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Ms. Katie Daugherty
Oregon Department of Environmental Quality
Northwest Region 28
700 NE Multnomah St, Suite 600
Portland, OR 97232

DATE
15 October 2024

SUBJECT
Quarter 3, 2024, Progress Report
(July through September 2024)
Arkema Inc. Portland Plant

REFERENCE
0732436.103

Dear Ms. Daugherty:

Environmental Resources Management, Inc. (ERM) is submitting this Quarterly Progress Report (QPR) on behalf of Legacy Site Services LLC (LSS) agent for Arkema Inc. (Arkema) to summarize Quarter 3, 2024, activities at the Arkema facility located at 6400 NW Front Avenue in Portland, Oregon.

Paragraph 8(G) of the Order on Consent Requiring Source Control Measures and Feasibility Study between the Oregon Department of Environmental Quality (ODEQ) and LSS, dated 31 October 2008, requires submittal of QPRs. The following progress report summarizes activities for Quarter 3, 2024 (July through September).

Weekly progress summaries for implementation of the stormwater and groundwater source control measures (SCM) have been developed over the duration of the project. The reports for Quarter 3, 2024, are included as Attachment 1 to this QPR for reference, and activities documented in the reports are not duplicated in this letter.

Actions Taken Quarter 3, 2024 (July through September)

- 2 July 2024: ERM, on behalf of LSS, sent meeting minutes from the 26 June 2024 IRAM #1 call, to the ODEQ.
- 3 July 2024: ERM, on behalf of LSS, submitted the In Situ Stabilization (ISS) Pre-Design Investigation (PDI) Workplan response to comments and redlined version, to the ODEQ.
- 5 July 2024: ERM, on behalf of LSS, shut down the Groundwater Extraction and Treatment (GWET) system for approximately 1.5 hours due to plate separator maintenance.
- 5 July 2024: The ODEQ sent approval of the revised ISS PDI Workplan.
- 10 July 2024: Representatives from ERM and LSS had a biweekly progress call with the ODEQ regarding IRAM #1.

- 10 July 2024: The ODEQ sent confirmation of completion of the stormwater National Pollutant Discharge Elimination System (NPDES) permit #100752 Toxic Pollutants supplemental monitoring.
- 11 July 2024: At the ODEQ's request, ERM submitted a copy of the 2014 Performance Monitoring Plan.
- 12 July 2024: ERM, on behalf of LSS, sent meeting minutes from the 12 July 2024 IRAM #1 call, to the ODEQ.
- 15 July 2024: ERM, on behalf of LSS, submitted the QPR for Quarter 2, 2024, to the ODEQ.
- 15 July 2024: ERM, on behalf of LSS, submitted the May 2024 monthly Discharge Monitoring Report (DMR) for NPDES permit compliance monitoring of the GWET system.
- 15 July 2024: ERM, on behalf of LSS, submitted the June 2024 monthly and Quarter 2 quarterly DMR for the performance monitoring of the stormwater SCM, including supplemental Copper Biotic Ligand Model (BLM) data.
- 16 July 2024: ERM, on behalf of LSS, requested a modification in the drilling strategy for the ISS PDI. The ODEQ denied the modification request.
- 23 July 2024: Representatives from ERM, LSS, the ODEQ, Integral Consulting Inc., and the United States Environmental Protection Agency met at the Arkema site regarding the ISS PDI.
- 26 July 2024: A representative from the ODEQ visited the ISS PDI onsite.
- 2 August 2024: ERM, on behalf of LSS, shut down the GWET system for approximately 1 hour due to plate separator maintenance.
- 9 August 2024: ERM and LSS sent a request that the meeting scheduled 14 August 2024 be rescheduled to later in the day, to the ODEQ.
- 10 August 2024: The GWET system was shut down for approximately 8 hours due to a failed pump causing an automatic shutoff.
- 12 August 2024: The ODEQ provided comments on the Quarter 1, 2024, Groundwater Monitoring Report.
- 14 August 2024: Representatives from ERM and LSS had a biweekly progress call with the ODEQ regarding IRAM #1.
- 16 August 2024: ERM, on behalf of LSS, shut down the GWET system for approximately 3 hours due to pump maintenance.
- 20 August 2024: ERM, on behalf of LSS, sent meeting minutes from the 14 August 2024 IRAM #1 call, to ODEQ.
- 21 August 2024: ERM, on behalf of LSS, submitted the June 2024 monthly DMR for NPDES permit compliance monitoring of the GWET system.

- 21 August 2024: ERM, on behalf of LSS, submitted the July 2024 monthly DMR for the performance monitoring of the stormwater SCM, including supplemental Copper BLM data.
- 22 August 2024: ERM, on behalf of LSS, submitted the June 2024 Monthly Progress Report (MPR), to the ODEQ.
- 22 August 2024: The ODEQ requested the May 2024 MPR, that was not sent.
- 26 August 2024: ERM, on behalf of LSS, shut down the GWET system due to a tank malfunction. The system was restarted on 8 September 2024.
- 27 August 2024: ERM, on behalf of LSS, sent the agenda for the 28 August 2024 IRAM #1 meeting, to the ODEQ.
- 28 August 2024: Representatives from ERM and LSS had a biweekly progress call with the ODEQ regarding IRAM #1.
- 30 August 2024: ERM, on behalf of LSS, completed phase one of the ISS PDI.
- 3 September 2024: ERM, on behalf of LSS, submitted the May 2024 MPR, to the ODEQ.
- 9 September 2024: ERM, on behalf of LSS, began the Quarter 3, 2024, groundwater monitoring event. The event was completed on 11 September 2024.
- 10 September 2024: The ODEQ sent LSS in-water data from Integral regarding riverbank concentrations of monochlorobenzene, and LSS responded.
- 10 September 2024: ERM, on behalf of LSS, sent the agenda for the 11 September 2024 IRAM #1 meeting, to the ODEQ.
- 11 September 2024: Representatives from ERM and LSS had a biweekly progress call with the ODEQ regarding IRAM #1.
- 17 September 2024: ERM, on behalf of LSS, submitted the July 2024 monthly DMR for NPDES permit compliance monitoring of the GWET system.
- 17 September 2024: ERM, on behalf of LSS, submitted the August 2024 monthly DMR for the performance monitoring of the stormwater SCM, including supplemental Copper BLM data.
- 18 September 2024: ERM, on behalf of LSS, submitted the July 2024 MPR, to the ODEQ.
- 19 September 2024: ERM, on behalf of LSS, shut down the GWET system for 25 minutes due to pressure gauge maintenance.
- 20 September 2024: ERM, on behalf of LSS, submitted the Quarter 2, 2024, Groundwater Monitoring Report to the ODEQ.
- 30 September 2024: ERM, on behalf of LSS, shut down the GWET system for 30 hours due to preclearance work for phase two of the ISS PDI.

Actions Scheduled for Quarter 4, 2024 (October through December)

- The QPR for Quarter 3, 2024, will be prepared and submitted.
- LSS will continue to monitor discharges from the stormwater SCM and submit monthly monitoring reports as well as Copper BLM data to the ODEQ.
- LSS will continue to monitor discharges from the groundwater SCM and submit monthly DMRs to the ODEQ.
- LSS will continue optimization of the GWET system as part of the implementation of the groundwater SCM and in accordance with the GWET System Corrective Action Plan and associated updates.
- LSS will conduct routine maintenance on the stormwater SCM.
- LSS will submit monthly status reports consistent with the Performance Monitoring Plan and per the ODEQ letter DEQ Review "Draft GWET System Effectiveness Evaluation Report" (SEE) received on 31 May 2019.
- LSS will conduct groundwater monitoring for Quarter 4, 2024.
- LSS will submit the Quarter 3, 2024, Groundwater Monitoring Report.
- LSS will begin implementation of phase two of the ISS PDI.

Summary of Validated Data

- Weekly compliance and quarterly characterization sampling of the GWET system data were received and validated. These data were presented in the respective monthly DMRs.
- Quarter 2, 2024, groundwater monitoring data were reviewed and validated during Quarter 3, 2024. These data are included in Attachment 2 and are presented in the Quarterly Monitoring Report for Quarter 2, 2024.
- Quarter 3, 2024, groundwater monitoring event data were collected. These data will be reviewed, validated, and presented in the Quarterly Groundwater Monitoring Report for Quarter 3, 2024.

Problems Experienced During Quarter

Specific problems experienced during the GWET system optimization and operation are documented in the attached weekly progress reports. No other problems were experienced during Quarter 3, 2024.

Closing

If you have questions or comments pertaining to this progress report, please contact us at (503) 488-5282.

Sincerely,

Brendan Robinson
Partner

Avery Soplata
Project Manager

Attachments

cc: Todd Slater, LSS
Laura Hanna, USEPA
Matt Stock, Joyce Ziker Parkinson
Lance Peterson, CDM
Karen Traeger, LSS
David Livermore, Integral

ATTACHMENT 1 QUARTER 3, 2024, WEEKLY PROGRESS REPORTS

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 28 June 2024 to 4 July 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously. Uptime for the reporting period was 100 percent. The average system influent flow rate for the week was 41.5 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-04, EW-05, EW-08, EW-10, EW-11, EW-13, and EW-14 were in operation during the reporting period. The total influent volume for the week was 465,800 gallons or 77 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 28 June 2024: Operators performed general O&M and cycled the filter press. Backwashed carbon vessel CT-1. Johnson Controls onsite troubleshooting the security cameras, inspected southwest camera on GWET plant and determined it needs to be replaced as it was installed incorrectly and has water damage. Performed jar tests, results look good with pH at 7.8, coagulant M-1883 at 320 ppm, and polymer EA-230 at 1.5 ppm. Lowered CFP-1 from 100 percent to 94 percent stroke length. Calibrated pH probe at the Precipitate Reactor (PR-1). Increased the deadband for PR-1 pH from 7.4-7.45 to 7.75-7.80. Transferred balanced water from flat bottom tanks (FBT) to GWET-INF at 1 gpm.
- Saturday, 29 June 2024: Operator performed general O&M and cycled the filter press. Transferred balanced water from FBT to GWET-INF at 1 gpm. Increased CFP-8 acetic acid pump from 11 percent to 12 percent. Decreased underflow polymer dose from 275 spm to 255 spm. Decreased coagulant pump from 94 percent to 90 percent stroke length.
- Sunday, 30 June 2024: Operator performed general O&M and cycled the filter press. Transferred balanced water from FBT to GWET-INF at 1 gpm. Decreased CFP-13 urea pump to 3.0 percent from 3.5 percent stroke rate.
- Monday, 1 July 2024: Operators performed general O&M and cycled the filter press. Transferred balanced water from FBT to GWET-INF at 1 gpm. Changed out 1-hp pump at Extraction Well EW-14. Cascade Drilling onsite for PDI work. Collected LGAC check samples and sent to ALS. Calibrated handheld YSI meter for pH, conductivity, and D.O. Performed jar tests, coagulant M-1883 at 315 ppm, and polymer EA-640 at 0.7 ppm. Can use EA-640 polymer instead of EA-230 to improve operational efficiency. Tidewater Environmental Services picked up two

iron sludge boxes (1 and 2) for transportation to the Roosevelt Landfill Disposal facility.

- Tuesday, 2 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Transferred balanced water from FBT to GWET-INF at 1 gpm. Started Recovery Well RW-14. Installed hoses for Extraction Well EW-13 and started. Transferred all low pH water out of the Frac tank and cleaned out the silt using hydrant water.
- Wednesday, 3 July 2024: Operators performed general O&M and cycled the filter press. Transferred balanced water from FBT to GWET-INF at 1 gpm. Cascade Drilling onsite for PDI work.
- Thursday, 4 July 2024: Operator performed general O&M and cycled the filter press. Operator started the auto-sampler for collection of the weekly NPDES compliance samples. Carson onsite to batch the DEF (urea) tote.

Recovery / Extraction Well Status

- The current influent flow rate is **37 gpm,** with Recovery / Extraction wells RW-14, RW-23, RW-25, EW-03, EW-04, EW-05, EW-08, EW-11, and EW-13 in operation.
- EW-01: Started 7/1, totalizer operational. Off 7/4 due to VFD fault. Pump to be swapped out.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-06: Off since 6/8.
- EW-07: Off since 6/7.
- EW-09: Off since 6/6, waiting for compliance analytical results.
- EW-10: Off since 6/27, waiting for compliance analytical results.
- EW-12: Pump removed for camera inspection and jetting of trench.
- EW-13: Started well 7/2.
- EW-14: Changed out the 1-hp pump, 7/1.
- RW-14: Started well 7/2.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- MWA-34iR: To be recalibrated following survey on 7/12.

Sampling

- LGAC check samples collected 1 July 2024 and sent to ALS.
- Weekly compliance samples collected 5 June 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 5 July 2024 to 11 July 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously except for a 1.5-hour wellfield shut down to clean the plate separator. Uptime for the reporting period was 99 percent. The average system influent flow rate for the week was 38.5 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-04, EW-05, EW-08, EW-10, EW-11, EW-13, and EW-14 were in operation during the reporting period. The total influent volume for the week was 323,500 gallons or 53 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 5 July 2024: Operators performed general O&M and cycled the filter press. Backwashed carbon vessel CT-1. Manually wasted tank T-7 into dewatering box #7. The wellfield was shut down wellfield for 1.5 hours to clean the plate separator (PS-1). Collected weekly compliance samples and sent to Eurofins. Adjusted the underflow timer P-PS-1 at PS-1 to 250/300 sec from 290/300 sec.
- Saturday, 6 July 2024: Operator performed general O&M and cycled the filter press.
- Sunday, 7 July 2024: Operator performed general O&M and cycled the filter press.
- Monday, 8 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Airlifted the sand filter (SF-1) after observing high turbidity on the bio-side and multiple bag filter changes at tank T-5. Pulled pumps at Trenches 1, 4, 5, and 6 to prepare for camera inspection.
- Tuesday, 9 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Backwashed carbon vessel CT-1. Adjusted the underflow timer P-PS-1 at PS-1 to 200/300 sec from 250/300 sec. Performed camera inspection at Trenches 4, 5, and 6. Observed turbid water in horizontal section of trenches and unable to see if the screens were fouled.
- Wednesday, 10 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Operator started the auto-sampler for collection of the weekly NPDES compliance samples. Transferred balanced water from flat bottom tanks (FBT) to GWET-INF at 1 gpm. Redeployed clean pumps at EW-01, EW-02, EW-07, EW-8, EW-10, and EW-11.
- Thursday, 11 July 2024: Operator performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Transferred remaining balanced water

from FBT to GWET-INF at 1 gpm. S. Lucas reconfigured tank T-10 decant valves to operate in auto with the tank T-9 fill timer and will work on the tank T-9 decant valves tomorrow. This will help solids settling in T-9 and T-10 at higher flows. Univar onsite to fill the caustic mini-bulk. Performed horizontal line jetting at Trench 6 (EW-11 + EW-12). AP4 pump deployed at EW-12 and pumping to GWET-INF.

Recovery / Extraction Well Status

- The current influent flow rate is **40 gpm,** with Recovery / Extraction wells RW-14, RW-23, RW-25, EW-03, EW-05, EW-08, EW-12, and EW-13 in operation.
- EW-01: Off 7/4 due to VFD fault. Pump swapped out 7/10.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, Low WTE.
- EW-06: Off since 6/8.
- EW-07: Off since 6/7. Pulled pump (7/8) for camera inspection (7/9) and changed out 7/10.
- EW-08: Pulled pump (7/8) for camera inspection (7/9) and changed out 7/10.
- EW-09: Off since 6/6. Pulled pump (7/8) for camera inspection (7/9)
- EW-10: Off since 6/27. Pulled pump (7/8) for camera inspection (7/9) and changed out 7/10.
- EW-11: Off since 7/8. Pulled pump (7/8) for camera inspection (7/9) and changed out 7/10. Horizontal line jetting (7/11).
- EW-12: Off since 6/7, Pump pulled for camera inspection (7/8). Horizontal line jetting (7/11). AP4 pump deployed at EW-12 and pumping to GWET-INF.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- MWA-34iR: To be recalibrated following survey on 7/12.

Sampling

- LGAC check samples were not collected this week.
- Weekly compliance samples collected 11 June 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 12 July 2024 to 18 July 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously. Uptime for the reporting period was 100 percent. The average system influent flow rate for the week was 38.2 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-07, EW-08, EW-10, EW-11, and EW-13, were in operation during the reporting period. The total influent volume for the week was 349,570 gallons or 58 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 12 July 2024: Operators performed general O&M and cycled the filter press. Backwashed carbon vessel CT-1. S. Lucas completed reconfiguring tank T-9/T-10 decant valves to operate on fill timer. Performed July water level event. Reduced acetic acid stroke rate (CFP-8) from 12 percent to 11 percent.
- Saturday, 13 July 2024: Operator performed general O&M and cycled the filter press.
- Sunday, 14 July 2024: Operator performed general O&M and cycled the filter press.
- Monday, 15 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Performed pressure jetting the well screen at Trench 6 (EW-11 + EW-12). YSI meter for water quality parameters malfunctioned and new YSI has been ordered.
- Tuesday, 16 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Backwashed carbon vessel CT-1. Installed Unistrut to stabilize the pipe rack for the sand filter influent pipe. Performed pressure jetting the well screen at Trench 6 (EW-11 + EW-12). LOTO and pulled tank T-5 transfer pump P-9 for maintenance.
- Wednesday, 17 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Operator started the auto-sampler for collection of the weekly NPDES compliance samples. Continued installation of Unistrut to stabilize the pipe rack for the sand filter influent pipe.
- Thursday, 18 July 2024: Operator performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Collected weekly compliance samples and sent to Eurofins. Completed installation of Unistrut to stabilize the pipe rack for the sand filter influent pipe.

Recovery / Extraction Well Status

- The current influent flow rate is **40 gpm,** with Recovery / Extraction wells RW-14, RW-25, EW-03, EW-05, EW-08, EW-12, and EW-13 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, lowered transducer and recalibrated.
- EW-06: Off since 6/8.
- EW-07: Off since 7/18. Operators to change out pump week 7/22.
- EW-08: Motor overload fault, Operators to change out pump week 7/22.
- EW-09: Off since 6/6. Operators to change out pump week 7/22.
- EW-11: Performed jetting of screen (7/15). Redeployed pump 7/16.
- EW-12: Off since 6/7, Performed jetting of screen (7/15). Transducer removed for packer installation.
- EW-14: Off since 7/2.
- RW-22: Off, Ground fault, Operators to swap out cable leads.

Transducer Status

- MWA-34iR: To be recalibrated following survey.

Sampling

- LGAC check samples were not collected this week.
- Weekly compliance samples collected 18 June 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 19 July 2024 to 25 July 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously. Uptime for the reporting period was 100 percent. The average system influent flow rate for the week was 37.7 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-07, EW-08, EW-10, EW-11, and EW-13, were in operation during the reporting period. The total influent volume for the week was 307,660 gallons or 51 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 19 July 2024: Operators performed general O&M. Backwashed carbon vessel CT-1. Lowered transducer at Recovery Well RW-23 and recalibrated. Changed out pumps at Extraction Wells EW-08 and EW-09. At EW-11, extended the tether wire on the pump to lower the pump intake by 1 foot.
- Saturday, 20 July 2024: Operator performed general O&M and cycled the filter press. Decreased the underflow pump P-PS-1 to 180/300 sec from 200/300 sec.
- Sunday, 21 July 2024: Operator performed general O&M and cycled the filter press.
- Monday, 22 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Tidewater Environmental Services picked up one iron sludge box (Box 4) and one bio sludge box (Box 5) for transportation to the Roosevelt Landfill Disposal facility. Assembled and tested AP4 pumps. Changed pressure filters backwash event to pressure activated (setpoint 14 psi) instead of time. Johnson Controls onsite and completed the replacement of the malfunctioning security camera and corrected the signal. All site security cameras are functioning now.
- Tuesday, 23 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Operators conducted site walk at lot 1 to assess number of ecology blocks to set for mitigation of access to the river. Performed jar test on plate separator influent water, comparing polymer dosages from EA-230 and EA-640. Found 0.5 ppm of EA-60 polymer looks good and plan on replacing EA-230 with EA-640 polymer. DEQ onsite for site walk with B. Robinson and T. Slater. Lowered acetic acid pump CFP-8 stroke rate from 10 percent to 9 percent.
- Wednesday, 24 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Operator started the auto-sampler for

collection of the weekly NPDES compliance samples. Site walk with Cochran Electric for Admin building electrical.

- Thursday, 25 July 2024: Operator performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Collected weekly compliance samples and sent to Eurofins. Assess lighting needs onsite.

Recovery / Extraction Well Status

- The current influent flow rate is **37 gpm,** with Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-07, EW-10, EW-11, and EW-13 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10.
- EW-06: Off since 6/8.
- EW-08: Off since 7/19, motor overload fault, operators changed out pump 7/19.
- EW-09: Off since 6/6. Operators changed out pump 7/19.
- EW-11: Increased tether length, lowering pump intake by 1 foot.
- EW-12: Off since 6/7, transducer removed for packer installation.
- EW-14: Off since 7/2.
- RW-22: Off, ground fault, operators to swap out cable leads.
- RW-23: Lowered transducer and recalibrated.

Transducer Status

- MWA-34iR: To be recalibrated following survey 7/31.

Sampling

- LGAC check samples were not collected this week.
- Weekly compliance samples collected 25 June 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 26 July 2024 to 1 August 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously. Uptime for the reporting period was 100 percent. The average system influent flow rate for the week was 35.3 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-07, EW-08, EW-09, EW-10, EW-11, EW-13, and EW-14, were in operation during the reporting period. The total influent volume for the week was 269,930 gallons or 45 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 26 July 2024: Operators performed general O&M. Backwashed carbon vessel CT-1. Cascade Drilling onsite for PDI work. Site walk with Cochran Electric for Admin building lighting. Switched from EA-230 to EA-640 polymer at the plate separator (PS-1). Decreased polymer ratio on OIT from 230 to 80 for a dosage of 0.5 ppm.
- Saturday, 27 July 2024: Operator performed general O&M and cycled the filter press. Observed oil weeping from air compressor, cleaned up oil from concrete pad and placed down oil absorbent pads. Oil level was low, added additional oil to air compressor.
- Sunday, 28 July 2024: Operator performed general O&M. Lined bio dewatering box with geo-fabric and wasted tanks T-9/T-10.
- Monday, 29 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Swapped out malfunctioning pump P-PS-3 at tank T-4 with a working spare pump. Changed out pump at Extraction Well EW-13 and placed EW-14 in service.
- Tuesday, 30 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Obtained an Elevated Work Permit and recalibrated the pH probe at PR-1 and tank T-6 using the aerial man-lift. Calibrated pH and ORP sensors at the FBR.
- Wednesday, 31 July 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Operator started the auto-sampler for collection of the weekly NPDES compliance samples. Lowered acetic acid stroke rate from 9 percent to 8 percent. Performed jar tests on the precipitate reactor (PR-1) and increased polymer ratio on OIT from 80 to 115 for a EA-640 polymer dosage of 0.7 ppm. Adjusted pump P-PS-1 underflow timer at PS-1 to 100/300

from 180/300. Transported a flat bottom tank to the wellfield and prepared hoses for the Hydropuls event.

- Thursday, 1 August 2024: Operator performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Collected weekly compliance samples and sent to Eurofins. Tidewater Environmental Services picked up two iron sludge dewatering boxes (6 and 7) for transportation to the Roosevelt Landfill Disposal facility. Survey subcontractor PBS onsite to survey monitoring well MWA-34iR. Univar onsite to batch the caustic mini-bulk. Transported a second flat bottom tank to the wellfield and prepared hoses for the Hydropuls event. Performed jar tests on the PR-1 and increased polymer ratio on OIT from 115 to 130 for a EA-640 polymer dosage of 0.85 ppm.

Recovery / Extraction Well Status

- The current influent flow rate is **35 gpm,** with Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-08, EW-09, EW-11, and EW-14 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-06: Off since 6/8, low water table.
- EW-07: Off since 7/31, low water table.
- EW-08: Started 7/31.
- EW-09: Started 7/31.
- EW-10: Off since 7/31, low water table.
- EW-12: Off since 6/7, transducer removed for packer installation.
- EW-13: Off since 7/29. Changed out 1-hp pump.
- EW-14: Started 7/29.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- MWA-34iR: To be recalibrated following survey on 8/1.

Sampling

- LGAC check samples were not collected this week.
- Weekly compliance samples collected 1 August 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 2 August 2024 to 8 August 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously except for a 1-hour shutdown to clean the plate separator (PS-1). Uptime for the reporting period was 99 percent. The average system influent flow rate for the week was 32.1 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-06, EW-08, EW-09, EW-11, and EW-14, were in operation during the reporting period. The total influent volume for the week was 242,020 gallons or 40 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 2 August 2024: Operators performed general O&M. Backwashed carbon vessel CT-1. Cascade Drilling onsite for PDI work. Shut down the wellfield for 1 hour to clean PS-1. Recalibrated transducer at MWA-34iR. Deployed equipment for Hydropuls event in the wellfield. Cascade Drilling struck monument at PA-11i with a skid steer, no damage but signal wires became disconnected, reconnected and signal returned to normal.
- Saturday, 3 August 2024: Operator performed general O&M and cycled the filter press. Underflow pump P-PS-1 at PS-1 was off, transferring sludge to the bio side. Emptied backwash tank T-2 to outside flat bottom tank and refilled with tap water. PS-1 back to normal operation end of day.
- Sunday, 4 August 2024: Operator performed general O&M.
- Monday, 5 August 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. New operator Derek Duffield onsite. Calibrated YSI meter for pH, conductivity, D.O, and ammonia. Completed installing the icemaker and turned it on. Collected LGAC check samples.
- Tuesday, 6 August 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Mobilized to the wellfield and changed out pumps at Extraction Wells EW-01 and EW-05. Cleaned and assembled 1-hp pumps. Assembled wire rope tethers for Hydropuls event.
- Wednesday, 7 August 2024: Operators performed general O&M, cycled the filter press, and general housekeeping. Cascade Drilling onsite for PDI work. Operator started the auto-sampler for collection of the weekly NPDES compliance samples.
- Thursday, 8 August 2024: Operator performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Collected weekly compliance samples

and sent to Eurofins. Mobilized to wellfield and pulled pumps from Trench 5 and 6. Deployed AP4 pumps at EW-10 and EW-11.

Recovery / Extraction Well Status

- The current influent flow rate is **30-40 gpm,** with Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-06, EW-08, EW-09, EW-11, and EW-14 in operation.
- EW-01: Fouled pump changed out 8/6.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-05: Off since 8/2, fouled pump changed out 8/6
- EW-06: Started 8/2.
- EW-07: Off since 7/31, low water table.
- EW-09: Pulled pump 8/8 for Hydropuls event.
- EW-10: Pulled pump 8/8 for Hydropuls event. AP4 pump currently running.
- EW-11: Pulled pump 8/8 for Hydropuls event. AP4 pump currently running.
- EW-12: Off since 6/7, transducer removed for packer installation.
- EW-13: Off since 7/29. Changed out 1-hp pump.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- MWA-34iR: Recalibrated 8/2.

Sampling

- LGAC check samples collected 5 August 2024 and sent to ALS.
- Weekly compliance samples collected 8 August 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 9 August 2024 to 15 August 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously except for an unplanned 8-hour shutdown due to pump P-5 faulting at 2230 on 8/10. Uptime for the reporting period was 95 percent. The average system influent flow rate for the week was 27.7 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-06, EW-08, EW-09, EW-11, and EW-14, were in operation during the reporting period. The total influent volume for the week was 236,950 gallons or 39 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 9 August 2024: Operators performed general O&M. Backwashed carbon vessel CT-1. Cascade Drilling onsite for PDI work. Performed August water level event and calibrated transducers PA-17iR, PA-22d, MWA-58d, and MWA-8i.
- Saturday, 10 August 2024: Operator performed general O&M.
- Sunday, 11 August 2024: Operator performed general O&M. Operator observed wellfield shutdown on 8/10 at 2230 due to failed pump P-6 at tank T-3. The pre-treatment side was flooded due to tank T-1 overflowing. Switched to pump P-6 and restarted the wellfield at 0630.
- Monday, 12 August 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Set up rental air compressor, AP4 pumps, and associated equipment in the wellfield to prepare for the Hydropuls event. Tidewater Environmental Services picked up two iron sludge dewatering boxes (1 and 2) for transportation to the Roosevelt Landfill Disposal facility. Lowered underflow pump P-PS-1 from 125/300 sec to 100/300 sec.
- Tuesday, 13 August 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Shannon and Wilson onsite and performed Hydropuls in Trenches 5 and 6. New smaller Hydropuls tool was unsuccessful as it would not operate continuously across the horizontal section of the trench.
- Wednesday, 14 August 2024: Operators performed general O&M, cycled the filter press, and general housekeeping. Cascade Drilling onsite for PDI work. Operator started the auto-sampler for collection of the weekly NPDES compliance samples. Mobilized to wellfield and deployed pumps at Extraction Wells EW-10 and EW-11.

- Thursday, 15 August 2024: Operator performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Collected weekly compliance samples and sent to Eurofins. Replaced tank T-12 transfer pump P-PS-9 with 2-inch Sandpiper.

Recovery / Extraction Well Status

- The current influent flow rate is **30-40 gpm,** with Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-08, EW-10, EW-11, and EW-14 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-05: Started 8/11.
- EW-06: Off since 8/10, changed out fouled pump 8/15.
- EW-07: Off since 7/31, low water table.
- EW-09: Pulled pump 8/8 for Hydropuls event.
- EW-10: Redeployed clean pump 8/15.
- EW-11: Hydropuls conducted 8/13. Redeployed clean pump 8/15.
- EW-12: Off since 6/7, Hydropuls conducted 8/13.
- EW-13: Off since 7/29.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- GCC4: Transducers PA-22, PA-28, MWA-19, MWA-58d, EW-07, and EW-08 briefly lost connection on 8/12. Operator will investigate the UPS battery at MCC-2.

Sampling

- LGAC check samples were not collected this week.
- Weekly compliance samples collected 15 August 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 16 August 2024 to 22 August 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously except for a planned 3-hour shutdown to install recirculation pump P-7. Uptime for the reporting period was 98 percent. The average system influent flow rate for the week was 30.6 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-08, EW-10, EW-11, and EW-14, were in operation during the reporting period. The total influent volume for the week was 244,660 gallons or 40 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 16 August 2024: Operators performed general O&M. Backwashed carbon vessel CT-1. Cascade Drilling onsite for PDI work. Operators investigated filter press alarm for low hydraulic pressure and observed the hydraulic pump leaking oil along a seal. Contacted Evoqua representative for a quote to replace and repair the pump (Model 518811-M-71). Backwashed LGAC vessel CT-1. Shut down the wellfield for 3 hours to installed recirculation pump P-7. Installed PVC flanges and check valve.
- Saturday, 17 August 2024: Operator performed general O&M.
- Sunday, 18 August 2024: Operator performed general O&M and cycled the filter press. Plate separator iron level slightly elevated, increased CFP-9 coagulant stroke length from 84 percent to 88 percent.
- Monday, 19 August 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Nitrogen tanks delivery from Central Welding Supply.
- Tuesday, 20 August 2024: Operators performed general O&M, cycled the filter press, and vegetation removal around the GWET plant. Cascade Drilling onsite for PDI work. Cochran was onsite to troubleshoot motor starter at pump P-5. The motor starter and fuses were found to be working but the PLC does not recognize the HOA switch in "Auto." S. Lucas was contacted and confirmed network connection and will look further into this issue. Removed old EA-230 polymer make down skid as it is no longer in use.
- Wednesday, 21 August 2024: Operators performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Operator started the auto-sampler for collection of the weekly NPDES compliance samples. S. Lucas worked

with a Rockwell representative and ERM staff to troubleshoot pump P-5 motor. Determined that the E1 Plus Motor Overload Ethernet module needs to be replaced. At MCC-2 the transducers lost connectivity briefly, will work with S. Lucas to troubleshoot.

- Thursday, 22 August 2024: Operator performed general O&M and cycled the filter press. Cascade Drilling onsite for PDI work. Collected weekly compliance samples and sent to Eurofins.

Recovery / Extraction Well Status

- The current influent flow rate is **25-35 gpm,** with Recovery / Extraction wells RW-23, RW-25, EW-01, EW-03, EW-05, EW-08, EW-10, EW-11, and EW-14 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-06: Off since 8/10, low water table.
- EW-07: Off since 7/31, low water table.
- EW-09: Pulled pump 8/8 for Hydropuls event.
- EW-12: Off since 6/7.
- EW-13: Off since 7/29, low water table.
- RW-14: Off since 8/21. Fouled pump to be changed out.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- MCC-2: Transducers lost connection briefly on 8/13 and 8/22. Will work with S. Lucas to troubleshoot.

Sampling

- LGAC check samples were not collected this week.
- Weekly compliance samples collected 22 August 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 23 August 2024 to 29 August 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously except for an unplanned shutdown due to the rupture of the MCR (Media Capture Recovery) vessel. Uptime for the reporting period was 43 percent. The average system influent flow rate for the week was 16.0 gpm. Recovery / Extraction wells RW-23, RW-25, EW-01, EW-03, EW-05, EW-08, EW-10, EW-11, and EW-14, were in operation during the reporting period. The total influent volume for the week was 139,080 gallons or 23 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 23 August 2024: Operators performed general O&M. Backwashed carbon vessel CT-1. Cascade Drilling onsite for PDI work. Backwashed LGAC vessel CT-1. Rewired recirculation pump P-7 and bump tested. Observed recirculation pump P-8 butterfly valve leaking. LOTO P-8 and removed failed butterfly valve and installed blind flanges. Performed jar tests on precipitate reactor (PR-1) and observed better settling with 0.1 ppm of EA-640 polymer. Adjusted polymer ratio on OIT from 130 to 150.
- Saturday, 24 August 2024: Operator performed general O&M.
- Sunday, 25 August 2024: Operator performed general O&M and cycled the filter press.
- Monday, 26 August 2024: Operator responded to an early morning tank T-4 high level alarms that indicated water was on the ground in the bio side of the GWET plant. Operator shut down the wellfield remotely at 0100. Operator arrived onsite discovered the weld on the MCR ruptured and was leaking process water into the sump. Operator shut down influent flow to the MCR and isolated the leaking vessel. Procured parts to bypass the MCR vessel. Cascade Drilling onsite for PDI work.
- Tuesday, 27 August 2024: Cascade Drilling onsite for PDI work. Operator deenergized the wellfield and LOTO MCCs in the main electrical room due to air knifing in wellfield for the PDI team. Univar onsite to batch caustic mini-bulk. Telluric onsite to assess the MCR. Operators assembled part of the MCR bypass plumbing. Removed LOTO and reenergized the MCCs end of day.
- Wednesday, 28 August 2024: Cascade Drilling onsite for PDI work. Operators continued work with the MCR bypass plumbing.

- Thursday, 29 August 2024: Cascade Drilling onsite for PDI work. Operators completed the MCR bypass plumbing. Removed 8-foot section of pipe from the MCR to the sand filter. Staff mobilized to Scappoose Wastewater Treatment Plant to obtain Waste Activated Sludge (WAS) and transferred it to the FBR. Operator deenergized the wellfield and LOTO MCCs in the main electrical room due to air knifing in wellfield for the PDI team. Unable to move process water through the recirculation line of the FBR as operators discovered the butterfly valve at the FBR influent failed and is stuck closed.

Recovery / Extraction Well Status

- The current influent flow rate is **0 gpm,** with Recovery / Extraction wells off due to the MCR failure.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-06: Off since 8/10, low water table.
- EW-07: Off since 7/31, low water table.
- EW-09: Pulled pump 8/8 for Hydropuls event.
- EW-12: Off since 6/7.
- EW-13: Off since 7/29, low water table.
- RW-14: Off since 8/21. Fouled pump to be changed out.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- MCC-2: Transducers lost connection briefly on 8/13 and 8/22. Will work with S. Lucas to troubleshoot. Recycled the power to MCC-2 and will monitor.

Sampling

- LGAC check samples were not collected this week.
- Weekly compliance samples were not collected this week due to the shutdown.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 30 August 2024 to 5 September 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge remained off due to an unplanned shutdown to repair the FBR. Uptime for the reporting period was 0 percent. The average system influent flow rate for the week was 0.0 gpm. Recovery / Extraction wells were off during the reporting period. The total influent volume for the week was 0 gallons or 0 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 30 August 2024: Operators performed general O&M. Cascade Drilling onsite and completed PDI event. Observed the FBR influent butterfly valve stem failed and is stuck closed, unable to operate the FBR recirculation pump P-7. Drained the FBR from the low point drain to T-10 to prepare to replace the broken butterfly valve.
- Saturday, 31 August 2024: Operator performed general O&M and managed tank levels. Cascade onsite to demobilize equipment.
- Sunday, 1 September 2024: Operator performed general O&M and managed tank levels.
- Monday, 2 September 2024: Operator performed general O&M and managed tank levels.
- Tuesday, 3 September 2024: Operators performed general O&M. Replaced the butterfly valve at FBR influent with a used valve. Filled the FBR with water from tanks T-3 and T-10. Removed LOTO from the MCCs and reenergized the wellfield. Staff mobilized to Scappoose Wastewater Treatment Plant and obtained Waste Activated Sludge (WAS) and transferred it to the FBR. Unable to start FBR recirculation loop due to recirc pump P-7 deadheading against carbon in FBR.
- Wednesday, 4 September 2024: Operators performed general O&M. Operators repaired plumbing for recirculation pump P-8 and checked impellers for P-7. P-8 also deadheaded with carbon at FBR influent. Attempt to airlift to fluidize the failed. Utilized the AODD pump and recirculated water through two low point drains to help fluidize the FBR bed then operated P-8 and successfully achieved recirculation rate of 600 gpm.
- Thursday, 5 September 2024: Operators performed general O&M and general housekeeping. Staff mobilized to Scappoose Wastewater Treatment Plant and obtained Waste Activated Sludge (WAS) and transferred it to the FBR. Mobilized to

transducer MWA-69 to check signal wire, transducer a little noisy but operating. Recirculated the bio side from tanks T-3 to T-5 and back to T-3 to help clean up the water from solids build up.

Recovery / Extraction Well Status

- The current influent flow rate is **0 gpm,** with Recovery / Extraction wells off due to the FBR repairs.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-06: Off since 8/10, low water table.
- EW-07: Off since 7/31, low water table.
- EW-09: Pulled pump 8/8 for Hydropuls event.
- EW-12: Off since 6/7.
- EW-13: Off since 7/29, low water table.
- RW-14: Off since 8/21. Fouled pump to be changed out.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- None.

Sampling

- LGAC check samples were not collected this week.
- Weekly compliance samples were not collected this week due to the shutdown.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 6 September 2024 to 12 September 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge remained off until the morning of 8 September due to an unplanned shutdown to repair the FBR. Uptime for the reporting period was 50 percent. The average system influent flow rate for the week was 19.0 gpm. Recovery / Extraction wells were started back up on 8 September and were running through the rest of the reporting period, except for a 20-minute shutdown on 9 September. The total influent volume for the week was 141,260 gallons or 23 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 6 September 2024: Operators performed general O&M and housekeeping.
- Saturday, 7 September 2024: Operator performed general O&M.
- Sunday, 8 September 2024: Operator performed general O&M and managed tank levels. Operator started up wellfield. Operator performed general housekeeping.
- Monday, 9 September 2024: Operators performed general O&M. Operators mounted new tank for polymer under the plate separator. Two employees conducted the Q3 groundwater sampling event in the wellfield.
- Tuesday, 10 September 2024: Operators performed general O&M. Operators collected LGAC samples. Operators installed polymer recirculation pump. David Evans & Associates were onsite for beach survey/site walk. Two employees conducted the Q3 groundwater sampling event in the wellfield.
- Wednesday, 11 September 2024: Operators performed general O&M. Weekly compliance samples taken. Site walk with subcontractors for the polymer dosing system. Two employees completed the Q3 groundwater sampling event in the wellfield.
- Thursday, 12 September 2024: Operators performed general O&M and general housekeeping.

Recovery / Extraction Well Status

- The current influent flow rate is **26.85 gpm,** with Recovery / Extraction wells EW-1, EW-3, EW-5, EW-8, EW-11, EW-14, and RW-23 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.

- EW-04: Off since 7/10, low water table.
- EW-06: Off since 8/10, low water table.
- EW-07: Off since 7/31, low water table.
- EW-09: Pulled pump 8/8 for Hydropuls event.
- EW-10: Off
- EW-12: Off since 6/7.
- EW-13: Off since 7/29, low water table.
- RW-14: Off since 8/21. Fouled pump to be changed out.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- None.

Sampling

- LGAC check samples were collected 10 September 2024.
- Weekly compliance samples were collected 12 September 2024 and sent to Eurofins.
- Quarter 3 Groundwater samples were collected between 9 and 11 September.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 13 September 2024 to 19 September 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously throughout the reporting period except for a 25-minute shutdown on 19 September to install pressure gauges along the influent conveyance lines. Uptime for the reporting period was 100 percent. The average system influent flow rate for the week was 24.8 gpm. Recovery / Extraction wells RW-14, RW-23, RW-25, EW-01, EW-03, EW-05, EW-08, EW-10, EW-11, and EW-14 were in operation during the reporting period. During the Hydropuls work (Tuesday, 17 September) EW-09, EW-10, EW-11, and EW-12 were all offline so those wells could be redeveloped. The total influent volume for the week was 236,770 gallons or 39 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 13 September 2024: Operators performed general O&M and housekeeping. Operators made necessary preparations for subcontractors coming onsite Monday through Wednesday.
- Saturday, 14 September 2024: Operator performed general O&M.
- Sunday, 15 September 2024: Operator performed general O&M.
- Monday, 16 September 2024: Operators performed general O&M. Odin mobilized to site to begin wellfield improvements. Odin placed bentonite grout around the well casings at each of the extraction wells. Odin repositioned the well vault lids around the clean outs and set them level, above grade. Backfilled with 3/4-inch minus gravel at the extraction well vaults, and associated monitoring wells, and cleanouts. A plate compactor was used to compact the gravel at each location.
- Tuesday, 17 September 2024: Operators performed general O&M. Odin was onsite performing work in the wellfield. Odin operator graded trench locations across the site and continued same tasks from yesterday. Shannon & Wilson was onsite to conduct Hydropuls redevelopment at Trenches 5 and 6. Shannon & Wilson demobilized from site.
- Wednesday, 18 September 2024: Operators performed general O&M. Odin finished up work in the wellfield, regrading the site and clearing vegetation around well vaults. Odin covered stockpile of crushed rock near Trench 7. Odin demobilized from site. Operators performed housekeeping and organized materials used in the well field for Hydropuls at Trenches 5 and 6. Operators took weekly compliance samples.

- Thursday, 19 September 2024: Operators performed general O&M and general housekeeping. Installed pressure gauges at the conveyance line cleanouts in the wellfield. Collected pressure readings at the conveyance line cleanouts. Operators utilized bag filters to assess the effectiveness of the temporary bypass pipe installed at the FBR to the sand filter. Operators performed general housekeeping outside the plant, weed eating. Operators finished weekly compliance sampling. Prepared equipment (1-hp motor/pump and well transducer) then shipped to QSP to construct pass through packer to be installed at EW-12.

Recovery / Extraction Well Status

- The current influent flow rate is **26.68 gpm,** with Recovery / Extraction wells EW-1, EW-3, EW-5, EW-8, EW-10, EW-11, EW-14, RW-23, and RW-25 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-06: Off since 8/10, low water table.
- EW-07: Off since 7/31, low water table.
- EW-09: Off since 8/8, low water table.
- EW-12: Off since 6/7, shipped to QSP.
- EW-13: Off since 7/29, low water table.
- RW-14: Off since 8/21. Fouled pump to be changed out.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- PA-17iR: Transducer offline, investigation required.
- PA-23d: Transducer malfunctioning, investigation required.
- PA-09: Transducer malfunctioning, investigation required.
- PA-16i: Transducer working but well got filled in with dirt, throwing off reading.

Sampling

- LGAC check samples were collected 17 September 2024.
- Weekly compliance samples were collected 19 September 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 20 September 2024 to 26 September 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously throughout the reporting period. Uptime for the reporting period was 100 percent. The average system influent flow rate for the week was 28.0 gpm. Recovery / Extraction wells RW-23, RW-25, EW-01, EW-03, EW-05, EW-08, EW-10, EW-11, and EW-14 were in operation during the reporting period. The total influent volume for the week was 239,800 gallons or 40 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 20 September 2024: Operators performed general O&M and cycled the filter press. Observed floating solids in tank T-7, conducted jar tests on PR-1 effluent water. Adjusted polymer pump CFP-3B from ratio 150 to 190 for dosage of 1.22 ppm of EA-640 polymer.
- Saturday, 21 September 2024: Operator performed general O&M and cycled the filter press.
- Sunday, 22 September 2024: Operator performed general O&M and cycled the filter press.
- Monday, 23 September 2024: Operators performed general O&M. Backwashed carbon vessel CT-1. Built Unistrut assembly for supporting MCR pipe and FBR effluent sample port.
- Tuesday, 24 September 2024: Operators performed general O&M. Monthly ladder inspections conducted. Collected FBR samples for TSS analysis. Increased acetic acid pump CFP-8 from 9.0 percent to 9.5 percent due to low FBR odor.
- Wednesday, 25 September 2024: Operators performed general O&M. Operator started the auto-sampler for collection of the quarterly NPDES compliance samples. Observed tanks T-3 at pH 8.3 and T-1 at pH 8.5, indicating the pH probe at PR-1 needs to be recalibrated. Adjusted the pH deadband from 7.55-7.65 to 6.55-6.65 and will calibrate when the repaired manlift is returned to site.
- Thursday, 26 September 2024: Operators performed general O&M. Collected quarterly compliance samples and sent to Eurofins. Manlift returned to site. Univar onsite to batch caustic mini-bulk. Calibrated and changed out the salt bridge at PR-1 pH probe. Mobilized to Extraction Well EW-10 and changed out fouled pump. Started Recovery Well RW-14.

Recovery / Extraction Well Status

- The current influent flow rate is **30 gpm,** with Recovery / Extraction wells EW-1, EW-3, EW-5, EW-8, EW-10, EW-11, EW-13, RW-14, RW-23, and RW-25 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-06: Off since 8/10, low water table.
- EW-07: Off since 7/31, low water table.
- EW-09: Off since 8/8, damaged y-strainer, plan to replumb with 5-foot hose.
- EW-10: Changed out fouled 1-hp pump.
- EW-12: Off since 6/7, shipped to QSP.
- EW-13: Started 9/26.
- EW-14: Off since 9/26, change out 1-hp pump 9/27.
- RW-14: Started 9/26.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- PA-17iR: Transducer offline, investigation required.
- PA-23d: Transducer malfunctioning, investigation required.
- PA-09: Transducer malfunctioning, investigation required.
- PA-16i: Transducer working but well got filled in with dirt, throwing off reading.

Sampling

- LGAC check samples were not collected this week.
- FBR samples were collected for TSS analysis 24 September 2024 and sent to Eurofins.
- Quarterly compliance samples were collected 26 September 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

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Groundwater Extraction and Treatment (GWET) System Weekly Progress Report
Week from: 27 September 2024 to 3 October 2024
Former Arkema Facility, Portland, Oregon

Plant Operations

Groundwater extraction at select recovery / extraction wells, treatment, and discharge proceeded continuously except for a planned 25.5-hour wellfield shutdown. MCC Room 1 was LOTO to conduct air knifing in the area for the upcoming PDI work. Uptime for the reporting period was 85 percent. The average system influent flow rate for the week was 27.7 gpm. Recovery / Extraction wells RW-23, RW-25, EW-01, EW-03, EW-05, EW-08, EW-09, EW-10, EW-11, EW-13, and EW-14 were in operation during the reporting period. The total influent volume for the week was 214,280 gallons or 35 percent of the target capture objective of 60 gpm at 100 percent uptime.

- Friday, 27 September 2024: Operators performed general O&M and cycled the filter press. Replaced malfunction transducer and fuse at PA-17iR and recalibrated. Backwashed carbon vessel CT-1. Repaired plumbing at Extraction Well EW-09, installed hose and camlock fitting at wellhead. Recalibrated transducer PA-10i and checked PA-16i.
- Saturday, 28 September 2024: Operator performed general O&M and cycled the filter press. Lowered and calibrated transducer PA-16i.
- Sunday, 29 September 2024: Operator performed general O&M and cycled the filter press.
- Monday, 30 September 2024: Operators performed general O&M. Cochran onsite for Admin building lighting and electrical work. MCC Room 1 was LOTO to conduct air knifing in the area for the upcoming PDI work. This shut down the wellfield at 0800. Cleaned the plate separator (PS-1). Collected LGAC check samples and sent to ALS. Installed recirculation line for the polymer makedown pump. Replaced filters on the filter press plates.
- Tuesday, 1 October 2024: Operators performed general O&M and cycled the filter press. Cochran onsite for Admin building lighting and electrical. Removed LOTO at MCC-1 at 0930 and restarted the wellfield. Discharge to the river at 1030. Replaced filters on filter press plates 2 through 8. Mobilized to Front Avenue to assess Eco-block placement.
- Wednesday, 2 October 2024: Operators performed general O&M and cycled the filter press. Cochran onsite for Admin building lighting and electrical work. Operator started the auto-sampler for collection of the quarterly NPDES compliance

samples. Mobilized to Front Avenue to assess Eco-block placement. Repaired polymer makedown tubing. Assembled mockup piping for the Hydropuls tool.

- Thursday, 3 October 2024: Operators performed general O&M. Collected quarterly compliance samples and sent to Eurofins. Tested Hydropuls tool in mockup piping with success. Transferred hydrant water in totes to fill up 3,000-gallon flat bottom tank to prepare for Hydropuls work. Tidewater Environmental Services picked up two iron sludge boxes (4 and rental 320-20) for transportation to the Roosevelt Landfill Disposal facility.

Recovery / Extraction Well Status

- The current influent flow rate is **20-30 gpm,** with Recovery / Extraction wells EW-1, EW-3, EW-6, EW-8, EW-09, EW-11, EW-14, RW-14, RW-23, and RW-25 in operation.
- EW-02: Off since 7/1, totalizer malfunctioning, operators to troubleshoot.
- EW-04: Off since 7/10, low water table.
- EW-05: Faulting, operators to change out fouled 1-hp pump.
- EW-06: Started 10/3.
- EW-07: Off since 7/31, low water table.
- EW-09: Started 9/27, repaired plumbing.
- EW-10: Off since 9/26, Operators to troubleshoot.
- EW-12: Off since 6/7, shipped to QSP.
- EW-13: Started 9/26.
- EW-14: Off since 9/26, Operators to change out fouled 1-hp pump.
- RW-22: Off, ground fault, operators to swap out cable leads.

Transducer Status

- PA-17iR: Replaced malfunctioning transducer and fuse, recalibrated and back in service.
- PA-23d: Transducer malfunctioning, investigation required.
- PA-09: Transducer malfunctioning, investigation required.
- PA-16i: Transducer lowered and recalibrated.

Sampling

- LGAC check samples were collected 30 September 2024 and sent to ALS.
- Weekly compliance samples were collected 3 October 2024 and sent to Eurofins.

Stormwater

- Weekly ISCO sampler and stormwater pond inspection conducted.

ATTACHMENT 2 QUARTER 2, 2024, GROUNDWATER MONITORING DATA

Table 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*	*< 0.61 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 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	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.084 U*	*< 0.47 U*	*< 0.050 U*	*< 0.36 U*	*< 0.23 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.9 U*	*< 4.3 U*	*< 4.1 U*	*< 3.3 U*	*< 6.1 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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	6/12/2024	N	Deep	MWA-58d-061224	*< 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	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 29 U*	*< 43 U*	*< 41 U*	*< 33 U*	*< 61 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*	*< 0.61 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.29 U*	*< 0.43 U*	*< 0.41 U*	*< 0.33 U*	*< 0.61 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 290 U*	*< 430 U*	*< 410 U*	*< 330 U*	*< 610 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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	6/11/2024	N	Deep	PA-23d-061124	*< 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	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 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	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 290 U*	*< 430 U*	*< 410 U*	*< 330 U*	*< 610 U*

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
FD = Field Duplicate Sample
FSWP SHSC = Feasibility Study Work Plan Indirect Exposure Pathway Selected Hot Spot Criteria
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 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.57 U*	*< 0.46 U*	*< 0.42 U*	*< 0.18 U*	*< 0.55 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.48 U*	*< 0.30 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-03	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.48 U*	*< 0.038 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.48 U*	*< 0.038 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.48 U*	*< 0.038 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.48 U*	*< 0.038 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.48 U*	*< 0.038 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.48 U*	*< 0.30 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.48 U*	*< 0.038 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.48 U*	*< 0.038 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.48 U*	**0.34**	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.48 U*	*< 0.038 U*	*< 0.12 U*	*< 0.060 U*	*< 0.19 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 5.7 U*	*< 4.6 U*	*< 4.2 U*	*< 1.8 U*	*< 5.5 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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	6/12/2024	N	Deep	MWA-58d-061224	*< 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	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 57 U*	*< 46 U*	*< 42 U*	*< 18 U*	*< 55 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.57 U*	*< 0.46 U*	*< 0.42 U*	*< 0.18 U*	*< 0.55 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.57 U*	*< 0.46 U*	**0.42 j**	*< 0.18 U*	*< 0.55 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 570 U*	*< 460 U*	*< 420 U*	*< 180 U*	*< 550 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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	6/11/2024	N	Deep	PA-23d-061124	*< 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	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 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	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 570 U*	*< 460 U*	*< 420 U*	*< 180 U*	*< 550 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 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*	*< 4.7 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 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	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 U*	*< 2.5 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 U*	*< 2.5 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 U*	*< 2.5 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 U*	*< 2.5 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 U*	*< 2.5 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 U*	*< 2.5 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 UJ*	*< 2.5 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 U*	*< 2.5 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 U*	*< 2.5 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.050 U*	*< 0.056 U*	*< 0.050 U*	*< 0.060 UJ*	*< 2.5 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 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 UJ*	*< 47 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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 UJ*	*< 47 U*
MWA-58d	6/12/2024	N	Deep	MWA-58d-061224	*< 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 UJ*	*< 47 U*
PA-18d	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 48 U*	*< 35 U*	*< 46 U*	*< 32 U*	*< 470 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*	*< 4.7 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.48 U*	*< 0.35 U*	*< 0.46 U*	*< 0.32 U*	*< 4.7 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 480 U*	*< 350 U*	*< 460 U*	*< 320 U*	*< 4,700 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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 UJ*	*< 4.7 U*
PA-23d	6/11/2024	N	Deep	PA-23d-061124	*< 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 UJ*	*< 4.7 U*
PA-24d	6/12/2024	N	Deep	PA-24d-061224	*< 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 UJ*	*< 4.7 U*
PA-25d	6/11/2024	N	Deep	PA-25d-061124	*< 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 UJ*	*< 2.5 U*
PA-26d	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 480 U*	*< 350 U*	*< 460 U*	*< 320 U*	*< 4,700 U*

Notes:
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SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

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Table 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 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-03	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
PA-31	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.20 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 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-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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	6/12/2024	N	Deep	MWA-58d-061224	*< 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	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 38 U*	*< 28 U*	*< 250 U*	*< 320 U*	**53 j**
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.38 U*	*< 0.28 U*	*< 2.5 U*	*< 3.2 U*	*< 0.24 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 380 U*	*< 280 U*	*< 2,500 U*	*< 3,200 U*	*< 240 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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	6/11/2024	N	Deep	PA-23d-061124	*< 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	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
PA-26d	6/10/2024	N	Deep	PA-26d-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	*< 0.25 U*	*< 2.7 U*	*< 3.1 U*	*< 0.030 U*
PA-27d	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 380 U*	*< 280 U*	*< 2,500 U*	*< 3,200 U*	*< 240 U*

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

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

Table 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.43 U*	*< 0.29 U*	*< 0.51 U*	*< 0.21 U*	*< 0.53 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
PA-03	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 UJ*	*< 0.20 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 U*	*< 0.20 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.038 U*	*< 0.060 U*	*< 0.16 U*	*< 0.13 UJ*	*< 0.20 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 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-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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	6/12/2024	N	Deep	MWA-58d-061224	*< 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	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 43 U*	*< 29 U*	*< 51 U*	*< 21 U*	*< 53 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.43 U*	*< 0.29 U*	*< 0.51 U*	*< 0.21 U*	*< 0.53 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.43 U*	*< 0.29 U*	*< 0.51 U*	*< 0.21 U*	**0.61 j**
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 430 U*	*< 290 U*	*< 510 U*	*< 210 U*	*< 530 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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	6/11/2024	N	Deep	PA-23d-061124	*< 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	6/12/2024	N	Deep	PA-24d-061224	*< 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-25d	6/11/2024	N	Deep	PA-25d-061124	*< 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-26d	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 430 U*	*< 290 U*	*< 510 U*	*< 210 U*	*< 530 U*

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
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SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

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Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.025 U*	**0.060 j**	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
MWA-63	6/13/2024	N	Shallow	MWA-63-061324	*< 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*	**59**
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.025 U*	**0.11 j**	*< 0.050 U*	*< 0.24 U*	**3.2**
PA-03	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.24 U*	**0.047 j**
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.025 U*	**0.10 j**	*< 0.050 U*	*< 0.24 U*	**0.10 j**
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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*	**0.27**
PA-31	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.24 U*	**0.049 j**
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.025 U*	**0.085 j**	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
PA-10i	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.025 U*	**0.71**	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.025 U*	**0.16 j**	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.025 U*	**0.36**	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.025 U*	*< 0.060 U*	*< 0.050 U*	*< 0.24 U*	*< 0.030 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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*	**0.097 j**
MWA-31i(d)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 3.0 U*	*< 4.4 U*	*< 2.9 U*	*< 3.5 U*	**59**
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 3.0 U*	*< 4.4 U*	*< 2.9 U*	*< 3.5 U*	**150**
MWA-58d	6/12/2024	N	Deep	MWA-58d-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 3.0 U*	*< 4.4 U*	*< 2.9 U*	*< 3.5 U*	**140**
PA-18d	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 30 U*	**12,000**	*< 29 U*	*< 35 U*	*< 26 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.30 U*	**4.5**	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.30 U*	**4.1**	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 300 U*	**41,000**	*< 290 U*	*< 350 U*	*< 260 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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*	**10**
PA-23d	6/11/2024	N	Deep	PA-23d-061124	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*
PA-24d	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 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	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.32 j**	*< 0.28 U*	*< 0.30 U*	*< 0.44 U*	*< 0.29 U*	*< 0.35 U*	*< 0.26 U*
PA-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 300 U*	**13,000**	*< 290 U*	*< 350 U*	*< 260 U*

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

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

Table 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.28 U*	**0.85 j**	*< 0.42 U*	*< 0.43 U*	*< 0.34 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 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	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.14 U*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.14 U*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.14 U*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.14 U*	**0.097 j**	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	**0.16 J-**	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.14 U*	**0.12 j**	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.14 UJ*	**0.058 j**	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.14 UJ*	**0.078 j**	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.14 U*	**0.092 j**	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.14 UJ*	**0.098 j**	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.14 UJ*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.14 UJ*	**0.13 j**	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
MWA-31i(d)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.8 UJ*	*< 3.5 U*	*< 4.2 U*	*< 4.3 U*	*< 3.4 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.8 UJ*	*< 3.5 U*	*< 4.2 U*	*< 4.3 U*	*< 3.4 U*
MWA-58d	6/12/2024	N	Deep	MWA-58d-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.8 UJ*	*< 3.5 U*	*< 4.2 U*	*< 4.3 U*	*< 3.4 U*
PA-18d	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 28 UJ*	*< 35 U*	*< 42 U*	*< 43 U*	*< 34 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*	*< 0.34 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.28 U*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*	*< 0.34 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 280 U*	*< 350 U*	*< 420 U*	*< 430 U*	*< 340 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.28 UJ*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*	*< 0.34 U*
PA-23d	6/11/2024	N	Deep	PA-23d-061124	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.28 UJ*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*	*< 0.34 U*
PA-24d	6/12/2024	N	Deep	PA-24d-061224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.28 UJ*	*< 0.35 U*	*< 0.42 U*	*< 0.43 U*	*< 0.34 U*
PA-25d	6/11/2024	N	Deep	PA-25d-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.14 UJ*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-26d	6/10/2024	N	Deep	PA-26d-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.14 U*	*< 0.055 U*	*< 0.090 U*	*< 0.055 U*	*< 0.062 U*
PA-27d	6/12/2024	N	Deep	PA-27d-061224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.32 j**	*< 0.28 U*	*< 0.28 U*	**0.68 j**	*< 0.42 U*	*< 0.43 U*	*< 0.34 U*
PA-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 280 UJ*	*< 350 U*	*< 420 U*	*< 430 U*	*< 340 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
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SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

Qualifiers - Organic:
j = The analyte was positively identified below the RDL; associated numerical value is the approximate concentration of the analyte in the sample.
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U = Analyte was analyzed for, but not detected above, the limit displayed.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

Table 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)
Analyte															
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
MWA-41	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-03	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.13 U*	*< 0.082 U*	*< 0.067 U*	*< 0.16 U*	*< 0.27 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 5.3 U*	*< 5.0 U*	*< 4.0 U*	*< 7.9 U*	*< 4.4 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 5.3 U*	*< 5.0 U*	*< 4.0 U*	*< 7.9 U*	*< 4.4 U*
MWA-58d	6/12/2024	N	Deep	MWA-58d-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 5.3 U*	*< 5.0 U*	*< 4.0 U*	*< 7.9 U*	*< 4.4 U*
PA-18d	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 53 U*	*< 50 U*	*< 40 U*	*< 79 U*	*< 44 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 530 U*	*< 500 U*	*< 400 U*	*< 790 U*	*< 440 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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-23d	6/11/2024	N	Deep	PA-23d-061124	*< 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-24d	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 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	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 530 U*	*< 500 U*	*< 400 U*	*< 790 U*	*< 440 U*

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
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 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 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	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 5.3 U*	*< 4.4 U*	*< 14 U*	*< 9.3 U*	*< 4.4 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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	6/12/2024	N	Deep	MWA-58d-061224	*< 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	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 53 U*	*< 44 U*	*< 140 U*	*< 93 U*	*< 44 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 530 U*	*< 440 U*	*< 1,400 U*	*< 930 U*	*< 440 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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	6/11/2024	N	Deep	PA-23d-061124	*< 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	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 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	6/10/2024	N	Deep	PA-26d-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.12 U*	**0.091 J+**	*< 1.2 U*	*< 0.52 U*	*< 0.35 U*
PA-27d	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 530 U*	*< 440 U*	*< 1,400 U*	*< 930 U*	*< 440 U*

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

Qualifiers - Organic:
j = The analyte was positively identified below the RDL; associated numerical value is the approximate concentration of the analyte in the sample.
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U = Analyte was analyzed for, but not detected above, the limit displayed.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

Table 2-1
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Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 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	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.091 U*	*< 0.12 U*	*< 0.23 U*	*< 0.17 U*	*< 0.33 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 5.0 U*	*< 5.1 U*	*< 3.9 U*	*< 4.9 U*	*< 5.3 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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	6/12/2024	N	Deep	MWA-58d-061224	*< 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	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 50 U*	*< 51 U*	*< 39 U*	*< 49 U*	*< 53 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 500 U*	*< 510 U*	*< 390 U*	*< 490 U*	*< 530 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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	6/11/2024	N	Deep	PA-23d-061124	*< 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	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 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	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 500 U*	*< 510 U*	*< 390 U*	*< 490 U*	*< 530 U*

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

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

Table 2-1
Volatile Organic Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	*< 0.58 U*	**8.2**	*< 0.39 U*	*< 0.39 U*	*< 0.41 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.26 U*	**0.63**	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
PA-03	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.26 U*	*< 0.084 U*	**0.14 j**	*< 0.033 U*	*< 0.092 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.26 U*	*< 0.084 U*	**0.15 j**	*< 0.033 U*	*< 0.092 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	*< 0.26 U*	**0.15 j**	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	*< 0.26 U*	**0.16 j**	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.26 U*	**0.31**	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
PA-31	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.26 U*	**0.20 j**	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.26 U*	*< 0.084 U*	**0.15 j**	*< 0.033 U*	*< 0.092 U*
PA-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.26 U*	*< 0.084 U*	**0.16 j**	*< 0.033 U*	*< 0.092 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	*< 0.26 U*	**0.12 j**	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*
MWA-31i(d)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 5.8 U*	*< 4.1 U*	*< 3.9 U*	*< 3.9 U*	*< 4.1 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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	6/12/2024	N	Deep	MWA-58d-061224	*< 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	6/12/2024	N	Deep	PA-18d-061224	*< 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	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	*< 58 U*	*< 41 U*	*< 39 U*	*< 39 U*	*< 41 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.41 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.41 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 580 U*	*< 410 U*	*< 390 U*	*< 390 U*	*< 410 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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	6/11/2024	N	Deep	PA-23d-061124	*< 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	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 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	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.32 j**	*< 0.28 U*	*< 0.58 U*	*< 0.41 U*	**1.1**	*< 0.39 U*	*< 0.41 U*
PA-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 580 U*	*< 410 U*	*< 390 U*	*< 390 U*	*< 410 U*

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
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SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

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Table 2-1
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Arkema Quarter 2, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Trichloroethene	Trichlorofluoromethane (Freon 11)	Vinyl chloride
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	3	NE	0.24
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID									
MWA-41	6/10/2024	N	Shallow	MWA-41-061024	*< 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	6/13/2024	N	Shallow	MWA-63-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	*< 0.22 U*	*< 0.28 U*	**1.4**	*< 0.36 U*	*< 0.22 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	*< 0.035 U*	**0.20**	*< 0.12 U*	*< 0.040 U*
PA-03	6/12/2024	N	Shallow	PA-03-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.15 j**	**0.17 j**	**0.095 j**	*< 0.12 U*	*< 0.040 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.12 j**	*< 0.035 U*	**0.096 j**	*< 0.12 U*	*< 0.040 U*
PA-09	6/10/2024	N	Shallow	PA-09-061024	*< 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	6/13/2024	N	Shallow	PA-31-061324	*< 0.11 U*	**0.19 j**	*< 0.056 U*	*< 0.070 U*	**0.19 j**	**0.52**	*< 0.20 U*	*< 0.12 U*	*< 0.040 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	*< 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	6/12/2024	N	Intermediate	PA-10i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	*< 0.064 U*	**0.080 j**	*< 0.066 U*	*< 0.12 U*	**0.16**
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.18 j**	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	*< 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-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.11 j**	**0.16 j**	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.075 j**	**0.068 j**	*< 0.066 U*	*< 0.12 U*	**0.20**
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	*< 0.11 U*	*< 0.025 U*	*< 0.056 U*	*< 0.070 U*	**0.23**	*< 0.035 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	*< 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)	6/12/2024	N	Deep	MWA-31i(d)-061224	*< 1.8 U*	*< 3.9 U*	*< 5.2 U*	*< 2.4 U*	*< 2.2 U*	*< 2.8 U*	*< 2.6 U*	*< 3.6 U*	*< 2.2 U*
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	*< 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	6/12/2024	N	Deep	MWA-58d-061224	*< 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	6/12/2024	N	Deep	PA-18d-061224	*< 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-19d	6/13/2024	N	Deep	PA-19d-061324	*< 18 U*	*< 39 U*	*< 52 U*	*< 24 U*	*< 22 U*	*< 28 U*	**32 j**	*< 36 U*	*< 22 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**1.1**	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	*< 0.18 U*	*< 0.39 U*	*< 0.52 U*	*< 0.24 U*	**0.95 j**	*< 0.28 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 260 U*	*< 360 U*	*< 220 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	*< 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	6/11/2024	N	Deep	PA-23d-061124	*< 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	6/12/2024	N	Deep	PA-24d-061224	*< 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	6/11/2024	N	Deep	PA-25d-061124	*< 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	6/10/2024	N	Deep	PA-26d-061024	*< 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	6/12/2024	N	Deep	PA-27d-061224	*< 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-30d	6/14/2024	N	Deep	PA-30d-061424	*< 180 U*	*< 390 U*	*< 520 U*	*< 240 U*	*< 220 U*	*< 280 U*	*< 260 U*	*< 360 U*	*< 220 U*

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

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

Table 2-2
Additional Compounds Results
Arkema Quarter 2, 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	6/10/2024	N	Shallow	MWA-41-061024	**7.6**	**2.6 j**
MWA-63	6/13/2024	N	Shallow	MWA-63-061324	**6.6**	*< 2.0 U*
MWA-82	6/10/2024	N	Shallow	MWA-82-061024	**11**	**270**
PA-03	6/12/2024	N	Shallow	PA-03-061224	**3.7**	*< 10 U*
PA-03	6/12/2024	FD	Shallow	DUP-01-061224	**3.8**	*< 4.0 U*
PA-04	6/12/2024	N	Shallow	PA-04-061224	**5.7**	*< 2.0 U*
PA-08	6/10/2024	N	Shallow	PA-08-061024	**190**	**19 j**
PA-09	6/10/2024	N	Shallow	PA-09-061024	**130**	**11 j**
PA-31	6/13/2024	N	Shallow	PA-31-061324	**3.8**	*< 10 U*
MWA-81i	6/10/2024	N	Intermediate	MWA-81i-061024	**26**	*< 2.0 U*
PA-10i	6/12/2024	N	Intermediate	PA-10i-061224	**44**	*< 10 U*
PA-15i	6/12/2024	N	Intermediate	PA-15i-061224	**86 J-**	*< 10 U*
PA-16i	6/10/2024	N	Intermediate	PA-16i-061024	**17**	*< 10 U*
PA-17iR	6/12/2024	N	Intermediate	PA-17iR-061224	**35**	*< 10 U*
PA-32i	6/13/2024	N	Intermediate	PA-32i-061324	**85**	*< 20 U*
PA-44i	6/11/2024	N	Intermediate	PA-44i-061124	**320**	*< 10 U*
MWA-11i(d)	6/13/2024	N	Deep	MWA-11i(d)-061324	**650**	*< 10 U*
MWA-31i(d)	6/12/2024	N	Deep	MWA-31i(d)-061224	**21,000**	**100,000**
MWA-56d	6/12/2024	N	Deep	MWA-56d-061224	**13,000**	**15,000**
MWA-58d	6/12/2024	N	Deep	MWA-58d-061224	**19,000**	**47,000**
PA-18d	6/12/2024	N	Deep	PA-18d-061224	**85**	*< 10 U*
PA-19d	6/13/2024	N	Deep	PA-19d-061324	**290**	*< 20 U*
PA-20d	6/13/2024	N	Deep	PA-20d-061324	**680**	*< 10 U*
PA-20d	6/13/2024	FD	Deep	DUP-02-061324	**690**	*< 10 U*
PA-21d	6/13/2024	N	Deep	PA-21d-061324	**300**	*< 10 U*
PA-22d	6/12/2024	N	Deep	PA-22d-061224	**5,100**	**14,000**
PA-23d	6/11/2024	N	Deep	PA-23d-061124	**31,000**	*< 400 U*
PA-24d	6/12/2024	N	Deep	PA-24d-061224	**30,000**	*< 400 U*
PA-25d	6/11/2024	N	Deep	PA-25d-061124	**30**	*< 2.0 U*
PA-26d	6/10/2024	N	Deep	PA-26d-061024	**80**	*< 2.0 U*
PA-27d	6/12/2024	N	Deep	PA-27d-061224	**540**	*< 10 U*
PA-30d	6/14/2024	N	Deep	PA-30d-061424	**320**	*< 20 U*

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