TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

Arkema Quarter 4, 2024, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon

PREPARED FOR
Legacy Site Services LLC

DATE
March 2025

REFERENCE
0732445

SIGNATURE PAGE

Arkema Quarter 4, 2024, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon

0732445

Brendan Robinson, P.E.
Partner-in-Charge

Avery Soplata, R.G.
Project Manager

Environmental Resources Management, Inc.
1050 SW 6th Avenue
Suite 1650
Portland, OR 97204
T +503-488-5282

© Copyright 2025 by The ERM International Group Limited and/or its affiliates ('ERM'). All Rights Reserved.
No part of this work may be reproduced or transmitted in any form or by any means, without prior written permission of ERM.

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

CONTENTS

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

LIST OF TABLES

LIST OF FIGURES

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

ACRONYMS AND ABBREVIATIONS

Acronyms	Description
µg/L	micrograms per liter
Arkema	Arkema Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
COC	contaminant of concern
ERM	Environmental Resources Management, Inc.
GEE	Groundwater Extraction Enhancement
GMWP	Groundwater Monitoring Work Plan
GWBW	groundwater barrier wall
GWET	groundwater extraction and treatment
GW SCM	groundwater source control measures
LSS	Legacy Site Services, LLC
ODEQ	Oregon Department of Environmental Quality
PCE	tetrachloroethene
QA/QC	quality assurance / quality control
QAPP	quality Assurance Project Plan
Report	Quarter 4, 2024, 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

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

1. INTRODUCTION

Environmental Resources Management, Inc. (ERM) has prepared this *Arkema Quarter 4, 2024, Groundwater Monitoring Report* (Report) for the Arkema Inc. Facility (the Site) on behalf of Legacy Site Services, LLC (LSS), agent for Arkema Inc. (Arkema). The Site is located at 6400 NW Front Avenue in the Northwest Industrial Area of Portland, Oregon, and is bounded by Front Avenue on the north and west, the Willamette River on the east, and an asphalt roofing manufacturer on the south. The Site lies on the southwest bank of the lower Willamette River between river mile 6.9 and river mile 7.6, immediately upstream of the Burlington Northern Santa Fe Railroad Bridge and is adjacent to the Portland Harbor Superfund site.

The Site's operational and remedial history was documented in the *Revised Upland Feasibility Study Work Plan* (ERM 2017). This Report provides the field procedures, groundwater level data, and analytical results for the Quarter 4, 2024, groundwater monitoring at the former Arkema Portland Plant at 6400 NW Front Avenue, Portland, Oregon.

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

In their 31 May 2019 review of the *Draft GWET System Effectiveness Evaluation* [SEE] *Report* (ODEQ 2019), the Oregon Department of Environmental Quality (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

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

- 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.

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

2. FIELD PROCEDURES

ERM collected groundwater elevation data from 128 well locations on 6 December 2024 and groundwater samples from 29 well locations between 9 December and 12 December 2024. One well location in the Approved Groundwater Monitoring Program, PA-21d, was not sampled and additional details are included in Section 2.5. The locations of all monitoring wells and piezometers are presented on Figure 1. A summary of groundwater level and sampling locations and analyses are displayed in Table 1.

ERM performed field sampling in accordance with the procedures outlined in the GMWP and addenda, with exception of deviations further described in Section 2.5. These procedures cover well purging, field parameter collection, analytical requirements, and quality assurance / quality control (QA/QC) protocols.

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

2.1 GROUNDWATER LEVEL MEASUREMENTS

As shown in Table 1, ERM collected groundwater elevation data on 6 December 2024 from 128 well locations using a combination of transducer and manual measurements. Manual measurements were measured to the nearest 0.01 foot using a water level indicator in accordance with the GMWP. For locations with functioning transducers, transducer data were used for reporting in lieu of collecting manual measurements. For locations with transducers where a manual measurement was collected, when drift was 0.1 foot or greater, the transducer was recalibrated.

2.2 GROUNDWATER SAMPLE COLLECTION PROCEDURES

ERM collected groundwater samples from 29 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 29 well locations under ERM's monitoring program are included below.

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

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

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

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

2.3 SAMPLE SHIPPING AND INVESTIGATION-DERIVED WASTE

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

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

2.4 QUALITY ASSURANCE AND QUALITY CONTROL AND DATA VALIDATION

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

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

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

ERM completed data validation after receiving the laboratory analytical reports. Appendix B includes laboratory analytical reports and Appendix C includes data validation memos. QA/QC sample results were reviewed during data validation and additional details are included in the data validation memos (Appendix C). Based on the results of the data validation, qualifiers were assigned to the data, and it was determined that the qualified data are acceptable for decision making and meet the overall objectives of the monitoring program.

2.5 DEVIATIONS FROM GROUNDWATER MONITORING WORK PLAN

Deviations outside of the Approved Groundwater Monitoring Program include the following:

- One piezometer, PA-21d, was not sampled because the transducer was unable to be removed for groundwater sampling. ERM staff were able to remove and replace the transducer on 23 December 2024, and the piezometer was sampled during the Quarter 1, 2025, groundwater sampling event.
- Select wells sampled during Quarter 4, 2024, had unstable field parameters and drawdown over 1 foot. Additional details are provided below in Section 3.2.1.
- Potentially inaccurate turbidity measurements were recorded from well locations sampled on 9 December 2024 (PA-03, PA-08, PA-17iR, and PA-30d) due to issues with the field water

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

quality meters. New field water quality meters were received on 10 December 2024 and used for the remainder of the sampling event.

- Field parameter data for location PA-09 was lost due to a field device error.

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

3. GROUNDWATER MONITORING RESULTS

3.1 GROUNDWATER ELEVATIONS

On 6 December 2024, ERM manually measured depth to groundwater to the nearest 0.01 foot in 56 wells at the Site using an electronic water level indicator. For the additional 72 wells with functioning transducers, ERM collected transducer groundwater elevation data on 6 December 2024. ERM averaged transducer data recorded in the respective Shallow Zone, Intermediate Zone, and Deep Zone aquifer wells during the time period that manual water level measurements were collected to estimate groundwater elevations. Table 2 presents groundwater elevation data for all 128 well locations, the time period used for averaging transducer groundwater elevation data, and transducers recalibrated based on this event. These data were used to develop potentiometric surface maps for the Shallow, Intermediate, and Deep hydrogeological zones. These maps are presented on Figures 2 through 4, respectively.

3.2 GROUNDWATER SAMPLING RESULTS

ERM personnel completed groundwater sampling between 9 and 12 December 2024 at 29 monitoring well and piezometer locations, in accordance with the Approved Groundwater Monitoring Program. Results from the groundwater sampling and analyses of the well locations included in ERM's monitoring program are presented in further detail below.

3.2.1 FIELD PARAMETER RESULTS

ERM measured and recorded field parameters during well purging. Table 3 presents the results of the field parameter measurements. The following well locations did not stabilize for select field parameters during the Quarter 4, 2024, groundwater monitoring event:

- Six monitoring locations (PA-04, PA-10i, PA-18d, PA-20d, PA-23d, and PA-27d) did not stabilize for turbidity.
- Three monitoring locations (PA-17iR, PA-23d, and MWA-56d) did not stabilize for dissolved oxygen.
- Two monitoring locations (PA-18d and PA-20d) did not stabilize for oxygen-reduction potential.
- Two monitoring locations (PA-04 and PA-23d) did not stabilize for temperature.
- Two monitoring locations (PA-23d and MWA-63) did not stabilize for specific conductivity.
- Four monitoring locations (PA-19d, PA-20d, PA-23d, PA-25d) had drawdown greater than 1 foot.

At each of the well locations with non-stabilized field parameters listed above, three well volumes were purged prior to sampling except at locations MWA-56d, MWA-63, PA-04, PA-10i, PA-17iR, PA-18d, and PA-27d. At the above listed well locations where three well volumes were not collected, field parameters were close to stabilization and the quality of the data is not considered to be affected. Field staff will receive additional training regarding field parameter stabilization prior to the next groundwater monitoring event.

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

Well locations were also gauged for total depth following sampling. Following the Quarter 4, 2024, groundwater monitoring event, well drawdown at each well location over the course of 2024 was reviewed. Five well locations (PA-19d, PA-20d, PA-21d, PA-23d, and PA-25d) with consistent drawdown greater than 1 foot were identified, and redevelopment will be attempted at these locations during March 2025. Well drawdown will continue to be monitored and will be re-evaluated following the final 2025 groundwater monitoring event.

3.2.2 ANALYTICAL RESULTS

Tables 4 and 5 present the analytical results for VOCs, and perchlorate and chloride, respectively, from the Quarter 4, 2024, groundwater monitoring event. Appendix B presents laboratory analytical reports. Appendix D includes previous groundwater monitoring data, beginning in October 2019, from well locations associated with the Approved Groundwater Monitoring Program. Appendix E includes historical groundwater data associated with the Site prior to implementation of the groundwater monitoring program in October 2019.

3.2.2.1 VOCS

The results for chlorobenzene in the Shallow, Intermediate, and Deep Zones are presented on Figures 5 through 7, respectively. Chlorobenzene was detected in 9 out of 30 samples. The highest detected concentration of chlorobenzene was 11,000 micrograms per liter (µg/L) at Deep Zone piezometer PA-19d.

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 5 out of 30 samples. The highest detected concentration of 1,2-dichlorobenzene was 0.30 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 6 out of 30 samples. The highest detected concentration of PCE was 35 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 6.9 µg/L at Shallow Zone monitoring well MWA-63.
- cis-1,2-DCE was detected in 10 out of 30 samples. The highest detected concentration of cis-1,2-DCE was 12 µg/L at Shallow Zone monitoring well MWA-63.
- Vinyl chloride was detected in 2 out of 30 samples. The highest detected concentration of vinyl chloride was 0.37 µg/L at Intermediate Zone piezometer PA-10i.

3.2.2.2 PERCHLORATE

Perchlorate results for the Shallow, Intermediate, and Deep Zones are presented on Figures 14 through 16, respectively. Perchlorate was detected in 9 out of 30 samples. The highest detected concentration of perchlorate was 74,000 µg/L at Deep Zone monitoring well MWA-31i(d).

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

3.2.2.3 CHLORIDE

Chloride results for the Shallow, Intermediate, and Deep Zones are presented on Figures 17 through 19, respectively. Chloride was detected in 30 out of 30 samples. The highest detected concentration of chloride was 31,000 milligrams per liter at Deep Zone piezometer PA-23d.

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

4. RECOMMENDATIONS

Following the Quarter 4, 2024, groundwater monitoring event, no changes are recommended to the GMWP at this time. ERM will attempt well redevelopment at well locations PA-19d, PA-20d, PA-21d, PA-23d, and PA-25d during March 2025.

ERM will conduct the Quarter 1, 2025, groundwater monitoring event according to the following schedule:

- Water levels will be measured on 17 February 2025.
- Sampling will begin 18 February 2025 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 (March 2025).

The Quarter 1, 2025, Groundwater Monitoring Report will be submitted to the ODEQ within 60 days after data validation (May 2025).

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

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.

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

TABLES

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

Table 1
Groundwater Sampling Matrix
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

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

Table 1
Groundwater Sampling Matrix
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

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

Table 1
Groundwater Sampling Matrix
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Location ID	Aquifer Classification	Groundwater Level Measurement	Volatile Organic Compounds	Volatile Organic Compounds	Chloride	Perchlorate	Comments
Analyte			Volatile Organic Compounds	Volatile Organic Compounds	Chloride	Perchlorate	
Analytical Method			8260C	8260C_LL [a]	300	314	
PA-10i	Intermediate	X*	--	X	X	X	
PA-11i	Intermediate	X*	--	--	--	--	
PA-12i	Intermediate	X*	--	--	--	--	
PA-13i	Intermediate	X*	--	--	--	--	
PA-14i	Intermediate	X*	--	--	--	--	
PA-15i	Intermediate	X*	--	X	X	X	
PA-16i	Intermediate	X*	--	X	X	X	
PA-17iR	Intermediate	X*	--	X	X	X	
PA-29i	Intermediate	X*	--	--	--	--	
PA-32i	Intermediate	X	--	X	X	X	
PA-34i	Intermediate	X	--	--	--	--	
PA-37i	Intermediate	X	--	--	--	--	
PA-39i	Intermediate	X	--	--	--	--	
PA-40i	Intermediate	X	--	--	--	--	
PA-44i	Intermediate	X	--	X	X	X	
RW-06i	Intermediate	X*	--	--	--	--	
RW-09i	Intermediate	X*	--	--	--	--	
RW-11i	Intermediate	X*	--	--	--	--	
RW-13i	Intermediate	X*	--	--	--	--	
RW-16i	Intermediate	X*	--	--	--	--	
RW-19i	Intermediate	X*	--	--	--	--	
RW-21i	Intermediate	X*	--	--	--	--	
RW-24i	Intermediate	X*	--	--	--	--	
RW-26i	Intermediate	X*	--	--	--	--	
MWA-11i(d)	Deep	X	--	X	X	X	
MWA-12i(d)	Deep	X	--	--	--	--	
MWA-31i(d)	Deep	X	X	--	X	X	
MWA-56d	Deep	X	X	--	X	X	
MWA-58d	Deep	X*	X	--	X	X	
PA-18d	Deep	X*	X	--	X	X	
PA-19d	Deep	X*	X	--	X	X	
PA-20d	Deep	X*	X	--	X	X	
PA-21d	Deep	X*	--	--	--	--	Not sampled due to obstruction
PA-22d	Deep	X*	X	--	X	X	
PA-23d	Deep	X*	X	--	X	X	
PA-24d	Deep	X*	X	--	X	X	
PA-25d	Deep	X*	--	X	X	X	
PA-26d	Deep	X*	--	X	X	X	
PA-27d	Deep	X*	X	--	X	X	
PA-30d	Deep	X*	X	--	X	X	
MWA-76g	Gravel	X	--	--	--	--	
MWA-77g	Gravel	X	--	--	--	--	

Notes:
[a] low level test
[b] MWA-34i was abandoned on 30 May 2024 and reinstalled as MWA-34iR on 29 May 2024.
* = indicates locations where groundwater level measured with transducer

Table 2
Groundwater Elevation Results
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Well ID	Date	Time	Aquifer Unit	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft)	Groundwater Elevation (ft NAVD88)	Transducer Recalibrated following Manual Measurement [a]
MWA-02*	12/6/2024	*	Shallow	36.20	--	9.40	
MWA-15r	12/6/2024	8:37:00 AM	Shallow	36.06	25.29	10.77	
MWA-18	12/6/2024	9:19:00 AM	Shallow	39.43	29.55	9.88	
MWA-19*	12/6/2024	*	Shallow	38.26	--	10.20	
MWA-20	12/6/2024	8:52:00 AM	Shallow	40.95	28.05	12.90	
MWA-22	12/6/2024	8:36:00 AM	Shallow	36.59	22.20	14.39	
MWA-24	12/6/2024	10:29:00 AM	Shallow	37.58	23.20	14.38	
MWA-29	12/6/2024	9:30:00 AM	Shallow	44.42	34.75	9.67	
MWA-33	12/6/2024	10:20:00 AM	Shallow	37.26	17.30	19.96	
MWA-40	12/6/2024	10:27:00 AM	Shallow	36.96	17.38	19.58	
MWA-41	12/6/2024	10:10:00 AM	Shallow	45.14	33.43	11.71	
MWA-42	12/6/2024	8:47:00 AM	Shallow	37.24	26.55	10.69	
MWA-43	12/6/2024	10:02:00 AM	Shallow	44.53	34.42	10.11	
MWA-46	12/6/2024	9:15:00 AM	Shallow	36.67	26.90	9.77	
MWA-47*	12/6/2024	*	Shallow	39.02	--	9.33	
MWA-61	12/6/2024	8:05:00 AM	Shallow	36.21	26.77	9.44	
MWA-63	12/6/2024	7:54:00 AM	Shallow	36.29	20.55	15.74	
MWA-69*	12/6/2024	*	Shallow	33.73	--	9.80	
MWA-71	12/6/2024	7:46:00 AM	Shallow	34.82	4.10	30.72	
MWA-72	12/6/2024	10:38:00 AM	Shallow	34.16	3.23	30.93	
MWA-73	12/6/2024	10:31:00 AM	Shallow	36.01	5.42	30.59	
MWA-82	12/6/2024	10:16:00 AM	Shallow	37.74	24.39	13.35	
PA-03*	12/6/2024	*	Shallow	37.10	--	26.76	
PA-04*	12/6/2024	*	Shallow	36.67	--	27.32	
PA-05*	12/6/2024	*	Shallow	37.22	--	6.79	
PA-06*	12/6/2024	*	Shallow	38.03	--	11.65	
PA-07*	12/6/2024	*	Shallow	39.30	--	13.27	
PA-08*	12/6/2024	*	Shallow	40.47	--	12.11	
PA-09*	12/6/2024	*	Shallow	40.24	--	11.21	
PA-28*	12/6/2024	*	Shallow	38.58	--	13.37	
PA-31	12/6/2024	6:56:00 AM	Shallow	36.25	8.88	27.37	
PA-33	12/6/2024	7:05:00 AM	Shallow	36.29	9.55	26.74	
PA-35	12/6/2024	7:57:00 AM	Shallow	35.91	27.25	8.66	
PA-36	12/6/2024	8:09:00 AM	Shallow	36.90	31.31	5.59	
PA-38	12/6/2024	10:00:00 AM	Shallow	42.93	29.81	13.12	
PA-41	12/6/2024	9:46:00 AM	Shallow	39.69	27.70	11.99	
PA-42	12/6/2024	10:01:00 AM	Shallow	40.60	28.46	12.14	
PA-43	12/6/2024	10:09:00 AM	Shallow	40.41	28.00	12.41	
RP-02-31	12/6/2024	7:34:00 AM	Shallow	42.49	31.37	11.12	
RP-10-30	12/6/2024	7:39:00 AM	Shallow	37.47	7.90	29.57	
RW-05*	12/6/2024	*	Shallow	34.80	--	24.84	
RW-07*	12/6/2024	*	Shallow	33.98	--	6.94	
RW-08*	12/6/2024	*	Shallow	34.21	--	8.37	
RW-10*	12/6/2024	*	Shallow	34.33	--	11.25	
RW-12*	12/6/2024	*	Shallow	35.58	--	12.22	
RW-14*	12/6/2024	*	Shallow	36.08	--	8.89	
RW-15*	12/6/2024	*	Shallow	35.81	--	13.02	
RW-17*	12/6/2024	*	Shallow	36.55	--	13.24	
RW-18*	12/6/2024	*	Shallow	36.51	--	13.04	
RW-20*	12/6/2024	*	Shallow	37.07	--	13.11	
RW-22*	12/6/2024	*	Shallow	38.02	--	12.56	
RW-23*	12/6/2024	*	Shallow	33.63	--	5.83	
RW-25*	12/6/2024	*	Shallow	38.06	--	6.42	

Table 2
Groundwater Elevation Results
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Well ID	Date	Time	Aquifer Unit	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft)	Groundwater Elevation (ft NAVD88)	Transducer Recalibrated following Manual Measurement [a]
EW-1*	12/6/2024	*	Shallow/Intermediate	33.84	--	-0.96	
EW-2*	12/6/2024	*	Shallow/Intermediate	34.20	--	-0.30	
EW-3*	12/6/2024	*	Shallow/Intermediate	34.43	--	-2.56	
EW-4*	12/6/2024	*	Shallow/Intermediate	34.61	--	-3.01	
EW-5*	12/6/2024	*	Shallow/Intermediate	35.03	--	-5.65	
EW-6*	12/6/2024	*	Shallow/Intermediate	35.43	--	-5.50	
EW-7*	12/6/2024	*	Shallow/Intermediate	35.24	--	0.31	
EW-8*	12/6/2024	*	Shallow/Intermediate	35.07	--	0.76	
EW-9*	12/6/2024	*	Shallow/Intermediate	36.77	--	-3.25	
EW-10*	12/6/2024	*	Shallow/Intermediate	36.35	--	-4.87	
EW-11*	12/6/2024	*	Shallow/Intermediate	37.38	--	-7.36	
EW-12*	12/6/2024	*	Shallow/Intermediate	38.24	--	-3.00	X
EW-13*	12/6/2024	*	Shallow/Intermediate	39.79	--	-4.15	
EW-14*	12/6/2024	*	Shallow/Intermediate	40.03	--	-4.25	
MWA-83	12/6/2024	8:00:00 AM	Shallow/Intermediate	35.82	27.16	8.66	
MWA-84	12/6/2024	8:15:00 AM	Shallow/Intermediate	36.31	Dry	Dry	
MWA-85	12/6/2024	8:30:00 AM	Shallow/Intermediate	36.86	37.12	-0.26	
MWA-86	12/6/2024	8:43:00 AM	Shallow/Intermediate	37.15	Dry	Dry	
MWA-87	12/6/2024	8:55:00 AM	Shallow/Intermediate	37.68	36.81	0.86	
MWA-88	12/6/2024	9:25:00 AM	Shallow/Intermediate	39.36	38.42	0.94	
MWA-89	12/6/2024	10:05:00 AM	Shallow/Intermediate	41.65	42.63	-0.98	
MWA-07(i)	12/6/2024	10:32:00 AM	Intermediate	36.24	6.26	29.98	
MWA-08i*	12/6/2024	*	Intermediate	36.25	--	8.96	
MWA-16i	12/6/2024	8:20:00 AM	Intermediate	36.58	28.03	8.55	
MWA-34iR*	12/6/2024	*	Intermediate	37.36	--	9.16	
MWA-49i	12/6/2024	9:16:00 AM	Intermediate	36.68	27.96	8.72	
MWA-53i	12/6/2024	9:28:00 AM	Intermediate	44.63	35.23	9.40	
MWA-54i	12/6/2024	8:45:00 AM	Intermediate	37.35	25.05	12.30	
MWA-66i*	12/6/2024	*	Intermediate	33.35	--	8.81	
MWA-70i	12/6/2024	10:22:00 AM	Intermediate	37.62	21.85	15.77	
MWA-74i	12/6/2024	7:45:00 AM	Intermediate	34.72	10.64	24.08	
MWA-75i	12/6/2024	10:38:00 AM	Intermediate	34.09	4.42	29.67	
MWA-81i	12/6/2024	10:12:00 AM	Intermediate	44.62	34.23	10.39	
PA-10i*	12/6/2024	*	Intermediate	36.67	--	12.52	
PA-11i*	12/6/2024	*	Intermediate	37.63	--	9.73	
PA-12i*	12/6/2024	*	Intermediate	38.03	--	11.46	
PA-13i*	12/6/2024	*	Intermediate	38.48	--	10.59	
PA-14i*	12/6/2024	*	Intermediate	39.30	--	12.83	
PA-15i*	12/6/2024	*	Intermediate	40.62	--	10.09	
PA-16i*	12/6/2024	*	Intermediate	40.30	--	10.29	
PA-17iR*	12/6/2024	*	Intermediate	37.59	--	11.33	
PA-29i*	12/6/2024	*	Intermediate	39.18	--	8.98	
PA-32i	12/6/2024	7:00:00 AM	Intermediate	36.28	24.50	11.78	
PA-34i	12/6/2024	7:27:00 AM	Intermediate	36.02	24.00	12.02	
PA-37i	12/6/2024	8:10:00 AM	Intermediate	36.54	29.10	7.44	
PA-39i	12/6/2024	9:56:00 AM	Intermediate	40.11	29.80	10.31	
PA-40i	12/6/2024	9:57:00 AM	Intermediate	41.47	31.14	10.33	
PA-44i	12/6/2024	10:08:00 AM	Intermediate	40.36	30.02	10.34	
RW-06i*	12/6/2024	*	Intermediate	35.59	--	11.96	
RW-09i*	12/6/2024	*	Intermediate	33.73	--	9.61	
RW-11i*	12/6/2024	*	Intermediate	34.77	--	9.77	
RW-13i*	12/6/2024	*	Intermediate	36.09	--	12.10	
RW-16i*	12/6/2024	*	Intermediate	35.77	--	12.28	
RW-19i*	12/6/2024	*	Intermediate	36.56	--	10.48	
RW-21i*	12/6/2024	*	Intermediate	37.38	--	10.44	
RW-24i*	12/6/2024	*	Intermediate	34.03	--	7.79	
RW-26i*	12/6/2024	*	Intermediate	38.10	--	10.45	
MWA-11i(d)	12/6/2024	8:40:00 AM	Deep	36.49	26.56	9.93	
MWA-12i(d)	12/6/2024	10:35:00 AM	Deep	35.86	11.02	24.84	
MWA-31i(d)	12/6/2024	9:40:00 AM	Deep	38.36	29.78	8.58	
MWA-56d	12/6/2024	9:13:00 AM	Deep	36.68	27.50	9.18	
MWA-58d*	12/6/2024	*	Deep	37.97	--	8.23	

Table 2
Groundwater Elevation Results
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Well ID	Date	Time	Aquifer Unit	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft)	Groundwater Elevation (ft NAVD88)	Transducer Recalibrated following Manual Measurement [a]
PA-18d*	12/6/2024	*	Deep	36.55	--	10.48	
PA-19d*	12/6/2024	*	Deep	36.65	--	7.99	
PA-20d*	12/6/2024	*	Deep	37.91	--	9.59	
PA-21d*	12/6/2024	*	Deep	34.36	--	9.01	
PA-22d*	12/6/2024	*	Deep	38.75	--	10.55	X
PA-23d*	12/6/2024	*	Deep	39.31	--	8.11	
PA-24d*	12/6/2024	*	Deep	39.06	--	8.45	
PA-25d*	12/6/2024	*	Deep	40.44	--	12.12	X
PA-26d*	12/6/2024	*	Deep	40.33	--	10.62	
PA-27d*	12/6/2024	*	Deep	37.10	--	10.79	
PA-30d*	12/6/2024	*	Deep	37.34	--	9.41	
MWA-76g	12/6/2024	10:39:00 AM	Gravel	34.96	11.01	23.95	
MWA-77g	12/6/2024	07:44:00 AM	Gravel	34.03	20.20	13.83	

Notes:
[a] For monitoring wells with transducers where manual measurements were collected, if drift was 0.1 foot or greater, the transducer
* = wells with transducers; transducer data were used to obtain groundwater elevation
**= wells with malfunctioning or down transducers, water levels collected manually
ft = feet
NAVD 88 = North American Vertical Datum 1988
Manual measurement data collected in field with tablet.
Transducer data was averaged between 6:56 AM and 10:39 AM for the groundwater elevation value.

Table 3
Field Parameters Measured in Groundwater
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

			Analyte	pH	Temperature	Specific Conductivity	Oxidation-Reduction Potential	Dissolved Oxygen	Turbidity [a]
			Method	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure
			Unit	SU	deg C	uS/cm	mV	mg/L	NTU
Location ID	Sample Date	Aquifer Classification	Sample ID						
MWA-41	11-Dec-24	Shallow	MWA-41-121124	7.19	11	319	165	0	2.44
MWA-63	10-Dec-24	Shallow	MWA-63-121024	7.04	12.9	581	95	6.84	11.9
MWA-82	11-Dec-24	Shallow	MWA-82-121124	9.53	14.7	475	132	0.17	127
PA-03	09-Dec-24	Shallow	PA-03-120924	10.42	12.9	803	-314	5.8	0
PA-04	10-Dec-24	Shallow	PA-04-121024	10.06	8.3	649	45	0.79	26
PA-08	09-Dec-24	Shallow	PA-08-120924	7.33	11.8	1355	-151	0.87	0
PA-09 [b]	10-Dec-24	Shallow	PA-09-121024	NM	NM	NM	NM	NM	NM
PA-31	10-Dec-24	Shallow	PA-31-121024	9.52	14	807	-72	0	38
MWA-81i	11-Dec-24	Intermediate	MWA-81i-121124	7.19	7.9	631	146	0.02	0.78
PA-10i	10-Dec-24	Intermediate	PA-10i-121024	7.66	12.7	846	-226	0	6.68
PA-15i	11-Dec-24	Intermediate	PA-15i-121124	7.56	13.3	766	-96.2	1.34	230
PA-16i	10-Dec-24	Intermediate	PA-16i-121024	6.83	14	368	-106.7	0.99	108
PA-17iR	09-Dec-24	Intermediate	PA-17iR-120924	9.29	13.1	962	-288	2.7	0
PA-32i	10-Dec-24	Intermediate	PA-32i-121024	7.68	11.7	1325	-68	1.17	5.3
PA-44i	11-Dec-24	Intermediate	PA-44i-121124	6.95	13.7	808	68	0	32.2
MWA-11i(d)	12-Dec-24	Deep	MWA-11i(d)-121224	7.06	12.8	2280	-222	0	2.85
MWA-31i(d)	12-Dec-24	Deep	MWA-31i(d)-121224	6.44	12.8	32.92	36	0.08	19.7
MWA-56d	12-Dec-24	Deep	MWA-56d-121224	6.62	13.9	30.65	83	0.08	1.23
MWA-58d	12-Dec-24	Deep	MWA-58d-121224	6.7	10.8	39	63	0.04	3.94
PA-18d	10-Dec-24	Deep	PA-18d-121024	8.6	9.45	1001	-280	0.98	7.4
PA-19d	12-Dec-24	Deep	PA-19d-121224	7.17	13	2669	-70.1	1.43	30.4
PA-20d	12-Dec-24	Deep	PA-20d-121224	6.71	14.5	2171	-70.5	1.14	3.09
PA-22d	12-Dec-24	Deep	PA-22d-121224	7.16	12.8	14.5	94.3	1.35	54.9
PA-23d	11-Dec-24	Deep	PA-23d-121124	6.9	14.9	66.43	-88.5	0.84	7.38
PA-24d	11-Dec-24	Deep	PA-24d-121124	6.56	13.2	66.23	-75.3	1.04	134
PA-25d	10-Dec-24	Deep	PA-25d-121024	7.02	13.6	646	-96.4	1.06	1.96
PA-26d	10-Dec-24	Deep	PA-26d-121024	7	13.2	618	-114.4	0.82	254
PA-27d	09-Dec-24	Deep	PA-27d-120924	7.07	15.4	2986	-220	0	6.6
PA-30d	12-Dec-24	Deep	PA-30d-121224	8.24	12.3	2449	-115.2	1.08	0

Notes:
[a] Turbidity measurements collected on 9 December 2024 were potentially inaccurate due to issues with the field water quality meters.
[b] Field data for the well location was lost due to a field device error.
uS/cm = microSiemens per centimeter
deg C = degrees Celsius
mg/L = milligrams per liter
mV = millivolts
NM = not measured
NTU = nephelometric turbidity units
SU = standard units

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	NE	NE	0.076	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.9 U	< 4.3 U	< 4.1 U	< 3.3 U	< 6.1 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.9 U	< 4.3 U	< 4.1 U	< 3.3 U	< 6.1 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 29 U	< 43 U	< 41 U	< 33 U	< 61 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 150 U	< 220 U	< 210 U	< 170 U	< 310 U

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	14	3.7	1.5	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.57 U	< 0.46 U	**1.2**	**0.18 j**	< 0.55 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	**0.041 j**	< 0.12 U	< 0.060 U	< 0.19 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.48 U	**0.056 j**	< 0.12 U	< 0.060 U	< 0.19 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.48 U	**0.22 j**	< 0.12 U	< 0.060 U	< 0.19 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.48 U	**0.30**	< 0.12 U	< 0.060 U	< 0.19 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.48 U	**0.30**	< 0.12 U	< 0.060 U	< 0.19 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 57 U	< 46 U	< 42 U	< 18 U	< 55 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	**0.36**	< 0.060 U	< 0.19 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 290 U	< 230 U	< 210 U	< 90 U	< 280 U

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (Methyl ethyl ketone)
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	10	NE	15	NE	14000
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.8 U	< 3.5 U	< 4.6 U	< 3.2 U	< 47 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.8 U	< 3.5 U	< 4.6 U	< 3.2 U	< 47 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 48 U	< 35 U	< 46 U	< 32 U	< 470 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 240 U	< 180 U	< 230 U	< 160 U	< 2,400 U

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

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

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

				Analyte	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	11	0.4	1.6	47	710	NE	NE	NE	1500	1.4
Location ID	**Sample Date**	**Sample Type**	**Aquifer Classification**	**Sample ID**											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	*< 0.39 U*	**0.69 j**	**1.1**	**1.2**	**0.64 j**	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
PA-03	12/9/2024	N	Shallow	PA-03-120924	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.14 j**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-04	12/10/2024	N	Shallow	PA-04-121024	*< 0.11 U*	**0.031 j**	*< 0.056 U*	*< 0.070 U*	**0.31**	**0.35**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-08	12/9/2024	N	Shallow	PA-08-120924	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.096 j**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-09	12/10/2024	N	Shallow	PA-09-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-31	12/10/2024	N	Shallow	PA-31-121024	*< 0.11 U*	**0.23**	*< 0.056 U*	*< 0.070 U*	**0.23**	**0.80**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.068 j**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.20**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.067 j**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.13 j**	**0.16 j**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	**0.14 j**
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.10 j**	**0.069 j**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.071 j**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.19 j**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.35 j**	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 3.8 U*	*< 2.8 U*	*< 25 U*	*< 32 U*	*< 2.4 U*
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 3.8 U*	*< 2.8 U*	*< 25 U*	*< 32 U*	*< 2.4 U*
PA-18d	12/10/2024	N	Deep	PA-18d-121024	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-19d	12/12/2024	N	Deep	PA-19d-121224	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 38 U*	*< 28 U*	*< 250 U*	*< 320 U*	**39 j**
PA-20d	12/12/2024	N	Deep	PA-20d-121224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.28 j**	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.32 j**	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-22d	12/12/2024	N	Deep	PA-22d-121224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-23d	12/11/2024	N	Deep	PA-23d-121124	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-24d	12/11/2024	N	Deep	PA-24d-121124	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-25d	12/10/2024	N	Deep	PA-25d-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 UJ*
PA-26d	12/10/2024	N	Deep	PA-26d-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-27d	12/9/2024	N	Deep	PA-27d-120924	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.37 j**	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-30d	12/12/2024	N	Deep	PA-30d-121224	*< 90 U*	*< 200 U*	*< 260 U*	*< 120 U*	*< 110 U*	*< 140 U*	*< 190 U*	*< 140 U*	*< 1,300 U*	*< 1,600 U*	*< 120 U*

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	1.7	14	150	0.92
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.43 U	**3.0**	< 0.51 U	< 0.21 U	< 0.53 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 UJ	< 0.20 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 UJ	< 0.20 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.43 U	< 0.29 U	**2.1**	< 0.21 UJ	< 0.53 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 UJ	< 5.3 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 UJ	< 5.3 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 43 U	< 29 U	< 51 U	< 21 UJ	< 53 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 UJ	< 0.53 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 UJ	< 0.53 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 UJ	< 0.53 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 220 U	< 150 U	< 260 U	< 110 U	< 270 U

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	0.16	64	NE	NE	28
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**3,900**
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 UJ	**0.76**
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	**0.038 j**
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	**0.10 j**
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	**0.13 j**
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.025 U	**0.64**	< 0.050 U	< 0.24 U	< 0.030 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.025 U	**0.15 j**	< 0.050 U	< 0.24 U	< 0.030 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.025 U	**0.12 j**	< 0.050 U	< 0.24 U	< 0.030 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.025 U	**0.29**	< 0.050 U	< 0.24 U	< 0.030 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.025 U	**0.31**	< 0.050 U	**0.26 j**	< 0.030 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 UJ	< 0.030 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 UJ	**37**
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 3.0 U	< 4.4 U	< 2.9 U	< 3.5 UJ	**160 J-**
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 3.0 U	< 4.4 U	< 2.9 U	< 3.5 UJ	**190**
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 30 U	**11,000**	< 29 U	< 35 UJ	< 26 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.30 U	**1.7**	< 0.29 U	< 0.35 UJ	< 0.26 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.30 U	**1.8**	< 0.29 U	< 0.35 U	< 0.26 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 UJ	**15**
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 UJ	< 0.26 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 150 U	**7,000**	< 150 U	< 180 U	< 130 U

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	590	NE	1.3	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.28 U	**12**	< 0.42 U	< 0.43 U	< 0.34 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	**0.42 j**	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	**0.17 j**	**0.081 j**	< 0.090 U	< 0.055 U	< 0.062 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	**0.23 J+**	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.14 U	**0.20**	< 0.090 U	< 0.055 U	< 0.062 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.14 U	**0.064 j**	< 0.090 U	< 0.055 U	< 0.062 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.14 U	**0.070 j**	< 0.090 U	< 0.055 U	< 0.062 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.14 U	**0.10 j**	< 0.090 U	< 0.055 U	< 0.062 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.14 U	**0.12 j**	< 0.090 U	< 0.055 U	< 0.062 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	**0.21 J+**	**0.11 j**	< 0.090 U	< 0.055 U	< 0.062 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	**0.13 j**	< 0.090 U	< 0.055 U	< 0.062 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.8 U	< 3.5 U	< 4.2 U	< 4.3 U	< 3.4 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.8 U	< 3.5 U	< 4.2 U	< 4.3 U	< 3.4 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 28 U	< 35 U	< 42 U	< 43 U	< 34 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	**0.27 J+**	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.28 U	**0.85 j**	< 0.42 U	< 0.43 U	< 0.34 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 140 UJ	< 180 U	< 210 U	< 220 U	< 170 U

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	7.3	NE	0.01	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 UJ	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.13 UJ	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 UJ	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 UJ	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 53 UJ	< 50 U	< 40 U	< 79 U	< 44 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 270 U	< 250 U	< 200 U	< 400 U	< 220 U

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	m,p-Xylenes	Methyl tert-butyl ether	Methylene chloride	Naphthalene	n-Butylbenzene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	1.8	NE	59	12	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 U	< 4.4 U	< 14 U	< 9.3 U	< 4.4 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 U	< 4.4 U	< 14 U	< 9.3 U	< 4.4 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 53 U	< 44 U	< 140 U	< 93 U	< 44 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	**0.11 j**	< 1.2 U	< 0.52 U	< 0.35 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 270 U	< 220 U	< 720 U	< 470 U	< 220 U

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	n-Propylbenzene	o-Chlorotoluene (2-chlorotoluene)	o-Xylene	sec-Butylbenzene	Styrene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	NE	13	NE	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.0 U	< 5.1 U	< 3.9 U	< 4.9 U	< 5.3 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.0 U	< 5.1 U	< 3.9 U	< 4.9 U	< 5.3 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 50 U	< 51 U	< 39 U	< 49 U	< 53 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 250 U	< 260 U	< 200 U	< 250 U	< 270 U

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

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

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

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	0.33	9.8	1000	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	< 0.39 U	**0.69 j**	**1.1**	**1.2**	**0.64 j**	< 0.58 U	**35**	< 0.39 U	< 0.39 U	< 0.41 U
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	**0.42**	< 0.050 U	< 0.033 U	< 0.092 U
PA-03	12/9/2024	N	Shallow	PA-03-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.14 j**	< 0.035 U	< 0.26 U	< 0.084 U	**0.18 j**	< 0.033 U	< 0.092 U
PA-04	12/10/2024	N	Shallow	PA-04-121024	< 0.11 U	**0.031 j**	< 0.056 U	< 0.070 U	**0.31**	**0.35**	< 0.26 U	**0.16 j**	< 0.050 U	< 0.033 U	< 0.092 U
PA-08	12/9/2024	N	Shallow	PA-08-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.096 j**	< 0.035 U	< 0.26 U	**0.27**	< 0.050 U	< 0.033 U	< 0.092 U
PA-09	12/10/2024	N	Shallow	PA-09-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-31	12/10/2024	N	Shallow	PA-31-121024	< 0.11 U	**0.23**	< 0.056 U	< 0.070 U	**0.23**	**0.80**	< 0.26 U	**0.25**	**0.095 j**	< 0.033 U	< 0.092 U
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	**0.068 j**	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.20**	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.067 j**	< 0.035 U	< 0.26 U	< 0.084 U	**2.6**	< 0.033 U	< 0.092 U
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.13 j**	**0.16 j**	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	**0.069 j**	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	**0.071 j**	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.35 j**	< 0.28 U	< 0.58 U	**0.45 j**	< 0.39 U	< 0.39 U	< 0.41 U
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.8 U	< 4.1 U	< 3.9 U	< 3.9 U	< 4.1 U
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.8 U	< 4.1 U	< 3.9 U	< 3.9 U	< 4.1 U
PA-18d	12/10/2024	N	Deep	PA-18d-121024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-19d	12/12/2024	N	Deep	PA-19d-121224	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 58 U	< 41 U	< 39 U	< 39 U	< 41 U
PA-20d	12/12/2024	N	Deep	PA-20d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.28 j**	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.32 j**	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-22d	12/12/2024	N	Deep	PA-22d-121224	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-23d	12/11/2024	N	Deep	PA-23d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-24d	12/11/2024	N	Deep	PA-24d-121124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-25d	12/10/2024	N	Deep	PA-25d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-26d	12/10/2024	N	Deep	PA-26d-121024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-27d	12/9/2024	N	Deep	PA-27d-120924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-30d	12/12/2024	N	Deep	PA-30d-121224	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 290 U	< 210 U	< 200 U	< 200 U	< 210 U

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

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

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

Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Trichloroethene	Trichlorofluoromethane (Freon 11)	Vinyl chloride
Analyte													
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	3	NE	0.24
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**0.41 j**	*< 0.39 U*	**0.69 j**	**1.1**	**1.2**	**0.64 j**	**6.9**	*< 0.36 U*	*< 0.22 U*
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	**0.15 j**	*< 0.12 U*	*< 0.040 U*
PA-03	12/9/2024	N	Shallow	PA-03-120924	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.14 j**	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-04	12/10/2024	N	Shallow	PA-04-121024	*< 0.11 U*	**0.031 j**	*< 0.056 U*	*< 0.070 U*	**0.31**	**0.35**	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-08	12/9/2024	N	Shallow	PA-08-120924	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.096 j**	*< 0.035 U*	**0.14 j**	*< 0.12 U*	*< 0.040 U*
PA-09	12/10/2024	N	Shallow	PA-09-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-31	12/10/2024	N	Shallow	PA-31-121024	*< 0.11 U*	**0.23**	*< 0.056 U*	*< 0.070 U*	**0.23**	**0.80**	**0.091 j**	*< 0.12 U*	*< 0.040 U*
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.068 j**	*< 0.066 U*	*< 0.12 U*	**0.37**
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.20**	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.067 j**	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.13 j**	**0.16 j**	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.10 j**	**0.069 j**	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.071 j**	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.19 j**	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.35 j**	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.6 U*	*< 3.6 U*	*< 2.2 U*
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.6 U*	*< 3.6 U*	*< 2.2 U*
PA-18d	12/10/2024	N	Deep	PA-18d-121024	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	**0.26 j**
PA-19d	12/12/2024	N	Deep	PA-19d-121224	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 26 U*	*< 36 U*	*< 22 U*
PA-20d	12/12/2024	N	Deep	PA-20d-121224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.28 j**	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.32 j**	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-22d	12/12/2024	N	Deep	PA-22d-121224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-23d	12/11/2024	N	Deep	PA-23d-121124	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-24d	12/11/2024	N	Deep	PA-24d-121124	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-25d	12/10/2024	N	Deep	PA-25d-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-26d	12/10/2024	N	Deep	PA-26d-121024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-27d	12/9/2024	N	Deep	PA-27d-120924	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.37 j**	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-30d	12/12/2024	N	Deep	PA-30d-121224	*< 90 U*	*< 200 U*	*< 260 U*	*< 120 U*	*< 110 U*	*< 140 U*	*< 130 U*	*< 180 U*	*< 110 U*

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

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

Table 5
Additional Compounds Results
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	Chloride	Perchlorate
				Unit	mg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	230	1800
Location ID	**Sample Date**	**Sample Type**	**Aquifer Classification**	**Sample ID**		
MWA-41	12/11/2024	N	Shallow	MWA-41-121124	**4.9 J+**	*< 0.91 U*
MWA-63	12/10/2024	N	Shallow	MWA-63-121024	**15 J+**	*< 4.5 U*
MWA-82	12/11/2024	N	Shallow	MWA-82-121124	**9.2 J+**	**56**
PA-03	12/9/2024	N	Shallow	PA-03-120924	**4.3 J+**	*< 9.1 U*
PA-04	12/10/2024	N	Shallow	PA-04-121024	**5.2 J+**	*< 9.1 U*
PA-08	12/9/2024	N	Shallow	PA-08-120924	**230**	**33**
PA-09	12/10/2024	N	Shallow	PA-09-121024	**6.6 J+**	*< 4.5 U*
PA-31	12/10/2024	N	Shallow	PA-31-121024	**4.2 J+**	*< 4.5 U*
MWA-81i	12/11/2024	N	Intermediate	MWA-81i-121124	**33 J+**	*< 0.91 U*
PA-10i	12/10/2024	N	Intermediate	PA-10i-121024	**25 J+**	*< 91 U*
PA-15i	12/11/2024	N	Intermediate	PA-15i-121124	**64**	*< 9.1 U*
PA-16i	12/10/2024	N	Intermediate	PA-16i-121024	**15 J+**	*< 9.1 U*
PA-17iR	12/9/2024	N	Intermediate	PA-17iR-120924	**49**	*< 91 U*
PA-32i	12/10/2024	N	Intermediate	PA-32i-121024	**79**	*< 91 U*
PA-32i	12/10/2024	FD	Intermediate	DUP-01-121024	**78**	*< 91 U*
PA-44i	12/11/2024	N	Intermediate	PA-44i-121124	**55**	*< 9.1 U*
MWA-11i(d)	12/12/2024	N	Deep	MWA-11i(d)-121224	**570**	*< 0.91 U*
MWA-31i(d)	12/12/2024	N	Deep	MWA-31i(d)-121224	**13,000**	**74,000**
MWA-56d	12/12/2024	N	Deep	MWA-56d-121224	**12,000**	**13,000**
MWA-58d	12/12/2024	N	Deep	MWA-58d-121224	**17,000**	**51,000**
PA-18d	12/10/2024	N	Deep	PA-18d-121024	**65**	*< 91 U*
PA-19d	12/12/2024	N	Deep	PA-19d-121224	**300**	**100**
PA-20d	12/12/2024	N	Deep	PA-20d-121224	**580**	**48**
PA-20d	12/12/2024	FD	Deep	DUP-02-121224	**590**	**46**
PA-22d	12/12/2024	N	Deep	PA-22d-121224	**5,000**	**14,000**
PA-23d	12/11/2024	N	Deep	PA-23d-121124	**31,000**	*< 0.91 U*
PA-24d	12/11/2024	N	Deep	PA-24d-121124	**30,000**	*< 0.91 U*
PA-25d	12/10/2024	N	Deep	PA-25d-121024	**30 J+**	*< 0.91 U*
PA-26d	12/10/2024	N	Deep	PA-26d-121024	**80**	*< 0.91 U*
PA-27d	12/9/2024	N	Deep	PA-27d-120924	**590**	*< 9.1 U*
PA-30d	12/12/2024	N	Deep	PA-30d-121224	**250**	*< 91 U*

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

FIGURES

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

DRAWN BY: GIS DATE: 9/6/2024

MU:\GIS\Projects\SLI\Tidal\Arkema_Portland\Groundwater Source Control\maps\PM\GWET PMP 20240618\Arkema GWET PMP_June 2024.aprx REVISED: 09/06/2024 SCALE: 1:2,040 when printed at 11x17

Willamette River

GCC1 & Proximal Wells

GCC2

GCC3

GCC4 & Proximal Wells

GCC5 & Proximal Wells

GCC6 & Proximal Wells

Groundwater Treatment Plant

Sand Filter Basin

Detention Basin

Well Distal from BW and GCCs

MWA-64i, MWA-8i, MWA-2, MWA-61, PA-19d, PA-05, RW-23, PA-36, PA-37i, RW-24i, PA-11i, RW-7, MWA-63, PA-35, EW-3, EW-4, MWA-84, EW-2, EW-1, RW-5, RW-6i, PA-34i, PA-33, PA-31, PA-32i, PA-17iR, PA-27d, PA-03, PA-10i, PA-04, PA-18d, MWA-83, MWA-22, RP-02-31, RP-10-30

MWA-69, MWA-66i, PA-21d, EW-6, MWA-6r, MWA-16i, MWA-85, RW-10, PA-06, RW-11i, RW-9i, RW-8, PA-30d, EW-5, PA-12i, PA-20d, EW-8, RW-12, RW-13i, EW-7, MWA-15R, MWA-42, MWA-86, MWA-54i, MWA-11i(d)

MWA-18, MWA-51i, MWA-49i, MWA-46, MWA-56d, MWA-58d, MWA-34iR, MWA-19, RW-16i, RW-15, PA-13i, RW-14, MWA-20, MWA-87, PA-22d, RW-17, RW-18, PA-28, EW-9, EW-10, EW-11, MWA-88, MWA-24

MWA-32i, MWA-30, MWA-31i(d), MWA-47, PA-29i, PA-24d, RW-19i, RW-20, RW-21i, MWA-53i, MWA-29, PA-14i, PA-23d, PA-07, PA-41, 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-08, PA-44i, PA-43, RW-25, RW-26i, PA-09, PA-26d, MWA-81i, MWA-41, MWA-82, MW-30, MW-29, MWA-40, MWA-33, MWA-70i, MWA-39, MWA-23

MWA-71, MWA-74i, MWA-77g, MWA-72, MWA-75i, MWA-76g, MWA-73, MWA-12i(d), MWA-7(i)

Legend

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

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

N

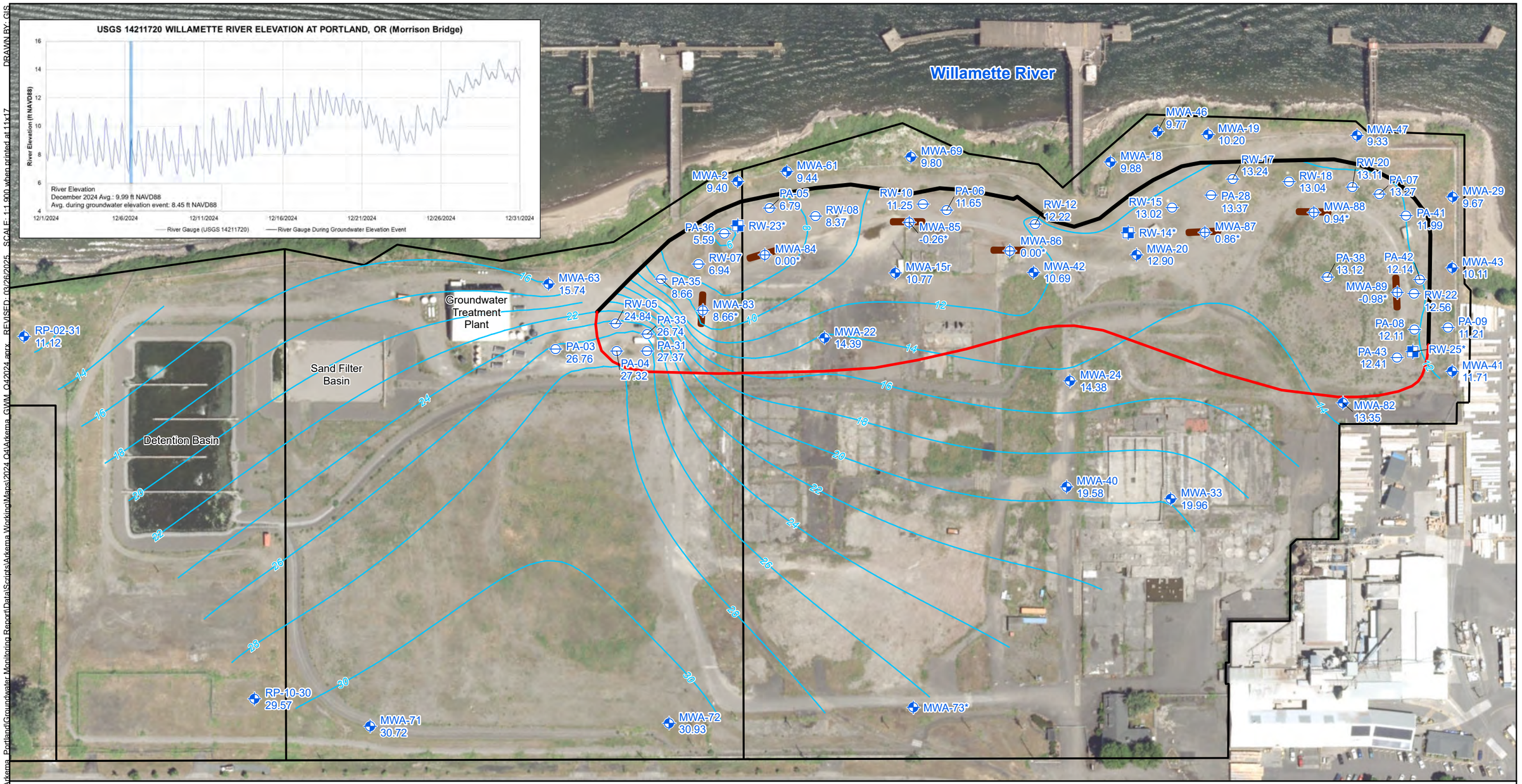
0 170 340

Feet

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

Figure 1
Site Layout
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

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

Notes:
* Value not used for contouring.
Water levels collected December 6, 2024.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

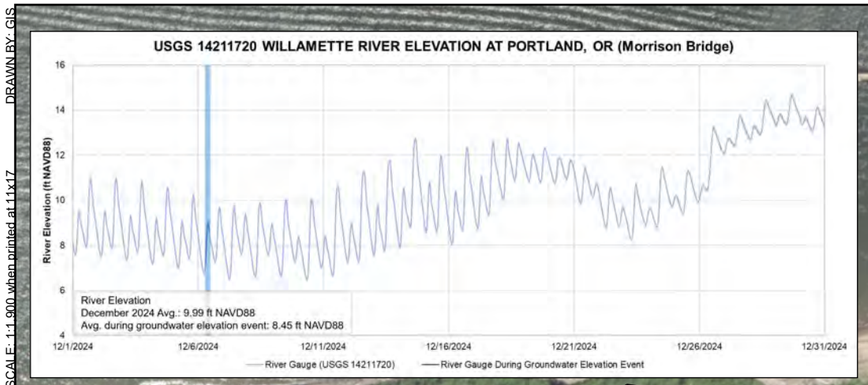
0 160 320
Feet

Figure 2
December 2024 Shallow Zone Groundwater Contours
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

DRAWN BY: GIS
SCALE: 1:1,900 when printed at 11x17
REVISED: 03/26/2025
\\SCUSPRDGISFS01\Data\US\Projects\US\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Arkema_GWM_Q42024.aprx



Legend

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

Notes:
* Value not used for contouring.
Water levels collected December 6, 2024.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

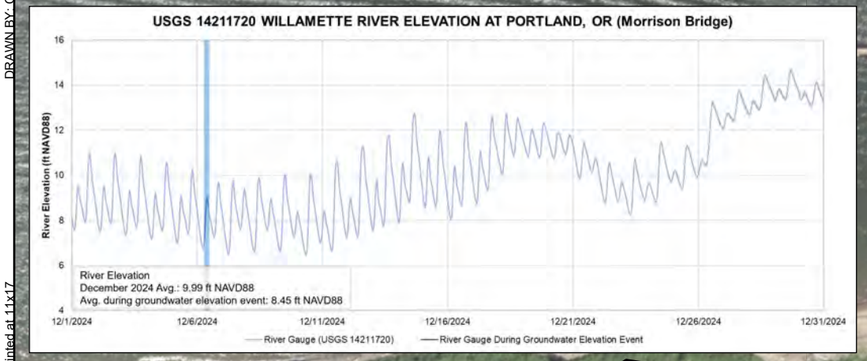
0 160 320
Feet

Figure 3
December 2024 Intermediate Zone Groundwater Contours
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

\\SCUSPRDGISFS01\Data\GIS\Projects\SUT\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Arkema_GWM_Q42024.aprx REVISED: 03/26/2025 SCALE: 1:1,900 when printed at 11x17 DRAWN BY: GIS



Legend

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

Notes:
* Value not used for contouring.
Gravel zone wells not used in contouring.
Water levels collected December 6, 2024.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 160 320
Feet

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

Environmental Resources Management
www.erm.com
ERM

NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

M:\US\Projects\S-L\OTotal\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Arkema_GWM_Q42024.aprx REVISED: 02/10/2025 SCALE: 1:1,900 when printed at 11x17 DRAWN BY: GIS

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 5_Chlorobenzene Shallow.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at 11x8.5 DRAWN BY: Jake Sullivan DATE: 2/10/2025

Willamette River

MWA-46 NS
MWA-19 NS
MWA-30 NS
MWA-47 NS
MWA-69 NS
MWA-61 NS
MWA-2 NS
MWA-18 NS
PA-28 NS
PA-07 NS
MWA-29 NS
PA-36 NS
PA-05 NS
PA-06 NS
MWA-20 NS
MWA-15r NS
MWA-42 NS
PA-38 NS
PA-42 NS
MWA-63 ND < 0.44 U
Groundwater Treatment Plant
PA-08 ND < 0.06 U
PA-09 ND < 0.06 U
PA-03 ND < 0.06 U
PA-04 ND < 0.06 U
PA-31 ND < 0.06 U
MWA-22 NS
MWA-41 ND < 0.06 U
MWA-24 NS
MWA-82 ND < 0.06 U
MWA-40 NS
MWA-33 NS

Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

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 4, 2024
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\2024 Q4\Figure 6_Chlorobenzene Intermediate.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 2/10/2025

Willamette River

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

Groundwater Treatment Plant

PA-17iR 0.12 j
PA-10i 0.64
PA-32i 0.31
PA-15i ND < 0.06 U
PA-44i ND < 0.06 U
PA-16i 0.15 j
MWA-81i ND < 0.06 U

10 12 14 16 18 20 22 24

Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

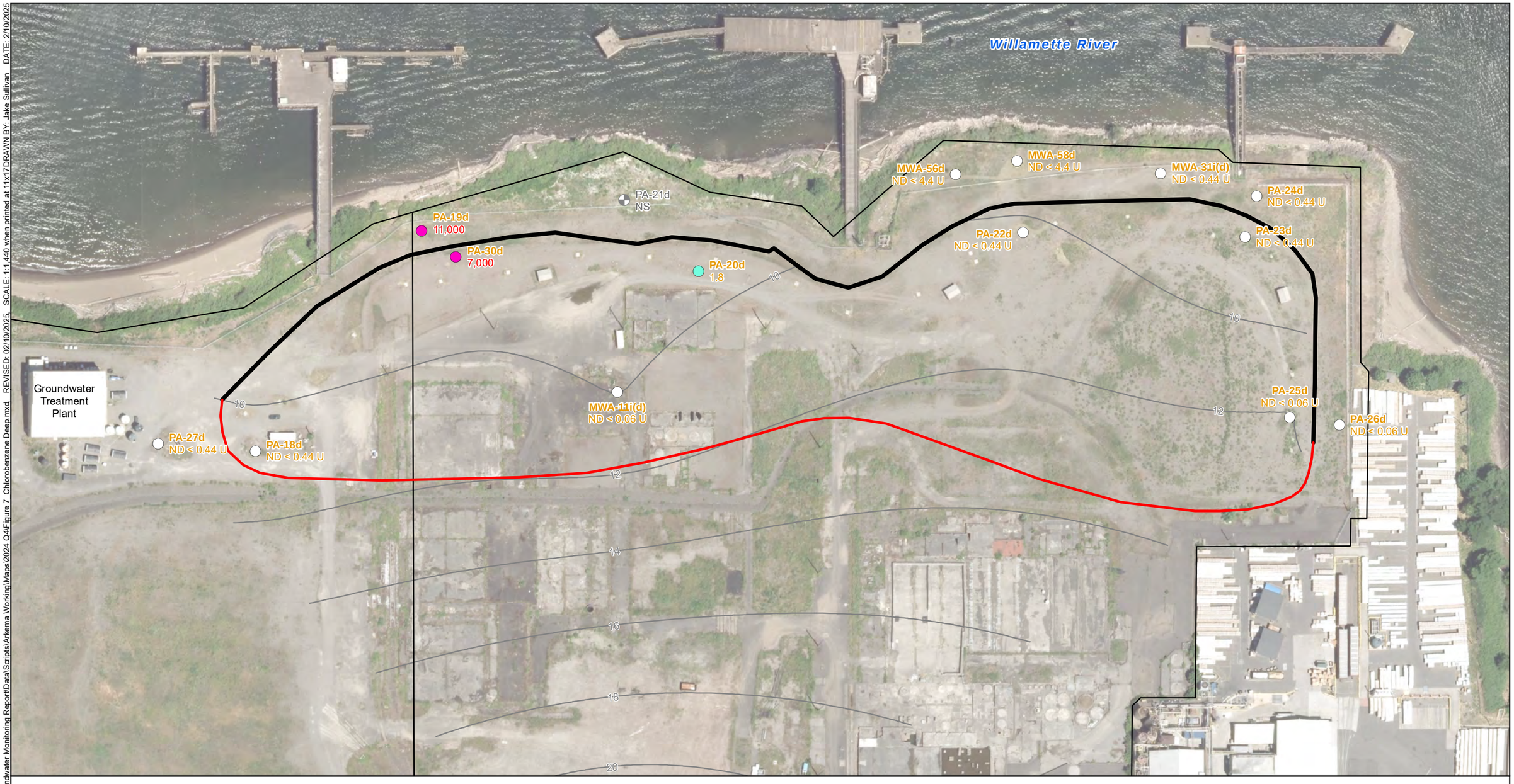
N

0 120 240
Feet

Figure 6
Chlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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



Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

N

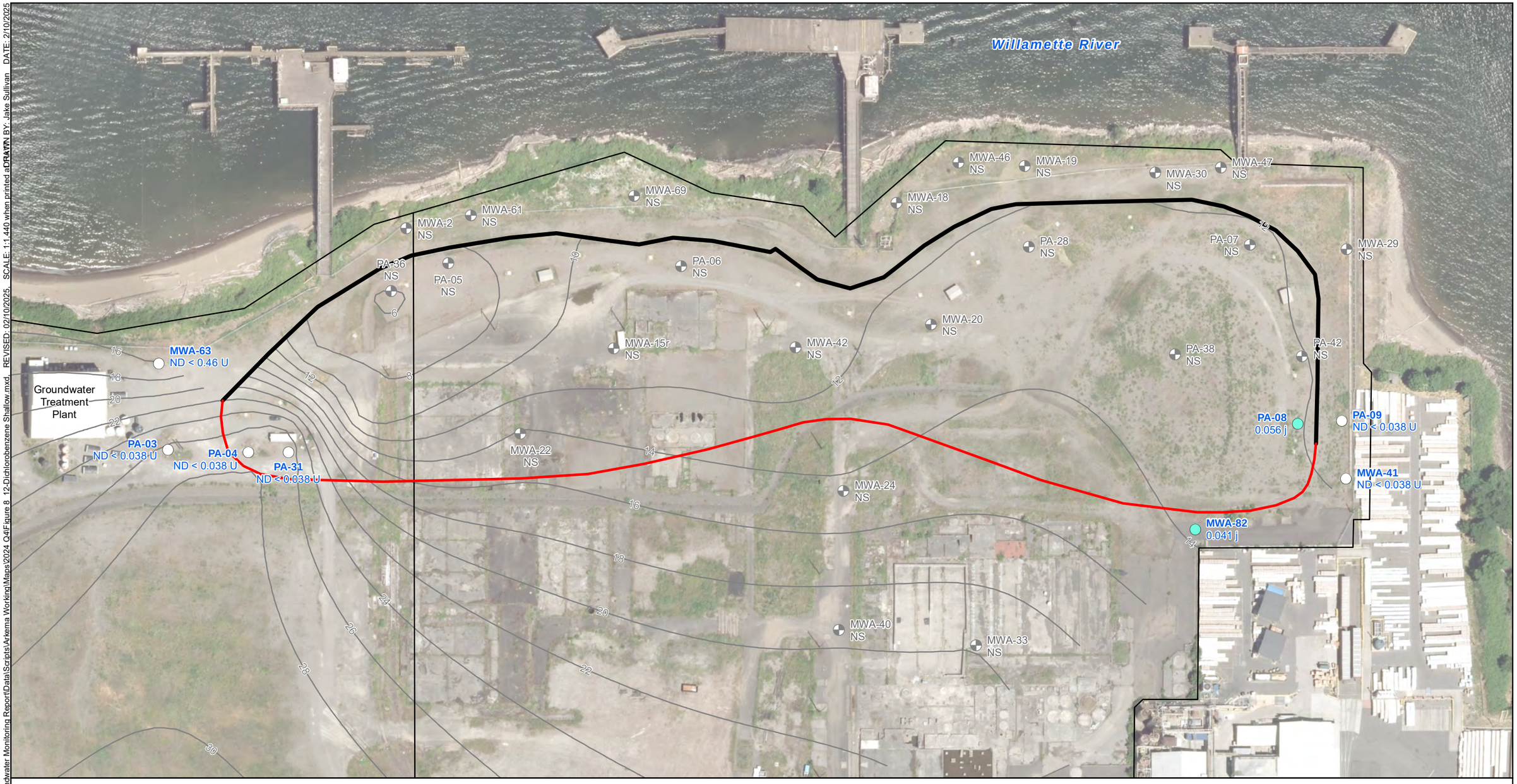
0 120 240
Feet

Figure 7
Chlorobenzene Groundwater Concentrations
Deep Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 7_Chlorobenzene Deep.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/10/2025



Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for 1,2-Dichlorobenzene = 14 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

N

0 120 240
Feet

Figure 8
1,2-Dichlorobenzene Groundwater Concentrations
Shallow Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 8_12-Dichlorobenzene Shallow.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 2/10/2025

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 9_12-Dichlorobenzene Intermediate.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at 11" DRAWN BY: Jake Sullivan DATE: 2/10/2025

Willamette River

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

Groundwater Treatment Plant

PA-17iR ND < 0.038 U
PA-10i 0.22 j
PA-32i 0.3
PA-15i ND < 0.038 U
PA-16i ND < 0.038 U
PA-44i ND < 0.038 U
MWA-81i ND < 0.038 U

8 10 12 14 16 18 20 22 24

Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for 1,2-Dichlorobenzene = 14 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

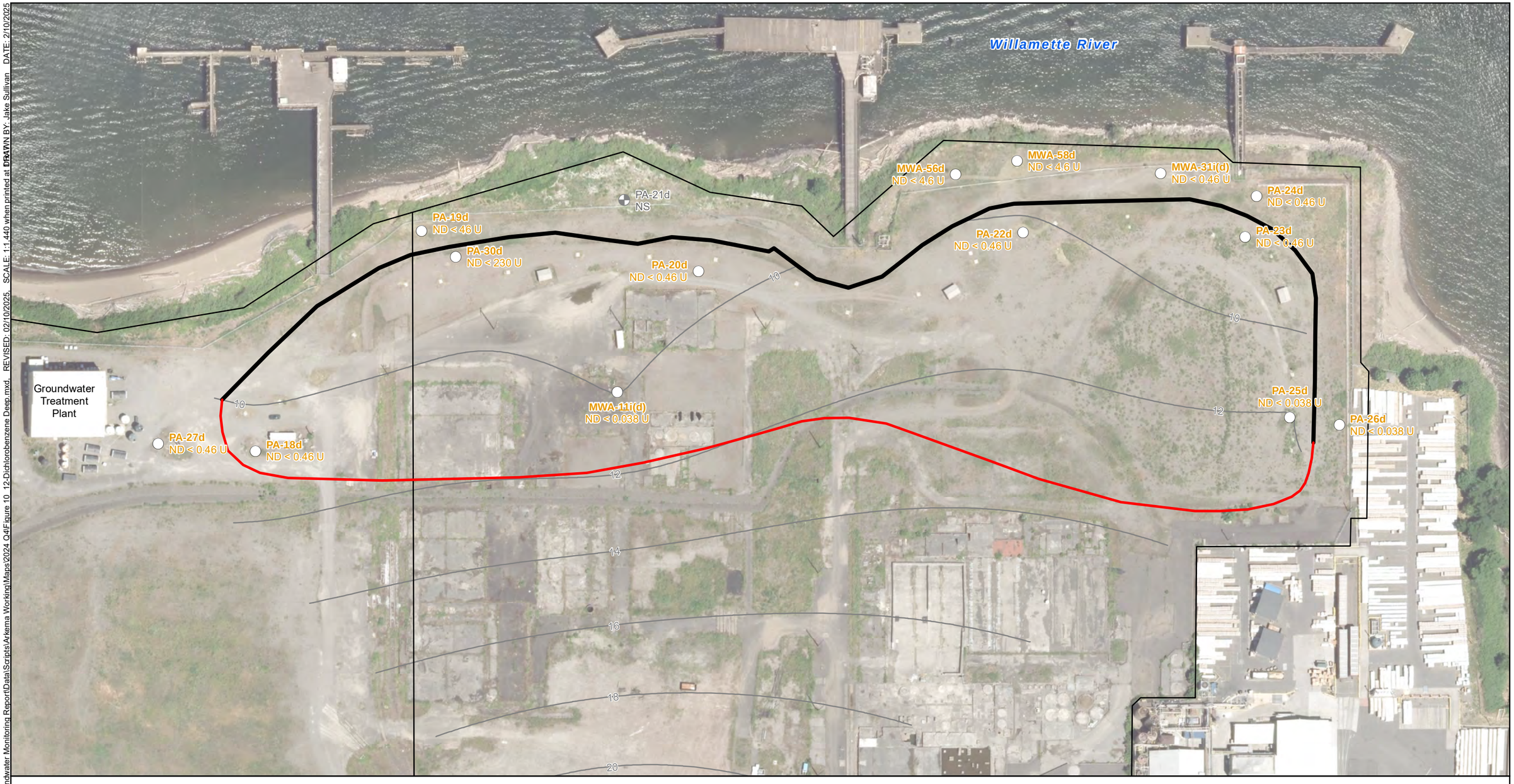
N

0 120 240
Feet

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

Figure 9
1,2-Dichlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for 1,2-Dichlorobenzene = 14 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

N

0 120 240
Feet

Figure 10
1,2-Dichlorobenzene Groundwater Concentrations
Deep Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\USI\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 10_12-Dichlorobenzene Deep.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 2/10/2025

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 11_VOCs_PieChart Shallow.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at 11x DRAWN BY: Tyler Harris DATE: 2/10/2025

Willamette River

MWA-63-121024
PCE: 35
TCE: 6.9
Cis-1,2: 12
VC: ND
Sum: 53.9

PA-04-121024
PCE: 0.16
TCE: ND
Cis-1,2: ND
VC: ND
Sum: 0.16

PA-31-121024
PCE: 0.25
TCE: 0.091
Cis-1,2: ND
VC: ND
Sum: 0.341

PA-03
ND

Groundwater Treatment Plant

PA-08-120924
PCE: 0.27
TCE: 0.14
Cis-1,2: 0.081
VC: ND
Sum: 0.491

PA-09
ND

MWA-41
ND

MWA-82-121124
PCE: 0.42
TCE: 0.15
Cis-1,2: ND
VC: ND
Sum: 0.57

Legend

Molar Ratio

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

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L
ND: Non-Detect

N

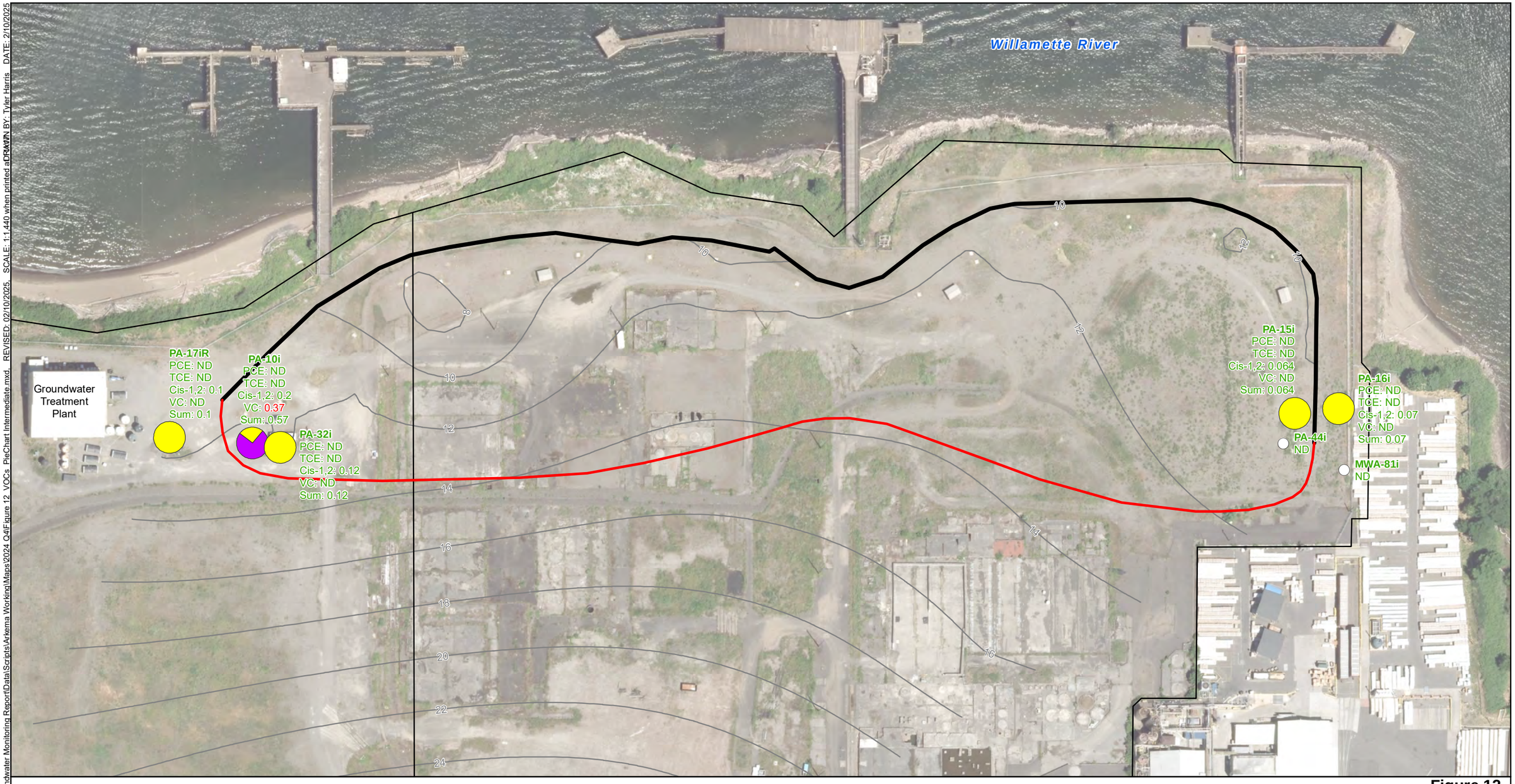
0 120 240
Feet

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

Figure 11
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Shallow Zone
Quarter 4, 2024
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\2024 Q4\Figure 12_VOCs_PieChart Intermediate.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at DRAWN BY: Tyler Harris DATE: 2/10/2025



Legend

Molar Ratio

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

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L
ND: Non-Detect

N

0 120 240
Feet

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

Figure 12
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Intermediate Zone
Quarter 4, 2024
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\2024 Q4\Figure 13_VOCs_PieChart_Deep.mxd, REVISED: 02/10/2025, SCALE: 1:1,440 when printed at 11x17DRAWN BY: Tyler Harris DATE: 2/10/2025

Willamette River

MWA-56d
ND

MWA-58d
ND

MWA-31i(d)
PCE: 0.45
TCE: ND
Cis-1,2: ND
VC: ND
Sum: 0.45

PA-24d
ND

PA-21d
NS

PA-19d
ND

PA-22d
ND

PA-23d
ND

PA-30d
ND

PA-20d
ND

MWA-11i(d)
PCE: ND
TCE: ND
Cis-1,2: 0.13
VC: ND
Sum: 0.13

Groundwater Treatment Plant

PA-27d
PCE: ND
TCE: ND
Cis-1,2: 0.85
VC: ND
Sum: 0.85

PA-18d
PCE: ND
TCE: ND
Cis-1,2: ND
VC: 0.26
Sum: 0.26

PA-25d
ND

PA-26d
ND

10
10
10
12
12
14
16
18
20

Legend

Molar Ratio

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

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L
ND: Non-Detect
NS: Not Sampled

N

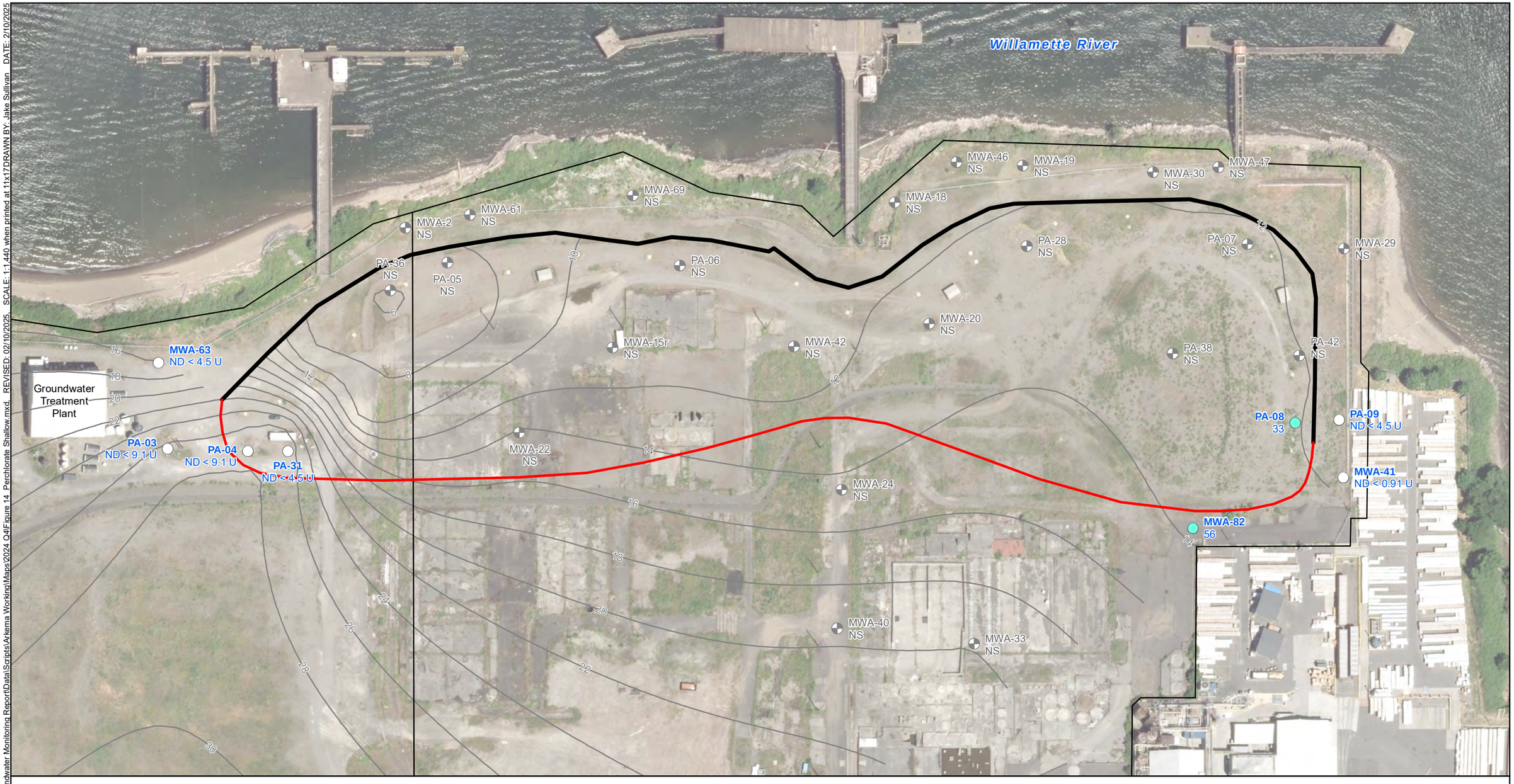
0 120 240
Feet

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

Figure 13
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Deep Zone
Quarter 4, 2024
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\2024 Q4\Figure 14_Perchlorate Shallow.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/10/2025



Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

N

0 120 240
Feet

Figure 14
Perchlorate Groundwater Concentrations
Shallow Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 15_Perchlorate Intermediate.mxd. REVISED: 02/10/2025. SCALE: 1:1,440 when printed at 11x17. DRAWN BY: Jake Sullivan DATE: 2/10/2025

Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

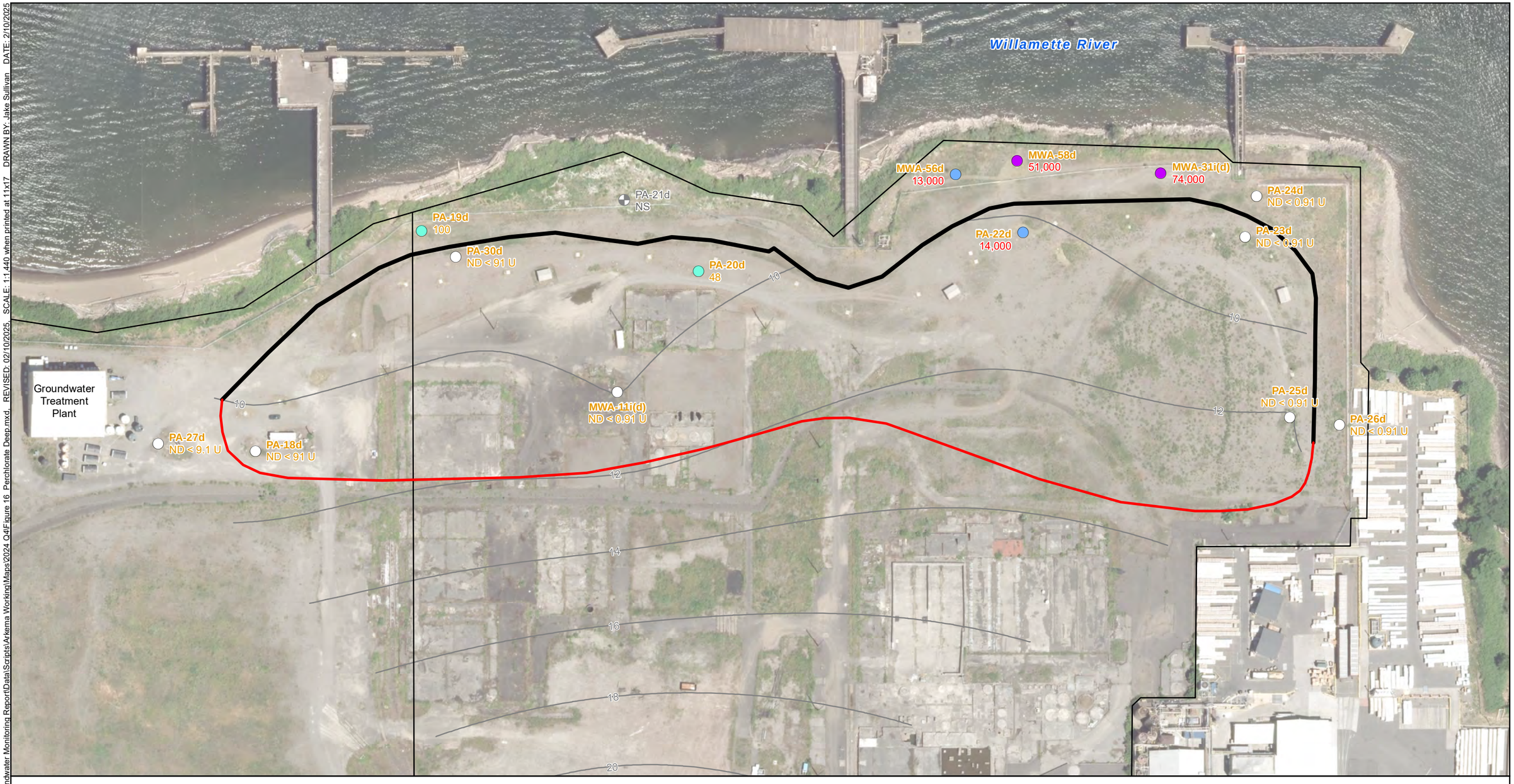
N

0 120 240
Feet

Figure 15
Perchlorate Groundwater Concentrations
Intermediate Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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



Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

N

0 120 240
Feet

Figure 16
Perchlorate Groundwater Concentrations
Deep Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\USI\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 16_Perchlorate Deep.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/10/2025

Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in milligrams per liter (mg/L).
Results in red exceed screening criteria.
Screening criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers.
NS: Not Sampled

N

0 120 240
Feet

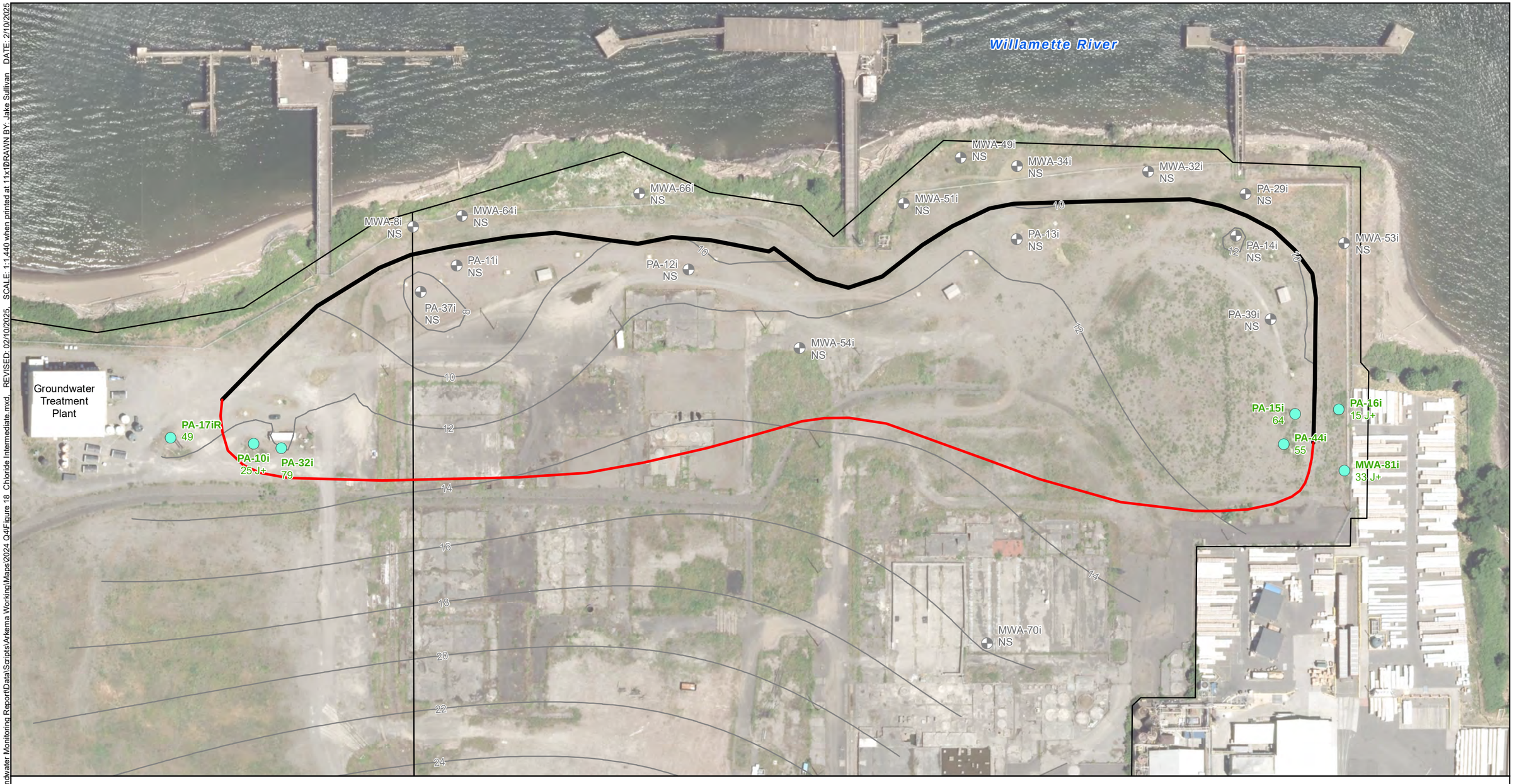
Figure 17
Chloride Groundwater Concentrations
Shallow Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 17_Chloride Shallow.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/10/2025

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 18_Chloride Intermediate.mxd REVISED: 02/10/2025 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/10/2025



Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in milligrams per liter (mg/L).
Results in red exceed screening criteria.
Screening criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers.
NS: Not Sampled

N

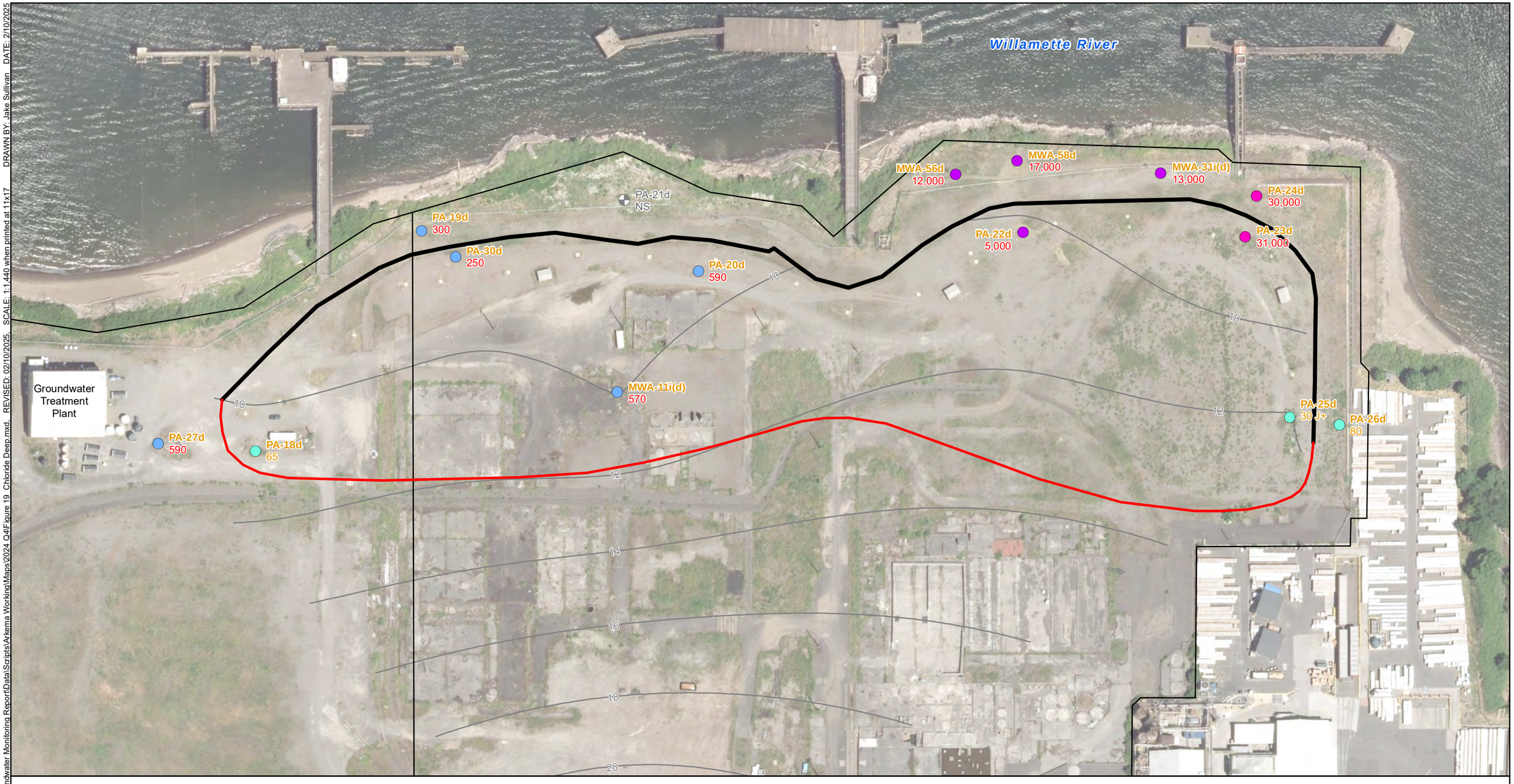
0 120 240
Feet

Figure 18
Chloride Groundwater Concentrations
Intermediate Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q4\Figure 19_Chloride Deep.mxd, REVISED: 02/10/2025, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/10/2025



Legend

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

Notes:
Samples collected December 9–12, 2024.
All results in milligrams per liter (mg/L).
Results in red exceed screening criteria.
Screening criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers.
NS: Not Sampled

N

0 120 240
Feet

Figure 19
Chloride Groundwater Concentrations
Deep Zone
Quarter 4, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

APPENDIX A FIELD FORMS

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-81I
Well Permit No:

Date: 2024/12/11
40 dawn

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** 34.47 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 80 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 2.45 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:25	34.5	100	0.25	7.75	7.26	682	NM	0.93	130	2.57	NM	
07:28	35.45	100	0.4	7.2	7.2	622	NM	0.6	133	1.73	NM	
07:31	34.47	100	0.6	7.1	7.19	601	NM	0.49	135	1.29	NM	
07:34	34.5	100	0.8	7.3	7.19	601	NM	0.4	137	1.26	NM	
07:38	34.5	100	1	7.45	7.19	609	NM	0.33	139	1.02	NM	
07:41	34.5	57.7	1.2	7.8	7.2	610	NM	0.25	140	1.12	NM	
07:44	34.5	70.7	1.4	7.9	7.19	619	NM	0.23	141	0.94	NM	
07:47	34.5	70.7	1.6	7.9	7.19	626	NM	0.15	142	0.72	NM	
07:50	34.5	57.7	1.8	8.1	7.19	623	NM	0.09	143	0.84	NM	
07:53	34.5	70.7	2	8	7.19	620	NM	0.04	144	0.79	NM	
07:56	34.5	79.1	2.25	7.9	7.19	631	NM	0.02	145	0.76	NM	
07:59	34.5	100	2.45	7.9	7.19	631	NM	0.02	146	0.78	NM	

Sample ID(s): MWA-81i-121124	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		PV 	01/03/2025 16:17

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-82
Well Permit No:

Date: 2024/12/11

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 30 (ft)	**Reference Elevation** 37.74 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.32 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 90.5 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 1.6 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:13	23.3		0.25	12.9	9.66	498	NM	2.34	150	115	NM	
11:15	24.3	70.7	0.35	13.38	9.62	494	NM	0.65	147	138	NM	
11:18	24.32	102.1	0.6	13.8	9.63	489	NM	0.37	143	129	NM	
11:20	24.3	102.1	0.85	14	9.6	484	NM	0.24	139	133	NM	
11:23	24.3	142.9	1.2	14.2	9.57	482	NM	0.19	138	131	NM	
11:26	24.3	72.2	1.45	14.6	9.53	481	NM	0.17	136	138	NM	
11:29	24.3	53	1.6	14.7	9.53	475	NM	0.17	132	127	NM	

Sample ID(s): MWA-82-121124	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		PV 	01/03/2025 16:18

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-20D
Well Permit No:

Date: 2024/12/12
Rainy 40 degrees

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** 28.8 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 15.725 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:26	30.8		0.15	11.05	7.96	3005	NM	3.67	-79.6	7.08	NM	
08:29	35.58	185.6	0.675	13.2	7.16	2618	NM	1.35	-90.9	2.17	NM	
08:59	50.6	175	5.925	14.4	6.72	2446	NM	1.05	-102	2.17	NM	
09:29	53.61	175.2	11.175	14.45	6.74	2244	NM	1.12	-85.5	10.4	NM	
09:55	54.12	174.7	15.725	14.5	6.71	2171	NM	1.14	-70.5	3.09	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Dup-02-121224,PA-20d-121224	1in bladder pump used	PV 	12/17/2024 04:56
Analysis:			

Low Flow Groundwater Sampling Field Data Form	Well ID: PA-21D Well Permit No:	Date:

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** / ()	**Reference Elevation** 34.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** () / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** ()
Project Name 20241209-GWMonitor	**Average Purge Rate** ()	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler	**Volume of Water in Well / Total Volume Purged** () / ()	**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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-22D
Well Permit No:

Date: 2024/12/12
Rainy 40 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 60 (ft)	**Reference Elevation** 38.75 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.88 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 1.85 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:05	29.39		0.1	11.23	7.98	15.31	NM	2.93	96.5	9.82	NM	
07:08	29.39	123.7	0.45	12	7.64	13.7	NM	1.59	93.9	15.6	NM	
07:11	29.39	110.7	0.8	12.3	7.4	13.96	NM	1.57	93.1	43.9	NM	
07:14	29.37	123.7	1.15	12.7	7.27	14.08	NM	1.34	93.6	56	NM	
07:17	29.39	123.7	1.5	12.78	7.21	14.38	NM	1.4	93.9	58.4	NM	
07:20	29.37	110.7	1.85	12.8	7.16	14.5	NM	1.35	94.3	54.9	NM	

Sample ID(s): PA-22d-121224	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1in bladder pump used	PV 	12/17/2024 04:45

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-23D
Well Permit No:

Date: 2024/12/11
Cloudy 45 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80.5 (ft)	**Reference Elevation** 39.31 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 31.85 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 23.795 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:27	34.85		0.3	12.4	6.88	68.83	NM	4.33	-36.5	80.2	NM	
10:30	38.5	238.6	0.975	13.9	6.8	66.44	NM	1.82	-47.2	44.3	NM	
11:00	58.21	217.9	7.52	14.3	6.84	66.83	NM	1.89	-73.9	40.3	NM	
11:30	57.71	155	12.17	13.8	6.93	55.7	NM	1.27	-88.2	14.3	NM	
12:00	57.31	155.2	16.82	14.1	6.92	47.07	NM	1.14	-89.4	5.75	NM	
12:30	58.2	155.2	21.47	14.9	6.91	47.33	NM	1.04	-87.5	7.45	NM	
12:45	58.18	155	23.795	14.9	6.9	66.43	NM	0.84	-88.5	7.38	NM	

Sample ID(s): PA-23d-121124	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1in bladder pump used	PV 	12/17/2024 06:05

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-24D
Well Permit No:

Date: 2024/12/11
Cloudy 40 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80.5 (ft)	**Reference Elevation** 39.06 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 31.7 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.25 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:08	34.4		0	12.1	6.37	65.39	NM	2.04	-13.7	50.9	NM	
09:11	34.55	132.6	0.375	12.48	6.37	65.11	NM	1.88	-25.7	44.3	NM	
09:14	34.65	132.6	0.75	12.9	6.41	65.21	NM	1.39	-53.3	83.4	NM	
09:17	34.66	118.6	1.125	13.1	6.47	65.65	NM	1.25	-64.2	105	NM	
09:20	34.66	132.6	1.5	13.1	6.51	66.03	NM	1.09	-70.6	116	NM	
09:23	34.55	132.6	1.875	13.18	6.54	66.21	NM	1.12	-73	122	NM	
09:26	34.55	118.6	2.25	13.2	6.56	66.23	NM	1.04	-75.3	134	NM	

Sample ID(s): PA-24d-121124	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1in bladder pump used	PV 	01/03/2025 16:20

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-25D
Well Permit No:

Date: 2024/12/10
Cloudy 45 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 40.44 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 30.45 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 24.375 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
13:00	31.6		0	11.68	7.05	613	NM	2.49	15.6	18.9	NM	
13:03	33.91	132.6	0.375	12.4	7.05	600	NM	3.2	22.9	15.3	NM	
13:06	36.45	118.6	0.75	12.8	7.11	588	NM	4.64	33.3	17.9	NM	
13:36	46.55	125	4.5	13.2	7.03	613	NM	3.89	-74.9	11.5	NM	
14:06	49.05	125.1	8.25	13.2	7.03	653	NM	1.72	-91.3	5.03	NM	
14:36	49.32	124.9	12	13.68	7.04	641	NM	1.13	-97.9	2.89	NM	
15:06	49.6	125	15.75	13.7	7.05	650	NM	0.96	-100.2	3.19	NM	
15:36	49.7	125.1	19.5	13.8	7.05	656	NM	0.93	-100.4	2.29	NM	
16:06	49.65	124.9	23.25	13.8	7.05	646	NM	1.11	-95.9	2.1	NM	
16:15	49.7	125.8	24.375	13.6	7.02	646	NM	1.06	-96.4	1.96	NM	

Sample ID(s): PA-25d-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1in bladder pump used	PV 	12/17/2024 05:53

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-26D
Well Permit No:

Date: 2024/12/10
Foggy 30

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** 29.89 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.55 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:10	32.3		0	11.5	7.23	298	NM	4.51	-37.9	18.5	NM	
08:13	32.3	115.5	0.4	12.4	6.86	412	NM	3.73	-58.7	14.5	NM	At 0815 pump stopped working, troubleshooting
08:27	31.4	3.6	0.45	10.88	6.87	457	NM	4.03	-65.7	30.1	NM	
08:30	31.95	94.9	0.75	11.9	6.87	494	NM	2.79	-78.4	69.8	NM	
08:33	32	106.1	1.05	12.3	6.83	554	NM	1.9	-93.1	113	NM	
08:36	32.31	94.9	1.35	12.9	6.89	602	NM	1.44	-103.8	159	NM	
08:39	32.1	94.9	1.65	12.8	6.91	603	NM	1.21	-107.1	224	NM	
08:42	32.01	106.1	1.95	12.9	6.95	613	NM	0.97	-109.7	273	NM	
08:45	31.99	94.9	2.25	13	6.99	627	NM	0.88	-111.7	273	NM	
08:48	32.1	94.9	2.55	13.2	7	618	NM	0.82	-114.4	254	NM	

Sample ID(s): PA-26d-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1in bladder used	PV 	12/17/2024 05:39

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-30D
Well Permit No:

Date: 2024/12/13
Cloudy 45 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 50 (ft)	**Reference Elevation** 37.34 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.05 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 4000 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
13:43	27.45	0.3	2.25	13.2	8.21	2448	NM	1.08	-106.9	264	NM	
13:46	27.55	64.9	0.1	10.93	8.03	2160	NM	9.98	1	412	NM	Had to pause pump after reading the trouble shoot pump issues noticed
13:52	27.45	64.9	0.5	12.8	8.1	2409	NM	8.4	26.7	144	NM	
13:55	27.45	64.9	0.85	13	8.14	2439	NM	4.16	11	113	NM	
13:58	27.45	101	1.2	13	8.17	2445	NM	2.13	-32.7	273	NM	
14:01	27.45	110.7	1.55	13.1	8.18	2447	NM	1.34	-76.7	259	NM	
14:04	27.45	123.7	1.9	13.1	8.19	2445	NM	1.14	-96.4	275	NM	
14:07	27.45	110	2.25	13.2	8.21	2448	NM	1.08	-106.9	264	NM	
14:10	27.45	110	2.6	13.2	8.21	2467	NM	1.05	-113.4	312	NM	
14:13	27.45	110	2.95	13	8.22	2454	NM	1.05	-113.8	NM	NM	Turbidity meter stopped working
14:16	27.42	110.7	3.3	12.6	8.23	2466	NM	1.08	-114.5	NM	NM	
14:19	27.45		3.65	12.4	8.24	2441	NM	1.08	-115.3	NM	NM	
14:22	27.45		4	12.3	8.24	2449	NM	1.08	-115.2	NM	NM	

Sample ID(s): PA-30d-121224	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 in bladder pump used	PV 	01/03/2025 16:23

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-32I
Well Permit No:

Date: 2024/12/10
45 foggy

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** 24.18 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 107.5 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel Lake Whiting	**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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:27	24.2		0.5	11.93	8.59	177	NM	6.71	6.4	37	NM	
12:30	24.2	106.1	0.8	11.4	7.93	772	NM	2.84	-9	7.13	NM	
12:33	24.2	88.4	1.05	11.6	7.73	1236	NM	1.41	-48	5.89	NM	
12:36	24.2	126.5	1.45	11.3	7.71	1312	NM	0.59	-79	7.07	NM	
12:39	24.2	123.7	1.8	11.2	7.69	1322	NM	0.66	-73	7.37	NM	
12:42	24.21	106.1	2.1	11.3	7.71	1307	NM	1.1	-65	7.71	NM	
12:45	24.2	106.1	2.4	11.4	7.68	1325	NM	1.26	-68	4.42	NM	
12:48	24.2	123.7	2.75	11.5	7.68	1329	NM	1.24	-67	5.35	NM	
12:51	24.2	79.1	3	11.7	7.68	1325	NM	1.17	-68	5.3	NM	

Sample ID(s): DUP-01-121024,PA-32i-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lpw 	12/10/2024 21:10

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-04
Well Permit No:

Date: 2024/12/10
35 foggy

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** 9.2 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 76.9 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel Lake Whiting	**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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
06:53	9.34	63.2	0.1	6.28	10.1	778	NM	2.6	69	133	NM	
06:56	9.34	102.1	0.3	6.38	10.9	733	NM	1.29	65	217	NM	
06:59	9.35	102.1	0.55	6.85	10.9	690	NM	1	60	91.5	NM	
07:02	9.35	70.7	0.75	7.3	10.08	708	NM	0.93	57	72.3	NM	
07:05	9.35	81.6	0.95	7.5	10.08	684	NM	0.83	53	47.8	NM	
07:08	9.35	79.1	1.2	7.5	10.07	719	NM	0.77	50	38.7	NM	
07:11	9.35	94.9	1.5	8	10.07	660	NM	0.75	47	32.2	NM	
07:14	9.35	35.4	1.6	8.4	10.06	705	NM	0.76	53	28.7	NM	
07:17	9.35	63.2	1.8	8.3	10.06	649	NM	0.79	45	26	NM	

Sample ID(s): PA-04-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		PV 	12/17/2024 17:05

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-08
Well Permit No:

Date: 2024/12/09
Cloudy 35 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 30 (ft)	**Reference Elevation** 40.47 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.4 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 108.2 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.4 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:05	28.42		0	9.9	7.47	1575	NM	2.99	-250	0	NM	
08:08	28.42	88.4	0.25	10.5	7.28	1613	NM	1	-233	0	NM	
08:11	28.43	88.4	0.5	11	7.26	1571	NM	0.93	-222	0	NM	
08:14	28.43	102.8	0.825	11.5	7.26	1536	NM	0.97	-210	0	NM	
08:17	28.45	97.2	1.1	11.8	7.28	1486	NM	0.89	-200	0	NM	
08:20	28.45	88.4	1.35	11.8	7.29	1468	NM	0.87	-189	0	NM	
08:23	28.45	126.5	1.75	11.9	7.33	1405	NM	0.89	-170	0	NM	
08:25	28.45	150	2.05	11.8	7.37	1367	NM	0.87	-157	0	NM	
08:28	28.45	123.7	2.4	11.8	7.33	1355	NM	0.87	-151	0	NM	

Sample ID(s): PA-08-120924	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	PV 	12/09/2024 19:13

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-15I
Well Permit No:

Date: 2024/12/11
Cloudy 35 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 42.5 (ft)	**Reference Elevation** 40.62 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 30.37 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:36	30.58		0	10.9	8.62	640	NM	2.46	-64	139	NM	
07:39	30.64	132.6	0.375	12.28	7.99	707	NM	1.45	-84.1	218	NM	
07:42	30.64	118.6	0.75	12.9	7.76	724	NM	1.22	-90.4	233	NM	
07:45	30.66	118.6	1.125	13.1	7.64	757	NM	1.14	-95.6	242	NM	
07:48	30.65	132.6	1.5	13.3	7.56	766	NM	1.34	-96.2	230	NM	

Sample ID(s): PA-15i-121124	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1in bladder pump used	PV 	12/17/2024 05:04

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-16I
Well Permit No:

Date: 2024/12/10
Cloudy 45 degrees

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** 30.3 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:24	30.75		0	11.35	7.35	229	NM	2.74	-98.4	164	NM	
11:27	30.75	79.1	0.25	12.6	6.9	255	NM	1.19	-111.7	98.7	NM	
11:30	30.85	79.1	0.5	13.4	6.78	309	NM	1.04	-124	86.1	NM	
11:33	30.73	88.4	0.75	13.6	6.82	328	NM	1.28	-120.3	101	NM	
11:36	30.85	79.1	1	13.8	6.84	349	NM	1.02	-117.1	97.6	NM	
11:39	30.81	79.1	1.25	13.9	6.83	359	NM	0.99	-111	105	NM	
11:42	30.76	88.4	1.5	14	6.83	368	NM	0.99	-106.7	108	NM	

Sample ID(s): PA-16i-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1in bladder pump used.	PV 	12/17/2024 05:13

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-18D
Well Permit No:

Date: 2024/12/10
35 foggy

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** 26.45 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 2.575 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:23	26.73		0.25	5.28	8.14	405	NM	9.39	84	11.3	NM	
08:26	27.1	70.7	0.45	7.4	7.81	399	NM	6.88	94	7.58	NM	
08:29	27.4	70.7	0.65	8.35	7.52	408	NM	4.3	103	6.08	NM	
08:32	27.32	79.1	0.9	8.1	7.65	400	NM	5.27	100	4.45	NM	
08:35	27.6	176.8	1.15	8.7	7.46	421	NM	3.2	100	4.36	NM	
08:38	27.6	35.4	1.25	8.7	7.49	473	NM	2.24	96	2.8	NM	
08:41	27.6	97.2	1.5	8.7	7.73	608	NM	1.67	88	2.48	NM	
08:44	27.6	97.2	1.8	8.9	8.05	776	NM	1.33	25	2.43	NM	
08:47	27.6	70.7	2	8.9	8.37	808	NM	1.11	-148	4.72	NM	
08:50	27.6	97.2	2.15	9.5	8.55	942	NM	0.96	-232	8.24	NM	
08:53	27.55	53	2.3	9.45	8.59	998	NM	0.99	-278	7.4	NM	
08:56	27.55	97.2	2.575	9.45	8.6	1001	NM	0.98	-280	7.4	NM	

Sample ID(s): PA-18d-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lpw 	12/10/2024 22:26

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-27D
Well Permit No:

Date: 2024/12/09
50 sunny

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** 26.2 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 17.7 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 0.9 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
13:48	27.8		0.1	17.5	7.23	2737	NM	0.26	-243	0.38	NM	
13:51	28.08			16.3	7.15	2950	NM	0.16	-234	11	NM	
13:54	28.31		0.6	15.7	7.13	2948	NM	0.03	-238	7.51	NM	
13:57	28.43		0.85	15.4	7.1	2960	NM	0	-231	7.33	NM	
14:00	28.48	17.7	0.9	15.4	7.07	2986	NM	0	-220	6.6	NM	

Sample ID(s): PA-27d-120924	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Lpw 	12/09/2024 22:24

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-03
Well Permit No:

Date: 2024/12/09
Overcast 40°

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** 9.8 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 70.4 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 0.9 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:22	10.7		0	12.03	10.15	817	NM	4.18	-311	0	NM	
10:28	1.07	56.7	0.3	12.8	10.4	804	NM	8.5	-310	0	NM	
10:31	10.71	79.1	0.55	12.9	10.42	799	NM	6.6	-313	0	NM	
10:33	10.68	70.7	0.75	12.9	10.42	802	NM	6.1	-314	0	NM	
10:36	10.71	75	0.9	12.9	10.42	803	NM	5.8	-314	0	NM	

Sample ID(s): PA-03-120924	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Lake Whiting 	12/09/2024 18:54

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-31
Well Permit No:

Date: 2024/12/10
45 foggy

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** 9.5 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 111.3 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 2.3 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:18	9.3		0.5	11.43	9.5	737	NM	4.45	-54	22.3	NM	
11:21	9.3	88.4	0.75	12.5	9.5	715	NM	1.68	-59	29.1	NM	
11:24	9.3	79.1	1	13.4	9.51	766	NM	0.35	-64	34.2	NM	
11:27	9.3	115.5	1.4	13.8	9.51	792	NM	0.12	-67	40.4	NM	
11:30	9.3	158.1	1.9	13.9	9.52	800	NM	0.02	-69	39	NM	
11:33	9.3	115.5	2.3	14	9.52	807	NM	0	-72	38	NM	

Sample ID(s): PA-31-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lake Whiting 	12/10/2024 21:18

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-63
Well Permit No:

Date: 2024/12/10
40 foggy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 24 (ft)	**Reference Elevation** 36.29 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 21.55 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 88 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 2 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:18	23.25	106.1	0.5	10.5	7.7	606	NM	8.1	42	33.2	NM	
10:21	22.95	106.1	0.8	11.78	7.39	595	NM	7.26	60.7	19.4	NM	
10:24	22.95	122.5	1.1	12.2	7.19	585	NM	7.12	71	18.2	NM	
10:27	23	43.3	1.25	12.5	7.08	584	NM	6.99	81	18	NM	
10:30	22.96	63.2	1.45	12.7	7.05	759	NM	6.92	86	12.7	NM	
10:33	22.97	88.4	1.7	12.7	7.03	582	NM	6.87	90	12	NM	
10:36	23	86.6	2	12.9	7.04	581	NM	6.84	95	11.9	NM	

Sample ID(s): MWA-63-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lake whiting 	12/10/2024 21:23

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-41
Well Permit No:

Date: 2024/12/11
40 overcast

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 40 (ft)	**Reference Elevation** 45.14 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 33.5 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 76.7 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 3.9 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:59	33.5		0.25	9.75	7.33	418	NM	0.75	154	11.5	NM	
09:02	33.5	176.8	0.5	10.9	7.33	328	NM	0.37	155	12.6	NM	
09:05	33.5	79.1	0.75	11.2	7.28	315	NM	0.34	157	13	NM	
09:09	33.51	57.7	1	11.63	7.25	317	NM	0.31	159	13	NM	
09:12	33.5	57.7	1.4	12.8	7.23	316	NM	0.26	161	9.92	NM	
09:15	33.5	70.7	1.6	11.9	7.22	317	NM	0.24	162	8.89	NM	
09:18	33.51	57.7	1.8	11.9	7.2	316	NM	0.22	163	7.5	NM	
09:21	33.5	142.9	2.15	11.8	7.2	315	NM	0.17	164	7.29	NM	
09:24	33.5	53	2.3	11.48	7.18	316	NM	0.15	165	5.96	NM	
09:27	33.5	94.9	2.6	11.1	7.18	318	NM	0.12	166	5.23	NM	
09:30	33.51	35.4	2.7	11.1	7.18	315	NM	0.09	167	4.57	NM	
09:33	33.5	63.2	2.9	11.15	7.2	317	NM	0.06	168	3.59	NM	
09:36	33.5	70.7	3.1	11	7.19	319	NM	0.05	168	3.07	NM	
09:39	33.5	81.6	3.3	11	7.18	319	NM	0.03	169	2.67	NM	
09:42	33.5	53.5	3.5	11	7.19	320	NM	0	169	2.96	NM	
09:45	33.5	53	3.65	10.95	7.19	321	NM	0	170	2.46	NM	
09:48	33.5	79.1	3.9	11	7.19	319	NM	0	165	2.44	NM	

Sample ID(s): MWA-41-121124	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lpw 	12/11/2024 18:48

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-44I
Well Permit No:

Date: 2024/12/11
45 sunny windy

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** 30 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 123.2 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 5.5 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:40	29.97		0.25	11.6	8.56	227	NM	7.95	81	5.18	NM	
12:43	29.97	106.1	0.4	11.9	8.54	228	NM	7.55	97	5.13	NM	
12:46	29.97	94.9	0.7	12.5	8.46	219	NM	7.42	106	4.33	NM	
12:49	29.97	86.6	1	13.3	8.39	218	NM	7.31	105	5.92	NM	
12:52	29.97	159.1	1.45	13.5	8.31	224	NM	7.18	107	11.8	NM	
12:55	29.97	126.5	1.85	13.3	8.02	251	NM	6.63	100	18.4	NM	
12:58	29.97	175	2.2	13.4	7.69	326	NM	5.23	95	23.3	NM	
13:01	29.97	144.3	2.7	13.2	7.35	486	NM	3.3	90	25.9	NM	
13:04	29.97	106.1	3	13.1	7.19	613	NM	1.63	88	28.4	NM	
13:07	29.96	142.9	3.35	13.2	7.07	684	NM	0.9	85	28.3	NM	
13:10	29.97	106.1	3.65	13.2	7.03	726	NM	0.51	81	29.5	NM	
13:13	29.97	110.7	4	13.4	6.99	757	NM	0.3	78	30.8	NM	
13:16	29.97	141.4	4.4	13.5	6.96	776	NM	0.12	76	31	NM	
13:19	29.97	110.7	4.75	13.6	6.98	788	NM	0.08	73	31.5	NM	
13:22	29.97	158.1	5.25	13.7	6.97	800	NM	0	70	32	NM	
13:25	29.97	79.1	5.5	13.7	6.95	808	NM	0	68	32.2	NM	

Sample ID(s): PA-44i-121124	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lake whiting 	12/12/2024 14:32

Low Flow Groundwater Sampling Field Data Form

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

Date: 2024/12/12
40 rainy dawn

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 56 (ft)	**Reference Elevation** 38.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 30.15 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 112.1 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel lake whiting	**Volume of Water in Well / Total Volume Purged** () / 2.3 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:05	30.22		0.25	11.25	6.65	29.79	NM	2.67	94	20.7	NM	
07:08	30.23	79.1	0.5	12.2	6.67	31.19	NM	0.78	73	12.2	NM	
07:11	30.24	94.9	0.8	12.8	6.64	32.04	NM	0.36	52	11.5	NM	
07:14	30.24	120.3	1.25	12.8	6.53	32.58	NM	0.19	40	16.8	NM	
07:17	30.24	125	1.5	12.8	6.48	32.79	NM	0.14	39	20.1	NM	
07:20	30.24	94.9	1.8	12.9	6.45	32.85	NM	0.09	37	20.9	NM	
07:23	30.24	158.1	2.3	12.8	6.44	32.92	NM	0.08	36	19.7	NM	

Sample ID(s): MWA-31i(d)-121224	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lake whiting 	12/12/2024 15:45

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-10I
Well Permit No:

Date: 2024/12/10
55 overcast

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 35 (ft)	**Reference Elevation** ()
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.3 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 112.9 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) /
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 1.85 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
15:03	24.4		0.5	11.3	7.94	858	NM	1.24	-140	18.1	NM	
15:06	24.4	115.5	0.9	12.3	7.69	844	NM	0	-186	18.1	NM	
15:09	24.4	88.4	1.15	12.7	7.66	844	NM	0	-207	8.04	NM	
15:12	24.4	106.1	1.45	12.7	7.66	843	NM	0	-218	6.68	NM	
15:15	24.4	141.4	1.85	12.7	7.66	846	NM	0	-226	6.68	NM	

Sample ID(s): PA-10i-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lpw 	12/10/2024 23:30

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-17IR
Well Permit No:

Date: 2024/12/09
40 overcast

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 40 (ft)	**Reference Elevation** 37.59 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 26.5 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 43.3 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - (ft)
Sampler paul vannevel Lake whiting	**Volume of Water in Well / Total Volume Purged** () / 3.1 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:32	27.1	70.7	0	10.78	7.75	108	NM	25.3	-187	0	NM	
11:35	27.18	142.9	0.35	11.2	6.75	95	NM	8.3	-184	0	NM	
11:38	27.28	61.2	0.5	11.5	6.44	84	NM	6.5	-184	0	NM	
11:41	27.46	53	0.65	11.7	6.35	75	NM	5.3	-184	0	NM	
11:44	27.43	61.2	0.8	11.7	6.31	75	NM	4.6	-186	0	NM	
11:47	27.45	63.2	1	11.7	6.33	81	NM	3.8	-195	0	NM	
11:50	27.5	53	1.15	11.7	6.66	108	NM	4	-216	0	NM	
11:53	27.58	88.4	1.4	12	7.14	254	NM	3.9	-231	0	NM	
11:56	27.6	86.6	1.7	12.4	7.53	347	NM	4.2	-242	0	NM	
11:59	27.61	70.7	1.9	12.7	7.93	426	NM	3.6	-251	0	NM	
12:02	27.65	40.8	2	12.8	8.58	548	NM	3.6	-265	0	NM	
12:05	27.65	35.4	2.1	13	8.91	674	NM	3	-273	0	NM	
12:08	27.65	57.7	2.3	13.1	9.08	777	NM	3	-279	0	NM	
12:11	26.65	63.2	2.5	13.4	9.15	847	NM	2.4	-281	0	NM	
12:14	27.65	106.1	2.8	13.4	9.2	891	NM	1.3	-285	0	NM	
12:17	27.65	35.4	2.9	13.1	9.24	904	NM	1.3	-289	0	NM	
12:20	27.65	70.7	3	12.9	9.26	922	NM	2.2	-284	0	NM	
12:23	27.65	34.8	3.1	13.1	9.29	962	NM	2.7	-288	0	NM	

Sample ID(s): PA-17iR-120924	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	DO recorded incorrectly - please convert from % to mg	Lake whiting 	12/12/2024 18:07

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-58D
Well Permit No:

Date: 2024/12/12
45 raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 56 (ft)	**Reference Elevation** 37.97 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 29.85 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel lake whiting	**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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:35	30.5		0.5	10.7	6.84	40.4	NM	1.65	54	20.2	NM	
08:39	30.45	82.5	0.85	10.18	6.73	39.44	NM	3.8	58	5.17	NM	
08:40	30.35	32	1	9.3	6.72	40.16	NM	0.3	58	4.46	NM	
08:45	30.35	32	1.15	10.4	6.71	40.14	NM	0.22	59	4.02	NM	
08:48	30.35	63.2	1.35	10.6	6.7	40	NM	0.14	60	3.26	NM	
08:51	30.35	88.4	1.6	10.9	6.7	40	NM	0.04	61	3.92	NM	
08:55	30.35	53.5	1.8	10.8	6.7	39	NM	0.04	63	3.94	NM	

Sample ID(s): MWA-58d-121224	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lpw 	12/12/2024 18:46

Low Flow Groundwater Sampling Field Data Form	Well ID: MWA-56D Well Permit No:	Date: 2024/12/12 45 rainy windy

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** 28.15 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel lake whiting	**Volume of Water in Well / Total Volume Purged** () / 3.3 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:10	28.16	0	0.25	10.5	7.48	3449	NM	3.64	62	3.86	NM	
11:13	28.15	123.7	0.6	12.4	6.89	3556	NM	1.19	74	4.11	NM	
11:16	28.15	86.6	0.9	13.2	6.7	4465	NM	0.77	79	1.9	NM	
11:19	28.15	94.9	1.2	1.6	6.6	6164	NM	0.47	83	1.58	NM	
11:21	28.15	122.5	1.5	1.7	6.58	8369	NM	0.35	83	1.96	NM	
11:40	28.2	26.1	2	11.38	6.67	17.88	NM	0.41	84	1.79	NM	Pump failed between parameters, new batteries installed
11:43	28.1	88.4	2.25	12.55	6.48	26.46	NM	0.68	84	2.61	NM	
11:46	28.1	102.1	2.5	13.53	6.5	29.27	NM	0.29	84	2.15	NM	
11:49	28.1	110.7	2.85	13.8	6.59	30.29	NM	0.08	83	1.25	NM	
11:52	28.1	129.9	3.3	13.9	6.62	30.65	NM	0.08	83	1.23	NM	

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
MWA-56d-121224	Significant time delay between parameters during stab	PV 	01/03/2025 16:27
Analysis:			

Low Flow Groundwater Sampling Field Data Form

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

Date: 2024/12/12
45 rainy

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** 26.5 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 124.6 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel lake whiting	**Volume of Water in Well / Total Volume Purged** () / 5.1 (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 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
13:13	26.55		0.25	10.53	10.14	822	NM	5.46	-3	1.55	NM	
13:16	26.55	81.6	0.45	10.55	10.24	580	NM	4.67	-2	10.5	NM	
13:19	26.54	79.1	0.6	10	10.29	571	NM	4.54	-2	9.79	NM	
13:22	26.55	81.6	0.8	10.75	10.32	422	NM	4.43	-2	9.42	NM	
13:25	26.55	159.1	1.25	10.4	10.19	441	NM	3.16	0.8	6.55	NM	
13:27	26.55	79.1	1.5	11.9	9.85	576	NM	1.8	-45	7.25	NM	
13:30	26.57	122.5	1.8	12.4	8.44	1534	NM	0.73	-207	5.66	NM	
13:33	26.57	142.3	2.25	12.9	7.5	2056	NM	0.34	-239	2.6	NM	
13:36	26.57	173.9	2.8	13.2	7.28	2197	NM	0.11	-241	1.91	NM	
13:39	26.57	173.9	3.35	13.1	7.32	1732	NM	0.92	-215	10.7	NM	
13:42	26.57	142.3	3.8	13.3	7.17	2066	NM	0.43	-221	7.83	NM	
13:45	26.55	163.3	4.2	13.1	7.12	2205	NM	0.15	-222	5.27	NM	
13:48	26.65	141.4	4.6	12.8	7.08	2268	NM	0.03	-222	3.84	NM	
13:50	26.65	125	4.85	12.55	7.07	2284	NM	0	-222	2.9	NM	
13:53	26.65	79.1	5.1	12.8	7.06	2280	NM	0	-222	2.85	NM	

Sample ID(s): MWA-11i(d)-121224	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		Lpw 	12/12/2024 22:16

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-09
Well Permit No:

Date: 2024/12/09
Cloudy 40 degrees

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** 29.16 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel Lake Whiting	**Volume of Water in Well / Total Volume Purged** () / 2 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:07				NM	NM	NM	NM	NM	NM	NM	NM	All field parameter data lost due to iPad glitch.

Sample ID(s): PA-09-121024	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:		PV 	12/13/2024 17:17

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-19D
Well Permit No:

Date: 2024/12/12
Rainy 45 degrees

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** 29.05 (ft) / None
Project Number 0732445	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20241209-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 9.6 (l)	**Well Construction**

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

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 %	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:43	32.75		0.15	12	7.73	2763	NM	2.44	-62.1	112	NM	
11:46	35.25	159.1	0.6	12.55	7.46	2724	NM	1.47	-58.2	268	NM	
12:16	44.97	149.8	5.1	12.6	7.15	2733	NM	1.61	-67.1	97.7	NM	
12:46	45.85	149.8	9.6	13	7.17	2669	NM	1.43	-70.1	30.4	NM	

Sample ID(s): PA-19d-121224	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1in bladder pump used	PV 	12/17/2024 04:34

APPENDIX B LABORATORY ANALYTICAL REPORTS

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/6/2025 6:26:10 PM

JOB DESCRIPTION

Arkema - Q4 2024 Groundwater Event

JOB NUMBER

580-146493-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

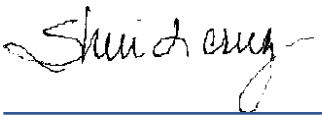
myEOL

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
1/6/2025 6:26:10 PM

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

Table of Contents

Job ID: 580-146493-1 Eurofins Seattle

Job Narrative
580-146493-1

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

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

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

Receipt
The samples were received on 12/11/2024 2:34 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-480341 recovered above the upper control limit for Chloromethane, Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). The samples associated with this CCV were non-detects below the RL for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-27d-120924 (580-146493-1), PA-17iR-120924 (580-146493-2), PA-03-120924 (580-146493-3), PA-08-120924 (580-146493-4), TB-01-121024 (580-146493-5), PA-26d-121024 (580-146493-6), PA-09-121024 (580-146493-7), PA-16i-121024 (580-146493-8), PA-04-121024 (580-146493-9), Dup-01-121024 (580-146493-10), PA-32i-121024 (580-146493-11), PA-31-121024 (580-146493-12), MWA-63-121024 (580-146493-13), PA-18d-121024 (580-146493-14), PA-10i-121024 (580-146493-15) and (CCVIS 580-480341/3).

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-480341 recovered above the upper control limit for Chloromethane, Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). The samples associated with this CCV were non-detects below the RL for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-27d-120924 (580-146493-1), PA-17iR-120924 (580-146493-2), PA-03-120924 (580-146493-3), PA-08-120924 (580-146493-4), TB-01-121024 (580-146493-5), PA-26d-121024 (580-146493-6), PA-09-121024 (580-146493-7), PA-16i-121024 (580-146493-8), PA-04-121024 (580-146493-9), Dup-01-121024 (580-146493-10), PA-32i-121024 (580-146493-11), PA-31-121024 (580-146493-12), MWA-63-121024 (580-146493-13), PA-18d-121024 (580-146493-14), PA-10i-121024 (580-146493-15) and (CCVIS 580-480341/3).

Method 8260D_LL: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-480341 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

HPLC/IC
Method 314.0: The following samples were diluted due to the nature of the sample matrix: PA-27d-120924 (580-146493-1), PA-17iR-120924 (580-146493-2), PA-03-120924 (580-146493-3), PA-09-121024 (580-146493-7), PA-16i-121024 (580-146493-8), PA-04-121024 (580-146493-9), Dup-01-121024 (580-146493-10), PA-32i-121024 (580-146493-11), PA-31-121024 (580-146493-12), MWA-63-121024 (580-146493-13), PA-18d-121024 (580-146493-14) and PA-10i-121024 (580-146493-15). Elevated reporting limits (RLs) are provided.

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Qualifiers

GC/MS VOA

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

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: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-27d-120924
Lab Sample ID: 580-146493-1
Date Collected: 12/09/24 14:01
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/13/24 06:07	1
Chloromethane	ND		1.0	0.28	ug/L			12/13/24 06:07	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/13/24 06:07	1
Bromomethane	ND		1.0	0.21	ug/L			12/13/24 06:07	1
Chloroethane	ND		1.0	0.35	ug/L			12/13/24 06:07	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/13/24 06:07	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/13/24 06:07	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/13/24 06:07	1
Acetone	ND		15	3.2	ug/L			12/13/24 06:07	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/13/24 06:07	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/13/24 06:07	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/13/24 06:07	1
1,1-Dichloroethane	**0.37**	**J**	1.0	0.22	ug/L			12/13/24 06:07	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/13/24 06:07	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/13/24 06:07	1
cis-1,2-Dichloroethene	**0.85**	**J**	1.0	0.35	ug/L			12/13/24 06:07	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/13/24 06:07	1
Chloroform	ND		1.0	0.26	ug/L			12/13/24 06:07	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/13/24 06:07	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/13/24 06:07	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/13/24 06:07	1
Benzene	ND		1.0	0.24	ug/L			12/13/24 06:07	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/13/24 06:07	1
Trichloroethene	ND		1.0	0.26	ug/L			12/13/24 06:07	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/13/24 06:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/13/24 06:07	1
Dibromomethane	ND		1.0	0.34	ug/L			12/13/24 06:07	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/13/24 06:07	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/13/24 06:07	1
Toluene	ND		1.0	0.39	ug/L			12/13/24 06:07	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/13/24 06:07	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/13/24 06:07	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/13/24 06:07	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/13/24 06:07	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/13/24 06:07	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/13/24 06:07	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/13/24 06:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/13/24 06:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/13/24 06:07	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/13/24 06:07	1
o-Xylene	ND		1.0	0.39	ug/L			12/13/24 06:07	1
Styrene	ND		1.0	0.53	ug/L			12/13/24 06:07	1
Bromoform	ND		1.0	0.51	ug/L			12/13/24 06:07	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/13/24 06:07	1
Bromobenzene	ND		1.0	0.43	ug/L			12/13/24 06:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/13/24 06:07	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/13/24 06:07	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/13/24 06:07	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/13/24 06:07	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-27d-120924
Lab Sample ID: 580-146493-1
Date Collected: 12/09/24 14:01
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/13/24 06:07	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/13/24 06:07	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/13/24 06:07	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/13/24 06:07	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/13/24 06:07	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/13/24 06:07	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/13/24 06:07	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/13/24 06:07	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/13/24 06:07	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/13/24 06:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/13/24 06:07	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/13/24 06:07	1
Naphthalene	ND		3.0	0.93	ug/L			12/13/24 06:07	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/13/24 06:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/13/24 06:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 06:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*12/13/24 06:07*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 06:07*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*12/13/24 06:07*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/18/24 18:47	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**590**		150	43	mg/L			01/01/25 21:05	100

Client Sample ID: PA-17iR-120924
Lab Sample ID: 580-146493-2
Date Collected: 12/09/24 12:25
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 06:30	1
Chloromethane	ND		0.50	0.14	ug/L			12/13/24 06:30	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 06:30	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 06:30	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 06:30	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 06:30	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 06:30	1
1,1-Dichloroethene	**0.16**	**J**	0.20	0.035	ug/L			12/13/24 06:30	1
Acetone	ND		10	3.1	ug/L			12/13/24 06:30	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 06:30	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 06:30	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 06:30	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 06:30	1
1,1-Dichloroethane	**0.13**	**J**	0.20	0.064	ug/L			12/13/24 06:30	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 06:30	1
cis-1,2-Dichloroethene	**0.10**	**J**	0.20	0.055	ug/L			12/13/24 06:30	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 06:30	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 06:30	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 06:30	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 06:30	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 06:30	1
Benzene	**0.14**	**J B**	0.20	0.030	ug/L			12/13/24 06:30	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 06:30	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 06:30	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 06:30	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 06:30	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 06:30	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 06:30	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 06:30	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 06:30	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 06:30	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 06:30	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 06:30	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 06:30	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 06:30	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 06:30	1
Chlorobenzene	**0.12**	**J**	0.20	0.060	ug/L			12/13/24 06:30	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 06:30	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 06:30	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 06:30	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 06:30	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 06:30	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 06:30	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 06:30	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 06:30	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 06:30	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 06:30	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 06:30	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 06:30	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-17iR-120924
Lab Sample ID: 580-146493-2
Date Collected: 12/09/24 12:25
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 06:30	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 06:30	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 06:30	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 06:30	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 06:30	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 06:30	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 06:30	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 06:30	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 06:30	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 06:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 06:30	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 06:30	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 06:30	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 06:30	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 06:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/13/24 06:30*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*12/13/24 06:30*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*12/13/24 06:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*12/13/24 06:30*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	91	ug/L			12/18/24 19:28	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**49**		1.5	0.43	mg/L			01/01/25 21:17	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-03-120924
Lab Sample ID: 580-146493-3
Date Collected: 12/09/24 10:37
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 06:53	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 06:53	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 06:53	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 06:53	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 06:53	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 06:53	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/24 06:53	1
Acetone	ND		10	3.1	ug/L			12/13/24 06:53	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 06:53	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 06:53	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 06:53	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 06:53	1
1,1-Dichloroethane	**0.14**	**J**	0.20	0.064	ug/L			12/13/24 06:53	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 06:53	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/24 06:53	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 06:53	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 06:53	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 06:53	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 06:53	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 06:53	1
Benzene	**0.088**	**J B**	0.20	0.030	ug/L			12/13/24 06:53	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 06:53	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 06:53	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 06:53	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 06:53	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 06:53	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 06:53	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 06:53	1
Toluene	**0.18**	**J**	0.20	0.050	ug/L			12/13/24 06:53	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 06:53	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 06:53	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 06:53	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 06:53	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 06:53	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 06:53	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 06:53	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 06:53	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 06:53	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 06:53	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 06:53	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 06:53	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 06:53	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 06:53	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 06:53	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 06:53	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 06:53	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 06:53	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 06:53	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 06:53	1

Client Sample ID: PA-03-120924
Lab Sample ID: 580-146493-3
Date Collected: 12/09/24 10:37
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 06:53	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 06:53	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 06:53	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 06:53	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 06:53	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 06:53	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 06:53	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 06:53	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 06:53	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 06:53	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 06:53	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 06:53	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 06:53	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 06:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 06:53*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*12/13/24 06:53*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 06:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*12/13/24 06:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	**0.42**	**J**	0.50	0.14	ug/L			12/16/24 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/16/24 17:12*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/16/24 17:12*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/24 17:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/16/24 17:12*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/18/24 20:10	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.3**		1.5	0.43	mg/L			01/01/25 21:41	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-08-120924
Lab Sample ID: 580-146493-4
Date Collected: 12/09/24 08:29
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 07:16	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 07:16	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 07:16	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 07:16	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 07:16	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 07:16	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/24 07:16	1
Acetone	ND		10	3.1	ug/L			12/13/24 07:16	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 07:16	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 07:16	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 07:16	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 07:16	1
1,1-Dichloroethane	**0.096**	**J**	0.20	0.064	ug/L			12/13/24 07:16	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 07:16	1
cis-1,2-Dichloroethene	**0.081**	**J**	0.20	0.055	ug/L			12/13/24 07:16	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 07:16	1
Chloroform	**0.10**	**J**	0.20	0.030	ug/L			12/13/24 07:16	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 07:16	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 07:16	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 07:16	1
Benzene	**0.041**	**J B**	0.20	0.030	ug/L			12/13/24 07:16	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 07:16	1
Trichloroethene	**0.14**	**J**	0.20	0.066	ug/L			12/13/24 07:16	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 07:16	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 07:16	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 07:16	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 07:16	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 07:16	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 07:16	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 07:16	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 07:16	1
Tetrachloroethene	**0.27**		0.24	0.084	ug/L			12/13/24 07:16	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 07:16	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 07:16	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 07:16	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 07:16	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 07:16	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 07:16	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 07:16	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 07:16	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 07:16	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 07:16	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 07:16	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 07:16	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 07:16	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 07:16	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 07:16	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 07:16	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 07:16	1

Client Sample ID: PA-08-120924
Lab Sample ID: 580-146493-4
Date Collected: 12/09/24 08:29
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 07:16	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 07:16	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 07:16	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 07:16	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 07:16	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 07:16	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 07:16	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 07:16	1
1,2-Dichlorobenzene	**0.056**	**J**	0.30	0.038	ug/L			12/13/24 07:16	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 07:16	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 07:16	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 07:16	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 07:16	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 07:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 07:16*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/13/24 07:16*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 07:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/13/24 07:16*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	**0.17**	**J**	0.50	0.14	ug/L			12/16/24 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/16/24 17:35*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/16/24 17:35*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/24 17:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/16/24 17:35*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**33**		20	9.1	ug/L			12/18/24 20:52	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**230**		15	4.3	mg/L			01/01/25 22:16	10

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: TB-01-121024
Lab Sample ID: 580-146493-5
Date Collected: 12/10/24 00:01
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 05:20	1
Chloromethane	ND		0.50	0.14	ug/L			12/13/24 05:20	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 05:20	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 05:20	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 05:20	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 05:20	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 05:20	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/24 05:20	1
Acetone	ND		10	3.1	ug/L			12/13/24 05:20	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 05:20	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 05:20	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 05:20	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 05:20	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/13/24 05:20	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 05:20	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/24 05:20	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 05:20	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 05:20	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 05:20	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 05:20	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 05:20	1
Benzene	**0.034**	**J B**	0.20	0.030	ug/L			12/13/24 05:20	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 05:20	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 05:20	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 05:20	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 05:20	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 05:20	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 05:20	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 05:20	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 05:20	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 05:20	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 05:20	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 05:20	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 05:20	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 05:20	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 05:20	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 05:20	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 05:20	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 05:20	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 05:20	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 05:20	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 05:20	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 05:20	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 05:20	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 05:20	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 05:20	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 05:20	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 05:20	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 05:20	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: TB-01-121024
Lab Sample ID: 580-146493-5
Date Collected: 12/10/24 00:01
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 05:20	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 05:20	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 05:20	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 05:20	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 05:20	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 05:20	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 05:20	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 05:20	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 05:20	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 05:20	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 05:20	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 05:20	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 05:20	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 05:20	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 05:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 05:20*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*12/13/24 05:20*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*12/13/24 05:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*12/13/24 05:20*	*1*

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-26d-121024
Lab Sample ID: 580-146493-6
Date Collected: 12/10/24 08:49
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 07:39	1
Chloromethane	**0.27**	**J**	0.50	0.14	ug/L			12/13/24 07:39	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 07:39	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 07:39	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 07:39	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 07:39	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 07:39	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/24 07:39	1
Acetone	ND		10	3.1	ug/L			12/13/24 07:39	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 07:39	1
Methyl tert-butyl ether	**0.11**	**J**	0.30	0.070	ug/L			12/13/24 07:39	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 07:39	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 07:39	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/13/24 07:39	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 07:39	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/24 07:39	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 07:39	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 07:39	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 07:39	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 07:39	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 07:39	1
Benzene	**0.034**	**J B**	0.20	0.030	ug/L			12/13/24 07:39	1
1,2-Dichloroethane	**0.36**		0.25	0.12	ug/L			12/13/24 07:39	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 07:39	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 07:39	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 07:39	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 07:39	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 07:39	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 07:39	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 07:39	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 07:39	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 07:39	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 07:39	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 07:39	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 07:39	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 07:39	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 07:39	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 07:39	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 07:39	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 07:39	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 07:39	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 07:39	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 07:39	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 07:39	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 07:39	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 07:39	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 07:39	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 07:39	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 07:39	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-26d-121024
Lab Sample ID: 580-146493-6
Date Collected: 12/10/24 08:49
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 07:39	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 07:39	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 07:39	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 07:39	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 07:39	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 07:39	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 07:39	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 07:39	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 07:39	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 07:39	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 07:39	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 07:39	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 07:39	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 07:39	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 07:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/13/24 07:39*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*12/13/24 07:39*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*12/13/24 07:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*12/13/24 07:39*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/18/24 21:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**80**		1.5	0.43	mg/L			01/01/25 22:28	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-09-121024
Lab Sample ID: 580-146493-7
Date Collected: 12/10/24 10:08
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 08:03	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 08:03	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 08:03	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 08:03	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 08:03	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 08:03	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/24 08:03	1
Acetone	ND		10	3.1	ug/L			12/13/24 08:03	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 08:03	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 08:03	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 08:03	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 08:03	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/13/24 08:03	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 08:03	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/24 08:03	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 08:03	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 08:03	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 08:03	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 08:03	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 08:03	1
Benzene	**0.038**	**J B**	0.20	0.030	ug/L			12/13/24 08:03	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 08:03	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 08:03	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 08:03	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 08:03	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 08:03	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 08:03	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 08:03	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 08:03	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 08:03	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 08:03	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 08:03	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 08:03	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 08:03	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 08:03	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 08:03	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 08:03	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 08:03	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 08:03	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 08:03	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 08:03	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 08:03	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 08:03	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 08:03	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 08:03	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 08:03	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 08:03	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 08:03	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 08:03	1

Client Sample ID: PA-09-121024
Lab Sample ID: 580-146493-7
Date Collected: 12/10/24 10:08
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 08:03	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 08:03	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 08:03	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 08:03	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 08:03	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 08:03	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 08:03	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 08:03	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 08:03	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 08:03	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 08:03	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 08:03	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 08:03	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 08:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/13/24 08:03*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/24 08:03*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*12/13/24 08:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/13/24 08:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/16/24 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/16/24 17:58*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/16/24 17:58*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/24 17:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/16/24 17:58*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		10	4.5	ug/L			12/18/24 22:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**6.6**		1.5	0.43	mg/L			01/01/25 23:16	1

Client Sample ID: PA-16i-121024
Lab Sample ID: 580-146493-8
Date Collected: 12/10/24 11:43
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 08:26	1
Chloromethane	ND		0.50	0.14	ug/L			12/13/24 08:26	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 08:26	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 08:26	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 08:26	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 08:26	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 08:26	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/24 08:26	1
Acetone	ND		10	3.1	ug/L			12/13/24 08:26	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 08:26	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 08:26	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 08:26	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 08:26	1
1,1-Dichloroethane	**0.067**	**J**	0.20	0.064	ug/L			12/13/24 08:26	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 08:26	1
cis-1,2-Dichloroethene	**0.070**	**J**	0.20	0.055	ug/L			12/13/24 08:26	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 08:26	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 08:26	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 08:26	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 08:26	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 08:26	1
Benzene	**0.048**	**J B**	0.20	0.030	ug/L			12/13/24 08:26	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 08:26	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 08:26	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 08:26	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 08:26	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 08:26	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 08:26	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 08:26	1
Toluene	**2.6**		0.20	0.050	ug/L			12/13/24 08:26	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 08:26	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 08:26	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 08:26	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 08:26	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 08:26	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 08:26	1
Chlorobenzene	**0.15**	**J**	0.20	0.060	ug/L			12/13/24 08:26	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 08:26	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 08:26	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 08:26	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 08:26	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 08:26	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 08:26	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 08:26	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 08:26	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 08:26	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 08:26	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 08:26	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 08:26	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-16i-121024
Lab Sample ID: 580-146493-8
Date Collected: 12/10/24 11:43
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 08:26	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 08:26	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 08:26	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 08:26	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 08:26	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 08:26	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 08:26	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 08:26	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 08:26	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 08:26	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 08:26	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 08:26	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 08:26	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 08:26	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 08:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 08:26*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*12/13/24 08:26*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 08:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/13/24 08:26*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/18/24 22:57	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**15**		1.5	0.43	mg/L			01/01/25 23:40	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-04-121024
Lab Sample ID: 580-146493-9
Date Collected: 12/10/24 07:18
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 08:49	1
Chloromethane	ND		0.50	0.14	ug/L			12/13/24 08:49	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 08:49	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 08:49	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 08:49	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 08:49	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 08:49	1
1,1-Dichloroethene	**0.35**		0.20	0.035	ug/L			12/13/24 08:49	1
Acetone	ND		10	3.1	ug/L			12/13/24 08:49	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 08:49	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 08:49	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 08:49	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 08:49	1
1,1-Dichloroethane	**0.31**		0.20	0.064	ug/L			12/13/24 08:49	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 08:49	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/24 08:49	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 08:49	1
Chloroform	**0.038**	**J**	0.20	0.030	ug/L			12/13/24 08:49	1
1,1,1-Trichloroethane	**0.031**	**J**	0.20	0.025	ug/L			12/13/24 08:49	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 08:49	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 08:49	1
Benzene	**0.066**	**J B**	0.20	0.030	ug/L			12/13/24 08:49	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 08:49	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 08:49	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 08:49	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 08:49	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 08:49	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 08:49	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 08:49	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 08:49	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 08:49	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 08:49	1
Tetrachloroethene	**0.16**	**J**	0.24	0.084	ug/L			12/13/24 08:49	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 08:49	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 08:49	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 08:49	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 08:49	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 08:49	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 08:49	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 08:49	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 08:49	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 08:49	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 08:49	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 08:49	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 08:49	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 08:49	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 08:49	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 08:49	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 08:49	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-04-121024
Lab Sample ID: 580-146493-9
Date Collected: 12/10/24 07:18
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 08:49	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 08:49	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 08:49	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 08:49	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 08:49	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 08:49	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 08:49	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 08:49	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 08:49	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 08:49	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 08:49	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 08:49	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 08:49	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 08:49	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 08:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 08:49*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*12/13/24 08:49*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 08:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/13/24 08:49*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/19/24 00:20	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.2**		1.5	0.43	mg/L			01/02/25 00:04	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: Dup-01-121024
Lab Sample ID: 580-146493-10
Date Collected: 12/10/24 12:58
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 09:12	1
Chloromethane	**0.21**	**J**	0.50	0.14	ug/L			12/13/24 09:12	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 09:12	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 09:12	1
Chloroethane	**0.26**	**J**	0.50	0.24	ug/L			12/13/24 09:12	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 09:12	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 09:12	1
1,1-Dichloroethene	**0.071**	**J**	0.20	0.035	ug/L			12/13/24 09:12	1
Acetone	ND		10	3.1	ug/L			12/13/24 09:12	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 09:12	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 09:12	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 09:12	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 09:12	1
1,1-Dichloroethane	**0.11**	**J**	0.20	0.064	ug/L			12/13/24 09:12	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 09:12	1
cis-1,2-Dichloroethene	**0.11**	**J**	0.20	0.055	ug/L			12/13/24 09:12	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 09:12	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 09:12	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 09:12	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 09:12	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 09:12	1
Benzene	**0.14**	**J B**	0.20	0.030	ug/L			12/13/24 09:12	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 09:12	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 09:12	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 09:12	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 09:12	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 09:12	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 09:12	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 09:12	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 09:12	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 09:12	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 09:12	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 09:12	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 09:12	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 09:12	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 09:12	1
Chlorobenzene	**0.31**		0.20	0.060	ug/L			12/13/24 09:12	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 09:12	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 09:12	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 09:12	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 09:12	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 09:12	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 09:12	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 09:12	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 09:12	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 09:12	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 09:12	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 09:12	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 09:12	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: Dup-01-121024
Lab Sample ID: 580-146493-10
Date Collected: 12/10/24 12:58
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 09:12	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 09:12	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 09:12	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 09:12	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 09:12	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 09:12	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 09:12	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 09:12	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 09:12	1
1,2-Dichlorobenzene	**0.30**		0.30	0.038	ug/L			12/13/24 09:12	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 09:12	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 09:12	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 09:12	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 09:12	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 09:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/13/24 09:12*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*12/13/24 09:12*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*12/13/24 09:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/13/24 09:12*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	91	ug/L			12/19/24 01:02	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**78**		1.5	0.43	mg/L			01/02/25 00:28	1

Client Sample ID: PA-32i-121024
Lab Sample ID: 580-146493-11
Date Collected: 12/10/24 12:52
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 09:36	1
Chloromethane	ND		0.50	0.14	ug/L			12/13/24 09:36	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 09:36	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 09:36	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 09:36	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 09:36	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 09:36	1
1,1-Dichloroethene	**0.069**	**J**	0.20	0.035	ug/L			12/13/24 09:36	1
Acetone	ND		10	3.1	ug/L			12/13/24 09:36	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 09:36	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 09:36	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 09:36	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 09:36	1
1,1-Dichloroethane	**0.10**	**J**	0.20	0.064	ug/L			12/13/24 09:36	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 09:36	1
cis-1,2-Dichloroethene	**0.12**	**J**	0.20	0.055	ug/L			12/13/24 09:36	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 09:36	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 09:36	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 09:36	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 09:36	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 09:36	1
Benzene	**0.14**	**J B**	0.20	0.030	ug/L			12/13/24 09:36	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 09:36	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 09:36	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 09:36	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 09:36	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 09:36	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 09:36	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 09:36	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 09:36	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 09:36	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 09:36	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 09:36	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 09:36	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 09:36	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 09:36	1
Chlorobenzene	**0.29**		0.20	0.060	ug/L			12/13/24 09:36	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 09:36	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 09:36	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 09:36	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 09:36	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 09:36	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 09:36	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 09:36	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 09:36	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 09:36	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 09:36	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 09:36	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 09:36	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-32i-121024
Lab Sample ID: 580-146493-11
Date Collected: 12/10/24 12:52
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 09:36	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 09:36	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 09:36	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 09:36	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 09:36	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 09:36	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 09:36	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 09:36	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 09:36	1
1,2-Dichlorobenzene	**0.30**		0.30	0.038	ug/L			12/13/24 09:36	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 09:36	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 09:36	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 09:36	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 09:36	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 09:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 09:36*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*12/13/24 09:36*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 09:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/13/24 09:36*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	91	ug/L			12/19/24 01:44	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**79**		1.5	0.43	mg/L			01/02/25 00:51	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-31-121024
Lab Sample ID: 580-146493-12
Date Collected: 12/10/24 11:34
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 09:59	1
Chloromethane	**0.23**	**J**	0.50	0.14	ug/L			12/13/24 09:59	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 09:59	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 09:59	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 09:59	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 09:59	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 09:59	1
1,1-Dichloroethene	**0.80**		0.20	0.035	ug/L			12/13/24 09:59	1
Acetone	ND		10	3.1	ug/L			12/13/24 09:59	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 09:59	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 09:59	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 09:59	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 09:59	1
1,1-Dichloroethane	**0.23**		0.20	0.064	ug/L			12/13/24 09:59	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 09:59	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/24 09:59	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 09:59	1
Chloroform	**0.13**	**J**	0.20	0.030	ug/L			12/13/24 09:59	1
1,1,1-Trichloroethane	**0.23**		0.20	0.025	ug/L			12/13/24 09:59	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 09:59	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 09:59	1
Benzene	**0.13**	**J B**	0.20	0.030	ug/L			12/13/24 09:59	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 09:59	1
Trichloroethene	**0.091**	**J**	0.20	0.066	ug/L			12/13/24 09:59	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 09:59	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 09:59	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 09:59	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 09:59	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 09:59	1
Toluene	**0.095**	**J**	0.20	0.050	ug/L			12/13/24 09:59	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 09:59	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 09:59	1
Tetrachloroethene	**0.25**		0.24	0.084	ug/L			12/13/24 09:59	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 09:59	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 09:59	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 09:59	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 09:59	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 09:59	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 09:59	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 09:59	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 09:59	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 09:59	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 09:59	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 09:59	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 09:59	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 09:59	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 09:59	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 09:59	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 09:59	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-31-121024
Lab Sample ID: 580-146493-12
Date Collected: 12/10/24 11:34
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 09:59	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 09:59	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 09:59	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 09:59	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 09:59	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 09:59	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 09:59	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 09:59	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 09:59	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 09:59	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 09:59	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 09:59	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 09:59	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 09:59	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 09:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/13/24 09:59*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*12/13/24 09:59*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*12/13/24 09:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*12/13/24 09:59*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		10	4.5	ug/L			12/19/24 02:26	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.2**		1.5	0.43	mg/L			01/02/25 01:39	1

Client Sample ID: MWA-63-121024
Lab Sample ID: 580-146493-13
Date Collected: 12/10/24 10:37
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/13/24 10:33	1
Chloromethane	ND		1.0	0.28	ug/L			12/13/24 10:33	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/13/24 10:33	1
Bromomethane	ND		1.0	0.21	ug/L			12/13/24 10:33	1
Chloroethane	ND		1.0	0.35	ug/L			12/13/24 10:33	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/13/24 10:33	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/13/24 10:33	1
1,1-Dichloroethene	**0.64**	**J**	1.0	0.28	ug/L			12/13/24 10:33	1
Acetone	ND		15	3.2	ug/L			12/13/24 10:33	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/13/24 10:33	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/13/24 10:33	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/13/24 10:33	1
1,1-Dichloroethane	**1.2**		1.0	0.22	ug/L			12/13/24 10:33	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/13/24 10:33	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/13/24 10:33	1
cis-1,2-Dichloroethene	**12**		1.0	0.35	ug/L			12/13/24 10:33	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/13/24 10:33	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/13/24 10:33	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/13/24 10:33	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/13/24 10:33	1
Benzene	ND		1.0	0.24	ug/L			12/13/24 10:33	1
1,2-Dichloroethane	**1.2**		1.0	0.42	ug/L			12/13/24 10:33	1
Trichloroethene	**6.9**		1.0	0.26	ug/L			12/13/24 10:33	1
1,2-Dichloropropane	**0.18**	**J**	1.0	0.18	ug/L			12/13/24 10:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/13/24 10:33	1
Dibromomethane	ND		1.0	0.34	ug/L			12/13/24 10:33	1
Dichlorobromomethane	**3.0**		1.0	0.29	ug/L			12/13/24 10:33	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/13/24 10:33	1
Toluene	ND		1.0	0.39	ug/L			12/13/24 10:33	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/13/24 10:33	1
1,1,2-Trichloroethane	**1.1**		1.0	0.24	ug/L			12/13/24 10:33	1
Tetrachloroethene	**35**		1.0	0.41	ug/L			12/13/24 10:33	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/13/24 10:33	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/13/24 10:33	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/13/24 10:33	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/13/24 10:33	1
1,1,1,2-Tetrachloroethane	**0.41**	**J**	1.0	0.18	ug/L			12/13/24 10:33	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/13/24 10:33	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/13/24 10:33	1
o-Xylene	ND		1.0	0.39	ug/L			12/13/24 10:33	1
Styrene	ND		1.0	0.53	ug/L			12/13/24 10:33	1
Bromoform	ND		1.0	0.51	ug/L			12/13/24 10:33	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/13/24 10:33	1
Bromobenzene	ND		1.0	0.43	ug/L			12/13/24 10:33	1
1,1,2,2-Tetrachloroethane	**0.69**	**J**	1.0	0.52	ug/L			12/13/24 10:33	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/13/24 10:33	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/13/24 10:33	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/13/24 10:33	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/13/24 10:33	1

Client Sample ID: MWA-63-121024
Lab Sample ID: 580-146493-13
Date Collected: 12/10/24 10:37
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/13/24 10:33	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/13/24 10:33	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/13/24 10:33	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/13/24 10:33	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/13/24 10:33	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/13/24 10:33	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/13/24 10:33	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/13/24 10:33	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/13/24 10:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/13/24 10:33	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/13/24 10:33	1
Naphthalene	ND		3.0	0.93	ug/L			12/13/24 10:33	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/13/24 10:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/13/24 10:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/24 10:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*12/13/24 10:33*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*12/13/24 10:33*	*1*
Dibromofluoromethane (Surr)	*89*		*80 - 120*		*12/13/24 10:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**3900**		100	26	ug/L			12/16/24 21:49	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/16/24 21:49*	*100*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/16/24 21:49*	*100*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/16/24 21:49*	*100*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/16/24 21:49*	*100*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		10	4.5	ug/L			12/19/24 03:07	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**15**		1.5	0.43	mg/L			01/02/25 02:03	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-18d-121024
Lab Sample ID: 580-146493-14
Date Collected: 12/10/24 08:57
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/13/24 10:56	1
Chloromethane	ND		1.0	0.28	ug/L			12/13/24 10:56	1
Vinyl chloride	0.26	J	1.0	0.22	ug/L			12/13/24 10:56	1
Bromomethane	ND		1.0	0.21	ug/L			12/13/24 10:56	1
Chloroethane	ND		1.0	0.35	ug/L			12/13/24 10:56	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/13/24 10:56	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/13/24 10:56	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/13/24 10:56	1
Acetone	ND		15	3.2	ug/L			12/13/24 10:56	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/13/24 10:56	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/13/24 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/13/24 10:56	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/13/24 10:56	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/13/24 10:56	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/13/24 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/13/24 10:56	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/13/24 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/13/24 10:56	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/13/24 10:56	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/13/24 10:56	1
Benzene	ND		1.0	0.24	ug/L			12/13/24 10:56	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/13/24 10:56	1
Trichloroethene	ND		1.0	0.26	ug/L			12/13/24 10:56	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/13/24 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/13/24 10:56	1
Dibromomethane	ND		1.0	0.34	ug/L			12/13/24 10:56	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/13/24 10:56	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/13/24 10:56	1
Toluene	ND		1.0	0.39	ug/L			12/13/24 10:56	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/13/24 10:56	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/13/24 10:56	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/13/24 10:56	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/13/24 10:56	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/13/24 10:56	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/13/24 10:56	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/13/24 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/13/24 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/13/24 10:56	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/13/24 10:56	1
o-Xylene	ND		1.0	0.39	ug/L			12/13/24 10:56	1
Styrene	ND		1.0	0.53	ug/L			12/13/24 10:56	1
Bromoform	ND		1.0	0.51	ug/L			12/13/24 10:56	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/13/24 10:56	1
Bromobenzene	ND		1.0	0.43	ug/L			12/13/24 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/13/24 10:56	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/13/24 10:56	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/13/24 10:56	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/13/24 10:56	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/13/24 10:56	1

Client Sample ID: PA-18d-121024
Lab Sample ID: 580-146493-14
Date Collected: 12/10/24 08:57
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/13/24 10:56	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/13/24 10:56	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/13/24 10:56	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/13/24 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/13/24 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/13/24 10:56	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/13/24 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/13/24 10:56	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/13/24 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/13/24 10:56	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/13/24 10:56	1
Naphthalene	ND		3.0	0.93	ug/L			12/13/24 10:56	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/13/24 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/13/24 10:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 10:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/13/24 10:56*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 10:56*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/13/24 10:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.26	ug/L			12/16/24 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/16/24 18:21*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/16/24 18:21*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/24 18:21*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/16/24 18:21*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	91	ug/L			12/19/24 03:49	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**65**		1.5	0.43	mg/L			01/02/25 02:27	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-10i-121024
Lab Sample ID: 580-146493-15
Date Collected: 12/10/24 15:16
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 11:19	1
Chloromethane	ND		0.50	0.14	ug/L			12/13/24 11:19	1
Vinyl chloride	**0.37**		0.10	0.040	ug/L			12/13/24 11:19	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 11:19	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 11:19	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 11:19	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 11:19	1
1,1-Dichloroethene	**0.068**	**J**	0.20	0.035	ug/L			12/13/24 11:19	1
Acetone	ND		10	3.1	ug/L			12/13/24 11:19	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 11:19	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 11:19	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 11:19	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 11:19	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/13/24 11:19	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 11:19	1
cis-1,2-Dichloroethene	**0.20**		0.20	0.055	ug/L			12/13/24 11:19	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 11:19	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 11:19	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 11:19	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 11:19	1
Benzene	**0.074**	**J B**	0.20	0.030	ug/L			12/13/24 11:19	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 11:19	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 11:19	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 11:19	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 11:19	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 11:19	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 11:19	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 11:19	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 11:19	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 11:19	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 11:19	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 11:19	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 11:19	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 11:19	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 11:19	1
Chlorobenzene	**0.64**		0.20	0.060	ug/L			12/13/24 11:19	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 11:19	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 11:19	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 11:19	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 11:19	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 11:19	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 11:19	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 11:19	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 11:19	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 11:19	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 11:19	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 11:19	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 11:19	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 11:19	1

Client Sample ID: PA-10i-121024
Lab Sample ID: 580-146493-15
Date Collected: 12/10/24 15:16
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 11:19	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 11:19	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 11:19	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 11:19	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 11:19	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 11:19	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 11:19	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 11:19	1
1,2-Dichlorobenzene	**0.22**	**J**	0.30	0.038	ug/L			12/13/24 11:19	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 11:19	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 11:19	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 11:19	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 11:19	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 11:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/13/24 11:19*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*12/13/24 11:19*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 11:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/24 11:19*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		0.20	0.030	ug/L			12/16/24 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/16/24 18:44*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/16/24 18:44*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/24 18:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/16/24 18:44*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	91	ug/L			12/19/24 04:31	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**25**		1.5	0.43	mg/L			01/02/25 02:51	1

Client Sample ID: PA-25d-121024
Lab Sample ID: 580-146493-16
Date Collected: 12/10/24 16:16
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 11:42	1
Chloromethane	ND		0.50	0.14	ug/L			12/13/24 11:42	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 11:42	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 11:42	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 11:42	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 11:42	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 11:42	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/24 11:42	1
Acetone	ND		10	3.1	ug/L			12/13/24 11:42	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 11:42	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 11:42	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 11:42	1
trans-1,2-Dichloroethene	ND	F1	0.20	0.033	ug/L			12/13/24 11:42	1
1,1-Dichloroethane	ND	F1	0.20	0.064	ug/L			12/13/24 11:42	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 11:42	1
cis-1,2-Dichloroethene	ND	F1	0.20	0.055	ug/L			12/13/24 11:42	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 11:42	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 11:42	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 11:42	1
1,1-Dichloropropene	ND	F1	0.20	0.084	ug/L			12/13/24 11:42	1
Benzene	**0.049**	**J B F1**	0.20	0.030	ug/L			12/13/24 11:42	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 11:42	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 11:42	1
1,2-Dichloropropane	ND	F1	0.20	0.060	ug/L			12/13/24 11:42	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 11:42	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 11:42	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 11:42	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 11:42	1
Toluene	ND	F1	0.20	0.050	ug/L			12/13/24 11:42	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 11:42	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 11:42	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 11:42	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 11:42	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 11:42	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 11:42	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 11:42	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 11:42	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 11:42	1
m-Xylene & p-Xylene	ND	F1	0.50	0.12	ug/L			12/13/24 11:42	1
o-Xylene	ND	F1	0.50	0.23	ug/L			12/13/24 11:42	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 11:42	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 11:42	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 11:42	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 11:42	1
1,1,2,2-Tetrachloroethane	ND	F1	0.20	0.056	ug/L			12/13/24 11:42	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 11:42	1
N-Propylbenzene	ND	F1	0.30	0.091	ug/L			12/13/24 11:42	1
2-Chlorotoluene	ND	F1	0.50	0.12	ug/L			12/13/24 11:42	1
4-Chlorotoluene	ND	F1	0.30	0.12	ug/L			12/13/24 11:42	1

Client Sample ID: PA-25d-121024
Lab Sample ID: 580-146493-16
Date Collected: 12/10/24 16:16
Matrix: Water
Date Received: 12/11/24 14:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 11:42	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 11:42	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 11:42	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 11:42	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 11:42	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 11:42	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 11:42	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 11:42	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 11:42	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 11:42	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 11:42	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 11:42	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 11:42	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 11:42*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/13/24 11:42*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/13/24 11:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/24 11:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		0.20	0.030	ug/L			12/16/24 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/16/24 15:24*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/16/24 15:24*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/24 15:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/16/24 15:24*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/19/24 05:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**30**		1.5	0.43	mg/L			01/02/25 22:37	1

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

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

Lab Sample ID: MB 580-480341/7
Matrix: Water
Analysis Batch: 480341

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/13/24 04:57	1
Chloromethane	ND		0.50	0.14	ug/L			12/13/24 04:57	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/24 04:57	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/24 04:57	1
Chloroethane	ND		0.50	0.24	ug/L			12/13/24 04:57	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/13/24 04:57	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/24 04:57	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/24 04:57	1
Acetone	ND		10	3.1	ug/L			12/13/24 04:57	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/24 04:57	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/24 04:57	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/24 04:57	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/24 04:57	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/13/24 04:57	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/24 04:57	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/24 04:57	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/24 04:57	1
Chloroform	ND		0.20	0.030	ug/L			12/13/24 04:57	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/24 04:57	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/24 04:57	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/24 04:57	1
Benzene	0.0438	J	0.20	0.030	ug/L			12/13/24 04:57	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/13/24 04:57	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/24 04:57	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/24 04:57	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/13/24 04:57	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/24 04:57	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/24 04:57	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/24 04:57	1
Toluene	ND		0.20	0.050	ug/L			12/13/24 04:57	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/24 04:57	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/24 04:57	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/24 04:57	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/13/24 04:57	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/24 04:57	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/13/24 04:57	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/24 04:57	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/13/24 04:57	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/13/24 04:57	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/24 04:57	1
o-Xylene	ND		0.50	0.23	ug/L			12/13/24 04:57	1
Styrene	ND		1.0	0.33	ug/L			12/13/24 04:57	1
Bromoform	ND		0.50	0.16	ug/L			12/13/24 04:57	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/13/24 04:57	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/24 04:57	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/24 04:57	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/24 04:57	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/24 04:57	1

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

Lab Sample ID: MB 580-480341/7
Matrix: Water
Analysis Batch: 480341

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/24 04:57	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/24 04:57	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/13/24 04:57	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/24 04:57	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/13/24 04:57	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/24 04:57	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/13/24 04:57	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 04:57	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/24 04:57	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/13/24 04:57	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/24 04:57	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/13/24 04:57	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/13/24 04:57	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/13/24 04:57	1
Naphthalene	ND		1.5	0.52	ug/L			12/13/24 04:57	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/13/24 04:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/13/24 04:57*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*12/13/24 04:57*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*12/13/24 04:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*		*12/13/24 04:57*	*1*

Lab Sample ID: LCS 580-480341/4
Matrix: Water
Analysis Batch: 480341

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	6.02		ug/L		120	20 - 150
Chloromethane	5.00	6.55		ug/L		131	32 - 150
Vinyl chloride	5.00	6.65		ug/L		133	41 - 150
Bromomethane	5.00	5.24		ug/L		105	51 - 148
Chloroethane	5.00	5.71		ug/L		114	54 - 140
Carbon disulfide	5.00	5.09		ug/L		102	54 - 142
Trichlorofluoromethane	5.00	5.08		ug/L		102	60 - 132
1,1-Dichloroethene	5.00	5.28		ug/L		106	60 - 129
Acetone	25.0	30.3		ug/L		121	49 - 150
Methylene Chloride	5.00	6.12		ug/L		122	40 - 142
Methyl tert-butyl ether	5.00	5.29		ug/L		106	61 - 131
2-Butanone (MEK)	25.0	30.7		ug/L		123	37 - 150
trans-1,2-Dichloroethene	5.00	5.43		ug/L		109	69 - 121
1,1-Dichloroethane	5.00	5.82		ug/L		116	74 - 120
2,2-Dichloropropane	5.00	4.29		ug/L		86	55 - 140
cis-1,2-Dichloroethene	5.00	5.69		ug/L		114	72 - 120
Chlorobromomethane	5.00	5.31		ug/L		106	79 - 121
Chloroform	5.00	5.11		ug/L		102	75 - 120
1,1,1-Trichloroethane	5.00	4.66		ug/L		93	70 - 121
Carbon tetrachloride	5.00	4.50		ug/L		90	66 - 130

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

Lab Sample ID: LCS 580-480341/4
Matrix: Water
Analysis Batch: 480341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloropropene	5.00	5.58		ug/L		112	72 - 125
Benzene	5.00	5.87		ug/L		117	80 - 120
1,2-Dichloroethane	5.00	4.82		ug/L		96	74 - 127
Trichloroethene	5.00	4.99		ug/L		100	72 - 120
1,2-Dichloropropane	5.00	6.11		ug/L		122	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	29.3		ug/L		117	63 - 137
Dibromomethane	5.00	5.05		ug/L		101	65 - 141
Dichlorobromomethane	5.00	5.23		ug/L		105	74 - 131
cis-1,3-Dichloropropene	5.00	5.22		ug/L		104	77 - 131
Toluene	5.00	5.46		ug/L		109	80 - 126
trans-1,3-Dichloropropene	5.00	5.24		ug/L		105	71 - 138
1,1,2-Trichloroethane	5.00	5.63		ug/L		113	73 - 127
Tetrachloroethene	5.00	5.20		ug/L		104	75 - 124
1,3-Dichloropropane	5.00	5.86		ug/L		117	69 - 138
Chlorodibromomethane	5.00	4.68		ug/L		94	62 - 141
Ethylene Dibromide	5.00	5.29		ug/L		106	61 - 143
Chlorobenzene	5.00	5.51		ug/L		110	74 - 123
1,1,1,2-Tetrachloroethane	5.00	5.08		ug/L		102	69 - 127
Ethylbenzene	5.00	5.76		ug/L		115	80 - 124
m-Xylene & p-Xylene	5.00	5.65		ug/L		113	75 - 124
o-Xylene	5.00	5.62		ug/L		112	71 - 124
Styrene	5.00	5.48		ug/L		110	74 - 127
Bromoform	5.00	4.52		ug/L		90	48 - 127
Isopropylbenzene	5.00	5.83		ug/L		117	71 - 123
Bromobenzene	5.00	5.46		ug/L		109	74 - 130
1,1,2,2-Tetrachloroethane	5.00	6.47		ug/L		129	67 - 136
1,2,3-Trichloropropane	5.00	5.69		ug/L		114	67 - 135
N-Propylbenzene	5.00	6.02		ug/L		120	72 - 126
2-Chlorotoluene	5.00	5.83		ug/L		117	73 - 120
4-Chlorotoluene	5.00	6.09		ug/L		122	75 - 124
1,3,5-Trimethylbenzene	5.00	5.91		ug/L		118	75 - 123
tert-Butylbenzene	5.00	5.64		ug/L		113	70 - 129
1,2,4-Trimethylbenzene	5.00	5.81		ug/L		116	71 - 127
sec-Butylbenzene	5.00	5.79		ug/L		116	75 - 126
4-Isopropyltoluene	5.00	5.57		ug/L		111	78 - 125
1,3-Dichlorobenzene	5.00	5.68		ug/L		114	72 - 125
1,4-Dichlorobenzene	5.00	5.62		ug/L		112	71 - 129
n-Butylbenzene	5.00	5.34		ug/L		107	69 - 127
1,2-Dichlorobenzene	5.00	5.73		ug/L		115	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.65		ug/L		93	55 - 135
1,2,4-Trichlorobenzene	5.00	5.60		ug/L		112	60 - 130
Hexachlorobutadiene	5.00	5.13		ug/L		103	63 - 130
Naphthalene	5.00	5.68		ug/L		114	54 - 137
1,2,3-Trichlorobenzene	5.00	5.53		ug/L		111	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*91*		*80 - 120*

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

Lab Sample ID: LCS 580-480341/4
Matrix: Water
Analysis Batch: 480341

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*

Lab Sample ID: LCSD 580-480341/5
Matrix: Water
Analysis Batch: 480341

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	5.86		ug/L		117	20 - 150	3	30
Chloromethane			5.00	6.28		ug/L		126	32 - 150	4	33
Vinyl chloride			5.00	6.28		ug/L		126	41 - 150	6	32
Bromomethane			5.00	4.90		ug/L		98	51 - 148	7	35
Chloroethane			5.00	5.53		ug/L		111	54 - 140	3	33
Carbon disulfide			5.00	4.95		ug/L		99	54 - 142	3	34
Trichlorofluoromethane			5.00	4.93		ug/L		99	60 - 132	3	32
1,1-Dichloroethene			5.00	5.14		ug/L		103	60 - 129	3	29
Acetone			25.0	28.7		ug/L		115	49 - 150	5	24
Methylene Chloride			5.00	5.88		ug/L		118	40 - 142	4	25
Methyl tert-butyl ether			5.00	5.17		ug/L		103	61 - 131	2	27
2-Butanone (MEK)			25.0	30.7		ug/L		123	37 - 150	0	35
trans-1,2-Dichloroethene			5.00	5.27		ug/L		105	69 - 121	3	27
1,1-Dichloroethane			5.00	5.58		ug/L		112	74 - 120	4	26
2,2-Dichloropropane			5.00	4.01		ug/L		80	55 - 140	7	31
cis-1,2-Dichloroethene			5.00	5.42		ug/L		108	72 - 120	5	22
Chlorobromomethane			5.00	5.28		ug/L		106	79 - 121	0	20
Chloroform			5.00	4.99		ug/L		100	75 - 120	2	21
1,1,1-Trichloroethane			5.00	4.48		ug/L		90	70 - 121	4	24
Carbon tetrachloride			5.00	4.49		ug/L		90	66 - 130	0	24
1,1-Dichloropropene			5.00	5.39		ug/L		108	72 - 125	4	23
Benzene			5.00	5.64		ug/L		113	80 - 120	4	22
1,2-Dichloroethane			5.00	4.69		ug/L		94	74 - 127	3	21
Trichloroethene			5.00	4.91		ug/L		98	72 - 120	2	22
1,2-Dichloropropane			5.00	5.95		ug/L		119	69 - 130	3	22
4-Methyl-2-pentanone (MIBK)			25.0	27.6		ug/L		111	63 - 137	6	26
Dibromomethane			5.00	4.92		ug/L		98	65 - 141	3	22
Dichlorobromomethane			5.00	5.02		ug/L		100	74 - 131	4	21
cis-1,3-Dichloropropene			5.00	4.93		ug/L		99	77 - 131	6	24
Toluene			5.00	5.22		ug/L		104	80 - 126	4	20
trans-1,3-Dichloropropene			5.00	5.01		ug/L		100	71 - 138	4	26
1,1,2-Trichloroethane			5.00	5.32		ug/L		106	73 - 127	6	22
Tetrachloroethene			5.00	5.06		ug/L		101	75 - 124	3	20
1,3-Dichloropropane			5.00	5.58		ug/L		112	69 - 138	5	19
Chlorodibromomethane			5.00	4.57		ug/L		91	62 - 141	2	22
Ethylene Dibromide			5.00	5.03		ug/L		101	61 - 143	5	22
Chlorobenzene			5.00	5.24		ug/L		105	74 - 123	5	21
1,1,1,2-Tetrachloroethane			5.00	4.87		ug/L		97	69 - 127	4	22
Ethylbenzene			5.00	5.39		ug/L		108	80 - 124	7	22
m-Xylene & p-Xylene			5.00	5.32		ug/L		106	75 - 124	6	22

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

Lab Sample ID: LCSD 580-480341/5
Matrix: Water
Analysis Batch: 480341

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
o-Xylene			5.00	5.32		ug/L		106	71 - 124	5	23
Styrene			5.00	5.04		ug/L		101	74 - 127	8	22
Bromoform			5.00	4.23		ug/L		85	48 - 127	7	23
Isopropylbenzene			5.00	5.45		ug/L		109	71 - 123	7	23
Bromobenzene			5.00	5.14		ug/L		103	74 - 130	6	23
1,1,2,2-Tetrachloroethane			5.00	6.17		ug/L		123	67 - 136	5	24
1,2,3-Trichloropropane			5.00	5.36		ug/L		107	67 - 135	6	25
N-Propylbenzene			5.00	5.60		ug/L		112	72 - 126	7	20
2-Chlorotoluene			5.00	5.56		ug/L		111	73 - 120	5	22
4-Chlorotoluene			5.00	5.79		ug/L		116	75 - 124	5	23
1,3,5-Trimethylbenzene			5.00	5.55		ug/L		111	75 - 123	6	23
tert-Butylbenzene			5.00	5.32		ug/L		106	70 - 129	6	24
1,2,4-Trimethylbenzene			5.00	5.48		ug/L		110	71 - 127	6	23
sec-Butylbenzene			5.00	5.44		ug/L		109	75 - 126	6	23
4-Isopropyltoluene			5.00	5.26		ug/L		105	78 - 125	6	24
1,3-Dichlorobenzene			5.00	5.37		ug/L		107	72 - 125	6	22
1,4-Dichlorobenzene			5.00	5.30		ug/L		106	71 - 129	6	22
n-Butylbenzene			5.00	4.92		ug/L		98	69 - 127	8	24
1,2-Dichlorobenzene			5.00	5.35		ug/L		107	72 - 129	7	22
1,2-Dibromo-3-Chloropropane			5.00	4.37		ug/L		87	55 - 135	6	29
1,2,4-Trichlorobenzene			5.00	5.35		ug/L		107	60 - 130	5	26
Hexachlorobutadiene			5.00	5.03		ug/L		101	63 - 130	2	26
Naphthalene			5.00	5.33		ug/L		107	54 - 137	6	28
1,2,3-Trichlorobenzene			5.00	5.23		ug/L		105	60 - 136	6	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*

Lab Sample ID: 580-146493-16 MS
Matrix: Water
Analysis Batch: 480341

Client Sample ID: PA-25d-121024
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		5.00	6.98		ug/L		140	20 - 150
Chloromethane	ND		5.00	6.93		ug/L		139	32 - 150
Vinyl chloride	ND		5.00	6.55		ug/L		131	41 - 150
Bromomethane	ND		5.00	4.13		ug/L		83	51 - 148
Chloroethane	ND		5.00	6.08		ug/L		122	54 - 140
Carbon disulfide	ND		5.00	6.25		ug/L		125	54 - 142
Trichlorofluoromethane	ND		5.00	5.79		ug/L		116	60 - 132
1,1-Dichloroethene	ND		5.00	6.35		ug/L		127	60 - 129
Acetone	ND		25.0	32.9		ug/L		132	49 - 150
Methylene Chloride	ND		5.00	6.46		ug/L		129	40 - 142
Methyl tert-butyl ether	ND		5.00	5.61		ug/L		112	61 - 131
2-Butanone (MEK)	ND		25.0	33.5		ug/L		134	37 - 150

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

Lab Sample ID: 580-146493-16 MS
Matrix: Water
Analysis Batch: 480341

Client Sample ID: PA-25d-121024
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,2-Dichloroethene	ND	F1	5.00	6.19	F1	ug/L		124	69 - 121
1,1-Dichloroethane	ND	F1	5.00	6.65	F1	ug/L		133	74 - 120
2,2-Dichloropropane	ND		5.00	4.01		ug/L		80	55 - 140
cis-1,2-Dichloroethene	ND	F1	5.00	6.32	F1	ug/L		126	72 - 120
Chlorobromomethane	ND		5.00	6.04		ug/L		121	79 - 121
1,1,1-Trichloroethane	ND		5.00	5.53		ug/L		111	70 - 121
Carbon tetrachloride	ND		5.00	5.82		ug/L		116	66 - 130
1,1-Dichloropropene	ND	F1	5.00	6.89	F1	ug/L		138	72 - 125
Benzene	0.049	J B F1	5.00	6.46	F1	ug/L		128	80 - 120
1,2-Dichloroethane	ND		5.00	5.40		ug/L		108	74 - 127
Trichloroethene	ND		5.00	5.70		ug/L		114	72 - 120
1,2-Dichloropropane	ND	F1	5.00	7.02	F1	ug/L		140	69 - 130
4-Methyl-2-pentanone (MIBK)	ND		25.0	29.5		ug/L		118	63 - 137
Dibromomethane	ND		5.00	5.43		ug/L		109	65 - 141
Dichlorobromomethane	ND		5.00	5.96		ug/L		119	74 - 131
cis-1,3-Dichloropropene	ND		5.00	5.56		ug/L		111	77 - 131
Toluene	ND	F1	5.00	6.05		ug/L		121	80 - 126
trans-1,3-Dichloropropene	ND		5.00	5.25		ug/L		105	71 - 138
1,1,2-Trichloroethane	ND		5.00	5.98		ug/L		120	73 - 127
Tetrachloroethene	ND		5.00	5.67		ug/L		113	75 - 124
1,3-Dichloropropane	ND		5.00	6.33		ug/L		127	69 - 138
Chlorodibromomethane	ND		5.00	5.17		ug/L		103	62 - 141
Ethylene Dibromide	ND		5.00	5.63		ug/L		113	61 - 143
Chlorobenzene	ND		5.00	5.90		ug/L		118	74 - 123
1,1,1,2-Tetrachloroethane	ND		5.00	5.36		ug/L		107	69 - 127
Ethylbenzene	ND		5.00	6.12		ug/L		122	80 - 124
m-Xylene & p-Xylene	ND	F1	5.00	5.95		ug/L		119	75 - 124
o-Xylene	ND	F1	5.00	5.79		ug/L		116	71 - 124
Styrene	ND		5.00	5.55		ug/L		111	74 - 127
Bromoform	ND		5.00	4.65		ug/L		93	48 - 127
Isopropylbenzene	ND		5.00	5.37		ug/L		107	71 - 123
Bromobenzene	ND		5.00	5.63		ug/L		113	74 - 130
1,1,2,2-Tetrachloroethane	ND	F1	5.00	6.51		ug/L		130	67 - 136
1,2,3-Trichloropropane	ND		5.00	5.94		ug/L		119	67 - 135
N-Propylbenzene	ND	F1	5.00	6.11		ug/L		122	72 - 126
2-Chlorotoluene	ND	F1	5.00	6.10	F1	ug/L		122	73 - 120
4-Chlorotoluene	ND	F1	5.00	5.96		ug/L		119	75 - 124
1,3,5-Trimethylbenzene	ND		5.00	5.88		ug/L		118	75 - 123
tert-Butylbenzene	ND		5.00	5.72		ug/L		114	70 - 129
1,2,4-Trimethylbenzene	ND		5.00	5.69		ug/L		114	71 - 127
sec-Butylbenzene	ND		5.00	5.69		ug/L		114	75 - 126
4-Isopropyltoluene	ND		5.00	5.69		ug/L		114	78 - 125
1,3-Dichlorobenzene	ND		5.00	5.75		ug/L		115	72 - 125
1,4-Dichlorobenzene	ND		5.00	5.78		ug/L		116	71 - 129
n-Butylbenzene	ND		5.00	5.49		ug/L		110	69 - 127
1,2-Dichlorobenzene	ND		5.00	5.91		ug/L		118	72 - 129
1,2-Dibromo-3-Chloropropane	ND		5.00	4.96		ug/L		99	55 - 135
1,2,4-Trichlorobenzene	ND		5.00	5.28		ug/L		106	60 - 130
Hexachlorobutadiene	ND		5.00	5.28		ug/L		106	63 - 130

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

Lab Sample ID: 580-146493-16 MS
Matrix: Water
Analysis Batch: 480341

Client Sample ID: PA-25d-121024
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Naphthalene	ND		5.00	5.14		ug/L		103	54 - 137
1,2,3-Trichlorobenzene	ND		5.00	5.34		ug/L		107	60 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*

Lab Sample ID: 580-146493-16 MSD
Matrix: Water
Analysis Batch: 480341

Client Sample ID: PA-25d-121024
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	6.77		ug/L		135	20 - 150	3	30
Chloromethane	ND		5.00	7.39		ug/L		148	32 - 150	6	33
Vinyl chloride	ND		5.00	6.34		ug/L		127	41 - 150	3	32
Bromomethane	ND		5.00	4.21		ug/L		84	51 - 148	2	35
Chloroethane	ND		5.00	5.51		ug/L		110	54 - 140	10	33
Carbon disulfide	ND		5.00	6.11		ug/L		122	54 - 142	2	34
Trichlorofluoromethane	ND		5.00	5.82		ug/L		116	60 - 132	0	32
1,1-Dichloroethene	ND		5.00	6.21		ug/L		124	60 - 129	2	29
Acetone	ND		25.0	31.5		ug/L		126	49 - 150	4	24
Methylene Chloride	ND		5.00	6.38		ug/L		128	40 - 142	1	25
Methyl tert-butyl ether	ND		5.00	5.53		ug/L		111	61 - 131	1	27
2-Butanone (MEK)	ND		25.0	30.5		ug/L		122	37 - 150	9	35
trans-1,2-Dichloroethene	ND	F1	5.00	6.28	F1	ug/L		126	69 - 121	1	27
1,1-Dichloroethane	ND	F1	5.00	6.64	F1	ug/L		133	74 - 120	0	26
2,2-Dichloropropane	ND		5.00	3.68		ug/L		74	55 - 140	9	31
cis-1,2-Dichloroethene	ND	F1	5.00	6.07	F1	ug/L		121	72 - 120	4	22
Chlorobromomethane	ND		5.00	5.95		ug/L		119	79 - 121	1	20
1,1,1-Trichloroethane	ND		5.00	5.50		ug/L		110	70 - 121	0	24
Carbon tetrachloride	ND		5.00	5.61		ug/L		112	66 - 130	4	24
1,1-Dichloropropene	ND	F1	5.00	6.80	F1	ug/L		136	72 - 125	1	23
Benzene	0.049	J B F1	5.00	6.66	F1	ug/L		132	80 - 120	3	22
1,2-Dichloroethane	ND		5.00	5.58		ug/L		112	74 - 127	3	21
Trichloroethene	ND		5.00	5.68		ug/L		114	72 - 120	0	22
1,2-Dichloropropane	ND	F1	5.00	7.01	F1	ug/L		140	69 - 130	0	22
4-Methyl-2-pentanone (MIBK)	ND		25.0	31.2		ug/L		125	63 - 137	6	26
Dibromomethane	ND		5.00	5.40		ug/L		108	65 - 141	1	22
Dichlorobromomethane	ND		5.00	5.73		ug/L		115	74 - 131	4	21
cis-1,3-Dichloropropene	ND		5.00	5.91		ug/L		118	77 - 131	6	24
Toluene	ND	F1	5.00	6.57	F1	ug/L		131	80 - 126	8	20
trans-1,3-Dichloropropene	ND		5.00	4.72		ug/L		94	71 - 138	11	26
1,1,2-Trichloroethane	ND		5.00	5.59		ug/L		112	73 - 127	7	22
Tetrachloroethene	ND		5.00	5.20		ug/L		104	75 - 124	9	20
1,3-Dichloropropane	ND		5.00	5.67		ug/L		113	69 - 138	11	19
Chlorodibromomethane	ND		5.00	5.25		ug/L		105	62 - 141	1	22

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

Lab Sample ID: 580-146493-16 MSD
Client Sample ID: PA-25d-121024
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 480341

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylene Dibromide	ND		5.00	5.76		ug/L		115	61 - 143	2	22
Chlorobenzene	ND		5.00	6.10		ug/L		122	74 - 123	3	21
1,1,1,2-Tetrachloroethane	ND		5.00	5.55		ug/L		111	69 - 127	3	22
Ethylbenzene	ND		5.00	6.06		ug/L		121	80 - 124	1	22
m-Xylene & p-Xylene	ND	F1	5.00	6.39	F1	ug/L		128	75 - 124	7	22
o-Xylene	ND	F1	5.00	6.27	F1	ug/L		125	71 - 124	8	23
Styrene	ND		5.00	6.13		ug/L		123	74 - 127	10	22
Bromoform	ND		5.00	5.16		ug/L		103	48 - 127	10	23
Isopropylbenzene	ND		5.00	5.91		ug/L		118	71 - 123	10	23
Bromobenzene	ND		5.00	5.61		ug/L		112	74 - 130	0	23
1,1,2,2-Tetrachloroethane	ND	F1	5.00	6.97	F1	ug/L		139	67 - 136	7	24
1,2,3-Trichloropropane	ND		5.00	5.92		ug/L		118	67 - 135	0	25
N-Propylbenzene	ND	F1	5.00	6.35	F1	ug/L		127	72 - 126	4	20
2-Chlorotoluene	ND	F1	5.00	6.13	F1	ug/L		123	73 - 120	0	22
4-Chlorotoluene	ND	F1	5.00	6.52	F1	ug/L		130	75 - 124	9	23
1,3,5-Trimethylbenzene	ND		5.00	6.04		ug/L		121	75 - 123	3	23
tert-Butylbenzene	ND		5.00	5.93		ug/L		119	70 - 129	4	24
1,2,4-Trimethylbenzene	ND		5.00	6.03		ug/L		121	71 - 127	6	23
sec-Butylbenzene	ND		5.00	6.10		ug/L		122	75 - 126	7	23
4-Isopropyltoluene	ND		5.00	5.85		ug/L		117	78 - 125	3	24
1,3-Dichlorobenzene	ND		5.00	5.95		ug/L		119	72 - 125	3	22
1,4-Dichlorobenzene	ND		5.00	5.80		ug/L		116	71 - 129	0	22
n-Butylbenzene	ND		5.00	5.43		ug/L		109	69 - 127	1	24
1,2-Dichlorobenzene	ND		5.00	5.77		ug/L		115	72 - 129	2	22
1,2-Dibromo-3-Chloropropane	ND		5.00	4.92		ug/L		98	55 - 135	1	29
1,2,4-Trichlorobenzene	ND		5.00	5.46		ug/L		109	60 - 130	3	26
Hexachlorobutadiene	ND		5.00	5.34		ug/L		107	63 - 130	1	26
Naphthalene	ND		5.00	5.29		ug/L		106	54 - 137	3	28
1,2,3-Trichlorobenzene	ND		5.00	5.33		ug/L		107	60 - 136	0	28

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*108*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*

Lab Sample ID: MB 580-480564/7
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 480564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/16/24 14:28	1
Chloroform	ND		0.20	0.030	ug/L			12/16/24 14:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/16/24 14:28*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/16/24 14:28*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/16/24 14:28*	*1*

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

Lab Sample ID: MB 580-480564/7
Matrix: Water
Analysis Batch: 480564

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		12/16/24 14:28	1

Lab Sample ID: LCS 580-480564/4
Matrix: Water
Analysis Batch: 480564

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloromethane			5.00	3.85		ug/L		77	32 - 150		
Chloroform			5.00	4.51		ug/L		90	75 - 120		

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

Lab Sample ID: LCSD 580-480564/5
Matrix: Water
Analysis Batch: 480564

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloromethane			5.00	4.10		ug/L		82	32 - 150	6	33
Chloroform			5.00	4.81		ug/L		96	75 - 120	6	21

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

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

Lab Sample ID: 580-146493-16 MS
Matrix: Water
Analysis Batch: 480564

Client Sample ID: PA-25d-121024
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloroform - RA	ND		5.00	5.25		ug/L		105	75 - 120		

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr) - RA	97		80 - 120
Dibromofluoromethane (Surr) - RA	102		80 - 120
4-Bromofluorobenzene (Surr) - RA	104		80 - 120
1,2-Dichloroethane-d4 (Surr) - RA	102		80 - 120

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

Lab Sample ID: 580-146493-16 MSD — **Client Sample ID: PA-25d-121024**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 480564

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloroform - RA	ND		5.00	5.13		ug/L		103	75 - 120	2	21

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

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-515387/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 515387

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/18/24 16:00	1

Lab Sample ID: LCS 570-515387/8 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 515387

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.4		ug/L		102	85 - 115

Lab Sample ID: LCSD 570-515387/9 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 515387

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	24.1		ug/L		96	85 - 115	5	15

Lab Sample ID: 580-146493-16 MS — **Client Sample ID: PA-25d-121024**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 515387

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	ND		25.0	21.6		ug/L		86	80 - 120

Lab Sample ID: 580-146493-16 MSD — **Client Sample ID: PA-25d-121024**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 515387

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		25.0	21.7		ug/L		87	80 - 120	1	15

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-481887/3
Matrix: Water
Analysis Batch: 481887

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			01/01/25 15:43	1

Lab Sample ID: LCS 580-481887/4
Matrix: Water
Analysis Batch: 481887

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	52.5		mg/L		105	90 - 110		

Lab Sample ID: LCSD 580-481887/5
Matrix: Water
Analysis Batch: 481887

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	52.4		mg/L		105	90 - 110	0	15

Lab Sample ID: MB 580-481952/3
Matrix: Water
Analysis Batch: 481952

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			01/02/25 20:02	1

Lab Sample ID: LCS 580-481952/4
Matrix: Water
Analysis Batch: 481952

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	50.9		mg/L		102	90 - 110		

Lab Sample ID: LCSD 580-481952/5
Matrix: Water
Analysis Batch: 481952

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	50.9		mg/L		102	90 - 110	0	15

Lab Sample ID: 580-146493-16 MS
Matrix: Water
Analysis Batch: 481952

Client Sample ID: PA-25d-121024
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	30		50.0	80.9		mg/L		102	90 - 110		

Lab Sample ID: 580-146493-16 MSD
Matrix: Water
Analysis Batch: 481952

Client Sample ID: PA-25d-121024
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	30		50.0	79.9		mg/L		100	90 - 110	1	15

Lab Chronicle

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-27d-120924
Lab Sample ID: 580-146493-1
Date Collected: 12/09/24 14:01
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 06:07
Total/NA	Analysis	314.0		10	515387	M5Z3	EET CAL 4	12/18/24 18:47
Total/NA	Analysis	300.0		100	481887	MLT	EET SEA	01/01/25 21:05

Client Sample ID: PA-17iR-120924
Lab Sample ID: 580-146493-2
Date Collected: 12/09/24 12:25
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 06:30
Total/NA	Analysis	314.0		100	515387	M5Z3	EET CAL 4	12/18/24 19:28
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/01/25 21:17

Client Sample ID: PA-03-120924
Lab Sample ID: 580-146493-3
Date Collected: 12/09/24 10:37
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	480564	AA	EET SEA	12/16/24 17:12
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 06:53
Total/NA	Analysis	314.0		10	515387	M5Z3	EET CAL 4	12/18/24 20:10
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/01/25 21:41

Client Sample ID: PA-08-120924
Lab Sample ID: 580-146493-4
Date Collected: 12/09/24 08:29
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	480564	AA	EET SEA	12/16/24 17:35
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 07:16
Total/NA	Analysis	314.0		10	515387	M5Z3	EET CAL 4	12/18/24 20:52
Total/NA	Analysis	300.0		10	481887	MLT	EET SEA	01/01/25 22:16

Client Sample ID: TB-01-121024
Lab Sample ID: 580-146493-5
Date Collected: 12/10/24 00:01
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 05:20

Lab Chronicle

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-26d-121024
Lab Sample ID: 580-146493-6
Date Collected: 12/10/24 08:49
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 07:39
Total/NA	Analysis	314.0		1	515387	M5Z3	EET CAL 4	12/18/24 21:33
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/01/25 22:28

Client Sample ID: PA-09-121024
Lab Sample ID: 580-146493-7
Date Collected: 12/10/24 10:08
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	480564	AA	EET SEA	12/16/24 17:58
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 08:03
Total/NA	Analysis	314.0		5	515387	M5Z3	EET CAL 4	12/18/24 22:15
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/01/25 23:16

Client Sample ID: PA-16i-121024
Lab Sample ID: 580-146493-8
Date Collected: 12/10/24 11:43
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 08:26
Total/NA	Analysis	314.0		10	515387	M5Z3	EET CAL 4	12/18/24 22:57
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/01/25 23:40

Client Sample ID: PA-04-121024
Lab Sample ID: 580-146493-9
Date Collected: 12/10/24 07:18
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 08:49
Total/NA	Analysis	314.0		10	515387	M5Z3	EET CAL 4	12/19/24 00:20
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/02/25 00:04

Client Sample ID: Dup-01-121024
Lab Sample ID: 580-146493-10
Date Collected: 12/10/24 12:58
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 09:12
Total/NA	Analysis	314.0		100	515387	M5Z3	EET CAL 4	12/19/24 01:02
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/02/25 00:28

Lab Chronicle

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-32i-121024
Lab Sample ID: 580-146493-11
Date Collected: 12/10/24 12:52
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 09:36
Total/NA	Analysis	314.0		100	515387	M5Z3	EET CAL 4	12/19/24 01:44
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/02/25 00:51

Client Sample ID: PA-31-121024
Lab Sample ID: 580-146493-12
Date Collected: 12/10/24 11:34
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 09:59
Total/NA	Analysis	314.0		5	515387	M5Z3	EET CAL 4	12/19/24 02:26
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/02/25 01:39

Client Sample ID: MWA-63-121024
Lab Sample ID: 580-146493-13
Date Collected: 12/10/24 10:37
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	480564	AA	EET SEA	12/16/24 21:49
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 10:33
Total/NA	Analysis	314.0		5	515387	M5Z3	EET CAL 4	12/19/24 03:07
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/02/25 02:03

Client Sample ID: PA-18d-121024
Lab Sample ID: 580-146493-14
Date Collected: 12/10/24 08:57
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	480564	AA	EET SEA	12/16/24 18:21
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 10:56
Total/NA	Analysis	314.0		100	515387	M5Z3	EET CAL 4	12/19/24 03:49
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/02/25 02:27

Client Sample ID: PA-10i-121024
Lab Sample ID: 580-146493-15
Date Collected: 12/10/24 15:16
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	480564	AA	EET SEA	12/16/24 18:44
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 11:19
Total/NA	Analysis	314.0		100	515387	M5Z3	EET CAL 4	12/19/24 04:31
Total/NA	Analysis	300.0		1	481887	MLT	EET SEA	01/02/25 02:51

Lab Chronicle

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-25d-121024
Lab Sample ID: 580-146493-16
Date Collected: 12/10/24 16:16
Matrix: Water
Date Received: 12/11/24 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	480564	AA	EET SEA	12/16/24 15:24
Total/NA	Analysis	8260D		1	480341	JBT	EET SEA	12/13/24 11:42
Total/NA	Analysis	314.0		1	515387	M5Z3	EET CAL 4	12/19/24 05:12
Total/NA	Analysis	300.0		1	481952	MLT	EET SEA	01/02/25 22:37

Laboratory References:

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

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Laboratory: Eurofins Seattle

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

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

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	12-22-24
Arkansas DEQ	State	88-01672	07-02-25
California	Los Angeles County Sanitation Districts	9257304	07-31-26
California	State	3082	07-31-25
Kansas	NELAP	E-10420	07-31-25
Nevada	State	CA00111	07-31-25
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	525-23-159-97150	06-08-26
Washington	State	C916	10-11-25

Sample Summary

Client: ERM-West
Job ID: 580-146493-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-146493-1	PA-27d-120924	Water	12/09/24 14:01	12/11/24 14:34
580-146493-2	PA-17iR-120924	Water	12/09/24 12:25	12/11/24 14:34
580-146493-3	PA-03-120924	Water	12/09/24 10:37	12/11/24 14:34
580-146493-4	PA-08-120924	Water	12/09/24 08:29	12/11/24 14:34
580-146493-5	TB-01-121024	Water	12/10/24 00:01	12/11/24 14:34
580-146493-6	PA-26d-121024	Water	12/10/24 08:49	12/11/24 14:34
580-146493-7	PA-09-121024	Water	12/10/24 10:08	12/11/24 14:34
580-146493-8	PA-16i-121024	Water	12/10/24 11:43	12/11/24 14:34
580-146493-9	PA-04-121024	Water	12/10/24 07:18	12/11/24 14:34
580-146493-10	Dup-01-121024	Water	12/10/24 12:58	12/11/24 14:34
580-146493-11	PA-32i-121024	Water	12/10/24 12:52	12/11/24 14:34
580-146493-12	PA-31-121024	Water	12/10/24 11:34	12/11/24 14:34
580-146493-13	MWA-63-121024	Water	12/10/24 10:37	12/11/24 14:34
580-146493-14	PA-18d-121024	Water	12/10/24 08:57	12/11/24 14:34
580-146493-15	PA-10i-121024	Water	12/10/24 15:16	12/11/24 14:34
580-146493-16	PA-25d-121024	Water	12/10/24 16:16	12/11/24 14:34

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

Chain of Custody Record

580-146493 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Paul Van Newl	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone: 240-755-1398	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 0732445.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q4 2024 Groundwater event	Project #: 0732445		
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)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N		
PA-27d-120924	12/09/2024	1401	G	Water			X		X	X	3	
PA-17iR-120924	12/09/2024	1225	G	Water				X	X	X	3	
PA-03-120924	12/09/2024	1037	G	Water				X	X	X	3	
PA-08-120924	12/09/2024	0829	G	Water				X	X	X	3	
TB-01-121024	12/10/24			Water			X	X			1	
PA-26d-121024	12/10/2024	0849	G	Water				X	X	X	3	
PA-09-121024	12/10/2024	1008	G	Water				X	X	X	3	
PA-16i-121024	12/10/2024	1143	G	Water				X	X	X	3	
PA-04-121024	12/10/24	0718	G	Water				X	X	X	3	
Dup-01-121024	12/10/24	1258	G	Water				X	X	X	3	
PA-32i-121024	12/10/24	1252	G	Water				X	X	X	3	

Preservation Codes:

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

Other:

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

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

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

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

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

	Date/Time	Company		Date/Time	Company
Relinquished by: Lalla Whiting	12/11/24 1434	ERM	Received by:		
Relinquished by:			Received by:	12/11/24 1434	EET
Relinquished by:			Received by:		

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

Cooler Temperature(s) °C and Other Remarks: 2.8/5.1 PDX SCR

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: Paul Van Nevel	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone: 240-755-1398	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 0732445.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q4 2024 Groundwater event	Project #: 0732445			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N		
PA-31-121024	12/10/24	1134	G	Water				X	X	X	3	
MWA-63-121024	12/10/24	1037	G	Water			X		X	X	3	
PA-18d-121024	12/10/24	0857	G	Water			X	X	X	X	4	
PA-10i-121024	12/10/24	1516	G	Water				X	X	X	3	
PA-25d-121024	12/10/24	1616	G	Water	X			X	X	X	4	
				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: Luke Whiting	Date/Time: 12/11/24 1434	Company: ERM	Received by:	Date/Time: 12/11/24 1434	Company: EET	
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:

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

Chain of Custody Record

580-146493 Chain of Custody

eurofins | Environment Testing TestAmerica

1/6/2025

Client Information	Sampler: Paul Van Newl	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone: 240-755-1398	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 0732445.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q4 2024 Groundwater event	Project #: 0732445		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N		
PA-27d-120924	12/09/2024	1401	G	Water			X		X	X	3	
PA-17iR-120924	12/09/2024	1225	G	Water				X	X	X	3	
PA-03-120924	12/09/2024	1037	G	Water				X	X	X	3	
PA-08-120924	12/09/2024	0829	G	Water				X	X	X	3	
TB-01-121024	12/10/24			Water			X	X			1	
PA-26d-121024	12/10/2024	0849	G	Water				X	X	X	3	
PA-09-121024	12/10/2024	1008	G	Water				X	X	X	3	
PA-16i-121024	12/10/2024	1143	G	Water				X	X	X	3	
PA-04-121024	12/10/24	0718	G	Water				X	X	X	3	
DUP-01-121024	12/10/24	1258	G	Water				X	X	X	3	
PA-32i-121024	12/10/24	1252	G	Water				X	X	X	3	

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: Lake Whitney	Date/Time: 12/11/24 1434	Company: ERM	Received by:	Date/Time: 12/11/24 1434	Company: EET
Relinquished by:	Date/Time: 12/11/24 1700	Company: EET	Received by:	Date/Time: 12-12-24 1005	Company: ERM
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: 2.8/3.1 PDX SLFR

IRM 3.5/3.1

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: Paul Van Nevel	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone: 240-755-1398	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 0732445.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q4 2024 Groundwater event	Project #: 0732445			
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)	MS/MSD	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	N		
PA-31-121024	12/10/24	1134	G	Water				X	X	X	3	
MWA-63-121024	12/10/24	1037	G	Water			X		X	X	3	
PA-18d-121024	12/10/24	0857	G	Water			X	X	X	X	3	
PA-10i-121024	12/10/24	1516	G	Water				X	X	X	3	
PA-25d-121024	12/10/24	1616	G	Water		X		X	X	X	3	
				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	Luke Whiting	12/11/24 1434	ERM		12/11/24 1434	EET
2		12/11/24 1700	EET		12-12-24 1005	EETN
3		Date/Time:	Company		Date/Time:	Company

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

Cooler Temperature(s) °C and Other Remarks: IR44 3.5 | 3.1

Ver: 01/16/2019

1/6/2025

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

Chain of Custody Record

eurofins | Env

Loc. 580
146493

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): N/A	COC No: 580-140028.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 1 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): NELAP Oregon		Job #: 580-146493-1
Address: 2841 Dow Avenue, Suite 100,	Due Date Requested: 1/6/2025			
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Arkema Q4 2024 Groundwater Event	Project #: 58016290			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes:

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instru
			Preservation Code:						
PA-27d-120924 (580-146493-1)	12/9/24	14:01 Pacific	G	Water			X	1	
PA-17-120924 (580-146493-2)	12/9/24	12:25 Pacific	G	Water			X	1	
PA-03-120924 (580-146493-3)	12/9/24	10:37 Pacific	G	Water			X	1	
PA-08-120924 (580-146493-4)	12/9/24	08:29 Pacific	G	Water			X	1	
PA-26d-121024 (580-146493-6)	12/10/24	08:49 Pacific	G	Water			X	1	
PA-09-121024 (580-146493-7)	12/10/24	10:08 Pacific	G	Water			X	1	
PA-16i-121024 (580-146493-8)	12/10/24	11:43 Pacific	G	Water			X	1	
PA-04-121024 (580-146493-9)	12/10/24	07:18 Pacific	G	Water			X	1	
Dup-01-121024 (580-146493-10)	12/10/24	12:58 Pacific	G	Water			X	1	

580-146493 Chain of Custody

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/11/24 1700	ET	Fedex		
2	Fedex				12/12/24 0950	ET
3						

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 1 8/2 5 5C/2

Ver 10/10/2024

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): N/A	COC No: 580-140028.2
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 2 of 2
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): NELAP Oregon		Job #: 580-146493-1
Address: 2841 Dow Avenue, Suite 100,	Due Date Requested: 1/6/2025			Preservation Codes:
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Arkema Q4 2024 Groundwater Event	Project #: 58016290			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
PA-32i-121024 (580-146493-11)	12/10/24	12:52 Pacific	G	Water			X	1	
PA-31-121024 (580-146493-12)	12/10/24	11:34 Pacific	G	Water			X	1	
MWA-63-121024 (580-146493-13)	12/10/24	10:37 Pacific	G	Water			X	1	
PA-18d-121024 (580-146493-14)	12/10/24	08:57 Pacific	G	Water			X	1	
PA-10i-121024 (580-146493-15)	12/10/24	15:16 Pacific	G	Water			X	1	
PA-25d-121024 (580-146493-16)	12/10/24	16:16 Pacific	G	Water			X	1	
PA-25d-121024 (580-146493-16MS)	12/10/24	16:16 Pacific	G	Water			X	1	
PA-25d-121024 (580-146493-16MSD)	12/10/24	16:16 Pacific	G	Water			X	1	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/11/24 1700	ET	Feder		
2	Feder				12/12/24 0950	EC
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 1 8/2 5 SUR

Ver 10/10/2024

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-146493-1

Login Number: 146493

List Source: Eurofins Seattle

List Number: 1

Creator: O'Connell, Jason I

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: 580-146493-1

Login Number: 146493
List Number: 2
Creator: Khana, Piyush

List Source: Eurofins Calscience
List Creation: 12/12/24 03:41 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	2461414
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	2.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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: Avery Soplata
ERM-West
1050 SW 6th Avenue
Suite 1650
Portland, Oregon 97204

Generated 1/9/2025 5:35:12 PM

JOB DESCRIPTION

Arkema - Q4 2024 Groundwater Event

JOB NUMBER

580-146567-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

my EOL

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
1/9/2025 5:35:12 PM

Authorized for release by
Marie Walker, Senior Project Manager
M.Elaine.Walker@et.eurofinsus.com
Designee for
Sheri Cruz, Project Manager I
Sheri.Cruz@et.eurofinsus.com
(253)922-2310

Table of Contents

Job Narrative
580-146567-1

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

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

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

Receipt
The samples were received on 12/13/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-480564 recovered above the upper control limit for 2-Butanone (MEK). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MWA-81i-121124 (580-146567-1), MWA-41-121124 (580-146567-2), PA-15i-121124 (580-146567-3), PA-24d-121124 (580-146567-4) and (CCVIS 580-480564/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-480648 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane, Bromomethane and Chloroethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-480648 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-58d-121224 (580-146567-12), PA-19d-121224 (580-146567-15), MWA-56d-121224 (580-146567-16), MWA-56d-121224 (580-146567-16[MS]) and MWA-56d-121224 (580-146567-16[MSD]). Elevated reporting limits (RLs) are provided.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PA-30d-121224 (580-146567-17). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-480717 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-480750 recovered above the upper control limit for Dichlorodifluoromethane, 1,1-Dichloroethene, Acetone, Methylene Chloride, Methyl tert-butyl ether, 2-Butanone (MEK), trans-1,2-Dichloroethene, 1,1-Dichloroethane, 2,2-Dichloropropane, cis-1,2-Dichloroethene, Chlorobromomethane, 1,1-Dichloropropene, Benzene and 1,2-Dichloropropane. The samples associated with this CCV were non-detects or below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: Dup-02-121224 (580-146567-14), MWA-11i(d)-121224 (580-146567-18) and (CCVIS 580-480750/4).

Method 8260D: The method blank for analytical batch 580-480750 contained Acetone and Benzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-480564 recovered above the upper control limit for 2-Butanone (MEK). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MWA-81i-121124 (580-146567-1), MWA-41-121124 (580-146567-2), PA-15i-121124 (580-146567-3), PA-24d-121124 (580-146567-4) and (CCVIS 580-480564/3).

Job ID: 580-146567-1 (Continued) Eurofins Seattle

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-480648 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane, Bromomethane and Chloroethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D_LL: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-480648 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-480750 recovered above the upper control limit for Dichlorodifluoromethane, 1,1-Dichloroethene, Acetone, Methylene Chloride, Methyl tert-butyl ether, 2-Butanone (MEK), trans-1,2-Dichloroethene, 1,1-Dichloroethane, 2,2-Dichloropropane, cis-1,2-Dichloroethene, Chlorobromomethane, 1,1-Dichloropropene, Benzene and 1,2-Dichloropropane. The samples associated with this CCV were non-detects or below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: Dup-02-121224 (580-146567-14), MWA-11i(d)-121224 (580-146567-18) and (CCVIS 580-480750/4).

Method 8260D_LL: The method blank for analytical batch 580-480750 contained Acetone and Benzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC

Method 314.0: The following samples were diluted due to the nature of the sample matrix: PA-15i-121124 (580-146567-3), PA-44i-121124 (580-146567-7) and PA-30d-121224 (580-146567-17). Elevated reporting limits (RLs) are provided.

Method 314.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-515388 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Perchlorate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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

General Chemistry

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Qualifiers

GC/MS VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Glossary

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

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-81i-121124
Lab Sample ID: 580-146567-1
Date Collected: 12/11/24 08:00
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/16/24 16:25	1
Chloromethane	ND		0.50	0.14	ug/L			12/16/24 16:25	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/16/24 16:25	1
Bromomethane	ND		0.50	0.13	ug/L			12/16/24 16:25	1
Chloroethane	ND		0.50	0.24	ug/L			12/16/24 16:25	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/16/24 16:25	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/16/24 16:25	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/16/24 16:25	1
Acetone	ND		10	3.1	ug/L			12/16/24 16:25	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/16/24 16:25	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/16/24 16:25	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/16/24 16:25	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/16/24 16:25	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/16/24 16:25	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/16/24 16:25	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/16/24 16:25	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/16/24 16:25	1
Chloroform	ND		0.20	0.030	ug/L			12/16/24 16:25	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/16/24 16:25	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/16/24 16:25	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/16/24 16:25	1
Benzene	ND		0.20	0.030	ug/L			12/16/24 16:25	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/16/24 16:25	1
Trichloroethene	ND		0.20	0.066	ug/L			12/16/24 16:25	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/16/24 16:25	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/16/24 16:25	1
Dibromomethane	ND		0.20	0.062	ug/L			12/16/24 16:25	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/16/24 16:25	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/16/24 16:25	1
Toluene	ND		0.20	0.050	ug/L			12/16/24 16:25	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/16/24 16:25	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/16/24 16:25	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/16/24 16:25	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/16/24 16:25	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/16/24 16:25	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/16/24 16:25	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/16/24 16:25	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/16/24 16:25	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/16/24 16:25	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/16/24 16:25	1
o-Xylene	ND		0.50	0.23	ug/L			12/16/24 16:25	1
Styrene	ND		1.0	0.33	ug/L			12/16/24 16:25	1
Bromoform	ND		0.50	0.16	ug/L			12/16/24 16:25	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/16/24 16:25	1
Bromobenzene	ND		0.20	0.038	ug/L			12/16/24 16:25	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/16/24 16:25	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/16/24 16:25	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/16/24 16:25	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/16/24 16:25	1

Client Sample ID: MWA-81i-121124
Lab Sample ID: 580-146567-1

Date Collected: 12/11/24 08:00
Matrix: Water

Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/16/24 16:25	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/16/24 16:25	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/16/24 16:25	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/16/24 16:25	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/16/24 16:25	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/16/24 16:25	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/16/24 16:25	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/16/24 16:25	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/16/24 16:25	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/16/24 16:25	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/16/24 16:25	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/16/24 16:25	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/16/24 16:25	1
Naphthalene	ND		1.5	0.52	ug/L			12/16/24 16:25	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/16/24 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/16/24 16:25*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/16/24 16:25*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/24 16:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/16/24 16:25*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/18/24 17:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**33**		1.5	0.43	mg/L			01/08/25 15:21	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-41-121124
Lab Sample ID: 580-146567-2
Date Collected: 12/11/24 09:49
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/16/24 16:02	1
Chloromethane	ND		0.50	0.14	ug/L			12/16/24 16:02	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/16/24 16:02	1
Bromomethane	ND		0.50	0.13	ug/L			12/16/24 16:02	1
Chloroethane	ND		0.50	0.24	ug/L			12/16/24 16:02	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/16/24 16:02	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/16/24 16:02	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/16/24 16:02	1
Acetone	ND		10	3.1	ug/L			12/16/24 16:02	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/16/24 16:02	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/16/24 16:02	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/16/24 16:02	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/16/24 16:02	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/16/24 16:02	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/16/24 16:02	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/16/24 16:02	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/16/24 16:02	1
Chloroform	ND		0.20	0.030	ug/L			12/16/24 16:02	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/16/24 16:02	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/16/24 16:02	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/16/24 16:02	1
Benzene	ND		0.20	0.030	ug/L			12/16/24 16:02	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/16/24 16:02	1
Trichloroethene	ND		0.20	0.066	ug/L			12/16/24 16:02	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/16/24 16:02	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/16/24 16:02	1
Dibromomethane	ND		0.20	0.062	ug/L			12/16/24 16:02	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/16/24 16:02	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/16/24 16:02	1
Toluene	ND		0.20	0.050	ug/L			12/16/24 16:02	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/16/24 16:02	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/16/24 16:02	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/16/24 16:02	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/16/24 16:02	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/16/24 16:02	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/16/24 16:02	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/16/24 16:02	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/16/24 16:02	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/16/24 16:02	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/16/24 16:02	1
o-Xylene	ND		0.50	0.23	ug/L			12/16/24 16:02	1
Styrene	ND		1.0	0.33	ug/L			12/16/24 16:02	1
Bromoform	ND		0.50	0.16	ug/L			12/16/24 16:02	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/16/24 16:02	1
Bromobenzene	ND		0.20	0.038	ug/L			12/16/24 16:02	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/16/24 16:02	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/16/24 16:02	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/16/24 16:02	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/16/24 16:02	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-41-121124
Lab Sample ID: 580-146567-2
Date Collected: 12/11/24 09:49
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/16/24 16:02	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/16/24 16:02	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/16/24 16:02	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/16/24 16:02	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/16/24 16:02	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/16/24 16:02	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/16/24 16:02	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/16/24 16:02	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/16/24 16:02	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/16/24 16:02	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/16/24 16:02	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/16/24 16:02	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/16/24 16:02	1
Naphthalene	ND		1.5	0.52	ug/L			12/16/24 16:02	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/16/24 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/16/24 16:02*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/16/24 16:02*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/24 16:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/16/24 16:02*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/18/24 17:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.9**		1.5	0.43	mg/L			01/08/25 15:45	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-15i-121124
Lab Sample ID: 580-146567-3
Date Collected: 12/11/24 07:49
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/16/24 19:07	1
Chloromethane	ND		0.50	0.14	ug/L			12/16/24 19:07	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/16/24 19:07	1
Bromomethane	ND		0.50	0.13	ug/L			12/16/24 19:07	1
Chloroethane	ND		0.50	0.24	ug/L			12/16/24 19:07	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/16/24 19:07	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/16/24 19:07	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/16/24 19:07	1
Acetone	ND		10	3.1	ug/L			12/16/24 19:07	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/16/24 19:07	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/16/24 19:07	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/16/24 19:07	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/16/24 19:07	1
1,1-Dichloroethane	**0.20**		0.20	0.064	ug/L			12/16/24 19:07	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/16/24 19:07	1
cis-1,2-Dichloroethene	**0.064**	**J**	0.20	0.055	ug/L			12/16/24 19:07	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/16/24 19:07	1
Chloroform	ND		0.20	0.030	ug/L			12/16/24 19:07	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/16/24 19:07	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/16/24 19:07	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/16/24 19:07	1
Benzene	ND		0.20	0.030	ug/L			12/16/24 19:07	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/16/24 19:07	1
Trichloroethene	ND		0.20	0.066	ug/L			12/16/24 19:07	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/16/24 19:07	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/16/24 19:07	1
Dibromomethane	ND		0.20	0.062	ug/L			12/16/24 19:07	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/16/24 19:07	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/16/24 19:07	1
Toluene	ND		0.20	0.050	ug/L			12/16/24 19:07	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/16/24 19:07	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/16/24 19:07	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/16/24 19:07	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/16/24 19:07	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/16/24 19:07	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/16/24 19:07	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/16/24 19:07	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/16/24 19:07	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/16/24 19:07	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/16/24 19:07	1
o-Xylene	ND		0.50	0.23	ug/L			12/16/24 19:07	1
Styrene	ND		1.0	0.33	ug/L			12/16/24 19:07	1
Bromoform	ND		0.50	0.16	ug/L			12/16/24 19:07	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/16/24 19:07	1
Bromobenzene	ND		0.20	0.038	ug/L			12/16/24 19:07	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/16/24 19:07	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/16/24 19:07	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/16/24 19:07	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/16/24 19:07	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-15i-121124
Lab Sample ID: 580-146567-3
Date Collected: 12/11/24 07:49
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/16/24 19:07	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/16/24 19:07	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/16/24 19:07	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/16/24 19:07	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/16/24 19:07	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/16/24 19:07	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/16/24 19:07	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/16/24 19:07	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/16/24 19:07	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/16/24 19:07	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/16/24 19:07	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/16/24 19:07	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/16/24 19:07	1
Naphthalene	ND		1.5	0.52	ug/L			12/16/24 19:07	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/16/24 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/16/24 19:07*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/16/24 19:07*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/24 19:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/16/24 19:07*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/18/24 18:25	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**64**		1.5	0.43	mg/L			01/08/25 16:09	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-24d-121124
Lab Sample ID: 580-146567-4
Date Collected: 12/11/24 09:27
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/16/24 16:49	1
Chloromethane	ND		1.0	0.28	ug/L			12/16/24 16:49	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/16/24 16:49	1
Bromomethane	ND		1.0	0.21	ug/L			12/16/24 16:49	1
Chloroethane	ND		1.0	0.35	ug/L			12/16/24 16:49	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/16/24 16:49	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/16/24 16:49	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/16/24 16:49	1
Acetone	ND		15	3.2	ug/L			12/16/24 16:49	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/16/24 16:49	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/16/24 16:49	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/16/24 16:49	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/16/24 16:49	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/16/24 16:49	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/16/24 16:49	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/16/24 16:49	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/16/24 16:49	1
Chloroform	ND		1.0	0.26	ug/L			12/16/24 16:49	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/16/24 16:49	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/16/24 16:49	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/16/24 16:49	1
Benzene	ND		1.0	0.24	ug/L			12/16/24 16:49	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/16/24 16:49	1
Trichloroethene	ND		1.0	0.26	ug/L			12/16/24 16:49	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/16/24 16:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/16/24 16:49	1
Dibromomethane	ND		1.0	0.34	ug/L			12/16/24 16:49	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/16/24 16:49	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/16/24 16:49	1
Toluene	ND		1.0	0.39	ug/L			12/16/24 16:49	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/16/24 16:49	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/16/24 16:49	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/16/24 16:49	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/16/24 16:49	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/16/24 16:49	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/16/24 16:49	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/16/24 16:49	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/16/24 16:49	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/16/24 16:49	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/16/24 16:49	1
o-Xylene	ND		1.0	0.39	ug/L			12/16/24 16:49	1
Styrene	ND		1.0	0.53	ug/L			12/16/24 16:49	1
Bromoform	ND		1.0	0.51	ug/L			12/16/24 16:49	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/16/24 16:49	1
Bromobenzene	ND		1.0	0.43	ug/L			12/16/24 16:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/16/24 16:49	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/16/24 16:49	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/16/24 16:49	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/16/24 16:49	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-24d-121124
Lab Sample ID: 580-146567-4
Date Collected: 12/11/24 09:27
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/16/24 16:49	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/16/24 16:49	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/16/24 16:49	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/16/24 16:49	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/16/24 16:49	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/16/24 16:49	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/16/24 16:49	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/16/24 16:49	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/16/24 16:49	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/16/24 16:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/16/24 16:49	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/16/24 16:49	1
Naphthalene	ND		3.0	0.93	ug/L			12/16/24 16:49	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/16/24 16:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/16/24 16:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/16/24 16:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*12/16/24 16:49*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/16/24 16:49*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/16/24 16:49*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/18/24 19:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**30000**		1500	430	mg/L			01/08/25 16:33	1000

Client Sample ID: MWA-82-121124
Lab Sample ID: 580-146567-5

Date Collected: 12/11/24 11:31
Matrix: Water

Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/17/24 05:32	1
Chloromethane	ND		0.50	0.14	ug/L			12/17/24 05:32	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/17/24 05:32	1
Bromomethane	ND		0.50	0.13	ug/L			12/17/24 05:32	1
Chloroethane	ND		0.50	0.24	ug/L			12/17/24 05:32	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/17/24 05:32	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/17/24 05:32	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/17/24 05:32	1
Acetone	ND		10	3.1	ug/L			12/17/24 05:32	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/17/24 05:32	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/17/24 05:32	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/17/24 05:32	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/17/24 05:32	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/17/24 05:32	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/17/24 05:32	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/17/24 05:32	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/17/24 05:32	1
Chloroform	**0.76**		0.20	0.030	ug/L			12/17/24 05:32	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/17/24 05:32	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/17/24 05:32	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/17/24 05:32	1
Benzene	ND		0.20	0.030	ug/L			12/17/24 05:32	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/17/24 05:32	1
Trichloroethene	**0.15**	**J**	0.20	0.066	ug/L			12/17/24 05:32	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/17/24 05:32	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/17/24 05:32	1
Dibromomethane	ND		0.20	0.062	ug/L			12/17/24 05:32	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/17/24 05:32	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/17/24 05:32	1
Toluene	ND		0.20	0.050	ug/L			12/17/24 05:32	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/17/24 05:32	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/17/24 05:32	1
Tetrachloroethene	**0.42**		0.24	0.084	ug/L			12/17/24 05:32	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/17/24 05:32	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/17/24 05:32	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/17/24 05:32	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/17/24 05:32	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/17/24 05:32	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/17/24 05:32	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/17/24 05:32	1
o-Xylene	ND		0.50	0.23	ug/L			12/17/24 05:32	1
Styrene	ND		1.0	0.33	ug/L			12/17/24 05:32	1
Bromoform	ND		0.50	0.16	ug/L			12/17/24 05:32	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/17/24 05:32	1
Bromobenzene	ND		0.20	0.038	ug/L			12/17/24 05:32	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/17/24 05:32	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/17/24 05:32	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/17/24 05:32	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/17/24 05:32	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-82-121124
Lab Sample ID: 580-146567-5
Date Collected: 12/11/24 11:31
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/17/24 05:32	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/17/24 05:32	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/17/24 05:32	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/17/24 05:32	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/17/24 05:32	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/17/24 05:32	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 05:32	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 05:32	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/17/24 05:32	1
1,2-Dichlorobenzene	**0.041**	**J**	0.30	0.038	ug/L			12/17/24 05:32	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/17/24 05:32	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/17/24 05:32	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/17/24 05:32	1
Naphthalene	ND		1.5	0.52	ug/L			12/17/24 05:32	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/17/24 05:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/17/24 05:32*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/17/24 05:32*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/17/24 05:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*12/17/24 05:32*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**56**		20	9.1	ug/L			12/18/24 19:47	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**9.2**		1.5	0.43	mg/L			01/08/25 17:44	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-23d-121124
Lab Sample ID: 580-146567-6
Date Collected: 12/11/24 12:46
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/17/24 05:55	1
Chloromethane	ND		1.0	0.28	ug/L			12/17/24 05:55	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/17/24 05:55	1
Bromomethane	ND		1.0	0.21	ug/L			12/17/24 05:55	1
Chloroethane	ND		1.0	0.35	ug/L			12/17/24 05:55	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/17/24 05:55	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/17/24 05:55	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/17/24 05:55	1
Acetone	ND		15	3.2	ug/L			12/17/24 05:55	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/17/24 05:55	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/17/24 05:55	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/17/24 05:55	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/17/24 05:55	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/17/24 05:55	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/17/24 05:55	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/17/24 05:55	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 05:55	1
Chloroform	ND		1.0	0.26	ug/L			12/17/24 05:55	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/17/24 05:55	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/17/24 05:55	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/17/24 05:55	1
Benzene	ND		1.0	0.24	ug/L			12/17/24 05:55	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/17/24 05:55	1
Trichloroethene	ND		1.0	0.26	ug/L			12/17/24 05:55	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/17/24 05:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/17/24 05:55	1
Dibromomethane	ND		1.0	0.34	ug/L			12/17/24 05:55	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 05:55	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/17/24 05:55	1
Toluene	ND		1.0	0.39	ug/L			12/17/24 05:55	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/17/24 05:55	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/17/24 05:55	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/17/24 05:55	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/17/24 05:55	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/17/24 05:55	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/17/24 05:55	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/17/24 05:55	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/17/24 05:55	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/17/24 05:55	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/17/24 05:55	1
o-Xylene	ND		1.0	0.39	ug/L			12/17/24 05:55	1
Styrene	ND		1.0	0.53	ug/L			12/17/24 05:55	1
Bromoform	ND		1.0	0.51	ug/L			12/17/24 05:55	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/17/24 05:55	1
Bromobenzene	ND		1.0	0.43	ug/L			12/17/24 05:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/17/24 05:55	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/17/24 05:55	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/17/24 05:55	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/17/24 05:55	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-23d-121124
Lab Sample ID: 580-146567-6
Date Collected: 12/11/24 12:46
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/17/24 05:55	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/17/24 05:55	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/17/24 05:55	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/17/24 05:55	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/17/24 05:55	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/17/24 05:55	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 05:55	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/17/24 05:55	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 05:55	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/17/24 05:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/17/24 05:55	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/17/24 05:55	1
Naphthalene	ND		3.0	0.93	ug/L			12/17/24 05:55	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/17/24 05:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/17/24 05:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/17/24 05:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*12/17/24 05:55*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/17/24 05:55*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/17/24 05:55*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/18/24 20:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**31000**		1500	430	mg/L			01/08/25 18:44	1000

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-44i-121124
Lab Sample ID: 580-146567-7
Date Collected: 12/11/24 13:26
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/17/24 06:18	1
Chloromethane	ND		0.50	0.14	ug/L			12/17/24 06:18	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/17/24 06:18	1
Bromomethane	ND		0.50	0.13	ug/L			12/17/24 06:18	1
Chloroethane	ND		0.50	0.24	ug/L			12/17/24 06:18	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/17/24 06:18	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/17/24 06:18	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/17/24 06:18	1
Acetone	ND		10	3.1	ug/L			12/17/24 06:18	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/17/24 06:18	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/17/24 06:18	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/17/24 06:18	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/17/24 06:18	1
1,1-Dichloroethane	**0.19**	**J**	0.20	0.064	ug/L			12/17/24 06:18	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/17/24 06:18	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/17/24 06:18	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/17/24 06:18	1
Chloroform	ND		0.20	0.030	ug/L			12/17/24 06:18	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/17/24 06:18	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/17/24 06:18	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/17/24 06:18	1
Benzene	ND		0.20	0.030	ug/L			12/17/24 06:18	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/17/24 06:18	1
Trichloroethene	ND		0.20	0.066	ug/L			12/17/24 06:18	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/17/24 06:18	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/17/24 06:18	1
Dibromomethane	ND		0.20	0.062	ug/L			12/17/24 06:18	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/17/24 06:18	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/17/24 06:18	1
Toluene	ND		0.20	0.050	ug/L			12/17/24 06:18	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/17/24 06:18	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/17/24 06:18	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/17/24 06:18	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/17/24 06:18	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/17/24 06:18	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/17/24 06:18	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/17/24 06:18	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/17/24 06:18	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/17/24 06:18	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/17/24 06:18	1
o-Xylene	ND		0.50	0.23	ug/L			12/17/24 06:18	1
Styrene	ND		1.0	0.33	ug/L			12/17/24 06:18	1
Bromoform	ND		0.50	0.16	ug/L			12/17/24 06:18	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/17/24 06:18	1
Bromobenzene	ND		0.20	0.038	ug/L			12/17/24 06:18	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/17/24 06:18	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/17/24 06:18	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/17/24 06:18	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/17/24 06:18	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-44i-121124
Lab Sample ID: 580-146567-7
Date Collected: 12/11/24 13:26
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/17/24 06:18	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/17/24 06:18	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/17/24 06:18	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/17/24 06:18	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/17/24 06:18	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/17/24 06:18	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 06:18	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 06:18	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/17/24 06:18	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/17/24 06:18	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/17/24 06:18	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/17/24 06:18	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/17/24 06:18	1
Naphthalene	ND		1.5	0.52	ug/L			12/17/24 06:18	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/17/24 06:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/17/24 06:18*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/17/24 06:18*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/17/24 06:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/17/24 06:18*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			12/18/24 21:10	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**55**		1.5	0.43	mg/L			01/08/25 18:56	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: RB-01-121124
Lab Sample ID: 580-146567-8
Date Collected: 12/11/24 13:30
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/17/24 02:27	1
Chloromethane	ND		0.50	0.14	ug/L			12/17/24 02:27	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/17/24 02:27	1
Bromomethane	ND		0.50	0.13	ug/L			12/17/24 02:27	1
Chloroethane	ND		0.50	0.24	ug/L			12/17/24 02:27	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/17/24 02:27	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/17/24 02:27	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/17/24 02:27	1
Acetone	ND		10	3.1	ug/L			12/17/24 02:27	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/17/24 02:27	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/17/24 02:27	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/17/24 02:27	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/17/24 02:27	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/17/24 02:27	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/17/24 02:27	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/17/24 02:27	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/17/24 02:27	1
Chloroform	ND		0.20	0.030	ug/L			12/17/24 02:27	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/17/24 02:27	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/17/24 02:27	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/17/24 02:27	1
Benzene	ND		0.20	0.030	ug/L			12/17/24 02:27	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/17/24 02:27	1
Trichloroethene	ND		0.20	0.066	ug/L			12/17/24 02:27	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/17/24 02:27	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/17/24 02:27	1
Dibromomethane	ND		0.20	0.062	ug/L			12/17/24 02:27	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/17/24 02:27	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/17/24 02:27	1
Toluene	ND		0.20	0.050	ug/L			12/17/24 02:27	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/17/24 02:27	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/17/24 02:27	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/17/24 02:27	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/17/24 02:27	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/17/24 02:27	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/17/24 02:27	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/17/24 02:27	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/17/24 02:27	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/17/24 02:27	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/17/24 02:27	1
o-Xylene	ND		0.50	0.23	ug/L			12/17/24 02:27	1
Styrene	ND		1.0	0.33	ug/L			12/17/24 02:27	1
Bromoform	ND		0.50	0.16	ug/L			12/17/24 02:27	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/17/24 02:27	1
Bromobenzene	ND		0.20	0.038	ug/L			12/17/24 02:27	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/17/24 02:27	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/17/24 02:27	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/17/24 02:27	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/17/24 02:27	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: RB-01-121124
Lab Sample ID: 580-146567-8
Date Collected: 12/11/24 13:30
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/17/24 02:27	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/17/24 02:27	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/17/24 02:27	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/17/24 02:27	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/17/24 02:27	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/17/24 02:27	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 02:27	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 02:27	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/17/24 02:27	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/17/24 02:27	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/17/24 02:27	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/17/24 02:27	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/17/24 02:27	1
Naphthalene	ND		1.5	0.52	ug/L			12/17/24 02:27	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/17/24 02:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/17/24 02:27*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*12/17/24 02:27*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/17/24 02:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/17/24 02:27*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/18/24 21:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.2**		1.5	0.43	mg/L			01/08/25 19:43	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: TB-01-121224
Lab Sample ID: 580-146567-9
Date Collected: 12/12/24 00:01
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/17/24 02:04	1
Chloromethane	ND		0.50	0.14	ug/L			12/17/24 02:04	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/17/24 02:04	1
Bromomethane	ND		0.50	0.13	ug/L			12/17/24 02:04	1
Chloroethane	ND		0.50	0.24	ug/L			12/17/24 02:04	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/17/24 02:04	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/17/24 02:04	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/17/24 02:04	1
Acetone	ND		10	3.1	ug/L			12/17/24 02:04	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/17/24 02:04	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/17/24 02:04	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/17/24 02:04	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/17/24 02:04	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/17/24 02:04	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/17/24 02:04	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/17/24 02:04	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/17/24 02:04	1
Chloroform	ND		0.20	0.030	ug/L			12/17/24 02:04	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/17/24 02:04	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/17/24 02:04	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/17/24 02:04	1
Benzene	ND		0.20	0.030	ug/L			12/17/24 02:04	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/17/24 02:04	1
Trichloroethene	ND		0.20	0.066	ug/L			12/17/24 02:04	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/17/24 02:04	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/17/24 02:04	1
Dibromomethane	ND		0.20	0.062	ug/L			12/17/24 02:04	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/17/24 02:04	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/17/24 02:04	1
Toluene	ND		0.20	0.050	ug/L			12/17/24 02:04	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/17/24 02:04	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/17/24 02:04	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/17/24 02:04	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/17/24 02:04	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/17/24 02:04	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/17/24 02:04	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/17/24 02:04	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/17/24 02:04	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/17/24 02:04	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/17/24 02:04	1
o-Xylene	ND		0.50	0.23	ug/L			12/17/24 02:04	1
Styrene	ND		1.0	0.33	ug/L			12/17/24 02:04	1
Bromoform	ND		0.50	0.16	ug/L			12/17/24 02:04	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/17/24 02:04	1
Bromobenzene	ND		0.20	0.038	ug/L			12/17/24 02:04	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/17/24 02:04	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/17/24 02:04	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/17/24 02:04	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/17/24 02:04	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: TB-01-121224
Lab Sample ID: 580-146567-9
Date Collected: 12/12/24 00:01
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/17/24 02:04	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/17/24 02:04	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/17/24 02:04	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/17/24 02:04	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/17/24 02:04	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/17/24 02:04	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 02:04	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 02:04	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/17/24 02:04	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/17/24 02:04	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/17/24 02:04	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/17/24 02:04	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/17/24 02:04	1
Naphthalene	ND		1.5	0.52	ug/L			12/17/24 02:04	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/17/24 02:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/17/24 02:04*	*1*
Dibromofluoromethane (Surr)	*115*		*80 - 120*		*12/17/24 02:04*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*12/17/24 02:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*80 - 120*		*12/17/24 02:04*	*1*

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-22d-121224
Lab Sample ID: 580-146567-10
Date Collected: 12/12/24 07:21
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/17/24 06:41	1
Chloromethane	ND		1.0	0.28	ug/L			12/17/24 06:41	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/17/24 06:41	1
Bromomethane	ND		1.0	0.21	ug/L			12/17/24 06:41	1
Chloroethane	ND		1.0	0.35	ug/L			12/17/24 06:41	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/17/24 06:41	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/17/24 06:41	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/17/24 06:41	1
Acetone	ND		15	3.2	ug/L			12/17/24 06:41	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/17/24 06:41	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/17/24 06:41	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/17/24 06:41	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/17/24 06:41	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/17/24 06:41	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/17/24 06:41	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/17/24 06:41	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 06:41	1
Chloroform	**15**		1.0	0.26	ug/L			12/17/24 06:41	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/17/24 06:41	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/17/24 06:41	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/17/24 06:41	1
Benzene	ND		1.0	0.24	ug/L			12/17/24 06:41	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/17/24 06:41	1
Trichloroethene	ND		1.0	0.26	ug/L			12/17/24 06:41	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/17/24 06:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/17/24 06:41	1
Dibromomethane	ND		1.0	0.34	ug/L			12/17/24 06:41	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 06:41	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/17/24 06:41	1
Toluene	ND		1.0	0.39	ug/L			12/17/24 06:41	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/17/24 06:41	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/17/24 06:41	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/17/24 06:41	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/17/24 06:41	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/17/24 06:41	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/17/24 06:41	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/17/24 06:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/17/24 06:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/17/24 06:41	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/17/24 06:41	1
o-Xylene	ND		1.0	0.39	ug/L			12/17/24 06:41	1
Styrene	ND		1.0	0.53	ug/L			12/17/24 06:41	1
Bromoform	ND		1.0	0.51	ug/L			12/17/24 06:41	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/17/24 06:41	1
Bromobenzene	ND		1.0	0.43	ug/L			12/17/24 06:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/17/24 06:41	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/17/24 06:41	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/17/24 06:41	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/17/24 06:41	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-22d-121224
Lab Sample ID: 580-146567-10
Date Collected: 12/12/24 07:21
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/17/24 06:41	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/17/24 06:41	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/17/24 06:41	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/17/24 06:41	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/17/24 06:41	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/17/24 06:41	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 06:41	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/17/24 06:41	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 06:41	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/17/24 06:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/17/24 06:41	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/17/24 06:41	1
Naphthalene	ND		3.0	0.93	ug/L			12/17/24 06:41	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/17/24 06:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/17/24 06:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/17/24 06:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*12/17/24 06:41*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/17/24 06:41*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*12/17/24 06:41*	*1*

Method: EPA 314.0 - Perchlorate (IC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**14000**		2000	910	ug/L			12/19/24 15:45	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5000**		150	43	mg/L			01/08/25 20:31	100

Client Sample ID: MWA-31i(d)-121224
Lab Sample ID: 580-146567-11
Date Collected: 12/12/24 07:24
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/17/24 07:04	1
Chloromethane	ND		1.0	0.28	ug/L			12/17/24 07:04	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/17/24 07:04	1
Bromomethane	ND		1.0	0.21	ug/L			12/17/24 07:04	1
Chloroethane	ND		1.0	0.35	ug/L			12/17/24 07:04	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/17/24 07:04	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/17/24 07:04	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/17/24 07:04	1
Acetone	ND		15	3.2	ug/L			12/17/24 07:04	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/17/24 07:04	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/17/24 07:04	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/17/24 07:04	1
1,1-Dichloroethane	**0.35**	**J**	1.0	0.22	ug/L			12/17/24 07:04	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/17/24 07:04	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/17/24 07:04	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/17/24 07:04	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 07:04	1
Chloroform	**37**		1.0	0.26	ug/L			12/17/24 07:04	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/17/24 07:04	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/17/24 07:04	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/17/24 07:04	1
Benzene	ND		1.0	0.24	ug/L			12/17/24 07:04	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/17/24 07:04	1
Trichloroethene	ND		1.0	0.26	ug/L			12/17/24 07:04	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/17/24 07:04	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/17/24 07:04	1
Dibromomethane	ND		1.0	0.34	ug/L			12/17/24 07:04	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 07:04	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/17/24 07:04	1
Toluene	ND		1.0	0.39	ug/L			12/17/24 07:04	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/17/24 07:04	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/17/24 07:04	1
Tetrachloroethene	**0.45**	**J**	1.0	0.41	ug/L			12/17/24 07:04	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/17/24 07:04	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/17/24 07:04	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/17/24 07:04	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/17/24 07:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/17/24 07:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/17/24 07:04	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/17/24 07:04	1
o-Xylene	ND		1.0	0.39	ug/L			12/17/24 07:04	1
Styrene	ND		1.0	0.53	ug/L			12/17/24 07:04	1
Bromoform	**2.1**		1.0	0.51	ug/L			12/17/24 07:04	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/17/24 07:04	1
Bromobenzene	ND		1.0	0.43	ug/L			12/17/24 07:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/17/24 07:04	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/17/24 07:04	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/17/24 07:04	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/17/24 07:04	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-31i(d)-121224
Lab Sample ID: 580-146567-11
Date Collected: 12/12/24 07:24
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/17/24 07:04	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/17/24 07:04	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/17/24 07:04	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/17/24 07:04	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/17/24 07:04	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/17/24 07:04	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 07:04	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/17/24 07:04	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 07:04	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/17/24 07:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/17/24 07:04	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/17/24 07:04	1
Naphthalene	ND		3.0	0.93	ug/L			12/17/24 07:04	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/17/24 07:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/17/24 07:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/17/24 07:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*12/17/24 07:04*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/17/24 07:04*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/17/24 07:04*	*1*

Method: EPA 314.0 - Perchlorate (IC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**74000**		2000	910	ug/L			12/19/24 16:05	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**13000**		1500	430	mg/L			01/08/25 21:55	1000

Client Sample ID: MWA-58d-121224
Lab Sample ID: 580-146567-12

Date Collected: 12/12/24 08:56
Matrix: Water

Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	5.3	ug/L			12/17/24 07:51	10
Chloromethane	ND		10	2.8	ug/L			12/17/24 07:51	10
Vinyl chloride	ND		10	2.2	ug/L			12/17/24 07:51	10
Bromomethane	ND		10	2.1	ug/L			12/17/24 07:51	10
Chloroethane	ND		10	3.5	ug/L			12/17/24 07:51	10
Trichlorofluoromethane	ND		10	3.6	ug/L			12/17/24 07:51	10
Carbon disulfide	ND		10	5.3	ug/L			12/17/24 07:51	10
1,1-Dichloroethene	ND		10	2.8	ug/L			12/17/24 07:51	10
Acetone	ND		150	32	ug/L			12/17/24 07:51	10
Methylene Chloride	ND		50	14	ug/L			12/17/24 07:51	10
Methyl tert-butyl ether	ND		10	4.4	ug/L			12/17/24 07:51	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			12/17/24 07:51	10
1,1-Dichloroethane	ND		10	2.2	ug/L			12/17/24 07:51	10
2-Butanone (MEK)	ND		150	47	ug/L			12/17/24 07:51	10
2,2-Dichloropropane	ND		10	3.2	ug/L			12/17/24 07:51	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			12/17/24 07:51	10
Chlorobromomethane	ND		10	2.9	ug/L			12/17/24 07:51	10
Chloroform	**190**		10	2.6	ug/L			12/17/24 07:51	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			12/17/24 07:51	10
Carbon tetrachloride	ND		10	3.0	ug/L			12/17/24 07:51	10
1,1-Dichloropropene	ND		10	2.9	ug/L			12/17/24 07:51	10
Benzene	ND		10	2.4	ug/L			12/17/24 07:51	10
1,2-Dichloroethane	ND		10	4.2	ug/L			12/17/24 07:51	10
Trichloroethene	ND		10	2.6	ug/L			12/17/24 07:51	10
1,2-Dichloropropane	ND		10	1.8	ug/L			12/17/24 07:51	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			12/17/24 07:51	10
Dibromomethane	ND		10	3.4	ug/L			12/17/24 07:51	10
Dichlorobromomethane	ND		10	2.9	ug/L			12/17/24 07:51	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			12/17/24 07:51	10
Toluene	ND		10	3.9	ug/L			12/17/24 07:51	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			12/17/24 07:51	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			12/17/24 07:51	10
Tetrachloroethene	ND		10	4.1	ug/L			12/17/24 07:51	10
1,3-Dichloropropane	ND		10	3.5	ug/L			12/17/24 07:51	10
Chlorodibromomethane	ND		10	4.3	ug/L			12/17/24 07:51	10
Ethylene Dibromide	ND		10	4.0	ug/L			12/17/24 07:51	10
Chlorobenzene	ND		10	4.4	ug/L			12/17/24 07:51	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			12/17/24 07:51	10
Ethylbenzene	ND		10	5.0	ug/L			12/17/24 07:51	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			12/17/24 07:51	10
o-Xylene	ND		10	3.9	ug/L			12/17/24 07:51	10
Styrene	ND		10	5.3	ug/L			12/17/24 07:51	10
Bromoform	ND		10	5.1	ug/L			12/17/24 07:51	10
Isopropylbenzene	ND		10	4.4	ug/L			12/17/24 07:51	10
Bromobenzene	ND		10	4.3	ug/L			12/17/24 07:51	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			12/17/24 07:51	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			12/17/24 07:51	10
N-Propylbenzene	ND		10	5.0	ug/L			12/17/24 07:51	10
2-Chlorotoluene	ND		10	5.1	ug/L			12/17/24 07:51	10

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-58d-121224
Lab Sample ID: 580-146567-12
Date Collected: 12/12/24 08:56
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		10	3.8	ug/L			12/17/24 07:51	10
tert-Butylbenzene	ND		20	5.8	ug/L			12/17/24 07:51	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			12/17/24 07:51	10
sec-Butylbenzene	ND		10	4.9	ug/L			12/17/24 07:51	10
4-Isopropyltoluene	ND		10	2.8	ug/L			12/17/24 07:51	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			12/17/24 07:51	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			12/17/24 07:51	10
n-Butylbenzene	ND		10	4.4	ug/L			12/17/24 07:51	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			12/17/24 07:51	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			12/17/24 07:51	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			12/17/24 07:51	10
Hexachlorobutadiene	ND		30	7.9	ug/L			12/17/24 07:51	10
Naphthalene	ND		30	9.3	ug/L			12/17/24 07:51	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			12/17/24 07:51	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			12/17/24 07:51	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/17/24 07:51*	*10*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/17/24 07:51*	*10*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/17/24 07:51*	*10*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*12/17/24 07:51*	*10*

Method: EPA 314.0 - Perchlorate (IC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**51000**		2000	910	ug/L			12/19/24 16:26	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**17000**		1500	430	mg/L			01/08/25 22:42	1000

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-20d-121224
Lab Sample ID: 580-146567-13
Date Collected: 12/12/24 09:56
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/17/24 07:27	1
Chloromethane	ND		1.0	0.28	ug/L			12/17/24 07:27	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/17/24 07:27	1
Bromomethane	ND		1.0	0.21	ug/L			12/17/24 07:27	1
Chloroethane	ND		1.0	0.35	ug/L			12/17/24 07:27	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/17/24 07:27	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/17/24 07:27	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/17/24 07:27	1
Acetone	ND		15	3.2	ug/L			12/17/24 07:27	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/17/24 07:27	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/17/24 07:27	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/17/24 07:27	1
1,1-Dichloroethane	**0.28**	**J**	1.0	0.22	ug/L			12/17/24 07:27	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/17/24 07:27	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/17/24 07:27	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/17/24 07:27	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 07:27	1
Chloroform	ND		1.0	0.26	ug/L			12/17/24 07:27	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/17/24 07:27	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/17/24 07:27	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/17/24 07:27	1
Benzene	ND		1.0	0.24	ug/L			12/17/24 07:27	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/17/24 07:27	1
Trichloroethene	ND		1.0	0.26	ug/L			12/17/24 07:27	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/17/24 07:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/17/24 07:27	1
Dibromomethane	ND		1.0	0.34	ug/L			12/17/24 07:27	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 07:27	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/17/24 07:27	1
Toluene	ND		1.0	0.39	ug/L			12/17/24 07:27	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/17/24 07:27	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/17/24 07:27	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/17/24 07:27	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/17/24 07:27	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/17/24 07:27	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/17/24 07:27	1
Chlorobenzene	**1.7**		1.0	0.44	ug/L			12/17/24 07:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/17/24 07:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/17/24 07:27	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/17/24 07:27	1
o-Xylene	ND		1.0	0.39	ug/L			12/17/24 07:27	1
Styrene	ND		1.0	0.53	ug/L			12/17/24 07:27	1
Bromoform	ND		1.0	0.51	ug/L			12/17/24 07:27	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/17/24 07:27	1
Bromobenzene	ND		1.0	0.43	ug/L			12/17/24 07:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/17/24 07:27	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/17/24 07:27	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/17/24 07:27	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/17/24 07:27	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-20d-121224
Lab Sample ID: 580-146567-13
Date Collected: 12/12/24 09:56
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/17/24 07:27	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/17/24 07:27	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/17/24 07:27	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/17/24 07:27	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/17/24 07:27	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/17/24 07:27	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 07:27	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/17/24 07:27	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 07:27	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/17/24 07:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/17/24 07:27	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/17/24 07:27	1
Naphthalene	ND		3.0	0.93	ug/L			12/17/24 07:27	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/17/24 07:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/17/24 07:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/17/24 07:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*12/17/24 07:27*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/17/24 07:27*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*12/17/24 07:27*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**48**		2.0	0.91	ug/L			12/19/24 01:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**580**		15	4.3	mg/L			01/08/25 23:06	10

Client Sample ID: Dup-02-121224
Lab Sample ID: 580-146567-14
Date Collected: 12/12/24 12:00
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/18/24 04:27	1
Chloromethane	ND		1.0	0.28	ug/L			12/18/24 04:27	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/18/24 04:27	1
Bromomethane	ND		1.0	0.21	ug/L			12/18/24 04:27	1
Chloroethane	ND		1.0	0.35	ug/L			12/18/24 04:27	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/18/24 04:27	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/18/24 04:27	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/18/24 04:27	1
Acetone	ND		15	3.2	ug/L			12/18/24 04:27	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/18/24 04:27	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/18/24 04:27	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/18/24 04:27	1
1,1-Dichloroethane	**0.32**	**J**	1.0	0.22	ug/L			12/18/24 04:27	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/18/24 04:27	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/18/24 04:27	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/18/24 04:27	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/18/24 04:27	1
Chloroform	ND		1.0	0.26	ug/L			12/18/24 04:27	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/18/24 04:27	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/18/24 04:27	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/18/24 04:27	1
Benzene	ND		1.0	0.24	ug/L			12/18/24 04:27	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/18/24 04:27	1
Trichloroethene	ND		1.0	0.26	ug/L			12/18/24 04:27	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/18/24 04:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/24 04:27	1
Dibromomethane	ND		1.0	0.34	ug/L			12/18/24 04:27	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/18/24 04:27	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/18/24 04:27	1
Toluene	ND		1.0	0.39	ug/L			12/18/24 04:27	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/18/24 04:27	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/18/24 04:27	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/18/24 04:27	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/18/24 04:27	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/18/24 04:27	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/18/24 04:27	1
Chlorobenzene	**1.8**		1.0	0.44	ug/L			12/18/24 04:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/18/24 04:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/18/24 04:27	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/18/24 04:27	1
o-Xylene	ND		1.0	0.39	ug/L			12/18/24 04:27	1
Styrene	ND		1.0	0.53	ug/L			12/18/24 04:27	1
Bromoform	ND		1.0	0.51	ug/L			12/18/24 04:27	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/18/24 04:27	1
Bromobenzene	ND		1.0	0.43	ug/L			12/18/24 04:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/18/24 04:27	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/18/24 04:27	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/18/24 04:27	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/18/24 04:27	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: Dup-02-121224
Lab Sample ID: 580-146567-14
Date Collected: 12/12/24 12:00
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/18/24 04:27	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/18/24 04:27	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/18/24 04:27	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/18/24 04:27	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/18/24 04:27	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/18/24 04:27	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/18/24 04:27	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/18/24 04:27	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/18/24 04:27	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/18/24 04:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/18/24 04:27	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/18/24 04:27	1
Naphthalene	ND		3.0	0.93	ug/L			12/18/24 04:27	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/18/24 04:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/18/24 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*12/18/24 04:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/18/24 04:27*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*12/18/24 04:27*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/18/24 04:27*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**46**		2.0	0.91	ug/L			12/19/24 02:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**590**		15	4.3	mg/L			01/08/25 23:42	10

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-19d-121224
Lab Sample ID: 580-146567-15
Date Collected: 12/12/24 12:47
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		100	53	ug/L			12/17/24 09:23	100
Chloromethane	ND		100	28	ug/L			12/17/24 09:23	100
Vinyl chloride	ND		100	22	ug/L			12/17/24 09:23	100
Bromomethane	ND		100	21	ug/L			12/17/24 09:23	100
Chloroethane	ND		100	35	ug/L			12/17/24 09:23	100
Trichlorofluoromethane	ND		100	36	ug/L			12/17/24 09:23	100
Carbon disulfide	ND		100	53	ug/L			12/17/24 09:23	100
1,1-Dichloroethene	ND		100	28	ug/L			12/17/24 09:23	100
Acetone	ND		1500	320	ug/L			12/17/24 09:23	100
Methylene Chloride	ND		500	140	ug/L			12/17/24 09:23	100
Methyl tert-butyl ether	ND		100	44	ug/L			12/17/24 09:23	100
trans-1,2-Dichloroethene	ND		100	39	ug/L			12/17/24 09:23	100
1,1-Dichloroethane	ND		100	22	ug/L			12/17/24 09:23	100
2-Butanone (MEK)	ND		1500	470	ug/L			12/17/24 09:23	100
2,2-Dichloropropane	ND		100	32	ug/L			12/17/24 09:23	100
cis-1,2-Dichloroethene	ND		100	35	ug/L			12/17/24 09:23	100
Chlorobromomethane	ND		100	29	ug/L			12/17/24 09:23	100
Chloroform	ND		100	26	ug/L			12/17/24 09:23	100
1,1,1-Trichloroethane	ND		100	39	ug/L			12/17/24 09:23	100
Carbon tetrachloride	ND		100	30	ug/L			12/17/24 09:23	100
1,1-Dichloropropene	ND		100	29	ug/L			12/17/24 09:23	100
Benzene	**39**	**J**	100	24	ug/L			12/17/24 09:23	100
1,2-Dichloroethane	ND		100	42	ug/L			12/17/24 09:23	100
Trichloroethene	ND		100	26	ug/L			12/17/24 09:23	100
1,2-Dichloropropane	ND		100	18	ug/L			12/17/24 09:23	100
4-Methyl-2-pentanone (MIBK)	ND		500	250	ug/L			12/17/24 09:23	100
Dibromomethane	ND		100	34	ug/L			12/17/24 09:23	100
Dichlorobromomethane	ND		100	29	ug/L			12/17/24 09:23	100
cis-1,3-Dichloropropene	ND		100	42	ug/L			12/17/24 09:23	100
Toluene	ND		100	39	ug/L			12/17/24 09:23	100
trans-1,3-Dichloropropene	ND		100	41	ug/L			12/17/24 09:23	100
1,1,2-Trichloroethane	ND		100	24	ug/L			12/17/24 09:23	100
Tetrachloroethene	ND		100	41	ug/L			12/17/24 09:23	100
1,3-Dichloropropane	ND		100	35	ug/L			12/17/24 09:23	100
Chlorodibromomethane	ND		100	43	ug/L			12/17/24 09:23	100
Ethylene Dibromide	ND		100	40	ug/L			12/17/24 09:23	100
1,1,1,2-Tetrachloroethane	ND		100	18	ug/L			12/17/24 09:23	100
Ethylbenzene	ND		100	50	ug/L			12/17/24 09:23	100
m-Xylene & p-Xylene	ND		200	53	ug/L			12/17/24 09:23	100
o-Xylene	ND		100	39	ug/L			12/17/24 09:23	100
Styrene	ND		100	53	ug/L			12/17/24 09:23	100
Bromoform	ND		100	51	ug/L			12/17/24 09:23	100
Isopropylbenzene	ND		100	44	ug/L			12/17/24 09:23	100
Bromobenzene	ND		100	43	ug/L			12/17/24 09:23	100
1,1,2,2-Tetrachloroethane	ND		100	52	ug/L			12/17/24 09:23	100
1,2,3-Trichloropropane	ND		100	41	ug/L			12/17/24 09:23	100
N-Propylbenzene	ND		100	50	ug/L			12/17/24 09:23	100
2-Chlorotoluene	ND		100	51	ug/L			12/17/24 09:23	100
4-Chlorotoluene	ND		100	38	ug/L			12/17/24 09:23	100

Client Sample ID: PA-19d-121224
Lab Sample ID: 580-146567-15

Date Collected: 12/12/24 12:47
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		200	58	ug/L			12/17/24 09:23	100
1,2,4-Trimethylbenzene	ND		300	61	ug/L			12/17/24 09:23	100
sec-Butylbenzene	ND		100	49	ug/L			12/17/24 09:23	100
4-Isopropyltoluene	ND		100	28	ug/L			12/17/24 09:23	100
1,3-Dichlorobenzene	ND		100	48	ug/L			12/17/24 09:23	100
1,4-Dichlorobenzene	ND		100	46	ug/L			12/17/24 09:23	100
n-Butylbenzene	ND		100	44	ug/L			12/17/24 09:23	100
1,2-Dichlorobenzene	ND		100	46	ug/L			12/17/24 09:23	100
1,2-Dibromo-3-Chloropropane	ND		300	57	ug/L			12/17/24 09:23	100
1,2,4-Trichlorobenzene	ND		100	33	ug/L			12/17/24 09:23	100
Hexachlorobutadiene	ND		300	79	ug/L			12/17/24 09:23	100
Naphthalene	ND		300	93	ug/L			12/17/24 09:23	100
1,2,3-Trichlorobenzene	ND		200	43	ug/L			12/17/24 09:23	100
1,3,5-Trimethylbenzene	ND		100	55	ug/L			12/17/24 09:23	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/17/24 09:23*	*100*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/17/24 09:23*	*100*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/17/24 09:23*	*100*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/17/24 09:23*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**11000**		1000	440	ug/L			12/20/24 07:56	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/20/24 07:56*	*1000*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/20/24 07:56*	*1000*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*12/20/24 07:56*	*1000*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*12/20/24 07:56*	*1000*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**100**		20	9.1	ug/L			12/19/24 02:41	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**300**		7.5	2.2	mg/L			01/09/25 00:42	5

Client Sample ID: MWA-56d-121224
Lab Sample ID: 580-146567-16
Date Collected: 12/12/24 11:53
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	5.3	ug/L			12/17/24 08:37	10
Chloromethane	ND	F1	10	2.8	ug/L			12/17/24 08:37	10
Vinyl chloride	ND	F1	10	2.2	ug/L			12/17/24 08:37	10
Bromomethane	ND	F1	10	2.1	ug/L			12/17/24 08:37	10
Chloroethane	ND	F1	10	3.5	ug/L			12/17/24 08:37	10
Trichlorofluoromethane	ND	F1	10	3.6	ug/L			12/17/24 08:37	10
Carbon disulfide	ND		10	5.3	ug/L			12/17/24 08:37	10
1,1-Dichloroethene	ND		10	2.8	ug/L			12/17/24 08:37	10
Acetone	ND		150	32	ug/L			12/17/24 08:37	10
Methylene Chloride	ND		50	14	ug/L			12/17/24 08:37	10
Methyl tert-butyl ether	ND		10	4.4	ug/L			12/17/24 08:37	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			12/17/24 08:37	10
1,1-Dichloroethane	ND		10	2.2	ug/L			12/17/24 08:37	10
2-Butanone (MEK)	ND		150	47	ug/L			12/17/24 08:37	10
2,2-Dichloropropane	ND		10	3.2	ug/L			12/17/24 08:37	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			12/17/24 08:37	10
Chlorobromomethane	ND		10	2.9	ug/L			12/17/24 08:37	10
Chloroform	**160**	**F1**	10	2.6	ug/L			12/17/24 08:37	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			12/17/24 08:37	10
Carbon tetrachloride	ND		10	3.0	ug/L			12/17/24 08:37	10
1,1-Dichloropropene	ND		10	2.9	ug/L			12/17/24 08:37	10
Benzene	ND		10	2.4	ug/L			12/17/24 08:37	10
1,2-Dichloroethane	ND		10	4.2	ug/L			12/17/24 08:37	10
Trichloroethene	ND		10	2.6	ug/L			12/17/24 08:37	10
1,2-Dichloropropane	ND		10	1.8	ug/L			12/17/24 08:37	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			12/17/24 08:37	10
Dibromomethane	ND		10	3.4	ug/L			12/17/24 08:37	10
Dichlorobromomethane	ND		10	2.9	ug/L			12/17/24 08:37	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			12/17/24 08:37	10
Toluene	ND		10	3.9	ug/L			12/17/24 08:37	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			12/17/24 08:37	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			12/17/24 08:37	10
Tetrachloroethene	ND		10	4.1	ug/L			12/17/24 08:37	10
1,3-Dichloropropane	ND		10	3.5	ug/L			12/17/24 08:37	10
Chlorodibromomethane	ND		10	4.3	ug/L			12/17/24 08:37	10
Ethylene Dibromide	ND		10	4.0	ug/L			12/17/24 08:37	10
Chlorobenzene	ND		10	4.4	ug/L			12/17/24 08:37	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			12/17/24 08:37	10
Ethylbenzene	ND		10	5.0	ug/L			12/17/24 08:37	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			12/17/24 08:37	10
o-Xylene	ND		10	3.9	ug/L			12/17/24 08:37	10
Styrene	ND		10	5.3	ug/L			12/17/24 08:37	10
Bromoform	ND		10	5.1	ug/L			12/17/24 08:37	10
Isopropylbenzene	ND		10	4.4	ug/L			12/17/24 08:37	10
Bromobenzene	ND		10	4.3	ug/L			12/17/24 08:37	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			12/17/24 08:37	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			12/17/24 08:37	10
N-Propylbenzene	ND		10	5.0	ug/L			12/17/24 08:37	10
2-Chlorotoluene	ND		10	5.1	ug/L			12/17/24 08:37	10

Client Sample ID: MWA-56d-121224
Lab Sample ID: 580-146567-16
Date Collected: 12/12/24 11:53
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		10	3.8	ug/L			12/17/24 08:37	10
tert-Butylbenzene	ND		20	5.8	ug/L			12/17/24 08:37	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			12/17/24 08:37	10
sec-Butylbenzene	ND		10	4.9	ug/L			12/17/24 08:37	10
4-Isopropyltoluene	ND		10	2.8	ug/L			12/17/24 08:37	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			12/17/24 08:37	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			12/17/24 08:37	10
n-Butylbenzene	ND		10	4.4	ug/L			12/17/24 08:37	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			12/17/24 08:37	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			12/17/24 08:37	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			12/17/24 08:37	10
Hexachlorobutadiene	ND		30	7.9	ug/L			12/17/24 08:37	10
Naphthalene	ND		30	9.3	ug/L			12/17/24 08:37	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			12/17/24 08:37	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			12/17/24 08:37	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/17/24 08:37*	*10*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/17/24 08:37*	*10*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/17/24 08:37*	*10*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/17/24 08:37*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**19000**	**E**	2.0	0.91	ug/L			12/19/24 03:23	1

Method: EPA 314.0 - Perchlorate (IC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**13000**		2000	910	ug/L			12/19/24 16:47	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**12000**		1500	430	mg/L			01/09/25 01:05	1000

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-30d-121224
Lab Sample ID: 580-146567-17
Date Collected: 12/12/24 14:23
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		500	270	ug/L			12/17/24 23:24	500
Chloromethane	ND		500	140	ug/L			12/17/24 23:24	500
Vinyl chloride	ND		500	110	ug/L			12/17/24 23:24	500
Bromomethane	ND		500	110	ug/L			12/17/24 23:24	500
Chloroethane	ND		500	180	ug/L			12/17/24 23:24	500
Trichlorofluoromethane	ND		500	180	ug/L			12/17/24 23:24	500
Carbon disulfide	ND		500	270	ug/L			12/17/24 23:24	500
1,1-Dichloroethene	ND		500	140	ug/L			12/17/24 23:24	500
Acetone	ND		7500	1600	ug/L			12/17/24 23:24	500
Methylene Chloride	ND		2500	720	ug/L			12/17/24 23:24	500
Methyl tert-butyl ether	ND		500	220	ug/L			12/17/24 23:24	500
trans-1,2-Dichloroethene	ND		500	200	ug/L			12/17/24 23:24	500
1,1-Dichloroethane	ND		500	110	ug/L			12/17/24 23:24	500
2-Butanone (MEK)	ND		7500	2400	ug/L			12/17/24 23:24	500
2,2-Dichloropropane	ND		500	160	ug/L			12/17/24 23:24	500
cis-1,2-Dichloroethene	ND		500	180	ug/L			12/17/24 23:24	500
Chlorobromomethane	ND		500	150	ug/L			12/17/24 23:24	500
Chloroform	ND		500	130	ug/L			12/17/24 23:24	500
1,1,1-Trichloroethane	ND		500	200	ug/L			12/17/24 23:24	500
Carbon tetrachloride	ND		500	150	ug/L			12/17/24 23:24	500
1,1-Dichloropropene	ND		500	150	ug/L			12/17/24 23:24	500
Benzene	ND		500	120	ug/L			12/17/24 23:24	500
1,2-Dichloroethane	ND		500	210	ug/L			12/17/24 23:24	500
Trichloroethene	ND		500	130	ug/L			12/17/24 23:24	500
1,2-Dichloropropane	ND		500	90	ug/L			12/17/24 23:24	500
4-Methyl-2-pentanone (MIBK)	ND		2500	1300	ug/L			12/17/24 23:24	500
Dibromomethane	ND		500	170	ug/L			12/17/24 23:24	500
Dichlorobromomethane	ND		500	150	ug/L			12/17/24 23:24	500
cis-1,3-Dichloropropene	ND		500	210	ug/L			12/17/24 23:24	500
Toluene	ND		500	200	ug/L			12/17/24 23:24	500
trans-1,3-Dichloropropene	ND		500	210	ug/L			12/17/24 23:24	500
1,1,2-Trichloroethane	ND		500	120	ug/L			12/17/24 23:24	500
Tetrachloroethene	ND		500	210	ug/L			12/17/24 23:24	500
1,3-Dichloropropane	ND		500	180	ug/L			12/17/24 23:24	500
Chlorodibromomethane	ND		500	220	ug/L			12/17/24 23:24	500
Ethylene Dibromide	ND		500	200	ug/L			12/17/24 23:24	500
Chlorobenzene	**7000**		500	220	ug/L			12/17/24 23:24	500
1,1,1,2-Tetrachloroethane	ND		500	90	ug/L			12/17/24 23:24	500
Ethylbenzene	ND		500	250	ug/L			12/17/24 23:24	500
m-Xylene & p-Xylene	ND		1000	270	ug/L			12/17/24 23:24	500
o-Xylene	ND		500	200	ug/L			12/17/24 23:24	500
Styrene	ND		500	270	ug/L			12/17/24 23:24	500
Bromoform	ND		500	260	ug/L			12/17/24 23:24	500
Isopropylbenzene	ND		500	220	ug/L			12/17/24 23:24	500
Bromobenzene	ND		500	220	ug/L			12/17/24 23:24	500
1,1,2,2-Tetrachloroethane	ND		500	260	ug/L			12/17/24 23:24	500
1,2,3-Trichloropropane	ND		500	210	ug/L			12/17/24 23:24	500
N-Propylbenzene	ND		500	250	ug/L			12/17/24 23:24	500
2-Chlorotoluene	ND		500	260	ug/L			12/17/24 23:24	500

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-30d-121224
Lab Sample ID: 580-146567-17
Date Collected: 12/12/24 14:23
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		500	190	ug/L			12/17/24 23:24	500
tert-Butylbenzene	ND		1000	290	ug/L			12/17/24 23:24	500
1,2,4-Trimethylbenzene	ND		1500	310	ug/L			12/17/24 23:24	500
sec-Butylbenzene	ND		500	250	ug/L			12/17/24 23:24	500
4-Isopropyltoluene	ND		500	140	ug/L			12/17/24 23:24	500
1,3-Dichlorobenzene	ND		500	240	ug/L			12/17/24 23:24	500
1,4-Dichlorobenzene	ND		500	230	ug/L			12/17/24 23:24	500
n-Butylbenzene	ND		500	220	ug/L			12/17/24 23:24	500
1,2-Dichlorobenzene	ND		500	230	ug/L			12/17/24 23:24	500
1,2-Dibromo-3-Chloropropane	ND		1500	290	ug/L			12/17/24 23:24	500
1,2,4-Trichlorobenzene	ND		500	170	ug/L			12/17/24 23:24	500
Hexachlorobutadiene	ND		1500	400	ug/L			12/17/24 23:24	500
Naphthalene	ND		1500	470	ug/L			12/17/24 23:24	500
1,2,3-Trichlorobenzene	ND		1000	220	ug/L			12/17/24 23:24	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			12/17/24 23:24	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/17/24 23:24*	*500*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*12/17/24 23:24*	*500*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/17/24 23:24*	*500*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/17/24 23:24*	*500*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	91	ug/L			12/19/24 05:27	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**250**		150	43	mg/L			01/09/25 10:39	100

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-11i(d)-121224
Lab Sample ID: 580-146567-18
Date Collected: 12/12/24 13:54
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/24 00:11	1
Chloromethane	ND		0.50	0.14	ug/L			12/18/24 00:11	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/18/24 00:11	1
Bromomethane	ND		0.50	0.13	ug/L			12/18/24 00:11	1
Chloroethane	ND		0.50	0.24	ug/L			12/18/24 00:11	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/18/24 00:11	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/18/24 00:11	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/18/24 00:11	1
Acetone	ND		10	3.1	ug/L			12/18/24 00:11	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/18/24 00:11	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/18/24 00:11	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/18/24 00:11	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/18/24 00:11	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/18/24 00:11	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/18/24 00:11	1
cis-1,2-Dichloroethene	**0.13**	**J**	0.20	0.055	ug/L			12/18/24 00:11	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/18/24 00:11	1
Chloroform	ND		0.20	0.030	ug/L			12/18/24 00:11	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/18/24 00:11	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/18/24 00:11	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/18/24 00:11	1
Benzene	**0.12**	**J B**	0.20	0.030	ug/L			12/18/24 00:11	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/18/24 00:11	1
Trichloroethene	ND		0.20	0.066	ug/L			12/18/24 00:11	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/18/24 00:11	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/18/24 00:11	1
Dibromomethane	ND		0.20	0.062	ug/L			12/18/24 00:11	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/18/24 00:11	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/18/24 00:11	1
Toluene	ND		0.20	0.050	ug/L			12/18/24 00:11	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/18/24 00:11	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/18/24 00:11	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/18/24 00:11	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/18/24 00:11	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/18/24 00:11	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/18/24 00:11	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/18/24 00:11	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/18/24 00:11	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/18/24 00:11	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/18/24 00:11	1
o-Xylene	ND		0.50	0.23	ug/L			12/18/24 00:11	1
Styrene	ND		1.0	0.33	ug/L			12/18/24 00:11	1
Bromoform	ND		0.50	0.16	ug/L			12/18/24 00:11	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/18/24 00:11	1
Bromobenzene	ND		0.20	0.038	ug/L			12/18/24 00:11	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/18/24 00:11	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/18/24 00:11	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/18/24 00:11	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/18/24 00:11	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-11i(d)-121224
Lab Sample ID: 580-146567-18
Date Collected: 12/12/24 13:54
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/18/24 00:11	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/18/24 00:11	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/18/24 00:11	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/18/24 00:11	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/18/24 00:11	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/18/24 00:11	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/18/24 00:11	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/18/24 00:11	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/18/24 00:11	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/18/24 00:11	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/18/24 00:11	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/18/24 00:11	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/18/24 00:11	1
Naphthalene	ND		1.5	0.52	ug/L			12/18/24 00:11	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/18/24 00:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*12/18/24 00:11*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/18/24 00:11*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*12/18/24 00:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/18/24 00:11*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/19/24 06:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**570**		150	43	mg/L			01/09/25 10:51	100

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: RB-02-121224
Lab Sample ID: 580-146567-19
Date Collected: 12/12/24 06:00
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/17/24 02:50	1
Chloromethane	ND		1.0	0.28	ug/L			12/17/24 02:50	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/17/24 02:50	1
Bromomethane	ND		1.0	0.21	ug/L			12/17/24 02:50	1
Chloroethane	ND		1.0	0.35	ug/L			12/17/24 02:50	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/17/24 02:50	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/17/24 02:50	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/17/24 02:50	1
Acetone	ND		15	3.2	ug/L			12/17/24 02:50	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/17/24 02:50	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/17/24 02:50	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/17/24 02:50	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/17/24 02:50	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/17/24 02:50	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/17/24 02:50	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/17/24 02:50	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 02:50	1
Chloroform	ND		1.0	0.26	ug/L			12/17/24 02:50	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/17/24 02:50	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/17/24 02:50	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/17/24 02:50	1
Benzene	ND		1.0	0.24	ug/L			12/17/24 02:50	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/17/24 02:50	1
Trichloroethene	ND		1.0	0.26	ug/L			12/17/24 02:50	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/17/24 02:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/17/24 02:50	1
Dibromomethane	ND		1.0	0.34	ug/L			12/17/24 02:50	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 02:50	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/17/24 02:50	1
Toluene	ND		1.0	0.39	ug/L			12/17/24 02:50	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/17/24 02:50	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/17/24 02:50	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/17/24 02:50	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/17/24 02:50	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/17/24 02:50	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/17/24 02:50	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/17/24 02:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/17/24 02:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/17/24 02:50	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/17/24 02:50	1
o-Xylene	ND		1.0	0.39	ug/L			12/17/24 02:50	1
Styrene	ND		1.0	0.53	ug/L			12/17/24 02:50	1
Bromoform	ND		1.0	0.51	ug/L			12/17/24 02:50	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/17/24 02:50	1
Bromobenzene	ND		1.0	0.43	ug/L			12/17/24 02:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/17/24 02:50	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/17/24 02:50	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/17/24 02:50	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/17/24 02:50	1

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: RB-02-121224
Lab Sample ID: 580-146567-19
Date Collected: 12/12/24 06:00
Matrix: Water
Date Received: 12/13/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/17/24 02:50	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/17/24 02:50	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/17/24 02:50	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/17/24 02:50	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/17/24 02:50	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/17/24 02:50	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 02:50	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/17/24 02:50	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 02:50	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/17/24 02:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/17/24 02:50	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/17/24 02:50	1
Naphthalene	ND		3.0	0.93	ug/L			12/17/24 02:50	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/17/24 02:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/17/24 02:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/17/24 02:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/17/24 02:50*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/17/24 02:50*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*12/17/24 02:50*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/19/24 06:50	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			01/09/25 11:03	1

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

Lab Sample ID: MB 580-480564/7
Matrix: Water
Analysis Batch: 480564

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/16/24 14:28	1
Chloromethane	ND		0.50	0.14	ug/L			12/16/24 14:28	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/16/24 14:28	1
Bromomethane	ND		0.50	0.13	ug/L			12/16/24 14:28	1
Chloroethane	ND		0.50	0.24	ug/L			12/16/24 14:28	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/16/24 14:28	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/16/24 14:28	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/16/24 14:28	1
Acetone	ND		10	3.1	ug/L			12/16/24 14:28	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/16/24 14:28	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/16/24 14:28	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/16/24 14:28	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/16/24 14:28	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/16/24 14:28	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/16/24 14:28	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/16/24 14:28	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/16/24 14:28	1
Chloroform	ND		0.20	0.030	ug/L			12/16/24 14:28	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/16/24 14:28	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/16/24 14:28	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/16/24 14:28	1
Benzene	ND		0.20	0.030	ug/L			12/16/24 14:28	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/16/24 14:28	1
Trichloroethene	ND		0.20	0.066	ug/L			12/16/24 14:28	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/16/24 14:28	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/16/24 14:28	1
Dibromomethane	ND		0.20	0.062	ug/L			12/16/24 14:28	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/16/24 14:28	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/16/24 14:28	1
Toluene	ND		0.20	0.050	ug/L			12/16/24 14:28	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/16/24 14:28	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/16/24 14:28	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/16/24 14:28	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/16/24 14:28	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/16/24 14:28	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/16/24 14:28	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/16/24 14:28	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/16/24 14:28	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/16/24 14:28	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/16/24 14:28	1
o-Xylene	ND		0.50	0.23	ug/L			12/16/24 14:28	1
Styrene	ND		1.0	0.33	ug/L			12/16/24 14:28	1
Bromoform	ND		0.50	0.16	ug/L			12/16/24 14:28	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/16/24 14:28	1
Bromobenzene	ND		0.20	0.038	ug/L			12/16/24 14:28	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/16/24 14:28	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/16/24 14:28	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/16/24 14:28	1

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

Lab Sample ID: MB 580-480564/7
Matrix: Water
Analysis Batch: 480564

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/16/24 14:28	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/16/24 14:28	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/16/24 14:28	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/16/24 14:28	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/16/24 14:28	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/16/24 14:28	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/16/24 14:28	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/16/24 14:28	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/16/24 14:28	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/16/24 14:28	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/16/24 14:28	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/16/24 14:28	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/16/24 14:28	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/16/24 14:28	1
Naphthalene	ND		1.5	0.52	ug/L			12/16/24 14:28	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/16/24 14:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/16/24 14:28*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/16/24 14:28*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/16/24 14:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/16/24 14:28*	*1*

Lab Sample ID: LCS 580-480564/4
Matrix: Water
Analysis Batch: 480564

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	4.15		ug/L		83	20 - 150
Chloromethane	5.00	3.85		ug/L		77	32 - 150
Vinyl chloride	5.00	4.68		ug/L		94	41 - 150
Bromomethane	5.00	4.74		ug/L		95	51 - 148
Chloroethane	5.00	4.65		ug/L		93	54 - 140
Carbon disulfide	5.00	4.14		ug/L		83	54 - 142
Trichlorofluoromethane	5.00	4.66		ug/L		93	60 - 132
1,1-Dichloroethene	5.00	4.29		ug/L		86	60 - 129
Acetone	25.0	29.0		ug/L		116	49 - 150
Methylene Chloride	5.00	4.71	J	ug/L		94	40 - 142
Methyl tert-butyl ether	5.00	5.17		ug/L		103	61 - 131
2-Butanone (MEK)	25.0	29.5		ug/L		118	37 - 150
trans-1,2-Dichloroethene	5.00	4.50		ug/L		90	69 - 121
1,1-Dichloroethane	5.00	4.49		ug/L		90	74 - 120
2,2-Dichloropropane	5.00	5.01		ug/L		100	55 - 140
cis-1,2-Dichloroethene	5.00	4.54		ug/L		91	72 - 120
Chlorobromomethane	5.00	4.58		ug/L		92	79 - 121
Chloroform	5.00	4.51		ug/L		90	75 - 120
1,1,1-Trichloroethane	5.00	4.69		ug/L		94	70 - 121
Carbon tetrachloride	5.00	4.68		ug/L		94	66 - 130

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

Lab Sample ID: LCS 580-480564/4
Matrix: Water
Analysis Batch: 480564

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloropropene	5.00	4.75		ug/L		95	72 - 125
Benzene	5.00	4.57		ug/L		91	80 - 120
1,2-Dichloroethane	5.00	4.67		ug/L		93	74 - 127
Trichloroethene	5.00	4.58		ug/L		92	72 - 120
1,2-Dichloropropane	5.00	4.80		ug/L		96	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	25.2		ug/L		101	63 - 137
Dibromomethane	5.00	5.01		ug/L		100	65 - 141
Dichlorobromomethane	5.00	4.93		ug/L		99	74 - 131
cis-1,3-Dichloropropene	5.00	4.48		ug/L		90	77 - 131
Toluene	5.00	4.35		ug/L		87	80 - 126
trans-1,3-Dichloropropene	5.00	5.14		ug/L		103	71 - 138
1,1,2-Trichloroethane	5.00	4.87		ug/L		97	73 - 127
Tetrachloroethene	5.00	4.54		ug/L		91	75 - 124
1,3-Dichloropropane	5.00	4.79		ug/L		96	69 - 138
Chlorodibromomethane	5.00	5.04		ug/L		101	62 - 141
Ethylene Dibromide	5.00	4.72		ug/L		94	61 - 143
Chlorobenzene	5.00	4.50		ug/L		90	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.91		ug/L		98	69 - 127
Ethylbenzene	5.00	4.46		ug/L		89	80 - 124
m-Xylene & p-Xylene	5.00	4.34		ug/L		87	75 - 124
o-Xylene	5.00	4.47		ug/L		89	71 - 124
Styrene	5.00	4.75		ug/L		95	74 - 127
Bromoform	5.00	4.62		ug/L		92	48 - 127
Isopropylbenzene	5.00	4.91		ug/L		98	71 - 123
Bromobenzene	5.00	4.50		ug/L		90	74 - 130
1,1,2,2-Tetrachloroethane	5.00	5.09		ug/L		102	67 - 136
1,2,3-Trichloropropane	5.00	4.91		ug/L		98	67 - 135
N-Propylbenzene	5.00	4.46		ug/L		89	72 - 126
2-Chlorotoluene	5.00	4.41		ug/L		88	73 - 120
4-Chlorotoluene	5.00	4.58		ug/L		92	75 - 124
1,3,5-Trimethylbenzene	5.00	4.56		ug/L		91	75 - 123
tert-Butylbenzene	5.00	4.43		ug/L		89	70 - 129
1,2,4-Trimethylbenzene	5.00	4.56		ug/L		91	71 - 127
sec-Butylbenzene	5.00	4.46		ug/L		89	75 - 126
4-Isopropyltoluene	5.00	4.45		ug/L		89	78 - 125
1,3-Dichlorobenzene	5.00	4.50		ug/L		90	72 - 125
1,4-Dichlorobenzene	5.00	4.59		ug/L		92	71 - 129
n-Butylbenzene	5.00	4.45		ug/L		89	69 - 127
1,2-Dichlorobenzene	5.00	4.62		ug/L		92	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.79		ug/L		96	55 - 135
1,2,4-Trichlorobenzene	5.00	4.90		ug/L		98	60 - 130
Hexachlorobutadiene	5.00	4.83		ug/L		97	63 - 130
Naphthalene	5.00	4.64		ug/L		93	54 - 137
1,2,3-Trichlorobenzene	5.00	4.86		ug/L		97	60 - 136

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

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

Lab Sample ID: LCS 580-480564/4
Matrix: Water
Analysis Batch: 480564

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

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

Lab Sample ID: LCSD 580-480564/5
Matrix: Water
Analysis Batch: 480564

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	4.28		ug/L		86	20 - 150	3	30
Chloromethane			5.00	4.10		ug/L		82	32 - 150	6	33
Vinyl chloride			5.00	5.02		ug/L		100	41 - 150	7	32
Bromomethane			5.00	4.97		ug/L		99	51 - 148	5	35
Chloroethane			5.00	4.81		ug/L		96	54 - 140	3	33
Carbon disulfide			5.00	4.36		ug/L		87	54 - 142	5	34
Trichlorofluoromethane			5.00	4.95		ug/L		99	60 - 132	6	32
1,1-Dichloroethene			5.00	4.56		ug/L		91	60 - 129	6	29
Acetone			25.0	29.7		ug/L		119	49 - 150	2	24
Methylene Chloride			5.00	5.08		ug/L		102	40 - 142	8	25
Methyl tert-butyl ether			5.00	5.47		ug/L		109	61 - 131	6	27
2-Butanone (MEK)			25.0	30.7		ug/L		123	37 - 150	4	35
trans-1,2-Dichloroethene			5.00	4.76		ug/L		95	69 - 121	6	27
1,1-Dichloroethane			5.00	4.92		ug/L		98	74 - 120	9	26
2,2-Dichloropropane			5.00	5.29		ug/L		106	55 - 140	5	31
cis-1,2-Dichloroethene			5.00	4.87		ug/L		97	72 - 120	7	22
Chlorobromomethane			5.00	4.90		ug/L		98	79 - 121	7	20
Chloroform			5.00	4.81		ug/L		96	75 - 120	6	21
1,1,1-Trichloroethane			5.00	5.00		ug/L		100	70 - 121	6	24
Carbon tetrachloride			5.00	5.00		ug/L		100	66 - 130	7	24
1,1-Dichloropropene			5.00	5.00		ug/L		100	72 - 125	5	23
Benzene			5.00	4.92		ug/L		98	80 - 120	7	22
1,2-Dichloroethane			5.00	4.92		ug/L		98	74 - 127	5	21
Trichloroethene			5.00	4.86		ug/L		97	72 - 120	6	22
1,2-Dichloropropane			5.00	5.18		ug/L		104	69 - 130	8	22
4-Methyl-2-pentanone (MIBK)			25.0	26.1		ug/L		104	63 - 137	3	26
Dibromomethane			5.00	5.23		ug/L		105	65 - 141	4	22
Dichlorobromomethane			5.00	5.31		ug/L		106	74 - 131	7	21
cis-1,3-Dichloropropene			5.00	4.77		ug/L		95	77 - 131	6	24
Toluene			5.00	4.66		ug/L		93	80 - 126	7	20
trans-1,3-Dichloropropene			5.00	5.37		ug/L		107	71 - 138	4	26
1,1,2-Trichloroethane			5.00	5.23		ug/L		105	73 - 127	7	22
Tetrachloroethene			5.00	4.83		ug/L		97	75 - 124	6	20
1,3-Dichloropropane			5.00	5.08		ug/L		102	69 - 138	6	19
Chlorodibromomethane			5.00	5.32		ug/L		106	62 - 141	5	22
Ethylene Dibromide			5.00	4.96		ug/L		99	61 - 143	5	22
Chlorobenzene			5.00	4.86		ug/L		97	74 - 123	8	21
1,1,1,2-Tetrachloroethane			5.00	5.16		ug/L		103	69 - 127	5	22
Ethylbenzene			5.00	4.78		ug/L		96	80 - 124	7	22
m-Xylene & p-Xylene			5.00	4.74		ug/L		95	75 - 124	9	22

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

Lab Sample ID: LCSD 580-480564/5
Matrix: Water
Analysis Batch: 480564

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
o-Xylene			5.00	4.77		ug/L		95	71 - 124	7	23
Styrene			5.00	5.03		ug/L		101	74 - 127	6	22
Bromoform			5.00	4.84		ug/L		97	48 - 127	5	23
Isopropylbenzene			5.00	5.27		ug/L		105	71 - 123	7	23
Bromobenzene			5.00	4.88		ug/L		98	74 - 130	8	23
1,1,2,2-Tetrachloroethane			5.00	5.36		ug/L		107	67 - 136	5	24
1,2,3-Trichloropropane			5.00	5.41		ug/L		108	67 - 135	10	25
N-Propylbenzene			5.00	4.80		ug/L		96	72 - 126	7	20
2-Chlorotoluene			5.00	4.87		ug/L		97	73 - 120	10	22
4-Chlorotoluene			5.00	4.93		ug/L		99	75 - 124	7	23
1,3,5-Trimethylbenzene			5.00	4.99		ug/L		100	75 - 123	9	23
tert-Butylbenzene			5.00	4.80		ug/L		96	70 - 129	8	24
1,2,4-Trimethylbenzene			5.00	5.00		ug/L		100	71 - 127	9	23
sec-Butylbenzene			5.00	4.79		ug/L		96	75 - 126	7	23
4-Isopropyltoluene			5.00	4.82		ug/L		96	78 - 125	8	24
1,3-Dichlorobenzene			5.00	4.82		ug/L		96	72 - 125	7	22
1,4-Dichlorobenzene			5.00	4.87		ug/L		97	71 - 129	6	22
n-Butylbenzene			5.00	4.79		ug/L		96	69 - 127	7	24
1,2-Dichlorobenzene			5.00	4.92		ug/L		98	72 - 129	6	22
1,2-Dibromo-3-Chloropropane			5.00	5.23		ug/L		105	55 - 135	9	29
1,2,4-Trichlorobenzene			5.00	5.13		ug/L		103	60 - 130	5	26
Hexachlorobutadiene			5.00	5.14		ug/L		103	63 - 130	6	26
Naphthalene			5.00	4.91		ug/L		98	54 - 137	6	28
1,2,3-Trichlorobenzene			5.00	5.14		ug/L		103	60 - 136	6	28

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

Lab Sample ID: MB 580-480648/7
Matrix: Water
Analysis Batch: 480648

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/17/24 01:40	1
Chloromethane	ND		0.50	0.14	ug/L			12/17/24 01:40	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/17/24 01:40	1
Bromomethane	ND		0.50	0.13	ug/L			12/17/24 01:40	1
Chloroethane	ND		0.50	0.24	ug/L			12/17/24 01:40	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/17/24 01:40	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/17/24 01:40	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/17/24 01:40	1
Acetone	ND		10	3.1	ug/L			12/17/24 01:40	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/17/24 01:40	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/17/24 01:40	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/17/24 01:40	1

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

Lab Sample ID: MB 580-480648/7
Matrix: Water
Analysis Batch: 480648

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/17/24 01:40	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/17/24 01:40	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/17/24 01:40	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/17/24 01:40	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/17/24 01:40	1
Chloroform	ND		0.20	0.030	ug/L			12/17/24 01:40	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/17/24 01:40	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/17/24 01:40	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/17/24 01:40	1
Benzene	ND		0.20	0.030	ug/L			12/17/24 01:40	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/17/24 01:40	1
Trichloroethene	ND		0.20	0.066	ug/L			12/17/24 01:40	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/17/24 01:40	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/17/24 01:40	1
Dibromomethane	ND		0.20	0.062	ug/L			12/17/24 01:40	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/17/24 01:40	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/17/24 01:40	1
Toluene	ND		0.20	0.050	ug/L			12/17/24 01:40	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/17/24 01:40	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/17/24 01:40	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/17/24 01:40	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/17/24 01:40	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/17/24 01:40	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/17/24 01:40	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/17/24 01:40	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/17/24 01:40	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/17/24 01:40	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/17/24 01:40	1
o-Xylene	ND		0.50	0.23	ug/L			12/17/24 01:40	1
Styrene	ND		1.0	0.33	ug/L			12/17/24 01:40	1
Bromoform	ND		0.50	0.16	ug/L			12/17/24 01:40	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/17/24 01:40	1
Bromobenzene	ND		0.20	0.038	ug/L			12/17/24 01:40	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/17/24 01:40	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/17/24 01:40	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/17/24 01:40	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/17/24 01:40	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/17/24 01:40	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/17/24 01:40	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/17/24 01:40	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/17/24 01:40	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/17/24 01:40	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/17/24 01:40	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 01:40	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 01:40	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/17/24 01:40	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/17/24 01:40	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/17/24 01:40	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/17/24 01:40	1

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

Lab Sample ID: MB 580-480648/7
Matrix: Water
Analysis Batch: 480648

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	0.16	ug/L			12/17/24 01:40	1
Naphthalene	ND		1.5	0.52	ug/L			12/17/24 01:40	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/17/24 01:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/17/24 01:40*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*12/17/24 01:40*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/17/24 01:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/17/24 01:40*	*1*

Lab Sample ID: LCS 580-480648/4
Matrix: Water
Analysis Batch: 480648

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	4.22		ug/L		84	20 - 150
Chloromethane	5.00	3.91		ug/L		78	32 - 150
Vinyl chloride	5.00	5.05		ug/L		101	41 - 150
Bromomethane	5.00	4.69		ug/L		94	51 - 148
Chloroethane	5.00	4.66		ug/L		93	54 - 140
Carbon disulfide	5.00	4.35		ug/L		87	54 - 142
Trichlorofluoromethane	5.00	4.89		ug/L		98	60 - 132
1,1-Dichloroethene	5.00	4.64		ug/L		93	60 - 129
Acetone	25.0	27.8		ug/L		111	49 - 150
Methylene Chloride	5.00	4.93	J	ug/L		99	40 - 142
Methyl tert-butyl ether	5.00	4.81		ug/L		96	61 - 131
2-Butanone (MEK)	25.0	25.9		ug/L		104	37 - 150
trans-1,2-Dichloroethene	5.00	4.68		ug/L		94	69 - 121
1,1-Dichloroethane	5.00	4.67		ug/L		93	74 - 120
2,2-Dichloropropane	5.00	4.39		ug/L		88	55 - 140
cis-1,2-Dichloroethene	5.00	4.62		ug/L		92	72 - 120
Chlorobromomethane	5.00	4.75		ug/L		95	79 - 121
Chloroform	5.00	4.64		ug/L		93	75 - 120
1,1,1-Trichloroethane	5.00	4.90		ug/L		98	70 - 121
Carbon tetrachloride	5.00	4.75		ug/L		95	66 - 130
1,1-Dichloropropene	5.00	4.59		ug/L		92	72 - 125
Benzene	5.00	4.59		ug/L		92	80 - 120
1,2-Dichloroethane	5.00	4.63		ug/L		93	74 - 127
Trichloroethene	5.00	4.76		ug/L		95	72 - 120
1,2-Dichloropropane	5.00	4.63		ug/L		93	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	23.2		ug/L		93	63 - 137
Dibromomethane	5.00	4.98		ug/L		100	65 - 141
Dichlorobromomethane	5.00	4.82		ug/L		96	74 - 131
cis-1,3-Dichloropropene	5.00	4.15		ug/L		83	77 - 131
Toluene	5.00	4.33		ug/L		87	80 - 126
trans-1,3-Dichloropropene	5.00	4.66		ug/L		93	71 - 138
1,1,2-Trichloroethane	5.00	4.49		ug/L		90	73 - 127
Tetrachloroethene	5.00	4.56		ug/L		91	75 - 124

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

Lab Sample ID: LCS 580-480648/4
Matrix: Water
Analysis Batch: 480648

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichloropropane	5.00	4.68		ug/L		94	69 - 138
Chlorodibromomethane	5.00	4.83		ug/L		97	62 - 141
Ethylene Dibromide	5.00	4.48		ug/L		90	61 - 143
Chlorobenzene	5.00	4.53		ug/L		91	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.52		ug/L		90	69 - 127
Ethylbenzene	5.00	4.53		ug/L		91	80 - 124
m-Xylene & p-Xylene	5.00	4.49		ug/L		90	75 - 124
o-Xylene	5.00	4.63		ug/L		93	71 - 124
Styrene	5.00	4.78		ug/L		96	74 - 127
Bromoform	5.00	4.33		ug/L		87	48 - 127
Isopropylbenzene	5.00	5.08		ug/L		102	71 - 123
Bromobenzene	5.00	4.59		ug/L		92	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.58		ug/L		92	67 - 136
1,2,3-Trichloropropane	5.00	4.74		ug/L		95	67 - 135
N-Propylbenzene	5.00	4.51		ug/L		90	72 - 126
2-Chlorotoluene	5.00	4.50		ug/L		90	73 - 120
4-Chlorotoluene	5.00	4.64		ug/L		93	75 - 124
1,3,5-Trimethylbenzene	5.00	4.63		ug/L		93	75 - 123
tert-Butylbenzene	5.00	4.56		ug/L		91	70 - 129
1,2,4-Trimethylbenzene	5.00	4.56		ug/L		91	71 - 127
sec-Butylbenzene	5.00	4.55		ug/L		91	75 - 126
4-Isopropyltoluene	5.00	4.49		ug/L		90	78 - 125
1,3-Dichlorobenzene	5.00	4.57		ug/L		91	72 - 125
1,4-Dichlorobenzene	5.00	4.55		ug/L		91	71 - 129
n-Butylbenzene	5.00	4.47		ug/L		89	69 - 127
1,2-Dichlorobenzene	5.00	4.68		ug/L		94	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.64		ug/L		93	55 - 135
1,2,4-Trichlorobenzene	5.00	4.85		ug/L		97	60 - 130
Hexachlorobutadiene	5.00	4.76		ug/L		95	63 - 130
Naphthalene	5.00	4.51		ug/L		90	54 - 137
1,2,3-Trichlorobenzene	5.00	4.90		ug/L		98	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-480648/5
Matrix: Water
Analysis Batch: 480648

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	4.24		ug/L		85	20 - 150	0	30
Chloromethane	5.00	3.95		ug/L		79	32 - 150	1	33
Vinyl chloride	5.00	4.93		ug/L		99	41 - 150	2	32
Bromomethane	5.00	4.69		ug/L		94	51 - 148	0	35
Chloroethane	5.00	4.79		ug/L		96	54 - 140	3	33

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

Lab Sample ID: LCSD 580-480648/5
Matrix: Water
Analysis Batch: 480648

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	4.36		ug/L		87	54 - 142	0	34
Trichlorofluoromethane	5.00	4.94		ug/L		99	60 - 132	1	32
1,1-Dichloroethene	5.00	4.61		ug/L		92	60 - 129	1	29
Acetone	25.0	28.2		ug/L		113	49 - 150	1	24
Methylene Chloride	5.00	5.01		ug/L		100	40 - 142	2	25
Methyl tert-butyl ether	5.00	4.87		ug/L		97	61 - 131	1	27
2-Butanone (MEK)	25.0	26.4		ug/L		106	37 - 150	2	35
trans-1,2-Dichloroethene	5.00	4.61		ug/L		92	69 - 121	2	27
1,1-Dichloroethane	5.00	4.83		ug/L		97	74 - 120	3	26
2,2-Dichloropropane	5.00	4.31		ug/L		86	55 - 140	2	31
cis-1,2-Dichloroethene	5.00	4.71		ug/L		94	72 - 120	2	22
Chlorobromomethane	5.00	4.88		ug/L		98	79 - 121	3	20
Chloroform	5.00	4.70		ug/L		94	75 - 120	1	21
1,1,1-Trichloroethane	5.00	4.87		ug/L		97	70 - 121	1	24
Carbon tetrachloride	5.00	4.91		ug/L		98	66 - 130	3	24
1,1-Dichloropropene	5.00	4.69		ug/L		94	72 - 125	2	23
Benzene	5.00	4.68		ug/L		94	80 - 120	2	22
1,2-Dichloroethane	5.00	4.68		ug/L		94	74 - 127	1	21
Trichloroethene	5.00	4.86		ug/L		97	72 - 120	2	22
1,2-Dichloropropane	5.00	4.80		ug/L		96	69 - 130	4	22
4-Methyl-2-pentanone (MIBK)	25.0	22.5		ug/L		90	63 - 137	3	26
Dibromomethane	5.00	5.03		ug/L		101	65 - 141	1	22
Dichlorobromomethane	5.00	4.91		ug/L		98	74 - 131	2	21
cis-1,3-Dichloropropene	5.00	4.12		ug/L		82	77 - 131	1	24
Toluene	5.00	4.32		ug/L		86	80 - 126	0	20
trans-1,3-Dichloropropene	5.00	4.64		ug/L		93	71 - 138	0	26
1,1,2-Trichloroethane	5.00	4.50		ug/L		90	73 - 127	0	22
Tetrachloroethene	5.00	4.55		ug/L		91	75 - 124	0	20
1,3-Dichloropropane	5.00	4.67		ug/L		93	69 - 138	0	19
Chlorodibromomethane	5.00	4.80		ug/L		96	62 - 141	1	22
Ethylene Dibromide	5.00	4.45		ug/L		89	61 - 143	1	22
Chlorobenzene	5.00	4.53		ug/L		91	74 - 123	0	21
1,1,1,2-Tetrachloroethane	5.00	4.60		ug/L		92	69 - 127	2	22
Ethylbenzene	5.00	4.45		ug/L		89	80 - 124	2	22
m-Xylene & p-Xylene	5.00	4.45		ug/L		89	75 - 124	1	22
o-Xylene	5.00	4.54		ug/L		91	71 - 124	2	23
Styrene	5.00	4.71		ug/L		94	74 - 127	1	22
Bromoform	5.00	4.34		ug/L		87	48 - 127	0	23
Isopropylbenzene	5.00	5.01		ug/L		100	71 - 123	1	23
Bromobenzene	5.00	4.57		ug/L		91	74 - 130	0	23
1,1,2,2-Tetrachloroethane	5.00	4.39		ug/L		88	67 - 136	4	24
1,2,3-Trichloropropane	5.00	4.80		ug/L		96	67 - 135	1	25
N-Propylbenzene	5.00	4.55		ug/L		91	72 - 126	1	20
2-Chlorotoluene	5.00	4.55		ug/L		91	73 - 120	1	22
4-Chlorotoluene	5.00	4.61		ug/L		92	75 - 124	1	23
1,3,5-Trimethylbenzene	5.00	4.56		ug/L		91	75 - 123	1	23
tert-Butylbenzene	5.00	4.54		ug/L		91	70 - 129	1	24
1,2,4-Trimethylbenzene	5.00	4.55		ug/L		91	71 - 127	0	23
sec-Butylbenzene	5.00	4.49		ug/L		90	75 - 126	1	23

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

Lab Sample ID: LCSD 580-480648/5
Matrix: Water
Analysis Batch: 480648

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4-Isopropyltoluene			5.00	4.53		ug/L		91	78 - 125	1	24
1,3-Dichlorobenzene			5.00	4.63		ug/L		93	72 - 125	1	22
1,4-Dichlorobenzene			5.00	4.52		ug/L		90	71 - 129	1	22
n-Butylbenzene			5.00	4.33		ug/L		87	69 - 127	3	24
1,2-Dichlorobenzene			5.00	4.65		ug/L		93	72 - 129	0	22
1,2-Dibromo-3-Chloropropane			5.00	4.71		ug/L		94	55 - 135	2	29
1,2,4-Trichlorobenzene			5.00	4.84		ug/L		97	60 - 130	0	26
Hexachlorobutadiene			5.00	4.60		ug/L		92	63 - 130	3	26
Naphthalene			5.00	4.43		ug/L		89	54 - 137	2	28
1,2,3-Trichlorobenzene			5.00	4.74		ug/L		95	60 - 136	3	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*

Lab Sample ID: 580-146567-16 MS
Matrix: Water
Analysis Batch: 480648

Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		50.0	54.5		ug/L		109	20 - 150
Chloromethane	ND	F1	50.0	49.3		ug/L		99	25 - 150
Vinyl chloride	ND	F1	50.0	62.7		ug/L		125	31 - 150
Bromomethane	ND	F1	50.0	54.1		ug/L		108	36 - 150
Chloroethane	ND	F1	50.0	58.4		ug/L		117	38 - 150
Trichlorofluoromethane	ND	F1	50.0	61.4		ug/L		123	45 - 148
Carbon disulfide	ND		50.0	50.8		ug/L		102	63 - 134
1,1-Dichloroethene	ND		50.0	52.9		ug/L		106	70 - 129
Acetone	ND		250	249		ug/L		99	44 - 150
Methylene Chloride	ND		50.0	54.2		ug/L		108	77 - 125
Methyl tert-butyl ether	ND		50.0	51.0		ug/L		102	72 - 120
trans-1,2-Dichloroethene	ND		50.0	52.7		ug/L		105	75 - 120
1,1-Dichloroethane	ND		50.0	53.2		ug/L		106	80 - 120
2-Butanone (MEK)	ND		250	261		ug/L		104	65 - 137
2,2-Dichloropropane	ND		50.0	39.7		ug/L		79	66 - 126
cis-1,2-Dichloroethene	ND		50.0	51.8		ug/L		104	76 - 120
Chlorobromomethane	ND		50.0	52.2		ug/L		104	78 - 120
Chloroform	160	F1	50.0	187	F1	ug/L		53	78 - 127
1,1,1-Trichloroethane	ND		50.0	54.7		ug/L		109	74 - 130
Carbon tetrachloride	ND		50.0	56.2		ug/L		112	72 - 129
1,1-Dichloropropene	ND		50.0	54.3		ug/L		109	74 - 120
Benzene	ND		50.0	51.2		ug/L		102	80 - 122
1,2-Dichloroethane	ND		50.0	50.3		ug/L		101	69 - 126
Trichloroethene	ND		50.0	51.5		ug/L		103	80 - 125
1,2-Dichloropropane	ND		50.0	52.3		ug/L		105	80 - 120
4-Methyl-2-pentanone (MIBK)	ND		250	229		ug/L		92	59 - 141

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

Lab Sample ID: 580-146567-16 MS
Matrix: Water
Analysis Batch: 480648

Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dibromomethane	ND		50.0	52.3		ug/L		105	80 - 120
Dichlorobromomethane	ND		50.0	53.6		ug/L		107	75 - 124
cis-1,3-Dichloropropene	ND		50.0	41.7		ug/L		83	77 - 120
Toluene	ND		50.0	46.9		ug/L		94	80 - 120
trans-1,3-Dichloropropene	ND		50.0	46.6		ug/L		93	76 - 122
1,1,2-Trichloroethane	ND		50.0	48.0		ug/L		96	80 - 121
Tetrachloroethene	ND		50.0	50.6		ug/L		101	76 - 125
1,3-Dichloropropane	ND		50.0	48.8		ug/L		98	79 - 120
Chlorodibromomethane	ND		50.0	50.3		ug/L		101	73 - 125
Ethylene Dibromide	ND		50.0	45.9		ug/L		92	79 - 126
Chlorobenzene	ND		50.0	50.0		ug/L		100	80 - 120
1,1,1,2-Tetrachloroethane	ND		50.0	48.1		ug/L		96	79 - 120
Ethylbenzene	ND		50.0	49.4		ug/L		99	80 - 120
m-Xylene & p-Xylene	ND		50.0	47.8		ug/L		96	80 - 120
o-Xylene	ND		50.0	48.1		ug/L		96	80 - 120
Styrene	ND		50.0	44.5		ug/L		89	76 - 122
Bromoform	ND		50.0	44.9		ug/L		90	56 - 139
Isopropylbenzene	ND		50.0	55.0		ug/L		110	80 - 123
Bromobenzene	ND		50.0	45.8		ug/L		92	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	47.6		ug/L		95	74 - 124
1,2,3-Trichloropropane	ND		50.0	46.7		ug/L		93	76 - 124
N-Propylbenzene	ND		50.0	47.4		ug/L		95	80 - 122
2-Chlorotoluene	ND		50.0	47.2		ug/L		94	80 - 120
4-Chlorotoluene	ND		50.0	48.0		ug/L		96	73 - 129
tert-Butylbenzene	ND		50.0	47.3		ug/L		95	75 - 123
1,2,4-Trimethylbenzene	ND		50.0	46.9		ug/L		94	80 - 120
sec-Butylbenzene	ND		50.0	47.5		ug/L		95	78 - 122
4-Isopropyltoluene	ND		50.0	46.5		ug/L		93	77 - 126
1,3-Dichlorobenzene	ND		50.0	46.1		ug/L		92	77 - 127
1,4-Dichlorobenzene	ND		50.0	45.1		ug/L		90	80 - 120
n-Butylbenzene	ND		50.0	44.7		ug/L		89	57 - 133
1,2-Dichlorobenzene	ND		50.0	46.4		ug/L		93	80 - 120
1,2-Dibromo-3-Chloropropane	ND		50.0	43.8		ug/L		88	65 - 133
1,2,4-Trichlorobenzene	ND		50.0	46.1		ug/L		92	61 - 148
Hexachlorobutadiene	ND		50.0	47.0		ug/L		94	74 - 131
Naphthalene	ND		50.0	41.3		ug/L		83	63 - 150
1,2,3-Trichlorobenzene	ND		50.0	45.0		ug/L		90	65 - 150
1,3,5-Trimethylbenzene	ND		50.0	47.2		ug/L		94	80 - 122

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

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

Lab Sample ID: 580-146567-16 MSD
Client Sample ID: MWA-56d-121224
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 480648

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		215	54.1		ug/L		25	20 - 150	1	33
Chloromethane	ND	F1	215	49.6	F1	ug/L		23	25 - 150	1	26
Vinyl chloride	ND	F1	215	65.0	F1	ug/L		30	31 - 150	4	26
Bromomethane	ND	F1	215	55.4	F1	ug/L		26	36 - 150	2	33
Chloroethane	ND	F1	215	60.3	F1	ug/L		28	38 - 150	3	28
Trichlorofluoromethane	ND	F1	215	63.3	F1	ug/L		29	45 - 148	3	35
Carbon disulfide	ND		50.0	52.3		ug/L		105	63 - 134	3	24
1,1-Dichloroethene	ND		50.0	54.4		ug/L		109	70 - 129	3	23
Acetone	ND		250	258		ug/L		103	44 - 150	4	33
Methylene Chloride	ND		50.0	56.7		ug/L		113	77 - 125	5	18
Methyl tert-butyl ether	ND		50.0	52.5		ug/L		105	72 - 120	3	18
trans-1,2-Dichloroethene	ND		50.0	54.2		ug/L		108	75 - 120	3	21
1,1-Dichloroethane	ND		50.0	54.6		ug/L		109	80 - 120	3	15
2-Butanone (MEK)	ND		250	267		ug/L		107	65 - 137	2	34
2,2-Dichloropropane	ND		50.0	39.3		ug/L		79	66 - 126	1	22
cis-1,2-Dichloroethene	ND		50.0	53.9		ug/L		108	76 - 120	4	20
Chlorobromomethane	ND		50.0	53.4		ug/L		107	78 - 120	2	13
Chloroform	160	F1	50.0	194	F1	ug/L		67	78 - 127	4	14
1,1,1-Trichloroethane	ND		50.0	58.7		ug/L		117	74 - 130	7	19
Carbon tetrachloride	ND		50.0	57.7		ug/L		115	72 - 129	3	19
1,1-Dichloropropene	ND		50.0	55.5		ug/L		111	74 - 120	2	14
Benzene	ND		50.0	53.0		ug/L		106	80 - 122	3	14
1,2-Dichloroethane	ND		50.0	51.1		ug/L		102	69 - 126	2	11
Trichloroethene	ND		50.0	52.5		ug/L		105	80 - 125	2	13
1,2-Dichloropropane	ND		50.0	53.9		ug/L		108	80 - 120	3	14
4-Methyl-2-pentanone (MIBK)	ND		250	240		ug/L		96	59 - 141	4	22
Dibromomethane	ND		50.0	54.7		ug/L		109	80 - 120	5	11
Dichlorobromomethane	ND		50.0	55.2		ug/L		110	75 - 124	3	13
cis-1,3-Dichloropropene	ND		50.0	43.3		ug/L		87	77 - 120	4	35
Toluene	ND		50.0	49.9		ug/L		100	80 - 120	6	13
trans-1,3-Dichloropropene	ND		50.0	48.5		ug/L		97	76 - 122	4	20
1,1,2-Trichloroethane	ND		50.0	49.2		ug/L		98	80 - 121	3	14
Tetrachloroethene	ND		50.0	52.9		ug/L		106	76 - 125	5	13
1,3-Dichloropropane	ND		50.0	50.1		ug/L		100	79 - 120	2	19
Chlorodibromomethane	ND		50.0	52.1		ug/L		104	73 - 125	3	13
Ethylene Dibromide	ND		50.0	48.6		ug/L		97	79 - 126	6	12
Chlorobenzene	ND		50.0	52.0		ug/L		104	80 - 120	4	10
1,1,1,2-Tetrachloroethane	ND		50.0	50.9		ug/L		102	79 - 120	6	16
Ethylbenzene	ND		50.0	51.9		ug/L		104	80 - 120	5	14
m-Xylene & p-Xylene	ND		50.0	50.9		ug/L		102	80 - 120	6	14
o-Xylene	ND		50.0	51.5		ug/L		103	80 - 120	7	16
Styrene	ND		50.0	49.5		ug/L		99	76 - 122	11	16
Bromoform	ND		50.0	46.7		ug/L		93	56 - 139	4	21
Isopropylbenzene	ND		50.0	57.2		ug/L		114	80 - 123	4	19
Bromobenzene	ND		50.0	49.6		ug/L		99	80 - 120	8	24
1,1,2,2-Tetrachloroethane	ND		50.0	51.0		ug/L		102	74 - 124	7	25
1,2,3-Trichloropropane	ND		50.0	52.0		ug/L		104	76 - 124	11	26
N-Propylbenzene	ND		50.0	51.5		ug/L		103	80 - 122	8	22

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

Lab Sample ID: 580-146567-16 MSD
Matrix: Water
Analysis Batch: 480648

Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Chlorotoluene	ND		50.0	50.1		ug/L		100	80 - 120	6	20
4-Chlorotoluene	ND		50.0	51.4		ug/L		103	73 - 129	7	29
tert-Butylbenzene	ND		50.0	51.2		ug/L		102	75 - 123	8	21
1,2,4-Trimethylbenzene	ND		50.0	51.1		ug/L		102	80 - 120	9	16
sec-Butylbenzene	ND		50.0	51.0		ug/L		102	78 - 122	7	15
4-Isopropyltoluene	ND		50.0	50.2		ug/L		100	77 - 126	8	20
1,3-Dichlorobenzene	ND		50.0	50.6		ug/L		101	77 - 127	9	35
1,4-Dichlorobenzene	ND		50.0	49.3		ug/L		99	80 - 120	9	17
n-Butylbenzene	ND		50.0	48.9		ug/L		98	57 - 133	9	14
1,2-Dichlorobenzene	ND		50.0	50.5		ug/L		101	80 - 120	9	15
1,2-Dibromo-3-Chloropropane	ND		50.0	46.4		ug/L		93	65 - 133	6	25
1,2,4-Trichlorobenzene	ND		50.0	50.1		ug/L		100	61 - 148	8	27
Hexachlorobutadiene	ND		50.0	52.6		ug/L		105	74 - 131	11	22
Naphthalene	ND		50.0	45.4		ug/L		91	63 - 150	9	33
1,2,3-Trichlorobenzene	ND		50.0	50.5		ug/L		101	65 - 150	11	33
1,3,5-Trimethylbenzene	ND		50.0	51.6		ug/L		103	80 - 122	9	21

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

Lab Sample ID: MB 580-480717/7
Matrix: Water
Analysis Batch: 480717

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/17/24 15:42	1
Chloromethane	ND		1.0	0.28	ug/L			12/17/24 15:42	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/17/24 15:42	1
Bromomethane	ND		1.0	0.21	ug/L			12/17/24 15:42	1
Chloroethane	ND		1.0	0.35	ug/L			12/17/24 15:42	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/17/24 15:42	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/17/24 15:42	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/17/24 15:42	1
Acetone	ND		15	3.2	ug/L			12/17/24 15:42	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/17/24 15:42	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/17/24 15:42	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/17/24 15:42	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/17/24 15:42	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/17/24 15:42	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/17/24 15:42	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/17/24 15:42	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 15:42	1
Chloroform	ND		1.0	0.26	ug/L			12/17/24 15:42	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/17/24 15:42	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/17/24 15:42	1

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

Lab Sample ID: MB 580-480717/7
Matrix: Water
Analysis Batch: 480717

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/17/24 15:42	1
Benzene	ND		1.0	0.24	ug/L			12/17/24 15:42	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/17/24 15:42	1
Trichloroethene	ND		1.0	0.26	ug/L			12/17/24 15:42	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/17/24 15:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/17/24 15:42	1
Dibromomethane	ND		1.0	0.34	ug/L			12/17/24 15:42	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/17/24 15:42	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/17/24 15:42	1
Toluene	ND		1.0	0.39	ug/L			12/17/24 15:42	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/17/24 15:42	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/17/24 15:42	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/17/24 15:42	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/17/24 15:42	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			12/17/24 15:42	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/17/24 15:42	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/17/24 15:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/17/24 15:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/17/24 15:42	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/17/24 15:42	1
o-Xylene	ND		1.0	0.39	ug/L			12/17/24 15:42	1
Styrene	ND		1.0	0.53	ug/L			12/17/24 15:42	1
Bromoform	ND		1.0	0.51	ug/L			12/17/24 15:42	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/17/24 15:42	1
Bromobenzene	ND		1.0	0.43	ug/L			12/17/24 15:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/17/24 15:42	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/17/24 15:42	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/17/24 15:42	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/17/24 15:42	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/17/24 15:42	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/17/24 15:42	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/17/24 15:42	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/17/24 15:42	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/17/24 15:42	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/17/24 15:42	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 15:42	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/17/24 15:42	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/17/24 15:42	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/17/24 15:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/17/24 15:42	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/17/24 15:42	1
Naphthalene	ND		3.0	0.93	ug/L			12/17/24 15:42	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/17/24 15:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/17/24 15:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/17/24 15:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/17/24 15:42*	*1*

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

Lab Sample ID: MB 580-480717/7
Matrix: Water
Analysis Batch: 480717

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/17/24 15:42*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/17/24 15:42*	*1*

Lab Sample ID: LCS 580-480717/4
Matrix: Water
Analysis Batch: 480717

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	3.83		ug/L		77	20 - 150
Chloromethane	5.00	3.78		ug/L		76	25 - 150
Vinyl chloride	5.00	4.85		ug/L		97	31 - 150
Bromomethane	5.00	4.57		ug/L		91	36 - 150
Chloroethane	5.00	4.40		ug/L		88	38 - 150
Trichlorofluoromethane	5.00	4.74		ug/L		95	45 - 148
Carbon disulfide	5.00	4.05		ug/L		81	63 - 134
1,1-Dichloroethene	5.00	4.23		ug/L		85	70 - 129
Acetone	25.0	25.7		ug/L		103	44 - 150
Methylene Chloride	5.00	5.15		ug/L		103	77 - 125
Methyl tert-butyl ether	5.00	4.74		ug/L		95	72 - 120
trans-1,2-Dichloroethene	5.00	4.36		ug/L		87	75 - 120
1,1-Dichloroethane	5.00	4.40		ug/L		88	80 - 120
2-Butanone (MEK)	25.0	25.9		ug/L		104	65 - 137
2,2-Dichloropropane	5.00	4.95		ug/L		99	66 - 126
cis-1,2-Dichloroethene	5.00	4.51		ug/L		90	76 - 120
Chlorobromomethane	5.00	4.47		ug/L		89	78 - 120
Chloroform	5.00	4.41		ug/L		88	78 - 127
1,1,1-Trichloroethane	5.00	4.63		ug/L		93	74 - 130
Carbon tetrachloride	5.00	4.56		ug/L		91	72 - 129
1,1-Dichloropropene	5.00	4.55		ug/L		91	74 - 120
Benzene	5.00	4.47		ug/L		89	80 - 122
1,2-Dichloroethane	5.00	4.48		ug/L		90	69 - 126
Trichloroethene	5.00	4.37		ug/L		87	80 - 125
1,2-Dichloropropane	5.00	4.73		ug/L		95	80 - 120
4-Methyl-2-pentanone (MIBK)	25.0	23.1		ug/L		93	59 - 141
Dibromomethane	5.00	4.83		ug/L		97	80 - 120
Dichlorobromomethane	5.00	4.75		ug/L		95	75 - 124
cis-1,3-Dichloropropene	5.00	4.19		ug/L		84	77 - 120
Toluene	5.00	4.18		ug/L		84	80 - 120
trans-1,3-Dichloropropene	5.00	4.76		ug/L		95	76 - 122
1,1,2-Trichloroethane	5.00	4.58		ug/L		92	80 - 121
Tetrachloroethene	5.00	4.33		ug/L		87	76 - 125
1,3-Dichloropropane	5.00	4.58		ug/L		92	79 - 120
Chlorodibromomethane	5.00	4.69		ug/L		94	73 - 125
Ethylene Dibromide	5.00	4.44		ug/L		89	79 - 126
Chlorobenzene	5.00	4.36		ug/L		87	80 - 120
1,1,1,2-Tetrachloroethane	5.00	4.50		ug/L		90	79 - 120
Ethylbenzene	5.00	4.32		ug/L		86	80 - 120
m-Xylene & p-Xylene	5.00	4.24		ug/L		85	80 - 120

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

Lab Sample ID: LCS 580-480717/4
Matrix: Water
Analysis Batch: 480717

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	5.00	4.33		ug/L		87	80 - 120
Styrene	5.00	4.51		ug/L		90	76 - 122
Bromoform	5.00	4.26		ug/L		85	56 - 139
Isopropylbenzene	5.00	4.76		ug/L		95	80 - 123
Bromobenzene	5.00	4.31		ug/L		86	80 - 120
1,1,2,2-Tetrachloroethane	5.00	4.84		ug/L		97	74 - 124
1,2,3-Trichloropropane	5.00	4.88		ug/L		98	76 - 124
N-Propylbenzene	5.00	4.33		ug/L		87	80 - 122
2-Chlorotoluene	5.00	4.25		ug/L		85	80 - 120
4-Chlorotoluene	5.00	4.28		ug/L		86	73 - 129
tert-Butylbenzene	5.00	4.24		ug/L		85	75 - 123
1,2,4-Trimethylbenzene	5.00	4.30		ug/L		86	80 - 120
sec-Butylbenzene	5.00	4.23		ug/L		85	78 - 122
4-Isopropyltoluene	5.00	4.28		ug/L		86	77 - 126
1,3-Dichlorobenzene	5.00	4.36		ug/L		87	77 - 127
1,4-Dichlorobenzene	5.00	4.29		ug/L		86	80 - 120
n-Butylbenzene	5.00	4.22		ug/L		84	57 - 133
1,2-Dichlorobenzene	5.00	4.38		ug/L		88	80 - 120
1,2-Dibromo-3-Chloropropane	5.00	4.61		ug/L		92	65 - 133
1,2,4-Trichlorobenzene	5.00	4.50		ug/L		90	61 - 148
Hexachlorobutadiene	5.00	4.59		ug/L		92	74 - 131
Naphthalene	5.00	4.19		ug/L		84	63 - 150
1,2,3-Trichlorobenzene	5.00	4.53		ug/L		91	65 - 150
1,3,5-Trimethylbenzene	5.00	4.32		ug/L		86	80 - 122

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

Lab Sample ID: LCSD 580-480717/5
Matrix: Water
Analysis Batch: 480717

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	4.05		ug/L		81	20 - 150	6	33
Chloromethane	5.00	3.76		ug/L		75	25 - 150	0	26
Vinyl chloride	5.00	4.85		ug/L		97	31 - 150	0	26
Bromomethane	5.00	4.62		ug/L		92	36 - 150	1	33
Chloroethane	5.00	4.55		ug/L		91	38 - 150	3	28
Trichlorofluoromethane	5.00	4.87		ug/L		97	45 - 148	3	35
Carbon disulfide	5.00	4.13		ug/L		83	63 - 134	2	24
1,1-Dichloroethene	5.00	4.28		ug/L		86	70 - 129	1	23
Acetone	25.0	26.7		ug/L		107	44 - 150	4	33
Methylene Chloride	5.00	5.20		ug/L		104	77 - 125	1	18
Methyl tert-butyl ether	5.00	4.87		ug/L		97	72 - 120	3	18
trans-1,2-Dichloroethene	5.00	4.47		ug/L		89	75 - 120	2	21

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

Lab Sample ID: LCSD 580-480717/5
Matrix: Water
Analysis Batch: 480717

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethane	5.00	4.53		ug/L		91	80 - 120	3	15
2-Butanone (MEK)	25.0	26.6		ug/L		106	65 - 137	3	34
2,2-Dichloropropane	5.00	5.06		ug/L		101	66 - 126	2	22
cis-1,2-Dichloroethene	5.00	4.60		ug/L		92	76 - 120	2	20
Chlorobromomethane	5.00	4.64		ug/L		93	78 - 120	4	13
Chloroform	5.00	4.48		ug/L		90	78 - 127	2	14
1,1,1-Trichloroethane	5.00	4.76		ug/L		95	74 - 130	3	19
Carbon tetrachloride	5.00	4.67		ug/L		93	72 - 129	2	19
1,1-Dichloropropene	5.00	4.47		ug/L		89	74 - 120	2	14
Benzene	5.00	4.49		ug/L		90	80 - 122	0	14
1,2-Dichloroethane	5.00	4.63		ug/L		93	69 - 126	3	11
Trichloroethene	5.00	4.54		ug/L		91	80 - 125	4	13
1,2-Dichloropropane	5.00	4.74		ug/L		95	80 - 120	0	14
4-Methyl-2-pentanone (MIBK)	25.0	23.2		ug/L		93	59 - 141	0	22
Dibromomethane	5.00	4.87		ug/L		97	80 - 120	1	11
Dichlorobromomethane	5.00	4.84		ug/L		97	75 - 124	2	13
cis-1,3-Dichloropropene	5.00	4.24		ug/L		85	77 - 120	1	35
Toluene	5.00	4.29		ug/L		86	80 - 120	3	13
trans-1,3-Dichloropropene	5.00	4.87		ug/L		97	76 - 122	2	20
1,1,2-Trichloroethane	5.00	4.74		ug/L		95	80 - 121	4	14
Tetrachloroethene	5.00	4.55		ug/L		91	76 - 125	5	13
1,3-Dichloropropane	5.00	4.63		ug/L		93	79 - 120	1	19
Chlorodibromomethane	5.00	4.80		ug/L		96	73 - 125	2	13
Ethylene Dibromide	5.00	4.51		ug/L		90	79 - 126	1	12
Chlorobenzene	5.00	4.47		ug/L		89	80 - 120	3	10
1,1,1,2-Tetrachloroethane	5.00	4.61		ug/L		92	79 - 120	2	16
Ethylbenzene	5.00	4.39		ug/L		88	80 - 120	2	14
m-Xylene & p-Xylene	5.00	4.35		ug/L		87	80 - 120	2	14
o-Xylene	5.00	4.41		ug/L		88	80 - 120	2	16
Styrene	5.00	4.62		ug/L		92	76 - 122	2	16
Bromoform	5.00	4.42		ug/L		88	56 - 139	4	21
Isopropylbenzene	5.00	4.88		ug/L		98	80 - 123	2	19
Bromobenzene	5.00	4.41		ug/L		88	80 - 120	2	24
1,1,2,2-Tetrachloroethane	5.00	4.89		ug/L		98	74 - 124	1	25
1,2,3-Trichloropropane	5.00	4.92		ug/L		98	76 - 124	1	26
N-Propylbenzene	5.00	4.41		ug/L		88	80 - 122	2	22
2-Chlorotoluene	5.00	4.44		ug/L		89	80 - 120	4	20
4-Chlorotoluene	5.00	4.47		ug/L		89	73 - 129	4	29
tert-Butylbenzene	5.00	4.35		ug/L		87	75 - 123	3	21
1,2,4-Trimethylbenzene	5.00	4.45		ug/L		89	80 - 120	3	16
sec-Butylbenzene	5.00	4.37		ug/L		87	78 - 122	3	15
4-Isopropyltoluene	5.00	4.37		ug/L		87	77 - 126	2	20
1,3-Dichlorobenzene	5.00	4.52		ug/L		90	77 - 127	4	35
1,4-Dichlorobenzene	5.00	4.50		ug/L		90	80 - 120	5	17
n-Butylbenzene	5.00	4.39		ug/L		88	57 - 133	4	14
1,2-Dichlorobenzene	5.00	4.50		ug/L		90	80 - 120	3	15
1,2-Dibromo-3-Chloropropane	5.00	4.42		ug/L		88	65 - 133	4	25
1,2,4-Trichlorobenzene	5.00	4.67		ug/L		93	61 - 148	4	27
Hexachlorobutadiene	5.00	4.64		ug/L		93	74 - 131	1	22

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

Lab Sample ID: LCSD 580-480717/5
Matrix: Water
Analysis Batch: 480717

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
Naphthalene			5.00	4.32		ug/L		86	63 - 150	3	33
1,2,3-Trichlorobenzene			5.00	4.62		ug/L		92	65 - 150	2	33
1,3,5-Trimethylbenzene			5.00	4.44		ug/L		89	80 - 122	3	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 580-480750/11
Matrix: Water
Analysis Batch: 480750

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/17/24 23:01	1
Chloromethane	ND		0.50	0.14	ug/L			12/17/24 23:01	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/17/24 23:01	1
Bromomethane	ND		0.50	0.13	ug/L			12/17/24 23:01	1
Chloroethane	ND		0.50	0.24	ug/L			12/17/24 23:01	1
Carbon disulfide	ND		0.40	0.20	ug/L			12/17/24 23:01	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/17/24 23:01	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/17/24 23:01	1
Acetone	3.10	J	10	3.1	ug/L			12/17/24 23:01	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/17/24 23:01	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/17/24 23:01	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/17/24 23:01	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/17/24 23:01	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			12/17/24 23:01	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/17/24 23:01	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/17/24 23:01	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/17/24 23:01	1
Chloroform	ND		0.20	0.030	ug/L			12/17/24 23:01	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/17/24 23:01	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/17/24 23:01	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/17/24 23:01	1
Benzene	0.0980	J	0.20	0.030	ug/L			12/17/24 23:01	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			12/17/24 23:01	1
Trichloroethene	ND		0.20	0.066	ug/L			12/17/24 23:01	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/17/24 23:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			12/17/24 23:01	1
Dibromomethane	ND		0.20	0.062	ug/L			12/17/24 23:01	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/17/24 23:01	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/17/24 23:01	1
Toluene	ND		0.20	0.050	ug/L			12/17/24 23:01	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/17/24 23:01	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/17/24 23:01	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/17/24 23:01	1

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

Lab Sample ID: MB 580-480750/11
Matrix: Water
Analysis Batch: 480750

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		0.20	0.056	ug/L			12/17/24 23:01	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/17/24 23:01	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			12/17/24 23:01	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/17/24 23:01	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			12/17/24 23:01	1
Ethylbenzene	ND		0.20	0.082	ug/L			12/17/24 23:01	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/17/24 23:01	1
o-Xylene	ND		0.50	0.23	ug/L			12/17/24 23:01	1
Styrene	ND		1.0	0.33	ug/L			12/17/24 23:01	1
Bromoform	ND		0.50	0.16	ug/L			12/17/24 23:01	1
Isopropylbenzene	ND		1.0	0.27	ug/L			12/17/24 23:01	1
Bromobenzene	ND		0.20	0.038	ug/L			12/17/24 23:01	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/17/24 23:01	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/17/24 23:01	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/17/24 23:01	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/17/24 23:01	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/17/24 23:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			12/17/24 23:01	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/17/24 23:01	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			12/17/24 23:01	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/17/24 23:01	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			12/17/24 23:01	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 23:01	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/17/24 23:01	1
n-Butylbenzene	ND		1.0	0.35	ug/L			12/17/24 23:01	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/17/24 23:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			12/17/24 23:01	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			12/17/24 23:01	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			12/17/24 23:01	1
Naphthalene	ND		1.5	0.52	ug/L			12/17/24 23:01	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			12/17/24 23:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*80 - 120*		*12/17/24 23:01*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/17/24 23:01*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*12/17/24 23:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/17/24 23:01*	*1*

Lab Sample ID: LCS 580-480750/6
Matrix: Water
Analysis Batch: 480750

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	5.23		ug/L		105	20 - 150
Chloromethane	5.00	5.26		ug/L		105	32 - 150
Vinyl chloride	5.00	5.88		ug/L		118	41 - 150
Bromomethane	5.00	4.83		ug/L		97	51 - 148
Chloroethane	5.00	5.05		ug/L		101	54 - 140

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

Lab Sample ID: LCS 580-480750/6
Matrix: Water
Analysis Batch: 480750

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	5.00	4.47		ug/L		89	54 - 142
Trichlorofluoromethane	5.00	5.12		ug/L		102	60 - 132
1,1-Dichloroethene	5.00	4.96		ug/L		99	60 - 129
Acetone	25.0	28.7		ug/L		115	49 - 150
Methylene Chloride	5.00	5.78		ug/L		116	40 - 142
Methyl tert-butyl ether	5.00	5.22		ug/L		104	61 - 131
2-Butanone (MEK)	25.0	28.1		ug/L		112	37 - 150
trans-1,2-Dichloroethene	5.00	4.97		ug/L		99	69 - 121
1,1-Dichloroethane	5.00	5.17		ug/L		103	74 - 120
2,2-Dichloropropane	5.00	4.90		ug/L		98	55 - 140
cis-1,2-Dichloroethene	5.00	5.13		ug/L		103	72 - 120
Chlorobromomethane	5.00	5.10		ug/L		102	79 - 121
Chloroform	5.00	4.87		ug/L		97	75 - 120
1,1,1-Trichloroethane	5.00	4.70		ug/L		94	70 - 121
Carbon tetrachloride	5.00	4.62		ug/L		92	66 - 130
1,1-Dichloropropene	5.00	5.35		ug/L		107	72 - 125
Benzene	5.00	5.33		ug/L		107	80 - 120
1,2-Dichloroethane	5.00	4.78		ug/L		96	74 - 127
Trichloroethene	5.00	4.92		ug/L		98	72 - 120
1,2-Dichloropropane	5.00	5.47		ug/L		109	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.2		ug/L		97	63 - 137
Dibromomethane	5.00	5.17		ug/L		103	65 - 141
Dichlorobromomethane	5.00	4.94		ug/L		99	74 - 131
cis-1,3-Dichloropropene	5.00	4.55		ug/L		91	77 - 131
Toluene	5.00	4.72		ug/L		94	80 - 126
trans-1,3-Dichloropropene	5.00	4.77		ug/L		95	71 - 138
1,1,2-Trichloroethane	5.00	4.98		ug/L		100	73 - 127
Tetrachloroethene	5.00	4.55		ug/L		91	75 - 124
1,3-Dichloropropane	5.00	4.98		ug/L		100	69 - 138
Chlorodibromomethane	5.00	4.43		ug/L		89	62 - 141
Ethylene Dibromide	5.00	4.77		ug/L		95	61 - 143
Chlorobenzene	5.00	4.82		ug/L		96	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.70		ug/L		94	69 - 127
Ethylbenzene	5.00	4.93		ug/L		99	80 - 124
m-Xylene & p-Xylene	5.00	4.97		ug/L		99	75 - 124
o-Xylene	5.00	4.87		ug/L		97	71 - 124
Styrene	5.00	4.70		ug/L		94	74 - 127
Bromoform	5.00	4.30		ug/L		86	48 - 127
Isopropylbenzene	5.00	5.16		ug/L		103	71 - 123
Bromobenzene	5.00	4.61		ug/L		92	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.96		ug/L		99	67 - 136
1,2,3-Trichloropropane	5.00	4.76		ug/L		95	67 - 135
N-Propylbenzene	5.00	4.88		ug/L		98	72 - 126
2-Chlorotoluene	5.00	4.89		ug/L		98	73 - 120
4-Chlorotoluene	5.00	5.02		ug/L		100	75 - 124
1,3,5-Trimethylbenzene	5.00	4.88		ug/L		98	75 - 123
tert-Butylbenzene	5.00	4.88		ug/L		98	70 - 129
1,2,4-Trimethylbenzene	5.00	4.90		ug/L		98	71 - 127
sec-Butylbenzene	5.00	4.79		ug/L		96	75 - 126

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

Lab Sample ID: LCS 580-480750/6
Matrix: Water
Analysis Batch: 480750

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4-Isopropyltoluene	5.00	4.76		ug/L		95	78 - 125
1,3-Dichlorobenzene	5.00	4.85		ug/L		97	72 - 125
1,4-Dichlorobenzene	5.00	4.75		ug/L		95	71 - 129
n-Butylbenzene	5.00	4.57		ug/L		91	69 - 127
1,2-Dichlorobenzene	5.00	4.84		ug/L		97	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.17		ug/L		83	55 - 135
1,2,4-Trichlorobenzene	5.00	4.95		ug/L		99	60 - 130
Hexachlorobutadiene	5.00	4.74		ug/L		95	63 - 130
Naphthalene	5.00	4.87		ug/L		97	54 - 137
1,2,3-Trichlorobenzene	5.00	4.79		ug/L		96	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*

Lab Sample ID: LCSD 580-480750/7
Matrix: Water
Analysis Batch: 480750

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	5.16		ug/L		103	20 - 150	1	30
Chloromethane	5.00	5.10		ug/L		102	32 - 150	3	33
Vinyl chloride	5.00	5.49		ug/L		110	41 - 150	7	32
Bromomethane	5.00	4.49		ug/L		90	51 - 148	7	35
Chloroethane	5.00	4.87		ug/L		97	54 - 140	4	33
Carbon disulfide	5.00	4.36		ug/L		87	54 - 142	3	34
Trichlorofluoromethane	5.00	4.99		ug/L		100	60 - 132	2	32
1,1-Dichloroethene	5.00	4.92		ug/L		98	60 - 129	1	29
Acetone	25.0	29.0		ug/L		116	49 - 150	1	24
Methylene Chloride	5.00	5.64		ug/L		113	40 - 142	3	25
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131	3	27
2-Butanone (MEK)	25.0	28.2		ug/L		113	37 - 150	0	35
trans-1,2-Dichloroethene	5.00	4.88		ug/L		98	69 - 121	2	27
1,1-Dichloroethane	5.00	5.08		ug/L		102	74 - 120	2	26
2,2-Dichloropropane	5.00	4.66		ug/L		93	55 - 140	5	31
cis-1,2-Dichloroethene	5.00	5.24		ug/L		105	72 - 120	2	22
Chlorobromomethane	5.00	5.01		ug/L		100	79 - 121	2	20
Chloroform	5.00	4.85		ug/L		97	75 - 120	1	21
1,1,1-Trichloroethane	5.00	4.62		ug/L		92	70 - 121	2	24
Carbon tetrachloride	5.00	4.52		ug/L		90	66 - 130	2	24
1,1-Dichloropropene	5.00	5.17		ug/L		103	72 - 125	3	23
Benzene	5.00	5.12		ug/L		102	80 - 120	4	22
1,2-Dichloroethane	5.00	4.62		ug/L		92	74 - 127	4	21
Trichloroethene	5.00	4.92		ug/L		98	72 - 120	0	22
1,2-Dichloropropane	5.00	5.23		ug/L		105	69 - 130	4	22
4-Methyl-2-pentanone (MIBK)	25.0	24.3		ug/L		97	63 - 137	0	26

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

Lab Sample ID: LCSD 580-480750/7
Matrix: Water
Analysis Batch: 480750

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibromomethane			5.00	5.10		ug/L		102	65 - 141	1	22
Dichlorobromomethane			5.00	4.82		ug/L		96	74 - 131	2	21
cis-1,3-Dichloropropene			5.00	4.44		ug/L		89	77 - 131	2	24
Toluene			5.00	4.51		ug/L		90	80 - 126	4	20
trans-1,3-Dichloropropene			5.00	4.64		ug/L		93	71 - 138	3	26
1,1,2-Trichloroethane			5.00	4.74		ug/L		95	73 - 127	5	22
Tetrachloroethene			5.00	4.38		ug/L		88	75 - 124	4	20
1,3-Dichloropropane			5.00	4.68		ug/L		94	69 - 138	6	19
Chlorodibromomethane			5.00	4.27		ug/L		85	62 - 141	4	22
Ethylene Dibromide			5.00	4.55		ug/L		91	61 - 143	5	22
Chlorobenzene			5.00	4.65		ug/L		93	74 - 123	4	21
1,1,1,2-Tetrachloroethane			5.00	4.41		ug/L		88	69 - 127	6	22
Ethylbenzene			5.00	4.72		ug/L		94	80 - 124	4	22
m-Xylene & p-Xylene			5.00	4.75		ug/L		95	75 - 124	5	22
o-Xylene			5.00	4.70		ug/L		94	71 - 124	4	23
Styrene			5.00	4.55		ug/L		91	74 - 127	3	22
Bromoform			5.00	4.19		ug/L		84	48 - 127	3	23
Isopropylbenzene			5.00	4.91		ug/L		98	71 - 123	5	23
Bromobenzene			5.00	4.36		ug/L		87	74 - 130	5	23
1,1,2,2-Tetrachloroethane			5.00	4.81		ug/L		96	67 - 136	3	24
1,2,3-Trichloropropane			5.00	4.58		ug/L		92	67 - 135	4	25
N-Propylbenzene			5.00	4.60		ug/L		92	72 - 126	6	20
2-Chlorotoluene			5.00	4.61		ug/L		92	73 - 120	6	22
4-Chlorotoluene			5.00	4.95		ug/L		99	75 - 124	1	23
1,3,5-Trimethylbenzene			5.00	4.70		ug/L		94	75 - 123	4	23
tert-Butylbenzene			5.00	4.60		ug/L		92	70 - 129	6	24
1,2,4-Trimethylbenzene			5.00	4.57		ug/L		91	71 - 127	7	23
sec-Butylbenzene			5.00	4.54		ug/L		91	75 - 126	5	23
4-Isopropyltoluene			5.00	4.47		ug/L		89	78 - 125	6	24
1,3-Dichlorobenzene			5.00	4.59		ug/L		92	72 - 125	6	22
1,4-Dichlorobenzene			5.00	4.56		ug/L		91	71 - 129	4	22
n-Butylbenzene			5.00	4.29		ug/L		86	69 - 127	6	24
1,2-Dichlorobenzene			5.00	4.60		ug/L		92	72 - 129	5	22
1,2-Dibromo-3-Chloropropane			5.00	3.92		ug/L		78	55 - 135	6	29
1,2,4-Trichlorobenzene			5.00	4.73		ug/L		95	60 - 130	5	26
Hexachlorobutadiene			5.00	4.51		ug/L		90	63 - 130	5	26
Naphthalene			5.00	4.72		ug/L		94	54 - 137	3	28
1,2,3-Trichlorobenzene			5.00	4.59		ug/L		92	60 - 136	4	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*

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

Lab Sample ID: MB 580-480994/7
Matrix: Water
Analysis Batch: 480994

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			12/20/24 01:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*80 - 120*		*12/20/24 01:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*12/20/24 01:45*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*12/20/24 01:45*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/20/24 01:45*	*1*

Lab Sample ID: LCS 580-480994/4
Matrix: Water
Analysis Batch: 480994

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorobenzene			5.00	5.35		ug/L		107	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: LCSD 580-480994/5
Matrix: Water
Analysis Batch: 480994

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			5.00	5.28		ug/L		106	80 - 120	1	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-515388/7
Matrix: Water
Analysis Batch: 515388

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/18/24 15:58	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 570-515388/8
Matrix: Water
Analysis Batch: 515388

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			25.0	24.2		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-515388/9
Matrix: Water
Analysis Batch: 515388

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate			25.0	24.0		ug/L		96	85 - 115	1	15

Lab Sample ID: 580-146567-16 MS
Matrix: Water
Analysis Batch: 515388

Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	19000	E	25.0	16300	E 4	ug/L		-8706	80 - 120		

Lab Sample ID: 580-146567-16 MSD
Matrix: Water
Analysis Batch: 515388

Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	19000	E	25.0	16100	E 4	ug/L		-9670	80 - 120	1	15

Lab Sample ID: MB 570-515854/7
Matrix: Water
Analysis Batch: 515854

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/19/24 14:43	1

Lab Sample ID: LCS 570-515854/8
Matrix: Water
Analysis Batch: 515854

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

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

Lab Sample ID: LCSD 570-515854/9
Matrix: Water
Analysis Batch: 515854

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate			25.0	26.1		ug/L		104	85 - 115	4	15

Method: 314.0 - Perchlorate (IC) - DL

Lab Sample ID: 580-146567-16 MS
Matrix: Water
Analysis Batch: 515854
Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate - DL	13000		25000	39000		ug/L		102	80 - 120		

Lab Sample ID: 580-146567-16 MSD
Matrix: Water
Analysis Batch: 515854
Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate - DL	13000		25000	38900		ug/L		102	80 - 120	0	15

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-482307/3
Matrix: Water
Analysis Batch: 482307
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			01/08/25 14:45	1

Lab Sample ID: LCS 580-482307/4
Matrix: Water
Analysis Batch: 482307
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	51.9		mg/L		104	90 - 110		

Lab Sample ID: LCSD 580-482307/5
Matrix: Water
Analysis Batch: 482307
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			50.0	51.7		mg/L		103	90 - 110	0	15

Lab Sample ID: 580-146567-16 MS
Matrix: Water
Analysis Batch: 482307
Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	12000		50000	67100		mg/L		109	90 - 110		

Lab Sample ID: 580-146567-16 MSD
Matrix: Water
Analysis Batch: 482307
Client Sample ID: MWA-56d-121224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	12000		50000	66800		mg/L		109	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-81i-121124
Lab Sample ID: 580-146567-1
Date Collected: 12/11/24 08:00
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480564	AA	EET SEA	12/16/24 16:25
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/18/24 17:02
Total/NA	Analysis	300.0		1	482307	FCG	EET SEA	01/08/25 15:21

Client Sample ID: MWA-41-121124
Lab Sample ID: 580-146567-2
Date Collected: 12/11/24 09:49
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480564	AA	EET SEA	12/16/24 16:02
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/18/24 17:43
Total/NA	Analysis	300.0		1	482307	FCG	EET SEA	01/08/25 15:45

Client Sample ID: PA-15i-121124
Lab Sample ID: 580-146567-3
Date Collected: 12/11/24 07:49
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480564	AA	EET SEA	12/16/24 19:07
Total/NA	Analysis	314.0		10	515388	M5Z3	EET CAL 4	12/18/24 18:25
Total/NA	Analysis	300.0		1	482307	FCG	EET SEA	01/08/25 16:09

Client Sample ID: PA-24d-121124
Lab Sample ID: 580-146567-4
Date Collected: 12/11/24 09:27
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480564	AA	EET SEA	12/16/24 16:49
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/18/24 19:06
Total/NA	Analysis	300.0		1000	482307	FCG	EET SEA	01/08/25 16:33

Client Sample ID: MWA-82-121124
Lab Sample ID: 580-146567-5
Date Collected: 12/11/24 11:31
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 05:32
Total/NA	Analysis	314.0		10	515388	M5Z3	EET CAL 4	12/18/24 19:47
Total/NA	Analysis	300.0		1	482307	FCG	EET SEA	01/08/25 17:44

Lab Chronicle

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: PA-23d-121124
Lab Sample ID: 580-146567-6
Date Collected: 12/11/24 12:46
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 05:55
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/18/24 20:29
Total/NA	Analysis	300.0		1000	482307	FCG	EET SEA	01/08/25 18:44

Client Sample ID: PA-44i-121124
Lab Sample ID: 580-146567-7
Date Collected: 12/11/24 13:26
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 06:18
Total/NA	Analysis	314.0		10	515388	M5Z3	EET CAL 4	12/18/24 21:10
Total/NA	Analysis	300.0		1	482307	FCG	EET SEA	01/08/25 18:56

Client Sample ID: RB-01-121124
Lab Sample ID: 580-146567-8
Date Collected: 12/11/24 13:30
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 02:27
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/18/24 21:52
Total/NA	Analysis	300.0		1	482307	FCG	EET SEA	01/08/25 19:43

Client Sample ID: TB-01-121224
Lab Sample ID: 580-146567-9
Date Collected: 12/12/24 00:01
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 02:04

Client Sample ID: PA-22d-121224
Lab Sample ID: 580-146567-10
Date Collected: 12/12/24 07:21
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 06:41
Total/NA	Analysis	314.0	DL	1000	515854	UIP1	EET CAL 4	12/19/24 15:45
Total/NA	Analysis	300.0		100	482307	FCG	EET SEA	01/08/25 20:31

Client Sample ID: MWA-31i(d)-121224
Lab Sample ID: 580-146567-11
Date Collected: 12/12/24 07:24
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 07:04
Total/NA	Analysis	314.0	DL	1000	515854	UIP1	EET CAL 4	12/19/24 16:05

Lab Chronicle

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-31i(d)-121224
Lab Sample ID: 580-146567-11
Date Collected: 12/12/24 07:24
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1000	482307	FCG	EET SEA	01/08/25 21:55

Client Sample ID: MWA-58d-121224
Lab Sample ID: 580-146567-12
Date Collected: 12/12/24 08:56
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	480648	AA	EET SEA	12/17/24 07:51
Total/NA	Analysis	314.0	DL	1000	515854	UIP1	EET CAL 4	12/19/24 16:26
Total/NA	Analysis	300.0		1000	482307	FCG	EET SEA	01/08/25 22:42

Client Sample ID: PA-20d-121224
Lab Sample ID: 580-146567-13
Date Collected: 12/12/24 09:56
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 07:27
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/19/24 01:19
Total/NA	Analysis	300.0		10	482307	FCG	EET SEA	01/08/25 23:06

Client Sample ID: Dup-02-121224
Lab Sample ID: 580-146567-14
Date Collected: 12/12/24 12:00
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480750	AA	EET SEA	12/18/24 04:27
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/19/24 02:00
Total/NA	Analysis	300.0		10	482307	FCG	EET SEA	01/08/25 23:42

Client Sample ID: PA-19d-121224
Lab Sample ID: 580-146567-15
Date Collected: 12/12/24 12:47
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	480648	AA	EET SEA	12/17/24 09:23
Total/NA	Analysis	8260D	DL	1000	480994	AA	EET SEA	12/20/24 07:56
Total/NA	Analysis	314.0		10	515388	M5Z3	EET CAL 4	12/19/24 02:41
Total/NA	Analysis	300.0		5	482307	FCG	EET SEA	01/09/25 00:42

Client Sample ID: MWA-56d-121224
Lab Sample ID: 580-146567-16
Date Collected: 12/12/24 11:53
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	480648	AA	EET SEA	12/17/24 08:37

Lab Chronicle

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Client Sample ID: MWA-56d-121224
Lab Sample ID: 580-146567-16
Date Collected: 12/12/24 11:53
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/19/24 03:23
Total/NA	Analysis	314.0	DL	1000	515854	UIP1	EET CAL 4	12/19/24 16:47
Total/NA	Analysis	300.0		1000	482307	FCG	EET SEA	01/09/25 01:05

Client Sample ID: PA-30d-121224
Lab Sample ID: 580-146567-17
Date Collected: 12/12/24 14:23
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		500	480717	AA	EET SEA	12/17/24 23:24
Total/NA	Analysis	314.0		100	515388	M5Z3	EET CAL 4	12/19/24 05:27
Total/NA	Analysis	300.0		100	482307	FCG	EET SEA	01/09/25 10:39

Client Sample ID: MWA-11i(d)-121224
Lab Sample ID: 580-146567-18
Date Collected: 12/12/24 13:54
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480750	AA	EET SEA	12/18/24 00:11
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/19/24 06:08
Total/NA	Analysis	300.0		100	482307	FCG	EET SEA	01/09/25 10:51

Client Sample ID: RB-02-121224
Lab Sample ID: 580-146567-19
Date Collected: 12/12/24 06:00
Matrix: Water
Date Received: 12/13/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	480648	AA	EET SEA	12/17/24 02:50
Total/NA	Analysis	314.0		1	515388	M5Z3	EET CAL 4	12/19/24 06:50
Total/NA	Analysis	300.0		1	482307	FCG	EET SEA	01/09/25 11:03

Laboratory References:

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

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Laboratory: Eurofins Seattle

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

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

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	12-22-24
Arkansas DEQ	State	88-01672	07-02-25
California	Los Angeles County Sanitation Districts	9257304	07-31-26
California	SCAQMD LAP	17LA0919	11-30-25
California	State	3082	07-31-25
Kansas	NELAP	E-10420	07-31-25
Nevada	State	CA00111	07-31-25
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	525-23-159-97150	06-08-26
Washington	State	C916	10-11-25

Sample Summary

Client: ERM-West
Job ID: 580-146567-1
Project/Site: Arkema - Q4 2024 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-146567-1	MWA-81i-121124	Water	12/11/24 08:00	12/13/24 09:00
580-146567-2	MWA-41-121124	Water	12/11/24 09:49	12/13/24 09:00
580-146567-3	PA-15i-121124	Water	12/11/24 07:49	12/13/24 09:00
580-146567-4	PA-24d-121124	Water	12/11/24 09:27	12/13/24 09:00
580-146567-5	MWA-82-121124	Water	12/11/24 11:31	12/13/24 09:00
580-146567-6	PA-23d-121124	Water	12/11/24 12:46	12/13/24 09:00
580-146567-7	PA-44i-121124	Water	12/11/24 13:26	12/13/24 09:00
580-146567-8	RB-01-121124	Water	12/11/24 13:30	12/13/24 09:00
580-146567-9	TB-01-121224	Water	12/12/24 00:01	12/13/24 09:00
580-146567-10	PA-22d-121224	Water	12/12/24 07:21	12/13/24 09:00
580-146567-11	MWA-31i(d)-121224	Water	12/12/24 07:24	12/13/24 09:00
580-146567-12	MWA-58d-121224	Water	12/12/24 08:56	12/13/24 09:00
580-146567-13	PA-20d-121224	Water	12/12/24 09:56	12/13/24 09:00
580-146567-14	Dup-02-121224	Water	12/12/24 12:00	12/13/24 09:00
580-146567-15	PA-19d-121224	Water	12/12/24 12:47	12/13/24 09:00
580-146567-16	MWA-56d-121224	Water	12/12/24 11:53	12/13/24 09:00
580-146567-17	PA-30d-121224	Water	12/12/24 14:23	12/13/24 09:00
580-146567-18	MWA-11i(d)-121224	Water	12/12/24 13:54	12/13/24 09:00
580-146567-19	RB-02-121224	Water	12/12/24 06:00	12/13/24 09:00

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

Chain of Custody Record

580-146567 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Paul Van Newel	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone: 240-755-1398	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 0732445.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q4 2024 Groundwater event	Project #: 0732445		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	N		
MWA-81i-121124	12/11/24	0800	G	Water				X	X	X	5	
MWA-41-121124		0949	G	Water				X	X	X	5	
PA-15i-121124		0749	G	Water				X	X	X	5	
PA-24d-121124		0927	G	Water			X		X	X	5	
MWA-82-121124		1131	G	Water				X	X	X	5	
PA-23d-121124		1246	G	Water			X		X	X	5	
PA-44i-121124		1326	G	Water				X	X	X	5	
RB-01-121124		1330	G	Water				X	X	X	5	
TB-01-121224	12/12/24		G	Water				X			2	
PA-22d-121224	12/12/24	0721	G	Water			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
		12/13/2024 0900	ERM		12/13/24 0900	
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Cooler Temperature(s) °C and Other Remarks: 1.8/1.9 PDX SC DN

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: Paul Van Nevel	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone: 240-755-1398	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 0732445.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q4 2024 Groundwater event	Project #: 0732445			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	N		
MWA-31i(d)-12/224	12/12/24	0724	G	Water			X		X	X	3	
MWA-58d-121224	12/12/24	0856	G	Water			X		X	X	3	
PA-20d-121224	12/12/24	0956	G	Water			X		X	X	3	
Dup-02-121224	12/12/24	1200	G	Water			X		X	X	3	
PA-19d-121224	12/12/24	[illegible]	G	Water			X		X	X	3	Dilute
MWA-56d-121224	12/12/24	1153	G	Water	X	X			X	X	3	
PA-30d-121224	12/12/24	1423	G	Water			X		X	X	3	Dilute
MWA-11i(d)-12/224	12/12/24	1354	G	Water			X	X	X	X	3	
EB-02-121224	12/12/24	0600	G	Water			X		X	X	3	

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
[signature]	12/13/2024 0900	ERM	[signature]	12/13/24 900	ET
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: 1.6/ PDX SER

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

Chain of Custody Record

580-146567 Chain of Custody

eurofins | Environment Testing TestAmerica

1/9/2025

Client Information	Sampler: Paul Van Newl	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone: 440-755-1398	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 0732445.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q4 2024 Groundwater event	Project #: 0732445		
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	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N		
MWA-81i-121124	12/11/24	0800	G	Water				X	X	X	5	
MWA-41-121124		0949	G	Water				X	X	X	5	
PA-15i-121124		0749	G	Water				X	X	X	5	
PA-24d-121124		0927	G	Water			X		X	X	5	
MWA-82-121124		1131	G	Water				X	X	X	5	
PA-23d-121124		1246	G	Water			X		X	X	5	
PA-44i-121124		1326	G	Water				X	X	X	5	
RB-01-121124		1330	G	Water				X	X	X	5	
TB-01-121224	12/12/24		G	Water				X			2	
PA-22d-121224	12/12/24	0721	G	Water			X		X	X	5	

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/13/2024 0900	ERM		12/13/24 900	
2		12/13/24 1700			12-14-24 930	
3		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: 1210.9/1.0 1.8/1.9 PDX SCH

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

1/9/2025

Client Information	Sampler: Paul Van Nevel	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone: 240-755-1398	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 0732445.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q4 2024 Groundwater event	Project #: 0732445			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N		
MWA-31i(d)-121224	12/12/24	0724	G	Water			X		X	X	5	
MWA-58d-121224	12/12/24	0856	G	Water			X		X	X	5	
PA-20d-121224	12/12/24	0956	G	Water			X		X	X	5	
Dup-02-121224	12/12/24	1200	G	Water			X		X	X	5	
PA-19d-121224	12/12/24	[illegible]	G	Water			X		X	X	8	Dilute
MWA-56d-121224	12/12/24	1153	G	Water		X	X		X	X	5	
PA-30d-121224	12/12/24	1423	G	Water			X		X	X	8	Dilute
MWA-11i(d)-121224	12/12/24	1354	G	Water			X	X	X	X	5	
EB-02-121224	12/12/24	0600	G	Water			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]	12/13/2024 0900	ERM	[signature]	12/13/24 900	EET
2	[signature]	12/13/24 1700	EET	[signature]	12-14-24 930	Eetn
3						

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

Cooler Temperature(s) °C and Other Remarks: 1.8/ PDX SEK

IR11 0.9/1.9

Ver: 01/16/2019

ORIGIN ID:BNOA (503) 906-9200
SAMPLE RECEIVING
EUROFINS PORTLAND
7959 SW CIRRUS DR
BUILDING 22
BEAVERTON, OR 970087145
UNITED STATES US

SHIP DATE: 13DEC24
ACTWGT: 41.65 LB MAN
CAD: 0893932/CAFE3855

BILL THIRD PARTY

TO **SHIPPING/RECEIVING**
EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780
(714) 895-5494
REF: S580-65517

589C4/EB78/FE2D

FedEx Express

J243024070401uv

SATURDAY 1:30P
PRIORITY OVERNIGHT

TRK# 0201 **4254 2766 8461**

WO DTHA

92780
CA-US **SNA**

580-146567 Waybill

Loc: 580

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

Chain of Custody Record

580-146567 Chain of Custody

eurofins | Environment Testing

146567

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Cruz, Sheri L	COC No: 580-140160.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 1 of 3
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): NELAP - Oregon	Job #: 580-146567-1
Address: 2841 Dow Avenue, Suite 100, ,	Due Date Requested: 1/7/2025		Preservation Codes: -
City: Tustin	TAT Requested (days): N/A		
State, Zip: CA, 92780			
Phone: 714-895-5494(Tel)	PO #: N/A		
Email: N/A	WO #: N/A		
Project Name: Arkema - Q4 2024 Groundwater Event	Project #: 58016290		
Site: N/A	SSOW#: N/A		Other: N/A

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MWA-81i-121124 (580-146567-1)	12/11/24	08:00 Pacific	G	Water			X	1	
MWA-41-121124 (580-146567-2)	12/11/24	09:49 Pacific	G	Water			X	1	
PA-15i-121124 (580-146567-3)	12/11/24	07:49 Pacific	G	Water			X	1	
PA-24d-121124 (580-146567-4)	12/11/24	09:27 Pacific	G	Water			X	1	
MWA-82-121124 (580-146567-5)	12/11/24	11:31 Pacific	G	Water			X	1	
PA-23d-121124 (580-146567-6)	12/11/24	12:46 Pacific	G	Water			X	1	
PA-44i-121124 (580-146567-7)	12/11/24	13:26 Pacific	G	Water			X	1	
RB-01-121124 (580-146567-8)	12/11/24	13:30 Pacific	G	Water			X	1	
PA-22d-121224 (580-146567-10)	12/12/24	07:21 Pacific	G	Water			X	1	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		12/13/24 1700	ET			
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12-14-24 0945	Company ET
	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: -G / 1.3 SC12

Ver: 10/10/2024

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): N/A	COC No: 580-140160.2
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 2 of 3
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): NELAP - Oregon		Job #: 580-146567-1
Address: 2841 Dow Avenue, Suite 100, ,	Due Date Requested: 1/7/2025			Preservation Codes: -
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			Other: N/A
Email: N/A	WO #: N/A			
Project Name: Arkema - Q4 2024 Groundwater Event	Project #: 58016290			
Site: N/A	SSOW#: N/A			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MWA-31i(d)-121224 (580-146567-11)	12/12/24	07:24 Pacific	G	Water			X	1	
MWA-58d-121224 (580-146567-12)	12/12/24	08:56 Pacific	G	Water			X	1	
PA-20d-121224 (580-146567-13)	12/12/24	09:56 Pacific	G	Water			X	1	
Dup-02-121224 (580-146567-14)	12/12/24	12:00 Pacific	G	Water			X	1	
PA-19d-121224 (580-146567-15)	12/12/24	12:47 Pacific	G	Water			X	1	
MWA-56d-121224 (580-146567-16)	12/12/24	11:53 Pacific	G	Water			X	1	
MWA-56d-121224 (580-146567-16MS)	12/12/24	11:53 Pacific	G	Water			X	1	
MWA-56d-121224 (580-146567-16MSD)	12/12/24	11:53 Pacific	G	Water			X	1	
PA-30d-121224 (580-146567-17)	12/12/24	14:23 Pacific	G	Water			X	1	

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

Possible Hazard Identification *Unconfirmed*	***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) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/13/24 1700	EET			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12/14/24 1145	Company EC
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 10/10/2024

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): N/A	COC No: 580-140160.3
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 3 of 3
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): NELAP - Oregon		Job #: 580-146567-1
Address: 2841 Dow Avenue, Suite 100, ,	Due Date Requested: 1/7/2025			Preservation Codes: -
City: Tustin	TAT Requested (days): N/A			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Arkema - Q4 2024 Groundwater Event	Project #: 58016290			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MWA-11i(d)-121224 (580-146567-18)	12/12/24	13:54 Pacific	G	Water			X	1	
RB-02-121224 (580-146567-19)	12/12/24	06:00 Pacific	G	Water			X	1	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12/19 745	Company EC
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: 10/10/2024

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-146567-1

Login Number: 146567
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: 580-146567-1

Login Number: 146567
List Number: 2
Creator: Skinner, Alma D

List Source: Eurofins Calscience
List Creation: 12/16/24 09:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	1.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

ERM

1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

T +1 503 488 5282

erm.com

MEMO

TO	Sarah Seekins
FROM	Isaac Barraza
DATE	2025-01-17
REFERENCE	0732445
SUBJECT	Data Review of Arkema, Fourth Quarter 2024 Groundwater. Samples Collected December 9-12, 2024: Eurofins, Data Package(s) 580-146493-1 and 580-146567-1.

Environmental Resources Management, Inc. (ERM) assessed the data quality and applied any necessary qualifiers following the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, November 2020 and *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review*, November 2020. Field duplicates were assessed following *Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures*, September 2020.

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

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

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

© Copyright 2025 by The ERM International Group Limited and/or its affiliates ('ERM'). All Rights Reserved.
No part of this work may be reproduced or transmitted in any form or by any means, without prior written permission of ERM.

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

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

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

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

List of Attached Tables	
Table 1:	Samples with Non-Preferred Results
Table 2:	Case Narrative Evaluation
Table 3:	Laboratory Blank Evaluation
Table 4:	Field Blank Evaluation
Table 5:	Matrix Spike Evaluation
Table 6:	Field Duplicate Evaluation

List of Attached Tables

CHAIN-OF-CUSTODY DISCREPANCIES

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

SAMPLES WITH NON-PREFERRED RESULTS

Samples referenced in Table 1 had more than one final result reported for a single analyte and method combination due to the following possible reasons.

- Analyte concentration exceeds calibration range; concentration within calibration preferred

Non-preferred results are considered not reportable and should not be used for reporting or for decision making purposes. Non-preferred results have been excluded from the subsequent outlier tables in this report.

CASE NARRATIVE EVALUATION

The laboratory observed additional issues encountered during sample preparation or analysis as noted in Table 2.

PRESERVATION EVALUATION

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

HOLDING TIME EVALUATION

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

LABORATORY BLANK EVALUATION

The laboratory blank sample results were non-detected for each of the target analytes, with the exceptions and any necessary qualifications noted in Table 3. The following criteria were taken into consideration when assessing blank contamination and applying any necessary qualifications:

- Non-detected results or results greater than five times the blank concentration (ten times for inorganics or common laboratory contaminants) were considered not affected by contamination and were not qualified.

- If results were associated with more than one blank, the greater of the two blank concentrations was used for applying qualifications.
- Results less than the reporting limit, as adjusted for dilution, were qualified as non-detect (U) at the sample reporting limit.
- Results within five times the blank concentration (ten times for inorganics or common laboratory contaminants), greater than the reporting limit, but less than the blank concentration, as adjusted for dilution, were qualified as non-detect (U) at the sample concentration.
- Results within five times the blank concentration (ten times for inorganics or common laboratory contaminants), greater than the reporting limit, and greater than the blank concentration, as adjusted for dilution, were qualified as estimates with a high bias (J+).

FIELD BLANK EVALUATION

The trip and rinse blank sample results were non-detected for each of the target analytes, with the exceptions and any necessary qualifications noted in Table 4. Any field blank detections associated with laboratory blank contamination and qualified as non-detected (U) are not included in Table 4. The following criteria were taken into consideration when assessing blank contamination and applying any necessary qualifications:

- Non-detected results or results greater than five times the blank concentration (ten times for inorganics or common laboratory contaminants) were considered not affected by contamination and were not qualified.
- If results were associated with more than one blank, the greater of the two blank concentrations was used for applying qualifications.
- Results less than the reporting limit were qualified as non-detect (U) at the sample reporting limit.
- Results within five times the blank concentration (ten times for inorganics or common laboratory contaminants), greater than the reporting limit, but less than the blank concentration were qualified as non-detect (U) at the sample concentration.
- Results within five times the blank concentration (ten times for inorganics or common laboratory contaminants), greater than the reporting limit, and greater than the blank concentration were qualified as estimates with a high bias (J+).
- Equipment and field blank results associated with method blank contamination were attributed to and qualified for laboratory introduced contamination. No additional qualifications were made to sample results based on the equipment and/or field blanks in these instances.

LABORATORY CONTROL SPIKE EVALUATION

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

MATRIX SPIKE EVALUATION

The matrix spike (MS) recoveries and, if included, the matrix spike duplicate (MSD) recoveries and RPDs were within the laboratory's limits of acceptance for target analytes for spiked project samples, with the exceptions and any necessary qualifications noted in Table 5. MS/MSDs performed on non-project parent samples, if included, are not representative of the matrix for this project and were therefore not reviewed or presented. Results were not qualified if the paired spiked sample recovery was acceptable, if high recoveries or RPDs were associated with non-detected results, if the parent sample result was greater than four times that of the spike, if the spike was diluted out, or if the exception was not associated with reported results.

SURROGATE EVALUATION

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

FIELD DUPLICATE EVALUATION

One or more samples were submitted to the laboratory as field duplicates. RPDs or absolute differences were calculated as appropriate for detected results. When results were greater than or equal to five times the reporting limit, RPD control limits of 30 for an aqueous matrix or 50 for a non-aqueous matrix were used. When results were less than five times the reporting limit, difference limits of ± two times the reporting limit for an aqueous matrix or ± four times the reporting limit for a non-aqueous matrix were used. Control limits were not applicable if both results were less than the reporting limits. If one result was greater than the reporting limit and the other was not detected, the reporting limit for the non-detect result was used when calculating differences. Additionally, if the reporting limits were not the same between the parent and field duplicate samples, professional judgment was used to determine the difference control limit or if the calculation was meaningful. The RPDs and/or absolute differences were within QAPP criteria or EPA Region 1 guidance, whichever is applicable, with any exceptions and necessary qualifications noted in Table 6.

CALIBRATION RANGE EVALUATION

All results were reported within each instrument's calibration range, with the exceptions and any necessary qualifications noted in Table 7.

PROFESSIONAL JUDGEMENT EVALUATION

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

OVERALL ASSESSMENT

None of the data required rejection. All the data, including any qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents.

Table 1
Samples with Non-Preferred Results
Fourth Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Sample ID	Method	Analysis Date/Time	Reason	Analyte	Result	Units
580-146567-1	MWA-56D-121224	314.0	12/19/2024 3:23	Analyte concentration exceeds calibration range; concentration within calibration preferred	Perchlorate	19000	µg/L

Notes:
µg/L = micrograms per liter

Table 2
Case Narrative Evaluation
Fourth Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Sample ID	Method	Analyte	Reason	ERM Qualifier
580-146493-1	PA-31-121024 PA-26D-121024 DUP-01-121024	8260D 8260D_LL	Chloromethane	Batch 580-480341 CCV high bias	J+
	None for qualification, associated samples ND		Acetone		--
			2-Butanone		
			4-Methyl-2-pentanone		
580-146567-1	None for qualification, associated samples ND	8260D 8260D_LL	2-Butanone	Batch 580-480564 CCV high bias	--
	MWA-31I(D)-121224 MWA-56D-121224 MWA-58D-121224 MWA-82-121124 PA-19D-121224 PA-20D-121224 PA-22D-121224 PA-23D-121124 PA-44I-121124 TB-01-121224 RB-01-121124 RB-02-121224	8260D 8260D_LL	Dichlorodifluoromethane Bromomethane Chloroethane	Batch 580-480648 CCV low bias	UJ
	PA-30D-121224	8260D	Chloromethane	Batch 580-480717 CCV low bias	UJ
	None for qualification, associated samples ND	8260D 8260D_LL	Dichlorodifluoromethane	Batch 580-480750 CCV high bias	--
			1,1-Dichloroethene		
			Acetone		
			Methylene Chloride		
			Methyl tert-butyl ether		
			2-Butanone		
			trans-1,2-Dichloroethene		

Table 2
Case Narrative Evaluation
Fourth Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Sample ID	Method	Analyte	Reason	ERM Qualifier
580-146567-1	None for qualification, associated samples ND	8260D 8260D_LL	1,1-Dichloroethane	Batch 580-480750 CCV high bias	--
			2,2-Dichloropropane		
			cis-1,2-Dichloroethene		
580-146567-1	None for qualification, associated samples ND	8260D 8260D_LL	Chlorobromomethane	Batch 580-480750 CCV high bias	--
			1,1-Dichloropropene		
			Benzene		
			1,2-Dichloropropane		

Notes:
-- = not applicable; associated data not affected
CCV = continuing calibration verification
UJ = non-detected, estimated report limit

Table 3
Laboratory Blank Evaluation
Fourth Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Blank ID	Analyte	Reported Blank Conc.	Blank RL	Associated Sample	Assoc. Sample Result	Assoc. Sample RL	Units	ERM Qualifier
580-146493-1	MB 580-480341/7	Benzene	0.0438	0.20	PA-03-120924	0.088	0.20	µg/L	0.20 U
					PA-08-120924	0.041	0.20		
					TB-01-121024	0.034	0.20		
					PA-26d-121024	0.034	0.20		
					PA-09-121024	0.038	0.20		
					PA-16i-121024	0.048	0.20		
					PA-04-121024	0.066	0.20		
					Dup-01-121024	0.14	0.20		
					PA-32i-121024	0.14	0.20		
					PA-31-121024	0.13	0.20		
					PA-10i-121024	0.074	0.20		
					PA-25d-121024	0.049	0.20		
580-146567-1	MB 580-480750/11	Acetone	3.10	10	None for qualification, samples ND	--	--	µg/L	--
		Benzene	0.0980	0.20	MWA-11i(d)-121224	0.12	0.20		0.20 U

Notes:
-- = not applicable; associated data not affected
Conc. = concentration
MB = method blank
µg/L = micrograms per liter
RL = reporting limit
U = non-detected

Table 4
Field Blank Evaluation
Fourth Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Blank ID	Analyte	Reported Blank Conc.	Blank RL	Associated Sample	Assoc. Sample Result	Assoc. Sample RL	Units	ERM Qualifier
570-146567-1	RB-01-121124	Chloride	4.2	1.50	MWA-41-121124	4.9	1.5	mg/L	J+
					MWA-63-121024	15	1.5		
					MWA-81I-121124	33	1.5		
					MWA-82-121124	9.2	1.5		
					PA-03-120924	4.3	1.5		
					PA-04-121024	5.2	1.5		
					PA-09-121024	6.6	1.5		
					PA-10I-121024	25	1.5		
					PA-16I-121024	15	1.5		
					PA-25D-121024	30	1.5		
					PA-31-121024	4.2	1.5		

Notes:
Conc. = concentration
J+ = detected results are estimated with a high bias
mg/L = milligrams per liter
RB = rinse blank
RL = reporting limit

Table 5
Matrix Spike Evaluation
Fourth Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-146493-1	PA-25d-121024 MS/MSD	None for qualification, parent sample ND	trans-1,2-Dichloroethene	124/126	69-121	Pass	27	--	µg/L	--
			1,1-Dichloroethane	133/133	74-120	Pass	26			
			cis-1,2-Dichloroethene	126/121	72-120	Pass	22			
			1,1-Dichloropropene	138/136	72-125	Pass	23			
		PA-25d-121024	Benzene	128/132	80-120	Pass	22	0.049		J+
		None for qualification, parent sample ND	1,2-Dichloropropane	140/140	69-130	Pass	22	--		--
			Toluene	Pass/131	80-126	Pass	20			
			m-Xylene & p-Xylene	Pass/128	75-124	Pass	22			
			o-Xylene	Pass/125	71-124	Pass	23			
			1,1,2,2-Tetrachloroethane	Pass/139	67-136	Pass	24			
			N-Propylbenzene	Pass/127	72-126	Pass	20			
			2-Chlorotoluene	122/123	73-120	Pass	22			
			4-Chlorotoluene	Pass/130	75-124	Pass	23			
580-146567-1	MWA-56d-121224 MS/MSD	None for qualification, one recovery passes	Chloromethane	Pass/23	25-150	Pass	26	--	µg/L	--
			Vinyl chloride	Pass/30	31-150	Pass	26			
			Bromomethane	Pass/26	36-150	Pass	33			
			Chloroethane	Pass/28	38-150	Pass	28			
			Trichlorofluoromethane	Pass/29	45-148	Pass	35			
		MWA-56d-121224	Chloroform	53/67	78-127	Pass	14	160		J-
		None for qualification, parent sample > 4x spike concentration	Perchlorate	-8706/-9670	80-120	Pass	15	--	µg/L	--

Notes:
-- = not applicable; associated data not affected
4X = The unspiked sample result was greater than four times the spike concentration.
J- = detected results are estimated with a low bias
J+ = detected results are estimated with a high bias
MS = matrix spike
MSD = matrix spike duplicate
µg/L = micrograms per liter
ND = not detected
RPD = relative percent difference

Table 6
Field Duplicate Evaluation
Fourth Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Primary/Duplicate Sample ID	Analyte	Concentration		Report Limit		Units	AbD	RPD	Limit	ERM Qualifier
			Sample	Duplicate	Sample	Duplicate					
580-146493-1	PA-32i-121024/ Dup-01-121024	1,1-Dichloroethene	0.069	0.071	0.20	0.20	µg/L	--	--	NA	--
		1,1-Dichloroethane	0.10	0.11	0.20	0.20		--	--	NA	--
		cis-1,2-Dichloroethene	0.12	0.11	0.20	0.20		--	--	NA	--
		Benzene	0.14	0.14	0.20	0.20		--	--	NA	--
		Chlorobenzene	0.29	0.31	0.20	0.20		0.02	--	0.40	--
		1,2-Dichlorobenzene	0.30	0.30	0.30	0.30		0.00	--	0.60	--
		Chloromethane	ND	0.21	0.50	0.50		--	--	NA	--
		Chloroethane	ND	0.26	0.50	0.50		--	--	NA	--
		Chloride	79	78	1.5	1.5	mg/L	--	1.3	30	--
580-146567-1	PA-20d-121224/ Dup-02-121224	1,1-Dichloroethane	0.28	0.32	1.0	1.0	µg/L	--	--	NA	--
		Chlorobenzene	1.7	1.8	1.0	1.0		0.1	--	2.0	--
		Perchlorate	48	46	2.0	2.0		--	4.3	30	--
		Chloride	580	590	15	15	mg/L	--	1.7	30	--

Notes:
-- = not applicable; associated data not affected
AbD = absolute Difference
µg/L = micrograms per liter
mg/L = milligrams per liter
NA = not applicable
ND = not detected
RPD = relative percent difference

Table 7
Calibration Range Evaluation
Fourth Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Sample ID	Analyte	Reported Concentration	Units	ERM Qualifier
580-146567-1	MWA-56d-121224 MS	Perchlorate	16300	µg/L	No qualification for laboratory QC
	MWA-56d-121224 MSD		16100		

Notes:
MS = matrix spike
MSD = matrix spike duplicate
µg/L = micrograms per liter

APPENDIX D PRIOR GROUNDWATER MONITORING PROGRAM DATA TABLES AND GRAPHS

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-102319	10/23/2019	**5,900**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-021220	02/12/2020	**10,900**	**0.16 j**	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-051820	05/18/2020	**14,000**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-081820	08/18/2020	**16,000**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-102720	10/27/2020	**5,800**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-031821	03/18/2021	**18,000**	*< 0.025 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-092221	09/22/2021	**10,000**	*< 0.025 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-121421	12/14/2021	**5,300**	*< 0.025*	*< 2.0*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-031422	03/14/2022	**14,000 J-**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-060622	06/06/2022	**9,600**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-110722	11/07/2022	**21,000**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-030623	03/06/2023	**7,800**	*< 0.060 U*	*< 2.0 UJ*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-061323	06/13/2023	**7,500**	*< 0.060*	*< 2.0*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-082123	08/21/2023	**7,100**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-121023	12/10/2023	**5,600**	*< 0.20 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-022624	02/26/2024	**8,000**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-061024	06/10/2024	**7,600**	**0.060 j**	**2.6 j**
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-091024	09/10/2024	**18,000**	*< 0.060 U*	*< 0.91 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-121124	12/11/2024	**4,900 J+**	*< 0.060 U*	*< 0.91 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-110619	11/06/2019	**83,000**	*< 44 U*	*< 0.95 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-021720	02/17/2020	**8,400**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-052620	05/26/2020	**13,000**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-082420	08/24/2020	**29,000**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-110320	11/03/2020	**71,000**	*< 0.44 U*	*< 4.8 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-032921	03/29/2021	**7,200 J**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-092321	09/23/2021	**58,000 J**	*< 0.44 UJ*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-121521	12/15/2021	**14,000**	*< 0.44*	*< 2.0*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-031522	03/15/2022	**5,500 J-**	*< 4.4 UJ*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-060822	06/08/2022	**4,900**	*< 0.30 U*	**13**
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-110922	11/09/2022	**33,000**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-030923	03/09/2023	**5,500**	**5.6 j**	*< 10 UJ*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-061523	06/15/2023	**5,700 j**	*< 0.44*	*< 2.0*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-082323	08/23/2023	**17,000**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-121223	12/12/2023	**15,000**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-022724	02/27/2024	**4,500**	*< 4.4 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-061324	06/13/2024	**6,600**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-091024	09/10/2024	**23,000**	*< 0.44 U*	*< 0.91 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-121024	12/10/2024	**15,000 J+**	*< 0.44 U*	*< 4.5 U*
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-102319	10/23/2019	**14,700**	*< 0.44 U*	**190**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-021120	02/11/2020	**34,800**	**0.24**	*< 48 U*
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-051920	05/19/2020	**10,000**	*< 0.025 U*	**71 j**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-081820	08/18/2020	**15,000**	**0.030 j**	**530**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-102720	10/27/2020	**14,000**	*< 0.20 U*	**77**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-031821	03/18/2021	**11,000 J**	*< 0.025 U*	**290**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-092121	09/21/2021	**14,000**	*< 0.025 U*	**56**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-121421	12/14/2021	**13,000**	*< 0.025*	**150**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-031422	03/14/2022	**11,000 J-**	*< 0.060 U*	**52**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-060622	06/06/2022	**11,000**	*< 0.060 U*	**340**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-110722	11/07/2022	**9,000**	*< 0.060 U*	**120**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-030623	03/06/2023	**11,000**	*< 0.060 U*	**210 J-**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-061323	06/13/2023	**9,900**	*< 0.060*	**150**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-082123	08/21/2023	**9,700**	*< 0.060 U*	**210**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-121023	12/10/2023	**14,000**	*< 0.20 U*	*< 10 U*
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-022524	02/25/2024	**7,900**	*< 0.060 U*	**20**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-061024	06/10/2024	**11,000**	**0.11 j**	**270**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-090924	09/09/2024	**11,000**	*< 0.060 U*	**220**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-121124	12/11/2024	**9,200 J+**	*< 0.060 U*	**56**
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-102519	10/25/2019	**9,700**	*< 0.44 U*	*< 4.8 U*
Shallow	PA-03	GCC1 & Proximal Wells	Pa-03-021420	02/14/2020	**9,700**	**0.29**	*< 48 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-052120	05/21/2020	**8,300**	*< 0.025 U*	*< 48 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-081820	08/18/2020	**10,000**	*< 0.025 U*	*< 95 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-102820	10/28/2020	*< 9,000 U*	*< 0.025 U*	*< 19 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-032221	03/22/2021	**9,600 J**	*< 0.025 U*	*< 20 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-092221	09/22/2021	**7,800**	*< 0.025 U*	*< 20 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-121321	12/13/2021	**7,300**	*< 0.025*	*< 20*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-031622	03/16/2022	**7,300**	*< 0.060 U*	*< 20 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-060822	06/08/2022	**5,500**	*< 0.070 U*	*< 4.0 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-110822	11/08/2022	**6,200**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-030723	03/07/2023	**6,500**	*< 0.060 U*	*< 4.0 UJ*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-061423	06/14/2023	**4,500**	*< 0.060*	*< 2.0*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-082223	08/22/2023	**4,500**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-121123	12/11/2023	**4,600**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-022624	02/26/2024	**4,200**	*< 0.20 U*	*< 2.0 U*

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-061224	06/12/2024	**3,700**	*< 0.060 U*	*< 10 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-090924	09/09/2024	**3,800**	*< 0.060 U*	*< 9.1 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-120924	12/09/2024	**4,300 J+**	*< 0.060 U*	*< 9.1 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-102819	10/28/2019	**14,300**	*< 2.0 U*	*< 4.8 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-021720	02/17/2020	**13,700**	**0.14 j**	*< 48 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-052220	05/22/2020	**12,000**	*< 0.025 U*	*< 4.8 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-081920	08/19/2020	**14,000 J+**	*< 0.025 U*	*< 19 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-102920	10/29/2020	**12,000**	*< 0.025 U*	*< 4.8 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-032421	03/24/2021	**7,900 J**	*< 0.025 U*	*< 20 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-092221	09/22/2021	**11,000**	*< 0.025 U*	*< 10 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-121321	12/13/2021	**7,000**	*< 0.025*	*< 20*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-031722	03/17/2022	**6,500**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-060822	06/08/2022	**7,900**	*< 0.35 U*	*< 2.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-110922	11/09/2022	**4,600**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-030823	03/08/2023	**5,400**	*< 0.060 U*	*< 10 UJ*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-061523	06/15/2023	**6,900 j**	*< 0.060*	*< 4.0*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-082223	08/22/2023	**5,900**	*< 0.060 U*	*< 10 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-121223	12/12/2023	**6,100**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-022724	02/27/2024	**5,300**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-061224	06/12/2024	**5,700**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-091024	09/10/2024	**4,900**	*< 0.060 U*	*< 4.5 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-121024	12/10/2024	**5,200 J+**	*< 0.060 U*	*< 9.1 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-102219	10/22/2019	**201,000**	*< 0.44 U*	*< 19 U*
Shallow	PA-08	GCC6 & Proximal Wells	Pa-08-021320	02/13/2020	**197,000**	**0.53**	*< 48 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-051920	05/19/2020	**130,000**	**0.11 j**	*< 48 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-081820	08/18/2020	**100,000**	*< 0.025 U*	*< 48 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-102720	10/27/2020	**130,000**	**0.092 j**	*< 19 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-031821	03/18/2021	**110,000**	*< 0.025 U*	*< 20 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-092121	09/21/2021	**200,000**	*< 0.25 U*	*< 20 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-121321	12/13/2021	**130,000**	**0.084**	*< 20*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-031422	03/14/2022	**250,000 J-**	*< 0.060 U*	*< 20 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-060622	06/06/2022	**330,000**	*< 0.60 U*	*< 20 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-110722	11/07/2022	**770,000**	*< 0.060 U*	*< 10 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-030723	03/07/2023	**380,000**	**0.24**	*< 10 UJ*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-061323	06/13/2023	**110,000**	*< 0.060*	**11**
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-082123	08/21/2023	**53,000**	*< 0.060 U*	**17**
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-121123	12/11/2023	**29,000**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-022624	02/26/2024	**140,000**	*< 0.060 U*	*< 10 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-061024	06/10/2024	**190,000**	**0.10 j**	**19 j**
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-090924	09/09/2024	**280,000**	*< 0.060 U*	*< 9.1 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-120924	12/09/2024	**230,000**	*< 0.060 U*	**33**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-110119	11/01/2019	**23,600**	*< 0.44 U*	*< 48 U*
Shallow	PA-09	GCC6 & Proximal Wells	Pa-09-021220	02/12/2020	**199,000**	**0.16 j**	*< 0.95 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-051820	05/18/2020	**14,000**	*< 0.025 U*	*< 19 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-081820	08/18/2020	**160,000 J+**	*< 0.025 U*	*< 19 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-102820	10/28/2020	**14,000 J+**	*< 0.20 U*	**40**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-031621	03/16/2021	**19,000**	*< 0.025 U*	**36**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-092121	09/21/2021	**61,000**	*< 0.25 U*	*< 20 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-121321	12/13/2021	**13,000**	*< 0.25*	*< 20*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-031522	03/15/2022	**24,000 J-**	*< 0.060 U*	**20**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-060722	06/07/2022	**19,000**	*< 0.060 U*	**120**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-110822	11/08/2022	**68,000**	*< 0.060 U*	*< 10 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-030723	03/07/2023	**120,000 j**	**0.39**	*< 4.0 UJ*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-061323	06/13/2023	**110,000**	*< 0.060*	**6.2**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-082123	08/21/2023	**5,700**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-121123	12/11/2023	**5,600**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-022624	02/26/2024	**160,000**	*< 0.060 U*	*< 20 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-061024	06/10/2024	**130,000**	*< 0.060 U*	**11 j**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-090924	09/09/2024	**15,000**	*< 0.060 U*	**84**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-121024	12/10/2024	**6,600 J+**	*< 0.060 U*	*< 4.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-103019	10/30/2019	**9,300**	*< 0.44 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-021820	02/18/2020	**10,500**	**0.15 j**	*< 48 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-052720	05/27/2020	**9,500**	*< 0.025 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-082420	08/24/2020	**8,800 J+**	*< 0.025 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-110220	11/02/2020	**8,200 j**	*< 0.025 U*	*< 4.8 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-032921	03/29/2021	**5,500 J**	*< 0.025 U*	*< 20 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-092321	09/23/2021	**8,700**	*< 0.025 U*	*< 10 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-121521	12/15/2021	**7,000**	*< 0.025*	*< 20*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-031522	03/15/2022	**4,500 J-**	*< 0.060 U*	*< 10 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-060922	06/09/2022	**4,300**	*< 0.070 U*	*< 100 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-110822	11/08/2022	**5,900**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-030723	03/07/2023	**5,800 J+**	*< 0.060 U*	*< 2.0 UJ*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-061623	06/16/2023	**2,500**	*< 0.060*	*< 40*

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-082423	08/24/2023	**4,600**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-121223	12/12/2023	**6,400**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-022724	02/27/2024	**3,500**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-061324	06/13/2024	**3,800**	*< 0.060 U*	*< 10 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-091124	09/11/2024	**8,300**	*< 0.060 U*	*< 4.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-121024	12/10/2024	**4,200 J+**	*< 0.060 U*	*< 4.5 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-102319	10/23/2019	**49,800**	*< 0.44 U*	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-021220	02/12/2020	**37,300**	**0.26**	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-051820	05/18/2020	**95,000**	*< 0.025 U*	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-081820	08/18/2020	**190,000**	*< 0.025 U*	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-102720	10/27/2020	**66,000**	*< 0.025 U*	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-031821	03/18/2021	**42,000**	*< 0.025 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-092221	09/22/2021	**130,000**	*< 0.025 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-121421	12/14/2021	**58,000**	*< 0.025*	*< 4.0*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-031422	03/14/2022	**14,000 J-**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-060622	06/06/2022	**34,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-110722	11/07/2022	**610,000**	*< 0.060 U*	*< 10 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-030623	03/06/2023	**95,000**	*< 0.060 U*	*< 2.0 UJ*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-061323	06/13/2023	**27,000**	*< 0.060*	*< 2.0*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-082123	08/21/2023	**19,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-121023	12/10/2023	**39,000**	*< 0.20 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-022624	02/26/2024	**23,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-061024	06/10/2024	**26,000**	**0.085 j**	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-091024	09/10/2024	**8,400**	*< 0.060 U*	*< 0.91 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-121124	12/11/2024	**33,000 J+**	*< 0.060 U*	*< 0.91 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-102519	10/25/2019	**119,000**	*< 0.44 U*	*< 4.8 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-021720	02/17/2020	**98,600**	**0.52**	*< 48 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-052620	05/26/2020	**82,000**	**0.51**	*< 48 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-081920	08/19/2020	**67,000**	**0.52**	*< 95 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-102920	10/29/2020	**82,000**	**0.70**	*< 4.8 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-032421	03/24/2021	**1,300,000**	*< 0.44 U*	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-092221	09/22/2021	**76,000**	**0.67**	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-121321	12/13/2021	**72,000**	**0.65**	*< 20*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-031722	03/17/2022	**90,000**	*< 0.060 U*	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-060822	06/08/2022	**84,000**	**0.37 j**	*< 2.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-110922	11/09/2022	**45,000**	**1.5**	*< 10 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-030823	03/08/2023	**41,000**	**5.7**	*< 10 UJ*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-061623	06/16/2023	**35,000**	**1.3 J+**	*< 20*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-082223	08/22/2023	**53,000**	**0.67**	*< 4.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-121223	12/12/2023	**58,000**	**0.90**	*< 4.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-022724	02/27/2024	**55,000**	**0.53**	*< 10 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-061224	06/12/2024	**44,000**	**0.71**	*< 10 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-091024	09/10/2024	**30,000**	*< 0.060 U*	*< 9.1 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-121024	12/10/2024	**25,000 J+**	**0.64**	*< 91 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-110519	11/05/2019	**115,000**	*< 0.44 U*	*< 48 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	Pa-15i-021820	02/18/2020	**249,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-051820	05/18/2020	**270,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-081720	08/17/2020	**250,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-102620	10/26/2020	**230,000**	*< 2.5 U*	*< 4.8 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-031721	03/17/2021	**260,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-092121	09/21/2021	**360,000**	*< 0.25 U*	*< 20 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-121421	12/14/2021	**340,000**	*< 0.025*	*< 20*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-031422	03/14/2022	**250,000 J-**	*< 0.060 U*	*< 20 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-060622	06/06/2022	**300,000**	*< 0.60 U*	*< 20 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-110722	11/07/2022	**850,000**	**0.29**	*< 10 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-030823	03/08/2023	**290,000**	*< 0.060 U*	*< 10 UJ*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-061323	06/13/2023	**290,000**	**0.073 j**	*< 4.0*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-082123	08/21/2023	**41,000**	*< 0.060 U*	*< 10 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-121123	12/11/2023	**4,400**	*< 0.20 U*	*< 10 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-022624	02/26/2024	**20,000**	*< 0.060 U*	*< 10 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-061224	06/12/2024	**86,000 J-**	*< 0.060 U*	*< 10 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-090924	09/09/2024	**59,000**	*< 0.060 U*	*< 9.1 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-121124	12/11/2024	**64,000**	*< 0.060 U*	*< 9.1 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-110419	11/04/2019	**319,000**	*< 0.44 U*	*< 48 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-021220	02/12/2020	**186,000**	**0.22**	*< 48 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-051920	05/19/2020	**150,000**	**0.073 j**	*< 48 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-081920	08/19/2020	**95,000 J+**	**0.13 j**	*< 48 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-102720	10/27/2020	**69,000**	**0.31**	*< 4.8 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-031721	03/17/2021	**140,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-092121	09/21/2021	**50,000**	*< 0.25 U*	*< 10 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-121421	12/14/2021	**95,000**	**0.21**	*< 20*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-031522	03/15/2022	**110,000 J-**	*< 0.060 U*	*< 10 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-060722	06/07/2022	**110,000**	*< 0.30 U*	*< 20 U*

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-110822	11/08/2022	**270,000**	*< 0.060 U*	*< 4.0 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-030823	03/08/2023	**530,000**	*< 0.060 U*	*< 20 UJ*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-061423	06/14/2023	**120,000 J-**	*< 0.060*	*< 4.0*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-082223	08/22/2023	**35,000**	*< 0.060 U*	*< 4.0 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-121123	12/11/2023	**12,000**	*< 0.20 U*	*< 4.0 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-022724	02/27/2024	**12,000**	*< 0.060 U*	*< 20 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-061024	06/10/2024	**17,000**	*< 0.060 U*	*< 10 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-121024	12/10/2024	**15,000 J+**	**0.15 j**	*< 9.1 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-102819	10/28/2019	**73,600**	**0.57 j**	*< 48 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-021920	02/19/2020	**65,400**	**24**	*< 190 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-052120	05/21/2020	**60,000**	**0.16 j**	*< 48 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-082420	08/24/2020	**62,000**	*< 0.025 U*	*< 95 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-102820	10/28/2020	**50,000**	*< 0.20 U*	*< 4.8 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-032321	03/23/2021	**43,000**	**0.15 J**	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-092221	09/22/2021	**35,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-121321	12/13/2021	**30,000**	*< 0.025*	*< 20*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-031622	03/16/2022	**23,000**	**0.072 j**	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-060822	06/08/2022	**26,000**	*< 0.70 U*	*< 10 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-110822	11/08/2022	**13,000**	*< 0.60 U*	*< 10 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-030823	03/08/2023	**25,000**	*< 0.060 U*	*< 10 UJ*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-061423	06/14/2023	**15,000**	**0.073 j**	*< 4.0*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-082223	08/22/2023	**8,800 J**	*< 0.060 U*	*< 2.0 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-121123	12/11/2023	**20,000**	*< 0.20 U*	*< 4.0 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-022624	02/26/2024	**32,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-061224	06/12/2024	**35,000**	**0.16 j**	*< 10 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-090924	09/09/2024	**43,000**	*< 0.060 U*	*< 9.1 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-120924	12/09/2024	**49,000**	**0.12 j**	*< 91 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-103019	10/30/2019	**161,000**	*< 0.44 U*	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-021820	02/18/2020	**170,000**	**0.50 J+**	*< 190 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-052220	05/22/2020	**160,000**	**0.28**	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-082120	08/21/2020	**150,000 J+**	**0.30**	*< 95 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-110220	11/02/2020	**170,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-040121	04/01/2021	**130,000**	**0.43**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-092321	09/23/2021	**100,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-121521	12/15/2021	**93,000**	**0.29**	*< 20*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-031522	03/15/2022	**89,000 J-**	**0.28 J+**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-060922	06/09/2022	**87,000**	*< 0.70 U*	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-110822	11/08/2022	**75,000 J-**	**0.28**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-030723	03/07/2023	**83,000 j**	*< 0.060 U*	*< 20 UJ*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-061623	06/16/2023	**31,000**	*< 0.29 U*	*< 40*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-082423	08/24/2023	**71,000**	**0.13 j**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-121323	12/13/2023	**32,000**	**0.15 j**	*< 4.0 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-022824	02/28/2024	**7,600,000**	**0.29**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-061324	06/13/2024	**85,000**	**0.36**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-091124	09/11/2024	**88,000**	**0.21**	*< 18 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-121024	12/10/2024	**79,000**	**0.29**	*< 91 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-102919	10/29/2019	**243,000**	*< 0.44 U*	*< 4.8 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-021220	02/12/2020	**99,200**	**0.18 j**	*< 48 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-051920	05/19/2020	**53,000**	*< 0.025 U*	*< 95 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-081820	08/18/2020	**76,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-102720	10/27/2020	**34,000**	*< 0.025 U*	*< 4.8 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-031621	03/16/2021	**60,000**	*< 0.025 U*	**7.1 J**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-092321	09/23/2021	**39,000**	*< 0.025 U*	**390**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-121421	12/14/2021	**51,000**	*< 0.025*	**130**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-031522	03/15/2022	**23,000 J-**	*< 0.060 U*	**270**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-060622	06/06/2022	**47,000**	*< 0.30 U*	**66**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-110722	11/07/2022	**75,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-030623	03/06/2023	**15,000**	*< 0.060 U*	*< 2.0 UJ*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-061323	06/13/2023	**20,000**	*< 0.060*	*< 2.0*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-082223	08/22/2023	**370,000**	*< 0.060 U*	*< 10 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-121023	12/10/2023	**1,900**	*< 0.060 U*	*< 4.0 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-022524	02/25/2024	**93,000**	*< 0.060 U*	*< 10 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-061124	06/11/2024	**320,000**	*< 0.060 U*	*< 10 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-091024	09/10/2024	**220,000**	*< 0.060 U*	*< 4.5 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-121124	12/11/2024	**55,000**	*< 0.060 U*	*< 9.1 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-110519	11/05/2019	**1,640,000**	*< 0.44 U*	*< 48 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-022620	02/26/2020	**1,480,000**	**2.4**	*< 0.95 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	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 GCC	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 GCC	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 GCC	MWA-11i(d)-040221	04/02/2021	**180,000**	**0.039 J**	*< 20 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-092421	09/24/2021	**1,700,000**	**0.047 j**	*< 10 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-121621	12/16/2021	**1,500,000**	*< 0.025*	*< 20*

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-031722	03/17/2022	**2,200,000**	**0.060 j**	*< 20 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-060922	06/09/2022	**2,000,000**	*< 0.70 U*	*< 20 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-111022	11/10/2022	**1,600,000**	**1.1**	*< 40 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-030923	03/09/2023	**1,200,000**	*< 0.060 U*	*< 20 UJ*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-061623	06/16/2023	**450,000**	**7.0**	*< 10*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-082323	08/23/2023	**830,000**	*< 0.060 U*	*< 10 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-121323	12/13/2023	**780,000**	*< 0.060 U*	*< 10 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-022824	02/28/2024	**6,300,000**	**0.061 j**	*< 10 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-061324	06/13/2024	**650,000**	*< 0.060 U*	*< 10 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-091124	09/11/2024	**530,000**	*< 0.060 U*	*< 0.91 U*
Deep	MWA-11i(d)	Well Distal from BW and GCC	MWA-11i(d)-121224	12/12/2024	**570,000**	*< 0.060 U*	*< 0.91 U*
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-102419	10/24/2019	**25,900,000**	**0.57 j**	**100,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-021320	02/13/2020	**27,700,000**	**0.58 j**	**91,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-052020	05/20/2020	**27,000,000**	*< 0.44 U*	**100,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-081920	08/19/2020	**23,000,000**	**0.52 j**	**89,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-103020	10/30/2020	**30,000,000**	*< 0.44 U*	**91,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-032421	03/24/2021	**27,000,000**	*< 0.44 U*	**91,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-092321	09/23/2021	**29,000,000**	*< 0.44 U*	**91,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-121521	12/15/2021	**18,000,000**	*< 0.44*	**99,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-031622	03/16/2022	**20,000,000**	*< 0.44 U*	**97,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-060722	06/07/2022	**28,000,000**	**0.32 j**	**100,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-111022	11/10/2022	**19,000,000**	**0.55 J**	**97,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-030923	03/09/2023	**25,000,000**	**0.58 j**	**97,000 J-**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-061523	06/15/2023	**16,000,000**	*< 1.0 U*	**86,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-082323	08/23/2023	**27,000,000**	*< 0.44 U*	**98,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-121123	12/11/2023	**14,000,000**	*< 0.44 U*	**28,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-022824	02/28/2024	**26,000,000**	*< 0.44 U*	**100,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-061224	06/12/2024	**21,000,000**	*< 4.4 U*	**100,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-091024	09/10/2024	**16,000,000**	*< 0.44 U*	**87,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-121224	12/12/2024	**13,000,000**	*< 0.44 U*	**74,000**
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**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-082323	08/23/2023	**14,000,000**	*< 4.4 U*	**14,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-121223	12/12/2023	**14,000,000**	*< 4.4 U*	**14,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-022824	02/28/2024	**14,000,000**	*< 4.4 U*	**16,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-061224	06/12/2024	**13,000,000**	*< 4.4 U*	**15,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-091124	09/11/2024	**10,000,000**	*< 4.4 U*	**14,000 J**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-121224	12/12/2024	**12,000,000**	*< 4.4 U*	**13,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-102519	10/25/2019	**18,900,000**	*< 0.44 U*	**61,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-021320	02/13/2020	**21,100,000**	*< 0.44 U*	**49,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-052120	05/21/2020	**19,000,000**	*< 0.44 U*	**46,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-082020	08/20/2020	**20,000,000**	*< 0.44 U*	**45,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-102920	10/29/2020	**20,000,000**	*< 0.44 U*	**44,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-032621	03/26/2021	**29,000,000 J-**	*< 0.44 U*	**43,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-092421	09/24/2021	**23,000,000**	*< 0.44 U*	**43,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-121621	12/16/2021	**23,000,000**	*< 4.4*	**38,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-031722	03/17/2022	**26,000,000**	*< 4.4 U*	**44,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-060822	06/08/2022	**23,000,000**	*< 0.30 U*	**47,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-110922	11/09/2022	**19,000,000**	*< 0.44 UJ*	**49,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-030923	03/09/2023	**22,000,000**	*< 2.2 U*	**49,000 J-**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-061523	06/15/2023	**19,000,000**	*< 2.2*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-082323	08/23/2023	**20,000,000**	*< 2.2 U*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-121223	12/12/2023	**19,000,000**	*< 2.2 U*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-022824	02/28/2024	**19,000,000**	*< 4.4 U*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-061224	06/12/2024	**19,000,000**	*< 4.4 U*	**47,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-091124	09/11/2024	**17,000,000**	*< 4.4 U*	**54,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-121224	12/12/2024	**17,000,000**	*< 4.4 U*	**51,000**
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-032921	03/29/2021	**110,000**	**81**	*< 20 U*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-030923	03/09/2023	**50,000**	*< 0.44 U*	*< 20 UJ*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-061623	06/16/2023	**27,000 J-**	*< 0.44*	*< 40*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-082123	08/21/2023	**80,000**	*< 0.44 U*	*< 10 U*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-121223	12/12/2023	**54,000**	*< 0.44 U*	*< 10 U*

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-022724	02/27/2024	**98,000**	*< 0.44 U*	*< 20 U*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-061224	06/12/2024	**85,000**	*< 0.44 U*	*< 10 U*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-090924	09/09/2024	**67,000**	*< 0.44 U*	*< 9.1 U*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18d-121024	12/10/2024	**65,000**	*< 0.44 U*	*< 91 U*
Deep	PA-19d	GCC2	Pa-19d-110619	11/06/2019	**94,000**	**9,300 J-**	*< 48 U*
Deep	PA-19d	GCC2	Pa-19d-022620	02/26/2020	**111,000**	**8,300**	*< 48 U*
Deep	PA-19d	GCC2	PA-19d-052920	05/29/2020	**140,000**	**8,200**	*< 48 U*
Deep	PA-19d	GCC2	PA-19d-082620	08/26/2020	**160,000**	**5,200**	*< 95 U*
Deep	PA-19d	GCC2	PA-19d-110520	11/05/2020	**180,000**	**3,800**	*< 48 U*
Deep	PA-19d	GCC2	PA-19d-040521	04/05/2021	**340,000**	**7,100**	*< 20 U*
Deep	PA-19d	GCC2	PA-19d-092321	09/23/2021	**320,000 J**	*< 0.44 R*	*< 20 U*
Deep	PA-19d	GCC2	PA-19d-121621	12/16/2021	**330,000**	**2,700 J**	*< 200*
Deep	PA-19d	GCC2	PA-19d-031722	03/17/2022	**340,000**	**2,600**	*< 20 U*
Deep	PA-19d	GCC2	PA-19d-060922	06/09/2022	**360,000**	**3,200**	*< 20 U*
Deep	PA-19d	GCC2	PA-19d-111022	11/10/2022	**280,000**	**2,500**	*< 20 U*
Deep	PA-19d	GCC2	PA-19d-030923	03/09/2023	**350,000**	**12,000 J**	*< 10 UJ*
Deep	PA-19d	GCC2	PA-19d-061623	06/16/2023	**320,000**	**9,000**	*< 40*
Deep	PA-19d	GCC2	PA-19d-082423	08/24/2023	**320,000**	**6,600**	*< 20 U*
Deep	PA-19d	GCC2	PA-19d-121323	12/13/2023	**340,000**	**7,600**	*< 10 U*
Deep	PA-19d	GCC2	PA-19d-022824	02/28/2024	**330,000**	**5,700**	*< 10 U*
Deep	PA-19d	GCC2	PA-19d-061324	06/13/2024	**290,000**	**12,000**	*< 20 U*
Deep	PA-19d	GCC2	PA-19d-091124	09/11/2024	**270,000**	**6,300**	*< 4.5 U*
Deep	PA-19d	GCC2	PA-19d-121224	12/12/2024	**300,000**	**11,000**	**100**
Deep	PA-20d	GCC3	PA-20d-110719	11/07/2019	**570,000**	**41**	**56 J+**
Deep	PA-20d	GCC3	Pa-20d-022420	02/24/2020	**789,000**	**39**	**58**
Deep	PA-20d	GCC3	PA-20d-052120	05/21/2020	**840,000**	**40**	**46**
Deep	PA-20d	GCC3	PA-20d-082520	08/25/2020	**800,000 J+**	**31**	**58**
Deep	PA-20d	GCC3	PA-20d-110320	11/03/2020	**840,000**	**37 J**	**61**
Deep	PA-20d	GCC3	PA-20d-032521	03/25/2021	**1,100,000**	**23**	**76**
Deep	PA-20d	GCC3	PA-20d-092221	09/22/2021	**1,100,000**	**24**	**99**
Deep	PA-20d	GCC3	PA-20d-121521	12/15/2021	**1,000,000**	**23**	*< 100*
Deep	PA-20d	GCC3	PA-20d-031722	03/17/2022	**1,200,000**	**12**	**140**
Deep	PA-20d	GCC3	PA-20d-060922	06/09/2022	**1,100,000**	**18**	*< 20 U*
Deep	PA-20d	GCC3	PA-20d-111022	11/10/2022	**1,000,000**	**9.3**	*< 20 U*
Deep	PA-20d	GCC3	PA-20d-030923	03/09/2023	**1,100,000**	**13**	*< 10 UJ*
Deep	PA-20d	GCC3	PA-20d-061523	06/15/2023	**880,000**	**14**	*< 20*
Deep	PA-20d	GCC3	PA-20d-082323	08/23/2023	**840,000**	**20**	*< 10 U*
Deep	PA-20d	GCC3	PA-20d-121223	12/12/2023	**810,000**	**18**	*< 10 U*
Deep	PA-20d	GCC3	PA-20d-022824	02/28/2024	**820,000**	**14**	*< 10 U*
Deep	PA-20d	GCC3	PA-20d-061324	06/13/2024	**680,000**	**4.5**	*< 10 U*
Deep	PA-20d	GCC3	PA-20d-091124	09/11/2024	**620,000**	**2.7**	**74**
Deep	PA-20d	GCC3	PA-20d-121224	12/12/2024	**580,000**	**1.7**	**48**
Deep	PA-21d	GCC3	Pa-21d-110719	11/07/2019	**347,000**	**27,000**	**2,400**
Deep	PA-21d	GCC3	Pa-21d-022620	02/26/2020	**463,000**	**38,000**	**1,300**
Deep	PA-21d	GCC3	PA-21d-052120	05/21/2020	**420,000**	**49,000 J**	**1,200**
Deep	PA-21d	GCC3	PA-21d-082520	08/25/2020	**360,000**	**36,000**	**1,300**
Deep	PA-21d	GCC3	PA-21d-110420	11/04/2020	**370,000**	**40,000 J+**	**1,300**
Deep	PA-21d	GCC3	PA-21d-040121	04/01/2021	**430,000**	**47,000**	*< 20 U*
Deep	PA-21d	GCC3	PA-21d-092421	09/24/2021	**350,000**	**39,000 J**	**1,800**
Deep	PA-21d	GCC3	PA-21d-121521	12/15/2021	**320,000**	**49,000 J**	**1,200**
Deep	PA-21d	GCC3	PA-21d-031722	03/17/2022	**360,000**	**16,000**	**1,100**
Deep	PA-21d	GCC3	PA-21d-060922	06/09/2022	**360,000**	**27,000**	*< 20 U*
Deep	PA-21d	GCC3	PA-21d-111022	11/10/2022	**290,000**	**15,000**	*< 100 U*
Deep	PA-21d	GCC3	PA-21d-030923	03/09/2023	**340,000**	**30,000 J**	**110 J-**
Deep	PA-21d	GCC3	PA-21d-061623	06/16/2023	**330,000**	**23,000**	*< 100*
Deep	PA-21d	GCC3	PA-21d-082323	08/23/2023	**330,000**	**26,000**	*< 100 U*
Deep	PA-21d	GCC3	PA-21d-121223	12/12/2023	**340,000**	**11,000**	*< 10 U*
Deep	PA-21d	GCC3	PA-21d-022824	02/28/2024	**300,000**	**27,000**	*< 10 U*
Deep	PA-21d	GCC3	PA-21d-061324	06/13/2024	**300,000**	**41,000**	*< 10 U*
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-102419	10/24/2019	**10,200,000**	*< 0.44 U*	**54,000**
Deep	PA-22d	GCC4 & Proximal Wells	Pa-22d-022120	02/21/2020	**9,190,000**	*< 0.44 U*	**38,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-052020	05/20/2020	**9,800,000**	*< 0.44 U*	**40,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-082120	08/21/2020	**9,200,000 J+**	*< 0.44 U*	**38,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-110320	11/03/2020	**9,100,000**	*< 0.44 U*	**37,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-032421	03/24/2021	**8,200,000**	*< 0.44 U*	**33,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-092221	09/22/2021	**7,400,000**	*< 0.44 U*	**26,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-121521	12/15/2021	**7,100,000**	*< 0.44*	**24,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-031622	03/16/2022	**8,000,000**	*< 0.44 U*	**23,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-060822	06/08/2022	**7,300,000**	*< 0.30 U*	**22,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-110922	11/09/2022	**6,000,000**	*< 0.44 U*	**17,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-030823	03/08/2023	**6,000,000**	*< 0.44 U*	**17,000 J-**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-061523	06/15/2023	**5,600,000**	*< 0.44*	**15,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-082323	08/23/2023	**4,800,000**	*< 0.44 U*	**13,000**

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-121223	12/12/2023	**5,300,000**	*< 0.44 U*	**13,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-022724	02/27/2024	**5,300,000**	*< 0.44 U*	**14,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-061224	06/12/2024	**5,100,000**	*< 0.44 U*	**14,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-091124	09/11/2024	**4,300,000**	*< 0.44 U*	**15,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-121224	12/12/2024	**5,000,000**	*< 0.44 U*	**14,000**
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-110519	11/05/2019	**12,500**	**2.8**	*< 0.95 U*
Deep	PA-23d	GCC5 & Proximal Wells	Pa-23d-021920	02/19/2020	**5,690,000**	*< 0.44 U*	*< 0.95 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-052020	05/20/2020	**12,000,000**	**1.3 j**	*< 4.8 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-082020	08/20/2020	**22,000,000**	*< 0.44 U*	*< 4.8 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-102920	10/29/2020	**27,000,000**	*< 0.44 U*	*< 0.95 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-032521	03/25/2021	**16,000,000**	*< 0.44 U*	*< 1,000 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-092321	09/23/2021	**17,000,000**	*< 0.44 U*	*< 100 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-121421	12/14/2021	**5,700,000**	*< 0.44*	*< 50*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-031622	03/16/2022	**89,000**	*< 0.44 U*	*< 2.0 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-060722	06/07/2022	**9,700,000**	*< 0.30 U*	*< 100 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-111022	11/10/2022	**6,900,000**	*< 0.44 U*	*< 200 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-030823	03/08/2023	**17,000,000**	*< 0.44 U*	*< 200 UJ*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-061523	06/15/2023	**25,000,000**	*< 0.44*	*< 400*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-082223	08/22/2023	**29,000,000**	*< 0.44 U*	*< 400 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-121123	12/11/2023	**30,000,000**	*< 0.44 U*	*< 300 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-022724	02/27/2024	**9,700,000**	*< 0.44 U*	*< 100 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-061124	06/11/2024	**31,000,000**	*< 0.44 U*	*< 400 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-091024	09/10/2024	**33,000,000**	*< 0.44 U*	*< 18 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-121124	12/11/2024	**31,000,000**	*< 0.44 U*	*< 0.91 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-110619	11/06/2019	**42,300,000**	*< 0.44 U*	*< 48 U*
Deep	PA-24d	GCC5 & Proximal Wells	Pa-24d-022020	02/20/2020	**41,500,000**	*< 0.44 U*	*< 48 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-051920	05/19/2020	**46,000,000**	*< 0.44 U*	*< 48 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-082020	08/20/2020	**43,000,000**	*< 0.44 U*	*< 19 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-102920	10/29/2020	**44,000,000**	*< 0.44 U*	*< 4.8 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-031821	03/18/2021	**44,000,000**	*< 0.44 U*	*< 200 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-092221	09/22/2021	**38,000,000**	*< 0.44 U*	*< 100 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-121521	12/15/2021	**35,000,000**	*< 0.44*	*< 200*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-031622	03/16/2022	**38,000,000**	*< 0.44 U*	*< 200 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-060722	06/07/2022	**35,000,000**	*< 0.30 U*	*< 400 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-111022	11/10/2022	**32,000,000**	*< 0.44 U*	*< 200 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-030823	03/08/2023	**33,000,000**	*< 0.44 U*	*< 400 UJ*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-061523	06/15/2023	**33,000,000**	*< 0.44*	*< 400*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-082223	08/22/2023	**31,000,000**	*< 0.44 U*	*< 400 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-121123	12/11/2023	**31,000,000**	*< 0.44 U*	*< 200 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-022724	02/27/2024	**30,000,000**	*< 0.44 U*	*< 400 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-061224	06/12/2024	**30,000,000**	*< 0.44 U*	*< 400 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-091024	09/10/2024	**30,000,000**	*< 0.44 U*	*< 18 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-121124	12/11/2024	**30,000,000**	*< 0.44 U*	*< 0.91 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-110519	11/05/2019	**1,100**	*< 0.44 U*	*< 0.95 U*
Deep	PA-25d	GCC6 & Proximal Wells	Pa-25d-021820	02/18/2020	**22,100**	*< 0.025 U*	*< 0.95 U*
Deep	PA-25d	GCC6 & Proximal Wells	Pa-25d-051820	05/18/2020	**23,000**	*< 0.025 U*	*< 0.95 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-081820	08/18/2020	**24,000**	*< 0.025 U*	*< 9.5 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-102720	10/27/2020	**20,000**	*< 0.20 U*	*< 0.95 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-031821	03/18/2021	**20,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-092121	09/22/2021	**24,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-121421	12/14/2021	**23,000**	*< 0.025*	*< 2.0*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-031422	03/14/2022	**18,000 J-**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-060722	06/07/2022	**23,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-110722	11/07/2022	**34,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-030823	03/08/2023	**11,000 J+**	*< 0.060 U*	*< 2.0 UJ*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-061323	06/13/2023	**10,000**	*< 0.060*	*< 2.0*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-082223	08/22/2023	**24,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-121123	12/11/2023	**12,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-022724	02/27/2024	**13,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-061124	06/11/2024	**30,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-090924	09/09/2024	**21,000**	*< 0.060 U*	*< 0.91 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-121024	12/10/2024	**30,000 J+**	*< 0.060 U*	*< 0.91 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-110419	11/04/2019	**7,400**	*< 0.44 U*	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	Pa-26d-021320	02/13/2020	**46,000**	**0.71**	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-051820	05/18/2020	**48,000**	*< 0.025 U*	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-081920	08/19/2020	**48,000**	*< 0.025 U*	*< 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*

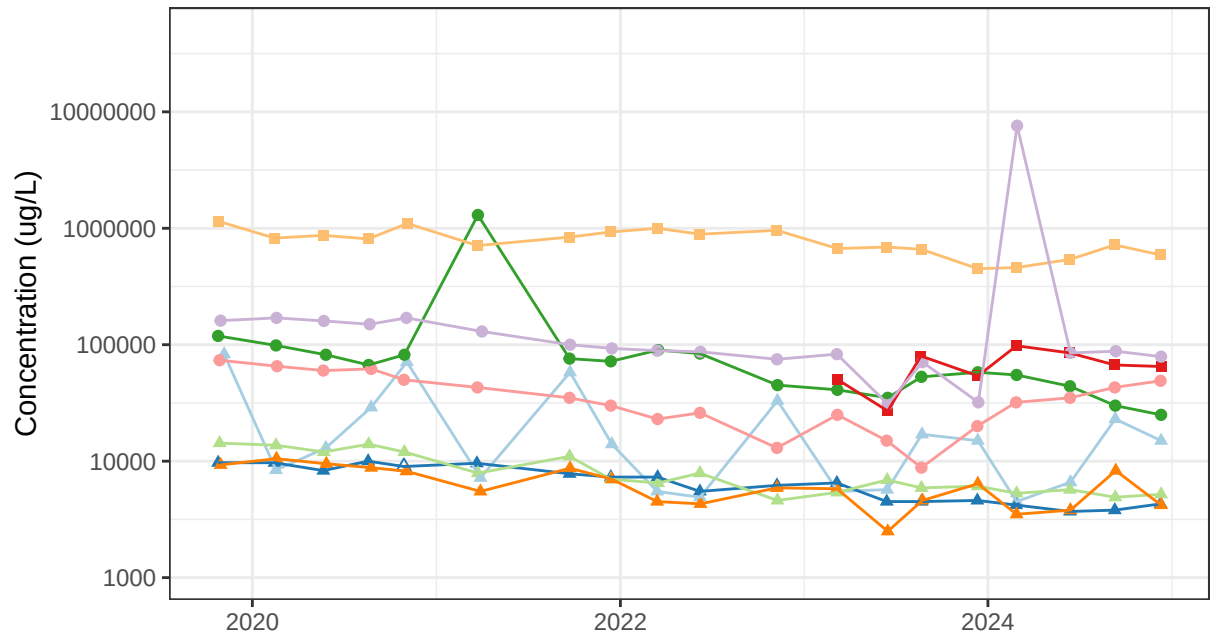
Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride*	*Chlorobenzene*	*Perchlorate*
					ug/L	*ug/L*	*ug/L*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-030823	03/08/2023	**69,000**	*< 0.060 U*	*< 2.0 UJ*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-061423	06/14/2023	**67,000 J**	*< 0.060*	*< 2.0*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-082223	08/22/2023	**74,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-121123	12/11/2023	**27,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-022624	02/26/2024	**64,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-061024	06/10/2024	**80,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-090924	09/09/2024	**60,000**	*< 0.060 U*	*< 0.91 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-121024	12/10/2024	**80,000**	*< 0.060 U*	*< 0.91 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-102519	10/25/2019	**1,150,000**	*< 0.44 U*	*< 4.8 U*
Deep	PA-27d	GCC1 & Proximal Wells	Pa-27d-021420	02/14/2020	**824,000**	**0.84 j**	*< 48 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-052120	05/21/2020	**870,000**	*< 0.44 U*	*< 48 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-081820	08/18/2020	**810,000 J+**	**0.52 j**	*< 95 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-110420	11/04/2020	**1,100,000**	**3.5 J**	*< 19 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-032321	03/23/2021	**710,000 J-**	*< 0.44 U*	*< 20 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-092221	09/22/2021	**840,000**	*< 0.44 U*	*< 20 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-121321	12/13/2021	**930,000**	*< 0.44*	*< 20*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-031622	03/16/2022	**1,000,000**	*< 0.44 U*	*< 20 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-060822	06/08/2022	**890,000**	*< 0.30 U*	*< 20 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-110822	11/08/2022	**960,000**	*< 0.44 U*	*< 10 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-030823	03/08/2023	**670,000**	*< 0.44 U*	*< 20 UJ*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-061423	06/14/2023	**690,000**	*< 0.44*	*< 20*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-082223	08/22/2023	**660,000**	*< 0.44 U*	*< 10 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-121223	12/12/2023	**450,000**	*< 0.44 U*	*< 10 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-022724	02/27/2024	**460,000**	*< 0.44 U*	*< 20 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-061224	06/12/2024	**540,000**	*< 0.44 U*	*< 10 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-090924	09/09/2024	**720,000**	*< 0.44 U*	*< 9.1 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-120924	12/09/2024	**590,000**	*< 0.44 U*	*< 9.1 U*
Deep	PA-30d	GCC2	PA-30d-103119	10/31/2019	**170,000**	**4,900 J-**	*< 48 U*
Deep	PA-30d	GCC2	Pa-30d-022520	02/25/2020	**207,000**	**5,700**	*< 190 U*
Deep	PA-30d	GCC2	PA-30d-052120	05/21/2020	**280,000**	**5,800**	*< 48 U*
Deep	PA-30d	GCC2	PA-30d-082720	08/27/2020	**320,000**	**5,800**	*< 95 U*
Deep	PA-30d	GCC2	PA-30d-110520	11/05/2020	**440,000**	**4,700**	*< 48 U*
Deep	PA-30d	GCC2	PA-30d-040221	04/02/2021	**56,000**	**4,600**	*< 100 U*
Deep	PA-30d	GCC2	PA-30d-092421	09/24/2021	**540,000**	*< 0.44 R*	*< 20 U*
Deep	PA-30d	GCC2	PA-30d-121621	12/16/2021	**490,000**	**3,500**	*< 200*
Deep	PA-30d	GCC2	PA-30d-031722	03/17/2022	**490,000**	**4,700**	*< 20 U*
Deep	PA-30d	GCC2	PA-30d-060922	06/09/2022	**460,000**	**6,600**	*< 20 U*
Deep	PA-30d	GCC2	PA-30d-111022	11/10/2022	**270,000**	**26,000**	*< 20 U*
Deep	PA-30d	GCC2	PA-30d-030923	03/09/2023	**300,000**	**24,000**	*< 20 UJ*
Deep	PA-30d	GCC2	PA-30d-061623	06/16/2023	**310,000**	**19,000**	*< 40*
Deep	PA-30d	GCC2	PA-30d-082423	08/24/2023	**320,000**	**20,000**	*< 20 U*
Deep	PA-30d	GCC2	PA-30d-121323	12/13/2023	**320,000**	**22,000**	*< 10 U*
Deep	PA-30d	GCC2	PA-30d-022824	02/28/2024	**370,000**	**18,000**	*< 20 U*
Deep	PA-30d	GCC2	PA-30d-061424	06/14/2024	**320,000**	**13,000**	*< 20 U*
Deep	PA-30d	GCC2	PA-30d-091124	09/11/2024	**270,000**	**8,200**	*< 18 U*
Deep	PA-30d	GCC2	PA-30d-121224	12/12/2024	**250,000**	**7,000**	*< 91 U*

Notes:
Bolded values indicate concentrations above the Reportable Detection Limit.
< = Compound not detected. Reportable detection limit shown.
µg/L = micrograms per liter

Qualifiers:
j = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
U = Compound not detected based on quality assurance review.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).

Chloride in GCC1 & Proximal Wells



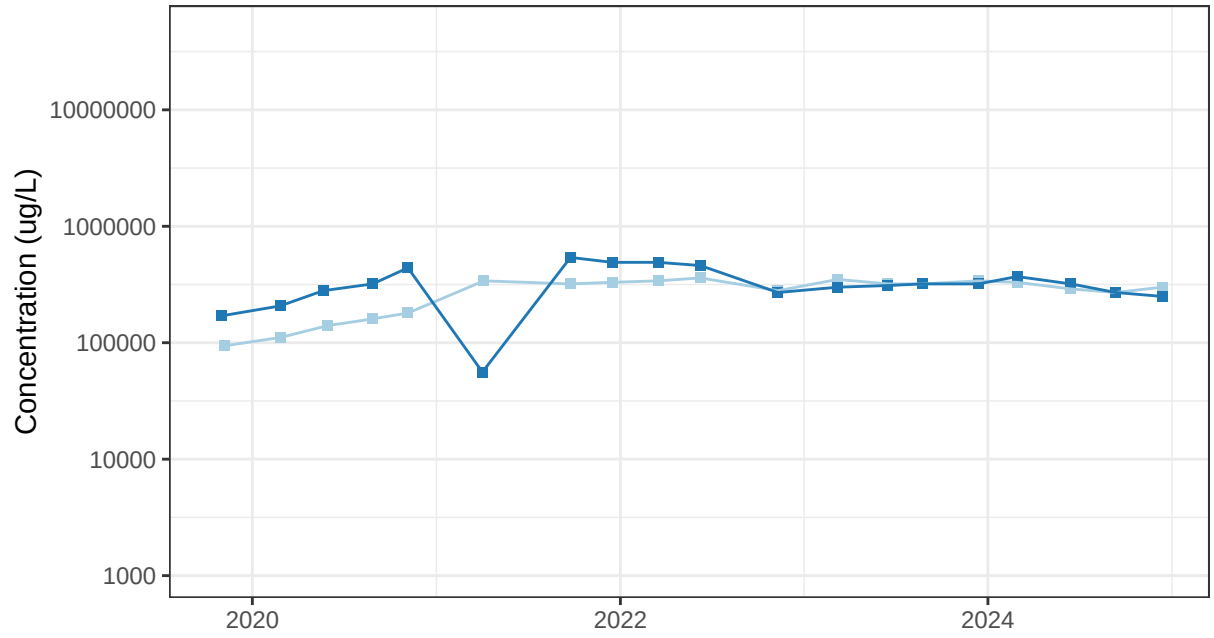
Aquifer Depth

- ▲ Shallow, Detect
- △ Shallow, ND
- ● Intermediate, Detect
- ■ Deep, Detect

Well

- MWA−63
- PA−03
- PA−04
- PA−10I
- PA−17IR
- PA−18D
- PA−27D
- PA−31
- PA−32I

Chloride in GCC2



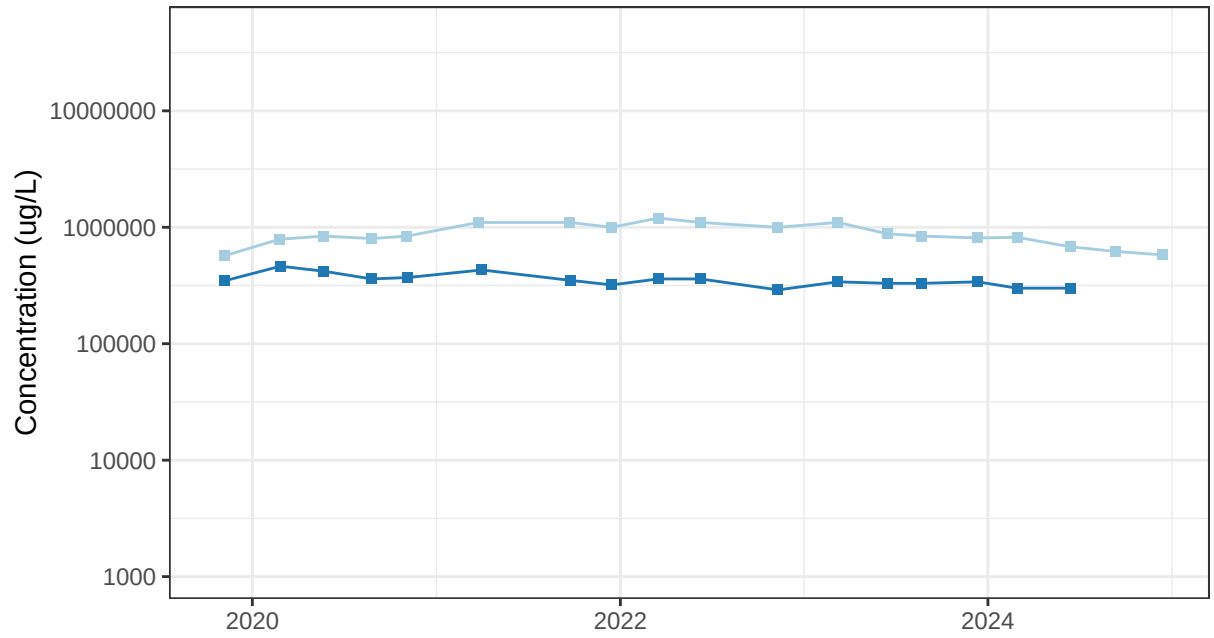
Aquifer Depth

- ■ Deep, Detect

Well

- PA−19D
- PA−30D

Chloride in GCC3



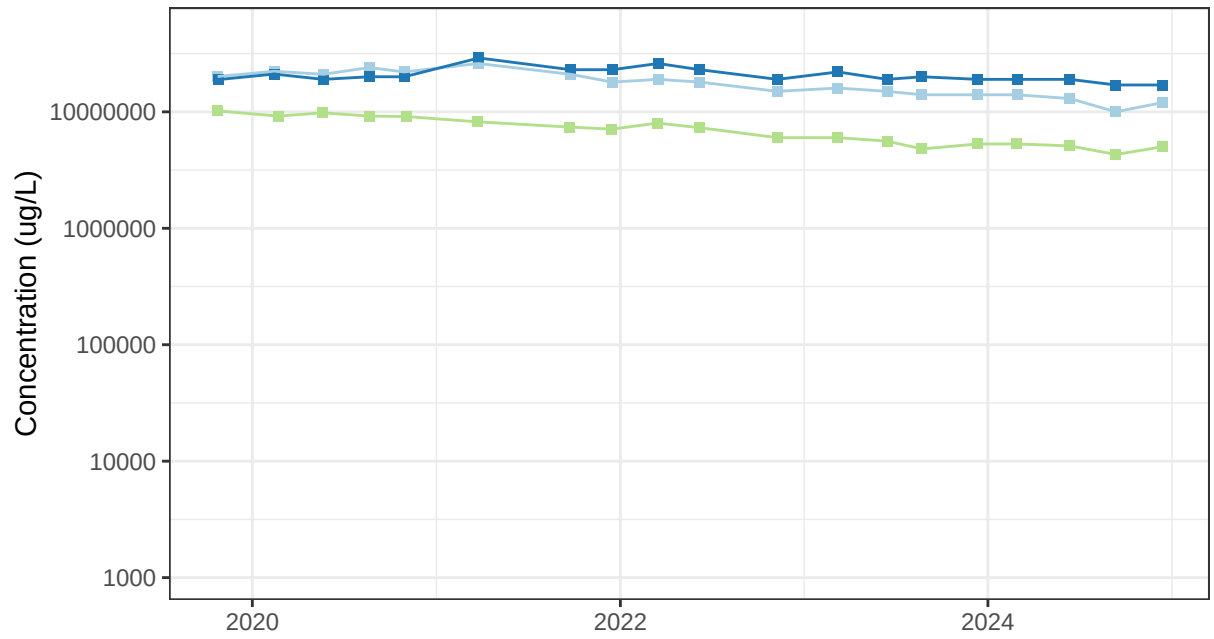
Aquifer Depth

- ■ Deep, Detect

Well

- PA−20D
- PA−21D

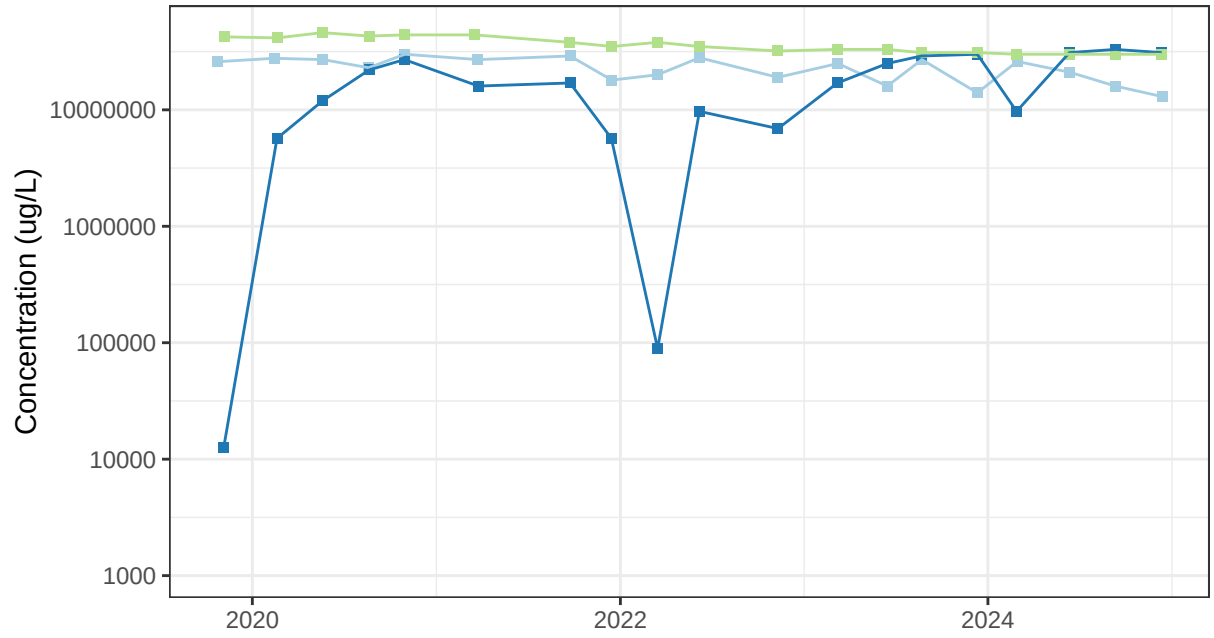
Chloride in GCC4 & Proximal Wells



Aquifer Depth
- Deep, Detect

Well
- MWA−56D
- MWA−58D
- PA−22D

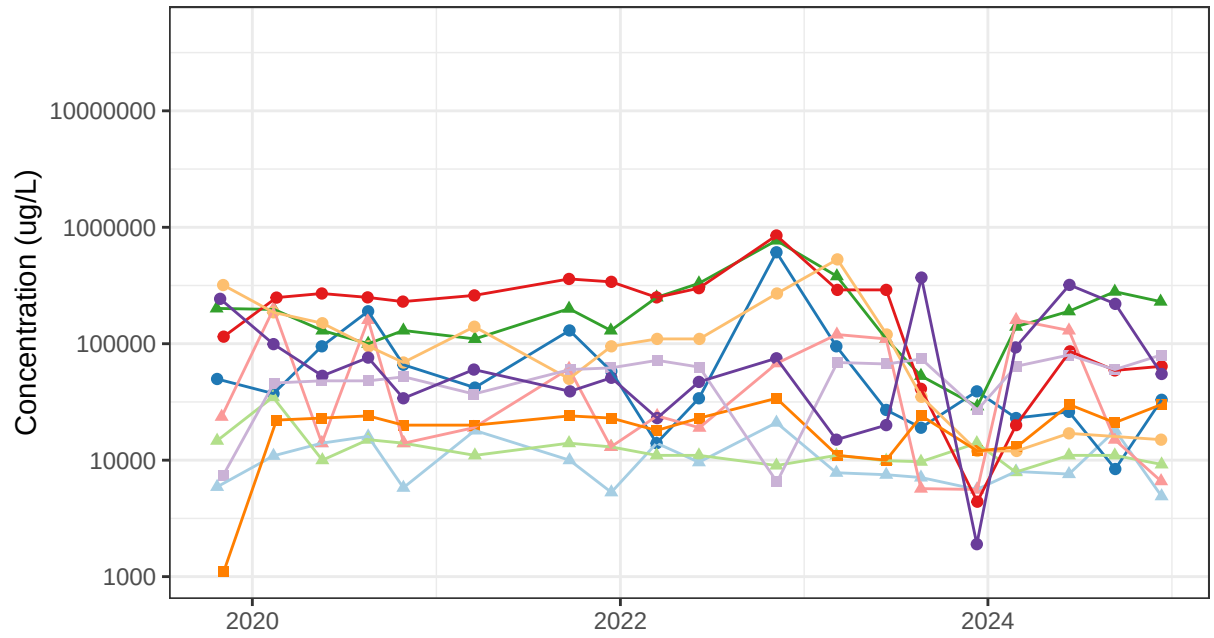
Chloride in GCC5 & Proximal Wells



Aquifer Depth
- Deep, Detect

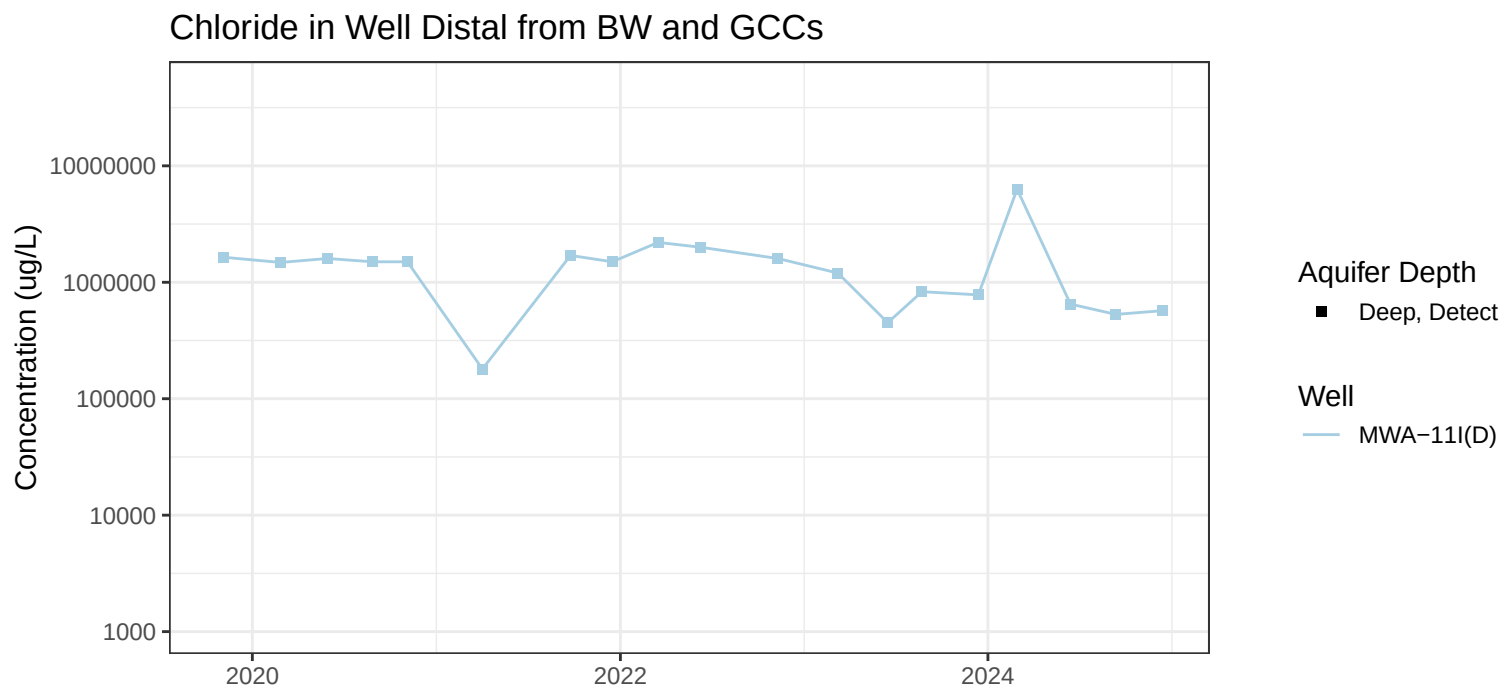
Well
- MWA−31I(D)
- PA−23D
- PA−24D

Chloride in GCC6 & Proximal Wells

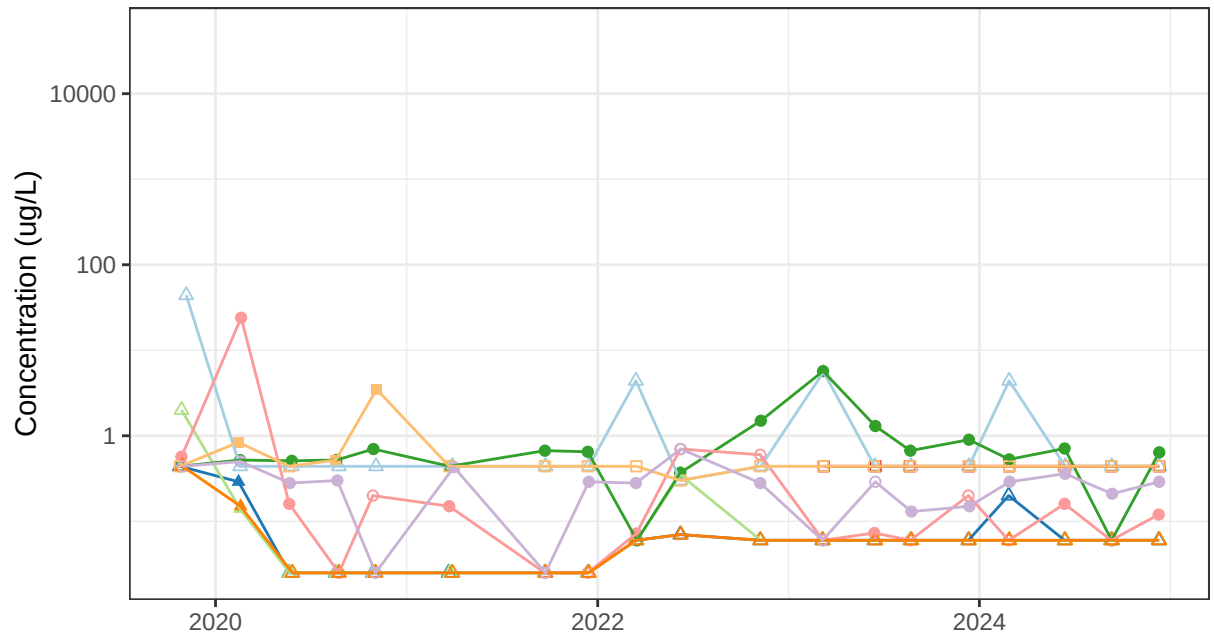


Aquifer Depth
- Shallow, Detect
- Intermediate, Detect
- Deep, Detect

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
2022
2024
Aquifer Depth
Deep, Detect
Well
MWA−11I(D)

Chlorobenzene in GCC1 & Proximal Wells



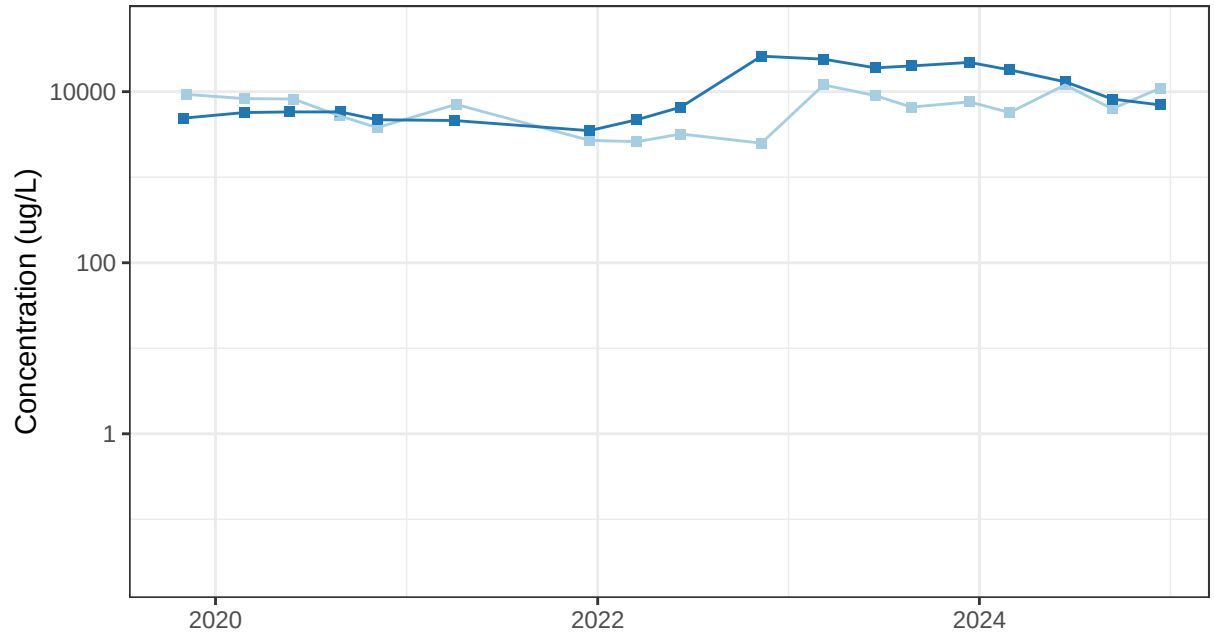
Aquifer Depth

- Shallow, ND
- Shallow, Detect
- Intermediate, ND
- Intermediate, Detect
- Deep, ND
- Deep, Detect

Well

- MWA−63
- PA−03
- PA−04
- PA−10I
- PA−17IR
- PA−18D
- PA−27D
- PA−31
- PA−32I

Chlorobenzene in GCC2



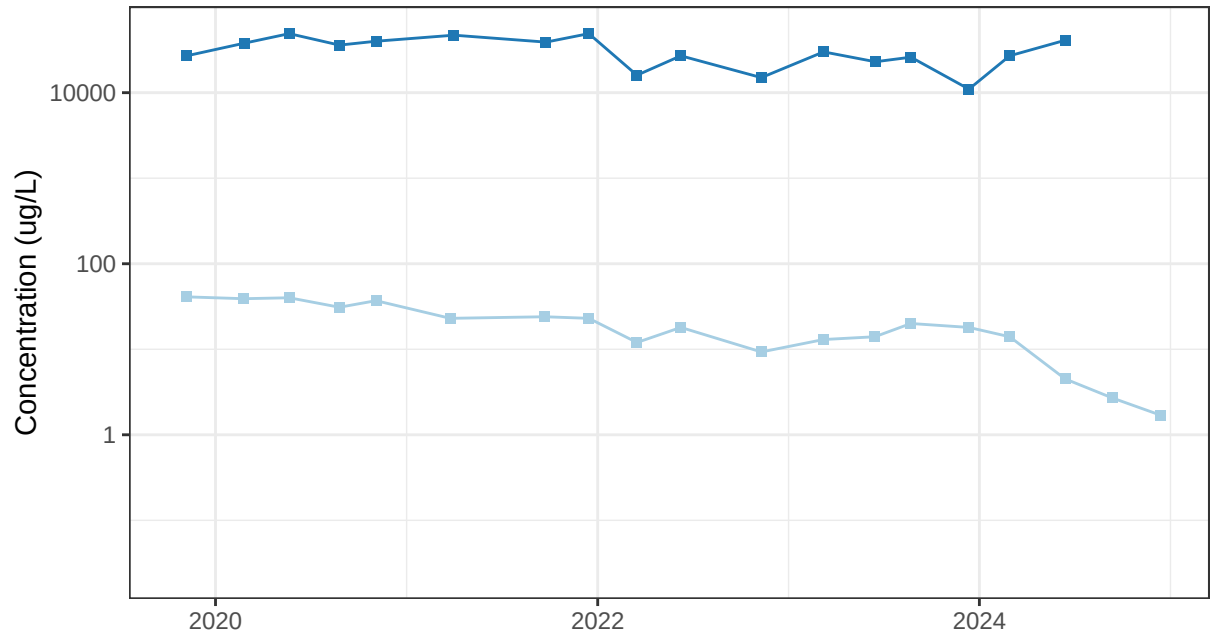
Aquifer Depth

- Deep, Detect

Well

- PA−19D
- PA−30D

Chlorobenzene in GCC3



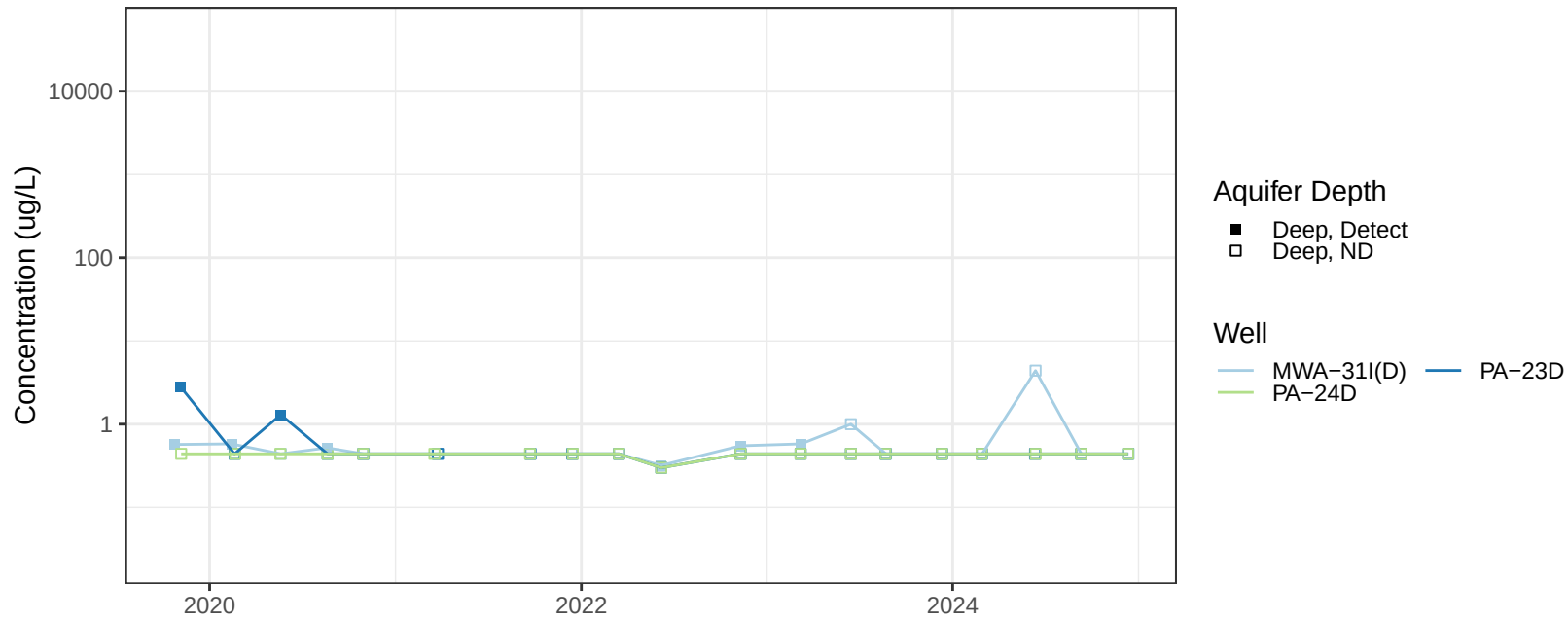
Aquifer Depth

- Deep, Detect

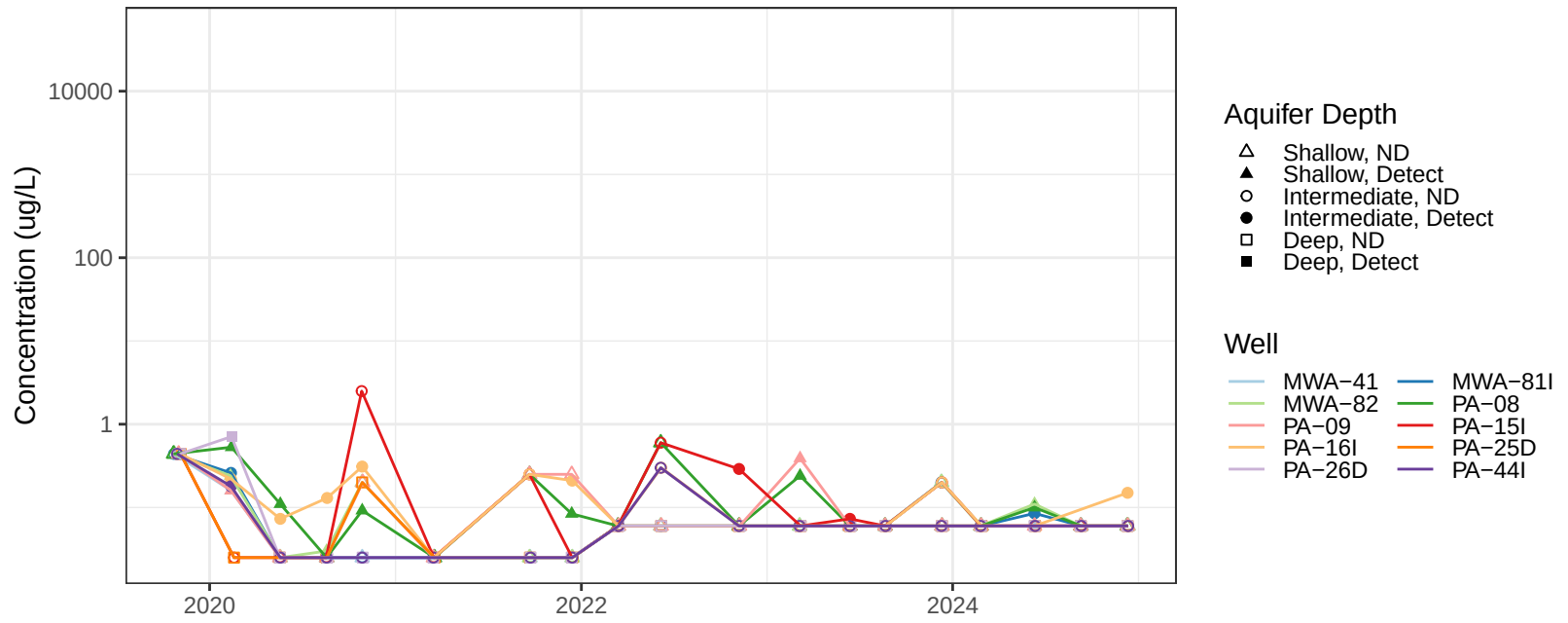
Well

- PA−20D
- PA−21D

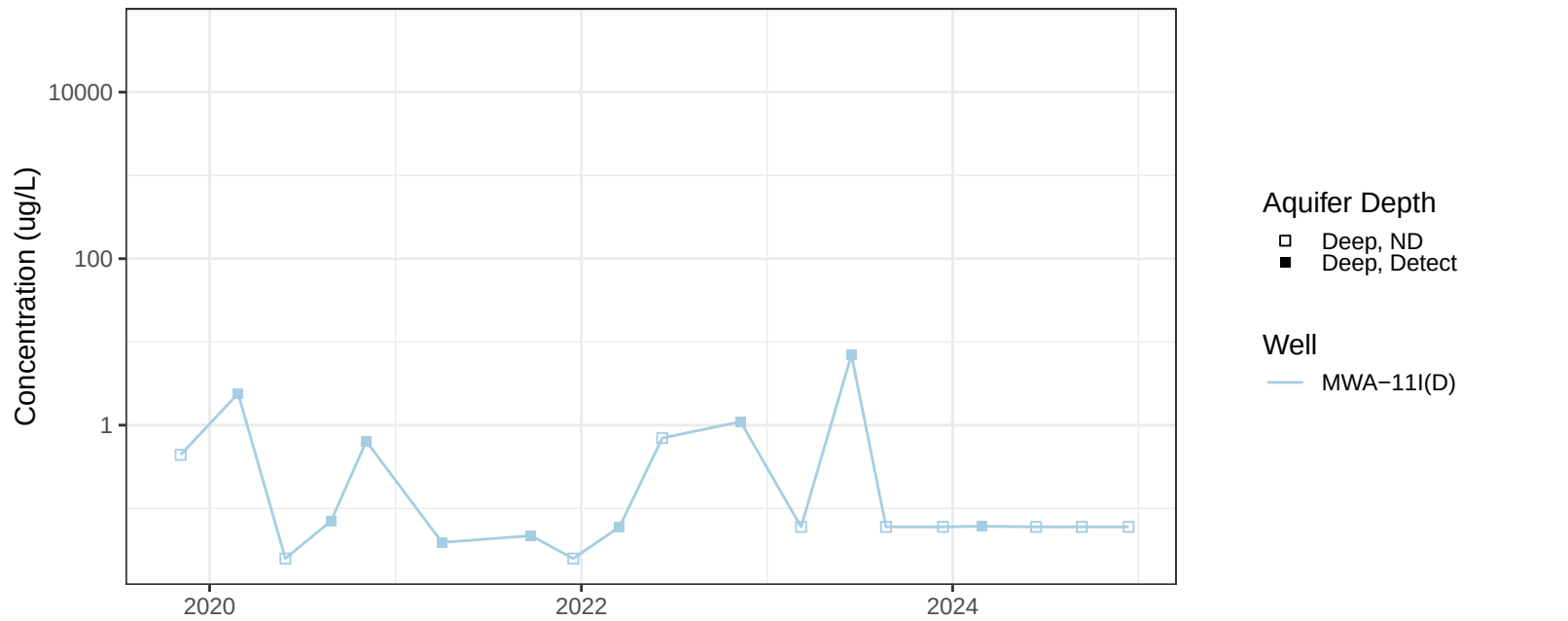
Chlorobenzene in GCC5 & Proximal Wells



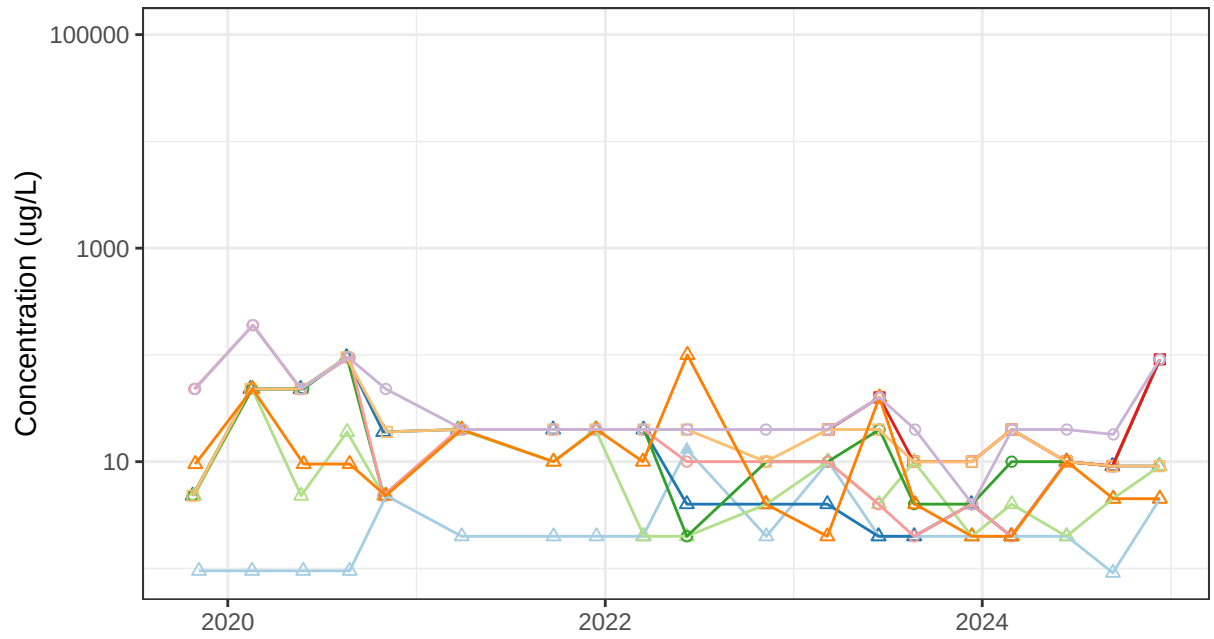
Chlorobenzene in GCC6 & Proximal Wells



Chlorobenzene in Well Distal from BW and GCCs



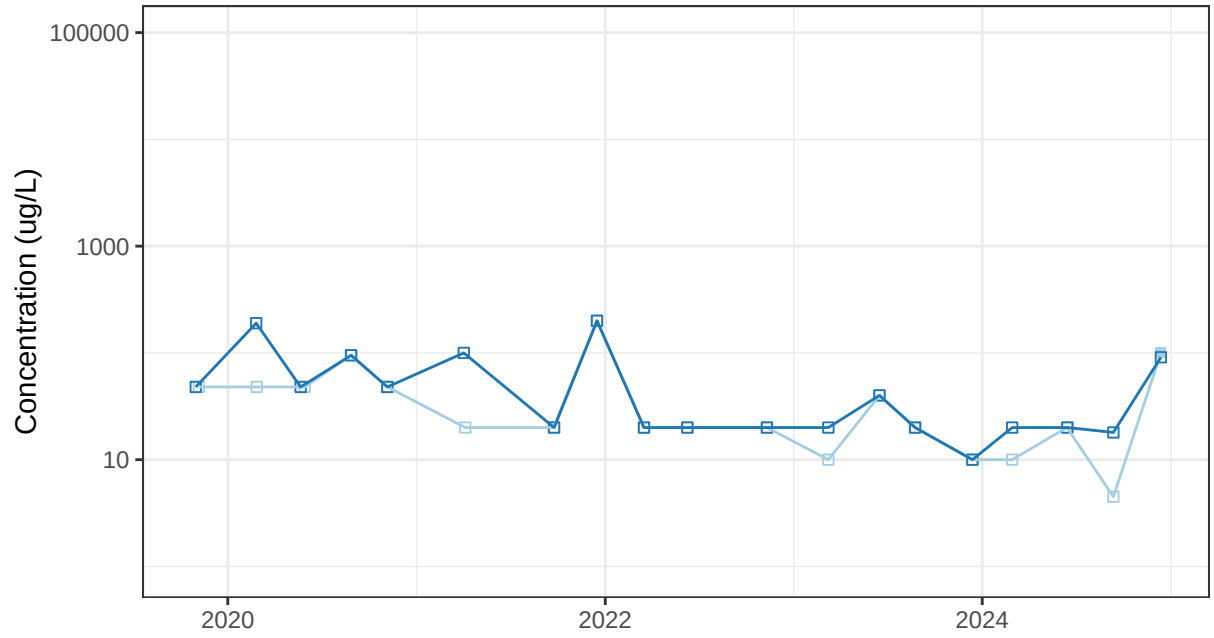
Perchlorate in GCC1 & Proximal Wells



Aquifer Depth
- Shallow, ND
- Shallow, Detect
- Intermediate, ND
- Deep, ND

Well
- MWA−63
- PA−03
- PA−04
- PA−10I
- PA−17IR
- PA−18D
- PA−27D
- PA−31
- PA−32I

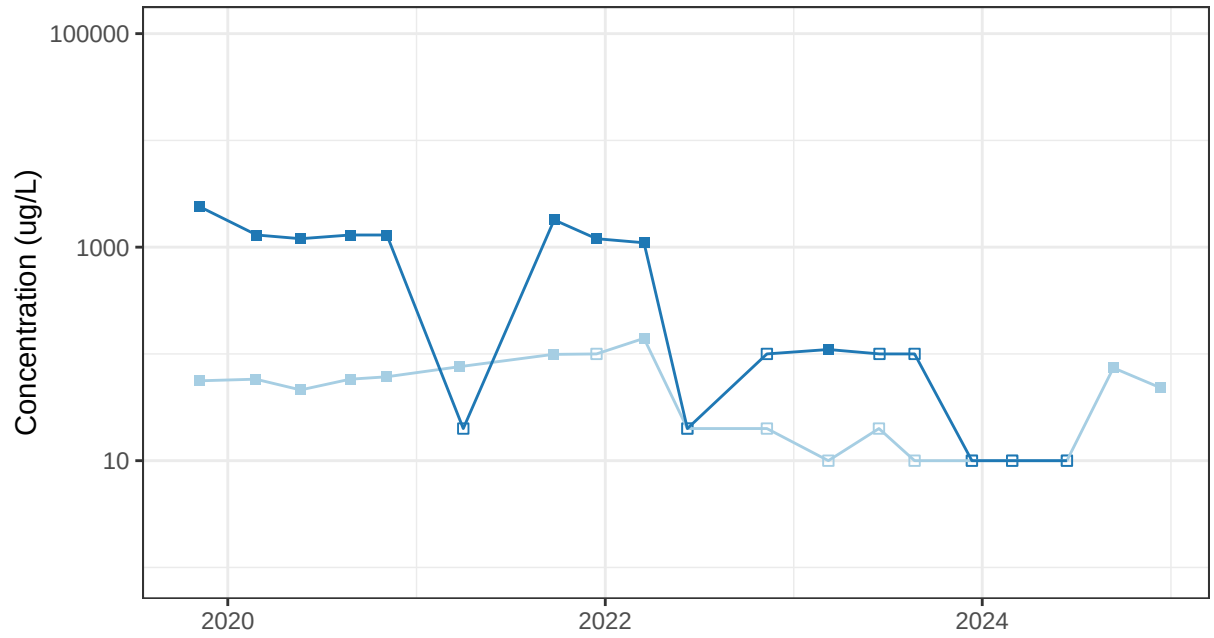
Perchlorate in GCC2



Aquifer Depth
- Deep, ND
- Deep, Detect

Well
- PA−19D
- PA−30D

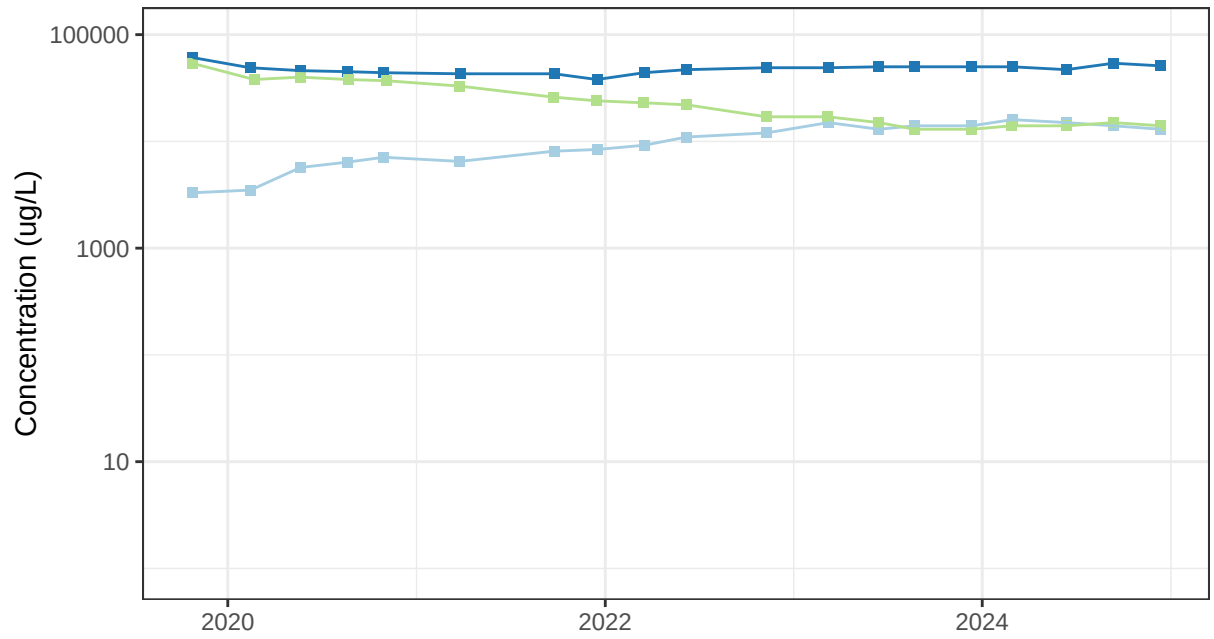
Perchlorate in GCC3



Aquifer Depth
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

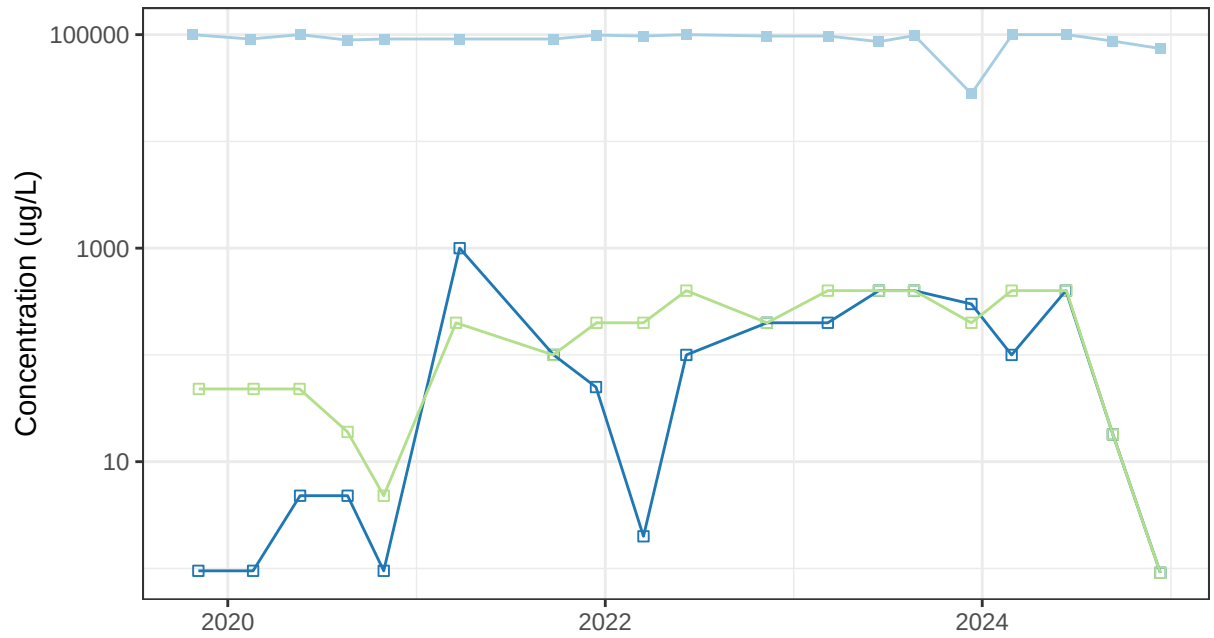
Perchlorate in GCC4 & Proximal Wells



Aquifer Depth
- Deep, Detect

Well
- MWA−56D
- MWA−58D
- PA−22D

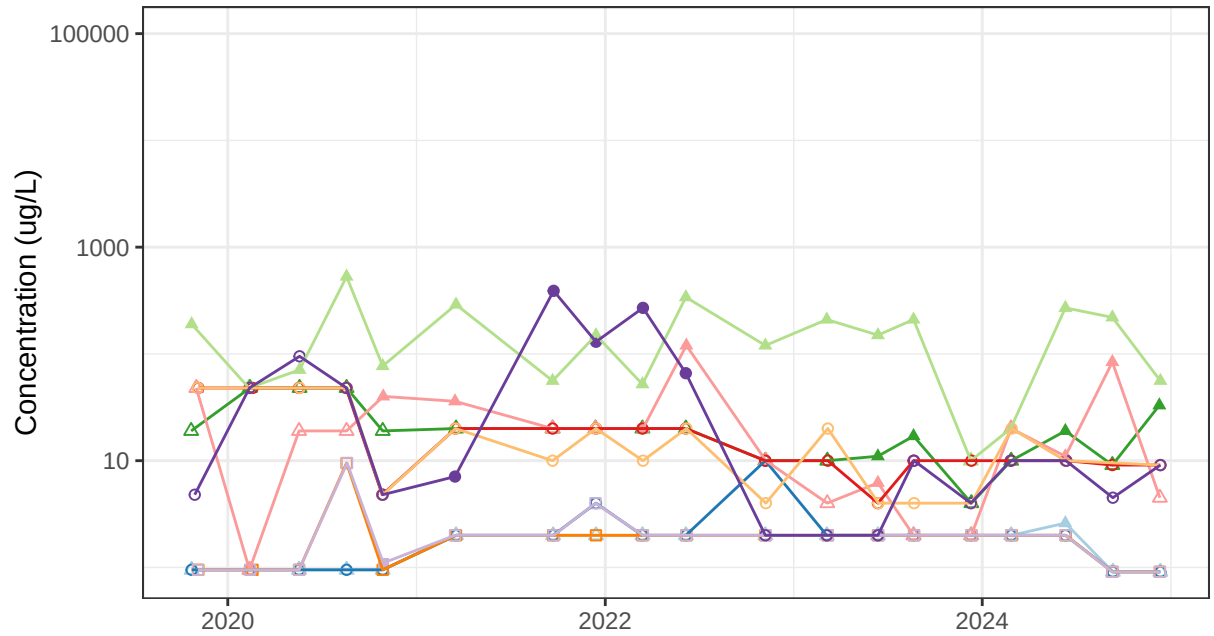
Perchlorate in GCC5 & Proximal Wells



Aquifer Depth
- Deep, Detect
- Deep, ND

Well
- MWA−31I(D)
- PA−23D
- PA−24D

Perchlorate in GCC6 & Proximal Wells



Aquifer Depth
- Shallow, ND
- Shallow, Detect
- Intermediate, ND
- Deep, ND
- Deep, Detect
- Intermediate, Detect

Well
- MWA−41
- MWA−81I
- MWA−82
- PA−08
- PA−09
- PA−15I
- PA−16I
- PA−25D
- PA−26D
- PA−44I

APPENDIX E HISTORICAL DATA TABLE

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved

Appendix E
Historical Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-2	GAMWA210297	1/2/1997		< 0.1 U		< 0.1 U		**0.12**	**0.12 T**		< 5 U		
Shallow	MWA-2	GAMWA210397	3/12/1997		< 0.1 UJ		< 0.1 UJ		< 0.1 UJ	< 0.1 UJT		**7**		
Shallow	MWA-2	GAMWA210697	6/24/1997		< 0.1 UJ		< 0.1 UJ		< 0.1 UJ	< 0.1 UJT		**6,000**		
Shallow	MWA-2	GAMWA210997	9/30/1997		**0.17 J**		< 0.1 UJ		< 0.1 UJ	**0.17 JT**		**9,000**		
Shallow	MWA-2	GW059801	5/28/1998		**0.25 J**		< 0.04 U		**0.33 J**	**0.58 JT**	**10,400**	**4**		
Shallow	MWA-2	GW019907	1/27/1999		**0.32**		**0.04**		**0.18**	**0.54 T**	**41,100 T**	**94**		
Shallow	MWA-2	GW029906	4/27/1999		**0.8**		< 0.04 U		**0.6**	**1.4 T**	**16,800**	**970 J**		
Shallow	MWA-2	GW039907	8/24/1999		**0.7**		< 0.4 UJ		< 0.4 UJ	**0.7 T**	**33,800**	**4,400**		
Shallow	MWA-2	GW049905	11/16/1999		**0.39 J**		< 0.04 UJ		< 0.24 U	**0.39 JT**	**41,700**	**2,100**		
Shallow	MWA-2	GW010111	3/29/2001		**0.57**		< 0.1 U		< 0.1 U	**0.57 T**	**158,000 J**	**4,300**		
Shallow	MWA-2	GW020106	6/12/2001		**0.4**		**0.055**		< 0.05 UJ	**0.455 T**	**384,000**	**4,600**		
Shallow	MWA-2	GW04100205	4/10/2002		**0.41**		< 0.099 U		< 0.099 U	**0.41 T**	**1,400,000**	**27,000**		
Shallow	MWA-2	GW-060903-01	6/9/2003		< 1.70 U		< 1.70 U		< 2.80 U	< 2.8 UT	**981,000**	**13,700**		**1,400**
Shallow	MWA-2	MWA-2-111004	11/10/2004		< 0.500 UJ		< 0.500 UJ		< 0.500 UJ	< 0.5 UJT		**30,200**		
Shallow	MWA-2	MWA-2-031005	3/10/2005		< 2.50 UJ		< 2.50 UJ		< 2.50 UJ	< 2.5 UJT		**15,400**		
Shallow	MWA-2	MWA-2-062205	6/22/2005		**3.35**		< 0.500 UJ		< 0.500 UJ	**3.35 T**		**12,200**		
Shallow	MWA-2	MWA-2-091505	9/15/2005		**0.543 J**		< 0.184 U		**0.0789 J**	**0.8089 JT**		**21,900**		
Shallow	MWA-2	MWA-2-102705	10/27/2005		**0.477**		**0.0965**		< 0.236 UJ	**0.5735 T**		**23,500**		
Shallow	MWA-2	MWA-2-122005	12/20/2005		**0.312**		< 0.239 UJ		< 0.239 UJ	**0.312 T**		**16,200**		
Shallow	MWA-2	MWA-2-011306	1/13/2006		**0.510**		< 0.0971 UJ		< 0.0971 UJ	**0.51 T**		**4**		
Shallow	MWA-2	MWA-2-032906	3/29/2006		**0.240**		< 0.0952 UJ		**0.190**	**0.43 T**		**4,050**		
Shallow	MWA-2	MWA-2-040407	4/4/2007		**0.292**		< 0.287 U		< 0.191 U	**0.292 A**	**376,000**	**2,570**		**73.8**
Shallow	MWA-2	MWA-2-080609	8/6/2009		< 0.286 U		< 0.286 U		**0.191**	**0.191 A**	**340,000**	**18,200**		**3.9**
Shallow	MWA-15R	GW010117	3/30/2001		**37**		< 10 U		**450**	**487 T**	**1960,000 J**	**260,000**		
Shallow	MWA-15R	GW020121	6/15/2001		**7.4**		< 0.96 U		**73 J**	**80.4 JT**	**1,560,000**	**210,000**		
Shallow	MWA-15R	GW04160201	4/16/2002		**25**		**4.2 J**		**75 J**	**104 JT**	**407,000**	**48,000**		
Shallow	MWA-15R	GW-061003-04	6/10/2003		**28.4 J**		< 3.40 U		**113**	**141 JT**	**388,000**	**13,300**		**350**
Shallow	MWA-15R	MWA-15R-100203	10/2/2003									**27,200**		
Shallow	MWA-15R	MWA-15R-111403	11/14/2003									**163,000**		
Shallow	MWA-15R	MWA-15R-011304	1/13/2004									**64,400**		
Shallow	MWA-15R	MWA-15R-013004	1/30/2004									**24,600**		
Shallow	MWA-15R	MWA-15R-030204	3/2/2004									**2,450**		
Shallow	MWA-15R	MWA-15R-111004	11/10/2004		**27.7**		< 5.00 UJ		**86.2**	**113 T**		**154,000**		
Shallow	MWA-15R	MWA-15R-031005	3/10/2005		**79.7**		< 25.0 UJ		**534**	**613.7 T**		**97,000**		
Shallow	MWA-15R	MWA-15R-062205	6/22/2005		**40.9**		**9.88**		**193**	**243.78 T**		**87,700**		
Shallow	MWA-15R	MWA-15R-091605	9/16/2005		**73.2**		**11.2 J**		**619 J**	**703 JT**		**240,000**		
Shallow	MWA-15R	MWA-15R-122105	12/21/2005		**10.1**		**1.53**		**86.5**	**98.13 T**		**217,000**		
Shallow	MWA-15R	MWA-15R-033006	3/30/2006		**124**		**24**		**458**	**606 T**		**72,900**		
Shallow	MWA-15R	MWA-15R-041707	4/17/2007		**48.3 J**		**7.71**		**207**	**263 JA**	**129,000**	**34**		
Shallow	MWA-15R	MWA-15R-081909	8/19/2009		**111**		**21.9**		**702**	**835 A**	**156,000**	**23,500**	< 25 UJ	
Shallow	MWA-15R	MWA-15R-090309	9/3/2009		**377**		**52.1**		**5,210**	**5,640 A**				
Shallow	MWA-18	GW010105	3/27/2001						**0.046 J**	**0.046 JT**	**1,200,000**	**41**		
Shallow	MWA-18	GW020110	6/13/2001		**0.015 J**		< 0.0094 U		< 0.026 U	**0.015 JT**	**894,000 J**	**34**	< 50 UJ	
Shallow	MWA-18	GW04040203	4/4/2002		< 0.0096 U		< 0.0096 U		< 0.019 U	< 0.019 UT	**2,210,000**	**8**		
Shallow	MWA-18	GW-060603-03	6/6/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**1,410,000**	< 3.06 U		< 25 U
Shallow	MWA-18	MWA-18-050505	5/5/2005								**612,000**		**833**	
Shallow	MWA-18	MWA-18-071405	7/14/2005										**676**	
Shallow	MWA-18	MWA-18	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**0.580**		
Shallow	MWA-18	MWA-18-081605	8/16/2005										**248**	
Shallow	MWA-18	MWA-18-091205	9/12/2005								**410,000**		**1,180**	**3.4**
Shallow	MWA-18	MWA-18-120805	12/8/2005										**5.90 J**	

Appendix E
Historical Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-18	MWA-18-011006	1/10/2006										**30.0**	
Shallow	MWA-18	MWA-18-021306	2/13/2006										< 4.55 U	
Shallow	MWA-18	MWA-18-072606	7/26/2006										**3.4**	
Shallow	MWA-18	MWA-18-041107	4/11/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**233,000**	**1.33**	**2.2 J**	< 8.0 U
Shallow	MWA-18	MWA-18-081009	8/10/2009		**0.0155**		**0.00671 J**		**0.00789 J**	**0.0301 JA**	**270,000**	**0.930 J**	**340 J**	< 4 U
Shallow	MWA-19	GW010104	3/27/2001		< 0.02 UJ		< 0.02 UJ		**0.095 J**	**0.095 JT**	**5,540,000**	< 0.5 U		
Shallow	MWA-19	GW020112	6/13/2001		< 0.0099 U		< 0.0099 U		< 0.016 U	< 0.016 UT	**12,700,000 J**	< 0.5 U	< 50 UJ	
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**	

Appendix E
Historical Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-24	MWA-24-011106	1/11/2006										**31.9**	
Shallow	MWA-24	MWA-24-020806	2/8/2006										**30.6**	
Shallow	MWA-24	MWA-24-072506	7/25/2006										**24**	
Shallow	MWA-24	MWA-24-040307	4/3/2007								**274,000**	**1.90 J**	**76.2**	**258 J**
Shallow	MWA-24	MWA-24-080509	8/5/2009								**237,000**	< 0.500 U	**86 J**	**17.9**
Shallow	MWA-29	GW04080204	4/8/2002		< 0.0096 U		< 0.0096 U		< 0.0096 U	< 0.0096 UT	**21,900,000**	< 0.5 U		
Shallow	MWA-29	GW-060403-06	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**11,700,000**			< 110 U
Shallow	MWA-29	MWA-29-050905	5/9/2005								**9,100,000**		**14.1**	
Shallow	MWA-29	MWA-29-071805	7/18/2005										< 4.55 U	
Shallow	MWA-29	MWA-29-081205	8/12/2005										< 4.55 U	
Shallow	MWA-29	MWA-29-091205	9/12/2005								**12,600,000**		**107**	**4,800**
Shallow	MWA-29	MWA-29-120805	12/8/2005										**186**	
Shallow	MWA-29	MWA-29-010606	1/6/2006										**14.1**	
Shallow	MWA-29	MWA-29-020806	2/8/2006										**19.5**	
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

Appendix E
Historical Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-40	MWA-40-080509	8/5/2009								**220,000**		**42 J**	< 20 U
Shallow	MWA-41	MWA-41-050905	5/9/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-071505	7/15/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-081205	8/12/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-090705	9/7/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-120805	12/8/2005										**0.600 J**	
Shallow	MWA-41	MWA-41-010506	1/5/2006										< 4.55 U	
Shallow	MWA-41	MWA-41-020806	2/8/2006										< 4.55 U	
Shallow	MWA-41	MWA-41-072406	7/24/2006										**15.1 J**	
Shallow	MWA-41	MWA-41-041607	4/16/2007								**26,600**		< 0.6 U	**1.7 J**
Shallow	MWA-41	MWA-41-080609	8/6/2009								**26,300**		< 25 UJ	< 4 U
Shallow	MWA-42	MWA-42-050505	5/5/2005										**56.2**	
Shallow	MWA-42	MWA-42-071205	7/12/2005										< 4.55 U	
Shallow	MWA-42	MWA-42	8/2/2005		< 0.250 UJ		< 0.250 UJ		< 0.250 UJ	< 0.25 UJT		**94.0**		
Shallow	MWA-42	MWA-42-081505	8/15/2005										**11.9**	
Shallow	MWA-42	MWA-42-090805	9/8/2005								**913,000**			
Shallow	MWA-42	MWA-42-092305	9/23/2005										**46.7**	
Shallow	MWA-42	MWA-42-120705	12/7/2005										**27.7**	
Shallow	MWA-42	MWA-42-011106	1/11/2006										**5.77 J**	
Shallow	MWA-42	MWA-42-020906	2/9/2006										**6.26 J**	
Shallow	MWA-42	MWA-42-072506	7/25/2006										**8.6 J**	
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**

Appendix E
Historical Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-61	MWA-61-022119	2/21/2019	**0.27 J+**	**0.50 J+**	< 0.10	**0.016 J+**	< 0.10	**0.029 J+**	**0.815**		**690**	< 1.0	**37**
Shallow	MWA-63	MWA-63-102705	10/27/2005		< 0.0472 U		< 0.0472 U		< 0.0472 U	< 0.0472 UT		**7.60**		
Shallow	MWA-63	MWA-63-112105	11/21/2005		< 0.0495 U		< 0.0495 U		**0.0533 J**	**0.0533 JT**		< 0.272 U		
Shallow	MWA-63	MWA-63-040407	4/4/2007		< 0.00995 UJ		< 0.00995 UJ		**0.00603 J**	**0.00603 JA**	**358,000**	**0.180 J**		< 4.0 U
Shallow	MWA-63	MWA-63-080509	8/5/2009		< 0.00952 U		< 0.00952 U		**0.00574 J**	**0.00574 JA**	**690,000**	< 100 U		< 8 U
Shallow	MWA-63	MWA-63-022119	2/21/2019	< 0.10	< 0.0050	< 0.10	< 0.0050	< 0.10	< 0.010	< 0.10		**5,800**	< 1.0 UJ	< 4.0
Shallow	MWA-69	MWA-69	8/2/2005		**17.3**		< 5.00 UJ		**51.1**	**68.4 T**		**9,010**		
Shallow	MWA-69	MWA-69-102505	10/25/2005		**3.93**		**0.289**		**6.84**	**11.059 T**		**2,690**		
Shallow	MWA-69	MWA-69-112205	11/22/2005		**4.36**		**0.425**		**9.33**	**14.115 T**		**3,640**		
Shallow	MWA-69	MWA-69-011606	1/16/2006		**8.64**		**0.838**		**29.5**	**38.978 T**		**166**		
Shallow	MWA-69	MWA-69-041707	4/17/2007		**15.6**		**1.05 J**		**46.4 J**	**62.9 JA**	**511,000**	**5,360**		**29.5 J**
Shallow	MWA-69	MWA-69-081109	8/11/2009		**50.0**		**4.16**		**57.9**	**112.06**	**297,000**	**6,930**		< 20 U
Shallow	MWA-69	MWA-69-090309	9/3/2009		**7.45**		**0.369**		**5.95**	**13.8 A**				
Intermediate	MWA-8I	GWG001	11/24/1998									**1,700**		
Intermediate	MWA-8I	GW019906	1/27/1999		**5.3 J**		**0.07 J**		**1 J**	**6.37 JT**	**2,660,000**	**4,800**		
Intermediate	MWA-8I	GW029908	4/27/1999		**0.16 J**		< 0.04 UJ		< 0.04 UJ	**0.16 JT**	**2,290,000**	**4,300 J**		
Intermediate	MWA-8I	GW039905	8/24/1999		**0.05 J**		< 0.04 UJ		< 0.04 UJ	**0.05 JT**	**2,660,000**	**3,400**		
Intermediate	MWA-8I	GW049906	11/16/1999		**0.08 J**					**0.08 JT**	**2,530,000**	**2,800**		
Intermediate	MWA-8I	GW010112	3/29/2001		< 0.1 U		< 0.1 U		< 0.1 U	< 0.1 UT	**1,660,000 J**	**4,100**		
Intermediate	MWA-8I	GW020107	6/12/2001		**0.11 J**					**0.11 JT**	**1,420,000**	**1,400**		
Intermediate	MWA-8I	GW04100206	4/10/2002		**0.08**		< 0.0097 U		**0.012**	**0.092 T**	**2,110,000**	**940**		
Intermediate	MWA-8I	GW-060903-02	6/9/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**2,380,000**	**23**		< 20 U
Intermediate	MWA-8I	MWA-8I-111004	11/10/2004		< 0.0500 U		< 0.0500 U		**0.590**	**0.59 T**		**24**		
Intermediate	MWA-8I	MWA-8I-031005	3/10/2005		< 0.0500 U		< 0.0500 U		**0.138 J**	**0.138 JT**		**185**		
Intermediate	MWA-8I	MWA-8I-062105	6/21/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**27**		
Intermediate	MWA-8I	MWA-8I-091505	9/15/2005		< 0.00103 U		< 0.00367 U		**0.0243 J**	**0.0243 JT**		**122**		
Intermediate	MWA-8I	MWA-8I-102705	10/27/2005		< 0.0472 U		< 0.0472 U		< 0.0472 U	< 0.0472 UT		**215**		
Intermediate	MWA-8I	MWA-8I-112105	11/21/2005		< 0.0472 U		< 0.0472 U		**0.0678 J**	**0.0678 JT**		**46**		
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**

Appendix E
Historical Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Intermediate	MWA-34I	MWA-34I-120905	12/9/2005										**30.2**	
Intermediate	MWA-34I	MWA-34I-010906	1/9/2006										**13.5**	
Intermediate	MWA-34I	MWA-34I-021006	2/10/2006										**12.3**	
Intermediate	MWA-34I	MWA-34I-072606	7/26/2006										**34.5**	
Intermediate	MWA-34I	MWA-34I-040907	4/9/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**1,400,000**	**3,920**	**32.6**	< 80.0 U
Intermediate	MWA-34I	MWA-34I-081109	8/11/2009		< 0.0200 U		< 0.0200 U		< 0.0200 U	< 0.02 UA	**740,000**	**3,240**	< 250 UJ	< 40 U
Intermediate	MWA-49I	MWA-49I-050605	5/6/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-071405	7/14/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I	8/3/2005		< 0.0500 U		< 0.0500 U		**0.204**	**0.204 T**		**6**		
Intermediate	MWA-49I	MWA-49I-081605	8/16/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-091305	9/13/2005								**10,600,000**		< 4.55 U	**160,000**
Intermediate	MWA-49I	MWA-49I-120905	12/9/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-010906	1/9/2006										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-021306	2/13/2006										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-072606	7/26/2006										< 2 U	
Intermediate	MWA-49I	MWA-49I-041107	4/11/2007		< 0.0971 U		< 0.0971 U		**0.135**	**0.135 A**	**11,000,000**	**0.780 J**	**0.9 J**	**42,800**
Intermediate	MWA-49I	MWA-49I-081009	8/10/2009		**0.0402 J**		**0.0394 J**		**0.269**	**0.349 JA**	**7,560,000**	< 10.0 U	< 25 UJ	**58,900**
Intermediate	MWA-51I	MWA-51I-050505	5/5/2005										**48.5**	
Intermediate	MWA-51I	MWA-51I-071405	7/14/2005										**63.1**	
Intermediate	MWA-51I	MWA-51I	8/3/2005		< 0.0500 U		< 0.0500 U		**1.21**	**1.21 T**		**845**		
Intermediate	MWA-51I	MWA-51I-081605	8/16/2005										**24.3**	
Intermediate	MWA-51I	MWA-51I-091305	9/13/2005								**8,910,000**		**46.8**	**590**
Intermediate	MWA-51I	MWA-51I-120805	12/8/2005										**22.0**	
Intermediate	MWA-51I	MWA-51I-011006	1/10/2006										< 4.55 U	
Intermediate	MWA-51I	MWA-51I-021306	2/13/2006										**10.7**	
Intermediate	MWA-51I	MWA-51I-041107	4/11/2007		**0.103**		< 0.0962 U		**0.0572 J**	**0.16 JA**	**4,640,000**	**358**	**31.3**	**54.6 J**
Intermediate	MWA-51I	MWA-51I-081009	8/10/2009		**0.113**		< 0.0962 U		**0.0363 J**	**0.149 JA**	**2,780,000**	**336 J**	< 250 UJ	< 40 U
Intermediate	MWA-53I	MWA-53I-050905	5/9/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-071805	7/18/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-081205	8/12/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-091205	9/12/2005								**14,300,000**		< 4.55 U	**1,400**
Intermediate	MWA-53I	MWA-53I-120805	12/8/2005										**1.10 J**	
Intermediate	MWA-53I	MWA-53I-010606	1/6/2006										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-020806	2/8/2006										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-072406	7/24/2006										**6.8 J**	
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

Appendix E
Historical Data Table
Arkema Quarter 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
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 4, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Deep	MWA-31I(D)	MWA-31I-120905	12/9/2005										**25.1**	
Deep	MWA-31I(D)	MWA-31I-010906	1/9/2006										**45.3**	
Deep	MWA-31I(D)	MWA-31I-021006	2/10/2006										**104**	
Deep	MWA-31I(D)	MWA-31I-072606	7/26/2006										< 2 U	
Deep	MWA-31I(D)	MWA-31I(D)-040507	4/5/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**53,700,000**	**0.640**	< 6 UJ	**5,730**
Deep	MWA-31I(D)	MWA-31I(D)-081009	8/10/2009		< 0.00952 U		< 0.00952 U		< 0.00952 U	< 0.00952 UA	**54,300,000**	< 2.50 UJ	**9,300 J**	**1,840**
Deep	MWA-56D	MWA-56D-050605	5/6/2005										< 4.55 U	
Deep	MWA-56D	MWA-56D-071405	7/14/2005										**22.3**	
Deep	MWA-56D	MWA-56D-081605	8/16/2005										< 4.55 U	
Deep	MWA-56D	MWA-56D-091305	9/13/2005								**30,800,000**		< 4.55 U	
Deep	MWA-56D	MWA-56D-120905	12/9/2005										< 4.55 UJ	
Deep	MWA-56D	MWA-56D-010906	1/9/2006										< 4.55 U	
Deep	MWA-56D	MWA-56D-021306	2/13/2006										< 4.55 U	
Deep	MWA-56D	MWA-56D-072606	7/26/2006										< 2 U	
Deep	MWA-56D	MWA-56D-041107	4/11/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**27,900,000**	< 2.50 U	< 2 UJ	**2,430**
Deep	MWA-56D	MWA-56D-081009	8/10/2009		< 0.00976 U		< 0.00976 U		**0.00690 J**	**0.0069 JA**	**22,800,000**	< 5.00 U	< 25 UJ	**2,140**
Deep	MWA-58D	MWA-58D-050605	5/6/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-071405	7/14/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-081705	8/17/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-091305	9/13/2005								**60,700,000**		< 4.55 U	
Deep	MWA-58D	MWA-58D-120905	12/9/2005										< 4.55 UJ	
Deep	MWA-58D	MWA-58D-010906	1/9/2006										< 4.55 U	
Deep	MWA-58D	MWA-58D-021006	2/10/2006										< 4.55 U	
Deep	MWA-58D	MWA-58D-072606	7/26/2006										< 2 U	
Deep	MWA-58D	MWA-58D-040907	4/9/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**53,600,000**	< 2.50 U	**57.5**	**59,600**
Deep	MWA-58D	MWA-58D-081009	8/10/2009		< 0.00943 U		< 0.00943 U		**0.0286**	**0.0286 A**	**33,600,000**	**2.00 J**	< 25 UJ	**128,000**

Notes:
Bolded values indicate concentrations above the Reportable Detection Limit.
< = Compound not detected. Reportable detection limit shown.
µg/L = micrograms per liter
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane

Qualifiers:
A = Total value based on limited number of analytes.
j = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
T = Sample temperature did not meet quality control criteria.
U = Compound not detected based on quality assurance review.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).

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
Peru
Poland
Portugal
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

TOTAL Classification: Restricted Distribution
TOTAL—All rights reserved