21d	GCC3	PA-21D-052120	05/21/2020	**420,000**	**49,000 J**	**1,200**
Deep	PA-21d	GCC3	PA-21D-082520	08/25/2020	**360,000**	**36,000**	**1,300**
Deep	PA-21d	GCC3	PA-21d-110420	11/04/2020	**370,000**	**40,000 J+**	**1,300**
Deep	PA-21d	GCC3	PA-21D-040121	04/01/2021	**430,000**	**47,000**	*< 20 U*
Deep	PA-21d	GCC3	PA-21D-092421	09/24/2021	**350,000**	**39,000 J**	**1,800**
Deep	PA-21d	GCC3	PA-21D-121521	12/15/2021	**320,000**	**49,000 J**	**1,200**
Deep	PA-21d	GCC3	PA-21D-031722	03/17/2022	**360,000**	**16,000**	**1,100**
Deep	PA-21d	GCC3	PA-21D-060922	06/09/2022	**360,000**	**27,000**	*< 20 U*
Deep	PA-21d	GCC3	PA-21D-111022	11/10/2022	**290,000**	**15,000**	*< 100 U*
Deep	PA-21d	GCC3	PA-21D-030923	03/09/2023	**340,000**	**30,000 J**	**110 J-**
Deep	PA-21d	GCC3	PA-21D-061623	06/16/2023	**330,000**	**23,000**	*< 100*
Deep	PA-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-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*

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride ug/L	Chlorobenzene ug/L	Perchlorate ug/L
Deep	PA-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-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-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-26d	GCC6 & Proximal Wells	PA-26d-110419	11/04/2019	**7,400**	*< 0.44 U*	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	Pa-26d-021320	02/13/2020	**46,000**	**0.71**	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-051820	05/18/2020	**48,000**	*< 0.025 U*	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-081920	08/19/2020	**48,000**	*< 0.025 U*	*< 9.5 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-102820	10/28/2020	**52,000**	*< 0.025 U*	**1.1 j**
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-031621	03/16/2021	**37,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-092321	09/23/2021	**60,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-121321	12/13/2021	**62,000**	*< 0.025*	*< 4.0*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-031522	03/15/2022	**72,000 J-**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-060722	06/07/2022	**63,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-110822	11/08/2022	**6,500**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-030823	03/08/2023	**69,000**	*< 0.060 U*	*< 2.0 UJ*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-061423	06/14/2023	**67,000 J**	*< 0.060*	*< 2.0*
Deep	PA-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-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*

Notes:
Bolded values indicate concentrations above the Reportable Detection Limit.
< = Compound not detected. Reportable detection limit shown.
µg/L = micrograms per liter

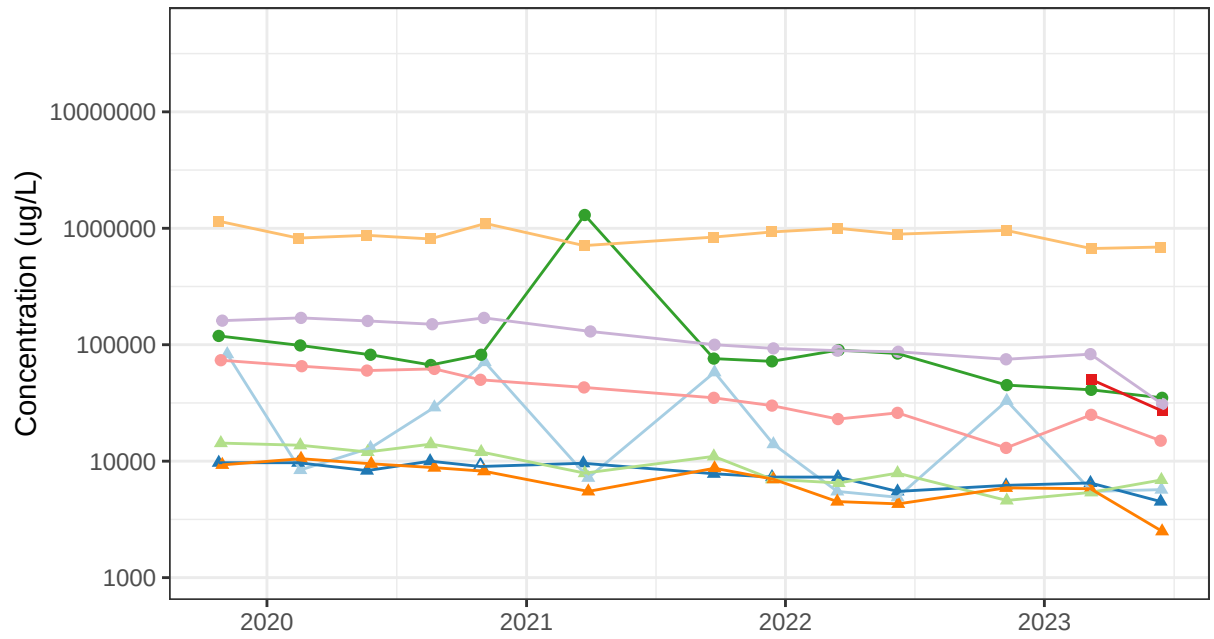
Qualifiers:
j = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The concentration 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.

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride ug/L	Chlorobenzene ug/L	Perchlorate ug/L

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).

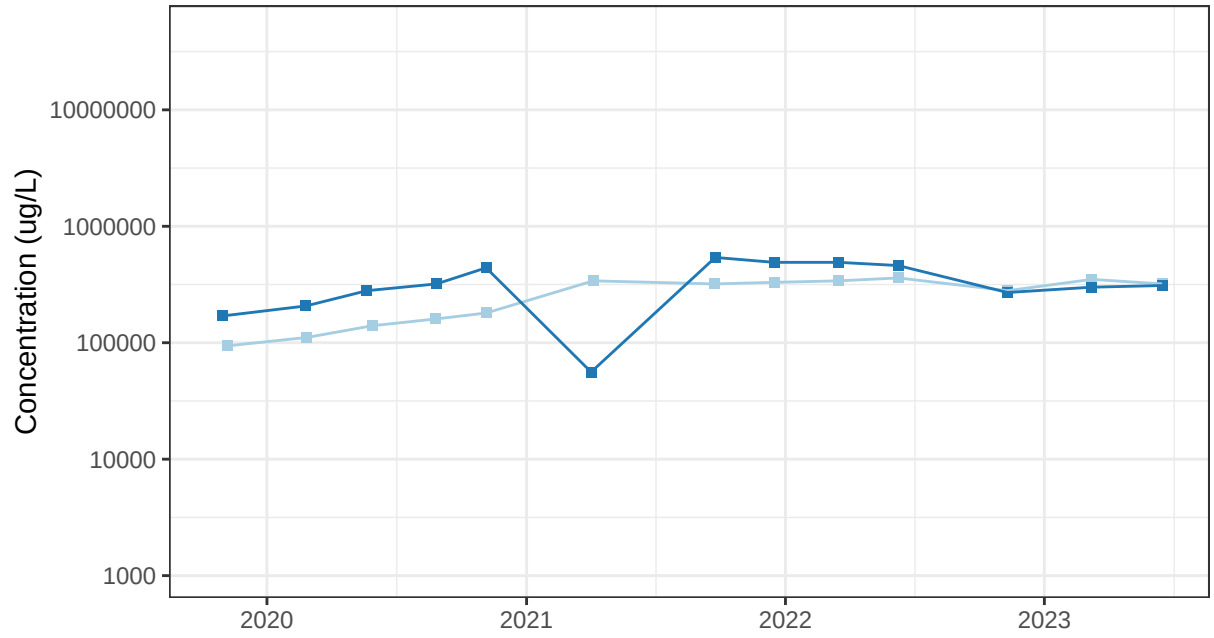
Chloride in GCC1 & Proximal Wells



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

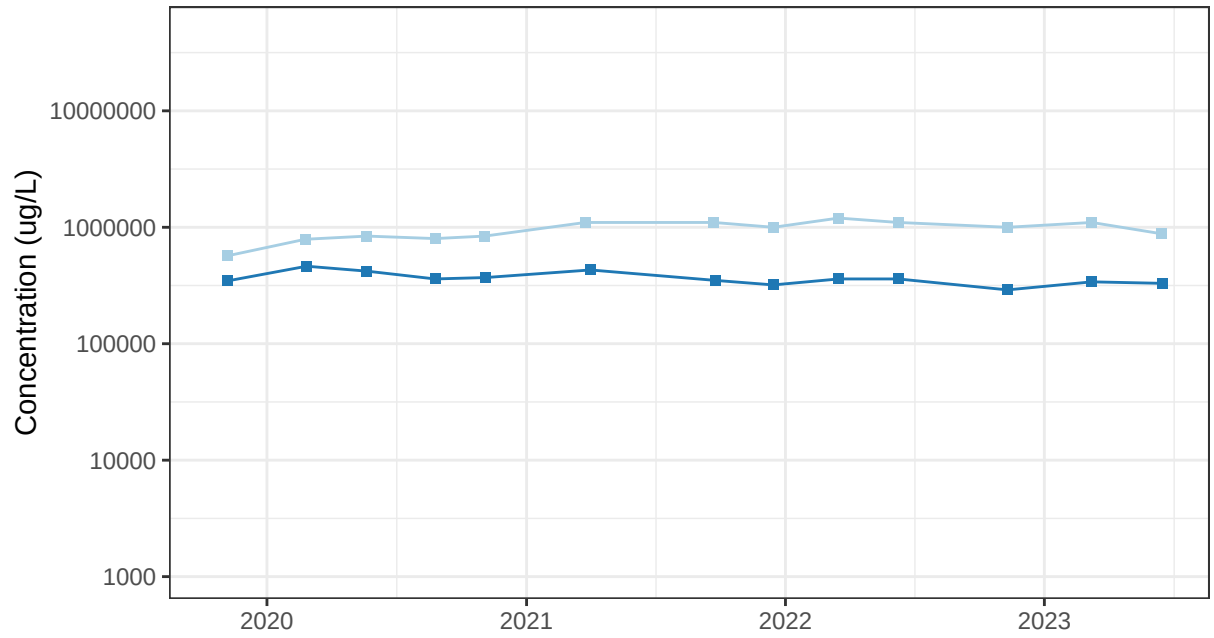
Chloride in GCC2



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−19D
- PA−30D

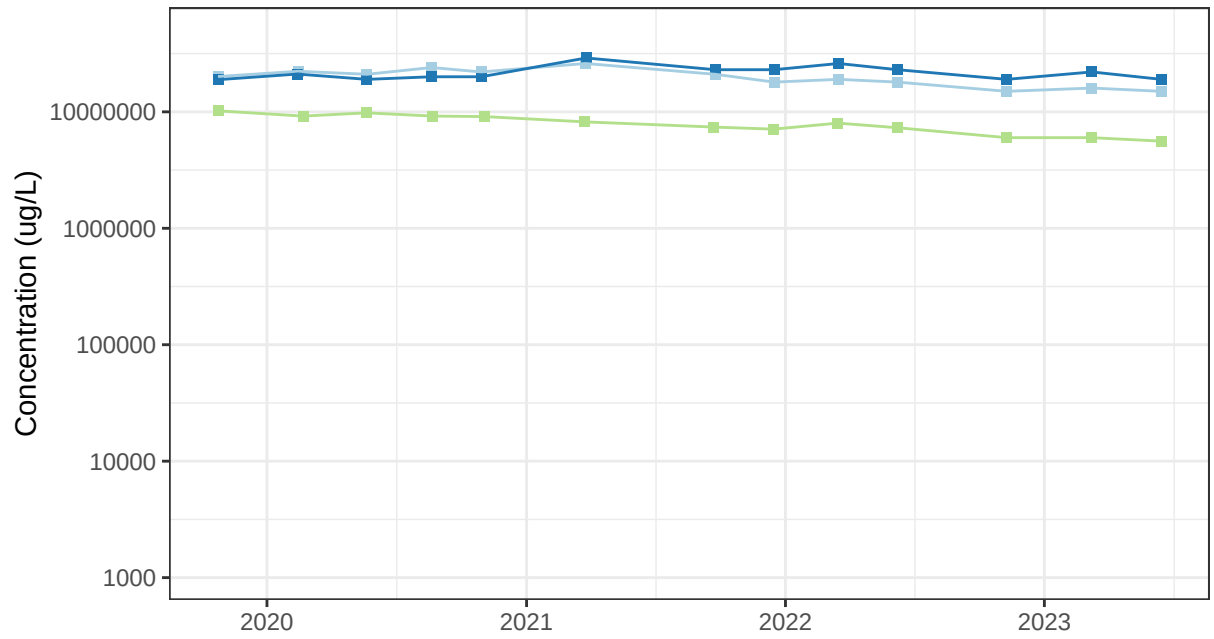
Chloride in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

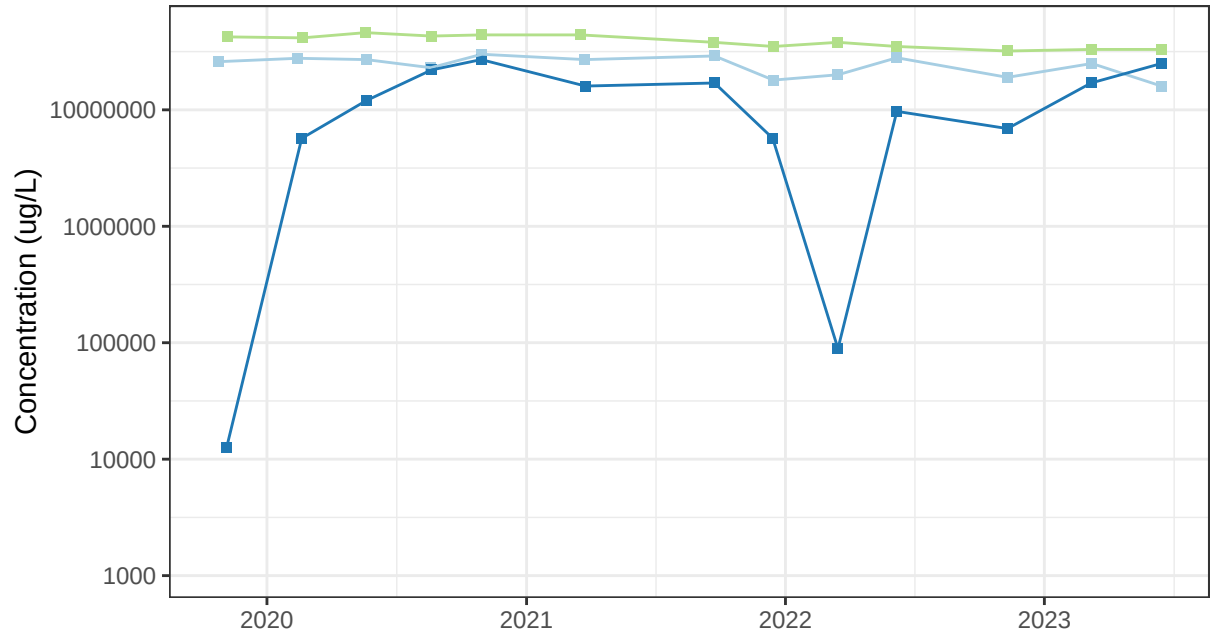
Chloride in GCC4 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−56D
- MWA−58D
- PA−22D

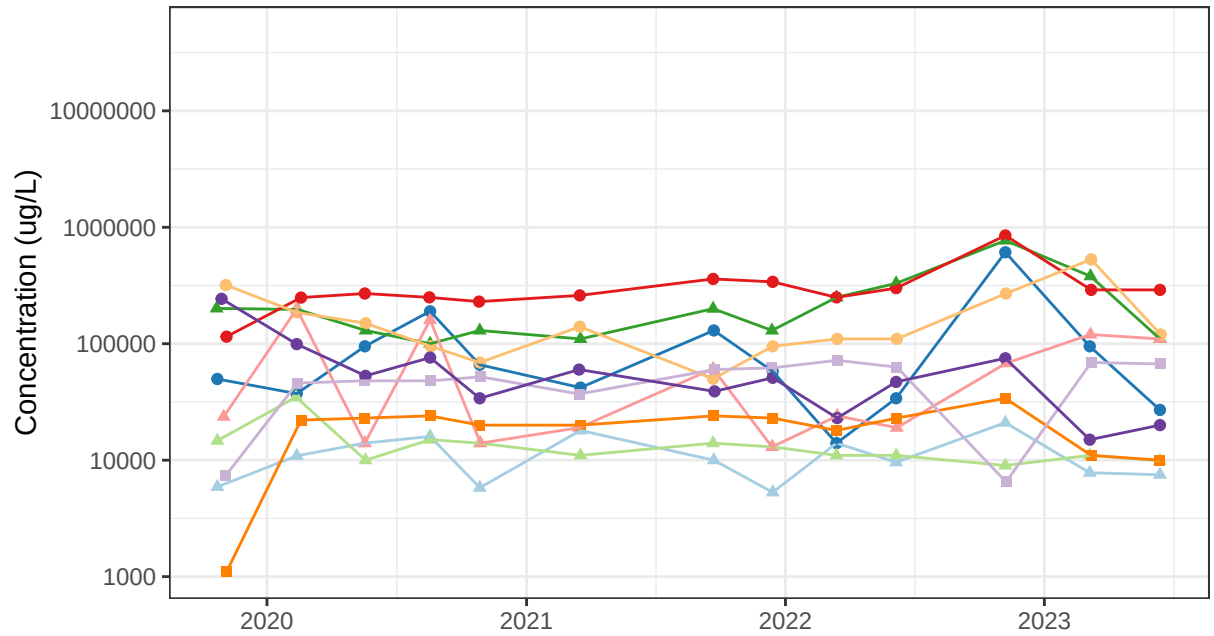
Chloride in GCC5 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

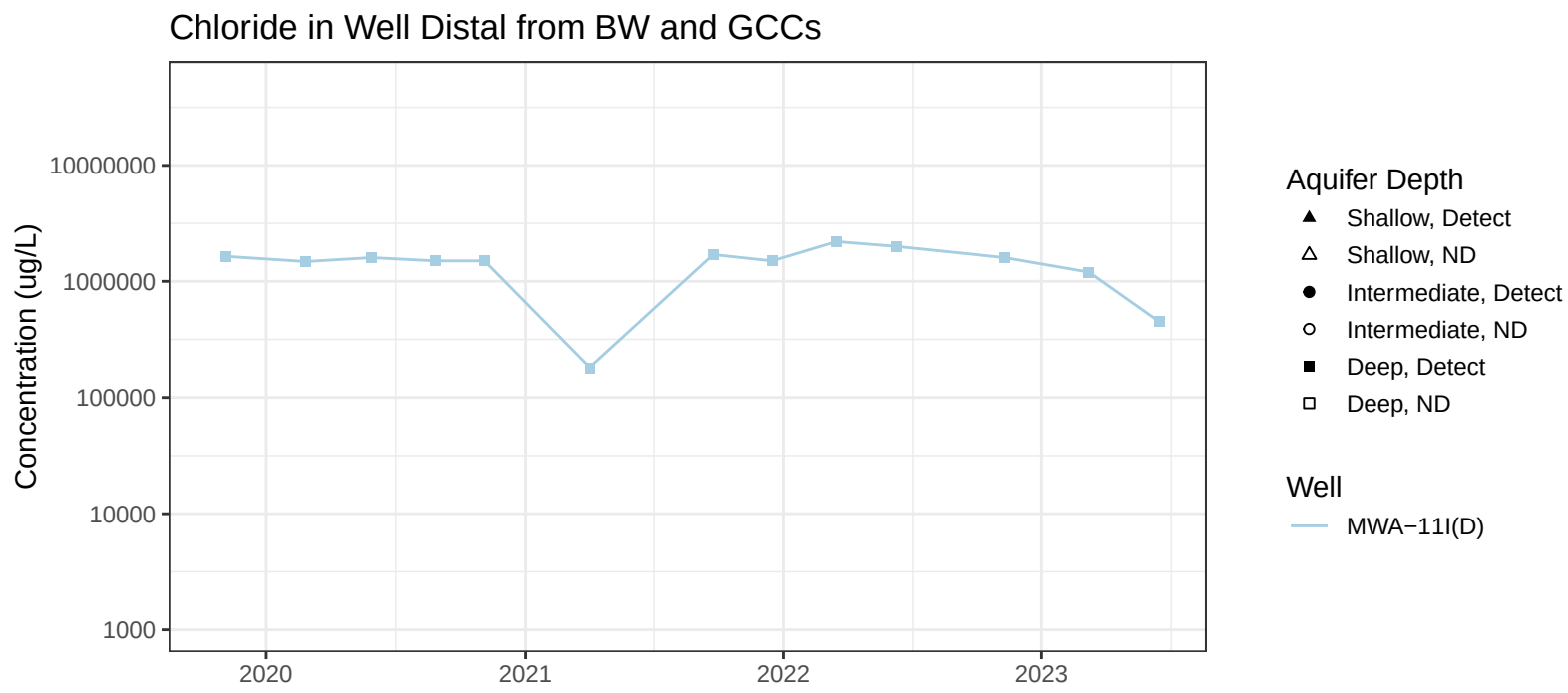
Well
- MWA−31I(D)
- PA−23D
- PA−24D

Chloride in GCC6 & Proximal Wells

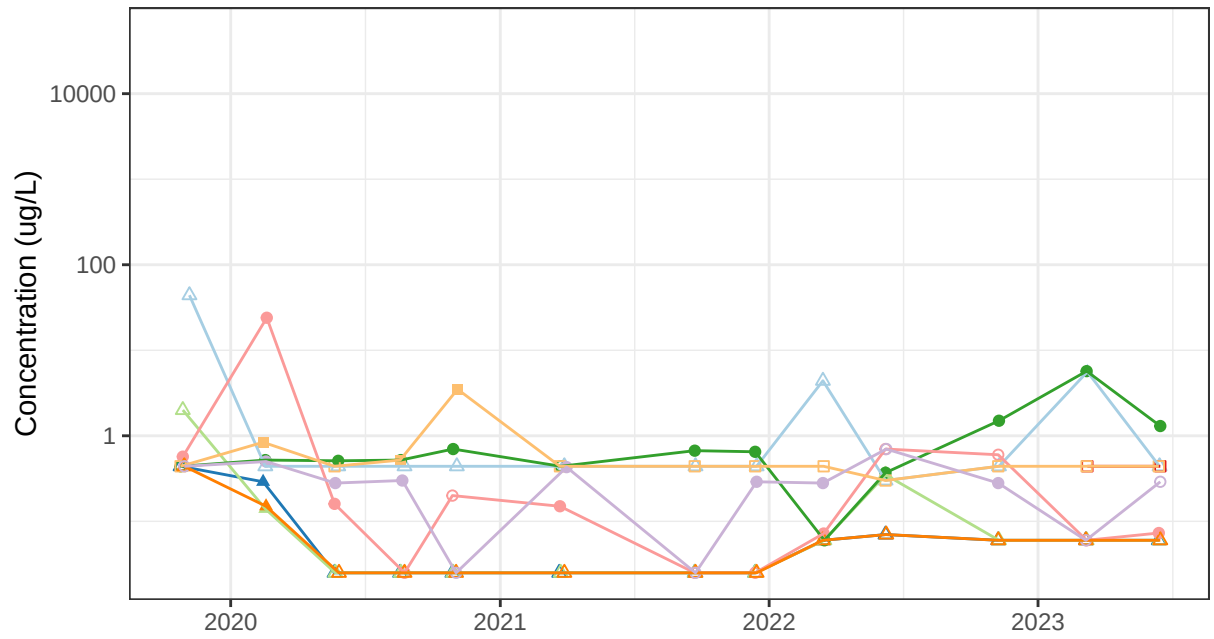


Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

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
Aquifer Depth
Shallow, Detect
Shallow, ND
Intermediate, Detect
Intermediate, ND
Deep, Detect
Deep, ND
Well
MWA−11I(D)

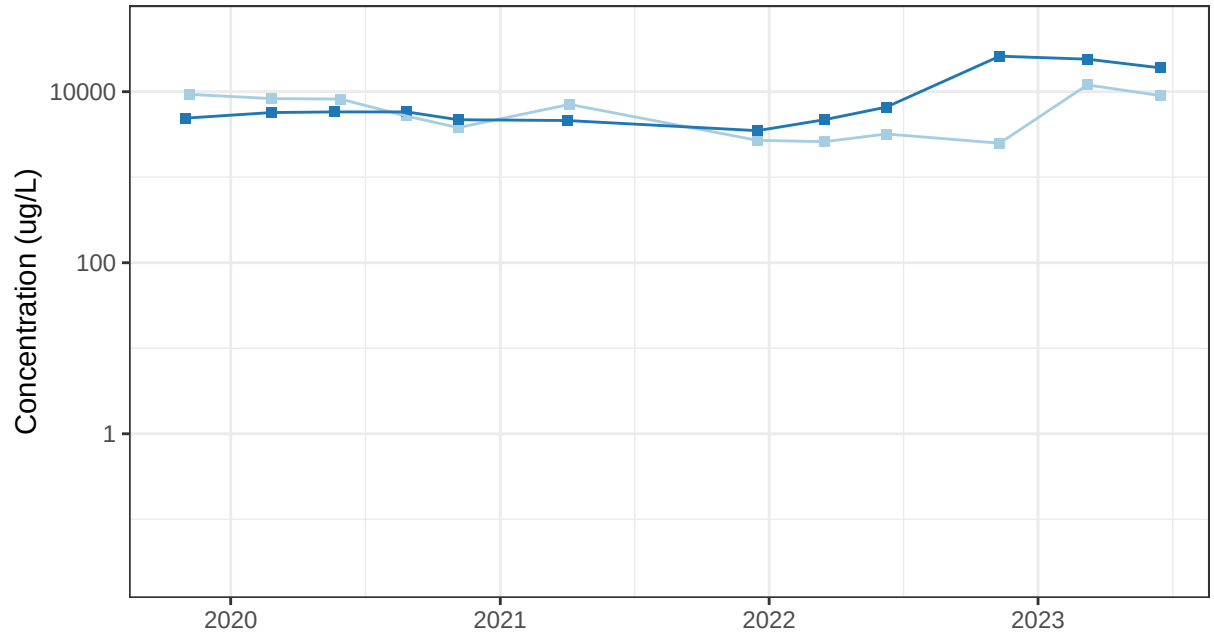
Chlorobenzene in GCC1 & Proximal Wells



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

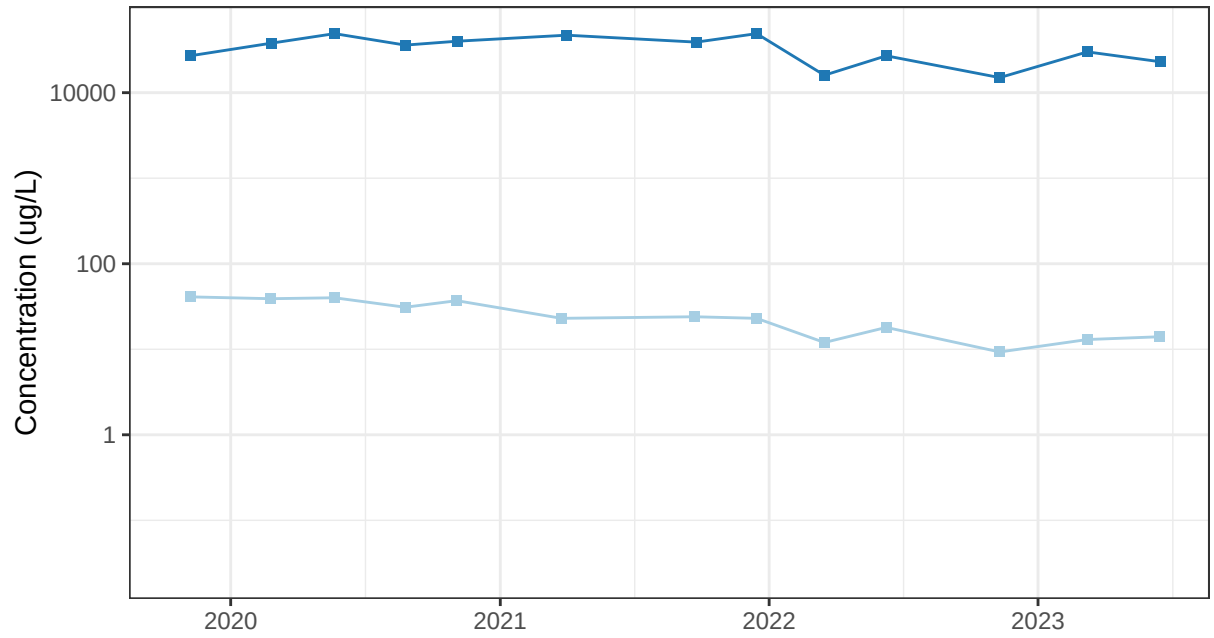
Chlorobenzene in GCC2



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−19D
- PA−30D

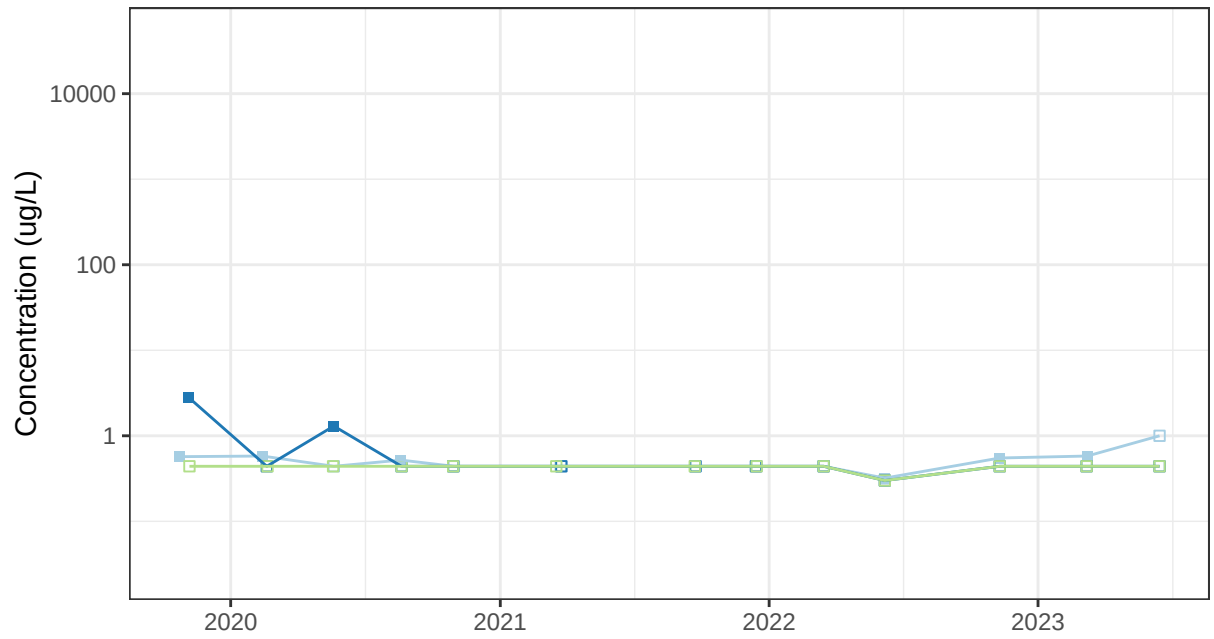
Chlorobenzene in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

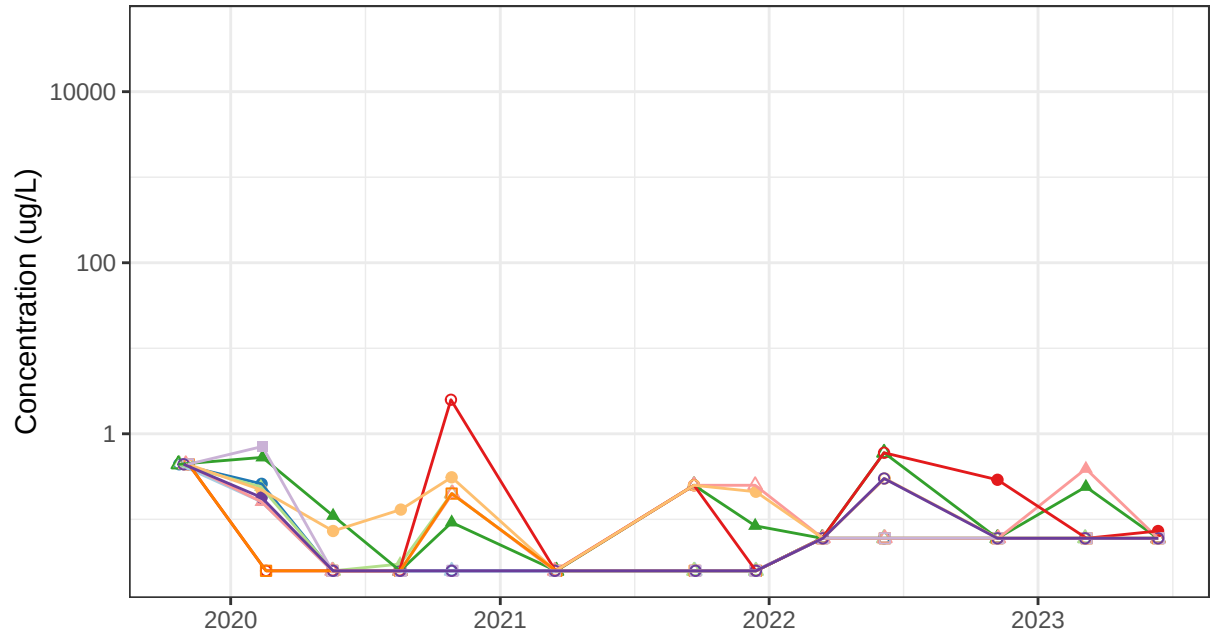
Chlorobenzene in GCC5 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−31I(D)
- PA−23D
- PA−24D

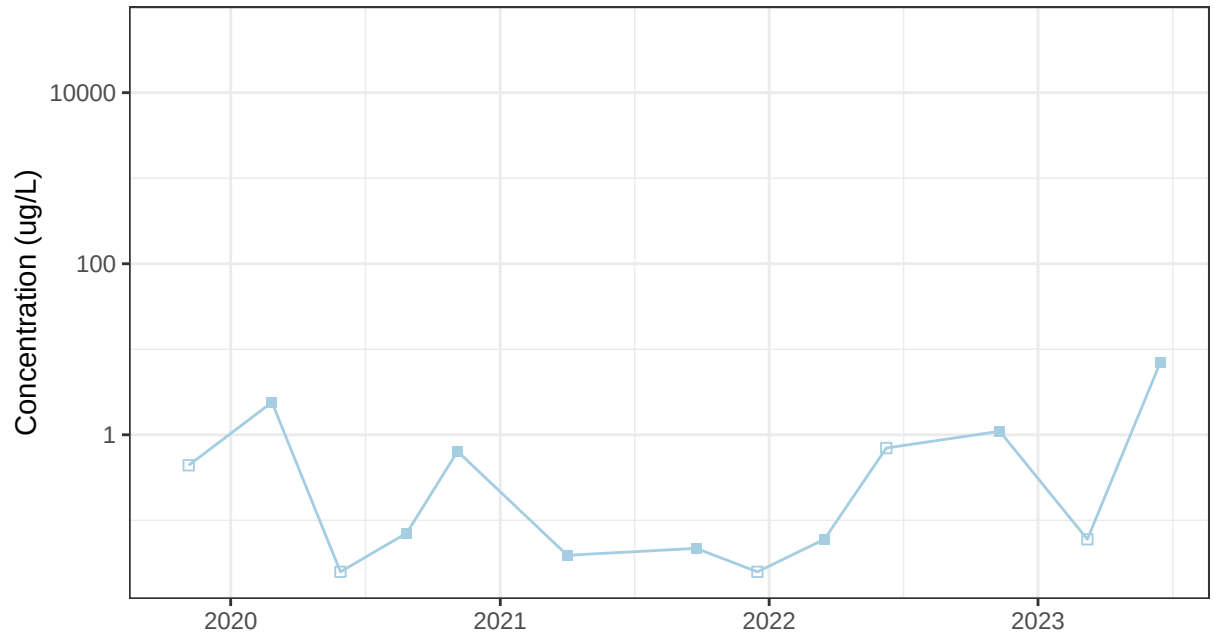
Chlorobenzene in GCC6 & Proximal Wells



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

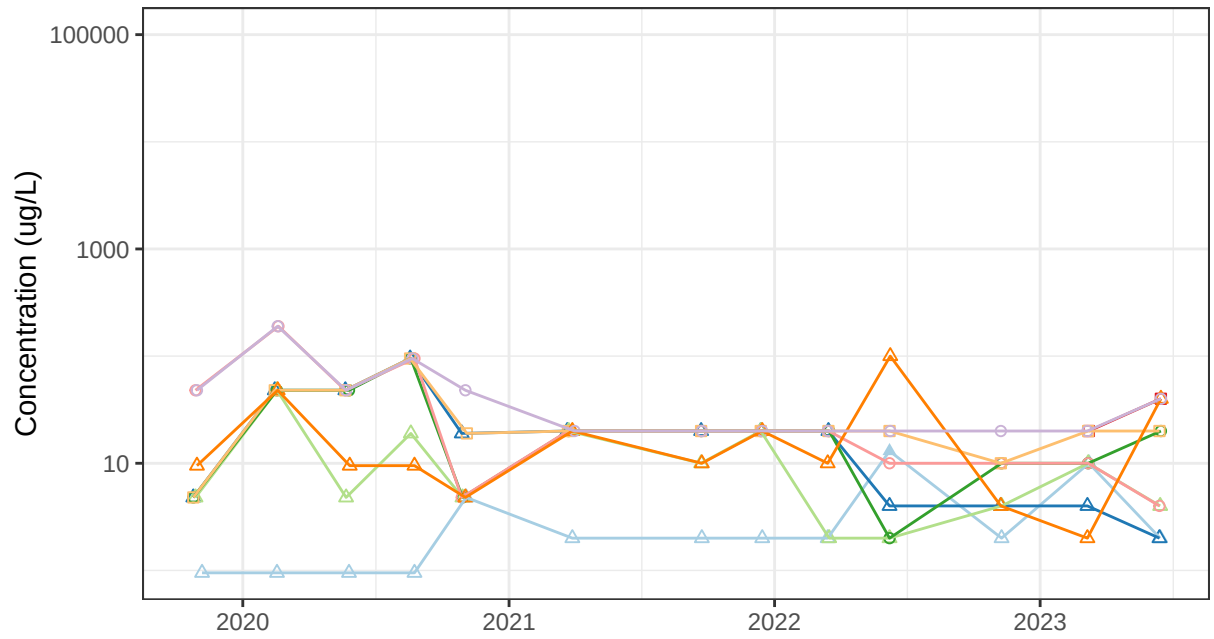
Chlorobenzene in Well Distal from BW and GCCs



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−11I(D)

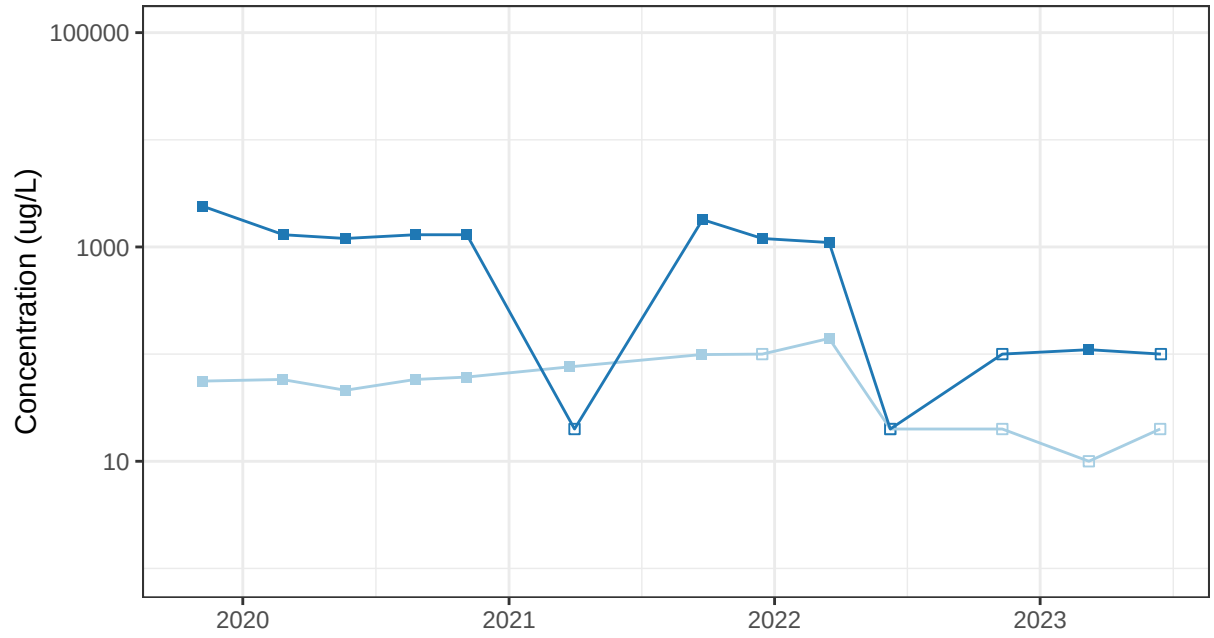
Perchlorate in GCC1 & Proximal Wells



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

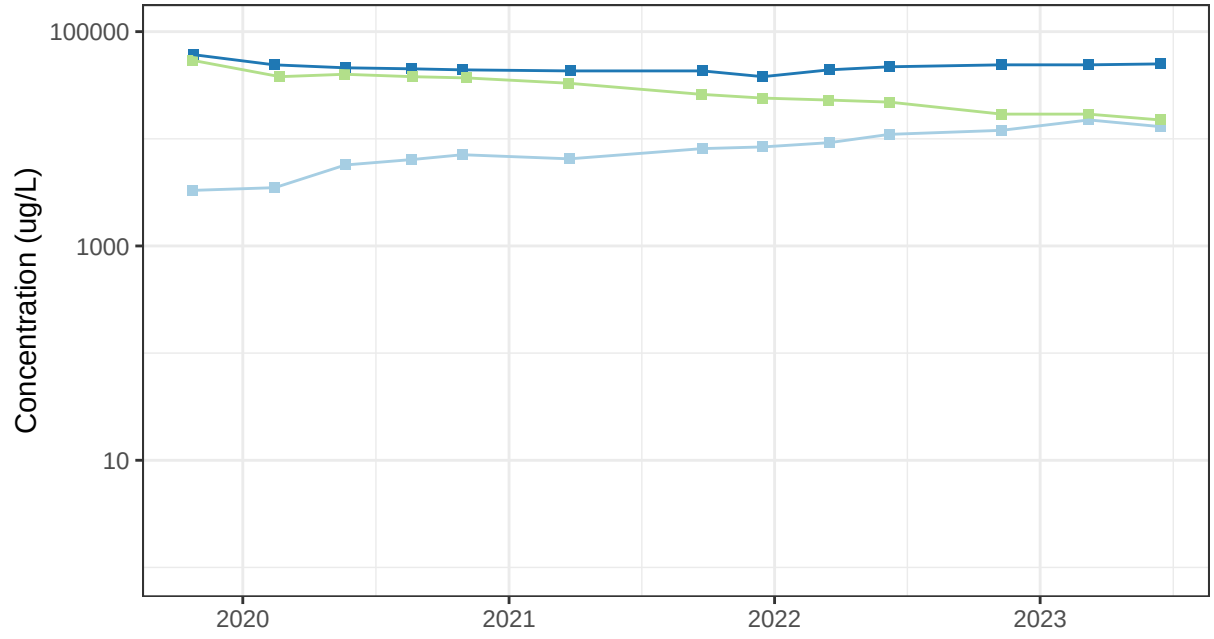
Perchlorate in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

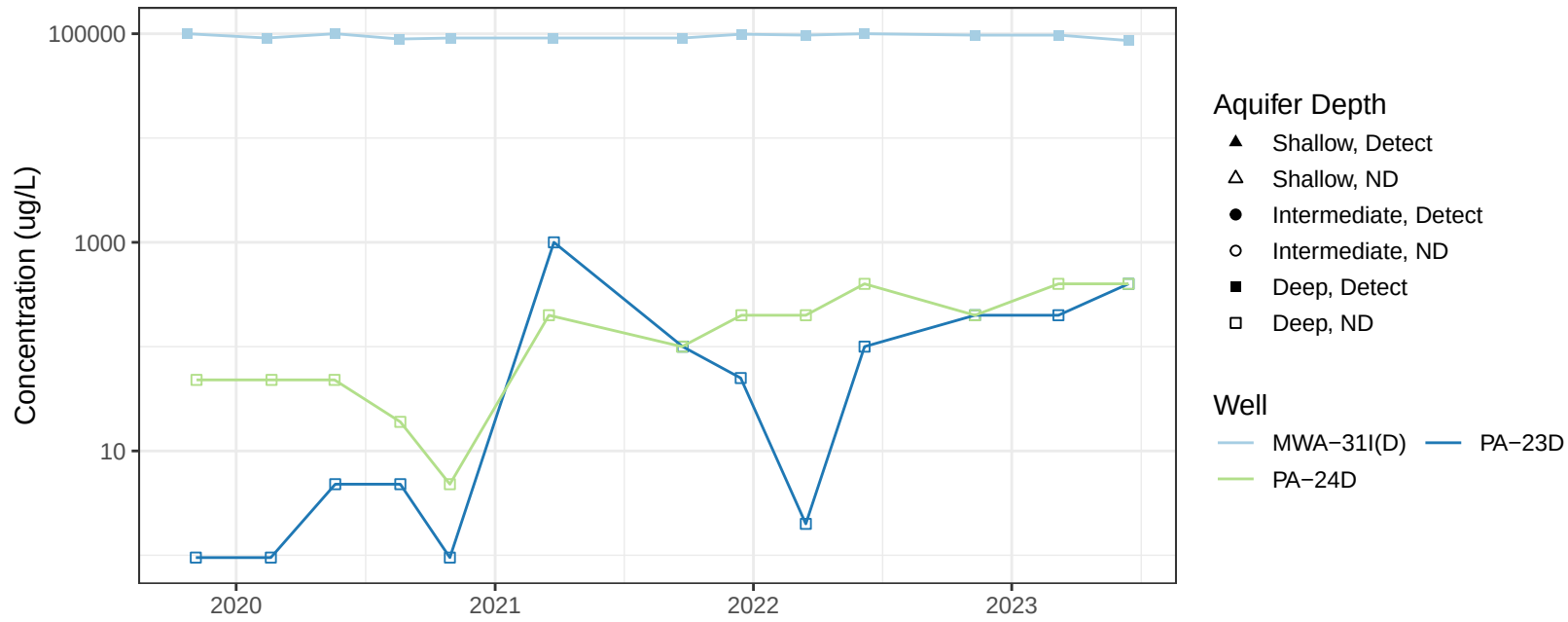
Perchlorate in GCC4 & Proximal Wells



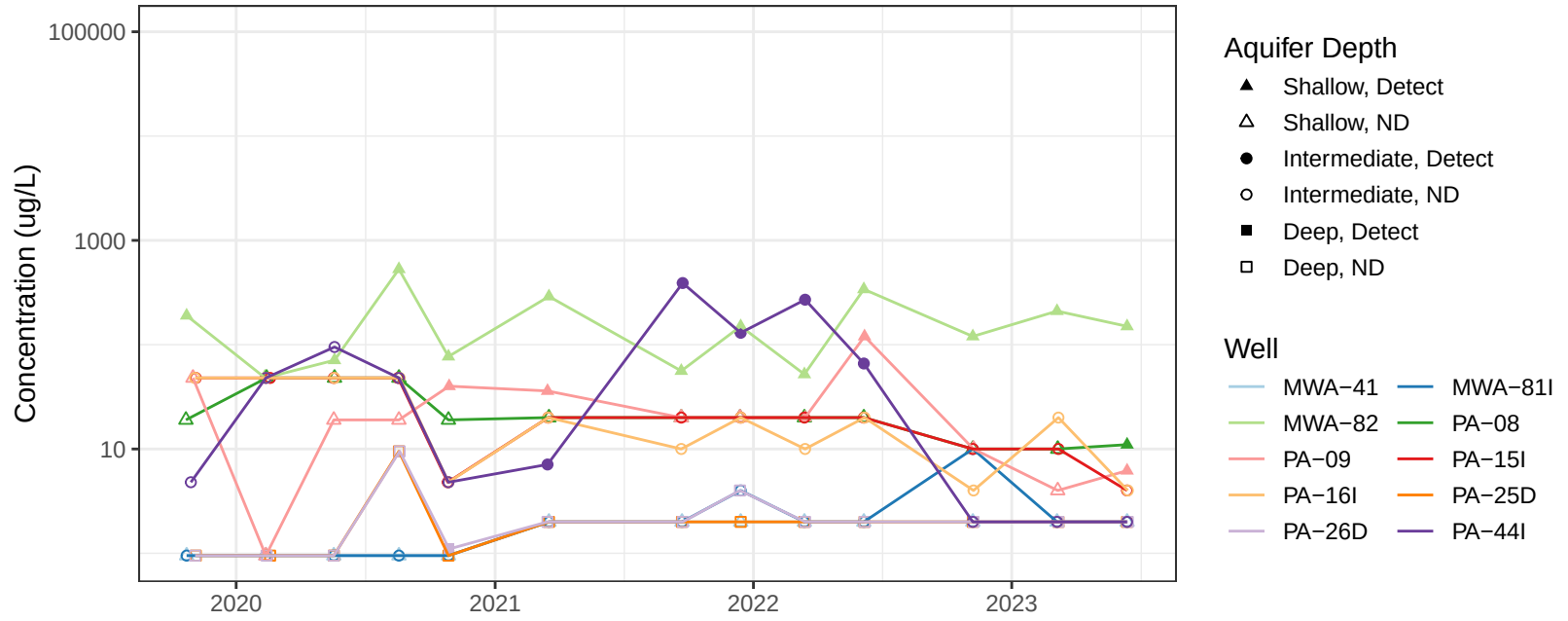
Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

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
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-2	GAMWA210297	1/2/1997		< 0.1 U		< 0.1 U		**0.12**	**0.12 T**		< 5 U		
Shallow	MWA-2	GAMWA210397	3/12/1997		< 0.1 UJ		< 0.1 UJ		< 0.1 UJ	< 0.1 UJT		**7**		
Shallow	MWA-2	GAMWA210697	6/24/1997		< 0.1 UJ		< 0.1 UJ		< 0.1 UJ	< 0.1 UJT		**6,000**		
Shallow	MWA-2	GAMWA210997	9/30/1997		**0.17 J**		< 0.1 UJ		< 0.1 UJ	**0.17 JT**		**9,000**		
Shallow	MWA-2	GW059801	5/28/1998		**0.25 J**		< 0.04 U		**0.33 J**	**0.58 JT**	**10,400**	**4**		
Shallow	MWA-2	GW019907	1/27/1999		**0.32**		**0.04**		**0.18**	**0.54 T**	**41,100 T**	**94**		
Shallow	MWA-2	GW029906	4/27/1999		**0.8**		< 0.04 U		**0.6**	**1.4 T**	**16,800**	**970 J**		
Shallow	MWA-2	GW039907	8/24/1999		**0.7**		< 0.4 UJ		< 0.4 UJ	**0.7 T**	**33,800**	**4,400**		
Shallow	MWA-2	GW049905	11/16/1999		**0.39 J**		< 0.04 UJ		< 0.24 U	**0.39 JT**	**41,700**	**2,100**		
Shallow	MWA-2	GW010111	3/29/2001		**0.57**		< 0.1 U		< 0.1 U	**0.57 T**	**158,000 J**	**4,300**		
Shallow	MWA-2	GW020106	6/12/2001		**0.4**		**0.055**		< 0.05 UJ	**0.455 T**	**384,000**	**4,600**		
Shallow	MWA-2	GW04100205	4/10/2002		**0.41**		< 0.099 U		< 0.099 U	**0.41 T**	**1,400,000**	**27,000**		
Shallow	MWA-2	GW-060903-01	6/9/2003		< 1.70 U		< 1.70 U		< 2.80 U	< 2.8 UT	**981,000**	**13,700**		**1,400**
Shallow	MWA-2	MWA-2-111004	11/10/2004		< 0.500 UJ		< 0.500 UJ		< 0.500 UJ	< 0.5 UJT		**30,200**		
Shallow	MWA-2	MWA-2-031005	3/10/2005		< 2.50 UJ		< 2.50 UJ		< 2.50 UJ	< 2.5 UJT		**15,400**		
Shallow	MWA-2	MWA-2-062205	6/22/2005		**3.35**		< 0.500 UJ		< 0.500 UJ	**3.35 T**		**12,200**		
Shallow	MWA-2	MWA-2-091505	9/15/2005		**0.543 J**		< 0.184 U		**0.0789 J**	**0.8089 JT**		**21,900**		
Shallow	MWA-2	MWA-2-102705	10/27/2005		**0.477**		**0.0965**		< 0.236 UJ	**0.5735 T**		**23,500**		
Shallow	MWA-2	MWA-2-122005	12/20/2005		**0.312**		< 0.239 UJ		< 0.239 UJ	**0.312 T**		**16,200**		
Shallow	MWA-2	MWA-2-011306	1/13/2006		**0.510**		< 0.0971 UJ		< 0.0971 UJ	**0.51 T**		**4**		
Shallow	MWA-2	MWA-2-032906	3/29/2006		**0.240**		< 0.0952 UJ		**0.190**	**0.43 T**		**4,050**		
Shallow	MWA-2	MWA-2-040407	4/4/2007		**0.292**		< 0.287 U		< 0.191 U	**0.292 A**	**376,000**	**2,570**		**73.8**
Shallow	MWA-2	MWA-2-080609	8/6/2009		< 0.286 U		< 0.286 U		**0.191**	**0.191 A**	**340,000**	**18,200**		**3.9**
Shallow	MWA-15R	GW010117	3/30/2001		**37**		< 10 U		**450**	**487 T**	**1960,000 J**	**260,000**		
Shallow	MWA-15R	GW020121	6/15/2001		**7.4**		< 0.96 U		**73 J**	**80.4 JT**	**1,560,000**	**210,000**		
Shallow	MWA-15R	GW04160201	4/16/2002		**25**		**4.2 J**		**75 J**	**104 JT**	**407,000**	**48,000**		
Shallow	MWA-15R	GW-061003-04	6/10/2003		**28.4 J**		< 3.40 U		**113**	**141 JT**	**388,000**	**13,300**		**350**
Shallow	MWA-15R	MWA-15R-100203	10/2/2003									**27,200**		
Shallow	MWA-15R	MWA-15R-111403	11/14/2003									**163,000**		
Shallow	MWA-15R	MWA-15R-011304	1/13/2004									**64,400**		
Shallow	MWA-15R	MWA-15R-013004	1/30/2004									**24,600**		
Shallow	MWA-15R	MWA-15R-030204	3/2/2004									**2,450**		
Shallow	MWA-15R	MWA-15R-111004	11/10/2004		**27.7**		< 5.00 UJ		**86.2**	**113 T**		**154,000**		
Shallow	MWA-15R	MWA-15R-031005	3/10/2005		**79.7**		< 25.0 UJ		**534**	**613.7 T**		**97,000**		
Shallow	MWA-15R	MWA-15R-062205	6/22/2005		**40.9**		**9.88**		**193**	**243.78 T**		**87,700**		
Shallow	MWA-15R	MWA-15R-091605	9/16/2005		**73.2**		**11.2 J**		**619 J**	**703 JT**		**240,000**		
Shallow	MWA-15R	MWA-15R-122105	12/21/2005		**10.1**		**1.53**		**86.5**	**98.13 T**		**217,000**		
Shallow	MWA-15R	MWA-15R-033006	3/30/2006		**124**		**24**		**458**	**606 T**		**72,900**		
Shallow	MWA-15R	MWA-15R-041707	4/17/2007		**48.3 J**		**7.71**		**207**	**263 JA**	**129,000**	**34**		
Shallow	MWA-15R	MWA-15R-081909	8/19/2009		**111**		**21.9**		**702**	**835 A**	**156,000**	**23,500**	< 25 UJ	
Shallow	MWA-15R	MWA-15R-090309	9/3/2009		**377**		**52.1**		**5,210**	**5,640 A**				
Shallow	MWA-18	GW010105	3/27/2001						**0.046 J**	**0.046 JT**	**1,200,000**	**41**		
Shallow	MWA-18	GW020110	6/13/2001		**0.015 J**		< 0.0094 U		< 0.026 U	**0.015 JT**	**894,000 J**	**34**	< 50 UJ	
Shallow	MWA-18	GW04040203	4/4/2002		< 0.0096 U		< 0.0096 U		< 0.019 U	< 0.019 UT	**2,210,000**	**8**		
Shallow	MWA-18	GW-060603-03	6/6/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**1,410,000**	< 3.06 U		< 25 U
Shallow	MWA-18	MWA-18-050505	5/5/2005								**612,000**		**833**	
Shallow	MWA-18	MWA-18-071405	7/14/2005										**676**	
Shallow	MWA-18	MWA-18	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**0.580**		
Shallow	MWA-18	MWA-18-081605	8/16/2005										**248**	
Shallow	MWA-18	MWA-18-091205	9/12/2005								**410,000**		**1,180**	**3.4**
Shallow	MWA-18	MWA-18-120805	12/8/2005										**5.90 J**	
Shallow	MWA-18	MWA-18-011006	1/10/2006										**30.0**	
Shallow	MWA-18	MWA-18-021306	2/13/2006										< 4.55 U	
Shallow	MWA-18	MWA-18-072606	7/26/2006										**3.4**	
Shallow	MWA-18	MWA-18-041107	4/11/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**233,000**	**1.33**	**2.2 J**	< 8.0 U

Appendix E
Historical Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-18	MWA-18-081009	8/10/2009		**0.0155**		**0.00671 J**		**0.00789 J**	**0.0301 JA**	**270,000**	**0.930 J**	**340 J**	< 4 U
Shallow	MWA-19	GW010104	3/27/2001		< 0.02 UJ		< 0.02 UJ		**0.095 J**	**0.095 JT**	**5,540,000**	< 0.5 U		
Shallow	MWA-19	GW020112	6/13/2001		< 0.0099 U		< 0.0099 U		< 0.016 U	< 0.016 UT	**12,700,000 J**	< 0.5 U	< 50 UJ	
Shallow	MWA-19	GW04040204	4/4/2002		< 0.0097 U		< 0.0097 U		**0.1**	**0.1 T**	**13,100,000**	< 0.5 U		
Shallow	MWA-19	GW-060603-04	6/6/2003		**0.0935**		< 0.0170 U		**0.23**	**0.324 T**	**5,180,000**	< 0.64 U		< 82 U
Shallow	MWA-19	MWA-19-050605	5/6/2005								**2,100,000**		**2,680**	
Shallow	MWA-19	MWA-19-071305	7/13/2005										**159**	
Shallow	MWA-19	MWA-19	8/3/2005		**0.114**		< 0.0500 U		**0.576**	**0.69 T**		**3.14**		
Shallow	MWA-19	MWA-19-081705	8/17/2005										**407**	
Shallow	MWA-19	MWA-19-091305	9/13/2005								**1,240,000**		**824**	< 1 U
Shallow	MWA-19	MWA-19-120805	12/8/2005										**101**	
Shallow	MWA-19	MWA-19-010906	1/9/2006										**33.2**	
Shallow	MWA-19	MWA-19-021006	2/10/2006										**12.1**	
Shallow	MWA-19	MWA-19-072606	7/26/2006										**56.8**	
Shallow	MWA-19	MWA-19-040907	4/9/2007		**0.0743 J**		< 0.0966 U		**0.242**	**0.316 JA**	**737,000**	**1.79**	**11.3**	< 80.0 U
Shallow	MWA-19	MWA-19-081009	8/10/2009		**0.183 J**		**0.175 J**		**1.14**	**1.5 JA**	**406,000**	**0.390 J**	**500 J**	< 40 U
Shallow	MWA-20	GW010103	3/27/2001						**0.088 J**	**0.088 JT**	**2,810,000 T**	**2,700**		
Shallow	MWA-20	GW020114	6/13/2001						**0.052 J**	**0.052 JT**	**1,780,000 J**	**1,100**	**59.5**	
Shallow	MWA-20	GW04090204	4/9/2002								**1,135,000 T**	**1,900**		
Shallow	MWA-20	GW-060503-03	6/5/2003		**0.0688 J**				**0.213 J**	**0.282 JT**	**1,500,000**	**215**		
Shallow	MWA-20	MWA-20-050905	5/9/2005										**436**	
Shallow	MWA-20	MWA-20-071305	7/13/2005										**74.1**	
Shallow	MWA-20	MWA-20	8/4/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1,540**		
Shallow	MWA-20	MWA-20-081505	8/15/2005										**676**	
Shallow	MWA-20	MWA-20-090705	9/7/2005										**573**	
Shallow	MWA-20	MWA-20-121205	12/12/2005										**9.67 J**	
Shallow	MWA-20	MWA-20-011006	1/10/2006										**52.5**	
Shallow	MWA-20	MWA-20-020906	2/9/2006										**43.8**	
Shallow	MWA-20	MWA-20-072506	7/25/2006										**14.36 J**	
Shallow	MWA-20	MWA-20-041107	4/11/2007		< 0.0485 U		< 0.0485 U		**0.0692 J**	**0.0692 J**	**583,000**	**1,500 J**	**8.6**	< 33.9 U
Shallow	MWA-20	MWA-20-081709	8/17/2009		< 0.00952 U		< 0.00952 U		**0.00836 J**	**0.00836 JA**	**164,000**	**1,780**	**67 J**	< 40 U
Shallow	MWA-22	GW020122	6/15/2001		**0.83**		< 0.096 U		**0.15**	**0.98 T**	**4,870,000**	**38**		
Shallow	MWA-22	GW04110203	4/11/2002		< 0.099 U		< 0.099 U		< 0.099 U	< 0.099 UT	**5,430,000**	**310**		
Shallow	MWA-22	GW-061003-02	6/10/2003		< 0.13 U		< 0.0170 UJ		< 0.348 U	< 0.348 UT	**6,210,000**	**128**		
Shallow	MWA-22	MWA-22	8/1/2005		**0.115**		< 0.0500 U		**1.29**	**1.405 T**		**6,460**		
Shallow	MWA-22	MWA-22-041607	4/16/2007		**0.133**		< 0.0976 U		< 0.0976 U	**0.133 A**	**4,200,000**	**538**	**103**	
Shallow	MWA-22	MWA-22-081909	8/19/2009		< 0.144 U		< 0.0962 U		< 0.0962 U	< 0.144 UA	**2,870,000**	**123**	**48 J**	< 40 U
Shallow	MWA-22	MWA-22-022119	2/21/2019	< 0.10 UJ	**0.026 J-**	< 0.10 UJ	**0.0060 J-**	< 0.10 UJ	< 0.010 UJ	**0.032**		**3,400**	< 13 UJ	< 48
Shallow	MWA-24	GW11150102	11/15/2001									< 2.5 U		
Shallow	MWA-24	GW04080201	4/8/2002								**408,000**			
Shallow	MWA-24	GW-060503-04	6/5/2003		< 0.232 U		< 0.0340 U		< 0.0560 U	< 0.232 UT	**583,000**			
Shallow	MWA-24	MWA-24-050505	5/5/2005								**529,000**		**52.8 J**	
Shallow	MWA-24	MWA-24-071205	7/12/2005										**54.1 J**	
Shallow	MWA-24	MWA-24-081105	8/11/2005										**35.5**	
Shallow	MWA-24	MWA-24-090705	9/7/2005										**20.3**	
Shallow	MWA-24	MWA-24-091405	9/14/2005											**30**
Shallow	MWA-24	MWA-24-120705	12/7/2005										**63.5**	
Shallow	MWA-24	MWA-24-011106	1/11/2006										**31.9**	
Shallow	MWA-24	MWA-24-020806	2/8/2006										**30.6**	
Shallow	MWA-24	MWA-24-072506	7/25/2006										**24**	
Shallow	MWA-24	MWA-24-040307	4/3/2007								**274,000**	**1.90 J**	**76.2**	**258 J**
Shallow	MWA-24	MWA-24-080509	8/5/2009								**237,000**	< 0.500 U	**86 J**	**17.9**
Shallow	MWA-29	GW04080204	4/8/2002		< 0.0096 U		< 0.0096 U		< 0.0096 U	< 0.0096 UT	**21,900,000**	< 0.5 U		
Shallow	MWA-29	GW-060403-06	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**11,700,000**			< 110 U
Shallow	MWA-29	MWA-29-050905	5/9/2005								**9,100,000**		**14.1**	

Appendix E
Historical Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-29	MWA-29-071805	7/18/2005										< 4.55 U	
Shallow	MWA-29	MWA-29-081205	8/12/2005										< 4.55 U	
Shallow	MWA-29	MWA-29-091205	9/12/2005								**12,600,000**		**107**	**4,800**
Shallow	MWA-29	MWA-29-120805	12/8/2005										**186**	
Shallow	MWA-29	MWA-29-010606	1/6/2006										**14.1**	
Shallow	MWA-29	MWA-29-020806	2/8/2006										**19.5**	
Shallow	MWA-29	MWA-29-072406	7/24/2006										< 20 U	
Shallow	MWA-29	MWA-29-041607	4/16/2007		< 0.0966 U		< 0.0966 U		< 0.0966 U	< 0.0966 UA	**9,710,000**		< 20 UJ	**243**
Shallow	MWA-29	MWA-29-080609	8/6/2009		< 0.00952 U		< 0.00952 U		< 0.00952 U	< 0.00952 UA	**3,750,000**		< 25 UJ	< 20 U
Shallow	MWA-30	GW04120203	4/12/2002		**0.18**		**0.021 J**		**0.012**	**0.213 JT**	**179,000,000**	< 0.5 U		
Shallow	MWA-30	GW-060403-08	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**164,000,000**			**7,900**
Shallow	MWA-30	MWA-30-050605	5/6/2005								**104,000,000**		**3,040**	
Shallow	MWA-30	MWA-30-051005	5/10/2005											**621**
Shallow	MWA-30	MWA-30-071805	7/18/2005										**13.0**	
Shallow	MWA-30	MWA-30	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		< 0.136 U		
Shallow	MWA-30	MWA-30-081705	8/17/2005										**6,270**	
Shallow	MWA-30	MWA-30-010606	1/6/2006										**32.8**	
Shallow	MWA-30	MWA-30-021006	2/10/2006										< 4.55 U	
Shallow	MWA-30	MWA-30-072606	7/26/2006										< 2 U	
Shallow	MWA-30	MWA-30-040507	4/5/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**39,400,000**	**0.900**	**8.5 J**	< 80.0 U
Shallow	MWA-30	MWA-30-081009	8/10/2009		**0.148**		< 0.00943 U		< 0.00943 U	**0.148 A**	**12,900,000**	< 2.00 UJ	**1,100 J**	< 80 U
Shallow	MWA-33	GW-060503-05	6/5/2003								**198,000**	< 2.51 U		**540**
Shallow	MWA-33	GW-061103-02	6/11/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.518 U	< 0.518 UT	**286,000**			**320**
Shallow	MWA-33	MWA-33-050505	5/5/2005										**44.6**	
Shallow	MWA-33	MWA-33-071405	7/14/2005										**51.8**	
Shallow	MWA-33	MWA-33-081105	8/11/2005										**36.2**	
Shallow	MWA-33	MWA-33-090705	9/7/2005										**30.2**	
Shallow	MWA-33	MWA-33-091405	9/14/2005											**1,500**
Shallow	MWA-33	MWA-33-120805	12/8/2005										**17.7**	
Shallow	MWA-33	MWA-33-011106	1/11/2006										**8.74 J**	
Shallow	MWA-33	MWA-33-020806	2/8/2006										**14.8**	
Shallow	MWA-33	MWA-33-072406	7/24/2006										**11 J**	
Shallow	MWA-33	MWA-33-040307	4/3/2007		**0.0688 J**		**0.106**		**0.0892 J**	**0.264 JA**	**336,000**		**11.9**	< 20.0 U
Shallow	MWA-33	MWA-33-080509	8/5/2009		< 0.0952 U		< 0.0952 U		< 0.0952 U	< 0.0952 UA	**929,000**		**14 J**	< 8 U
Shallow	MWA-40	MWA-40-050505	5/5/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-071205	7/12/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-081105	8/11/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-090705	9/7/2005										**4.76 J**	
Shallow	MWA-40	MWA-40-120705	12/7/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-011106	1/11/2006										< 4.55 U	
Shallow	MWA-40	MWA-40-020806	2/8/2006										< 4.55 U	
Shallow	MWA-40	MWA-40-072406	7/24/2006										**9.5 J**	
Shallow	MWA-40	MWA-40-040307	4/3/2007								**294,000**		**21.7**	< 400 U
Shallow	MWA-40	MWA-40-080509	8/5/2009								**220,000**		**42 J**	< 20 U
Shallow	MWA-41	MWA-41-050905	5/9/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-071505	7/15/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-081205	8/12/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-090705	9/7/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-120805	12/8/2005										**0.600 J**	
Shallow	MWA-41	MWA-41-010506	1/5/2006										< 4.55 U	
Shallow	MWA-41	MWA-41-020806	2/8/2006										< 4.55 U	
Shallow	MWA-41	MWA-41-072406	7/24/2006										**15.1 J**	
Shallow	MWA-41	MWA-41-041607	4/16/2007								**26,600**		< 0.6 U	**1.7 J**
Shallow	MWA-41	MWA-41-080609	8/6/2009								**26,300**		< 25 UJ	< 4 U
Shallow	MWA-42	MWA-42-050505	5/5/2005										**56.2**	

Appendix E
Historical Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-42	MWA-42-071205	7/12/2005										< 4.55 U	
Shallow	MWA-42	MWA-42	8/2/2005		< 0.250 UJ		< 0.250 UJ		< 0.250 UJ	< 0.25 UJT		**94.0**		
Shallow	MWA-42	MWA-42-081505	8/15/2005										**11.9**	
Shallow	MWA-42	MWA-42-090805	9/8/2005								**913,000**			
Shallow	MWA-42	MWA-42-092305	9/23/2005										**46.7**	
Shallow	MWA-42	MWA-42-120705	12/7/2005										**27.7**	
Shallow	MWA-42	MWA-42-011106	1/11/2006										**5.77 J**	
Shallow	MWA-42	MWA-42-020906	2/9/2006										**6.26 J**	
Shallow	MWA-42	MWA-42-072506	7/25/2006										**8.6 J**	
Shallow	MWA-42	MWA-42-040307	4/3/2007		**0.101**		**0.197**		**0.111**	**0.409 A**	**45,000**	**3.35**	**7.4**	< 80.0 U
Shallow	MWA-42	MWA-42-081709	8/17/2009		**0.104**		**0.152**		< 0.0952 U	**0.256 A**	**816,000**	**129**	< 25 UJ	< 40 U
Shallow	MWA-46	MWA-46-050605	5/6/2005										**49.5 J**	
Shallow	MWA-46	MWA-46-071405	7/14/2005										**41.1**	
Shallow	MWA-46	MWA-46	8/4/2005		< 0.0500 U		< 0.0500 U		**0.611 J**	**0.611 JT**		**40.2**		
Shallow	MWA-46	MWA-46-081605	8/16/2005										**20.3**	
Shallow	MWA-46	MWA-46-091305	9/13/2005								**1,250,000**		**43.3**	< 1 U
Shallow	MWA-46	MWA-46-120905	12/9/2005										**16.7**	
Shallow	MWA-46	MWA-46-010906	1/9/2006										< 4.55 U	
Shallow	MWA-46	MWA-46-021306	2/13/2006										**5.14 J**	
Shallow	MWA-46	MWA-46-072606	7/26/2006										**35.4**	
Shallow	MWA-46	MWA-46-041107	4/11/2007		< 0.0980 U		< 0.0980 U		**0.323**	**0.323 A**	**1,820,000**	**938**	**22**	< 80.0 U
Shallow	MWA-46	MWA-46-081009	8/10/2009		**0.429**		**0.176 J**		**0.728**	**1.33 JA**	**651,000**	**1.54**	< 250 UJ	< 40 U
Shallow	MWA-47	MWA-47-050605	5/6/2005										< 4.55 U	
Shallow	MWA-47	MWA-47-071905	7/19/2005										< 40.0 UJ	
Shallow	MWA-47	MWA-47-081705	8/17/2005										**4.63 J**	
Shallow	MWA-47	MWA-47-090905	9/9/2005								**9,690,000**		< 4.55 U	**66,000**
Shallow	MWA-47	MWA-47-121205	12/12/2005										< 4.55 U	
Shallow	MWA-47	MWA-47-010606	1/6/2006										**14.3**	
Shallow	MWA-47	MWA-47-021006	2/10/2006										< 4.55 U	
Shallow	MWA-47	MWA-47-072606	7/26/2006										< 2 U	
Shallow	MWA-47	MWA-47-040507	4/5/2007		**0.265**		**0.0489 J**		**0.152**	**0.466 JA**	**3,690,000**	**0.540**	< 20 UJ	**82.3**
Shallow	MWA-47	MWA-47-080609	8/6/2009		**0.200**		**0.0353 J**		**0.0931 J**	**0.328 JA**	**2,110,000**	**0.880 J**	**110 J**	< 20 U
Shallow	MWA-47	MWA-47-022119	2/21/2019	**0.040 j**	**0.067**	< 0.10	< 0.0050	< 0.10	**0.041**	**0.148**		**33**	**1.1**	**3.9 j**
Shallow	MWA-61	MWA-61	8/1/2005		< 2.50 UJ		< 2.50 UJ		< 2.50 UJ	< 2.5 UJT		**5,800**		
Shallow	MWA-61	MWA-61-102605	10/26/2005		**0.109**		< 0.236 UJ		**0.129**	**0.238 T**		**2,100**		
Shallow	MWA-61	MWA-61-112105	11/21/2005		**0.11**		**0.0557 J**		**0.204**	**0.369 JT**		**133**		
Shallow	MWA-61	MWA-61-011306	1/13/2006		**0.545**		< 0.0472 U		**0.124**	**0.669 T**		**465**		
Shallow	MWA-61	MWA-61-040407	4/4/2007		**0.567**		< 0.0980 U		< 0.0980 U	**0.567 A**	**683,000**	**325**		**343**
Shallow	MWA-61	MWA-61-081009	8/10/2009		**0.356 J**		< 0.476 U		< 0.476 U	**0.356 JA**	**473,000**	**715 J**		**489**
Shallow	MWA-61	MWA-61-022119	2/21/2019	**0.27 J+**	**0.50 J+**	< 0.10	**0.016 J+**	< 0.10	**0.029 J+**	**0.815**		**690**	< 1.0	**37**
Shallow	MWA-63	MWA-63-102705	10/27/2005		< 0.0472 U		< 0.0472 U		< 0.0472 U	< 0.0472 UT		**7.60**		
Shallow	MWA-63	MWA-63-112105	11/21/2005		< 0.0495 U		< 0.0495 U		**0.0533 J**	**0.0533 JT**		< 0.272 U		
Shallow	MWA-63	MWA-63-040407	4/4/2007		< 0.00995 UJ		< 0.00995 UJ		**0.00603 J**	**0.00603 JA**	**358,000**	**0.180 J**		< 4.0 U
Shallow	MWA-63	MWA-63-080509	8/5/2009		< 0.00952 U		< 0.00952 U		**0.00574 J**	**0.00574 JA**	**690,000**	< 100 U		< 8 U
Shallow	MWA-63	MWA-63-022119	2/21/2019	< 0.10	< 0.0050	< 0.10	< 0.0050	< 0.10	< 0.010	< 0.10		**5,800**	< 1.0 UJ	< 4.0
Shallow	MWA-69	MWA-69	8/2/2005		**17.3**		< 5.00 UJ		**51.1**	**68.4 T**		**9,010**		
Shallow	MWA-69	MWA-69-102505	10/25/2005		**3.93**		**0.289**		**6.84**	**11.059 T**		**2,690**		
Shallow	MWA-69	MWA-69-112205	11/22/2005		**4.36**		**0.425**		**9.33**	**14.115 T**		**3,640**		
Shallow	MWA-69	MWA-69-011606	1/16/2006		**8.64**		**0.838**		**29.5**	**38.978 T**		**166**		
Shallow	MWA-69	MWA-69-041707	4/17/2007		**15.6**		**1.05 J**		**46.4 J**	**62.9 JA**	**511,000**	**5,360**		**29.5 J**
Shallow	MWA-69	MWA-69-081109	8/11/2009		**50.0**		**4.16**		**57.9**	**112.06**	**297,000**	**6,930**		< 20 U
Shallow	MWA-69	MWA-69-090309	9/3/2009		**7.45**		**0.369**		**5.95**	**13.8 A**				
Intermediate	MWA-8I	GWG001	11/24/1998									**1,700**		
Intermediate	MWA-8I	GW019906	1/27/1999		**5.3 J**		**0.07 J**		**1 J**	**6.37 JT**	**2,660,000**	**4,800**		
Intermediate	MWA-8I	GW029908	4/27/1999		**0.16 J**		< 0.04 UJ		< 0.04 UJ	**0.16 JT**	**2,290,000**	**4,300 J**		

Appendix E
Historical Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Intermediate	MWA-8I	GW039905	8/24/1999		**0.05 J**		< 0.04 UJ		< 0.04 UJ	**0.05 JT**	**2,660,000**	**3,400**		
Intermediate	MWA-8I	GW049906	11/16/1999		**0.08 J**					**0.08 JT**	**2,530,000**	**2,800**		
Intermediate	MWA-8I	GW010112	3/29/2001		< 0.1 U		< 0.1 U		< 0.1 U	< 0.1 UT	**1,660,000 J**	**4,100**		
Intermediate	MWA-8I	GW020107	6/12/2001		**0.11 J**					**0.11 JT**	**1,420,000**	**1,400**		
Intermediate	MWA-8I	GW04100206	4/10/2002		**0.08**		< 0.0097 U		**0.012**	**0.092 T**	**2,110,000**	**940**		
Intermediate	MWA-8I	GW-060903-02	6/9/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**2,380,000**	**23**		< 20 U
Intermediate	MWA-8I	MWA-8I-111004	11/10/2004		< 0.0500 U		< 0.0500 U		**0.590**	**0.59 T**		**24**		
Intermediate	MWA-8I	MWA-8I-031005	3/10/2005		< 0.0500 U		< 0.0500 U		**0.138 J**	**0.138 JT**		**185**		
Intermediate	MWA-8I	MWA-8I-062105	6/21/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**27**		
Intermediate	MWA-8I	MWA-8I-091505	9/15/2005		< 0.00103 U		< 0.00367 U		**0.0243 J**	**0.0243 JT**		**122**		
Intermediate	MWA-8I	MWA-8I-102705	10/27/2005		< 0.0472 U		< 0.0472 U		< 0.0472 U	< 0.0472 UT		**215**		
Intermediate	MWA-8I	MWA-8I-112105	11/21/2005		< 0.0472 U		< 0.0472 U		**0.0678 J**	**0.0678 JT**		**46**		
Intermediate	MWA-8I	MWA-8I-122005	12/20/2005		< 0.0957 UJ		< 0.0957 UJ		< 0.0957 UJ	< 0.0957 UJT		**25**		
Intermediate	MWA-8I	MWA-8I-032906	3/29/2006		< 0.0490 U		< 0.0490 U		< 0.0490 U	< 0.049 UT		**18**		
Intermediate	MWA-8I	MWA-8I-040407	4/4/2007		< 0.0976 U		< 0.0976 U		< 0.0976 U	< 0.0976 UA	**1,420,000**	**4,910**		< 200 U
Intermediate	MWA-8I	MWA-8I-080609	8/6/2009		< 0.0190 U		< 0.0190 U		**0.0194**	**0.0194 A**	**1,020,000**	**746**		< 20 U
Intermediate	MWA-32I	GW-060403-10	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**31,000,000**			**200,000**
Intermediate	MWA-32I	MWA-32I-050605	5/6/2005								**17,600,000**		**176**	
Intermediate	MWA-32I	MWA-32I-051005	5/10/2005											**158,000**
Intermediate	MWA-32I	MWA-32I-071805	7/18/2005										**119**	
Intermediate	MWA-32I	MWA-32I	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1**		
Intermediate	MWA-32I	MWA-32I-081705	8/17/2005										**555**	
Intermediate	MWA-32I	MWA-32I-091405	9/14/2005								**13,700,000**		**386**	**160,000**
Intermediate	MWA-32I	MWA-32I-120905	12/9/2005										**14.4**	
Intermediate	MWA-32I	MWA-32I-010606	1/6/2006										**6.55 J**	
Intermediate	MWA-32I	MWA-32I-021006	2/10/2006										**6.72 J**	
Intermediate	MWA-32I	MWA-32I-072606	7/26/2006										< 2 U	
Intermediate	MWA-32I	MWA-32I-040507	4/5/2007		**0.0818 J**		< 0.0952 U		< 0.0952 U	**0.0818 JA**	**33,800,000**	**0.470 J**	**8 J**	**131 J**
Intermediate	MWA-32I	MWA-32I-081009	8/10/2009		**0.0568 J**		< 0.0962 U		< 0.0962 U	**0.0568 JA**	**2,520,000**	**0.180 J**	**210 J**	**29,900**
Intermediate	MWA-34I	GW-060603-05	6/6/2003		**0.0892**		< 0.0170 U		**0.327**	**0.416 T**	**3,040,000**	**666**		**4,600**
Intermediate	MWA-34I	MWA-34I-050605	5/6/2005								**5,260,000**		**35.8**	
Intermediate	MWA-34I	MWA-34I-071805	7/18/2005										**17.6**	
Intermediate	MWA-34I	MWA-34I	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1,540**		
Intermediate	MWA-34I	MWA-34I-081705	8/17/2005										**192**	
Intermediate	MWA-34I	MWA-34I-091305	9/13/2005								**4,580,000**		**26.9**	**5,900**
Intermediate	MWA-34I	MWA-34I-120905	12/9/2005										**30.2**	
Intermediate	MWA-34I	MWA-34I-010906	1/9/2006										**13.5**	
Intermediate	MWA-34I	MWA-34I-021006	2/10/2006										**12.3**	
Intermediate	MWA-34I	MWA-34I-072606	7/26/2006										**34.5**	
Intermediate	MWA-34I	MWA-34I-040907	4/9/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**1,400,000**	**3,920**	**32.6**	< 80.0 U
Intermediate	MWA-34I	MWA-34I-081109	8/11/2009		< 0.0200 U		< 0.0200 U		< 0.0200 U	< 0.02 UA	**740,000**	**3,240**	< 250 UJ	< 40 U
Intermediate	MWA-49I	MWA-49I-050605	5/6/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-071405	7/14/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I	8/3/2005		< 0.0500 U		< 0.0500 U		**0.204**	**0.204 T**		**6**		
Intermediate	MWA-49I	MWA-49I-081605	8/16/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-091305	9/13/2005								**10,600,000**		< 4.55 U	**160,000**
Intermediate	MWA-49I	MWA-49I-120905	12/9/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-010906	1/9/2006										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-021306	2/13/2006										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-072606	7/26/2006										< 2 U	
Intermediate	MWA-49I	MWA-49I-041107	4/11/2007		< 0.0971 U		< 0.0971 U		**0.135**	**0.135 A**	**11,000,000**	**0.780 J**	**0.9 J**	**42,800**
Intermediate	MWA-49I	MWA-49I-081009	8/10/2009		**0.0402 J**		**0.0394 J**		**0.269**	**0.349 JA**	**7,560,000**	< 10.0 U	< 25 UJ	**58,900**
Intermediate	MWA-51I	MWA-51I-050505	5/5/2005										**48.5**	
Intermediate	MWA-51I	MWA-51I-071405	7/14/2005										**63.1**	
Intermediate	MWA-51I	MWA-51I	8/3/2005		< 0.0500 U		< 0.0500 U		**1.21**	**1.21 T**		**845**		

Appendix E
Historical Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Intermediate	MWA-51I	MWA-51I-081605	8/16/2005										**24.3**	
Intermediate	MWA-51I	MWA-51I-091305	9/13/2005								**8,910,000**		**46.8**	**590**
Intermediate	MWA-51I	MWA-51I-120805	12/8/2005										**22.0**	
Intermediate	MWA-51I	MWA-51I-011006	1/10/2006										< 4.55 U	
Intermediate	MWA-51I	MWA-51I-021306	2/13/2006										**10.7**	
Intermediate	MWA-51I	MWA-51I-041107	4/11/2007		**0.103**		< 0.0962 U		**0.0572 J**	**0.16 JA**	**4,640,000**	**358**	**31.3**	**54.6 J**
Intermediate	MWA-51I	MWA-51I-081009	8/10/2009		**0.113**		< 0.0962 U		**0.0363 J**	**0.149 JA**	**2,780,000**	**336 J**	< 250 UJ	< 40 U
Intermediate	MWA-53I	MWA-53I-050905	5/9/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-071805	7/18/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-081205	8/12/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-091205	9/12/2005								**14,300,000**		< 4.55 U	**1,400**
Intermediate	MWA-53I	MWA-53I-120805	12/8/2005										**1.10 J**	
Intermediate	MWA-53I	MWA-53I-010606	1/6/2006										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-020806	2/8/2006										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-072406	7/24/2006										**6.8 J**	
Intermediate	MWA-53I	MWA-53I-041607	4/16/2007								**16,200,000**		< 6 UJ	**209**
Intermediate	MWA-53I	MWA-53I-080609	8/6/2009								**5,980,000**		< 25 UJ	< 20 U
Intermediate	MWA-54I	MWA-54I-050505	5/5/2005										**54.8**	
Intermediate	MWA-54I	MWA-54I-071205	7/12/2005										< 136 U	
Intermediate	MWA-54I	MWA-54I-081505	8/15/2005										< 4.55 U	
Intermediate	MWA-54I	MWA-54I-090805	9/8/2005								**5,540,000**			
Intermediate	MWA-54I	MWA-54I-092305	9/23/2005										**6.34 J**	
Intermediate	MWA-54I	MWA-54I-120705	12/7/2005										**7.20 J**	
Intermediate	MWA-54I	MWA-54I-011106	1/11/2006										**11.3**	
Intermediate	MWA-54I	MWA-54I-020906	2/9/2006										**11.3**	
Intermediate	MWA-54I	MWA-54I-07506	7/25/2006										**17.5 J**	
Intermediate	MWA-54I	MWA-54I-040307	4/3/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**3,090,000**	**9**	**14.4**	< 40.0 U
Intermediate	MWA-54I	MWA-54I-081909	8/19/2009		**0.0380 J**		**0.00781 J**		**0.0103 J**	**0.0561**	**2,750,000**	**7**	**210 J**	< 40 U
Intermediate	MWA-64I	MWA-64I	8/1/2005		**0.207**		< 0.0500 U		**0.309**	**0.516 T**		**2,320**		
Intermediate	MWA-64I	MWA-64I-040407	4/4/2007		**0.0563 J**		< 0.0966 U		< 0.0966 U	**0.0563 JA**	**1,910,000**	**17,500**		< 400 U
Intermediate	MWA-64I	MWA-64I-080609	8/6/2009		**0.0290 J**		< 0.0952 U		**0.0319 J**	**0.0609 JA**	**1,590,000**	**2,070**		< 40 U
Intermediate	MWA-66I	MWA-66I	8/2/2005		< 0.500 UJ		< 0.500 UJ		< 0.500 UJ	< 0.5 UJT		**12,900**		
Intermediate	MWA-66I	MWA-66I-041707	4/17/2007		< 0.0957 U		< 0.0957 U		< 0.0957 U	< 0.0957 UA	**1,890,000**	**8,160**		**39.0 J**
Intermediate	MWA-66I	MWA-66I-081109	8/11/2009		< 0.0340 U		< 0.00971 U		**0.00620 J**	**0.0062 JA**	**1,720,000**	**7,780**	< 25 UJ	**1,240**
Intermediate	MWA-70I	MWA-70I-B	4/19/2006								**68,000**	< 0.17 U	< 1.62 U	< 200 U
Intermediate	MWA-70I	MWA-70I-040307	4/3/2007								**4,090,000**		**1.4 J**	< 40.0 U
Intermediate	MWA-70I	MWA-70I-080509	8/5/2009								**5,200,000**		< 25 U	< 20 U
Deep	MWA-11I(D)	GWG004	12/7/1998									**49**		
Deep	MWA-11I(D)	GW019916	1/29/1999		< 0.04 U		< 0.04 U		**0.2**	**0.2 T**	**612,000**	**2.5**		
Deep	MWA-11I(D)	GW029905	4/27/1999		**0.19**		< 0.04 U		**0.08**	**0.27 T**	**637,000**	< 0.5 UJ		
Deep	MWA-11I(D)	GW039916	8/26/1999		**0.12**		< 0.04 U		**0.05**	**0.17 T**	**802,000**	< 0.5 U		
Deep	MWA-11I(D)	GW049914	11/17/1999		**0.1 J**		< 0.04 UJ		< 0.04 UJ	**0.1 JT**	**963,000**	< 1 U		
Deep	MWA-11I(D)	GW010118	3/30/2001		**0.25**		< 0.1 U		**0.7**	**0.95 T**	**768,000 J**	< 0.5 U		
Deep	MWA-11I(D)	GW020119	6/15/2001		**0.25**		**0.01 J**		**0.48**	**0.74 JT**	**773,000**	< 0.5 U		
Deep	MWA-11I(D)	GW04110204	4/11/2002		< 0.16 U		< 0.0097 U		< 0.085 U	< 0.16 UT	**833,000**	< 1.4 U		
Deep	MWA-11I(D)	GW-061003-03	6/10/2003		**1.2**		< 0.0170 U		< 0.573 U	**1.2 T**	**550,000**	< 0.71 U		< 20 U
Deep	MWA-11I(D)	MWA-11	8/1/2005		**0.593**		< 0.0500 U		**0.0829 J**	**0.6759 JT**		**0.810**		
Deep	MWA-11I(D)	MWA-11I-041707	4/17/2007		**0.0722 J**		< 0.0971 U		**0.0591 J**	**0.131 JA**	**1,210,000**	**1.92**		< 8.0 U
Deep	MWA-11I(D)	MWA-11I-081909	8/19/2009		**0.658**		**0.0459 J**		**0.0599 J**	**0.764 JA**	**1,090,000**	< 0.780 U	**40 J**	< 4 U
Deep	MWA-31I(D)	GW04080205	4/8/2002		< 0.0097 U		< 0.0097 U		< 0.0097 U	< 0.0097 UT	**39,100,000**	< 0.5 U		
Deep	MWA-31I(D)	GW-060403-07	6/4/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**61,100,000**			**4,700**
Deep	MWA-31I(D)	MWA-31I-050605	5/6/2005								**62,100,000**		**726**	
Deep	MWA-31I(D)	MWA-31I-071805	7/18/2005										**250**	
Deep	MWA-31I(D)	MWA-31I-081705	8/17/2005										**142**	
Deep	MWA-31I(D)	MWA-31I-091405	9/14/2005								**57,900,000**		**1,020**	

Appendix E
Historical Data Table
Arkema Quarter 2, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
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).

ERM has over 160 offices across the following countries and territories worldwide

Argentina
Australia
Belgium
Brazil
Canada
China
Colombia
France
Germany
Ghana
Guyana
Hong Kong
India
Indonesia
Ireland
Italy
Japan
Kazakhstan
Kenya
Malaysia
Mexico
Mozambique
The Netherlands
New Zealand
Panama
Peru
Poland
Portugal
Puerto Rico
Romania
Senegal
Singapore
South Africa
South Korea
Spain
Switzerland
Taiwan
Tanzania
Thailand
UAE
UK
US
Vietnam

ERM's Portland Office
1050 SW 6th Ave
Suite 1650
Portland, OR 97204

T: 503-488-5282
F: 503-488-5412

www.erm.com

The business of sustainability

ERM