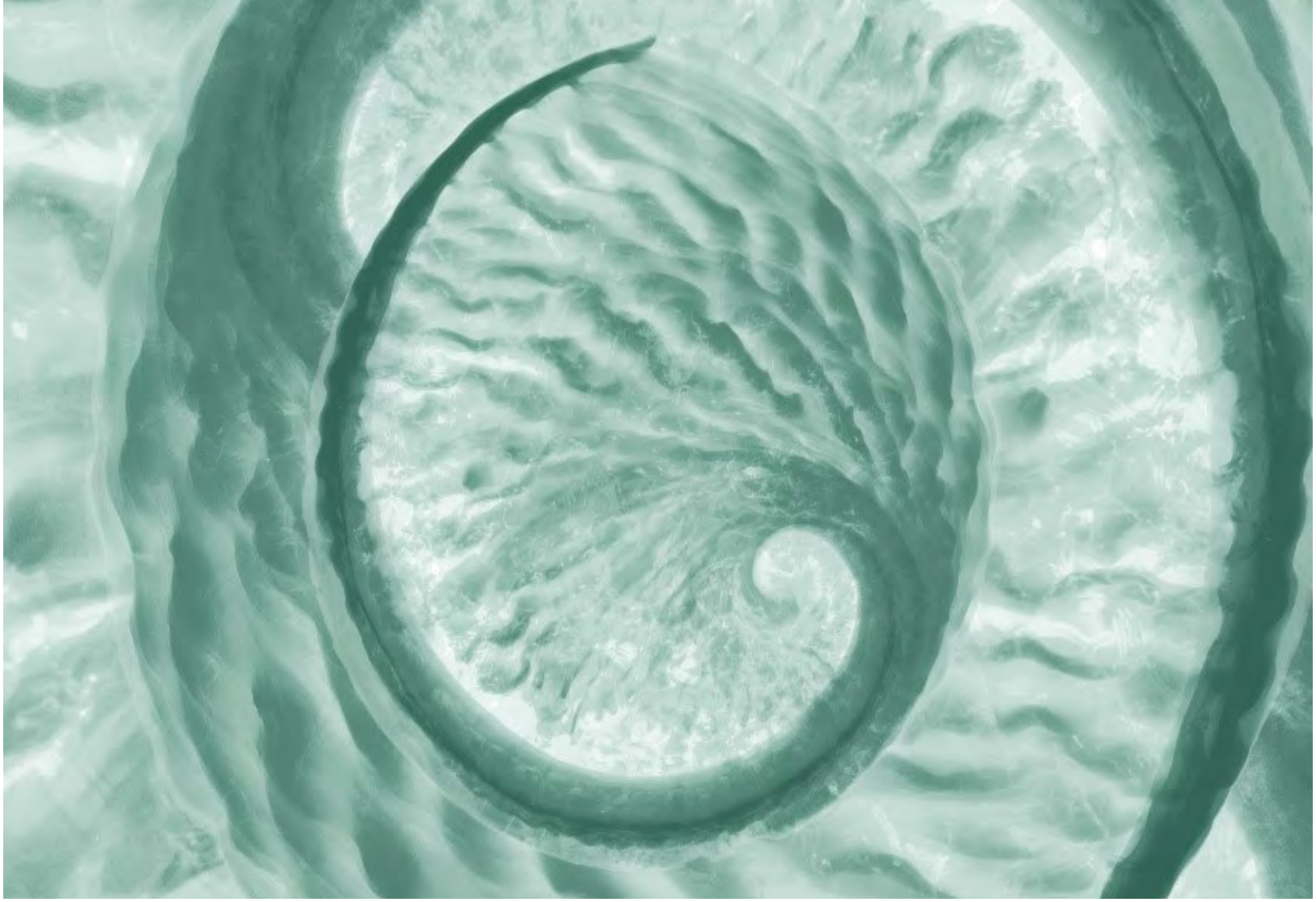

Prepared for: Legacy Site Services LLC

Arkema Quarter 2, 2020, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon

September 2020

Project No.: 0543821

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September 2020

Arkema Quarter 2, 2020, Groundwater Monitoring Report

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Acronyms and Abbreviations

Name	Description
4,4-DDD	Dichlorodiphenyldichloroethane
4,4-DDE	Dichlorodiphenyldichloroethylene
4,4-DDT	Dichlorodiphenyltrichloroethane
µg/L	Micrograms per liter
Arkema	Arkema Inc.
cis-1,2-DCE	cis-1,2-Dichloroethene
COC	Contaminant of concern
ERM	ERM-West, Inc.
GMWP	Groundwater Monitoring Work Plan
GWBW	Groundwater barrier wall
GWET	Groundwater extraction and treatment

Name	Description
GWMR	Groundwater Monitoring Report
GW SCM	Groundwater source control measures
IDW	Investigation-derived waste
LSS	Legacy Site Services, LLC
mg/L	Milligrams per liter
MPR	Monthly Progress Report
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric turbidity units
ODEQ	Oregon Department of Environmental Quality
PCE	Tetrachloroethene
PPE	Personal protective equipment
QA/QC	Quality assurance/quality control
QAPP	Quality Assurance Project Plan
SEE	System Effectiveness Evaluation
TCE	Trichloroethene
VOC	Volatile organic compound

1. INTRODUCTION

ERM-West, Inc. (ERM) has prepared this Quarter 2, 2020, Groundwater Monitoring Report ("Report") on behalf of Legacy Site Services, LLC (LSS), agent for Arkema Inc. (Arkema), to summarize the groundwater sampling results for the Quarter 2, 2020, groundwater monitoring at the former Arkema Portland Plant (the "Site") at 6400 NW Front Avenue, Portland, Oregon. Implementation of the quarterly groundwater monitoring is in accordance with the Oregon Department of Environmental Quality (ODEQ) 31 May 2019 review of the *Draft Groundwater Extraction and Treatment (GWET) System Effectiveness Evaluation Report* (ODEQ 2019), and subsequent meeting held on 2 July 2019. In their review, the ODEQ requested development of an analytical monitoring program for groundwater contaminants of concern (COCs). Subsequent to that letter, LSS, ERM, and the ODEQ held a meeting on 2 July 2019, during which ERM and LSS agreed to commence groundwater monitoring.

The Quarter 2, 2020, groundwater monitoring was conducted in accordance with the ODEQ-approved *Arkema Quarterly Groundwater Monitoring Work Plan* (GMWP) (ERM 2019), dated October 2019. No additional sampling and analysis was performed outside of the ODEQ-approved work plan.

Details of the previous Quarter 1, 2020, groundwater monitoring were described in the *Arkema Quarter 1, 2020, Groundwater Monitoring Report* (ERM 2020a). The ODEQ provided comments to the Quarter 4, 2019, Groundwater Monitoring report on 6 April 2020. ERM responded to those comments in a letter dated 6 May 2020 (ERM 2020b). On 12 May 2020, the ODEQ participated in a call with representatives from LSS and ERM to discuss comments and to seek consensus relating to sampling of pesticides and total metals due to turbidity. Specifically, consensus was met to only collect pesticides and total metals from locations where turbidity is fewer than 5 nephelometric turbidity units (NTU). ERM implemented sample collection in the Quarter 2, 2020, monitoring consistent with this procedure.

1.1 Objectives

The objective of this groundwater monitoring program is to evaluate changes to groundwater conditions for groundwater COCs in the vicinity of the groundwater source control measures (GW SCM) consisting of the groundwater barrier wall (GWBW) and the groundwater extraction and treatment (GWET) system.

This Report provides the field procedures, groundwater level data, and analytical results from the Quarter 2, 2020, groundwater monitoring event. An annual report will be prepared following the Quarter 4, 2020, monitoring, and will include a data evaluation of COCs in the vicinity of the GWBW.

1.2 Background

The Site's operational and remedial history was documented in the *Revised Upland Feasibility Study Work Plan* (ERM 2017). Installation and construction of the GW SCM was completed in December 2013. The GWET system was started in May 2014. The GW SCM and GWET system are described in Section 1.2.2.

1.2.1 Site Description

The Site is located at 6400 NW Front Avenue, in the Northwest Industrial Area of Portland, Oregon. The facility is bounded by Front Avenue on the north and west, the Willamette River on the east, and an asphalt roofing manufacturer on the south. The Site lies on the southwest bank of the lower Willamette River between river mile 6.9 and river mile 7.6, immediately upstream of the Burlington Northern Santa Fe Railroad bridge. The property is adjacent to the Portland Harbor Superfund site.

1.2.2 Groundwater Source Control Measures

The current GW SCM at the Site consists of the following primary components:

- GWBW to physically separate the affected upland portions and in-water portions of the Site
- A series of extraction wells designed to provide hydraulic capture to minimize flow of groundwater containing unacceptable concentrations of COCs around, over, and under the GWBW
- Management/treatment of extracted groundwater through a GWET system, with treated effluent discharged to the Willamette River under a National Pollutant Discharge Elimination System (NPDES) permit

Hydraulic capture is implemented through 13 groundwater recovery wells screened in the Shallow Zone, and 9 recovery wells screened in the Intermediate Zone. Hydraulic gradients across the GWBW are evaluated through data collected from a network of 36 piezometers used to monitor the groundwater elevation in the Shallow, Intermediate, and Deep Zones. These hydraulic gradients are used to evaluate hydraulic capture performance in the vicinity of the GWBW. The GW SCM are described in the *Revised Final Performance Monitoring Plan – Groundwater Source Control Measure* (ERM 2015).

ERM evaluated the GW SCM performance by utilizing data from the piezometers to calculate hydraulic gradients; these data are presented in monthly progress reports (MPRs) and GWET System Effectiveness Evaluation (SEE) reports (ERM 2018, ERM 2020c). To further evaluate performance of the GW SCM, ERM will assess groundwater conditions, including COCs, in the vicinity of the GWBW. As described in Section 1.1, ERM will collect COC data on a quarterly basis, and will perform the assessment of groundwater conditions in the area of the GWBW on an annual basis.

2. FIELD PROCEDURES

ERM collected groundwater elevation data from 111 well locations on 15 May 2020, and samples from 69 well locations between 18 and 29 May 2020. The locations of the sampled monitoring wells and piezometers are presented on Figure 1. A summary of groundwater level and sampling locations, and analyses are displayed in Table 1.

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

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

2.1 Groundwater Level Measurements

On 15 May 2020, ERM collected groundwater elevation data from 111 well locations, as shown in Table 1, using a combination of transducer and manual measurements. One well location, MWA-06r, is buried and inaccessible and was replaced with MWA-18. Manual measurements in each well without a functioning transducer were measured to the nearest 0.01 foot using a water level indicator, in accordance with the GMWP. For locations with functioning transducers, transducer data were used for reporting in lieu of collecting manual measurements.

2.2 Groundwater Sample Collection Procedures

ERM collected groundwater samples from 34 monitoring wells, and 35 piezometers that are associated with the GWET system, for a total of 69 locations (Table 1). All wells and piezometers were sampled with a bladder or peristaltic pump using low-flow techniques and sample collection procedures, as described in the GWMP. Field water quality measurements (i.e., temperature, pH, specific conductivity, dissolved oxygen, oxygen-reduction potential, and turbidity) were collected with calibrated field water quality meters. ERM recorded field notes taken during sampling in a field tablet; field forms are provided as Appendix A.

After well-purging criteria were satisfied, ERM disconnected the in-line flow cell and collected groundwater samples in the appropriate containers for the analyses, as shown in Table 1. Samples that were analyzed for dissolved phase constituents were field filtered using a 0.45 micron filter. If the well-purging criteria were not satisfied for turbidity, total metals and pesticides were not collected at those locations. For volatile organic compounds (VOCs) and organochlorine pesticides, low level analyses were performed if historical results were non-detect by standard methods.

After sampling, ERM removed the pump and associated tubing from the well, discarded disposable tubing, and decontaminated reusable equipment, as described in the GMWP. ERM measured total well depths after sampling each location, and compared them to historical well depth data to assess accumulated thickness of solids.

2.3 Sample Shipping and Investigation-Derived Waste (IDW)

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

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

2.4 Quality Assurance and Quality Control and Data Validation

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

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

- Trip blanks were included in each cooler that contained VOC samples.
- Field duplicates samples were collected for every 20 samples.
- Equipment samples were collected for every 20 samples to verify efficacy of equipment decontamination; one equipment rinsate sample was collected for every 20 samples.
- Filter blanks samples were collected for every 20 filtered samples.

ERM completed data validation after receiving the laboratory analytical reports. Laboratory analytical reports are included as Appendix B, and data validation memos are included as Appendix C.

2.5 Deviations from GMWP

ERM encountered no deviations during the Quarter 2, 2020, groundwater monitoring.

3. GROUNDWATER MONITORING RESULTS

3.1 Groundwater Elevations

On 15 May 2020, ERM manually measured, to the nearest 0.01 foot, one depth to groundwater measurement in 55 wells at the Site using an electronic water level indicator. For the additional 56 wells with functioning transducers, ERM collected transducer groundwater elevation data on 15 May 2020 to calculate an average groundwater elevation for each location, which was then used for developing potentiometric surface maps. To calculate average groundwater elevation, ERM used transducer data recorded in the respective Shallow, Intermediate, and Deep Zone aquifer wells during the time period that manual water level measurements were collected in that zone. Groundwater elevations, along with the time periods used for averaging transducer groundwater elevation data, are presented in Table 2.

Groundwater beneath the Site occurs in five zones: Shallow Zone, Shallow-Intermediate Silt Zone, Intermediate Zone, Deep Zone, and Gravel/Basalt Zone. Potentiometric surface maps for the Shallow, Intermediate, and Deep Zones are presented on Figures 2 through 4, respectively. These figures are the same potentiometric surface maps that were reported in the *May 2020 GW SCM Monthly Performance Monitoring Report* (ERM 2020d), submitted to the ODEQ on 15 July 2020.

The generalized flow direction indicated by the potentiometric surface maps show overall groundwater flow toward the GWBW. The Shallow and Intermediate Zone potentiometric maps indicate localized groundwater movement toward extraction wells due to GW SCM pumping. Additionally, a potentiometric separation is noticeable river-side of the GWBW, indicating that the barrier wall is functioning via impeding groundwater flow. The Deep Zone potentiometric map also indicates flow towards the GWBW. River elevations from the Willamette River (River Mile 12.8) river gauge are shown on the potentiometric surface maps in an inset (Figures 2 through 4), and depict stage movement during May 2020. Additional details regarding May 2020 groundwater elevations and flow are described in the *May 2020 GW SCM Monthly Performance Monitoring Report* (ERM 2020d).

3.2 Groundwater Analytical Results

From 18 to 29 May 2020, ERM personnel completed groundwater sampling at 69 monitoring well and piezometer locations. Results from the groundwater sampling and analyses are presented in further detail below.

3.2.1 Field Parameter Results

ERM measured and recorded field parameters during well purging. The well locations were only sampled after the field parameters had stabilized. The results of the field parameter measurements are presented in Table 3.

3.2.2 Analytical Results

Analytical results for the Quarter 2, 2020, groundwater monitoring are presented in Tables 4 through 7. Laboratory analytical reports are presented as Appendix B, and data validation memos are presented as Appendix C. A discussion of primary COCs is provided in the subsequent sections, and figures are presented for select COCs in this report based on historical analytical results of selected COCs that have been presented previously in the *Sitewide Groundwater Monitoring Report – August 2009 Monitoring Event* (2009 GWMR) (ERM 2010). In addition to the figures previously presented in the 2009 GWMR, figures for dissolved arsenic, dissolved chromium, dissolved iron, and dissolved manganese are attached at the end of this report.

In accordance by request from ODEQ in the meeting dated 12 May 2020, time-series graphs and historical data tables for select wells and analytes are provided in Appendix D. Consensus on the wells and analytes to be graphed and tabulated were approved in ODEQ's email dated 18 August 2020.

3.2.2.1 VOCs

The results for VOCs are presented in Table 4. Results for the Shallow, Intermediate, and Deep Zones are presented on the figures for chlorobenzene, 1,2-dichlorobenzene, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride, as described below.

The results for chlorobenzene in the Shallow, Intermediate, and Deep Zones are presented on Figures 5 through 7, respectively. Chlorobenzene was detected in 38 of 73 primary and duplicate samples. The lowest detected concentration of chlorobenzene was 0.069 j micrograms per liter (µg/L) at Shallow Zone piezometer PA-42. The highest detected concentration of chlorobenzene was 49,000 J µg/L at Deep Zone piezometer PA-21d.

The results for 1,2-dichlorobenzene in the Shallow, Intermediate, and Deep Zones are presented on Figures 8 through 10, respectively. 1,2-dichlorobenzene was detected in 15 out of 73 primary and duplicate samples. The lowest detected concentration of 1,2-dichlorobenzene was 0.039 j µg/L at Intermediate Zone monitoring well MWA-32i. The highest detected concentration of 1,2-dichlorobenzene was 4.5 J+ µg/L at Intermediate Zone monitoring well MWA-66i.

The results for PCE and TCE, as well as their dechlorination daughter-products cis-1,2-DCE and vinyl chloride, in the Shallow, Intermediate Zone, and Deep Zones, are presented on Figures 11 through 13, respectively. A summary of lowest and highest detected concentrations is:

- PCE was detected in 27 of 73 primary and duplicate samples. PCE ranged from 0.087 j µg/L at Shallow Zone monitoring well MWA-47 to 220 J- µg/L at Shallow Zone monitoring well MWA-61.
- TCE was detected in 28 of 73 primary and duplicate samples. TCE ranged from 0.069 j µg/L at Deep Zone monitoring well MWA-11i(d) to 120 µg/L at Shallow Zone monitoring well MWA-61.
- cis-1,2-DCE was detected in 31 of 73 primary and duplicate samples. cis-1,2-DCE ranged from 0.064 j µg/L at Shallow Zone monitoring well MWA-82 to 420 J- µg/L at Shallow Zone monitoring well MWA-61.
- Vinyl chloride was detected in 13 of 73 primary and duplicate samples. Vinyl chloride ranged from 0.14 µg/L at Intermediate Zone piezometer PA-10i to 140 µg/L at Intermediate Zone monitoring well MWA-64i.

3.2.2.2 Organochlorine Pesticides

The results for organochlorine pesticides are presented in Table 5; turbidity measurements are also included for reference. Dichlorodiphenyltrichloroethane (4,4-DDT) and associated breakdown products Dichlorodiphenyldichloroethane (4,4-DDD) and Dichlorodiphenyldichloroethylene (4,4-DDE) (collectively DDx) results for the Shallow, Intermediate, and Deep Zones are presented on Figures 14 through 16, respectively. DDx was detected in 31 of 37 primary and duplicate samples. The lowest detected concentration of DDx was 0.0045 µg/L at Deep Zone monitoring well MWA-58d. The highest detected concentration of DDx was 93 µg/L at Shallow Zone monitoring well MWA-15r.

3.2.2.3 Hexavalent Chromium

The results for hexavalent chromium are presented in Table 6. Hexavalent chromium results for the Shallow, Intermediate, and Deep Zones are presented on Figures 17 through 19, respectively. Hexavalent chromium was detected in 9 of 73 primary and duplicate samples. The lowest detected

concentration of hexavalent chromium was 0.44 j µg/L at Shallow Zone monitoring well MWA-63. The highest detected concentration of hexavalent chromium was 11 µg/L at Shallow Zone monitoring well MWA-18.

3.2.2.4 Dissolved Metals

The results for dissolved metals are presented in Table 6 and on Figures 20 through 31. A summary of the lowest and highest detected concentrations is:

- Arsenic was detected in 67 of 73 primary and duplicate samples. Arsenic ranged from 1.2 j µg/L at Intermediate Zone monitoring well MWA-81i to 640 µg/L at Shallow Zone monitoring well MWA-24.
- Chromium was detected in 56 of 73 primary and duplicate samples. Chromium ranged from 1.1 j µg/L at Deep Zone piezometer PA-24d and Shallow Zone monitoring well MWA-63 to 470 µg/L at Intermediate Zone monitoring well MWA-54i.
- Iron was detected in 62 of 73 primary and duplicate samples. Iron ranged from 210 j µg/L at Shallow Zone monitoring well MWA-30 to 120,000 µg/L at Deep Zone piezometer PA-24d.
- Manganese was detected in 72 of 73 primary and duplicate samples. Manganese ranged from 3.1 j µg/L at Shallow Zone piezometer PA-09 to 93,000 µg/L at Deep Zone monitoring well MWA-11i(d).

3.2.2.5 Perchlorate

The results for perchlorate are presented in Table 7. Perchlorate results for the Shallow, Intermediate, and Deep Zones are presented on Figures 32 through 34, respectively. Perchlorate was detected in 15 of 73 primary and duplicate samples. The lowest detected concentration of perchlorate was 5.2 µg/L at Shallow Zone monitoring well MWA-19. The highest detected concentration of perchlorate was 100,000 µg/L at Deep Zone monitoring well MWA-31i(d).

3.2.2.6 Chloride

The results for chloride are presented in Table 7. Chloride results for the Shallow, Intermediate, and Deep Zones are presented on Figures 35 through 37, respectively. Chloride was detected in all 73 primary and duplicate samples. The lowest detected concentration of chloride was 8.3 milligrams per liter (mg/L) at Shallow Zone piezometer PA-03. The highest detected concentration of chloride was 46,000 mg/L at Deep Zone piezometer PA-24d.

4. RECOMMENDATIONS

Following the Quarter 2, 2020, groundwater monitoring, the following changes will be made to the groundwater monitoring program set forth in the GMWP at this time:

- 2,4'-isomers of DDD, DDE, and DDT will be analyzed as part of pesticide analyses.
- As described in Section 2.1, MWA-6r is buried and inaccessible; MWA-18 has been monitored in lieu of MWA-6R. ERM and LSS propose to remove MWA-6R from groundwater monitoring.

ERM will conduct the Quarter 3, 2020, groundwater monitoring according to the following schedule:

- Water levels will be measured 14 August 2020.
- Sampling will begin 17 August 2020, and is expected to be completed by 28 August 2020.
- Receipt of analytical results and data validation will be completed by 10 October 2020.
- The Quarter 3, 2020, Groundwater Monitoring Report will be submitted to the ODEQ within 60 days after data validation, on 9 December 2020.

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TABLES

Table 1
Groundwater Sampling Matrix
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

		Analyte	Volatile Organic Compounds	Volatile Organic Compounds	Organochlorine Pesticides	Organochlorine Pesticides	Chloride	Perchlorate	Hexavalent Chromium	Total Metals	Dissolved Metals	
			Arsenic, Iron, Manganese, Chromium	Arsenic, Iron, Manganese, Chromium								
		Analytical Method	8260C	8260C_LL[1]	8081B	8081B_LL[1]	300	314	218.6	6020		
Location ID	Aquifer Classification	Groundwater Level Measurement										Reason Not Sampled
MWA-02	Shallow	X*	X	--	X	--	X	X	X	X	X	
MWA-06r[2]	Shallow	X	--	--	--	--	--	--	--	--	--	
MWA-15r	Shallow	X	X	--	X	--	X	X	X	X	X	
MWA-18	Shallow	X	X	--	--	X	X	X	X	X	X	
MWA-19	Shallow	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-20	Shallow	X	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-22	Shallow	X	X	--	X	--	X	X	X	X	X	
MWA-24	Shallow	X	--	X	--	X	X	X	X	X	X	
MWA-29	Shallow	X	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-30	Shallow	X	--	X	--	X	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-33	Shallow	X	X	--	--	X	X	X	X	X	X	
MWA-40	Shallow	X	--	X	--	X	X	X	X	X	X	
MWA-41	Shallow	X	--	X	--	X	X	X	X	X	X	
MWA-42	Shallow	X	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-43	Shallow	X	--	--	--	--	--	--	--	--	--	
MWA-46	Shallow	X	X	--	X	--	X	X	X	X	X	
MWA-47	Shallow	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-61	Shallow	X	X	--	X	--	X	X	X	X	X	
MWA-63	Shallow	X	X	--	--	X	X	X	X	X	X	
MWA-69	Shallow	X*	X	--	X	--	X	X	X	X	X	
MWA-71	Shallow	X	--	--	--	--	--	--	--	--	--	
MWA-72	Shallow	X	--	--	--	--	--	--	--	--	--	
MWA-73	Shallow	X	--	--	--	--	--	--	--	--	--	
MWA-82	Shallow	X	--	X	--	X	X	X	X	X	X	
PA-03	Shallow	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-04	Shallow	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-05	Shallow	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-06	Shallow	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-07	Shallow	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-08	Shallow	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-09	Shallow	X*	--	X	--	X	X	X	X	X	X	Did not meet 5 NTU requirement
PA-28	Shallow	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-31	Shallow	X	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-33	Shallow	X	--	--	--	--	--	--	--	--	--	
PA-35	Shallow	X	--	--	--	--	--	--	--	--	--	
PA-36	Shallow	X	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-38	Shallow	X	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-41	Shallow	X	--	--	--	--	--	--	--	--	--	
PA-42	Shallow	X	--	X	--	X	X	X	X	X	X	
PA-43	Shallow	X	--	--	--	--	--	--	--	--	--	
RP-02-31	Shallow	X	--	--	--	--	--	--	--	--	--	
RP-10-30	Shallow	X	--	--	--	--	--	--	--	--	--	
RW-05	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-07	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-08	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-10	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-12	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-14	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-15	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-17	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-18	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-20	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-22	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-23	Shallow	X*	--	--	--	--	--	--	--	--	--	
RW-25	Shallow	X*	--	--	--	--	--	--	--	--	--	
MWA-07(i)	Intermediate	X	--	--	--	--	--	--	--	--	--	
MWA-08i	Intermediate	X*	X	--	X	--	X	X	X	X	X	
MWA-16i	Intermediate	X	--	--	--	--	--	--	--	--	--	
MWA-32i	Intermediate	X	--	X	--	X	X	X	X	X	X	
MWA-34i	Intermediate	X*	X	--	X	--	X	X	X	X	X	
MWA-49i	Intermediate	X	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-51i	Intermediate	X	X	--	--	X	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-53i	Intermediate	X	--	X	--	X	X	X	X	X	X	
MWA-54i	Intermediate	X	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-64i	Intermediate	X	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-66i	Intermediate	X*	X	--	--	X	X	X	X	X	X	
MWA-70i	Intermediate	X	--	X	--	X	X	X	X	X	X	
MWA-74i	Intermediate	X	--	--	--	--	--	--	--	--	--	
MWA-75i	Intermediate	X	--	--	--	--	--	--	--	--	--	
MWA-81i	Intermediate	X	--	X	--	X	X	X	X	X	X	
PA-10i	Intermediate	X*	--	X	--	X	X	X	X	X	X	Did not meet 5 NTU requirement
PA-11i	Intermediate	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-12i	Intermediate	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-13i	Intermediate	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement

Table 1
Groundwater Sampling Matrix
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

		Analyte	Volatile Organic Compounds	Volatile Organic Compounds	Organochlorine Pesticides	Organochlorine Pesticides	Chloride	Perchlorate	Hexavalent Chromium	Total Metals	Dissolved Metals	
										Arsenic, Iron, Manganese, Chromium	Arsenic, Iron, Manganese, Chromium	
		Analytical Method	8260C	8260C_LL[1]	8081B	8081B_LL[1]	300	314	218.6	6020		
Location ID	Aquifer Classification	Groundwater Level Measurement										Reason Not Sampled
PA-14i	Intermediate	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-15i	Intermediate	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-16i	Intermediate	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-17iR	Intermediate	X*	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-29i	Intermediate	X*	--	X	--	X	X	X	X	X	X	Did not meet 5 NTU requirement
PA-32i	Intermediate	X	--	X	--	X	X	X	X	X	X	
PA-34i	Intermediate	X	--	--	--	--	--	--	--	--	--	
PA-37i	Intermediate	X	X	--	--	X	X	X	X	X	X	
PA-39i	Intermediate	X	--	X	--	X	X	X	X	X	X	Did not meet 5 NTU requirement
PA-40i	Intermediate	X	--	--	--	--	--	--	--	--	--	
PA-44i	Intermediate	X	--	X	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
RW-06i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
RW-09i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
RW-11i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
RW-13i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
RW-16i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
RW-19i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
RW-21i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
RW-24i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
RW-26i	Intermediate	X*	--	--	--	--	--	--	--	--	--	
MWA-11i(d)	Deep	X	--	X	X	--	X	X	X	X	X	
MWA-12i(d)	Deep	X	--	--	--	--	--	--	--	--	--	
MWA-31i(d)	Deep	X	X	--	--	X	X	X	X	X	X	
MWA-56d	Deep	X	X	--	--	X	X	X	X	X	X	
MWA-58d	Deep	X*	X	--	--	X	X	X	X	X	X	
PA-18d	Deep	X*	--	--	--	--	--	--	--	--	--	
PA-19d	Deep	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-20d	Deep	X*	X	--	X	--	X	X	X	X	X	
PA-21d	Deep	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
PA-22d	Deep	X*	X	--	--	X	X	X	X	X	X	
PA-23d	Deep	X*	X	--	--	X	X	X	X	X	X	
PA-24d	Deep	X*	X	--	--	X	X	X	X	X	X	
PA-25d	Deep	X*	--	X	--	X	X	X	X	X	X	
PA-26d	Deep	X*	--	X	--	X	X	X	X	X	X	
PA-27d	Deep	X*	X	--	--	X	X	X	X	X	X	Did not meet 5 NTU requirement
PA-30d	Deep	X*	X	--	X	--	X	X	X	X	X	Did not meet 5 NTU requirement
MWA-76g	Gravel	X	--	--	--	--	--	--	--	--	--	
MWA-77g	Gravel	X	--	--	--	--	--	--	--	--	--	

Notes:
** = Indicates locations where groundwater level measured with transducer.*
[1] = Low level test
[2] = MWA-06r is buried and inaccessible. MWA-18 is used as a replacement.
NTU = Nephelometric turbidity unit
Shaded = Analyte identified for analysis in work plan; however, was unable to be sampled.

Table 2
Groundwater Elevation Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Location ID	Collection Date	Collection Time	Aquifer Classification	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
MWA-02*	5/15/2020	*	Shallow	36.20	--	13.20
MWA-06r[1]	--	--	Shallow	36.46	NM	NM
MWA-15r	5/15/2020	11:45:00 AM	Shallow	36.06	21.47	14.59
MWA-18	5/15/2020	10:18:00 AM	Shallow	39.43	26.56	12.87
MWA-19*	5/15/2020	*	Shallow	38.26	--	14.23
MWA-20	5/15/2020	10:36:00 AM	Shallow	40.95	25.45	15.50
MWA-22	5/15/2020	11:40:00 AM	Shallow	36.59	19.70	16.89
MWA-24	5/15/2020	8:17:00 AM	Shallow	37.58	20.94	16.64
MWA-29	5/15/2020	8:44:00 AM	Shallow	44.42	30.28	14.14
MWA-30	5/15/2020	10:01:00 AM	Shallow	38.34	24.50	13.84
MWA-33	5/15/2020	7:26:00 AM	Shallow	37.26	17.42	19.84
MWA-40	5/15/2020	8:19:00 AM	Shallow	36.96	17.06	19.90
MWA-41	5/15/2020	8:26:00 AM	Shallow	45.14	30.10	15.04
MWA-42	5/15/2020	10:41:00 AM	Shallow	37.24	22.09	15.15
MWA-43	5/15/2020	8:32:00 AM	Shallow	44.53	30.22	14.31
MWA-46	5/15/2020	10:21:00 AM	Shallow	36.67	22.98	13.69
MWA-47*	5/15/2020	*	Shallow	39.02	--	13.79
MWA-61	5/15/2020	11:24:00 AM	Shallow	36.21	23.07	13.14
MWA-63	5/15/2020	11:13:00 AM	Shallow	36.29	22.75	13.54
MWA-69*	5/15/2020	*	Shallow	33.73	--	13.06
MWA-71	5/15/2020	6:49:00 AM	Shallow	34.82	6.49	28.33
MWA-72	5/15/2020	7:10:00 AM	Shallow	34.16	3.90	30.26
MWA-73	5/15/2020	7:12:00 AM	Shallow	36.01	3.30	32.71
MWA-82	5/15/2020	8:23:00 AM	Shallow	37.74	21.98	15.76
PA-03*	5/15/2020	*	Shallow	37.10	--	26.03
PA-04*	5/15/2020	*	Shallow	36.67	--	26.25
PA-05*	5/15/2020	*	Shallow	37.22	--	13.61
PA-06*	5/15/2020	*	Shallow	38.03	--	14.76
PA-07**	5/15/2020	9:14:00 AM	Shallow	39.30	23.65	15.65
PA-08*	5/15/2020	*	Shallow	40.47	--	15.84
PA-09*	5/15/2020	*	Shallow	40.24	--	13.32
PA-28*	5/15/2020	*	Shallow	38.58	--	16.00
PA-31	5/15/2020	11:03:00 AM	Shallow	36.25	10.32	25.93
PA-33	5/15/2020	11:08:00 AM	Shallow	36.29	10.36	25.93
PA-35	5/15/2020	11:17:00 AM	Shallow	35.91	22.41	13.50
PA-36	5/15/2020	11:30:00 AM	Shallow	36.90	23.84	13.06
PA-38	5/15/2020	8:55:00 AM	Shallow	42.93	27.44	15.49
PA-41	5/15/2020	9:09:00 AM	Shallow	40.26	25.00	15.26
PA-42	5/15/2020	9:06:00 AM	Shallow	40.60	25.82	14.78
PA-43	5/15/2020	8:48:00 AM	Shallow	40.41	5.18	35.23
RP-02-31	5/15/2020	6:58:00 AM	Shallow	42.49	28.19	14.30
RP-10-30	5/15/2020	6:56:00 AM	Shallow	37.47	8.20	29.27
RW-5*	5/15/2020	*	Shallow	34.8	--	11.39
RW-7*	5/15/2020	*	Shallow	33.98	--	12.55
RW-8*	5/15/2020	*	Shallow	34.21	--	14.53
RW-10*	5/15/2020	*	Shallow	36.09	--	3.14
RW-12*	5/15/2020	*	Shallow	35.58	--	11.27
RW-14*	5/15/2020	*	Shallow	36.08	--	10.73
RW-15*	5/15/2020	*	Shallow	35.81	--	5.74
RW-17*	5/15/2020	*	Shallow	36.55	--	7.29
RW-18*	5/15/2020	*	Shallow	36.51	--	3.26
RW-20*	5/15/2020	*	Shallow	37.07	--	7.83
RW-22*	5/15/2020	*	Shallow	38.02	--	11.29
RW-23*	5/15/2020	*	Shallow	33.63	--	7.51
RW-25*	5/15/2020	*	Shallow	38.06	--	9.43
MWA-07(i)	5/15/2020	7:20:00 AM	Intermediate	36.24	6.65	29.59
MWA-08i*	5/15/2020	*	Intermediate	36.25	--	14.96

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Location ID	Collection Date	Collection Time	Aquifer Classification	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
MWA-16i	5/15/2020	10:52:00 AM	Intermediate	36.58	22.88	13.70
MWA-32i	5/15/2020	10:10:00 AM	Intermediate	38.70	24.80	13.90
MWA-34i*	5/15/2020	*	Intermediate	38.02	--	14.00
MWA-49i	5/15/2020	10:23:00 AM	Intermediate	36.68	29.60	7.08
MWA-51i	5/15/2020	10:32:00 AM	Intermediate	36.33	24.08	12.25
MWA-53i	5/15/2020	8:41:00 AM	Intermediate	44.63	30.72	13.91
MWA-54i	5/15/2020	10:43:00 AM	Intermediate	37.35	22.48	14.87
MWA-64i	5/15/2020	11:26:00 AM	Intermediate	35.84	21.93	13.91
MWA-66i*	5/15/2020	*	Intermediate	33.35	--	14.52
MWA-70i	5/15/2020	7:28:00 AM	Intermediate	37.62	12.33	25.29
MWA-74i	5/15/2020	6:51:00 AM	Intermediate	34.72	9.34	25.38
MWA-75i	5/15/2020	7:14:00 AM	Intermediate	34.09	9.56	24.53
MWA-81i	5/15/2020	8:29:00 AM	Intermediate	44.62	30.04	14.58
PA-10i*	5/15/2020	*	Intermediate	36.67	--	15.91
PA-11i**	5/15/2020	11:36:00 AM	Intermediate	37.63	22.88	14.75
PA-12i*	5/15/2020	*	Intermediate	38.03	--	14.80
PA-13i*	5/15/2020	*	Intermediate	38.48	--	14.64
PA-14i*	5/15/2020	*	Intermediate	39.30	--	14.91
PA-15i*	5/15/2020	*	Intermediate	40.62	--	15.06
PA-16i*	5/15/2020	*	Intermediate	40.30	--	14.93
PA-17iR*	5/15/2020	*	Intermediate	37.81	--	15.36
PA-29i*	5/15/2020	*	Intermediate	39.18	--	14.43
PA-32i	5/15/2020	11:06:00 AM	Intermediate	36.28	20.46	15.82
PA-34i	5/15/2020	11:11:00 AM	Intermediate	36.15	20.36	15.79
PA-37i	5/15/2020	11:32:00 AM	Intermediate	36.54	22.38	14.16
PA-39i	5/15/2020	9:01:00 AM	Intermediate	40.11	25.32	14.79
PA-40i	5/15/2020	8:58:00 AM	Intermediate	41.47	26.70	14.77
PA-44i	5/15/2020	8:51:00 AM	Intermediate	40.36	25.68	14.68
RW-6i*	5/15/2020	*	Intermediate	35.59	--	-0.50
RW-9i*	5/15/2020	*	Intermediate	33.73	--	15.07
RW-11i*	5/15/2020	*	Intermediate	34.77	--	-4.06
RW-13i*	5/15/2020	*	Intermediate	36.09	--	3.03
RW-16i*	5/15/2020	*	Intermediate	35.77	--	2.47
RW-19i*	5/15/2020	*	Intermediate	36.56	--	14.30
RW-21i*	5/15/2020	*	Intermediate	37.38	--	1.25
RW-24i*	5/15/2020	*	Intermediate	34.03	--	-5.02
RW-26i*	5/15/2020	*	Intermediate	38.1	--	14.69
MWA-11i(d)	5/15/2020	11:43:00 AM	Deep	36.49	21.38	15.11
MWA-12i(d)	5/15/2020	7:22:00 AM	Deep	35.86	10.10	25.76
MWA-31i(d)	5/15/2020	10:12:00 AM	Deep	38.36	25.28	13.08
MWA-56d	5/15/2020	10:25:00 AM	Deep	37.97	23.06	14.91
MWA-58d*	5/15/2020	*	Deep	37.97	--	14.20
PA-18d*	5/15/2020	*	Deep	36.55	--	15.38
PA-19d*	5/15/2020	*	Deep	36.65	--	14.12
PA-20d*	5/15/2020	*	Deep	37.91	--	14.62
PA-21d*	5/15/2020	*	Deep	34.36	--	15.16
PA-22d*	5/15/2020	*	Deep	38.75	--	15.19
PA-23d*	5/15/2020	*	Deep	39.31	--	15.38
PA-24d*	5/15/2020	*	Deep	39.06	--	13.62
PA-25d*	5/15/2020	*	Deep	40.44	--	15.43
PA-26d*	5/15/2020	*	Deep	40.33	--	15.84
PA-27d*	5/15/2020	*	Deep	37.10	--	15.15
PA-30d*	5/15/2020	*	Deep	37.34	--	14.79
MWA-76g	5/15/2020	7:18:00 AM	Gravel	34.96	6.01	28.95
MWA-77g	5/15/2020	6:53:00 AM	Gravel	34.03	18.41	15.62

Table 2
Groundwater Elevation Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Location ID	Collection Date	Collection Time	Aquifer Classification	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)

Notes:
amsl = Above mean sea level
ft = Feet
NM = Not Measured
** = Wells with transducers. Transducer data were used to obtain groundwater elevation.*
*** = Transducer not functioning. Manual measurement was used.*
[1] = MWA-06r was unable to be located.
Manual measurement data collected in field with tablet.
Transducer data was averaged between 6:49 AM and 11:45 AM for the groundwater elevation value.

Table 3
Field Parameters Measured in Groundwater
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

			Analyte	pH	Temperature	Specific Conductivity	Oxidation-Reduction Potential	Dissolved Oxygen	Turbidity
			Method	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure
			Unit	SU	deg C	uS/cm	mV	mg/L	NTU
Location ID	Sample Date	Aquifer Classification	Sample ID						
MWA-02	5/29/2020	Shallow	MWA-02-052920	6.52	15.2	382	70.1	0.66	4.36
MWA-15r	5/29/2020	Shallow	MWA-15r-052920	5.66	16.7	210	161.9	2.29	4.90
MWA-18	5/21/2020	Shallow	MWA-18-052120	6.28	13.8	916	192.2	1.82	4.62
MWA-19	5/21/2020	Shallow	MWA-19-052120	6.78	15.1	2,328	211.7	3.38	35.74
MWA-20	5/26/2020	Shallow	MWA-20-052620	8.76	18.3	1,096	50.1	0.56	55.44
MWA-22	5/28/2020	Shallow	MWA-22-052820	10.88	22.1	4,150	-369.1	0.00	4.50
MWA-24	5/18/2020	Shallow	MWA-24-051820	11.59	16.2	4,005	-18.7	0.53	3.96
MWA-29	5/18/2020	Shallow	MWA-29-051820	7.17	14.4	1,465	98.6	0.09	54.00
MWA-30	5/20/2020	Shallow	MWA-30-052020	7.08	16.1	7,428	68.7	3.29	200.10
MWA-33	5/18/2020	Shallow	MWA-33-051820	11.50	15.1	2,053	-2.8	0.70	1.85
MWA-40	5/18/2020	Shallow	MWA-40-051820	10.65	16.3	3,538	-78.6	0.53	0.95
MWA-41	5/18/2020	Shallow	MWA-41-051820	6.79	15.5	317.8	66.9	1.00	4.61
MWA-42	5/26/2020	Shallow	MWA-42-052620	9.61	17.6	736	86.4	0.68	56.81
MWA-46	5/21/2020	Shallow	MWA-46-052120	7.79	14.1	259.7	157.9	7.21	4.65
MWA-47	5/20/2020	Shallow	MWA-47-052020	6.84	14.9	3,304	146.0	0.73	39.51
MWA-61	5/27/2020	Shallow	MWA-61-052720	6.53	16.5	1,531	116.7	0.58	2.44
MWA-63	5/26/2020	Shallow	MWA-63-052620	6.84	16.6	530	109.3	3.93	4.70
MWA-69	5/27/2020	Shallow	MWA-69-052720	6.65	20.1	4,990	-130.8	0.01	4.60
MWA-82	5/19/2020	Shallow	MWA-82-051920	7.65	15.2	361.4	118.6	0.65	4.57
PA-03	5/21/2020	Shallow	PA-03-052120	10.30	15.7	843	-2.5	0.45	456.53
PA-04	5/22/2020	Shallow	PA-04-052220	10.08	15.4	917	-7.0	0.43	784.90
PA-05	5/27/2020	Shallow	PA-05-052720	4.70	16.8	1,822	161.5	0.39	112.91
PA-06	5/26/2020	Shallow	PA-06-052620	8.18	25.2	1,335	-0.5	7.82	35.54
PA-07	5/20/2020	Shallow	PA-07-052020	7.17	15.3	2,175	-95.2	0.33	251.50
PA-08	5/19/2020	Shallow	PA-08-051920	7.51	15.8	901	36.4	0.41	81.02
PA-09	5/18/2020	Shallow	PA-09-051820	6.69	15.4	349	34.1	0.42	41.66
PA-28	5/20/2020	Shallow	PA-28-052020	9.43	15.9	1,390	-4.1	0.37	392.40
PA-31	5/27/2020	Shallow	PA-31-052720	9.57	16.3	930	-13.8	0.13	43.00
PA-36	5/28/2020	Shallow	PA-36-052820	6.95	24.3	710	44.1	0.29	17.70
PA-38	5/19/2020	Shallow	PA-38-051920	7.44	15.9	985	59.4	0.68	48.71
PA-42	5/19/2020	Shallow	PA-42-051920	7.18	16.0	2,353	-70.8	0.59	4.72
MWA-08i	5/28/2020	Intermediate	MWA-8i-052820	8.27	26.4	2,494	-72.1	0.47	3.09
MWA-32i	5/20/2020	Intermediate	MWA-32i-052020	6.59	16.0	8,430	-53.1	0.68	4.61
MWA-34i	5/21/2020	Intermediate	MWA-34i-052120	6.97	15.9	2,730	-77.1	0.70	4.23

Table 3
Field Parameters Measured in Groundwater
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			Analyte	pH	Temperature	Specific Conductivity	Oxidation-Reduction Potential	Dissolved Oxygen	Turbidity
			Method	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure
			Unit	SU	deg C	uS/cm	mV	mg/L	NTU
Location ID	Sample Date	Aquifer Classification	Sample ID						
MWA-49i	5/19/2020	Intermediate	MWA-49i-051920	6.93	16.0	3,680	13.9	0.01	89.70
MWA-51i	5/26/2020	Intermediate	MWA-51i-052620	7.29	18.2	5,119	-155.2	1.01	10.56
MWA-53i	5/20/2020	Intermediate	MWA-53i-052020	7.44	15.0	1,632	-79.8	0.53	4.13
MWA-54i	5/26/2020	Intermediate	MWA-54i-052620	8.00	19.5	4,450	-177.3	0.01	29.00
MWA-64i	5/27/2020	Intermediate	MWA-64i-052720	9.24	21.1	2,580	-187.4	0.01	27.90
MWA-66i	5/28/2020	Intermediate	MWA-66i-052820	6.29	17.6	4,910	42.8	0.38	4.90
MWA-70i	5/18/2020	Intermediate	MWA-70i-051820	11.51	15.4	1,876	-12.8	0.58	4.03
MWA-81i	5/18/2020	Intermediate	MWA-81i-051820	6.42	15.5	665	3.2	0.78	1.21
PA-10i	5/26/2020	Intermediate	PA-10i-052620	7.74	16.2	1,037	-91.3	0.36	141.66
PA-11i	5/22/2020	Intermediate	PA-11i-052220	6.53	14.5	1,750	-90.7	0.01	7.50
PA-12i	5/26/2020	Intermediate	PA-12i-052620	6.00	18.3	463	82.2	0.39	10.52
PA-13i	5/20/2020	Intermediate	PA-13i-052020	6.54	15.9	5,700	-62.0	0.00	34.90
PA-14i	5/20/2020	Intermediate	PA-14i-052020	7.45	15.5	1,468	-19.7	0.79	124.56
PA-15i	5/18/2020	Intermediate	PA-15i-051820	6.94	15.6	1,492	26.0	3.72	41.20
PA-16i	5/19/2020	Intermediate	PA-16i-051920	6.93	15.9	1,175	39.7	0.43	252.93
PA-17iR	5/21/2020	Intermediate	PA-17iR-052120	9.38	16.3	1,309	-107.6	0.30	48.67
PA-29i	5/19/2020	Intermediate	PA-29i-051920	6.77	15.7	5,494	-38.5	0.01	15.20
PA-32i	5/22/2020	Intermediate	PA-32i-052220	7.74	14.6	1,459	-158.3	0.90	2.60
PA-37i	5/28/2020	Intermediate	PA-37i-052820	6.19	26.4	1,990	-0.4	0.95	4.80
PA-39i	5/19/2020	Intermediate	PA-39i-051920	7.13	15.7	2,336	-26.9	0.54	60.25
PA-44i	5/19/2020	Intermediate	PA-44i-051920	6.88	15.7	677	28.6	0.57	68.76
MWA-11i(d)	5/29/2020	Deep	MWA-11i(d)-052920	10.25	16.7	4,554	-104.0	0.57	2.10
MWA-31i(d)	5/20/2020	Deep	MWA-31i(d)-052020	6.54	16.0	60,099	158.0	0.61	4.51
MWA-56d	5/21/2020	Deep	MWA-56d-052120	6.20	15.7	49,734	262.1	0.80	1.89
MWA-58d	5/21/2020	Deep	MWA-58d-052120	6.43	15.7	45,575	195.1	0.78	4.31
PA-19d	5/29/2020	Deep	PA-19d-052920	7.14	17.6	1,510	-96.9	0.13	21.10
PA-20d	5/21/2020	Deep	PA-20d-052120	6.75	16.9	3,180	-103.9	0.56	2.80
PA-21d	5/21/2020	Deep	PA-21d-052120	6.02	17.3	3,960	-17.1	0.10	13.20
PA-22d	5/20/2020	Deep	PA-22d-052020	6.76	15.3	27,680	96.7	0.32	1.00
PA-23d	5/20/2020	Deep	PA-23d-052020	7.14	14.0	15,030	60.0	0.79	3.10
PA-24d	5/19/2020	Deep	PA-24d-051920	6.51	15.0	89,780	-84.2	0.39	2.60
PA-25d	5/18/2020	Deep	Pa-25d-051820	7.08	15.8	592	-123.9	0.28	3.70
PA-26d	5/18/2020	Deep	PA-26d-051820	7.00	16.2	528	-39.8	0.62	2.87
PA-27d	5/21/2020	Deep	PA-27d-052120	7.14	16.8	3,733	24.8	0.37	140.43

Table 3
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			Analyte	pH	Temperature	Specific Conductivity	Oxidation-Reduction Potential	Dissolved Oxygen	Turbidity
			Method	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure
			Unit	SU	deg C	uS/cm	mV	mg/L	NTU
Location ID	Sample Date	Aquifer Classification	Sample ID						
PA-30d	5/21/2020	Deep	PA-30d-052120	8.38	18.5	2,100	-193.2	0.01	28.20

Notes:
deg C = degrees Celsius
mg/L = milligrams per liter
uS/m = microSiemens per meter
mV = millivolts
NTU = nephelometric turbidity units
SU = Standard Units

Table 4
Volatile Organic Compounds Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
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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	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene
Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate analytical data above the value shown)					NE	11	0.4	1.6	47	710	NE	NE	NE	0.076	NE	NE	14	3.7	1.5	NE	10	NE	15
MWA-02	5/29/2020	N	Shallow	MWA-02-052920	< 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	< 0.57 UJ	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-15r	5/29/2020	N	Shallow	MWA-15r-052920	< 0.18 U	**20**	< 0.52 U	< 0.24 U	**0.29 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-18	5/21/2020	N	Shallow	MWA-18-052120	< 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	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-19	5/21/2020	N	Shallow	MWA-19-052120	< 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	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-20	5/26/2020	N	Shallow	MWA-20-052620	< 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	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-22	5/28/2020	N	Shallow	MWA-22-052820	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**1.2 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-24	5/18/2020	N	Shallow	MWA-24-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**1.1**	**0.60**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.30 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	**0.16 j**	< 0.050 U	< 0.025 U	< 0.050 U
MWA-29	5/18/2020	N	Shallow	MWA-29-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.074 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.30 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-30	5/20/2020	N	Shallow	MWA-30-052020	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-33	5/18/2020	N	Shallow	MWA-33-051820	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.29 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	**1.2 j**	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 UJ	< 0.35 U	< 0.46 U
MWA-40	5/18/2020	N	Shallow	MWA-40-051820	< 0.027 UJ	< 0.025 UJ	< 0.056 UJ	< 0.070 UJ	**3.2 J-**	**0.30 J-**	< 0.036 UJ	< 0.15 UJ	< 0.050 UJ	< 0.17 UJ	**0.10 J-**	< 0.44 UJ	< 0.024 UJ	< 0.043 UJ	< 0.060 UJ	< 0.15 UJ	< 0.050 UJ	< 0.025 UJ	< 0.050 UJ
MWA-41	5/18/2020	N	Shallow	MWA-41-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.035 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-42	5/26/2020	N	Shallow	MWA-42-052620	< 0.18 U	**2.3 j**	< 0.52 U	< 0.24 U	**0.51 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-46	5/21/2020	N	Shallow	MWA-46-052120	< 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	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-47	5/20/2020	N	Shallow	MWA-47-052020	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.047 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-61	5/27/2020	N	Shallow	MWA-61-052720	< 0.18 U	< 0.39 U	**3.6**	**0.54 j**	**5.7**	**6.0**	**0.86 j**	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	**1.0 j**	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**0.51 j**
MWA-63	5/26/2020	N	Shallow	MWA-63-052620	< 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	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-69	5/27/2020	N	Shallow	MWA-69-052720	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.23 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**0.72 j**
MWA-82	5/19/2020	N	Shallow	MWA-82-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.052 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	**0.057 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-03	5/21/2020	N	Shallow	PA-03-052120	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.19 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-04	5/22/2020	N	Shallow	PA-04-052220	< 0.027 U	**0.029 j**	< 0.056 U	< 0.070 U	**0.18 j**	**0.20**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-05	5/27/2020	N	Shallow	PA-05-052720	< 0.18 U	**0.40 j**	< 0.52 U	< 0.24 U	**0.63 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	**0.98 j**	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**4.7**
PA-06	5/26/2020	N	Shallow	PA-06-052620	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.75 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	**0.70 j**	**2.3**	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**5.1**
PA-07	5/20/2020	N	Shallow	PA-07-052020	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.26**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-08	5/19/2020	N	Shallow	PA-08-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.10 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	**0.097 j**	< 0.44 U	**0.11 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-09	5/18/2020	N	Shallow	PA-09-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.030 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.30 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-28	5/20/2020	N	Shallow	PA-28-052020	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.86 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-31	5/27/2020	N	Shallow	PA-31-052720	< 0.027 U	**0.15 j**	< 0.056 U	< 0.070 U	**0.20**	**0.68**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-36	5/28/2020	N	Shallow	PA-36-052820	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.79 j**	**0.81 j**	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-38	5/19/2020	N	Shallow	PA-38-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.21**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	**0.37**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-42	5/19/2020	N	Shallow	PA-42-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.36**	**0.047 j**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-08i	5/28/2020	N	Intermediate	MWA-8I-052820	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.27 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-08i	5/28/2020	FD	Intermediate	DUP-04-WG-052820	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.30 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-32i	5/20/2020	N	Intermediate	MWA-32I-052020	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.29**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 UJ	< 0.072 UJ	< 0.44 UJ	**0.039 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-34i	5/21/2020	N	Intermediate	MWA-34I-052120	< 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	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U	< 1.8 U	< 3.5 U	< 4.6 U
MWA-34i	5/21/2020	FD	Intermediate	DUP-02-052120	< 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	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U	< 1.8 U	< 3.5 U	< 4.6 U
MWA-49i	5/19/2020	N	Intermediate	MWA-49i-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.25**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-51i	5/26/2020	N	Intermediate	MWA-51i-052620	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.64 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-53i	5/20/2020	N	Intermediate	MWA-53I-052020	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.22**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-53i	5/20/2020	FD	Intermediate	DUP-01-052020	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.22**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-54i	5/26/2020	N	Intermediate	MWA-54i-052620	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.67 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-64i	5/27/2020	N	Intermediate	MWA-64i-052720	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**1.8 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	**2.1 J+**	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**7.7 J+**
MWA-66i	5/28/2020	N	Intermediate	MWA-66i-052820	< 0.18 U	**0.42 j**	< 0.52 U	< 0.24 U	**13**	**3.3 j**	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	**4.5 J+**	**0.96 j**	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**12 J+**
MWA-70i	5/18/2020	N	Intermediate	MWA-70I-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.36**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.30 U	< 0.44 U	**1.2**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.30 U
MWA-81i	5/18/2020	N	Intermediate	MWA-81I-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.15 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-10i	5/26/2020	N	Intermediate	PA-10I-052620	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	**0.12 j**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	**0.24 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-11i	5/22/2020	N	Intermediate	PA-11i-052220	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.75 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-12i	5/26/2020	N	Intermediate	PA-12I-052620	< 0.18 U	**6.4**	< 0.52 U	< 0.24 U	**5.3**	**1.4 j**	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**2.2 j**
PA-13i	5/20/2020	N	Intermediate	PA-13i-052020	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.64**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-14i	5/20/2020	N	Intermediate	PA-14I-052020	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.21**	**0.049 j**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-15i	5/18/2020	N	Intermediate	PA-15I-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.48**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-16i	5/19/2020	N	Intermediate	PA-16i-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.34**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-17iR	5/21/2020	N	Intermediate	PA-17IR-052120	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.21**	**0.28**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-29i	5/19/2020	N	Intermediate	PA-29i-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.31**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U

Table 4
Volatile Organic Compounds Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	2,2-Dichloropropane	2-Butanone	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane
Analyte																							
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate analytical data above the value shown)					NE	14,000	NE	NE	NE	1,500	1.4	NE	1.7	14	0.92	0.16	64	NE	NE	28	590	NE	1.3
MWA-02	5/29/2020	N	Shallow	MWA-02-052920	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	1.2 j	340	< 0.29 U	< 0.35 UJ	23	< 0.69 U	< 0.20 U	< 0.43 U
MWA-15r	5/29/2020	N	Shallow	MWA-15r-052920	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	380	< 0.29 U	< 0.35 UJ	23	< 0.69 U	< 0.20 U	< 0.43 U
MWA-18	5/21/2020	N	Shallow	MWA-18-052120	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	4.7 j	1.9 j	< 0.20 U	< 0.43 U
MWA-19	5/21/2020	N	Shallow	MWA-19-052120	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	3.2 j	< 0.69 U	< 0.20 U	< 0.43 U
MWA-20	5/26/2020	N	Shallow	MWA-20-052620	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	0.57 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	92	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 U	< 0.20 U	< 0.43 U
MWA-22	5/28/2020	N	Shallow	MWA-22-052820	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	1.0 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	72	< 0.29 U	< 0.35 UJ	< 0.26 U	31	< 0.20 U	< 0.43 U
MWA-24	5/18/2020	N	Shallow	MWA-24-051820	< 0.060 U	< 2.5 UJ	< 0.050 UJ	0.59	< 1.7 UJ	< 3.1 UJ	0.88	< 0.035 U	< 0.060 U	< 0.16 U	0.75 J+	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	< 0.030 U	0.11 j	< 0.090 U	< 0.055 U
MWA-29	5/18/2020	N	Shallow	MWA-29-051820	< 0.060 UJ	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	0.032 j	0.076 j	< 0.090 U	< 0.055 U
MWA-30	5/20/2020	N	Shallow	MWA-30-052020	< 0.060 U	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 UJ	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	0.15 j	< 0.055 U	< 0.090 U	< 0.055 U
MWA-33	5/18/2020	N	Shallow	MWA-33-051820	< 0.32 U	< 4.7 U	< 0.38 U	1.2 j	< 2.5 U	< 3.2 U	0.55 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 UJ	< 0.20 U	< 0.43 U
MWA-40	5/18/2020	N	Shallow	MWA-40-051820	< 0.060 UJ	< 2.5 UJ	< 0.050 UJ	1.1 J-	< 1.7 UJ	< 3.1 R	2.0 J-	< 0.035 UJ	< 0.060 UJ	< 0.16 UJ	0.53 J	< 0.025 UJ	< 0.025 R	< 0.025 UJ	< 0.096 UJ	< 0.030 UJ	1.1 J-	< 0.090 UJ	< 0.055 UJ
MWA-41	5/18/2020	N	Shallow	MWA-41-051820	< 0.060 U	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 3.1 UJ	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	< 0.055 U	< 0.090 U	< 0.055 U
MWA-42	5/26/2020	N	Shallow	MWA-42-052620	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	110	< 0.29 U	< 0.35 U	1.3 j	< 0.69 U	< 0.20 U	< 0.43 U
MWA-46	5/21/2020	N	Shallow	MWA-46-052120	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	0.65 j	< 0.69 U	< 0.20 U	< 0.43 U
MWA-47	5/20/2020	N	Shallow	MWA-47-052020	< 0.060 U	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 UJ	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	0.043 j	< 0.055 U	< 0.090 U	< 0.055 U
MWA-61	5/27/2020	N	Shallow	MWA-61-052720	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	0.27 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	790	< 0.29 U	2.9 j	380	420 J-	< 0.20 U	< 0.43 U
MWA-63	5/26/2020	N	Shallow	MWA-63-052620	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	390	< 0.69 U	< 0.20 U	< 0.43 U
MWA-69	5/27/2020	N	Shallow	MWA-69-052720	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	4.7 j	0.58 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	220	< 0.29 U	27	< 0.26 U	1.9 j	< 0.20 U	< 0.43 U
MWA-82	5/19/2020	N	Shallow	MWA-82-051920	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 UJ	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	0.71	0.064 j	< 0.090 U	< 0.055 U
PA-03	5/21/2020	N	Shallow	PA-03-052120	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	0.060 j	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-04	5/22/2020	N	Shallow	PA-04-052220	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	0.034 j	< 0.055 U	< 0.090 U	< 0.055 U
PA-05	5/27/2020	N	Shallow	PA-05-052720	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	0.46 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	4,700	< 0.29 U	9.7	38	< 0.69 U	< 0.20 U	< 0.43 U
PA-06	5/26/2020	N	Shallow	PA-06-052620	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	160	< 0.29 U	16 j	15	< 0.69 U	< 0.20 U	< 0.43 U
PA-07	5/20/2020	N	Shallow	PA-07-052020	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	1.5	< 0.090 U	< 0.055 U
PA-08	5/19/2020	N	Shallow	PA-08-051920	< 0.060 UJ	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 3.1 UJ	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	0.11 j	< 0.025 U	< 0.096 U	< 0.030 U	0.078 j	< 0.090 U	< 0.055 U
PA-09	5/18/2020	N	Shallow	PA-09-051820	< 0.060 UJ	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	< 0.030 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-28	5/20/2020	N	Shallow	PA-28-052020	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	7.8	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	2,000	< 0.29 U	< 0.35 U	2.0 j	< 0.69 UJ	< 0.20 U	< 0.43 U
PA-31	5/27/2020	N	Shallow	PA-31-052720	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-36	5/28/2020	N	Shallow	PA-36-052820	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	0.84 j	< 0.29 U	< 0.35 UJ	< 0.26 U	< 0.69 U	< 0.20 U	< 0.43 U
PA-38	5/19/2020	N	Shallow	PA-38-051920	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	0.036 j	0.15 j	< 0.090 U	< 0.055 U
PA-42	5/19/2020	N	Shallow	PA-42-051920	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	0.069 j	< 0.025 U	< 0.096 U	< 0.030 U	0.50	< 0.090 U	< 0.055 U
MWA-08i	5/28/2020	N	Intermediate	MWA-8I-052820	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	0.52 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	1,100	< 0.29 U	< 0.35 UJ	< 0.26 U	5.6 J+	< 0.20 U	< 0.43 U
MWA-08i	5/28/2020	FD	Intermediate	DUP-04-WG-052820	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	0.58 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	1,000	< 0.29 U	< 0.35 UJ	< 0.26 U	4.8 J+	< 0.20 U	< 0.43 U
MWA-32i	5/20/2020	N	Intermediate	MWA-32I-052020	< 0.060 UJ	< 2.5 U	< 0.050 U	< 0.15 UJ	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	0.11 j	< 0.025 U	< 0.096 U	< 0.030 U	0.14 j	< 0.090 U	< 0.055 U
MWA-34i	5/21/2020	N	Intermediate	MWA-34I-052120	< 3.2 U	< 47 U	< 3.8 U	< 2.8 U	< 25 U	< 32 U	5.3 j	< 4.3 U	< 2.9 U	< 5.6 U	< 5.3 U	< 3.0 U	290	< 2.9 U	< 3.5 U	< 2.6 U	< 6.9 U	< 2.0 U	< 4.3 U
MWA-34i	5/21/2020	FD	Intermediate	DUP-02-052120	< 3.2 U	< 47 U	< 3.8 U	< 2.8 U	< 25 U	< 32 U	4.5 j	< 4.3 U	< 2.9 U	< 5.6 U	< 5.3 U	< 3.0 U	230	< 2.9 U	< 3.5 U	< 2.6 U	< 6.9 U	< 2.0 U	< 4.3 U
MWA-49i	5/19/2020	N	Intermediate	MWA-49i-051920	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 UJ	< 0.025 U	< 0.20 U	< 0.025 U	< 0.096 UJ	< 0.59 U	0.25 J+	< 0.090 U	< 0.055 U
MWA-51i	5/26/2020	N	Intermediate	MWA-51i-052620	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	3.5	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	180	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 U	< 0.20 U	< 0.43 U
MWA-53i	5/20/2020	N	Intermediate	MWA-53I-052020	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 UJ	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	< 0.030 U	< 0.20 U	< 0.090 U	< 0.055 U
MWA-53i	5/20/2020	FD	Intermediate	DUP-01-052020	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 UJ	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	< 0.030 U	< 0.20 U	< 0.090 U	< 0.055 U
MWA-54i	5/26/2020	N	Intermediate	MWA-54i-052620	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	0.59 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	230	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 U	< 0.20 U	< 0.43 U
MWA-64i	5/27/2020	N	Intermediate	MWA-64i-052720	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	3.9 J+	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	24,000	< 0.29 U	< 0.35 UJ	1.3 j	58	< 0.20 U	< 0.43 U
MWA-66i	5/28/2020	N	Intermediate	MWA-66i-052820	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	12 J+	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	37,000	< 0.29 U	1.2 J	< 15 U	< 0.69 U	< 0.20 U	< 0.43 U
MWA-70i	5/18/2020	N	Intermediate	MWA-70I-051820	< 0.060 U	< 2.5 UJ	< 0.050 UJ	1.3	< 1.7 UJ	< 3.1 UJ	0.25	< 0.035 U	< 0.060 U	< 0.16 U	0.095 j	< 0.025 U	0.46	< 0.025 U	< 0.096 UJ	0.066 j	0.16 j	< 0.090 U	< 0.055 U
MWA-81i	5/18/2020	N	Intermediate	MWA-81I-051820	< 0.060 U	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	3.1 J	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-10i	5/26/2020	N	Intermediate	PA-10I-052620	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	0.51	< 0.025 U	< 0.096 U	< 0.030 U	0.11 j	< 0.090 U	< 0.055 U
PA-11i	5/22/2020	N	Intermediate	PA-11i-052220	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	0.81 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	580	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 U	< 0.20 U	< 0.43 U
PA-12i	5/26/2020	N	Intermediate	PA-12I-052620	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	0.63 j	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	7,900	< 0.29 U	14	19	< 0.69 U	< 0.20 U	< 0.43 U
PA-13i	5/20/2020	N	Intermediate	PA-13i-052020	< 0.060 U	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 10 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	0.16 j	< 0.025 U	0.27	< 0.025 U	< 0.096 UJ	< 0.20 U	0.35	< 0.090 U	< 0.055 U
PA-14i	5/20/2020	N	Intermediate	PA-14I-052020	< 0.060 U	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 3.1 U	0.35	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	13	< 0.025 U	< 0.096 UJ	< 0.030 U	0.79	< 0.090 U	< 0.055 U
PA-15i	5/18/2020	N	Intermediate	PA-15I-051820	< 0.060 U	< 2.5 UJ	< 0.050 UJ	< 0.15 U	< 1.7 UJ	< 3.1 UJ	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	< 0.030 U	0.15 j	< 0.090 U	< 0.055 U
PA-16i	5/19/2020	N	Intermediate	PA-16i-051920	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	0.073 j	< 0.025 U	< 0.096 U	< 0.030 U	0.13 j	< 0.090 U	< 0.055 U
PA-17iR	5/21/2020	N	Intermediate	PA-17IR-052120	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	0.094 j	< 0.035 U	< 0.060 U	< 0.16 U	0.61	< 0.025 U	0.16 j	< 0.025 U	< 0.096 U	< 0.030 U	0.12 j	< 0.090 U	< 0.055 U
PA-29i	5/19/2020	N	Intermediate	PA-29i-051920	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 UJ	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	0.20	< 0.090 U	< 0.055 U

Table 4
Volatile Organic Compounds Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	Dibromomethane	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl bromide	Methyl chloride	Methyl tert-butyl ether	Methylene chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Chlorotoluene (2-chlorotoluene)	o-Xylene	sec-Butylbenzene
Analyte					Dibromomethane	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl bromide	Methyl chloride	Methyl tert-butyl ether	Methylene chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Chlorotoluene (2-chlorotoluene)	o-Xylene	sec-Butylbenzene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate analytical data above the value shown)					NE	NE	7.3	NE	0.01	NE	1.8	150	NE	NE	59	12	NE	NE	NE	13	NE
MWA-02	5/29/2020	N	Shallow	MWA-02-052920	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-15r	5/29/2020	N	Shallow	MWA-15r-052920	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-18	5/21/2020	N	Shallow	MWA-18-052120	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-19	5/21/2020	N	Shallow	MWA-19-052120	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-20	5/26/2020	N	Shallow	MWA-20-052620	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-22	5/28/2020	N	Shallow	MWA-22-052820	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-24	5/18/2020	N	Shallow	MWA-24-051820	*< 0.062 U*	*< 0.13 U*	**0.046 j**	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	**0.12 j**	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 1.0 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	**0.22 j**	*< 0.17 U*
MWA-29	5/18/2020	N	Shallow	MWA-29-051820	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 1.0 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-30	5/20/2020	N	Shallow	MWA-30-052020	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-33	5/18/2020	N	Shallow	MWA-33-051820	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-40	5/18/2020	N	Shallow	MWA-40-051820	*< 0.062 UJ*	*< 0.13 UJ*	**0.18 J-**	*< 0.025 UJ*	*< 0.067 UJ*	*< 0.19 UJ*	**0.31 J-**	*< 0.062 UJ*	*< 0.068 UJ*	*< 0.070 UJ*	*< 1.2 UJ*	**1.4 J-**	*< 0.23 UJ*	*< 0.091 UJ*	*< 0.12 UJ*	**0.80 J-**	*< 0.17 UJ*
MWA-41	5/18/2020	N	Shallow	MWA-41-051820	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-42	5/26/2020	N	Shallow	MWA-42-052620	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-46	5/21/2020	N	Shallow	MWA-46-052120	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-47	5/20/2020	N	Shallow	MWA-47-052020	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-61	5/27/2020	N	Shallow	MWA-61-052720	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	**1.7 j**	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-63	5/26/2020	N	Shallow	MWA-63-052620	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-69	5/27/2020	N	Shallow	MWA-69-052720	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	**1.4 j**	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-82	5/19/2020	N	Shallow	MWA-82-051920	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-03	5/21/2020	N	Shallow	PA-03-052120	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-04	5/22/2020	N	Shallow	PA-04-052220	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-05	5/27/2020	N	Shallow	PA-05-052720	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	**4.0 j**	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
PA-06	5/26/2020	N	Shallow	PA-06-052620	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	**17**	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
PA-07	5/20/2020	N	Shallow	PA-07-052020	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-08	5/19/2020	N	Shallow	PA-08-051920	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-09	5/18/2020	N	Shallow	PA-09-051820	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 1.0 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-28	5/20/2020	N	Shallow	PA-28-052020	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
PA-31	5/27/2020	N	Shallow	PA-31-052720	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-36	5/28/2020	N	Shallow	PA-36-052820	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
PA-38	5/19/2020	N	Shallow	PA-38-051920	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-42	5/19/2020	N	Shallow	PA-42-051920	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 UJ*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-08i	5/28/2020	N	Intermediate	MWA-8I-052820	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-08i	5/28/2020	FD	Intermediate	DUP-04-WG-052820	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-32i	5/20/2020	N	Intermediate	MWA-32I-052020	*< 0.062 U*	*< 0.13 U*	*< 0.030 UJ*	*< 0.025 U*	*< 0.067 UJ*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 UJ*	*< 0.091 U*	*< 0.12 UJ*	*< 0.15 U*	*< 0.17 U*
MWA-34i	5/21/2020	N	Intermediate	MWA-34I-052120	*< 3.4 U*	*< 5.3 UJ*	*< 5.0 U*	*< 4.0 U*	*< 7.9 U*	*< 4.4 U*	*< 7.5 U*	*< 2.1 U*	*< 2.8 U*	*< 4.4 U*	*< 14 U*	*< 9.3 U*	*< 4.4 U*	*< 5.0 U*	*< 5.1 U*	*< 3.9 U*	*< 4.9 U*
MWA-34i	5/21/2020	FD	Intermediate	DUP-02-052120	*< 3.4 U*	*< 5.3 UJ*	*< 5.0 U*	*< 4.0 U*	*< 7.9 U*	*< 4.4 U*	*< 7.5 U*	*< 2.1 U*	*< 2.8 U*	*< 4.4 U*	*< 14 U*	*< 9.3 U*	*< 4.4 U*	*< 5.0 U*	*< 5.1 U*	*< 3.9 U*	*< 4.9 U*
MWA-49i	5/19/2020	N	Intermediate	MWA-49i-051920	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 UJ*	*< 0.068 UJ*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-51i	5/26/2020	N	Intermediate	MWA-51i-052620	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-53i	5/20/2020	N	Intermediate	MWA-53I-052020	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 UJ*	*< 0.068 UJ*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-53i	5/20/2020	FD	Intermediate	DUP-01-052020	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 UJ*	*< 0.068 UJ*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-54i	5/26/2020	N	Intermediate	MWA-54i-052620	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-64i	5/27/2020	N	Intermediate	MWA-64i-052720	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-66i	5/28/2020	N	Intermediate	MWA-66i-052820	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 UJ*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
MWA-70i	5/18/2020	N	Intermediate	MWA-70I-051820	*< 0.062 U*	*< 0.13 U*	**0.055 j**	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 1.0 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
MWA-81i	5/18/2020	N	Intermediate	MWA-81I-051820	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-10i	5/26/2020	N	Intermediate	PA-10I-052620	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-11i	5/22/2020	N	Intermediate	PA-11i-052220	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
PA-12i	5/26/2020	N	Intermediate	PA-12I-052620	*< 0.34 U*	*< 0.53 UJ*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.75 U*	*< 0.21 U*	*< 0.28 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*
PA-13i	5/20/2020	N	Intermediate	PA-13i-052020	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 1.0 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-14i	5/20/2020	N	Intermediate	PA-14I-052020	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 1.0 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-15i	5/18/2020	N	Intermediate	PA-15I-051820	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 1.0 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-16i	5/19/2020	N	Intermediate	PA-16i-051920	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 UJ*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-17iR	5/21/2020	N	Intermediate	PA-17IR-052120	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*
PA-29i	5/19/2020	N	Intermediate	PA-29i-051920	*< 0.062 U*	*< 0.13 UJ*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.062 U*	*< 0.068 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*

Table 4
Volatile Organic Compounds Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane (Freon 11)	Vinyl chloride
Analyte					Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	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 analytical data above the value shown)					NE	NE	0.33	9.8	1,000	NE	3	NE	0.24
MWA-02	5/29/2020	N	Shallow	MWA-02-052920	< 1.0 U	< 0.58 U	**19**	< 0.39 U	< 0.39 U	< 0.16 U	**5.5**	< 0.63 U	**0.38 j**
MWA-15r	5/29/2020	N	Shallow	MWA-15r-052920	< 1.0 U	< 0.58 U	**2.7 j**	< 0.39 U	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	< 0.22 U
MWA-18	5/21/2020	N	Shallow	MWA-18-052120	< 1.0 U	< 0.58 U	**10**	< 0.39 U	< 0.39 U	< 0.16 U	**1.4 j**	< 0.63 U	< 0.22 U
MWA-19	5/21/2020	N	Shallow	MWA-19-052120	< 1.0 U	< 0.58 U	**100**	< 0.39 U	< 0.39 U	< 0.16 U	**9.1**	< 0.63 U	< 0.22 U
MWA-20	5/26/2020	N	Shallow	MWA-20-052620	< 1.0 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	< 0.22 U
MWA-22	5/28/2020	N	Shallow	MWA-22-052820	< 1.0 U	< 0.58 U	< 0.41 U	**1.2 j**	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	**5.4**
MWA-24	5/18/2020	N	Shallow	MWA-24-051820	< 0.19 U	< 0.26 U	< 0.084 U	**1.1**	< 0.033 U	< 0.092 U	< 0.066 U	< 0.043 U	< 0.013 U
MWA-29	5/18/2020	N	Shallow	MWA-29-051820	< 0.19 U	< 0.26 U	**0.11 j**	< 0.050 U	< 0.033 U	< 0.092 U	**0.093 j**	< 0.043 U	< 0.013 UJ
MWA-30	5/20/2020	N	Shallow	MWA-30-052020	< 0.19 U	< 0.26 U	< 0.084 U	**0.068 j**	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 UJ	< 0.013 U
MWA-33	5/18/2020	N	Shallow	MWA-33-051820	< 1.0 U	< 0.58 U	< 0.41 UJ	**0.81 j**	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	< 0.22 U
MWA-40	5/18/2020	N	Shallow	MWA-40-051820	< 0.19 UJ	< 0.26 UJ	< 0.084 UJ	**1.3 J-**	< 0.033 UJ	< 0.092 UJ	< 0.20 U	< 0.043 UJ	**0.83 J-**
MWA-41	5/18/2020	N	Shallow	MWA-41-051820	< 0.19 U	< 0.26 U	< 0.084 U	**0.098 j**	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 U	< 0.013 U
MWA-42	5/26/2020	N	Shallow	MWA-42-052620	< 1.0 U	< 0.58 U	**21**	< 0.39 U	< 0.39 U	< 0.16 U	**0.55 j**	< 0.63 U	< 0.22 U
MWA-46	5/21/2020	N	Shallow	MWA-46-052120	< 1.0 U	< 0.58 U	**5.7**	< 0.39 U	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	< 0.22 U
MWA-47	5/20/2020	N	Shallow	MWA-47-052020	< 0.19 U	< 0.26 U	**0.087 j**	< 0.050 U	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 UJ	< 0.013 U
MWA-61	5/27/2020	N	Shallow	MWA-61-052720	< 1.0 U	< 0.58 U	**220 J-**	< 0.39 U	**4.1**	< 0.16 U	**120**	< 0.63 U	**110**
MWA-63	5/26/2020	N	Shallow	MWA-63-052620	< 1.0 U	< 0.58 U	**23**	< 0.39 U	< 0.39 U	< 0.16 U	**4.5**	< 0.63 U	< 0.22 U
MWA-69	5/27/2020	N	Shallow	MWA-69-052720	< 1.0 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.16 U	**0.26 j**	< 0.63 U	**3.0**
MWA-82	5/19/2020	N	Shallow	MWA-82-051920	< 0.19 U	< 0.26 U	**0.51**	< 0.050 U	**0.091 j**	< 0.092 U	**0.59 J+**	< 0.043 U	< 0.013 UJ
PA-03	5/21/2020	N	Shallow	PA-03-052120	< 0.19 U	< 0.26 U	< 0.084 U	**0.21 J+**	< 0.033 U	< 0.092 UJ	< 0.20 U	< 0.043 U	< 0.013 U
PA-04	5/22/2020	N	Shallow	PA-04-052220	< 0.19 U	< 0.26 U	**0.21 j**	< 0.050 U	< 0.033 U	< 0.092 UJ	**0.17 j**	< 0.043 U	< 0.013 U
PA-05	5/27/2020	N	Shallow	PA-05-052720	< 1.0 U	< 0.58 U	**12**	< 0.39 U	< 0.39 U	< 0.16 U	**3.3**	< 0.63 U	**0.77 j**
PA-06	5/26/2020	N	Shallow	PA-06-052620	< 1.0 U	< 0.58 U	**9.5**	< 0.39 U	< 0.39 U	< 0.16 U	**3.0**	< 0.63 U	**0.69 j**
PA-07	5/20/2020	N	Shallow	PA-07-052020	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U	**0.28 J+**	< 0.043 U	< 0.013 U
PA-08	5/19/2020	N	Shallow	PA-08-051920	< 0.19 U	< 0.26 U	**0.31 j**	< 0.050 U	< 0.033 U	< 0.092 U	**0.11 j**	< 0.043 U	< 0.013 UJ
PA-09	5/18/2020	N	Shallow	PA-09-051820	< 0.19 U	< 0.26 U	**0.29 j**	< 0.050 U	< 0.033 U	< 0.092 U	< 0.066 U	< 0.043 U	< 0.013 UJ
PA-28	5/20/2020	N	Shallow	PA-28-052020	< 1.0 U	< 0.58 U	**0.54 j**	< 0.39 U	< 0.39 U	< 0.16 U	**3.0**	< 0.63 U	< 0.22 U
PA-31	5/27/2020	N	Shallow	PA-31-052720	< 0.19 U	< 0.26 U	**0.21 j**	< 0.050 U	< 0.033 U	< 0.092 U	< 0.20 U	**0.12 j**	< 0.013 U
PA-36	5/28/2020	N	Shallow	PA-36-052820	< 1.0 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	< 0.22 U
PA-38	5/19/2020	N	Shallow	PA-38-051920	< 0.19 U	< 0.26 U	**0.98**	< 0.050 U	< 0.033 U	< 0.092 U	**0.68 J+**	< 0.043 U	< 0.013 U
PA-42	5/19/2020	N	Shallow	PA-42-051920	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U	**0.30 J+**	< 0.043 U	< 0.013 UJ
MWA-08i	5/28/2020	N	Intermediate	MWA-8I-052820	< 1.0 U	< 0.58 U	< 0.41 U	< 0.39 U	**3.0**	< 0.16 U	**15**	< 0.63 U	< 0.22 U
MWA-08i	5/28/2020	FD	Intermediate	DUP-04-WG-052820	< 1.0 U	< 0.58 U	< 0.41 U	< 0.39 U	**4.6**	< 0.16 U	**13**	< 0.63 U	< 0.22 U
MWA-32i	5/20/2020	N	Intermediate	MWA-32I-052020	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 UJ	**0.23 J+**	< 0.043 UJ	< 0.013 U
MWA-34i	5/21/2020	N	Intermediate	MWA-34I-052120	< 10 U	< 5.8 U	**4.4 j**	< 3.9 U	< 3.9 U	< 1.6 U	< 2.6 U	< 6.3 U	< 2.2 U
MWA-34i	5/21/2020	FD	Intermediate	DUP-02-052120	< 10 U	< 5.8 U	< 4.1 U	< 3.9 U	< 3.9 U	< 1.6 U	< 2.6 U	< 6.3 U	< 2.2 U
MWA-49i	5/19/2020	N	Intermediate	MWA-49i-051920	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 UJ	< 0.013 UJ
MWA-51i	5/26/2020	N	Intermediate	MWA-51i-052620	< 1.0 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	< 0.22 U
MWA-53i	5/20/2020	N	Intermediate	MWA-53I-052020	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 UJ	< 0.013 UJ
MWA-53i	5/20/2020	FD	Intermediate	DUP-01-052020	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 UJ	< 0.013 UJ
MWA-54i	5/26/2020	N	Intermediate	MWA-54i-052620	< 1.0 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	< 0.22 U
MWA-64i	5/27/2020	N	Intermediate	MWA-64i-052720	< 1.0 U	< 0.58 U	< 0.41 U	**2.1 J+**	**23**	< 0.16 U	**1.6 j**	< 0.63 U	**140**
MWA-66i	5/28/2020	N	Intermediate	MWA-66i-052820	< 1.0 U	< 0.58 U	**5.9**	**4.3 J+**	< 0.39 U	< 0.16 U	**4.7**	< 0.63 U	**1.7**
MWA-70i	5/18/2020	N	Intermediate	MWA-70I-051820	< 0.19 U	< 0.26 U	**0.79**	**0.60**	**0.061 j**	< 0.092 U	**0.41**	< 0.043 U	< 0.013 U
MWA-81i	5/18/2020	N	Intermediate	MWA-81I-051820	< 0.19 U	< 0.26 U	< 0.084 U	**0.050 j**	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 U	< 0.013 U
PA-10i	5/26/2020	N	Intermediate	PA-10I-052620	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 UJ	< 0.066 U	< 0.043 U	**0.14**
PA-11i	5/22/2020	N	Intermediate	PA-11i-052220	< 1.0 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.16 U	< 0.26 U	< 0.63 U	< 0.22 U
PA-12i	5/26/2020	N	Intermediate	PA-12I-052620	< 1.0 U	< 0.58 U	**27**	< 0.39 U	< 0.39 U	< 0.16 U	**4.4**	< 0.63 U	< 0.22 U
PA-13i	5/20/2020	N	Intermediate	PA-13i-052020	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 U	< 0.013 U
PA-14i	5/20/2020	N	Intermediate	PA-14I-052020	< 0.19 U	< 0.26 U	**0.21 j**	< 0.050 U	< 0.033 U	< 0.092 U	**0.49**	< 0.043 U	< 0.013 U
PA-15i	5/18/2020	N	Intermediate	PA-15I-051820	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U	< 0.066 U	< 0.043 U	< 0.013 U
PA-16i	5/19/2020	N	Intermediate	PA-16i-051920	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U	< 0.20 U	< 0.043 U	< 0.013 UJ
PA-17iR	5/21/2020	N	Intermediate	PA-17IR-052120	< 0.19 U	< 0.26 U	< 0.084 U	**0.063 j**	< 0.033 U	< 0.092 UJ	< 0.20 U	< 0.043 U	**0.28**
PA-29i	5/19/2020	N	Intermediate	PA-29i-051920	< 0.19 U	< 0.26 U	< 0.084 U	< 0.050 U	**0.059 j**	< 0.092 U	< 0.22 U	< 0.043 U	< 0.013 UJ

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Analyte					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate analytical data above the value shown)					NE	11	0.4	1.6	47	710	NE	NE	NE	0.076	NE	NE	14	3.7	1.5	NE	10	NE	15
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID																			
PA-32i	5/22/2020	N	Intermediate	PA-32I-052220	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	**0.12 j**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	**0.31**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-32i	5/22/2020	FD	Intermediate	DUP-03-052220	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	**0.13 j**	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	**0.29 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-37i	5/28/2020	N	Intermediate	PA-37i-052820	< 0.18 U	**1.0 j**	< 0.52 U	< 0.24 U	**5.6**	**1.3 j**	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	**0.65 J+**	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**4.2 J+**
PA-39i	5/19/2020	N	Intermediate	PA-39I-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.47**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	**0.094 j**	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-44i	5/19/2020	N	Intermediate	PA-44I-051920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.23**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-11i(d)	5/29/2020	N	Deep	MWA-11i(d)-052920	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.055 j**	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 UJ	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
MWA-31i(d)	5/20/2020	N	Deep	MWA-31I(D)-052020	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.37 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-56d	5/21/2020	N	Deep	MWA-56D-052120	< 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	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
MWA-58d	5/21/2020	N	Deep	MWA-58D-052120	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.24 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-19d	5/29/2020	N	Deep	PA-19d-052920	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.63 j**	**0.81 j**	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 UJ	**0.51 j**	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	**2.8 j**
PA-20d	5/21/2020	N	Deep	PA-20d-052120	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.39 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-21d	5/21/2020	N	Deep	PA-21D-052120	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	**7.1 j**	< 2.8 U	< 2.9 U	< 4.3 U	< 4.1 U	< 3.3 U	< 6.1 U	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U	< 1.8 U	< 3.5 U	**8.0 j**
PA-22d	5/20/2020	N	Deep	PA-22d-052020	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.26 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-23d	5/20/2020	N	Deep	PA-23d-052020	< 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	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-24d	5/19/2020	N	Deep	PA-24d-051920	< 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	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-25d	5/18/2020	N	Deep	Pa-25d-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.072 U	< 0.44 U	< 0.024 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-26d	5/18/2020	N	Deep	PA-26D-051820	< 0.027 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.036 U	< 0.15 U	< 0.050 U	< 0.17 U	< 0.30 U	< 0.44 U	< 0.024 U	**0.10 j**	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U
PA-27d	5/21/2020	N	Deep	PA-27D-052120	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.55 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U	< 0.57 U	< 0.46 U	**0.53 j**	< 0.18 U	< 0.55 U	< 0.18 U	< 0.35 U	< 0.46 U
PA-30d	5/21/2020	N	Deep	PA-30d-052120	< 18 U	< 39 U	< 52 U	< 24 U	< 22 U	< 28 U	< 29 U	< 43 U	< 41 U	< 33 U	< 61 U	< 57 UJ	< 46 U	< 42 U	< 18 U	< 55 U	< 18 U	< 35 U	< 46 U

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Analyte					2,2-Dichloropropane	2-Butanone	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate analytical data above the value shown)					NE	14,000	NE	NE	NE	1,500	1.4	NE	1.7	14	0.92	0.16	64	NE	NE	28	590	NE	1.3
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID																			
PA-32i	5/22/2020	N	Intermediate	PA-32I-052220	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	**0.28**	< 0.025 U	**0.26 j**	< 0.030 U	**0.080 j**	< 0.090 U	< 0.055 U
PA-32i	5/22/2020	FD	Intermediate	DUP-03-052220	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.031 j**	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	**0.28**	< 0.025 U	**0.32 j**	< 0.030 U	**0.094 j**	< 0.090 U	< 0.055 U
PA-37i	5/28/2020	N	Intermediate	PA-37i-052820	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	**14 J+**	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	**19,000 J-**	< 0.29 U	**2.1 J**	**32 J+**	**4.2**	< 0.20 U	< 0.43 U
PA-39i	5/19/2020	N	Intermediate	PA-39I-051920	< 0.060 UJ	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 3.1 UJ	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	**0.21**	< 0.090 U	< 0.055 U
PA-44i	5/19/2020	N	Intermediate	PA-44I-051920	< 0.060 U	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 UJ	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	**0.12 j**	< 0.090 U	< 0.055 U
MWA-11i(d)	5/29/2020	N	Deep	MWA-11i(d)-052920	< 0.060 UJ	< 2.5 U	< 0.050 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 U	< 0.030 U	< 0.055 U	< 0.090 U	< 0.055 U
MWA-31i(d)	5/20/2020	N	Deep	MWA-31I(D)-052020	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**73**	< 0.69 UJ	< 0.20 U	< 0.43 U
MWA-56d	5/21/2020	N	Deep	MWA-56D-052120	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	**0.68 j**	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**170**	< 0.69 U	< 0.20 U	< 0.43 U
MWA-58d	5/21/2020	N	Deep	MWA-58D-052120	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	**0.24 j**	< 0.43 U	**2.4**	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**240**	< 0.69 U	< 0.20 U	**0.46 j**
PA-19d	5/29/2020	N	Deep	PA-19d-052920	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	**2.6 j**	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 UJ	< 0.30 U	**8,200**	< 0.29 U	< 0.35 UJ	**0.49 j**	**73**	< 0.20 U	< 0.43 U
PA-20d	5/21/2020	N	Deep	PA-20d-052120	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	**40**	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 U	< 0.20 U	< 0.43 U
PA-21d	5/21/2020	N	Deep	PA-21D-052120	< 3.2 U	< 47 U	< 3.8 U	< 2.8 U	< 25 U	< 32 U	**3.2 j**	< 4.3 U	< 2.9 U	< 5.6 U	< 5.3 U	< 3.0 U	**49,000 J**	< 2.9 U	**7.5 j**	**55**	< 6.9 U	< 2.0 U	< 4.3 U
PA-22d	5/20/2020	N	Deep	PA-22d-052020	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	**0.26 j**	< 0.43 U	**2.5 J+**	**1.0 j**	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**160**	< 0.69 U	< 0.20 U	**0.83 j**
PA-23d	5/20/2020	N	Deep	PA-23d-052020	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	**1.3 j**	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 UJ	< 0.20 U	< 0.43 U
PA-24d	5/19/2020	N	Deep	PA-24d-051920	< 0.32 UJ	< 4.7 UJ	< 0.38 U	< 0.28 U	< 2.5 UJ	< 3.2 R	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 U	< 0.20 U	< 0.43 U
PA-25d	5/18/2020	N	Deep	Pa-25d-051820	< 0.060 UJ	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	< 0.030 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-26d	5/18/2020	N	Deep	PA-26D-051820	< 0.060 UJ	< 2.5 UJ	< 0.050 U	< 0.15 U	< 1.7 UJ	< 3.1 U	< 0.030 U	< 0.035 U	< 0.060 U	< 0.16 U	< 0.083 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.096 UJ	< 0.030 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-27d	5/21/2020	N	Deep	PA-27D-052120	< 0.32 U	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.56 U	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U	< 0.69 U	< 0.20 U	< 0.43 U
PA-30d	5/21/2020	N	Deep	PA-30d-052120	< 32 U	< 470 U	< 38 U	< 28 U	< 250 U	< 320 U	< 24 U	< 43 U	< 29 U	< 56 U	< 53 UJ	< 30 U	**5,800**	< 29 U	< 35 UJ	< 26 U	< 69 U	< 20 U	< 43 U

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Analyte					Dibromomethane	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl bromide	Methyl chloride	Methyl tert-butyl ether	Methylene chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Chlorotoluene (2-chlorotoluene)	o-Xylene	sec-Butylbenzene
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate analytical data above the value shown)					NE	NE	7.3	NE	0.01	NE	1.8	150	NE	NE	59	12	NE	NE	NE	13	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID																	
PA-32i	5/22/2020	N	Intermediate	PA-32I-052220	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.062 U	< 0.068 U	< 0.070 U	< 1.2 U	< 0.22 U	< 0.23 U	< 0.091 U	< 0.12 U	< 0.15 U	< 0.17 U
PA-32i	5/22/2020	FD	Intermediate	DUP-03-052220	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.062 U	< 0.068 U	< 0.070 U	< 1.2 U	< 0.22 U	< 0.23 U	< 0.091 U	< 0.12 U	< 0.15 U	< 0.17 U
PA-37i	5/28/2020	N	Intermediate	PA-37i-052820	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 UJ	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
PA-39i	5/19/2020	N	Intermediate	PA-39I-051920	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.062 U	< 0.068 U	< 0.070 U	< 1.2 U	**0.38 j**	< 0.23 U	< 0.091 U	< 0.12 U	< 0.15 U	< 0.17 U
PA-44i	5/19/2020	N	Intermediate	PA-44I-051920	< 0.062 U	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.062 U	< 0.068 U	< 0.070 U	< 1.2 U	< 0.22 U	< 0.23 U	< 0.091 U	< 0.12 U	< 0.15 U	< 0.17 U
MWA-11i(d)	5/29/2020	N	Deep	MWA-11i(d)-052920	< 0.062 UJ	< 0.13 UJ	< 0.030 U	< 0.025 U	< 0.067 UJ	< 0.19 U	< 0.12 U	< 0.062 U	< 0.068 U	< 0.070 UJ	< 1.2 U	< 0.22 U	< 0.23 U	< 0.091 U	< 0.12 U	< 0.15 U	< 0.17 U
MWA-31i(d)	5/20/2020	N	Deep	MWA-31I(D)-052020	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 UJ	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
MWA-56d	5/21/2020	N	Deep	MWA-56D-052120	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
MWA-58d	5/21/2020	N	Deep	MWA-58D-052120	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
PA-19d	5/29/2020	N	Deep	PA-19d-052920	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 UJ	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
PA-20d	5/21/2020	N	Deep	PA-20d-052120	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
PA-21d	5/21/2020	N	Deep	PA-21D-052120	< 3.4 U	< 5.3 UJ	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 U	< 7.5 U	< 2.1 U	< 2.8 U	< 4.4 U	**24 j**	< 9.3 U	< 4.4 U	< 5.0 U	< 5.1 U	< 3.9 U	< 4.9 U
PA-22d	5/20/2020	N	Deep	PA-22d-052020	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 U	< 0.44 U	< 1.4 U	**2.9 j**	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
PA-23d	5/20/2020	N	Deep	PA-23d-052020	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 UJ	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
PA-24d	5/19/2020	N	Deep	PA-24d-051920	< 0.34 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
PA-25d	5/18/2020	N	Deep	Pa-25d-051820	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.062 U	< 0.068 U	< 0.070 U	< 1.2 U	< 1.0 U	< 0.23 U	< 0.091 U	< 0.12 U	< 0.15 U	< 0.17 U
PA-26d	5/18/2020	N	Deep	PA-26D-051820	< 0.062 U	< 0.13 U	< 0.030 U	< 0.025 U	< 0.067 U	< 0.19 U	< 0.12 U	< 0.062 U	< 0.068 U	< 0.070 U	< 1.2 U	< 1.0 U	< 0.23 U	< 0.091 U	< 0.12 U	< 0.15 U	< 0.17 U
PA-27d	5/21/2020	N	Deep	PA-27D-052120	< 0.34 U	< 0.53 UJ	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U	< 0.75 U	< 0.21 U	< 0.28 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U
PA-30d	5/21/2020	N	Deep	PA-30d-052120	< 34 U	< 53 UJ	< 50 U	< 40 U	< 79 U	< 44 U	< 75 U	< 21 U	< 28 UJ	< 44 U	< 140 U	< 93 U	< 44 U	< 50 U	< 51 U	< 39 U	< 49 U

Table 4
Volatile Organic Compounds Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
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Analyte					Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	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 analytical data above the value shown)					NE	NE	0.33	9.8	1,000	NE	3	NE	0.24
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID									
PA-32i	5/22/2020	N	Intermediate	PA-32I-052220	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 UJ*	*< 0.20 U*	*< 0.043 U*	**0.17**
PA-32i	5/22/2020	FD	Intermediate	DUP-03-052220	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 UJ*	*< 0.20 U*	*< 0.043 U*	**0.17**
PA-37i	5/28/2020	N	Intermediate	PA-37i-052820	*< 1.0 U*	*< 0.58 U*	**8.2**	**3.5 J+**	*< 0.39 U*	*< 0.16 U*	**4.5**	*< 0.63 U*	*< 0.22 U*
PA-39i	5/19/2020	N	Intermediate	PA-39I-051920	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*	*< 0.066 U*	*< 0.043 U*	*< 0.013 UJ*
PA-44i	5/19/2020	N	Intermediate	PA-44I-051920	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	**0.068 j**	*< 0.092 U*	*< 0.20 U*	*< 0.043 U*	*< 0.013 UJ*
MWA-11i(d)	5/29/2020	N	Deep	MWA-11i(d)-052920	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*	**0.069 j**	*< 0.043 U*	*< 0.013 U*
MWA-31i(d)	5/20/2020	N	Deep	MWA-31I(D)-052020	*< 1.0 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.16 U*	*< 0.26 U*	*< 0.63 U*	*< 0.22 U*
MWA-56d	5/21/2020	N	Deep	MWA-56D-052120	*< 1.0 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.16 U*	*< 0.26 U*	*< 0.63 U*	*< 0.22 U*
MWA-58d	5/21/2020	N	Deep	MWA-58D-052120	*< 1.0 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.16 U*	*< 0.26 U*	*< 0.63 U*	*< 0.22 U*
PA-19d	5/29/2020	N	Deep	PA-19d-052920	*< 1.0 U*	*< 0.58 U*	**21**	*< 0.39 U*	**1.1 j**	*< 0.16 U*	**61**	*< 0.63 U*	*< 0.22 U*
PA-20d	5/21/2020	N	Deep	PA-20d-052120	*< 1.0 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.16 U*	*< 0.26 U*	*< 0.63 U*	*< 0.22 U*
PA-21d	5/21/2020	N	Deep	PA-21D-052120	*< 10 U*	*< 5.8 U*	**9.2 j**	*< 3.9 U*	*< 3.9 U*	*< 1.6 U*	*< 2.6 U*	*< 6.3 U*	*< 2.2 U*
PA-22d	5/20/2020	N	Deep	PA-22d-052020	*< 1.0 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.16 U*	*< 0.26 U*	*< 0.63 U*	*< 0.22 U*
PA-23d	5/20/2020	N	Deep	PA-23d-052020	*< 1.0 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.16 U*	*< 0.26 U*	*< 0.63 U*	*< 0.22 U*
PA-24d	5/19/2020	N	Deep	PA-24d-051920	*< 1.0 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.16 U*	*< 0.26 U*	*< 0.63 U*	*< 0.22 UJ*
PA-25d	5/18/2020	N	Deep	Pa-25d-051820	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*	*< 0.066 U*	*< 0.043 U*	*< 0.013 UJ*
PA-26d	5/18/2020	N	Deep	PA-26D-051820	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*	*< 0.092 U*	*< 0.066 U*	*< 0.043 U*	*< 0.013 UJ*
PA-27d	5/21/2020	N	Deep	PA-27D-052120	*< 1.0 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*	*< 0.16 U*	*< 0.26 U*	*< 0.63 U*	*< 0.22 U*
PA-30d	5/21/2020	N	Deep	PA-30d-052120	*< 100 U*	*< 58 U*	*< 41 U*	*< 39 U*	*< 39 U*	*< 16 U*	*< 26 U*	*< 63 U*	*< 22 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 an estimate with no bias, as the associated QC results were outside the control limits.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).
U = Analyte was analyzed for, but not detected above, the limit displayed.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

Table 5
Pesticide Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
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					Analyte	4,4'-DDD	4,4'-DDE	4,4'-DDT	DDx	Aldrin	alpha-BHC/HCH	alpha-Chlordane	beta-BHC/HCH	Chlordane, mixture of isomers	Chlorinated camphene/ Toxaphene	cis-Heptachlor epoxide
					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 analytical data above the value shown)		3.1E-05	1.8E-05	2.2E-05	1.8E-05	7E-07	0.00039	NE	0.0017	NE	2.8E-05	3.9E-06
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	Turbidity (NTUs)											
MWA-02	5/29/2020	N	Shallow	MWA-02-052920	4.36	**0.012 j**	*< 0.0029 U*	**0.046**	**0.058**	*< 0.0069 U*	*< 0.0039 U*	*< 0.0078 U*	*< 0.0049 U*	*< 0.029 U*	*< 0.45 U*	*< 0.0029 U*
MWA-15r	5/29/2020	N	Shallow	MWA-15r-052920	4.90	**22 J**	*< 0.028 U*	**71**	**93**	*< 0.065 U*	*< 0.037 U*	*< 0.074 U*	*< 0.046 U*	*< 0.28 U*	*< 4.2 U*	*< 0.028 U*
MWA-18	5/21/2020	N	Shallow	MWA-18-052120	4.62	*< 0.0024 U*	**0.0044 j**	**0.0069**	**0.0113**	*< 0.0014 U*	*< 0.0024 U*	*< 0.014 U*	*< 0.0039 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-22	5/28/2020	N	Shallow	MWA-22-052820	4.50	*< 0.0055 UJ*	*< 0.0027 UJ*	*< 0.0046 UJ*	*< 0.0055 UJ*	*< 0.0064 UJ*	*< 0.0037 UJ*	*< 0.0073 UJ*	*< 0.0046 UJ*	*< 0.027 UJ*	*< 0.42 UJ*	*< 0.0027 UJ*
MWA-24	5/18/2020	N	Shallow	MWA-24-051820	3.96	**0.036 J**	**0.015**	**0.15 J**	**0.201**	*< 0.0014 U*	**0.0057**	*< 0.013 U*	**0.0044 J**	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-33	5/18/2020	N	Shallow	MWA-33-051820	1.85	*< 0.0024 U*	*< 0.0024 U*	**0.047**	**0.047**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-40	5/18/2020	N	Shallow	MWA-40-051820	0.95	**0.0062**	*< 0.0024 U*	**0.012**	**0.0182**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.076 U*	*< 0.24 U*	*< 0.0024 U*
MWA-41	5/18/2020	N	Shallow	MWA-41-051820	4.61	*< 0.0024 U*	*< 0.0024 U*	**0.0068**	**0.0068**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.076 U*	*< 0.24 U*	*< 0.0024 U*
MWA-46	5/21/2020	N	Shallow	MWA-46-052120	4.65	*< 0.0057 UJ*	**0.01**	**0.11**	**0.12**	*< 0.0066 U*	*< 0.0038 U*	*< 0.0076 U*	*< 0.0047 U*	*< 0.028 U*	*< 0.43 U*	*< 0.0028 U*
MWA-61	5/27/2020	N	Shallow	MWA-61-052720	2.44	*< 0.0061 U*	*< 0.0031 U*	*< 0.0051 U*	*< 0.0061 U*	*< 0.0071 U*	*< 0.0041 U*	*< 0.0081 U*	*< 0.0051 U*	*< 0.031 UJ*	*< 0.47 U*	*< 0.0031 U*
MWA-63	5/26/2020	N	Shallow	MWA-63-052620	4.70	*< 0.0024 U*	*< 0.0024 U*	**0.0056**	**0.0056**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-69	5/27/2020	N	Shallow	MWA-69-052720	4.60	**7.0**	*< 0.0030 U*	*< 0.0049 U*	**7.0**	*< 0.0069 U*	*< 0.0039 U*	*< 0.0079 U*	*< 0.0049 U*	*< 0.030 U*	*< 0.45 U*	*< 0.0030 U*
MWA-82	5/19/2020	N	Shallow	MWA-82-051920	4.57	*< 0.0024 U*	*< 0.0024 U*	**0.0097**	**0.0097**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
PA-42	5/19/2020	N	Shallow	PA-42-051920	4.72	*< 0.0024 U*	**0.0025 j**	**0.0069**	**0.0094**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-08i	5/28/2020	N	Intermediate	MWA-8I-052820	3.09	**0.059 J-**	*< 0.0033 UJ*	**0.033 J-**	**0.092**	*< 0.0076 UJ*	*< 0.0043 UJ*	*< 0.0087 UJ*	*< 0.0054 UJ*	*< 0.033 UJ*	*< 0.50 UJ*	*< 0.0033 UJ*
MWA-08i	5/28/2020	FD	Intermediate	DUP-04-WG-052820	3.09	**0.057 J-**	*< 0.0029 UJ*	*< 0.0049 UJ*	**0.057**	*< 0.0069 UJ*	*< 0.0039 UJ*	*< 0.0079 UJ*	*< 0.0049 UJ*	*< 0.029 UJ*	*< 0.45 UJ*	*< 0.0029 UJ*
MWA-32i	5/20/2020	N	Intermediate	MWA-32I-052020	4.61	**0.011 J+**	*< 0.0024 U*	*< 0.0024 U*	**0.011**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-34i	5/21/2020	N	Intermediate	MWA-34I-052120	4.23	**0.092 J**	*< 0.0029 U*	**0.24**	**0.332**	*< 0.0068 U*	*< 0.0039 U*	*< 0.0078 U*	*< 0.0049 U*	*< 0.029 U*	*< 0.45 U*	*< 0.0029 U*
MWA-34i	5/21/2020	FD	Intermediate	DUP-02-052120	4.23	**0.091 J**	*< 0.0029 U*	**0.18**	**0.271**	*< 0.0068 U*	*< 0.0039 U*	*< 0.0077 U*	*< 0.0048 U*	*< 0.029 U*	*< 0.45 U*	*< 0.0029 U*
MWA-53i	5/20/2020	N	Intermediate	MWA-53I-052020	4.13	*< 0.0024 U*	*< 0.0024 U*	*< 0.0024 U*	*< 0.0024 U*	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-53i	5/20/2020	FD	Intermediate	DUP-01-052020	4.13	*< 0.0024 U*	*< 0.0024 U*	*< 0.0024 U*	*< 0.0024 U*	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-66i	5/28/2020	N	Intermediate	MWA-66i-052820	4.90	**0.029**	**0.0037 J**	**0.0093**	**0.042**	*< 0.0015 U*	*< 0.0025 U*	*< 0.014 U*	*< 0.0040 U*	*< 0.080 U*	*< 0.25 U*	*< 0.0025 U*
MWA-70i	5/18/2020	N	Intermediate	MWA-70I-051820	4.03	*< 0.0024 U*	*< 0.0024 U*	**0.011 J**	**0.011**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
MWA-81i	5/18/2020	N	Intermediate	MWA-81I-051820	1.21	*< 0.0024 U*	*< 0.0024 U*	**0.0063 J**	**0.0063**	**0.0028 j**	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
PA-32i	5/22/2020	N	Intermediate	PA-32I-052220	2.60	*< 0.0024 U*	*< 0.0024 U*	*< 0.0024 U*	*< 0.0024 U*	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 UJ*	*< 0.24 U*	*< 0.0024 U*
PA-32i	5/22/2020	FD	Intermediate	DUP-03-052220	2.60	*< 0.0024 U*	*< 0.0024 U*	**0.0049**	**0.0049**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.077 U*	*< 0.24 U*	*< 0.0024 U*
PA-37i	5/28/2020	N	Intermediate	PA-37i-052820	4.80	*< 0.0025 U*	*< 0.0025 U*	*< 0.0025 U*	*< 0.0025 U*	*< 0.0015 U*	*< 0.0025 U*	*< 0.014 U*	*< 0.0039 U*	*< 0.079 U*	*< 0.25 U*	*< 0.0025 U*

Table 5
Pesticide Results
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					Analyte	delta-BHC/HCH	Dieldrin	Endosulfan I (Alpha)	Endosulfan II (Beta)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC/HCH (Linda	gamma-Chlordane	Heptachlor	Methoxychlor
					Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
					FSWP SHSC (shaded values indicate analytical data above the value shown)	NE	1.2E-06	0.056	0.056	8.9	0.024	0.03	NE	0.08	NE	5.9E-06	0.02
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	Turbidity (NTUs)												
MWA-02	5/29/2020	N	Shallow	MWA-02-052920	4.36	< 0.0049 U	< 0.0049 U	< 0.0029 U	< 0.0049 U	< 0.0029 U	< 0.0029 U	< 0.033 U	< 0.0020 U	**0.017 j**	< 0.0029 U	< 0.0039 U	< 0.0049 U
MWA-15r	5/29/2020	N	Shallow	MWA-15r-052920	4.90	< 0.046 U	< 0.046 U	< 0.028 U	< 0.046 U	< 0.028 U	< 0.028 U	< 0.31 U	< 0.018 U	**0.053 j**	< 0.028 U	< 0.037 U	**0.056 j**
MWA-18	5/21/2020	N	Shallow	MWA-18-052120	4.62	< 0.0034 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0068 U	**0.0084 j**	< 0.029 U	< 0.0029 U	< 0.0034 U
MWA-22	5/28/2020	N	Shallow	MWA-22-052820	4.50	< 0.0046 UJ	< 0.0046 UJ	< 0.0027 UJ	< 0.0046 UJ	< 0.0027 UJ	< 0.0027 UJ	< 0.031 UJ	< 0.0018 UJ	< 0.0046 UJ	< 0.0027 UJ	< 0.0037 UJ	< 0.0046 UJ
MWA-24	5/18/2020	N	Shallow	MWA-24-051820	3.96	**0.0041 j**	**0.0033 J**	< 0.0029 U	< 0.0019 U	**0.0073 j**	**0.0036 J**	< 0.0019 U	< 0.0067 U	**0.0033 J**	< 0.029 U	< 0.0029 U	< 0.0033 U
MWA-33	5/18/2020	N	Shallow	MWA-33-051820	1.85	< 0.0033 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0033 U
MWA-40	5/18/2020	N	Shallow	MWA-40-051820	0.95	< 0.0033 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0033 U
MWA-41	5/18/2020	N	Shallow	MWA-41-051820	4.61	< 0.0033 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0033 U
MWA-46	5/21/2020	N	Shallow	MWA-46-052120	4.65	< 0.0047 U	< 0.0047 U	< 0.0028 U	< 0.0047 U	< 0.0028 U	< 0.0028 U	< 0.032 U	< 0.0019 U	< 0.0047 U	< 0.0028 U	< 0.0038 U	< 0.0047 U
MWA-61	5/27/2020	N	Shallow	MWA-61-052720	2.44	**0.12 J+**	< 0.0051 UJ	< 0.0031 UJ	< 0.0051 U	< 0.0031 U	< 0.0031 U	< 0.035 U	< 0.0020 UJ	< 0.0051 U	< 0.0031 U	< 0.0041 U	< 0.0051 U
MWA-63	5/26/2020	N	Shallow	MWA-63-052620	4.70	< 0.0033 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0033 U
MWA-69	5/27/2020	N	Shallow	MWA-69-052720	4.60	**0.016**	< 0.0049 U	< 0.0030 U	< 0.0049 U	< 0.0030 U	< 0.0030 U	< 0.034 U	< 0.0020 U	< 0.0049 U	< 0.0030 U	< 0.0039 U	< 0.0049 U
MWA-82	5/19/2020	N	Shallow	MWA-82-051920	4.57	< 0.0034 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0034 U
PA-42	5/19/2020	N	Shallow	PA-42-051920	4.72	< 0.0034 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0034 U
MWA-08i	5/28/2020	N	Intermediate	MWA-8I-052820	3.09	< 0.0054 UJ	< 0.0054 UJ	< 0.0033 UJ	< 0.0054 UJ	< 0.0033 UJ	< 0.0033 UJ	< 0.037 UJ	< 0.0022 UJ	< 0.0054 UJ	< 0.0033 UJ	< 0.0043 UJ	< 0.0054 UJ
MWA-08i	5/28/2020	FD	Intermediate	DUP-04-WG-052820	3.09	< 0.0049 UJ	< 0.0049 UJ	< 0.0029 UJ	< 0.0049 UJ	< 0.0029 UJ	< 0.0029 UJ	< 0.033 UJ	< 0.0020 UJ	< 0.0049 UJ	< 0.0029 UJ	< 0.0039 UJ	< 0.0049 UJ
MWA-32i	5/20/2020	N	Intermediate	MWA-32I-052020	4.61	**0.0045 J+**	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	**0.0073 J+**	< 0.0033 U
MWA-34i	5/21/2020	N	Intermediate	MWA-34I-052120	4.23	< 0.0049 U	< 0.0049 U	< 0.0029 U	< 0.0049 U	< 0.0029 U	< 0.0029 U	< 0.033 U	< 0.0019 U	< 0.0049 U	< 0.0029 U	< 0.0039 U	< 0.0049 U
MWA-34i	5/21/2020	FD	Intermediate	DUP-02-052120	4.23	< 0.0048 U	< 0.0048 U	< 0.0029 U	< 0.0048 U	< 0.0029 U	< 0.0029 U	< 0.033 U	< 0.0019 U	< 0.0048 U	< 0.0029 U	< 0.0039 U	< 0.0048 U
MWA-53i	5/20/2020	N	Intermediate	MWA-53I-052020	4.13	< 0.0034 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	**0.0033 J**	< 0.029 U	< 0.0029 U	< 0.0034 U
MWA-53i	5/20/2020	FD	Intermediate	DUP-01-052020	4.13	< 0.0033 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0033 U
MWA-66i	5/28/2020	N	Intermediate	MWA-66i-052820	4.90	< 0.0035 U	< 0.0020 U	< 0.0030 U	< 0.0020 U	< 0.0030 U	< 0.0020 U	< 0.0020 U	< 0.0070 U	< 0.0030 U	< 0.030 U	**0.0040 J**	< 0.0035 U
MWA-70i	5/18/2020	N	Intermediate	MWA-70I-051820	4.03	< 0.0033 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0033 U
MWA-81i	5/18/2020	N	Intermediate	MWA-81I-051820	1.21	< 0.0033 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0033 U
PA-32i	5/22/2020	N	Intermediate	PA-32I-052220	2.60	< 0.0033 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0033 U
PA-32i	5/22/2020	FD	Intermediate	DUP-03-052220	2.60	< 0.0034 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0029 U	< 0.0019 U	< 0.0019 U	< 0.0067 U	< 0.0029 U	< 0.029 U	< 0.0029 U	< 0.0034 U
PA-37i	5/28/2020	N	Intermediate	PA-37i-052820	4.80	**0.021 J**	< 0.0020 U	< 0.0030 U	< 0.0020 U	**0.024 J**	< 0.0020 U	< 0.0020 U	< 0.0069 U	< 0.0030 U	< 0.030 U	< 0.0030 U	< 0.0034 U

Table 5
Pesticide Results
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					Analyte	4,4'-DDD	4,4'-DDE	4,4'-DDT	DDx	Aldrin	alpha-BHC/HCH	alpha-Chlordane	beta-BHC/HCH	Chlordane, mixture of isomers	Chlorinated camphene/ Toxaphene	cis-Heptachlor epoxide
					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 analytical data above the value shown)	3.1E-05	1.8E-05	2.2E-05	1.8E-05	7E-07	0.00039	NE	0.0017	NE	2.8E-05	3.9E-06
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	Turbidity (NTUs)											
MWA-11i(d)	5/29/2020	N	Deep	MWA-11i(d)-052920	2.10	**0.085**	*< 0.0030 U*	**0.012 j**	**0.097**	*< 0.0070 U*	*< 0.0040 U*	*< 0.0080 U*	*< 0.0050 U*	*< 0.030 U*	*< 0.46 U*	*< 0.0030 U*
MWA-31i(d)	5/20/2020	N	Deep	MWA-31I(D)-052020	4.51	*< 0.0023 U*	**0.0054**	*< 0.0023 U*	**0.0054**	*< 0.0014 U*	*< 0.0023 U*	*< 0.013 U*	*< 0.0037 U*	*< 0.074 U*	*< 0.23 U*	**0.0046 J**
MWA-56d	5/21/2020	N	Deep	MWA-56D-052120	1.89	*< 0.0023 U*	*< 0.0023 U*	**0.053**	**0.053**	*< 0.0014 U*	*< 0.0023 U*	*< 0.013 U*	*< 0.0037 U*	*< 0.074 U*	*< 0.23 U*	*< 0.0023 U*
MWA-58d	5/21/2020	N	Deep	MWA-58D-052120	4.31	*< 0.0023 U*	*< 0.0023 U*	**0.0045 j**	**0.0045**	**0.0022 J**	*< 0.0023 U*	*< 0.013 U*	*< 0.0037 U*	*< 0.075 U*	*< 0.23 U*	**0.0046 j**
PA-20d	5/21/2020	N	Deep	PA-20d-052120	2.80	**0.16**	**0.028**	*< 0.0046 U*	**0.188**	*< 0.0064 U*	*< 0.0037 U*	*< 0.0073 U*	*< 0.0046 U*	*< 0.028 U*	*< 0.42 U*	*< 0.0028 U*
PA-22d	5/20/2020	N	Deep	PA-22d-052020	1.00	**0.0046 j**	*< 0.0023 U*	**0.039**	**0.0436**	**0.0064**	*< 0.0023 U*	*< 0.013 U*	*< 0.0037 U*	*< 0.075 U*	*< 0.23 U*	*< 0.0023 U*
PA-23d	5/20/2020	N	Deep	PA-23d-052020	3.10	**0.0073**	**0.0073**	**0.080**	**0.0946**	*< 0.0015 U*	*< 0.0024 U*	*< 0.014 U*	*< 0.0039 U*	*< 0.078 U*	*< 0.24 U*	*< 0.0024 U*
PA-24d	5/19/2020	N	Deep	PA-24d-051920	2.60	*< 0.0023 U*	*< 0.0023 U*	**0.011**	**0.011**	*< 0.0014 U*	*< 0.0023 U*	*< 0.013 U*	*< 0.0036 U*	*< 0.072 U*	*< 0.23 U*	*< 0.0023 U*
PA-25d	5/18/2020	N	Deep	Pa-25d-051820	3.70	**0.0099**	**0.0041 j**	**0.058**	**0.072**	*< 0.0014 U*	*< 0.0024 U*	*< 0.013 U*	*< 0.0038 U*	*< 0.076 U*	*< 0.24 U*	*< 0.0024 U*
PA-26d	5/18/2020	N	Deep	PA-26D-051820	2.87	**0.024**	**0.0092**	**0.0038 J**	**0.037**	*< 0.0015 U*	*< 0.0025 U*	*< 0.014 U*	*< 0.0039 U*	*< 0.078 U*	*< 0.25 U*	*< 0.0025 U*

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					Analyte	delta-BHC/HCH	Dieldrin	Endosulfan I (Alpha)	Endosulfan II (Beta)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC/HCH (Linda	gamma-Chlordane	Heptachlor	Methoxychlor
					Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
					FSWP SHSC (shaded values indicate analytical data above the value shown)	NE	**1.2E-06**	0.056	0.056	8.9	0.024	0.03	NE	0.08	NE	**5.9E-06**	**0.02**
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	Turbidity (NTUs)												
MWA-11i(d)	5/29/2020	N	Deep	MWA-11i(d)-052920	2.10	*< 0.0050 U*	*< 0.0050 U*	*< 0.0030 U*	*< 0.0050 U*	*< 0.0030 U*	*< 0.0030 U*	*< 0.034 U*	*< 0.0020 U*	*< 0.0050 U*	*< 0.0030 U*	*< 0.0040 U*	*< 0.0050 U*
MWA-31i(d)	5/20/2020	N	Deep	MWA-31I(D)-052020	4.51	*< 0.0032 U*	*< 0.0019 U*	*< 0.0028 U*	*< 0.0019 U*	*< 0.0028 U*	*< 0.0019 U*	*< 0.0019 U*	*< 0.0065 U*	**0.013 J**	*< 0.028 U*	*< 0.0028 U*	*< 0.0032 U*
MWA-56d	5/21/2020	N	Deep	MWA-56D-052120	1.89	*< 0.0033 U*	*< 0.0019 U*	*< 0.0028 U*	*< 0.0019 U*	*< 0.0028 U*	*< 0.0019 U*	*< 0.0019 U*	*< 0.0065 U*	*< 0.0028 U*	*< 0.028 U*	*< 0.0028 U*	*< 0.0033 U*
MWA-58d	5/21/2020	N	Deep	MWA-58D-052120	4.31	*< 0.0033 U*	*< 0.0019 U*	*< 0.0028 U*	*< 0.0019 U*	*< 0.0028 U*	*< 0.0019 U*	*< 0.0019 U*	*< 0.0065 U*	*< 0.0028 U*	*< 0.028 U*	*< 0.0028 U*	*< 0.0033 U*
PA-20d	5/21/2020	N	Deep	PA-20d-052120	2.80	*< 0.0046 U*	*< 0.0046 U*	*< 0.0028 U*	*< 0.0046 U*	*< 0.0028 U*	*< 0.0028 U*	*< 0.031 U*	*< 0.0018 U*	*< 0.0046 U*	*< 0.0028 U*	*< 0.0037 U*	*< 0.0046 U*
PA-22d	5/20/2020	N	Deep	PA-22d-052020	1.00	*< 0.0033 U*	*< 0.0019 U*	*< 0.0028 U*	*< 0.0019 U*	*< 0.0028 U*	*< 0.0019 U*	*< 0.0019 U*	*< 0.0065 U*	*< 0.0028 U*	*< 0.028 U*	*< 0.0028 U*	*< 0.0033 U*
PA-23d	5/20/2020	N	Deep	PA-23d-052020	3.10	*< 0.0034 U*	*< 0.0020 U*	*< 0.0029 U*	*< 0.0020 U*	*< 0.0029 U*	*< 0.0020 U*	*< 0.0020 U*	*< 0.0068 U*	*< 0.0029 U*	*< 0.029 U*	*< 0.0029 U*	*< 0.0034 U*
PA-24d	5/19/2020	N	Deep	PA-24d-051920	2.60	*< 0.0032 U*	*< 0.0018 U*	*< 0.0027 U*	*< 0.0018 U*	*< 0.0027 U*	*< 0.0018 U*	*< 0.0018 U*	*< 0.0063 U*	*< 0.0027 U*	*< 0.027 U*	*< 0.0027 U*	*< 0.0032 U*
PA-25d	5/18/2020	N	Deep	Pa-25d-051820	3.70	*< 0.0033 U*	*< 0.0019 U*	*< 0.0029 U*	*< 0.0019 U*	*< 0.0029 U*	*< 0.0019 U*	*< 0.0019 U*	*< 0.0067 U*	*< 0.0029 U*	*< 0.029 U*	*< 0.0029 U*	*< 0.0033 U*
PA-26d	5/18/2020	N	Deep	PA-26D-051820	2.87	*< 0.0034 U*	*< 0.0020 U*	*< 0.0029 U*	*< 0.0020 U*	*< 0.0029 U*	*< 0.0020 U*	*< 0.0020 U*	*< 0.0069 U*	*< 0.0029 U*	*< 0.029 U*	*< 0.0029 U*	*< 0.0034 U*

Notes:
See Table 1 for well locations not sampled.
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
DDx = Total of 4,4'-DDD, -DDE, and -DDT
FD = Field Duplicate Sample
FSWP SHSC = Feasibility Study Work Plan Indirect Exposure Pathway Selected Hot Spot Criteria
N = Normal Environmental Sample
NE = Not Established
NTUs = Nephelometric Turbidity Units
SW8081B analyses performed by TestAmerica - Seattle, WA of Seattle.
SW8081B low level analyses performed by TestAmerica - Irvine, CA of Irvine.

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 an estimate with no bias, as the associated QC results were outside the control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
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 6
Total and Dissolved Metals Results
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						Analyte	Arsenic	Arsenic	Chromium	Chromium	Chromium (VI)	Iron	Iron	Manganese	Manganese
						Fraction	Dissolved	Total Recoverable	Dissolved	Total Recoverable	-	Dissolved	Total Recoverable	Dissolved	Total Recoverable
						Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate analytical data above the value shown)							2.1	2.1	23.81	23.81	11	1,000	1,000	430	430
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	Turbidity (NTUs)										
MWA-02	5/29/2020	N	Shallow	MWA-02-052920	4.36		< 1.0 U	< 1.0 U	< 0.87 U	3.7 j	< 0.25 U	< 180 U	440 j	33	37
MWA-15r	5/29/2020	N	Shallow	MWA-15r-052920	4.90		1.6 j	2.1 j	< 0.87 U	21	< 0.25 U	< 180 U	390 j	44	70
MWA-18	5/21/2020	N	Shallow	MWA-18-052120	4.62		< 1.0 U	< 1.0 U	12	33	11	< 180 U	390 j	17	22
MWA-19	5/21/2020	N	Shallow	MWA-19-052120	35.74		1.9 j	NS	4.5	NS	4.1	< 180 U	NS	21	NS
MWA-20	5/26/2020	N	Shallow	MWA-20-052620	55.44		140	NS	20	NS	< 2.5 U	3,900	NS	280	NS
MWA-22	5/28/2020	N	Shallow	MWA-22-052820	4.50		370	370	130	140	< 13 U	14,000	16,000	580	690
MWA-24	5/18/2020	N	Shallow	MWA-24-051820	3.96		640	650	7.9	14	< 1.3 UJ	1,600	7,400	170	630
MWA-29	5/18/2020	N	Shallow	MWA-29-051820	54.00		7.6	NS	31	NS	< 1.3 U	540 j	NS	17	NS
MWA-30	5/20/2020	N	Shallow	MWA-30-052020	200.10		< 1.0 U	NS	8.0	NS	5.4	210 j	NS	140	NS
MWA-33	5/18/2020	N	Shallow	MWA-33-051820	1.85		99	91	44	30	2.2 j	3,700	8,300	150	390
MWA-40	5/18/2020	N	Shallow	MWA-40-051820	0.95		420	450	57	72	< 5.0 UJ	2,800	4,100	94	160
MWA-41	5/18/2020	N	Shallow	MWA-41-051820	4.61		< 1.0 U	< 1.0 U	< 0.87 U	0.92 j	< 0.25 U	< 180 U	280 j	630	920
MWA-42	5/26/2020	N	Shallow	MWA-42-052620	56.81		7.4	NS	2.1 j	NS	< 0.50 U	630 j	NS	150	NS
MWA-46	5/21/2020	N	Shallow	MWA-46-052120	4.65		4.9 j	4.4 j	9.0	9.2	9.8 J-	< 180 U	300 j	110	98
MWA-47	5/20/2020	N	Shallow	MWA-47-052020	39.51		3.0 j	NS	8.3	NS	< 1.3 U	880 j	NS	9.7 j	NS
MWA-61	5/27/2020	N	Shallow	MWA-61-052720	2.44		< 1.0 U	< 1.0 U	< 0.87 U	< 0.87 U	< 0.25 U	1,800	1,900	2,900	2,900
MWA-63	5/26/2020	N	Shallow	MWA-63-052620	4.70		< 1.0 U	5.5	1.1 j	4.0	0.44 j	< 180 U	1,100	< 2.3 U	720
MWA-69	5/27/2020	N	Shallow	MWA-69-052720	4.60		3.3 j	3.7 j	1.7 j	2.2 j	< 0.50 U	37,000	34,000	15,000	14,000
MWA-82	5/19/2020	N	Shallow	MWA-82-051920	4.57		67	71	17	21	< 1.3 U	1,900	1,100	120	38
PA-03	5/21/2020	N	Shallow	PA-03-052120	456.53		200	NS	3.0 j	NS	< 1.3 U	890 j	NS	62 J+	NS
PA-04	5/22/2020	N	Shallow	PA-04-052220	784.90		180	NS	3.6 j	NS	< 0.50 U	1,500	NS	86	NS
PA-05	5/27/2020	N	Shallow	PA-05-052720	112.91		6.3	NS	5.8	NS	< 0.25 U	4,900	NS	380	NS
PA-06	5/26/2020	N	Shallow	PA-06-052620	35.54		8.0	NS	< 0.87 U	NS	< 0.25 U	7,800	NS	360	NS
PA-07	5/20/2020	N	Shallow	PA-07-052020	251.50		18	NS	140	NS	5.4 j	8,000	NS	230	NS
PA-08	5/19/2020	N	Shallow	PA-08-051920	81.02		37	NS	110	NS	< 1.3 U	880 j	NS	48	NS
PA-09	5/18/2020	N	Shallow	PA-09-051820	41.66		3.6 j	NS	4.8	NS	< 0.25 U	220 j	NS	3.1 j	NS
PA-28	5/20/2020	N	Shallow	PA-28-052020	392.40		23	NS	63	NS	< 13 UJ	2,200	NS	74	NS
PA-31	5/27/2020	N	Shallow	PA-31-052720	43.00		160	NS	1.9 j	NS	< 0.50 U	780 j	NS	29	NS
PA-36	5/28/2020	N	Shallow	PA-36-052820	17.70		6.0	NS	2.3 j	NS	< 0.50 U	320 j	NS	200	NS
PA-38	5/19/2020	N	Shallow	PA-38-051920	48.71		170	NS	380	NS	< 5.0 U	2,900	NS	280	NS
PA-42	5/19/2020	N	Shallow	PA-42-051920	4.72		5.5	5.1	270	180	< 2.5 U	4,300	5,400	180	240
MWA-08i	5/28/2020	N	Intermediate	MWA-8I-052820	3.09		22	24	< 4.0 U	10 J+	< 1.3 U	280 j	1,100	57 J+	140 J+
MWA-08i	5/28/2020	FD	Intermediate	DUP-04-WG-052820	3.09		21	24	< 4.0 U	9.6 J+	< 1.3 U	340 j	1,000	140 J+	120 J+
MWA-32i	5/20/2020	N	Intermediate	MWA-32I-052020	4.61		15	15	69	100	< 2.5 UJ	9,100	10,000	240	260
MWA-34i	5/21/2020	N	Intermediate	MWA-34I-052120	4.23		13	16	7.0	150	< 1.3 U	530 j	3,200	430	450
MWA-34i	5/21/2020	FD	Intermediate	DUP-02-052120	4.23		14	15	8.2	140	< 2.5 U	650 j	2,900	400	490
MWA-49i	5/19/2020	N	Intermediate	MWA-49i-051920	89.70		5.4	NS	36	NS	< 25 UJ	4,700	NS	490	NS
MWA-51i	5/26/2020	N	Intermediate	MWA-51i-052620	10.56		94	NS	230	NS	< 25 U	28,000	NS	1,200	NS
MWA-53i	5/20/2020	N	Intermediate	MWA-53I-052020	4.13		2.4 j	3.3 j	88	69	< 2.5 UJ	1,500	3,300	44	56
MWA-53i	5/20/2020	FD	Intermediate	DUP-01-052020	4.13		2.7 j	4.0 j	120	110	< 2.5 UJ	1,900	4,600	43	60
MWA-54i	5/26/2020	N	Intermediate	MWA-54i-052620	29.00		58	NS	470	NS	< 25 U	5,000	NS	560	NS
MWA-64i	5/27/2020	N	Intermediate	MWA-64i-052720	27.90		19	NS	11	NS	1.3 j	800 j	NS	130	NS
MWA-66i	5/28/2020	N	Intermediate	MWA-66i-052820	4.90		1.4 j	1.7 j	< 0.87 U	25	< 0.25 U	470 j	1,700	2,400	2,400
MWA-70i	5/18/2020	N	Intermediate	MWA-70I-051820	4.03		49	36	55	110	< 1.3 U	1,400	7,600	39	240
MWA-81i	5/18/2020	N	Intermediate	MWA-81I-051820	1.21		1.2 j	1.1 j	< 0.87 U	< 0.87 U	< 0.25 U	1,100	1,000	3,200	3,300
PA-10i	5/26/2020	N	Intermediate	PA-10I-052620	141.66		26	NS	5.3	NS	< 2.5 U	1,100	NS	210	NS
PA-11i	5/22/2020	N	Intermediate	PA-11i-052220	7.50		16	NS	4.7	NS	< 0.50 U	44,000	NS	1,700	NS
PA-12i	5/26/2020	N	Intermediate	PA-12I-052620	10.52		37	NS	1.6 j	NS	< 0.25 UJ	730 j	NS	24	NS
PA-13i	5/20/2020	N	Intermediate	PA-13i-052020	34.90		20	NS	290	NS	< 5.0 U	29,000	NS	850	NS
PA-14i	5/20/2020	N	Intermediate	PA-14I-052020	124.56		23	NS	310	NS	7.7	4,300	NS	130	NS
PA-15i	5/18/2020	N	Intermediate	PA-15I-051820	41.20		3.2 j	NS	100	NS	< 1.3 U	2,500	NS	79	NS
PA-16i	5/19/2020	N	Intermediate	PA-16i-051920	252.93		3.5 j	NS	110	NS	< 2.5 U	1,700	NS	83	NS

Table 6
Total and Dissolved Metals Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

						Analyte	Arsenic	Arsenic	Chromium	Chromium	Chromium (VI)	Iron	Iron	Manganese	Manganese
						Fraction	Dissolved	Total Recoverable	Dissolved	Total Recoverable	-	Dissolved	Total Recoverable	Dissolved	Total Recoverable
						Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate analytical data above the value shown)							2.1	2.1	23.81	23.81	11	1,000	1,000	430	430
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	Turbidity (NTUs)										
PA-17iR	5/21/2020	N	Intermediate	PA-17IR-052120	48.67		**44**	NS	**9.6**	NS	*< 2.5 UJ*	**1,100**	NS	**66**	NS
PA-29i	5/19/2020	N	Intermediate	PA-29i-051920	15.20		**2.8 j**	NS	**28**	NS	*< 0.50 U*	**1,700**	NS	**110**	NS
PA-32i	5/22/2020	N	Intermediate	PA-32I-052220	2.60		**10**	**17**	**11**	**19**	*< 5.0 U*	**3,800**	**7,100**	**1,300**	**1,500**
PA-32i	5/22/2020	FD	Intermediate	DUP-03-052220	2.60		**8.5**	**14**	**5.7**	**13**	*< 5.0 U*	**4,500**	**6,900**	**1,400**	**1,700**
PA-37i	5/28/2020	N	Intermediate	PA-37i-052820	4.80		**4.0 j**	**6.2**	*< 0.87 U*	**3.2 j**	*< 0.25 U*	**7,300**	**6,300**	**1,000**	**1,000**
PA-39i	5/19/2020	N	Intermediate	PA-39I-051920	60.25		**16**	NS	**240**	NS	*< 13 U*	**5,100**	NS	**100**	NS
PA-44i	5/19/2020	N	Intermediate	PA-44I-051920	68.76		**3.5 j**	NS	**84**	NS	*< 1.3 U*	**1,100**	NS	**54**	NS
MWA-11i(d)	5/29/2020	N	Deep	MWA-11i(d)-052920	2.10		**370**	**370**	*< 0.87 U*	**8.5**	*< 0.25 U*	**43,000**	**42,000**	**93,000**	**92,000**
MWA-31i(d)	5/20/2020	N	Deep	MWA-31I(D)-052020	4.51		**3.6 j**	**3.7 j**	**2.7 j**	**40**	*< 0.25 UJ*	*< 180 U*	**270 j**	**27,000**	**17,000**
MWA-56d	5/21/2020	N	Deep	MWA-56D-052120	1.89		**4.7 j**	**3.3 j**	*< 0.87 U*	**8.9**	*< 0.25 U*	*< 180 U*	*< 180 U*	**44,000**	**52,000**
MWA-58d	5/21/2020	N	Deep	MWA-58D-052120	4.31		**4.3 j**	**3.7 j**	**7.2**	**110**	*< 0.25 U*	*< 180 U*	**350 j**	**28,000**	**25,000**
PA-19d	5/29/2020	N	Deep	PA-19d-052920	21.10		**19**	NS	**3.7 j**	NS	*< 2.5 U*	**360 j**	NS	**1,700**	NS
PA-20d	5/21/2020	N	Deep	PA-20d-052120	2.80		**9.3**	**8.0**	*< 0.87 U*	**1.2 j**	*< 0.25 UJ*	**7,600**	**7,100**	**19,000**	**17,000**
PA-21d	5/21/2020	N	Deep	PA-21D-052120	13.20		**9.8**	NS	*< 0.87 U*	NS	*< 0.25 U*	**41,000**	NS	**7,000**	NS
PA-22d	5/20/2020	N	Deep	PA-22d-052020	1.00		**9.9**	**9.5**	*< 0.87 U*	**1.6 j**	--	*< 180 U*	*< 180 U*	**4,900**	**4,700**
PA-22d*	5/21/2020	N	Deep	PA-22D-052120	1.00		--	--	--	--	*< 0.25 U*	--	--	--	--
PA-23d	5/20/2020	N	Deep	PA-23d-052020	3.10		**1.9 j**	**1.5 j**	*< 0.87 U*	**2.0 j**	*< 0.25 UJ*	**1,800**	**530 j**	**16,000**	**9,600**
PA-24d	5/19/2020	N	Deep	PA-24d-051920	2.60		**1.5 j**	*< 1.0 U*	**1.1 j**	**2.8 j**	*< 0.50 U*	**120,000**	**120,000**	**31,000**	**31,000**
PA-25d	5/18/2020	N	Deep	Pa-25d-051820	3.70		**13**	**14**	**4.6**	**1.3 j**	*< 0.25 U*	**6,400**	**6,500**	**700**	**690**
PA-26d	5/18/2020	N	Deep	PA-26D-051820	2.87		**11**	**11**	*< 0.87 U*	*< 0.87 U*	*< 0.25 U*	**5,400**	**5,600**	**580**	**630**
PA-27d	5/21/2020	N	Deep	PA-27D-052120	140.43		**64**	NS	**9.8**	NS	*< 1.3 U*	**950 j**	NS	**1,600**	NS
PA-30d	5/21/2020	N	Deep	PA-30d-052120	28.20		**150**	NS	**12**	NS	*< 13 U*	**3,800**	NS	**1,800**	NS

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
** = PA-22d hexavalent chromium sample was collected on 5/21/2020, within 24 hours of well purging.*
< = 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
NS = Not Sampled, see Table 1 for more details
NTUs = Nephelometric Turbidity Units
SW6020A 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 7
Additional Compounds Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	Chloride	Perchlorate
				Fraction	Total	-
				Unit	mg/L	µg/L
				FSWP SHSC (shaded values indicate analytical data above the value shown)	230	1,800
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID		
MWA-02	5/29/2020	N	Shallow	MWA-02-052920	**17**	*< 0.95 U*
MWA-15r	5/29/2020	N	Shallow	MWA-15r-052920	**20**	**440**
MWA-18	5/21/2020	N	Shallow	MWA-18-052120	**29**	*< 0.95 U*
MWA-19	5/21/2020	N	Shallow	MWA-19-052120	**520**	**5.2**
MWA-20	5/26/2020	N	Shallow	MWA-20-052620	**39**	*< 48 U*
MWA-22	5/28/2020	N	Shallow	MWA-22-052820	**220**	*< 95 U*
MWA-24	5/18/2020	N	Shallow	MWA-24-051820	**17**	*< 48 U*
MWA-29	5/18/2020	N	Shallow	MWA-29-051820	**310**	*< 48 U*
MWA-30	5/20/2020	N	Shallow	MWA-30-052020	**830**	*< 48 U*
MWA-33	5/18/2020	N	Shallow	MWA-33-051820	**79**	*< 48 U*
MWA-40	5/18/2020	N	Shallow	MWA-40-051820	**290**	*< 95 U*
MWA-41	5/18/2020	N	Shallow	MWA-41-051820	**14**	*< 0.95 U*
MWA-42	5/26/2020	N	Shallow	MWA-42-052620	**26**	*< 9.5 U*
MWA-46	5/21/2020	N	Shallow	MWA-46-052120	**10**	**6.5**
MWA-47	5/20/2020	N	Shallow	MWA-47-052020	**900**	*< 48 U*
MWA-61	5/27/2020	N	Shallow	MWA-61-052720	**270**	*< 0.95 U*
MWA-63	5/26/2020	N	Shallow	MWA-63-052620	**13**	*< 0.95 U*
MWA-69	5/27/2020	N	Shallow	MWA-69-052720	**1,400**	*< 9.5 U*
MWA-82	5/19/2020	N	Shallow	MWA-82-051920	**10**	**71 j**
PA-03	5/21/2020	N	Shallow	PA-03-052120	**8.3**	*< 48 U*
PA-04	5/22/2020	N	Shallow	PA-04-052220	**12**	*< 4.8 U*
PA-05	5/27/2020	N	Shallow	PA-05-052720	**45**	**260**
PA-06	5/26/2020	N	Shallow	PA-06-052620	**89**	*< 9.5 U*
PA-07	5/20/2020	N	Shallow	PA-07-052020	**330**	*< 48 U*
PA-08	5/19/2020	N	Shallow	PA-08-051920	**130**	*< 48 U*
PA-09	5/18/2020	N	Shallow	PA-09-051820	**14**	*< 19 U*
PA-28	5/20/2020	N	Shallow	PA-28-052020	**79**	*< 48 U*
PA-31	5/27/2020	N	Shallow	PA-31-052720	**9.5**	*< 9.5 U*
PA-36	5/28/2020	N	Shallow	PA-36-052820	**23**	*< 9.5 U*
PA-38	5/19/2020	N	Shallow	PA-38-051920	**82**	*< 48 U*
PA-42	5/19/2020	N	Shallow	PA-42-051920	**490**	*< 48 U*
MWA-08i	5/28/2020	N	Intermediate	MWA-8I-052820	**460**	*< 48 U*
MWA-08i	5/28/2020	FD	Intermediate	DUP-04-WG-052820	**470**	*< 48 U*
MWA-32i	5/20/2020	N	Intermediate	MWA-32I-052020	**2,500**	*< 19 U*
MWA-34i	5/21/2020	N	Intermediate	MWA-34I-052120	**680**	*< 48 U*
MWA-34i	5/21/2020	FD	Intermediate	DUP-02-052120	**700**	*< 48 U*
MWA-49i	5/19/2020	N	Intermediate	MWA-49i-051920	**840**	*< 95 U*
MWA-51i	5/26/2020	N	Intermediate	MWA-51i-052620	**880**	*< 95 U*
MWA-53i	5/20/2020	N	Intermediate	MWA-53I-052020	**380**	*< 48 U*
MWA-53i	5/20/2020	FD	Intermediate	DUP-01-052020	**380**	*< 48 U*
MWA-54i	5/26/2020	N	Intermediate	MWA-54i-052620	**730**	*< 95 U*
MWA-64i	5/27/2020	N	Intermediate	MWA-64i-052720	**300**	*< 48 U*
MWA-66i	5/28/2020	N	Intermediate	MWA-66i-052820	**710**	**400**
MWA-70i	5/18/2020	N	Intermediate	MWA-70I-051820	**45**	*< 48 U*

Table 7
Additional Compounds Results
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	Chloride	Perchlorate
				Fraction	Total	-
				Unit	mg/L	µg/L
				FSWP SHSC (shaded values indicate analytical data above the value shown)	230	1,800
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID		
MWA-81i	5/18/2020	N	Intermediate	MWA-81I-051820	**95**	*< 0.95 U*
PA-10i	5/26/2020	N	Intermediate	PA-10I-052620	**82**	*< 48 U*
PA-11i	5/22/2020	N	Intermediate	PA-11i-052220	**230**	**120 j**
PA-12i	5/26/2020	N	Intermediate	PA-12I-052620	**45**	*< 9.5 U*
PA-13i	5/20/2020	N	Intermediate	PA-13i-052020	**1,100**	*< 95 U*
PA-14i	5/20/2020	N	Intermediate	PA-14I-052020	**200**	*< 48 U*
PA-15i	5/18/2020	N	Intermediate	PA-15I-051820	**270**	*< 48 U*
PA-16i	5/19/2020	N	Intermediate	PA-16i-051920	**150**	*< 48 U*
PA-17iR	5/21/2020	N	Intermediate	PA-17IR-052120	**60**	*< 48 U*
PA-29i	5/19/2020	N	Intermediate	PA-29i-051920	**1,700**	**51 j**
PA-32i	5/22/2020	N	Intermediate	PA-32I-052220	**160**	*< 48 U*
PA-32i	5/22/2020	FD	Intermediate	DUP-03-052220	**160**	*< 48 U*
PA-37i	5/28/2020	N	Intermediate	PA-37i-052820	**140**	**270**
PA-39i	5/19/2020	N	Intermediate	PA-39I-051920	**480**	*< 48 U*
PA-44i	5/19/2020	N	Intermediate	PA-44I-051920	**53**	*< 95 U*
MWA-11i(d)	5/29/2020	N	Deep	MWA-11i(d)-052920	**1,600**	*< 9.5 U*
MWA-31i(d)	5/20/2020	N	Deep	MWA-31I(D)-052020	**27,000**	**100,000**
MWA-56d	5/21/2020	N	Deep	MWA-56D-052120	**21,000**	**5,700**
MWA-58d	5/21/2020	N	Deep	MWA-58D-052120	**19,000**	**46,000**
PA-19d	5/29/2020	N	Deep	PA-19d-052920	**140**	*< 48 U*
PA-20d	5/21/2020	N	Deep	PA-20d-052120	**840**	**46**
PA-21d	5/21/2020	N	Deep	PA-21D-052120	**420**	**1,200**
PA-22d	5/20/2020	N	Deep	PA-22d-052020	**9,800**	**40,000**
PA-23d	5/20/2020	N	Deep	PA-23d-052020	**12,000**	*< 4.8 U*
PA-24d	5/19/2020	N	Deep	PA-24d-051920	**46,000**	*< 48 U*
PA-25d	5/18/2020	N	Deep	Pa-25d-051820	**23**	*< 0.95 U*
PA-26d	5/18/2020	N	Deep	PA-26D-051820	**48**	*< 0.95 U*
PA-27d	5/21/2020	N	Deep	PA-27D-052120	**870**	*< 48 U*
PA-30d	5/21/2020	N	Deep	PA-30d-052120	**280**	*< 48 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 - Irvine, CA of Irvine.

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

FIGURES

Legend

- Shallow Zone Monitoring Well
- Intermediate Zone Monitoring Well
- Deep Zone Monitoring Well
- Shallow Zone Piezometer
- Intermediate Zone Piezometer
- Deep Zone Piezometer
- Shallow Zone Recovery Well
- Intermediate Zone Recovery Well
- Barrier Wall Alignment
- Parcel and Property Boundaries

N

0 170 340

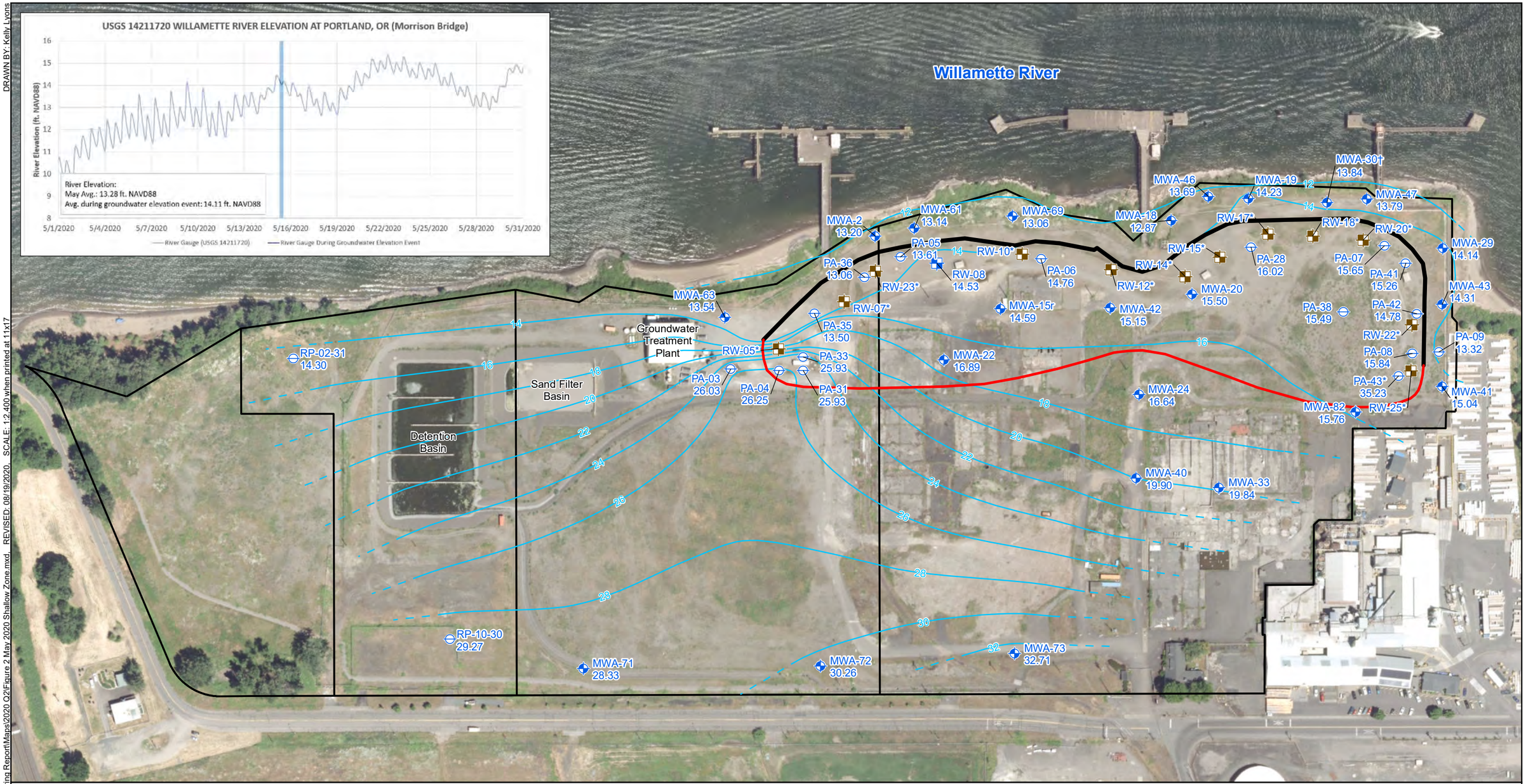
Feet

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

Environmental Resources Management
www.erm.com
ERM

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\Figure 1 Site Layout.mxd, REVISED: 02/14/2020, SCALE: 1:2,040 when printed at 11x17 DRAWN BY: Kelly Lyons DATE: 2/14/2020



Legend

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

Notes:
* Value not used for contouring.
† Value added after May 2020 MPR.
Water levels collected May 15, 2020.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

Figure 2
May 2020 Shallow Zone Groundwater Contours
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

DRAWN BY: Kelly Lyons

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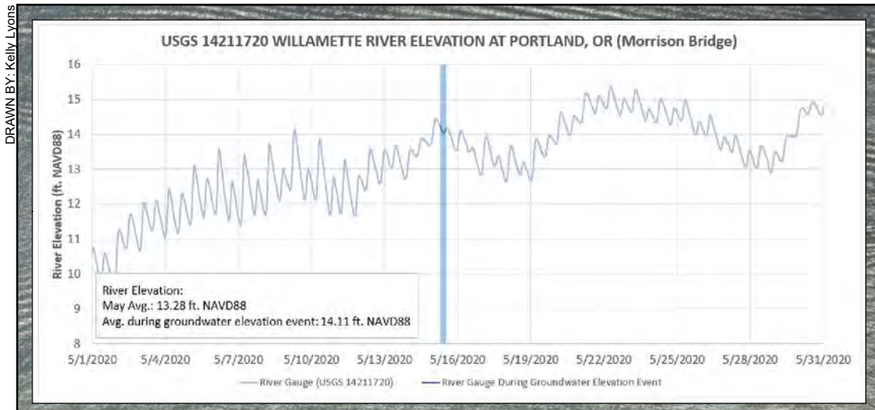
NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl



Legend

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

Notes:
* Value not used for contouring.
† Value added after May 2020 MPR.
Water levels collected May 15, 2020.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 200 400
Feet

Figure 3
May 2020 Intermediate Zone Groundwater Contours
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

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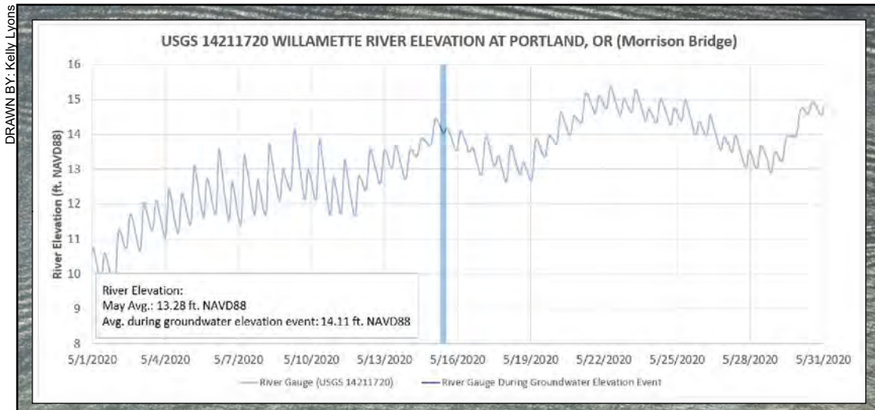
M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 3 May 2020 Intermediate Zone.mxd
NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl



Legend

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

Notes:
† Value added after May 2020 MPR.
MWA-77g and MWA-76g excluded because screened in gravel and fractured bedrock.
Water levels collected May 15, 2020.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 200 400
Feet

Figure 4
May 2020 Deep Zone Groundwater Contours
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

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DRAWN BY: Kelly Lyons
REVISED: 08/19/2020 SCALE: 1:2,400 when printed at 11x17
M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 4 May 2020 Deep Zone.mxd
NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

DRAWN BY: Jake Sullivan DATE: 7/22/2020

REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 5_Chlorobenzene Shallow.mxd

Willamette River

MWA-46
ND < 0.44 U

MWA-18
ND < 0.44 U

MWA-19
ND < 0.44 U

MWA-30
ND < 0.025 U

MWA-47
ND < 0.025 U

MWA-69
220

MWA-61
790

MWA-2
340

PA-05
4700

PA-36
0.84 j

PA-06
160

PA-28
2000

PA-07
ND < 0.025 U

MWA-29
ND < 0.025 U

MWA-20
92

MWA-15r
380

MWA-42
110

PA-38
ND < 0.025 U

PA-42
0.069 j

MWA-63
ND < 0.44 U

Groundwater Treatment Plant

MWA-22
72

PA-03
ND < 0.025 U

PA-31
ND < 0.025 U

PA-04
ND < 0.025 U

PA-08
0.11 j

PA-09
ND < 0.025 U

MWA-41
ND < 0.025 U

MWA-24
ND < 0.025 U

MWA-82
ND < 0.025 U

MWA-40
ND < 0.025 R

MWA-33
ND < 0.44 U

12 14 16 18 20 22 24 26 28

Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

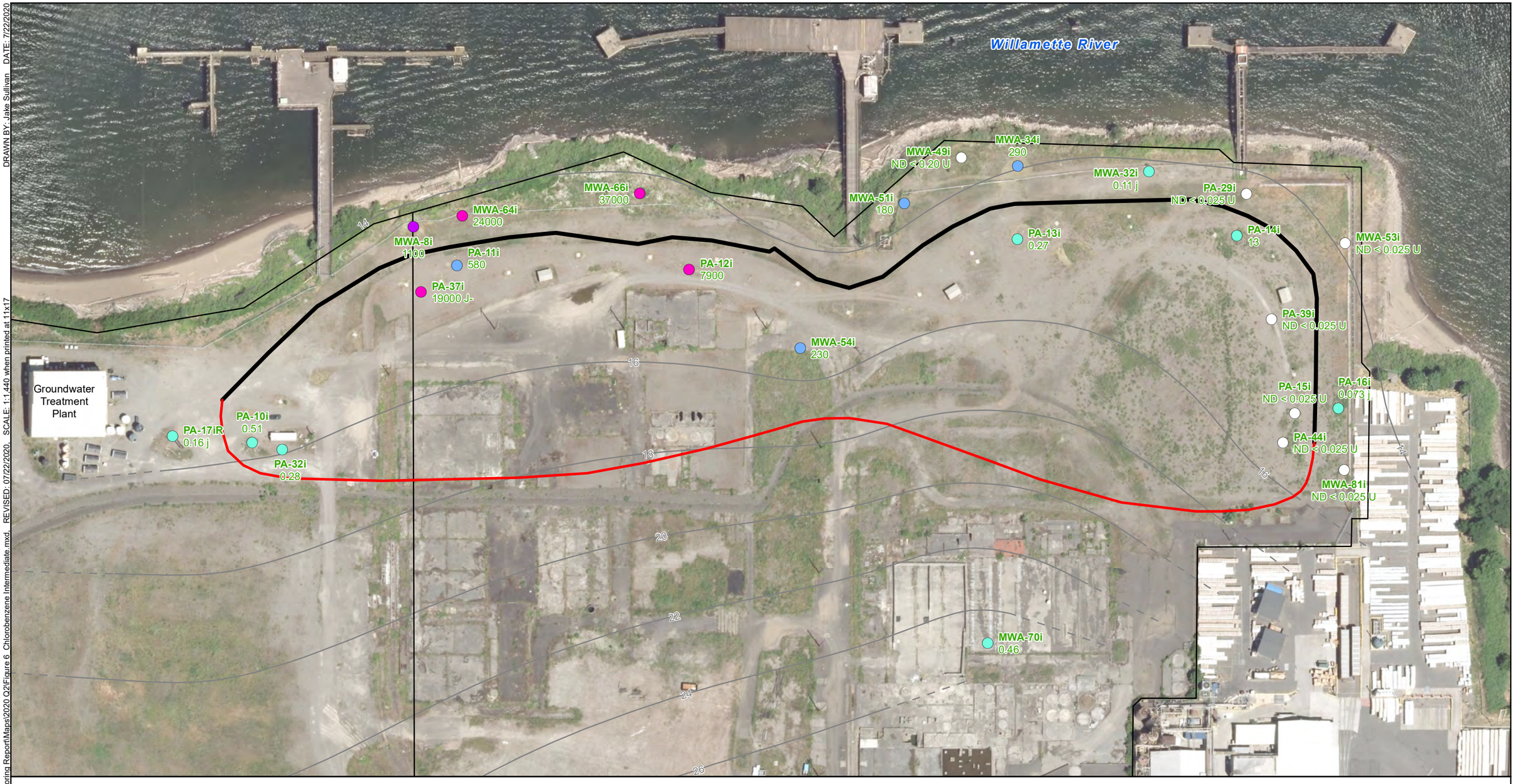
0 120 240
Feet

Figure 5
Chlorobenzene Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 6_Chlorobenzene Intermediate.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020



Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

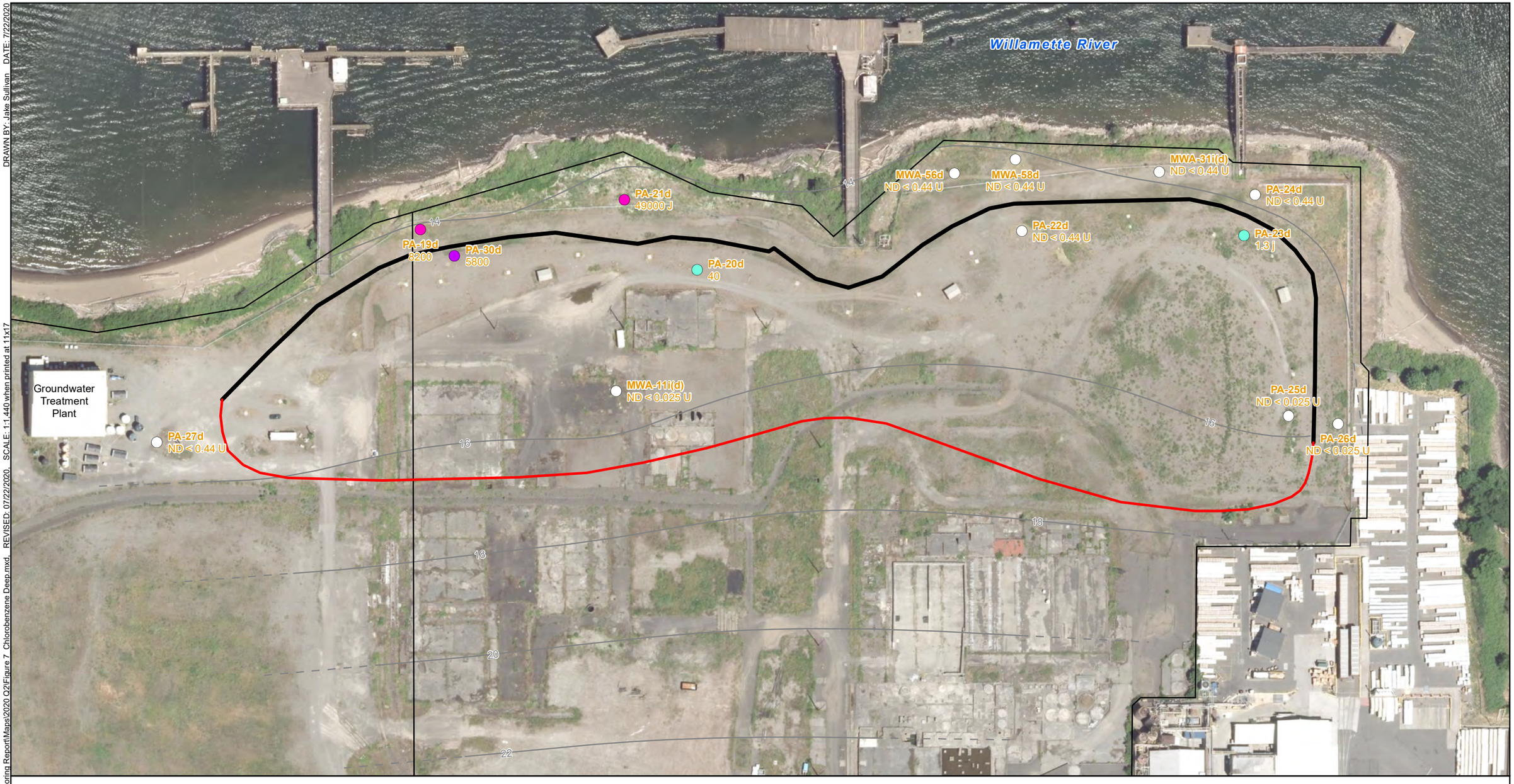
N

0 120 240
Feet

Figure 6
Chlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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



Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 7
Chlorobenzene Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 7_Chlorobenzene Deep.mxd, REVISED: 07/22/2020, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020

DRAWN BY: Jake Sullivan DATE: 7/22/2020

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 8_12-Dichlorobenzene Shallow.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17

Willamette River

MWA-46 ND < 0.46 U
MWA-47 ND < 0.024 U
MWA-19 ND < 0.46 U
MWA-30 ND < 0.024 U
MWA-18 ND < 0.46 U
MWA-69 ND < 0.46 U
MWA-61 ND < 0.46 U
MWA-2 ND < 0.46 U
PA-05 0.98 j
PA-06 0.70 j
PA-28 ND < 0.46 U
PA-07 ND < 0.024 U
MWA-29 ND < 0.024 U
PA-36 ND < 0.46 U
MWA-20 ND < 0.46 U
MWA-15r ND < 0.46 U
MWA-42 ND < 0.46 U
PA-38 0.37
PA-42 ND < 0.024 U
MWA-63 ND < 0.46 U
Groundwater Treatment Plant
PA-08 0.11 j
PA-09 ND < 0.024 U
MWA-22 ND < 0.46 U
PA-03 ND < 0.024 U
PA-31 ND < 0.024 U
PA-04 ND < 0.024 U
MWA-41 ND < 0.024 U
MWA-24 ND < 0.024 U
MWA-82 0.057 j
MWA-33 1.2 j
MWA-40 ND < 0.024 UJ

12 14 16 18 20 22 24 26 28

Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

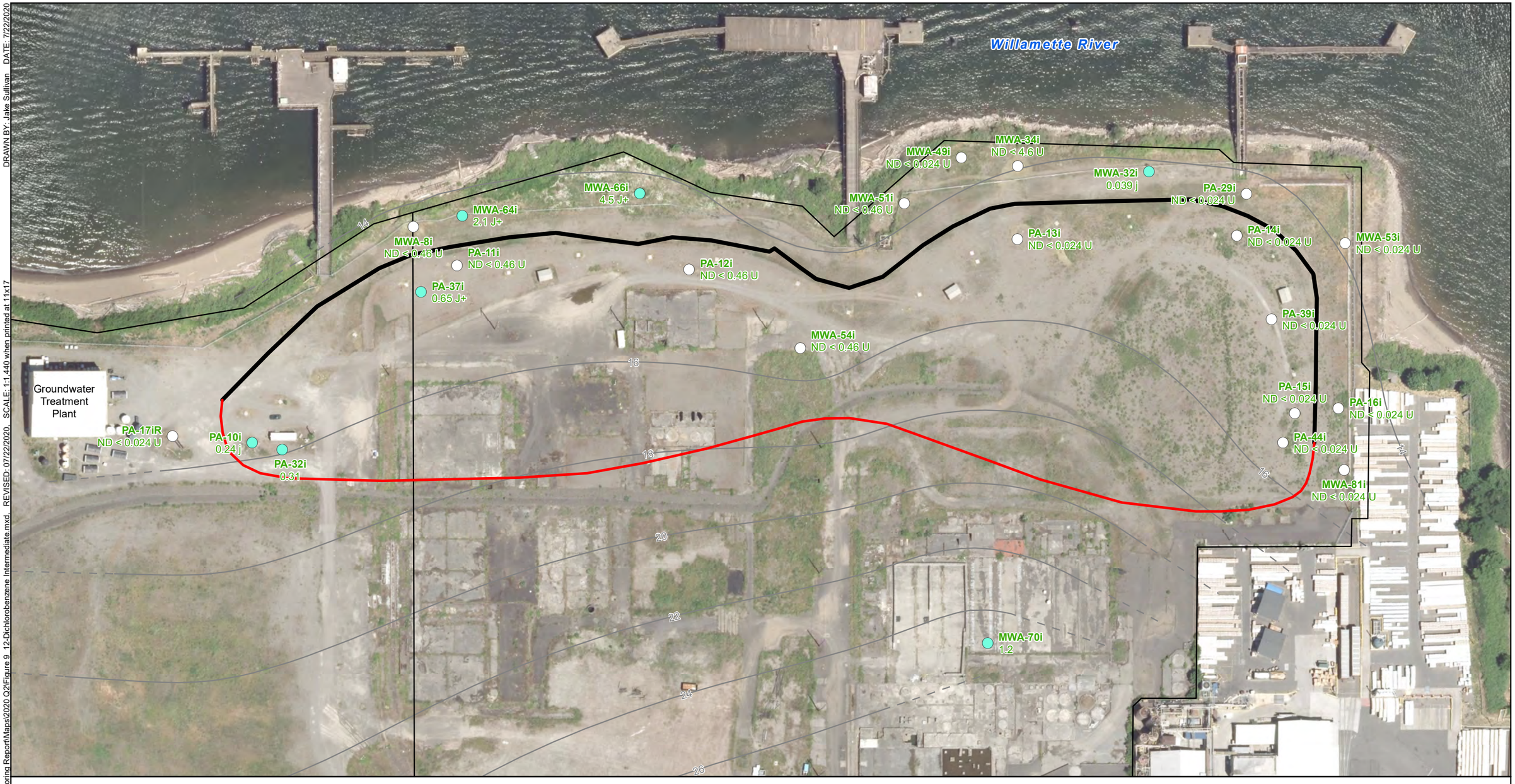
N

0 120 240
Feet

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

Figure 8
1,2-Dichlorobenzene Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

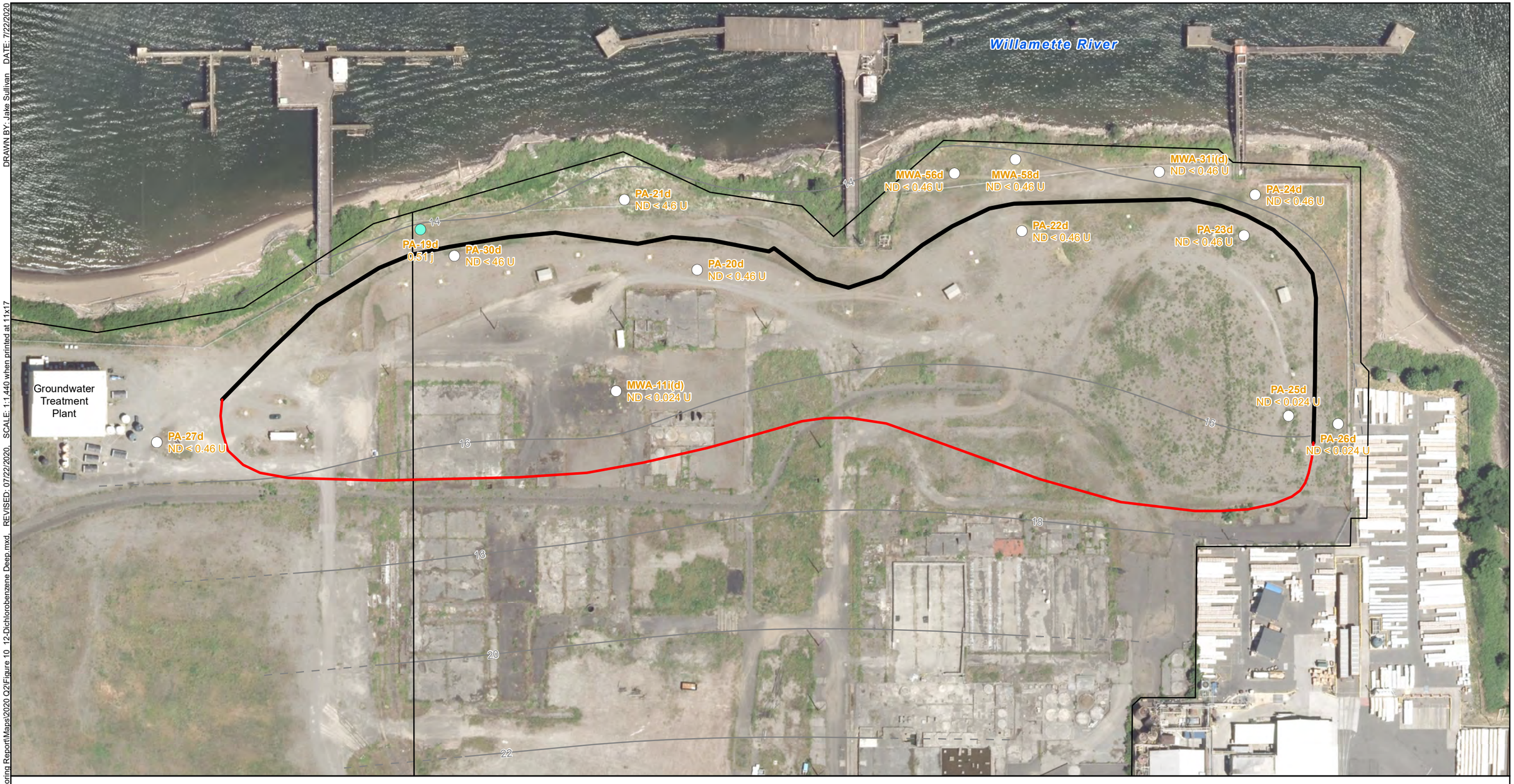
0 120 240
Feet

Figure 9
1,2-Dichlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 9_12-Dichlorobenzene Intermediate.mxd, REVISED: 07/22/2020, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020



Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 10
1,2-Dichlorobenzene Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 10_12-Dichlorobenzene Deep.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020

DRAWN BY: Tyler Harris DATE: 7/22/2020
M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 11 VOCs PieChart Shallow.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17

Willamette River

MWA-46 Sum: 5.7
MWA-19 Sum: 109.1
MWA-30 ND
MWA-47 Sum: 0.087
MWA-2 Sum: 24.88
MWA-61 Sum: 870
MWA-69 Sum: 5.16
MWA-18 Sum: 13.3
PA-28 Sum: 3.54
PA-07 Sum: 1.78
MWA-29 Sum: 0.279
PA-05 Sum: 16.07
PA-06 Sum: 13.19
PA-36 ND
MWA-20 ND
MWA-63 Sum: 27.5
MWA-15r Sum: 2.7
MWA-42 Sum: 21.55
PA-38 Sum: 1.81
PA-42 Sum: 0.8
Groundwater Treatment Plant
PA-04 Sum: 0.38
PA-08 Sum: 0.498
PA-09 Sum: 0.29
PA-03 ND
PA-31 Sum: 0.21
MWA-22 Sum: 36.4
MWA-41 ND
MWA-24 Sum: 0.11
MWA-82 Sum: 1.164
MWA-40 Sum: 1.93
MWA-33 ND

Legend

Molar Concentration

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

- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples collected May 18-29 2020.
All results in micrograms per liter (µg/L).
Screening criteria for tetrachloroethene = 0.33 µg/L
Screening criteria for trichloroethene = 3 µg/L
Screening criteria for cis-1,2-dichloroethene = 590 µg/L
Screening criteria for vinyl chloride = 0.24 µg/L.
ND: Non-Detect

N

0 120 240
Feet

Figure 11
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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ERM

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

DRAWN BY: Tyler Harris DATE: 7/22/2020
REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17
M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 12 VOCs PieChart Intermediate.mxd

Willamette River

MWA-49i
Sum: 0.25

MWA-34i
Sum: 4.4

MWA-32i
Sum: 0.37

PA-29i
Sum: 0.2

MWA-51i
ND

MWA-66i
Sum: 12.3

MWA-64i
Sum: 199.6

MWA-8i
Sum: 20.6

PA-13i
Sum: 0.35

PA-14i
Sum: 1.49

MWA-53i
ND

PA-11i
ND

PA-12i
Sum: 31.4

PA-37i
Sum: 16.9

PA-39i
Sum: 0.21

MWA-54i
ND

Groundwater Treatment Plant

PA-17iR
Sum: 0.4

PA-10i
Sum: 0.25

PA-32i
Sum: 0.264

PA-15i
Sum: 0.15

PA-16i
Sum: 0.13

PA-44i
Sum: 0.12

MWA-81i
ND

MWA-70i
Sum: 1.36

14 16 18 20 22 24 26

Legend

Molar Concentration

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

- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples collected May 18-29 2020.
All results in micrograms per liter (µg/L).
Screening criteria for tetrachloroethene = 0.33 µg/L
Screening criteria for trichloroethene = 3 µg/L
Screening criteria for cis-1,2-dichloroethene = 590 µg/L
Screening criteria for vinyl chloride = 0.24 µg/L.
ND: Non-Detect

N

0 120 240
Feet

Figure 12
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 13_VOCs_PieChart_Deep.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Tyler Harris DATE: 7/22/2020

Willamette River

PA-19d
Sum: 155

PA-21d
Sum: 9.2

MWA-56d
ND

MWA-58d
ND

MWA-31i(d)
ND

PA-24d
ND

PA-22d
ND

PA-23d
ND

PA-30d
ND

PA-20d
ND

MWA-11i(d)
Sum: 0.069

PA-25d
ND

PA-26d
ND

PA-27d
ND

Groundwater Treatment Plant

14
16
18
20
22

Legend

Molar Concentration

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

- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples collected May 18-29 2020.
All results in micrograms per liter (µg/L).
Screening criteria for tetrachloroethene = 0.33 µg/L
Screening criteria for trichloroethene = 3 µg/L
Screening criteria for cis-1,2-dichloroethene = 590 µg/L
Screening criteria for vinyl chloride = 0.24 µg/L.
ND: Non-Detect

N

0 120 240
Feet

Figure 13
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

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

DRAWN BY: Jake Sullivan DATE: 7/24/2020
SCALE: 1:1,440 when printed at 11x17
REVISED: 07/24/2020
M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 14_DDx Shallow.mxd

Willamette River

MWA-69 7.0
MWA-61 ND
MWA-2 0.058
MWA-46 0.12
MWA-18 0.0113
MWA-19 NS
MWA-30 NS
MWA-47 NS
PA-05 NS
PA-06 NS
PA-28 NS
PA-07 NS
MWA-29 NS
PA-36 NS
MWA-20 NS
MWA-15r 93
MWA-42 NS
MWA-63 0.0056
PA-38 NS
PA-42 0.0094
Groundwater Treatment Plant
MWA-22 ND
PA-08 NS
PA-09 NS
PA-03 NS
PA-04 NS
PA-31 NS
MWA-41 0.0068
MWA-24 0.201
MWA-82 0.0097
MWA-40 0.0182
MWA-33 0.047

12 14 16 18 20 22 24 26 28

Legend

- > 1.8 ug/L
- >= 0.18 - 1.8 ug/L
- >= 0.018 - < 0.18 ug/L
- < 0.018 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for DDx = 0.000018 ug/L
See Table 5 for definition of qualifiers
Wells with Turbidity >5 NTU not sampled.
NS: Not Sampled
ND: Non-Detect

N

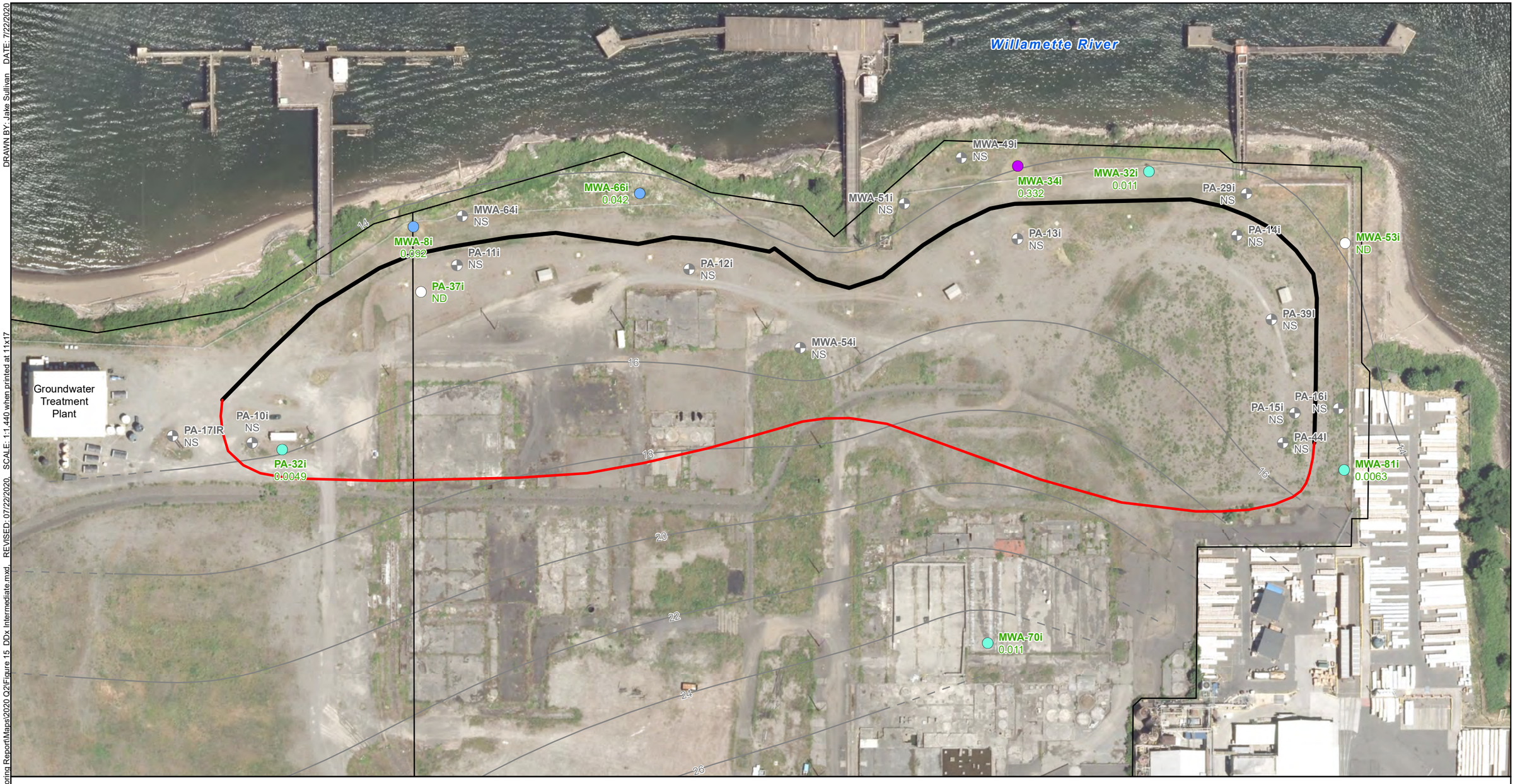
0 120 240
Feet

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

Figure 14
DDx Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

DRAWN BY: Jake Sullivan DATE: 7/22/2020
M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 15 DDx Intermediate.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17



Legend

- > 1.8 ug/L
- >= 0.18 - 1.8 ug/L
- >= 0.018 - < 0.18 ug/L
- < 0.018 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for DDx = 0.000018 ug/L
See Table 5 for definition of qualifiers
Wells with Turbidity >5 NTU not sampled.
NS: Not Sampled
ND: Non-Detect

N

0 120 240
Feet

Figure 15
DDx Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

Legend

- > 1.8 ug/L
- >= 0.18 - 1.8 ug/L
- >= 0.018 - < 0.18 ug/L
- < 0.018 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for DDx = 0.000018 ug/L
See Table 5 for definition of qualifiers
Wells with Turbidity >5 NTU not sampled.
NS: Not Sampled
ND: Non-Detect

N

0 120 240
Feet

Figure 16
DDx Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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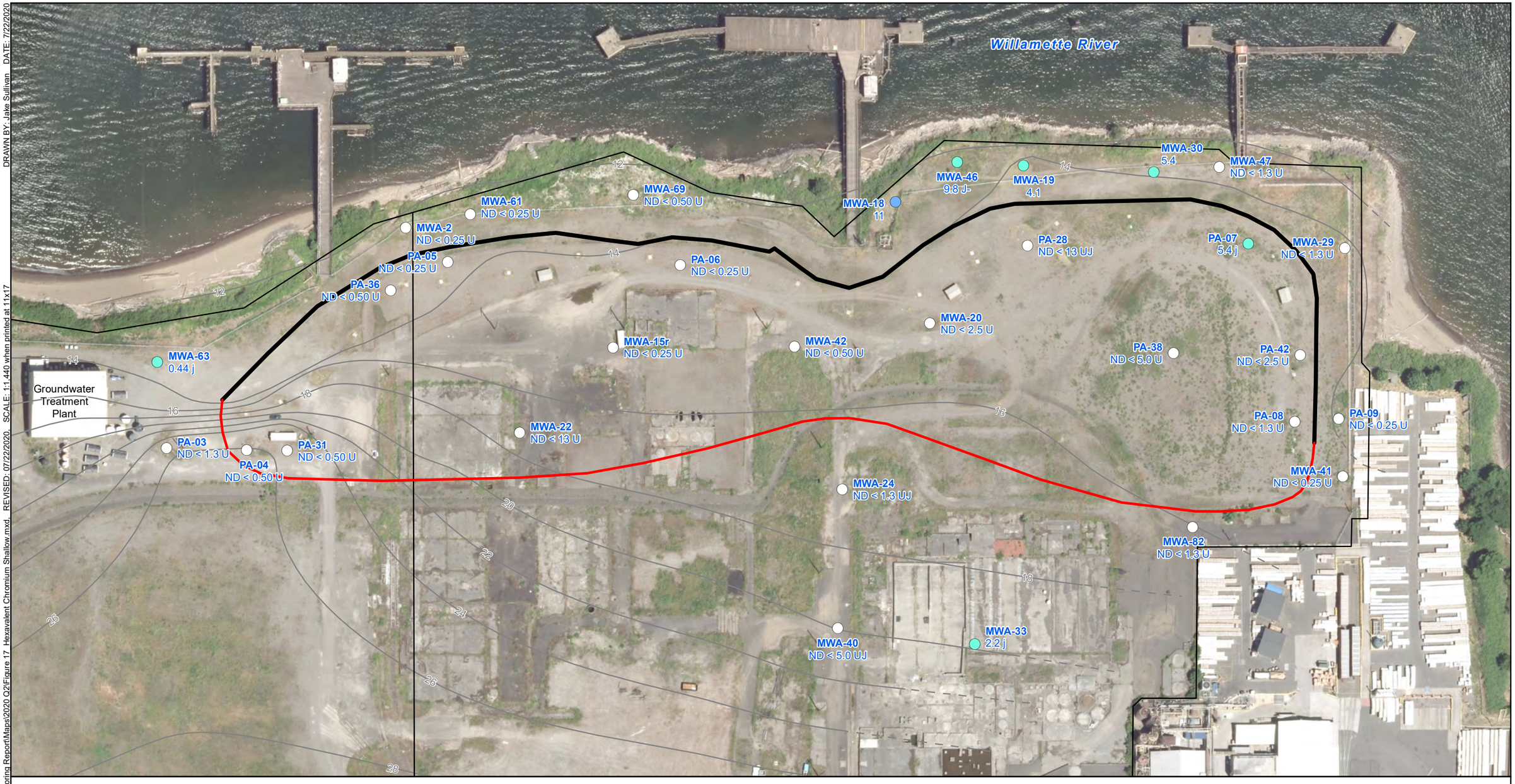
ERM

DRAWN BY: Jake Sullivan DATE: 7/24/2020
M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 16_DDx Deep.mxd REVISED: 07/24/2020 SCALE: 1:1,440 when printed at 11x17

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

DRAWN BY: Jake Sullivan DATE: 7/22/2020
M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 17_Hexavalent Chromium Shallow.mxd REVISED: 07/22/2020, SCALE: 1:1,440 when printed at 11x17



Legend

- > 1,100 ug/L
- >= 110 - 1,100 ug/L
- >= 11 - < 110 ug/L
- < 11 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Hexavalent Chromium = 11 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

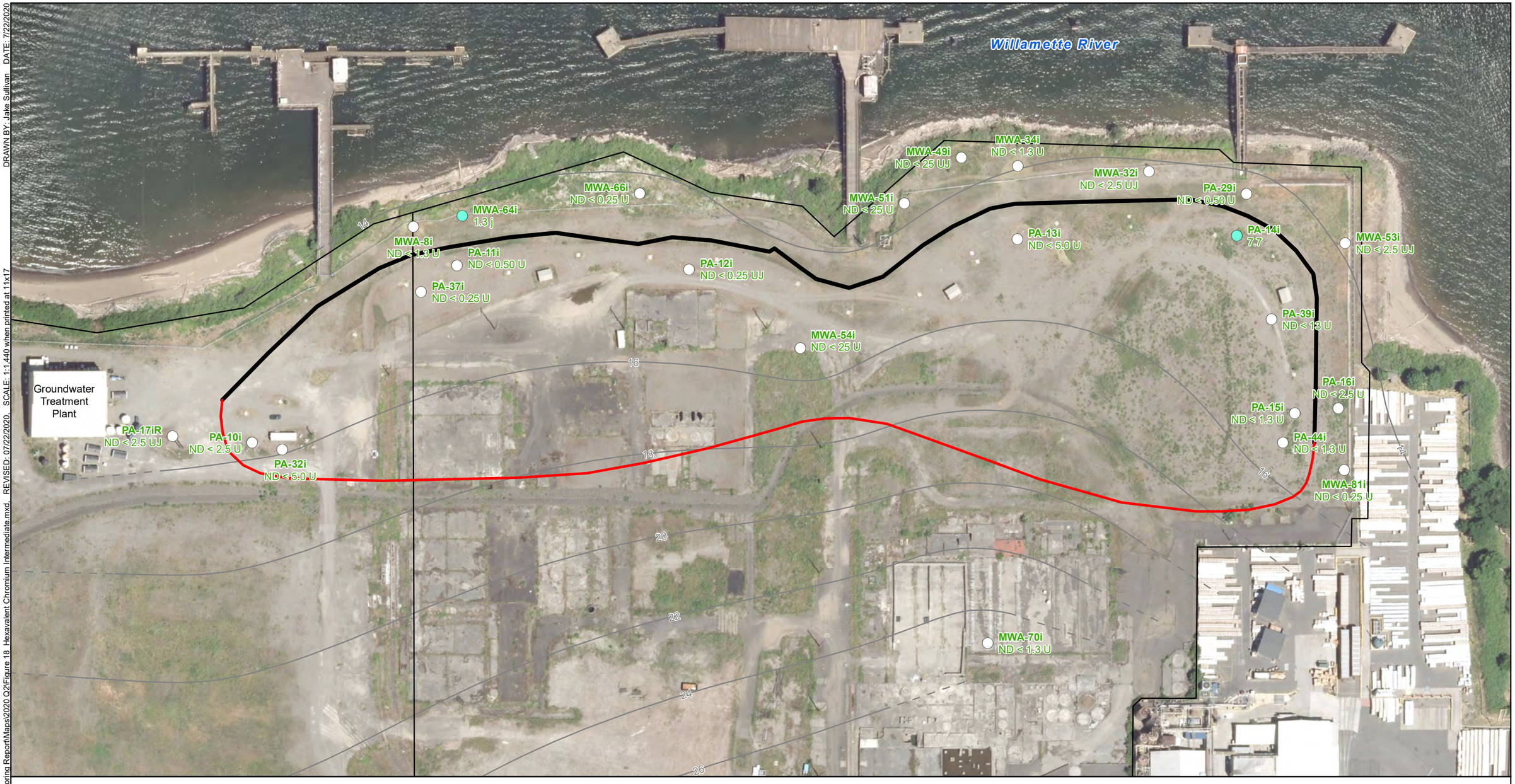
N

0 120 240
Feet

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

Figure 17
Hexavalent Chromium Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com



Legend

- > 1,100 ug/L
- >= 110 - 1,100 ug/L
- >= 11 - < 110 ug/L
- < 11 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Hexavalent Chromium = 11 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

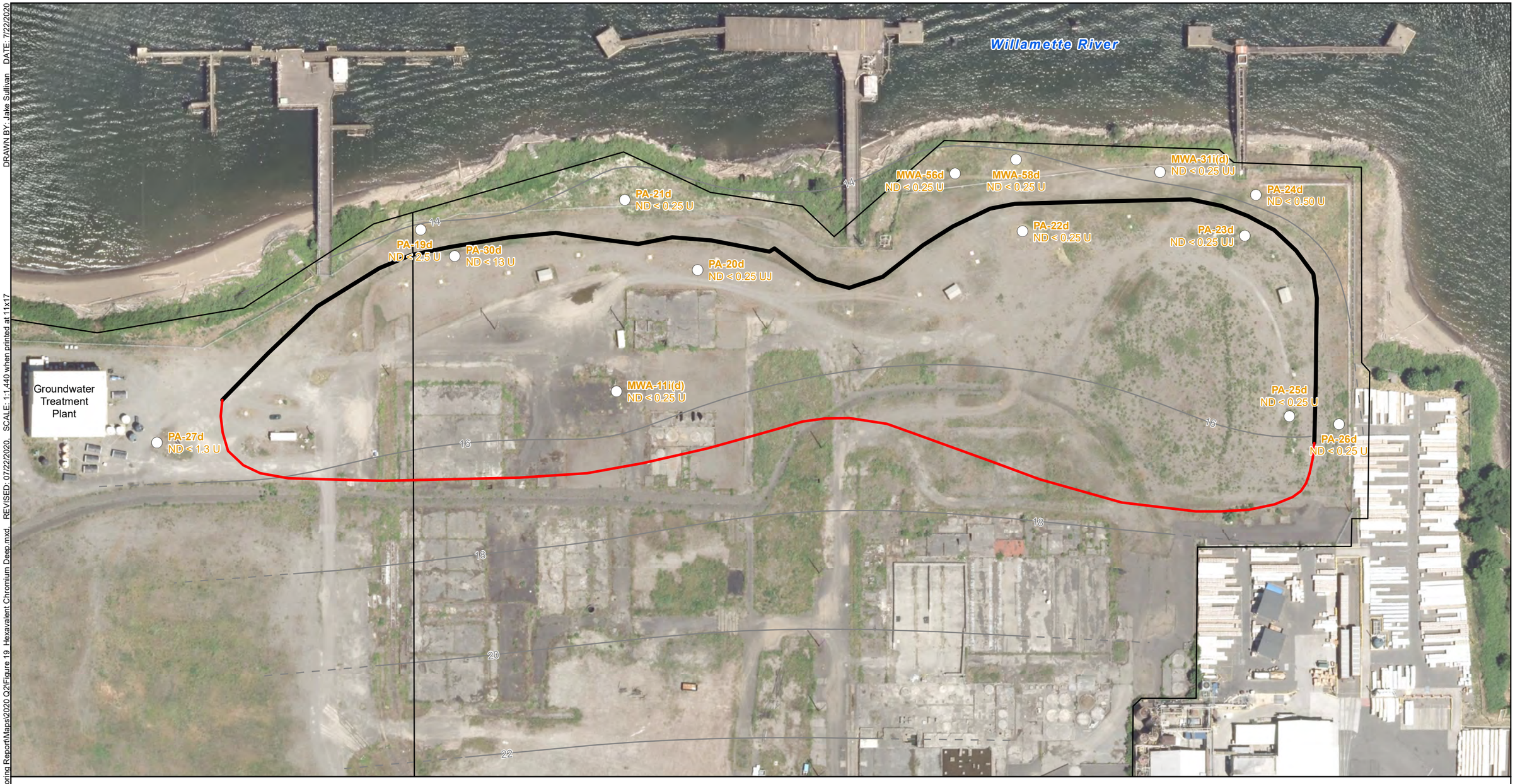
0 120 240
Feet

Figure 18
Hexavalent Chromium Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 18_Hexavalent Chromium Intermediate.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020



Legend

- > 1,100 ug/L
- >= 110 - 1,100 ug/L
- >= 11 - < 110 ug/L
- < 11 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Hexavalent Chromium = 11 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 19
Hexavalent Chromium Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 19_Hexavalent Chromium Deep.mxd REVISED: 07/22/2020, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 20_Dissolved Arsenic Shallow.mxd_ REVISED: 07/22/2020_ SCALE: 1:1,440 when printed at 11x17
DRAWN BY: Jake Sullivan_ DATE: 7/22/2020

Willamette River

MWA-46 4.9 j
MWA-47 3.0 j
MWA-19 1.9 j
MWA-18 ND < 1.0 U
MWA-30 ND < 1.0 U
MWA-69 3.3 j
MWA-61 ND < 1.0 U
MWA-2 ND < 1.0 U
PA-28 23
PA-07 18
MWA-29 7.6
PA-05 6.3
PA-06 8.0
PA-36 6.0
MWA-20 140
MWA-15r 1.6 j
MWA-42 7.4
MWA-63 ND < 1.0 U
PA-38 170
PA-42 5.5
Groundwater Treatment Plant
PA-08 37
PA-09 3.6 j
MWA-22 370
PA-03 200
PA-04 180
PA-31 160
MWA-41 ND < 1.0 U
MWA-24 640
MWA-82 67
MWA-33 99
MWA-40 420

12 14 16 18 20 22 24 26 28

Legend

- > 210 ug/L
- >= 21 - 210 ug/L
- >= 2.1 - < 21 ug/L
- < 2.1 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Arsenic = 2.1 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 20
Dissolved Arsenic Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

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

DRAWN BY: Jake Sullivan DATE: 7/22/2020

REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17

M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 21 Dissolved Arsenic Intermediate.mxd

Willamette River

MWA-49i 5.4
MWA-34i 14
MWA-32i 15
PA-29i 2.8 j
MWA-66i 1.4 j
MWA-51i 94
MWA-64i 19
MWA-8i 22
PA-13i 20
PA-14i 23
MWA-53i 2.7 j
PA-11i 16
PA-12i 37
PA-37i 4.0 j
PA-39i 16
MWA-54i 58
Groundwater Treatment Plant
PA-16i 3.5 j
PA-15i 3.2 j
PA-10i 26
PA-17iR 44
PA-44i 3.5 j
PA-32i 10
MWA-81i 1.2 j
MWA-70i 49

14 16 18 20 22 24 26

Legend

- > 210 ug/L
- >= 21 - 210 ug/L
- >= 2.1 - < 21 ug/L
- < 2.1 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Arsenic = 2.1 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

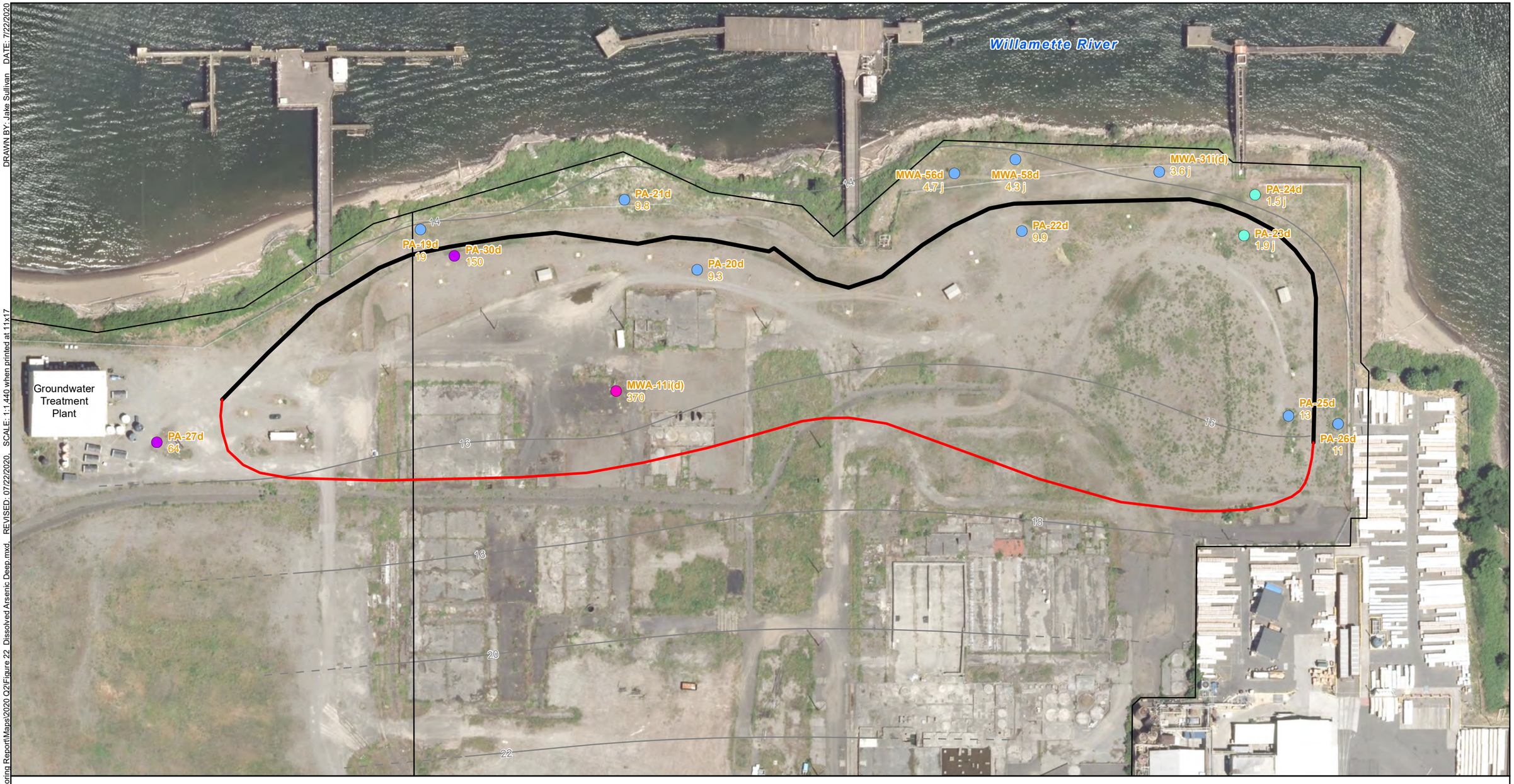
0 120 240
Feet

Figure 21
Dissolved Arsenic Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

DRAWN BY: Jake Sullivan DATE: 7/22/2020
M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 22 Dissolved Arsenic Deep.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17



Legend

- > 210 ug/L
- >= 21 - 210 ug/L
- >= 2.1 - < 21 ug/L
- < 2.1 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Arsenic = 2.1 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 22
Dissolved Arsenic Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

DRAWN BY: Jake Sullivan DATE: 7/22/2020

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 23_Dissolved Chromium Shallow.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17

Willamette River

MWA-61 ND < 0.87 U
MWA-69 1.7 j
MWA-2 ND < 0.87 U
PA-05 5.8
PA-36 2.3 j
PA-06 ND < 0.87 U
MWA-18 12
MWA-46 9.0
MWA-19 4.5
MWA-30 8.0
MWA-47 8.3
PA-28 63
PA-07 140
MWA-29 31
MWA-20 20
MWA-15r ND < 0.87 U
MWA-42 2.1 j
PA-38 380
PA-42 270
MWA-63 1.1 j
Groundwater Treatment Plant
MWA-22 130
PA-08 110
PA-09 4.8
PA-03 3.0 j
PA-04 3.6 j
PA-31 1.9 j
MWA-41 ND < 0.87 U
MWA-24 7.9
MWA-82 17
MWA-40 57
MWA-33 44

Legend

- > 2,381 ug/L
- >= 238.1 - 2,381 ug/L
- >= 23.81 - < 238.1 ug/L
- < 23.81 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Chromium = 23.81 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 23
Dissolved Chromium Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

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REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17
M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 24 Dissolved Chromium Intermediate.mxd

Willamette River

MWA-49i 36
MWA-34i 8.2
MWA-32i 69
MWA-66i ND < 0.87 U
MWA-51i 230
PA-29i 28
MWA-64i 11
PA-13i 290
PA-14i 310
MWA-53i 120
MWA-8i ND < 4.0 U
PA-11i 4.7
PA-12i 1.6 j
PA-37i ND < 0.87 U
PA-39i 240
MWA-54i 470
Groundwater Treatment Plant
PA-16i 110
PA-15i 100
PA-10i 5.3
PA-17iR 9.6
PA-44i 84
PA-32i 11
MWA-81i ND < 0.87 U
MWA-70i 55

14 16 18 20 22 24 26 76

Legend

- > 2,381 ug/L
- >= 238.1 - 2,381 ug/L
- >= 23.81 - < 238.1 ug/L
- < 23.81 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Chromium = 23.81 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

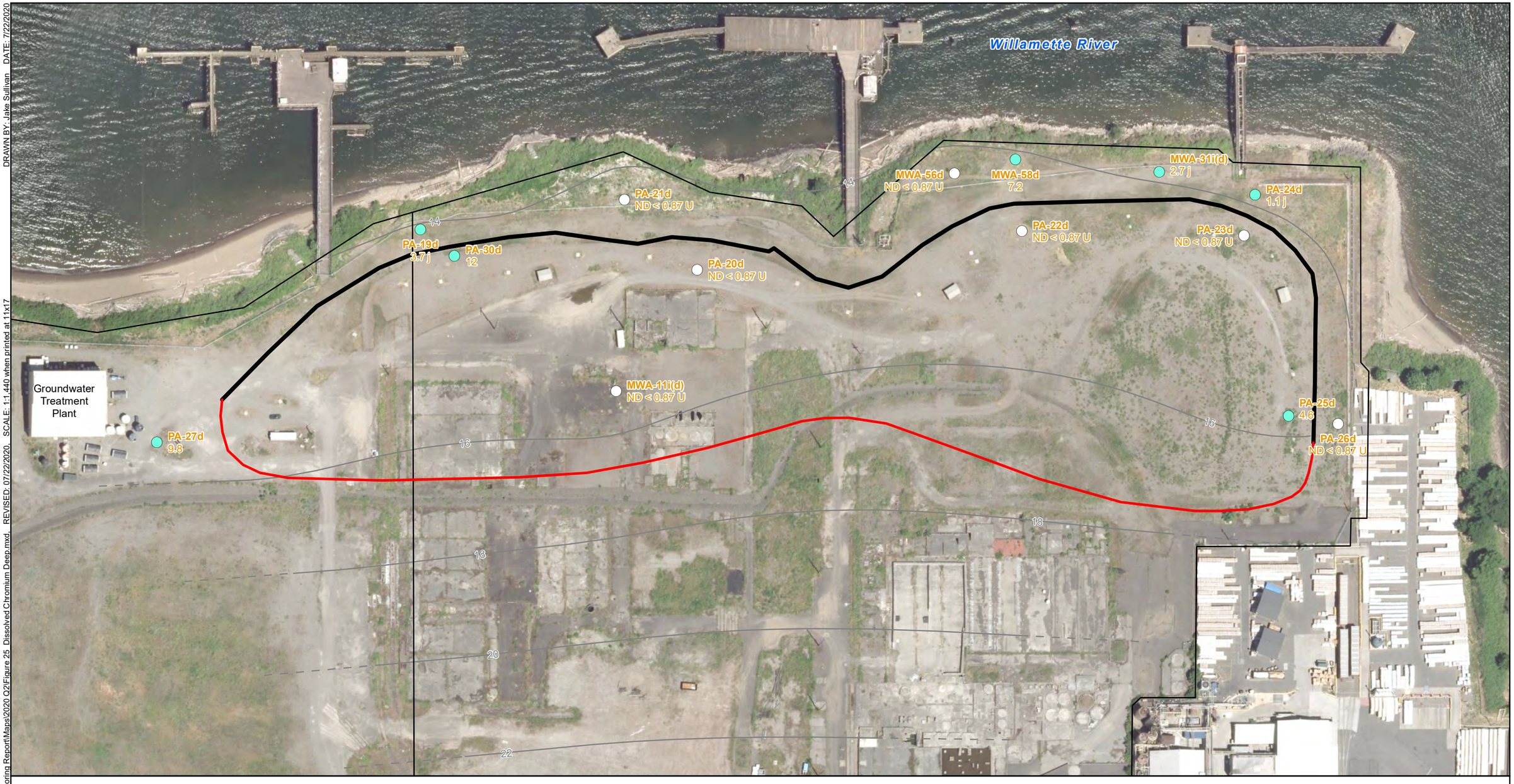
0 120 240
Feet

Figure 24
Dissolved Chromium Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

DRAWN BY: Jake Sullivan DATE: 7/22/2020
REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17
M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 25 Dissolved Chromium Deep.mxd



Legend

- > 2,381 ug/L
- >= 238.1 - 2,381 ug/L
- >= 23.81 - < 238.1 ug/L
- < 23.81 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Chromium = 23.81 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

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

Figure 25
Dissolved Chromium Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

DRAWN BY: Jake Sullivan DATE: 7/22/2020

REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 26_Dissolved Iron Shallow.mxd

Willamette River

MWA-46 ND < 180 U
MWA-30 210 j
MWA-47 880 j
MWA-19 ND < 180 U
MWA-18 ND < 180 U
MWA-69 37000
MWA-61 1800
MWA-2 ND < 180 U
PA-28 2200
PA-07 8000
MWA-29 540 j
PA-05 4900
PA-06 7800
PA-36 320 j
MWA-20 3900
MWA-15r ND < 180 U
MWA-42 630 j
MWA-63 ND < 180 U
PA-38 2900
PA-42 4300
Groundwater Treatment Plant
PA-08 880 j
PA-09 220 j
MWA-22 14000
PA-03 890 j
PA-04 1500
PA-31 780 j
MWA-41 ND < 180 U
MWA-24 1600
MWA-82 1900
MWA-40 2800
MWA-33 3700

Legend

- > 100,000 ug/L
- >= 10,000 - 100,000 ug/L
- >= 1,000 - < 10,000 ug/L
- < 1,000 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Iron = 1,000 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

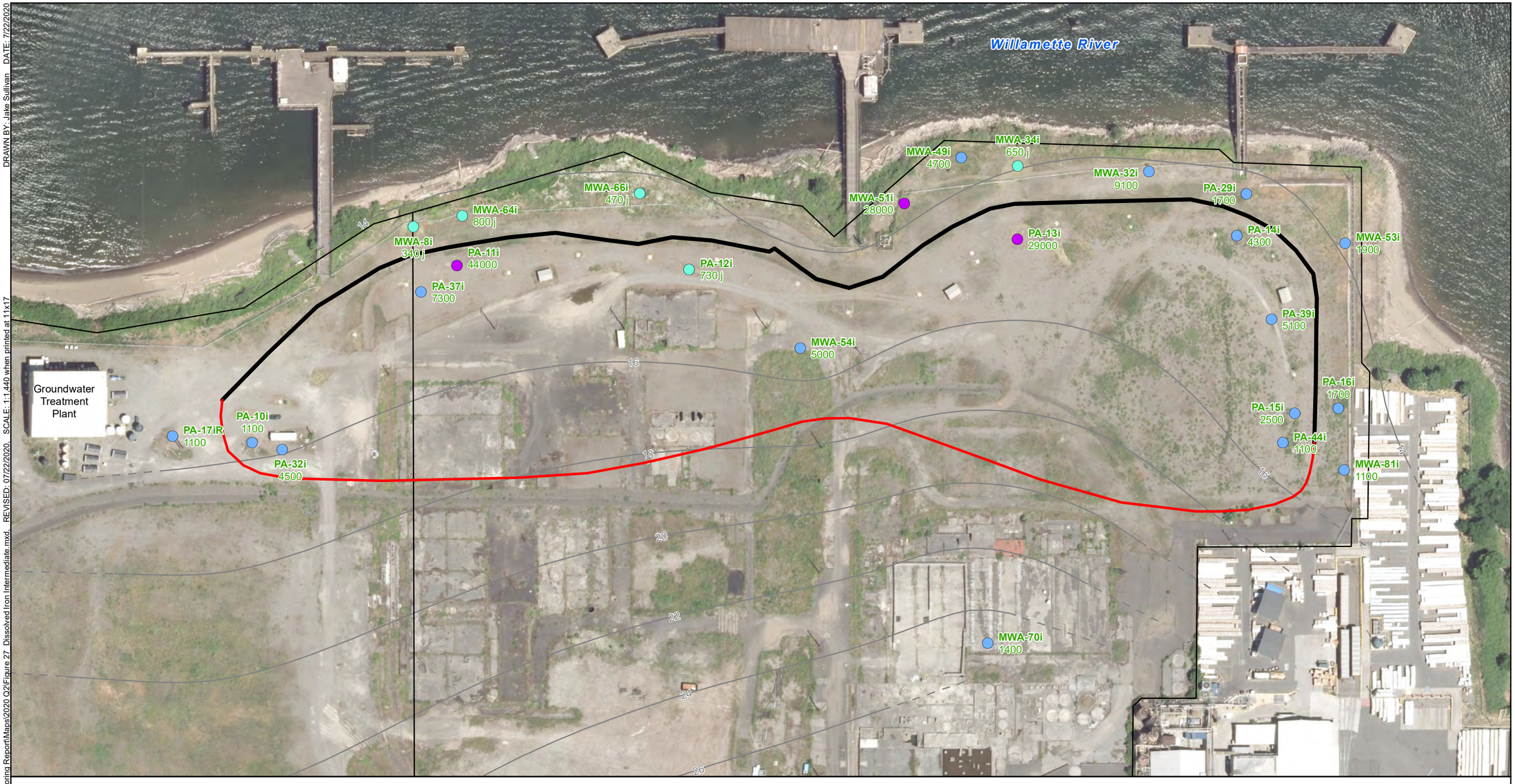
N

0 120 240
Feet

Figure 26
Dissolved Iron Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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



Legend

- > 100,000 ug/L
- >= 10,000 - 100,000 ug/L
- >= 1,000 - < 10,000 ug/L
- < 1,000 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Iron = 1,000 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

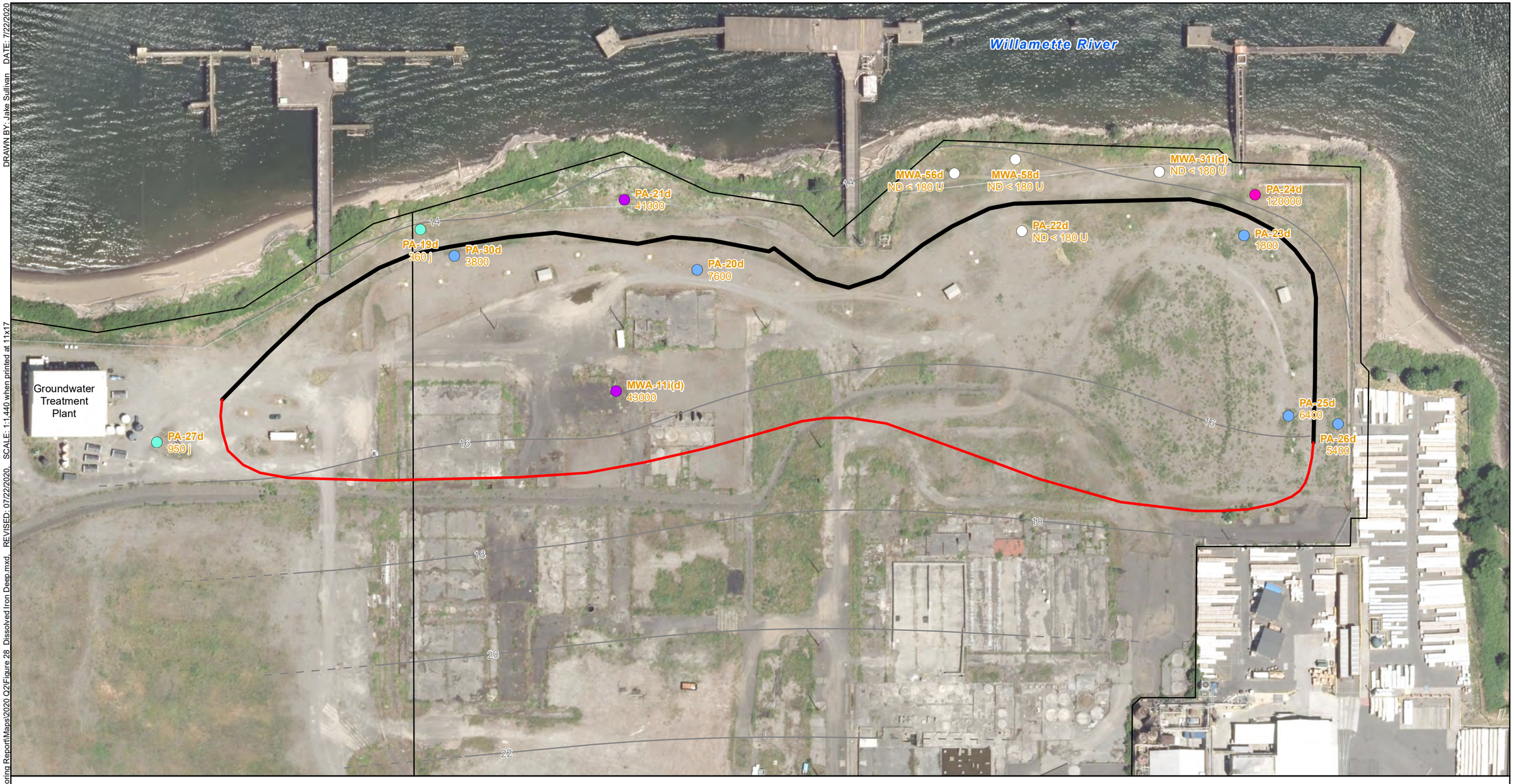
Figure 27
Dissolved Iron Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 27_Dissolved Iron Intermediate.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020

DRAWN BY: Jake Sullivan DATE: 7/22/2020
M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 28 Dissolved Iron Deep.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17



Legend

- > 100,000 ug/L
- >= 10,000 - 100,000 ug/L
- >= 1,000 - < 10,000 ug/L
- < 1,000 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Iron = 1,000 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 28
Dissolved Iron Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

DRAWN BY: Jake Sullivan DATE: 7/22/2020

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 29_Dissolved Manganese Shallow.mxd, REVISED: 07/22/2020, SCALE: 1:1,440 when printed at 11x17

Willamette River

MWA-69 15000
MWA-61 2900
MWA-2 33
PA-05 380
PA-36 200
PA-06 360
MWA-18 17
MWA-46 110
MWA-19 21
MWA-30 140
MWA-47 9.7 j
PA-28 74
PA-07 230
MWA-29 17
MWA-20 280
MWA-15r 44
MWA-42 150
PA-38 280
PA-42 180
MWA-63 ND < 2.3 U
Groundwater Treatment Plant
MWA-22 580
PA-03 62 J+
PA-04 86
PA-31 29
PA-08 48
PA-09 3.1 j
MWA-41 630
MWA-24 170
MWA-82 120
MWA-40 94
MWA-33 150

12 14 16 18 20 22 24 26 28

Legend

- > 43,000 ug/L
- >= 4,300 - 43,000 ug/L
- >= 430 - < 4,300 ug/L
- < 430 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Manganese = 430 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

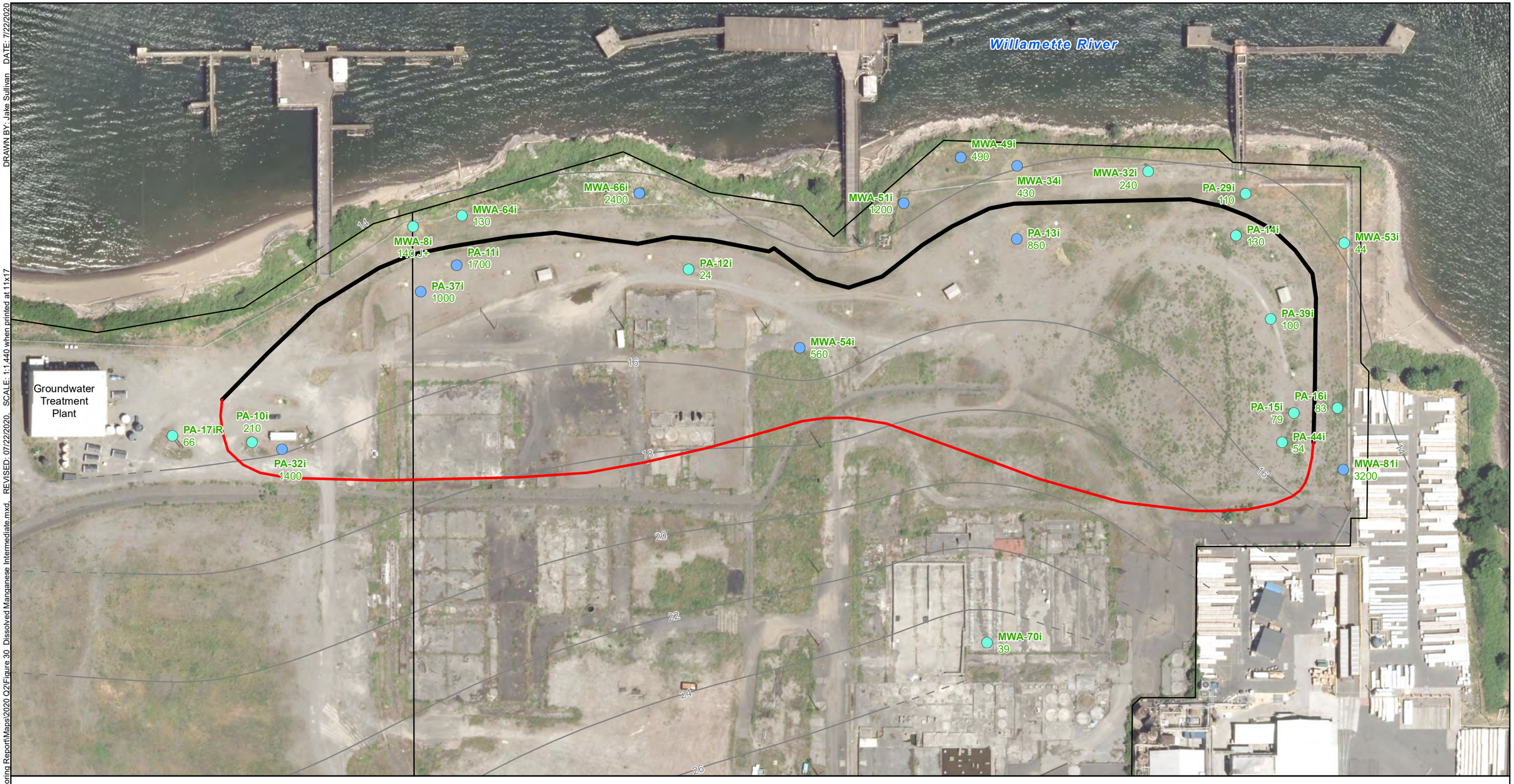
N

0 120 240
Feet

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

Figure 29
Dissolved Manganese Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

- > 43,000 ug/L
- >= 4,300 - 43,000 ug/L
- >= 430 - < 4,300 ug/L
- < 430 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

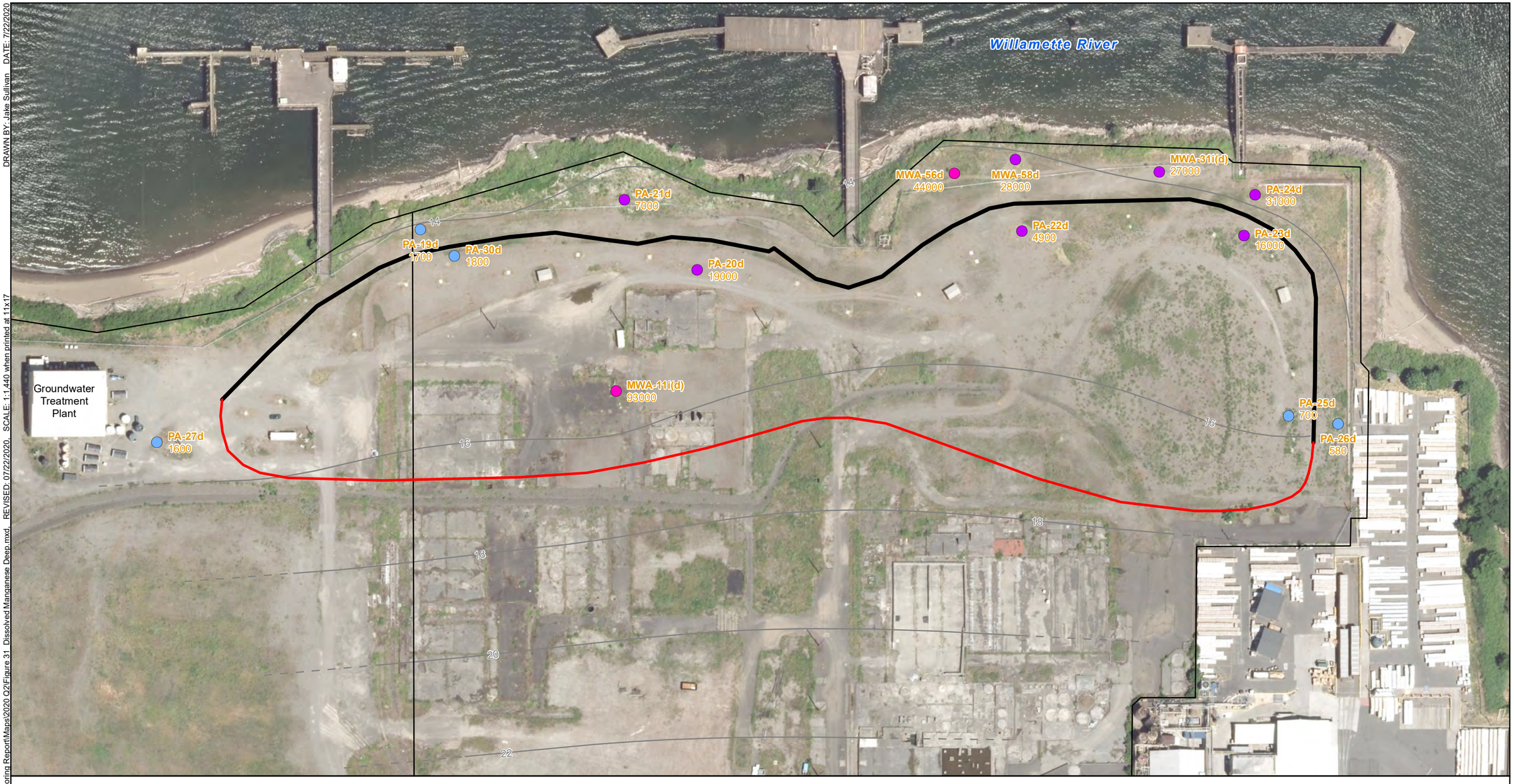
Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Manganese = 430 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

Figure 30
Dissolved Manganese Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 30_Dissolved Manganese Intermediate.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020



Legend

- > 43,000 ug/L
- >= 4,300 - 43,000 ug/L
- >= 430 - < 4,300 ug/L
- < 430 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Dissolved Manganese = 430 ug/L
See Table 6 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 31
Dissolved Manganese Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 31_Dissolved Manganese Deep.mxd REVISED: 07/22/2020, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020

DRAWN BY: Jake Sullivan DATE: 7/22/2020
REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17
M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 32_Perchlorate Shallow.mxd

Willamette River

MWA-46
6.5

MWA-47
ND < 48 U

MWA-19
5.2

MWA-18
ND < 0.95 U

MWA-30
ND < 48 U

MWA-69
ND < 9.5 U

MWA-61
ND < 0.95 U

MWA-2
ND < 0.95 U

PA-05
260

PA-28
ND < 48 U

PA-07
ND < 48 U

MWA-29
ND < 48 U

PA-06
ND < 9.5 U

PA-36
ND < 9.5 U

MWA-20
ND < 48 U

MWA-15r
440

MWA-42
ND < 9.5 U

PA-38
ND < 48 U

PA-42
ND < 48 U

MWA-63
ND < 0.95 U

Groundwater Treatment Plant

MWA-22
ND < 95 U

PA-08
ND < 48 U

PA-09
ND < 19 U

PA-03
ND < 48 U

PA-04
ND < 4.8 U

PA-31
ND < 9.5 U

MWA-41
ND < 0.95 U

MWA-24
ND < 48 U

MWA-82
71 j

MWA-33
ND < 48 U

MWA-40
ND < 95 U

Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 7 for definition of qualifiers
ND: Non-Detect

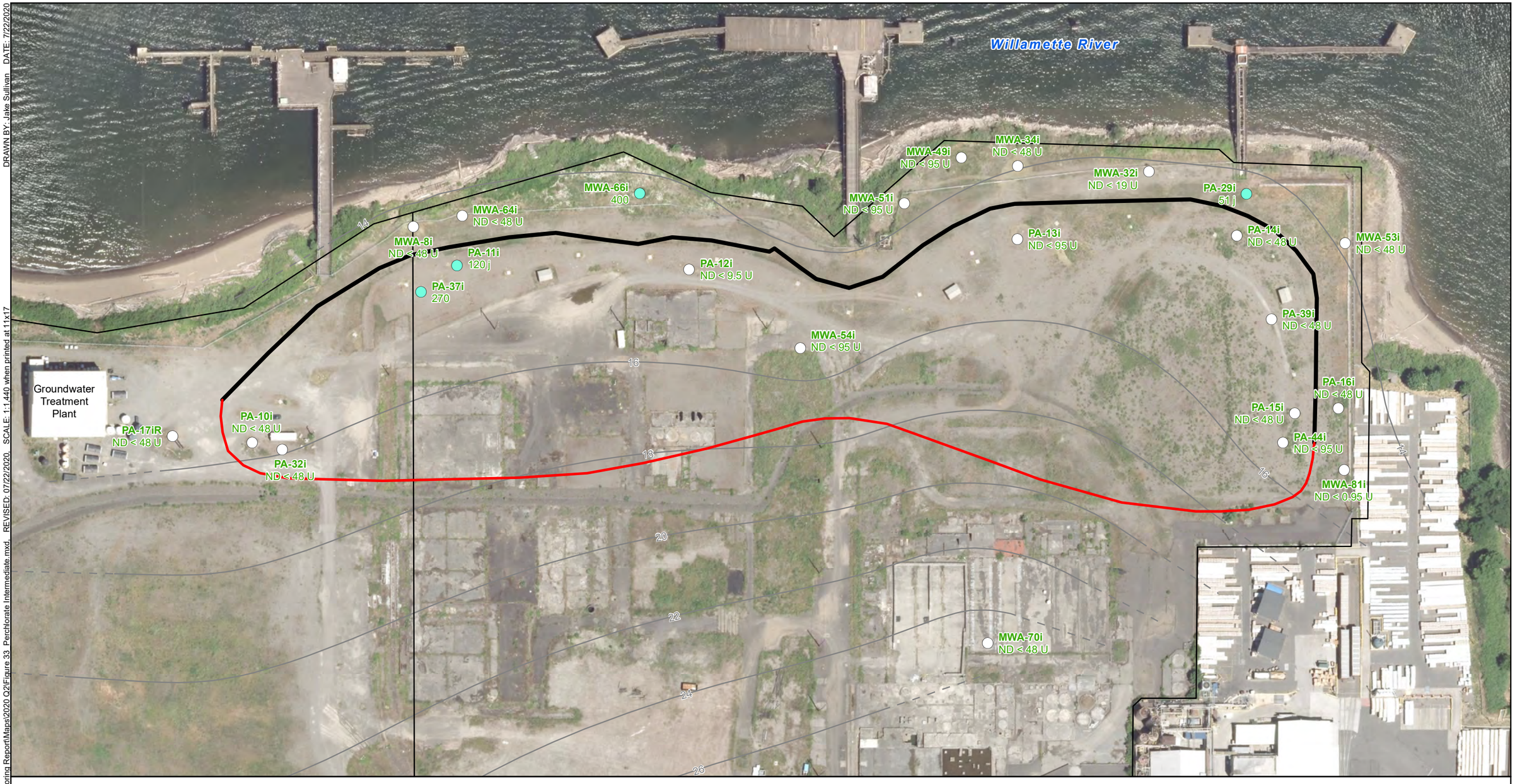
N

0 120 240
Feet

Figure 32
Perchlorate Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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



Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 7 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 33
Perchlorate Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 33_Perchlorate Intermediate.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020

DRAWN BY: Jake Sullivan DATE: 7/22/2020
M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 34_Perchlorate Deep.mxd REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17

Willamette River

Groundwater Treatment Plant

PA-27d
ND < 48 U

PA-19d
ND < 48 U

PA-30d
ND < 48 U

PA-21d
1200

PA-20d
46

MWA-11i(d)
ND < 9.5 U

MWA-56d
5700

MWA-58d
46000

PA-22d
40000

MWA-31i(d)
100000

PA-24d
ND < 48 U

PA-23d
ND < 4.8 U

PA-25d
ND < 0.95 U

PA-26d
ND < 0.95 U

14
16
18
20
22

Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 7 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 34
Perchlorate Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

DRAWN BY: Jake Sullivan DATE: 7/22/2020
REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17
M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 35_Chloride Shallow.mxd

Willamette River

MWA-2 17
MWA-61 270
MWA-69 1400
MWA-46 10
MWA-18 29
MWA-19 520
MWA-30 830
MWA-47 900
PA-05 45
PA-06 89
PA-28 79
PA-07 330
MWA-29 310
PA-36 23
MWA-20 39
MWA-15r 20
MWA-42 26
PA-38 82
PA-42 490
MWA-63 13
Groundwater Treatment Plant
MWA-22 220
PA-08 130
PA-09 14
PA-03 8.3
PA-04 12
PA-31 9.5
MWA-41 14
MWA-24 17
MWA-82 10
MWA-40 290
MWA-33 79

Legend

- > 23,000 mg/L
- >= 2,300 - 23,000 mg/L
- >= 230 - < 2,300 mg/L
- < 230 mg/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 7 for definition of qualifiers
ND: Non-Detect

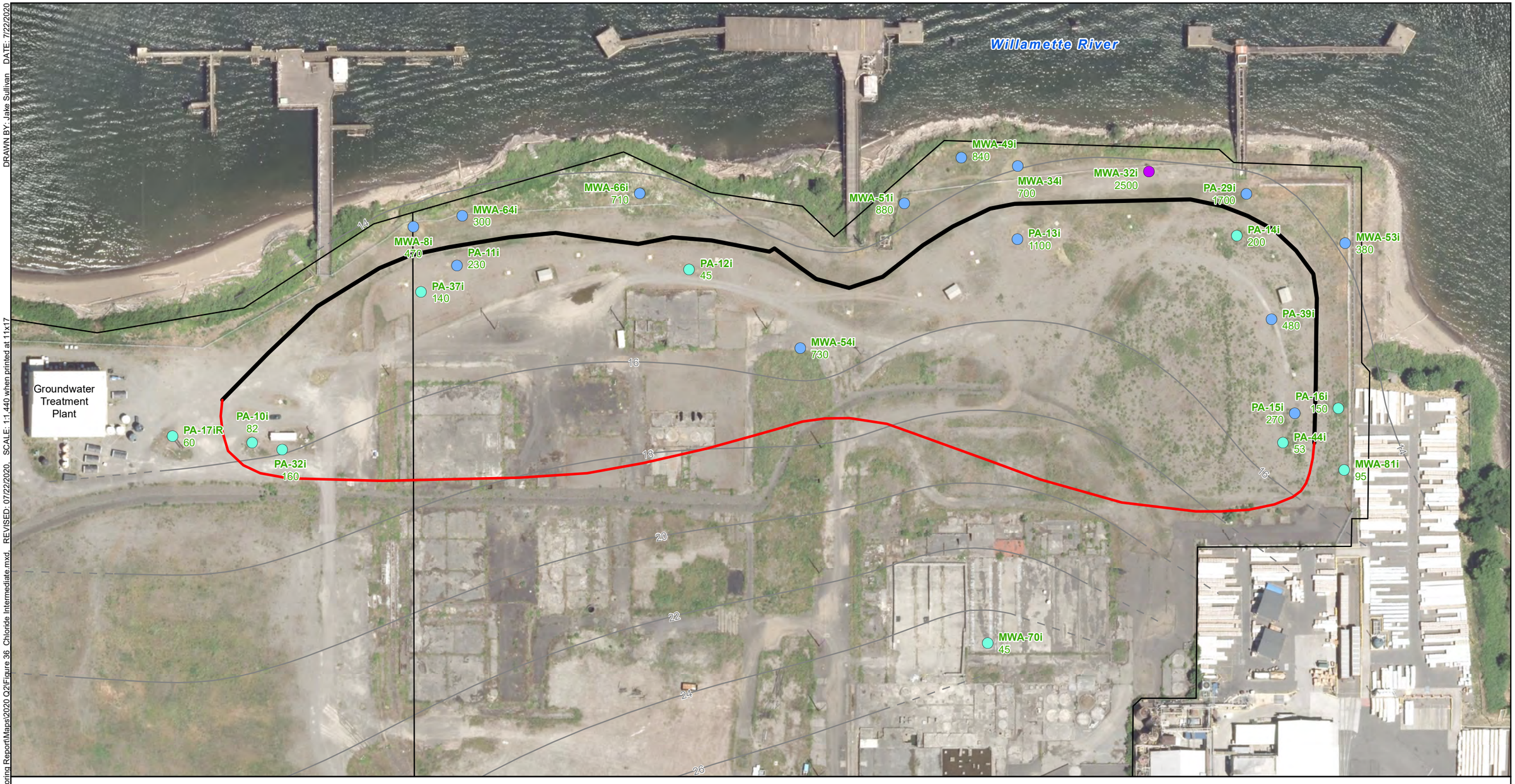
N

0 120 240
Feet

Figure 35
Chloride Groundwater Concentrations
Shallow Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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



Legend

- > 23,000 mg/L
- >= 2,300 - 23,000 mg/L
- >= 230 - < 2,300 mg/L
- < 230 mg/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 7 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

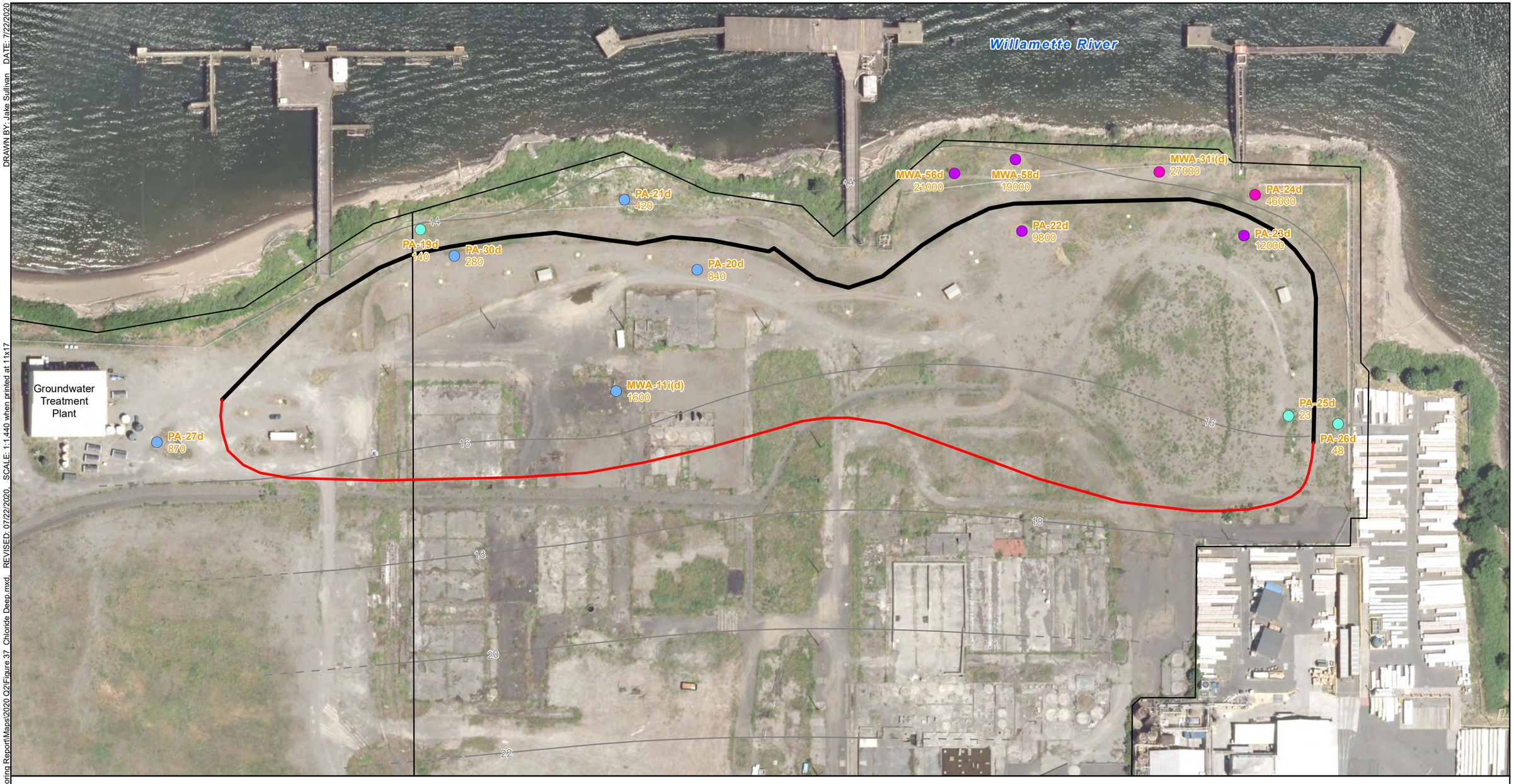
Figure 36
Chloride Groundwater Concentrations
Intermediate Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

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

M:\Projects\Arkema_Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 36_Chloride Intermediate.mxd, REVISED: 07/22/2020, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 7/22/2020

DRAWN BY: Jake Sullivan DATE: 7/22/2020
REVISED: 07/22/2020 SCALE: 1:1,440 when printed at 11x17
M:\Projects\Arkema Portland\Groundwater Monitoring Report\Maps\2020 Q2\Figure 37 Chloride Deep.mxd



Legend

- > 23,000 mg/L
- >= 2,300 - 23,000 mg/L
- >= 230 - < 2,300 mg/L
- < 230 mg/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) May 2020

Notes:
Samples Collected May 18-29 2020
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 7 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 37
Chloride Groundwater Concentrations
Deep Zone
Quarter 2, 2020
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

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

APPENDIX A FIELD FORMS

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Groundwater Monitoring

Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-33
MAP	Latitude=45.569288, Longitude=-122.7433539, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 8:19:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	17.24
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	25
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.88
VOLUME UNIT	litres

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Groundwater Monitoring

SIGNATURE		

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Field Parameters - MWA-33-08:26	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 8:26:00 AM
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet

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Field Parameters - MWA-33-08:45	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 8:45:00 AM
PH	11.47
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1997
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	8.6
TURBIDITY (NTU)	3.15
DEPTH TO WATER	17.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-33-08:48	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 8:48:00 AM
PH	11.49
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2021
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.06
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	3.4
TURBIDITY (NTU)	2.50
DEPTH TO WATER	17.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-33-08:51	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 8:51:00 AM
PH	11.50
TEMPERATURE	15.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2026
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.92
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	2.2
TURBIDITY (NTU)	2.18
DEPTH TO WATER	17.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-33-08:54	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 8:54:00 AM
PH	11.50
TEMPERATURE	15.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2049
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.82
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-0.3
TURBIDITY (NTU)	2.13
DEPTH TO WATER	17.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-33-08:57	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 8:57:00 AM
PH	11.50
TEMPERATURE	15
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2044
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.73
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-1.3
TURBIDITY (NTU)	1.97
DEPTH TO WATER	17.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-33-09:00	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:00:00 AM
PH	11.5
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2053
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.70
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-2.8
TURBIDITY (NTU)	1.85
DEPTH TO WATER	17.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field equipment used - Bladder 2 rental	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Bladder 2 rental

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Groundwater Monitoring

Sample information - Sample ID: MWA-33-051820 Sample Time: 09:02	
Groundwater Monitoring - MWA-33 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 9:02:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-33-051820
SAMPLE ID CONFIRMATION	MWA-33-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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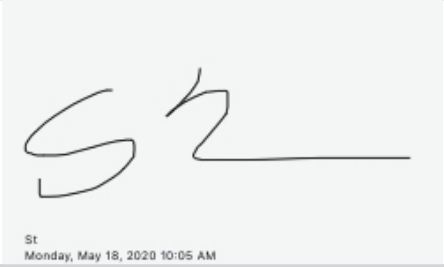
Groundwater Monitoring

Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-70I
MAP	Latitude=45.5692566, Longitude=-122.743308, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 9:37:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	11.91
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	35
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.4
VOLUME UNIT	litres
SIGNATURE	 St Monday, May 18, 2020 10:05 AM

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Field Parameters - MWA-70I-	
Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet

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Field Parameters - MWA-70I-09:48	
Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:48:00 AM
PH	11.48
TEMPERATURE	15
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1865
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.42
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-3.1
TURBIDITY (NTU)	11.87
DEPTH TO WATER	12.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-70I-09:51	
Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:51:00 AM
PH	11.50
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1877
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.82
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-6.0
TURBIDITY (NTU)	7.92
DEPTH TO WATER	12.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-70I-09:54	
Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:54:00 AM
PH	11.50
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1881
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.66
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-8.8
TURBIDITY (NTU)	6.45
DEPTH TO WATER	12.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-70I-09:57	
Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:57:00 AM
PH	11.51
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1879
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.60
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-11.1
TURBIDITY (NTU)	4.34
DEPTH TO WATER	12.08
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Field Parameters - MWA-70I-10:00	
Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 10:00:00 AM
PH	11.51
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1876
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.58
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-12.8
TURBIDITY (NTU)	4.03
DEPTH TO WATER	12.08
DEPTH UNIT	feet
STABLE	Yes

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Sample information - Sample ID: Default Value Sample Time:	
Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE ID CONFIRMATION	Default Value

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Groundwater Monitoring

Sample information - Sample ID: MWA-70I-051820 Sample Time: 10:01	
Groundwater Monitoring - MWA-70I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 10:01:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-70I-051820
SAMPLE ID CONFIRMATION	MWA-70I-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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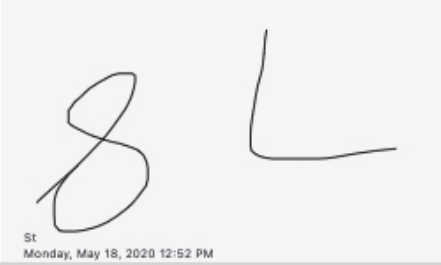
Groundwater Monitoring

Groundwater Monitoring - MWA-40 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-40
MAP	Latitude=45.5696766, Longitude=-122.7437416, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 12:10:00 PM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	16.85
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	25
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.4
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - MWA-40-12:19	
Groundwater Monitoring - MWA-40 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:19:00 PM
PH	10.51
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3554
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.22
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-42.2
TURBIDITY (NTU)	1.59
DEPTH TO WATER	16.88
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-40-12:22	
Groundwater Monitoring - MWA-40 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:22:00 PM
PH	10.53
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3629
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-60.7
TURBIDITY (NTU)	1.36
DEPTH TO WATER	16.90
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-40-12:25	
Groundwater Monitoring - MWA-40 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:25:00 PM
PH	10.59
TEMPERATURE	16.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3544
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.55
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-70.8
TURBIDITY (NTU)	1.12
DEPTH TO WATER	16.90
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-40-12:28	
Groundwater Monitoring - MWA-40 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:28:00 PM
PH	10.64
TEMPERATURE	16.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3540
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-74.1
TURBIDITY (NTU)	0.98
DEPTH TO WATER	16.90
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-40-12:31	
Groundwater Monitoring - MWA-40 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:31:00 PM
PH	10.65
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3538
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.53
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-78.6
TURBIDITY (NTU)	0.95
DEPTH TO WATER	16.90
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: MWA-40-051820 Sample Time: 12:32	
Groundwater Monitoring - MWA-40 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 12:32:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-40-051820
SAMPLE ID CONFIRMATION	MWA-40-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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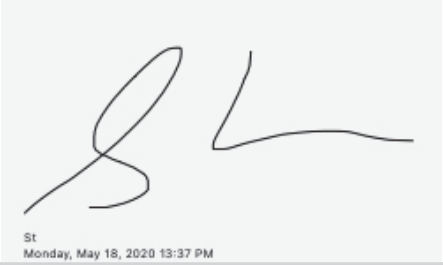
Groundwater Monitoring

Groundwater Monitoring - MWA-41 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-41
MAP	Latitude=45.5687222, Longitude=-122.7415398, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 1:03:00 PM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	30.25
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	37
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.4
VOLUME UNIT	litres
SIGNATURE	 St Monday, May 18, 2020 13:37 PM

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Groundwater Monitoring

Field Parameters - MWA-41-13:21	
Groundwater Monitoring - MWA-41 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:21:00 PM
PH	8.29
TEMPERATURE	16.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	429.8
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.24
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	34.9
TURBIDITY (NTU)	24.35
DEPTH TO WATER	30.28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-41-13:24	
Groundwater Monitoring - MWA-41 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:24:00 PM
PH	7.25
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	325.9
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.31
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	52.5
TURBIDITY (NTU)	16.41
DEPTH TO WATER	30.28
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-41-13:27	
Groundwater Monitoring - MWA-41 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:27:00 PM
PH	6.85
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	322.6
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.08
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	59.7
TURBIDITY (NTU)	6.97
DEPTH TO WATER	30.28
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-41-13:30	
Groundwater Monitoring - MWA-41 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:30:00 PM
PH	6.81
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	319.5
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.04
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	64.6
TURBIDITY (NTU)	5.35
DEPTH TO WATER	30.28
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-41-13:33	
Groundwater Monitoring - MWA-41 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:33:00 PM
PH	6.79
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	317.8
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	66.9
TURBIDITY (NTU)	4.61
DEPTH TO WATER	30.28
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: MWA-41-051820 Sample Time: 13:34	
Groundwater Monitoring - MWA-41 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 1:34:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-41-051820
SAMPLE ID CONFIRMATION	MWA-41-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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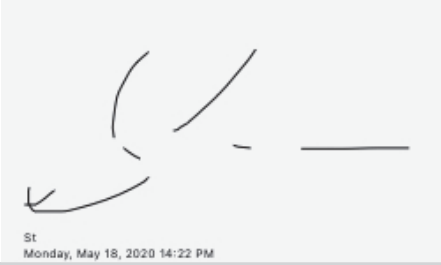
Groundwater Monitoring

Groundwater Monitoring - MWA-81I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-81I
MAP	Latitude=45.568735, Longitude=-122.7415112, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 1:43:00 PM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	30.54
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	47
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.4
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - MWA-81I-13:59	
Groundwater Monitoring - MWA-81I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:59:00 PM
PH	7.05
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	595
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	22.1
TURBIDITY (NTU)	2.84
DEPTH TO WATER	30.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-81I-14:02	
Groundwater Monitoring - MWA-81I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:02:00 PM
PH	6.52
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	640
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.08
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	7.6
TURBIDITY (NTU)	1.42
DEPTH TO WATER	30.54
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-81I-14:05	
Groundwater Monitoring - MWA-81I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:05:00 PM
PH	6.43
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	654
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.84
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	4.3
TURBIDITY (NTU)	1.22
DEPTH TO WATER	30.54
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-81I-14:08	
Groundwater Monitoring - MWA-81I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:08:00 PM
PH	6.42
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	660
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.80
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	3.4
TURBIDITY (NTU)	1.24
DEPTH TO WATER	30.54
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-81I-14:11	
Groundwater Monitoring - MWA-81I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:11:00 PM
PH	6.42
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	665
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.78
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	3.2
TURBIDITY (NTU)	1.21
DEPTH TO WATER	30.54
DEPTH UNIT	feet
STABLE	No

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Sample information - Sample ID: MWA-81I-051820 Sample Time: 14:12	
Groundwater Monitoring - MWA-81I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 2:12:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-81I-051820
SAMPLE ID CONFIRMATION	MWA-81I-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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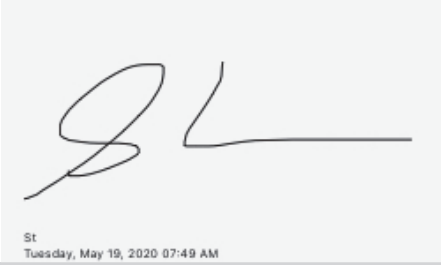
Groundwater Monitoring

Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-82
MAP	Latitude=45.5689944, Longitude=-122.7422155, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 7:06:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.80
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	25
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	4.32
VOLUME UNIT	litres
SIGNATURE	 St Tuesday, May 19, 2020 07:49 AM

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Field Parameters - MWA-82-	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160

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Field Parameters - MWA-82-07:21	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:21:00 AM
PH	8.42
TEMPERATURE	15.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	370.4
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.66
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	116.3
TURBIDITY (NTU)	24.62
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-82-07:24	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:24:00 AM
PH	7.90
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	364.8
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.91
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	117.8
TURBIDITY (NTU)	15.69
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-82-07:27	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:27:00 AM
PH	7.78
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	362.9
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.82
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	118.5
TURBIDITY (NTU)	11.48
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-82-07:30	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:30:00 AM
PH	7.72
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	362.0
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.77
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	119.3
TURBIDITY (NTU)	8.42
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-82-07:33	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:33:00 AM
PH	7.68
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	362.5
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.74
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	119.7
TURBIDITY (NTU)	6.91
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Field Parameters - MWA-82-07:36	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:36:00 AM
PH	7.67
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	362.2
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	119.7
TURBIDITY (NTU)	5.78
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Field Parameters - MWA-82-07:39	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:39:00 AM
PH	7.65
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	362.1
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.69
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	119.6
TURBIDITY (NTU)	5.53
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	Yes

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Field Parameters - MWA-82-07:42	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:42:00 AM
PH	7.65
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	361.6
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.66
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	119.2
TURBIDITY (NTU)	4.89
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Field Parameters - MWA-82-07:45	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 7:45:00 AM
PH	7.65
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	361.4
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.65
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	118.6
TURBIDITY (NTU)	4.57
DEPTH TO WATER	21.82
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: MWA-82-051920 Sample Time: 07:46	
Groundwater Monitoring - MWA-82 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 7:46:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-82-051920
SAMPLE ID CONFIRMATION	MWA-82-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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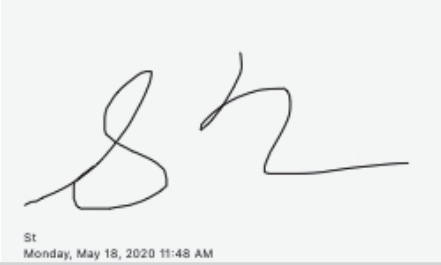
Groundwater Monitoring

Groundwater Monitoring - MWA-24 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-24
MAP	Latitude=45.5699828, Longitude=-122.7432174, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 11:16:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	20.88
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	26
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.4
VOLUME UNIT	litres
SIGNATURE	 St Monday, May 18, 2020 11:48 AM

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Groundwater Monitoring

Field Parameters - MWA-24-11:26	
Groundwater Monitoring - MWA-24 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:26:00 AM
PH	11.59
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3969
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.03
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-7.8
TURBIDITY (NTU)	10.89
DEPTH TO WATER	20.90
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-24-11:29	
Groundwater Monitoring - MWA-24 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:29:00 AM
PH	11.64
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4037
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-12.1
TURBIDITY (NTU)	7.64
DEPTH TO WATER	20.90
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-24-11:35	
Groundwater Monitoring - MWA-24 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:35:00 AM
PH	11.63
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4015
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.55
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-16.9
TURBIDITY (NTU)	5.10
DEPTH TO WATER	20.90
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-24-11:38	
Groundwater Monitoring - MWA-24 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:38:00 AM
PH	11.59
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4005
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.53
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-18.7
TURBIDITY (NTU)	3.96
DEPTH TO WATER	20.90
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-24-11:32	
Groundwater Monitoring - MWA-24 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:32:00 AM
PH	11.64
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4031
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.63
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-14.9
TURBIDITY (NTU)	5.42
DEPTH TO WATER	20.90
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-24-051820 Sample Time: 11:39	
Groundwater Monitoring - MWA-24 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 11:39:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-24-051820
SAMPLE ID CONFIRMATION	MWA-24-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-44I
MAP	Latitude=45.5689542444, Longitude=-122.7416114735, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 8:40:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.83
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	42
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	9.6
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-44I-	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160

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Field Parameters - PA-44I-08:51	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 8:51:00 AM
PH	7.71
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	394.4
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.64
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-7.6
TURBIDITY (NTU)	25.03
DEPTH TO WATER	25.85
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-44I-09:01	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:01:00 AM
PH	7.28
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	398.7
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.86
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-56.7
TURBIDITY (NTU)	24.42
DEPTH TO WATER	25.85
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-44I-09:11	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:11:00 AM
PH	7.06
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	405.7
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.13
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-21.5
TURBIDITY (NTU)	59.68
DEPTH TO WATER	25.85
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-44I-09:21	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:21:00 AM
PH	7.02
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	511
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	0.2
TURBIDITY (NTU)	62.43
DEPTH TO WATER	25.85
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-44I-09:41	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:41:00 AM
PH	6.90
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	661
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.57
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	28.1
TURBIDITY (NTU)	65.95
DEPTH TO WATER	25.85
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-44I-09:31	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:31:00 AM
PH	6.95
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	613
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.61
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	22.1
TURBIDITY (NTU)	60.33
DEPTH TO WATER	25.85
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-44I-09:51	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:51:00 AM
PH	6.88
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	677
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.57
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	28.6
TURBIDITY (NTU)	68.76
DEPTH TO WATER	25.85
DEPTH UNIT	feet
STABLE	No

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Sample information - Sample ID: PA-44I-051920 Sample Time: 09:52	
Groundwater Monitoring - PA-44I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 9:52:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-44I-051920
SAMPLE ID CONFIRMATION	PA-44I-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-42
MAP	Latitude=45.5691099693, Longitude=-122.7412329955, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 10:31:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.70
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	32
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	3.36
VOLUME UNIT	litres
SIGNATURE	St Tuesday, May 19, 2020 11:07 AM

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Field Parameters - PA-42-	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160

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Field Parameters - PA-42-10:43	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:43:00 AM
PH	7.48
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2132
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.29
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	8.9
TURBIDITY (NTU)	11.37
DEPTH TO WATER	25.70
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-42-10:46	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:46:00 AM
PH	7.17
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2255
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-33.4
TURBIDITY (NTU)	10.98
DEPTH TO WATER	25.70
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-42-10:49	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:49:00 AM
PH	7.16
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2302
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-52.0
TURBIDITY (NTU)	7.80
DEPTH TO WATER	25.70
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-42-10:52	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:52:00 AM
PH	7.17
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2330
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.67
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-58.7
TURBIDITY (NTU)	6.51
DEPTH TO WATER	25.70
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-42-10:55	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:55:00 AM
PH	7.17
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2336
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.64
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-62.8
TURBIDITY (NTU)	6.55
DEPTH TO WATER	25.7
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-42-10:58	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:58:00 AM
PH	7.18
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2350
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-68.2
TURBIDITY (NTU)	5.35
DEPTH TO WATER	25.7
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-42-11:01	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 11:01:00 AM
PH	7.18
TEMPERATURE	16.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2353
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.59
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-70.8
TURBIDITY (NTU)	4.72
DEPTH TO WATER	25.70
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: PA-42-051920 Sample Time: 11:02	
Groundwater Monitoring - PA-42 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 11:02:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-42-051920
SAMPLE ID CONFIRMATION	PA-42-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - PA-38 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-38
MAP	Latitude=45.5694412578, Longitude=-122.7416392956, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 11:49:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	27.24
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	32
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	9.6
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-38-	
Groundwater Monitoring - PA-38 - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160

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Groundwater Monitoring

Field Parameters - PA-38-11:58	
Groundwater Monitoring - PA-38 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 11:58:00 AM
PH	7.70
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	976
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.48
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	25.28
TURBIDITY (NTU)	25.27
DEPTH TO WATER	27.24
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-38-12:13	
Groundwater Monitoring - PA-38 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:13:00 PM
PH	7.78
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	977
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.95
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	75.1
TURBIDITY (NTU)	41.95
DEPTH TO WATER	27.25
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-38-12:28	
Groundwater Monitoring - PA-38 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:28:00 PM
PH	7.46
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	979
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	67.0
TURBIDITY (NTU)	48.40
DEPTH TO WATER	27.25
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-38-12:43	
Groundwater Monitoring - PA-38 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:43:00 PM
PH	7.45
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	983
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	60.2
TURBIDITY (NTU)	48.31
DEPTH TO WATER	27.25
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-38-12:58	
Groundwater Monitoring - PA-38 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:58:00 PM
PH	7.44
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	985
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	59.4
TURBIDITY (NTU)	48.71
DEPTH TO WATER	27.25
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-38-051920 Sample Time: 12:59	
Groundwater Monitoring - PA-38 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 12:59:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-38-051920
SAMPLE ID CONFIRMATION	PA-38-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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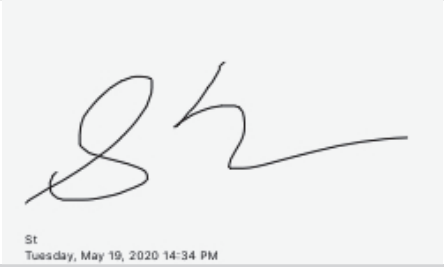
Groundwater Monitoring

Groundwater Monitoring - PA-39I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-39I
MAP	Latitude=45.5692661721, Longitude=-122.7411957388, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 1:21:00 PM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.48
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	43
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	9.6
VOLUME UNIT	litres
SIGNATURE	 St Tuesday, May 19, 2020 14:34 PM

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Field Parameters - PA-39I-13:31	
Groundwater Monitoring - PA-39I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 1:31:00 PM
PH	9.40
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	151.3
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	5.39
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	70.5
TURBIDITY (NTU)	4.12
DEPTH TO WATER	25.48
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - PA-39I-13:46	
Groundwater Monitoring - PA-39I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 1:46:00 PM
PH	7.17
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2283
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.88
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	28.6
TURBIDITY (NTU)	15.85
DEPTH TO WATER	25.48
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-39I-14:01	
Groundwater Monitoring - PA-39I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:01:00 PM
PH	7.14
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2323
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.65
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-18.9
TURBIDITY (NTU)	43.61
DEPTH TO WATER	25.48
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-39I-14:16	
Groundwater Monitoring - PA-39I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:16:00 PM
PH	7.13
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2346
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-23.4
TURBIDITY (NTU)	57.14
DEPTH TO WATER	25.48
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-39I-14:31	
Groundwater Monitoring - PA-39I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:31:00 PM
PH	7.13
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2336
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-26.9
TURBIDITY (NTU)	60.25
DEPTH TO WATER	25.48
DEPTH UNIT	feet
STABLE	No

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Sample information - Sample ID: PA-39I-051920 Sample Time: 14:32	
Groundwater Monitoring - PA-39I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 2:32:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-39I-051920
SAMPLE ID CONFIRMATION	PA-39I-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-53I
MAP	Latitude=45.5692507, Longitude=-122.7406763, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 6:06:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	30.11
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	48
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	12
VOLUME UNIT	litres
SIGNATURE	St Wednesday, May 20, 2020 07:45 AM

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Field Parameters - MWA-53I-06:15	
Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 6:15:00 AM
PH	8.00
TEMPERATURE	14.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1644
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	90.8
TURBIDITY (NTU)	15.96
DEPTH TO WATER	30.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-53I-06:30	
Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 6:30:00 AM
PH	7.53
TEMPERATURE	14.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1620
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.91
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-29.9
TURBIDITY (NTU)	18.97
DEPTH TO WATER	30.25
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-53I-06:45	
Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 6:45:00 AM
PH	7.44
TEMPERATURE	14.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1656
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-42.2
TURBIDITY (NTU)	15.53
DEPTH TO WATER	30.25
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-53I-07:00	
Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 7:00:00 AM
PH	7.42
TEMPERATURE	15.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1676
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.58
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-65.3
TURBIDITY (NTU)	8.72
DEPTH TO WATER	30.25
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-53I-07:15	
Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 7:15:00 AM
PH	7.43
TEMPERATURE	15.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1649
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-75.1
TURBIDITY (NTU)	6.21
DEPTH TO WATER	30.25
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-53I-07:30	
Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 7:30:00 AM
PH	7.44
TEMPERATURE	15
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1632
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.53
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-79.8
TURBIDITY (NTU)	4.13
DEPTH TO WATER	30.25
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-53I-052020 Sample Time: 07:31	
Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 7:31:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-53I-052020
SAMPLE ID CONFIRMATION	MWA-53I-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Sample information - Sample ID: DUP-01-052020 Sample Time: 07:32	
Groundwater Monitoring - MWA-53I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Field duplicate
SAMPLE DATE/TIME	5/20/2020 7:32:00 AM
CLARITY	Colored
ODOR	None
SAMPLE NUMBER IDENTIFIER	01
SAMPLE ID	DUP-01-052020
PARENT SAMPLE ID	Dup-01-052020
SAMPLE ID CONFIRMATION	DUP-01-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-32I
MAP	Latitude=45.5699201, Longitude=-122.7410518, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 8:35:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	24.54
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	38
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.88
VOLUME UNIT	litres
SIGNATURE	St Wednesday, May 20, 2020 09:32 AM

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Field Parameters - MWA-32I-	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160

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Field Parameters - MWA-32I-08:41	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 8:41:00 AM
PH	6.88
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	8085
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	62.7
TURBIDITY (NTU)	25.52
DEPTH TO WATER	24.68
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-32I-08:43	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 8:43:00 AM
PH	6.53
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	8599
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.94
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-20.9
TURBIDITY (NTU)	9.87
DEPTH TO WATER	25.05
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-32I-08:46	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 8:46:00 AM
PH	6.55
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	8565
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.77
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-34.9
TURBIDITY (NTU)	7.46
DEPTH TO WATER	25.05
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-32I-08:52	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 8:52:00 AM
PH	6.58
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	8458
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-50.9
TURBIDITY (NTU)	5.13
DEPTH TO WATER	25.05
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-32I-08:49	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 8:49:00 AM
PH	6.56
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	8470
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.74
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-45.6
TURBIDITY (NTU)	5.85
DEPTH TO WATER	25.05
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-32I-08:55	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 8:55:00 AM
PH	6.59
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	8430
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-53.1
TURBIDITY (NTU)	4.61
DEPTH TO WATER	25.05
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-32I-052020 Sample Time: 08:56	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 8:56:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-32I-052020
SAMPLE ID CONFIRMATION	MWA-32I-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-32i-052020 Sample Time: 08:56	
Groundwater Monitoring - MWA-32I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Field triplicate
SAMPLE DATE/TIME	5/20/2020 8:56:00 AM
CLARITY	Colored
ODOR	None
SAMPLE NUMBER IDENTIFIER	MWA-32i-052020
SAMPLE ID	MWA-32i-052020
PARENT SAMPLE ID	MWA-32I-052020
SAMPLE ID CONFIRMATION	MWA-32i-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-31I(D) - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-31I(D)
MAP	Latitude=45.5698897, Longitude=-122.7410174, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 10:10:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.06
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	56
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	9.6
VOLUME UNIT	litres
SIGNATURE	St Wednesday, May 20, 2020 11:01 AM

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Field Parameters - MWA-31I(D)-	
Groundwater Monitoring - MWA-31I(D) - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160

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Field Parameters - MWA-31I(D)-10:18	
Groundwater Monitoring - MWA-31I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 10:18:00 AM
PH	7.03
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	46460
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.19
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	83.42
TURBIDITY (NTU)	78.64
DEPTH TO WATER	25.12
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-31I(D)-10:28	
Groundwater Monitoring - MWA-31I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 10:28:00 AM
PH	6.73
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	54581
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	161.7
TURBIDITY (NTU)	22.71
DEPTH TO WATER	25.12
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-31I(D)-10:38	
Groundwater Monitoring - MWA-31I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 10:38:00 AM
PH	6.61
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	58581
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.72
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	160.2
TURBIDITY (NTU)	13.30
DEPTH TO WATER	25.12
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-31I(D)-10:48	
Groundwater Monitoring - MWA-31I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 10:48:00 AM
PH	6.58
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	59283
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.64
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	158.7
TURBIDITY (NTU)	6.80
DEPTH TO WATER	25.12
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-31I(D)-10:58	
Groundwater Monitoring - MWA-31I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 10:58:00 AM
PH	6.54
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	60099
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.61
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	158.0
TURBIDITY (NTU)	4.51
DEPTH TO WATER	25.12
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-31I(D)-052020 Sample Time: 11:00	
Groundwater Monitoring - MWA-31I(D) - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 11:00:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-31I(D)-052020
SAMPLE ID CONFIRMATION	MWA-31I(D)-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-30 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-30
MAP	Latitude=45.5699072, Longitude=-122.7410381, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 11:41:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	24.10
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	26
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	9.6
VOLUME UNIT	litres
SIGNATURE	St Wednesday, May 20, 2020 13:06 PM

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Field Parameters - MWA-30-11:48	
Groundwater Monitoring - MWA-30 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 11:48:00 AM
PH	7.78
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	7401
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.15
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	86.8
TURBIDITY (NTU)	207.11
DEPTH TO WATER	24.30
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-30-12:03	
Groundwater Monitoring - MWA-30 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:03:00 PM
PH	7.27
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	6900
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.92
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	113.9
TURBIDITY (NTU)	111.51
DEPTH TO WATER	24.30
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-30-12:18	
Groundwater Monitoring - MWA-30 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:18:00 PM
PH	7.15
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	7461
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	70.5
TURBIDITY (NTU)	180.98
DEPTH TO WATER	24.35
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-30-12:33	
Groundwater Monitoring - MWA-30 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:33:00 PM
PH	7.10
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	7450
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	75.9
TURBIDITY (NTU)	190.8
DEPTH TO WATER	24.38
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-30-12:48	
Groundwater Monitoring - MWA-30 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:48:00 PM
PH	7.08
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	7428
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.29
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	68.7
TURBIDITY (NTU)	200.1
DEPTH TO WATER	24.41
DEPTH UNIT	feet
STABLE	No

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Sample information - Sample ID: MWA-30-052020 Sample Time: 12:49	
Groundwater Monitoring - MWA-30 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 12:49:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-30-052020
SAMPLE ID CONFIRMATION	MWA-30-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-47 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-47
MAP	Latitude=45.5697495, Longitude=-122.7408066, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 1:07:00 PM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	24.98
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	27
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	12
VOLUME UNIT	litres
SIGNATURE	St Wednesday, May 20, 2020 14:20 PM

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Groundwater Monitoring

Field Parameters - MWA-47-13:20	
Groundwater Monitoring - MWA-47 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 1:20:00 PM
PH	7.54
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3379
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.38
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	123.4
TURBIDITY (NTU)	42.04
DEPTH TO WATER	24.98
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-47-13:35	
Groundwater Monitoring - MWA-47 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 1:35:00 PM
PH	6.91
TEMPERATURE	14.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3205
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.03
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	133.1
TURBIDITY (NTU)	41.08
DEPTH TO WATER	24.98
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-47-13:50	
Groundwater Monitoring - MWA-47 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 1:50:00 PM
PH	6.86
TEMPERATURE	14.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3243
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.79
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	137.9
TURBIDITY (NTU)	39.69
DEPTH TO WATER	24.98
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-47-14:05	
Groundwater Monitoring - MWA-47 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:05:00 PM
PH	6.85
TEMPERATURE	14.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3305
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.82
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	144.9
TURBIDITY (NTU)	39.83
DEPTH TO WATER	24.89
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-47-14:15	
Groundwater Monitoring - MWA-47 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:15:00 PM
PH	6.84
TEMPERATURE	14.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3304
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.73
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	146.0
TURBIDITY (NTU)	39.51
DEPTH TO WATER	24.98
DEPTH UNIT	feet
STABLE	No

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Sample information - Sample ID: MWA-47-052020 Sample Time: 14:16	
Groundwater Monitoring - MWA-47 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 2:16:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-47-052020
SAMPLE ID CONFIRMATION	MWA-47-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-18 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-18
MAP	Latitude=45.5705037, Longitude=-122.7419894, Accuracy=0, Altitude=36.53, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 6:31:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.70
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	28
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.88
VOLUME UNIT	litres
SIGNATURE	St Thursday, May 21, 2020 07:10 AM

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Groundwater Monitoring

Field Parameters - MWA-18-06:47	
Groundwater Monitoring - MWA-18 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 6:47:00 AM
PH	7.74
TEMPERATURE	13.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1219
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.30
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	171.5
TURBIDITY (NTU)	12.87
DEPTH TO WATER	25.84
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-18-06:50	
Groundwater Monitoring - MWA-18 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 6:50:00 AM
PH	6.48
TEMPERATURE	13.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1100
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.92
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	181.9
TURBIDITY (NTU)	8.79
DEPTH TO WATER	25.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-18-06:53	
Groundwater Monitoring - MWA-18 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 6:53:00 AM
PH	6.32
TEMPERATURE	13.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	993
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.91
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	183.3
TURBIDITY (NTU)	6.11
DEPTH TO WATER	25.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-18-06:56	
Groundwater Monitoring - MWA-18 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 6:56:00 AM
PH	6.3
TEMPERATURE	13.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	924
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.85
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	186.4
TURBIDITY (NTU)	5.87
DEPTH TO WATER	25.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-18-06:59	
Groundwater Monitoring - MWA-18 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 6:59:00 AM
PH	6.28
TEMPERATURE	13.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	918
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.88
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	190.2
TURBIDITY (NTU)	5.42
DEPTH TO WATER	25.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-18-07:02	
Groundwater Monitoring - MWA-18 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 7:02:00 AM
PH	6.28
TEMPERATURE	13.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	916
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.82
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	192.2
TURBIDITY (NTU)	4.62
DEPTH TO WATER	25.95
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: MWA-18-052120 Sample Time: 07:03	
Groundwater Monitoring - MWA-18 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 7:03:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-18-052120
SAMPLE ID CONFIRMATION	MWA-18-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-56D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-56D
MAP	Latitude=45.5704152, Longitude=-122.7416904, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 7:50:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.25
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	57
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.44
VOLUME UNIT	litres
SIGNATURE	St Thursday, May 21, 2020 08:20 AM

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Field Parameters - MWA-56D-08:05	
Groundwater Monitoring - MWA-56D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:05:00 AM
PH	6.15
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	39978
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.60
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	270.6
TURBIDITY (NTU)	6.97
DEPTH TO WATER	22.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-56D-08:08	
Groundwater Monitoring - MWA-56D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:08:00 AM
PH	6.12
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	48592
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.25
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	267.6
TURBIDITY (NTU)	4.11
DEPTH TO WATER	22.54
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-56D-08:11	
Groundwater Monitoring - MWA-56D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:11:00 AM
PH	6.15
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	49254
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.93
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	265.7
TURBIDITY (NTU)	3.15
DEPTH TO WATER	22.54
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-56D-08:14	
Groundwater Monitoring - MWA-56D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:14:00 AM
PH	6.19
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	49587
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.87
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	263.4
TURBIDITY (NTU)	2.11
DEPTH TO WATER	22.54
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-56D-08:17	
Groundwater Monitoring - MWA-56D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:17:00 AM
PH	6.20
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	49734
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.80
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	262.1
TURBIDITY (NTU)	1.89
DEPTH TO WATER	22.54
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-56D-052120 Sample Time: 08:18	
Groundwater Monitoring - MWA-56D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 8:18:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-56D-052120
SAMPLE ID CONFIRMATION	MWA-56D-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-46
MAP	Latitude=45.570436, Longitude=-122.7416419, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 8:22:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.93
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	26
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	3.84
VOLUME UNIT	litres
SIGNATURE	St Thursday, May 21, 2020 09:01 AM

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Field Parameters - MWA-46-08:29	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:29:00 AM
PH	8.37
TEMPERATURE	14.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1594
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.65
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	161.4
TURBIDITY (NTU)	9.52
DEPTH TO WATER	21.94
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-46-08:32	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:32:00 AM
PH	8.19
TEMPERATURE	14.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	585
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.42
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	152.8
TURBIDITY (NTU)	6.85
DEPTH TO WATER	21.94
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-46-08:35	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:35:00 AM
PH	8.04
TEMPERATURE	14
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	307.9
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	152.2
TURBIDITY (NTU)	5.47
DEPTH TO WATER	21.94
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-46-08:38	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:38:00 AM
PH	7.90
TEMPERATURE	14.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	268.3
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.43
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	154.3
TURBIDITY (NTU)	5.27
DEPTH TO WATER	21.94
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-46-08:41	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:41:00 AM
PH	7.87
TEMPERATURE	14
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	263.9
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.35
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	155.0
TURBIDITY (NTU)	5.21
DEPTH TO WATER	21.94
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-46-08:44	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:44:00 AM
PH	7.82
TEMPERATURE	14.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	262.6
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.31
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	156.1
TURBIDITY (NTU)	5.03
DEPTH TO WATER	21.94
DEPTH UNIT	feet
STABLE	Yes

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Field Parameters - MWA-46-08:47	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:47:00 AM
PH	7.8
TEMPERATURE	14.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	260.8
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.26
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	157.1
TURBIDITY (NTU)	4.96
DEPTH TO WATER	21.94
DEPTH UNIT	feet
STABLE	Yes

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Field Parameters - MWA-46-08:50	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 8:50:00 AM
PH	7.79
TEMPERATURE	14.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	259.7
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.21
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	157.9
TURBIDITY (NTU)	4.65
DEPTH TO WATER	21.94
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: MWA-46-052120 Sample Time: 08:51	
Groundwater Monitoring - MWA-46 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 8:51:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-46-052120
SAMPLE ID CONFIRMATION	MWA-46-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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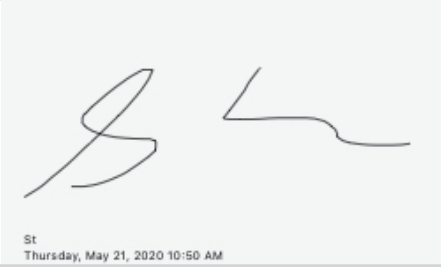
Groundwater Monitoring

Groundwater Monitoring - MWA-19 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-19
MAP	Latitude=45.5702569, Longitude=-122.7414379, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 9:41:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	23.34
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	27
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	12
VOLUME UNIT	litres
SIGNATURE	 St Thursday, May 21, 2020 10:50 AM

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Field Parameters - MWA-19-	
Groundwater Monitoring - MWA-19 - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160

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Field Parameters - MWA-19-09:47	
Groundwater Monitoring - MWA-19 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 9:47:00 AM
PH	7.18
TEMPERATURE	14.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2359
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	4.38
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	201.1
TURBIDITY (NTU)	42.52
DEPTH TO WATER	23.40
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-19-10:02	
Groundwater Monitoring - MWA-19 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:02:00 AM
PH	6.82
TEMPERATURE	14.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2363
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.45
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	206.3
TURBIDITY (NTU)	38.17
DEPTH TO WATER	23.40
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-19-10:17	
Groundwater Monitoring - MWA-19 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:17:00 AM
PH	6.81
TEMPERATURE	14.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2334
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.37
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	208.4
TURBIDITY (NTU)	35.74
DEPTH TO WATER	23.40
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-19-10:32	
Groundwater Monitoring - MWA-19 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:32:00 AM
PH	6.79
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2339
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.36
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	210.2
TURBIDITY (NTU)	36.50
DEPTH TO WATER	23.40
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-19-10:47	
Groundwater Monitoring - MWA-19 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:47:00 AM
PH	6.78
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2328
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.38
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	211.7
TURBIDITY (NTU)	35.74
DEPTH TO WATER	23.4
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-19-052120 Sample Time: 10:48	
Groundwater Monitoring - MWA-19 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 10:48:00 AM
CLARITY	Translucent
ODOR	None
SAMPLE ID	MWA-19-052120
SAMPLE ID CONFIRMATION	MWA-19-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-34I
MAP	Latitude=45.5702703, Longitude=-122.74146, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 12:13:00 PM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	23.18
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	34
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.88
VOLUME UNIT	litres
SIGNATURE	St Thursday, May 21, 2020 13:09 PM

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Groundwater Monitoring

Field Parameters - MWA-34I-12:24	
Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:24:00 PM
PH	7.17
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2652
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	40.3
TURBIDITY (NTU)	7.79
DEPTH TO WATER	23.56
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-34I-12:27	
Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:27:00 PM
PH	6.97
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2740
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.89
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-26.9
TURBIDITY (NTU)	5.71
DEPTH TO WATER	23.98
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-34I-12:30	
Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:30:00 PM
PH	6.97
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2742
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.83
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-57.9
TURBIDITY (NTU)	5.63
DEPTH TO WATER	24.0
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-34I-12:36	
Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:36:00 PM
PH	6.97
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2736
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.78
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-74.4
TURBIDITY (NTU)	4.69
DEPTH TO WATER	24
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-34I-12:33	
Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:33:00 PM
PH	6.97
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2728
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.80
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-71.6
TURBIDITY (NTU)	5.42
DEPTH TO WATER	24.00
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-34I-12:39	
Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:39:00 PM
PH	6.97
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2730
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.70
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-77.1
TURBIDITY (NTU)	4.23
DEPTH TO WATER	24.0
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: MWA-34I-052120 Sample Time: 12:40	
Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 12:40:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-34I-052120
SAMPLE ID CONFIRMATION	MWA-34I-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Sample information - Sample ID: DUP-02-052120 Sample Time: 12:41	
Groundwater Monitoring - MWA-34I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Field duplicate
SAMPLE DATE/TIME	5/21/2020 12:41:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	DUP-02-052120
PARENT SAMPLE ID	MWA-34I-052120
SAMPLE ID CONFIRMATION	DUP-02-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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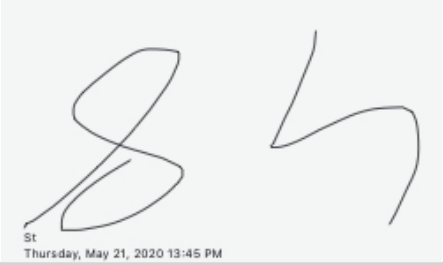
Groundwater Monitoring

Groundwater Monitoring - MWA-58D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-58D
MAP	Latitude=45.5702885, Longitude=-122.7414411, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 1:15:00 PM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	23.88
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	57
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.44
VOLUME UNIT	litres
SIGNATURE	 St Thursday, May 21, 2020 13:45 PM

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Field Parameters - MWA-58D-13:23	
Groundwater Monitoring - MWA-58D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:23:00 PM
PH	6.57
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	37976
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	5.78
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	198.6
TURBIDITY (NTU)	20.31
DEPTH TO WATER	24.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - MWA-58D-13:26	
Groundwater Monitoring - MWA-58D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:26:00 PM
PH	6.41
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	41597
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.02
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	197.7
TURBIDITY (NTU)	8.02
DEPTH TO WATER	24.10
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-58D-13:29	
Groundwater Monitoring - MWA-58D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:29:00 PM
PH	6.42
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	43203
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.92
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	196.4
TURBIDITY (NTU)	4.33
DEPTH TO WATER	24.1
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-58D-13:32	
Groundwater Monitoring - MWA-58D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:32:00 PM
PH	6.42
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	44515
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.83
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	195.7
TURBIDITY (NTU)	4.52
DEPTH TO WATER	24.1
DEPTH UNIT	feet
STABLE	No

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Field Parameters - MWA-58D-13:35	
Groundwater Monitoring - MWA-58D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:35:00 PM
PH	6.43
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	45575
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.78
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	195.1
TURBIDITY (NTU)	4.31
DEPTH TO WATER	24.1
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-58D-052120 Sample Time: 13:36	
Groundwater Monitoring - MWA-58D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 1:36:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-58D-052120
SAMPLE ID CONFIRMATION	MWA-58D-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-32I
MAP	Latitude=45.5715174357, Longitude=-122.7448935261, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/22/2020 6:45:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	19.95
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	37
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	3.36
VOLUME UNIT	litres
SIGNATURE	

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Groundwater Monitoring

Field Parameters - PA-32I-07:02	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 7:02:00 AM
PH	8.31
TEMPERATURE	14.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2045
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.86
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	112.7
TURBIDITY (NTU)	6.35
DEPTH TO WATER	19.95
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	160
STABLE	No

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Field Parameters - PA-32I-07:05	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 7:05:00 AM
PH	7.84
TEMPERATURE	14.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1670
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.98
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-46.9
TURBIDITY (NTU)	4.33
DEPTH TO WATER	19.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-32I-07:08	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 7:08:00 AM
PH	7.76
TEMPERATURE	14.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1478
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.91
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-99.7
TURBIDITY (NTU)	3.18
DEPTH TO WATER	19.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-32I-07:11	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 7:11:00 AM
PH	7.75
TEMPERATURE	14.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1467
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.93
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-141.9
TURBIDITY (NTU)	2.75
DEPTH TO WATER	19.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-32I-07:14	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 7:14:00 AM
PH	7.75
TEMPERATURE	14.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1469
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.96
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-150.9
TURBIDITY (NTU)	2.80
DEPTH TO WATER	19.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-32I-07:17	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 7:17:00 AM
PH	7.74
TEMPERATURE	14.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1461
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.92
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-153.8
TURBIDITY (NTU)	2.66
DEPTH TO WATER	19.95
DEPTH UNIT	feet
STABLE	No

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Field Parameters - PA-32I-07:20	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 7:20:00 AM
PH	7.74
TEMPERATURE	14.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1459
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.90
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-158.3
TURBIDITY (NTU)	2.60
DEPTH TO WATER	19.95
DEPTH UNIT	feet
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-32I-052220 Sample Time: 07:21	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/22/2020 7:21:00 AM
CLARITY	Colored
ODOR	None
ADDITIONAL SAMPLE DETAILS	RB-02-052220 @0600
SAMPLE ID	PA-32I-052220
SAMPLE ID CONFIRMATION	PA-32I-052220
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Sample information - Sample ID: DUP-03-052220 Sample Time: 07:22	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Field duplicate
SAMPLE DATE/TIME	5/22/2020 7:22:00 AM
CLARITY	Colored
ODOR	None
SAMPLE NUMBER IDENTIFIER	03
SAMPLE ID	DUP-03-052220
PARENT SAMPLE ID	PA-32i-052220
SAMPLE ID CONFIRMATION	DUP-03-052220
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Sample information - Sample ID: PA-32i-052220 Sample Time: 07:21	
Groundwater Monitoring - PA-32I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Field triplicate
SAMPLE DATE/TIME	5/22/2020 7:21:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-32i-052220
PARENT SAMPLE ID	PA-32I-052220
SAMPLE ID CONFIRMATION	PA-32i-052220
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	No

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Groundwater Monitoring

Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-20
MAP	Latitude=45.5701369, Longitude=-122.7423235, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/26/2020 12:53:00 PM
FIELD WORKER/S	Avery Soplata
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.12
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	36.49
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	32.19
NUMBER OF CONSECTUTIVE	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-20-	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet

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Field Parameters - MWA-20-13:10	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:10:00 PM
PH	8.50
TEMPERATURE	18.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1100
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	99.7
TURBIDITY (NTU)	73.3
DEPTH TO WATER	25.13
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-20-13:15	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:15:00 PM
PH	8.35
TEMPERATURE	18.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1092
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.97
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	101.7
TURBIDITY (NTU)	60.89
DEPTH TO WATER	25.13
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-20-13:20	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:20:00 PM
PH	8.41
TEMPERATURE	18.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1089
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.83
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	95.8
TURBIDITY (NTU)	52.22
DEPTH TO WATER	25.14
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-20-13:25	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:25:00 PM
PH	8.45
TEMPERATURE	18.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1090
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.79
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	81.9
TURBIDITY (NTU)	53.60
DEPTH TO WATER	25.14
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-20-13:30	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:30:00 PM
PH	8.48
TEMPERATURE	18.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1090
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	71.4
TURBIDITY (NTU)	55.41
DEPTH TO WATER	25.14
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-20-13:35	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:35:00 PM
PH	8.56
TEMPERATURE	18.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1089
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.73
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	60.1
TURBIDITY (NTU)	58.42
DEPTH TO WATER	25.14
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-20-13:40	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:40:00 PM
PH	8.61
TEMPERATURE	18.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1090
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.59
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	55.0
TURBIDITY (NTU)	55.67
DEPTH TO WATER	25.14
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-20-13:45	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:45:00 PM
PH	8.67
TEMPERATURE	18.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1091
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.57
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	52.2
TURBIDITY (NTU)	55.26
DEPTH TO WATER	25.14
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - MWA-20-13:50	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:50:00 PM
PH	8.76
TEMPERATURE	18.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1096
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	50.1
TURBIDITY (NTU)	55.44
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field equipment used - 2 bladder pump	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	2 bladder pump

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Groundwater Monitoring

Sample information - Sample ID: MWA-20-052620 Sample Time: 14:00	
Groundwater Monitoring - MWA-20 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/26/2020 2:00:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-20-052620
SAMPLE ID CONFIRMATION	MWA-20-052620
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
PARAMETER(S)	Metals - dissolved,Volatile organic compounds (VOCs),Others
OTHER PARAMETERS	Chloride, Perchlorate, Hexavalent Chromium
CONTAINER TYPE(S)	Plastic bottle/jar,Glass vial
CONTAINER SIZE(S)	250mL,60mL
PRESERVATIVE(S)	HCl, Nitric acid
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-51I
MAP	Latitude=45.5704771, Longitude=-122.7419659, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/26/2020 9:30:00 AM
FIELD WORKER/S	Avery Soplata
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.26
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	42.20
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	39.32
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
ADDITIONAL COMMENTS	Collected VOCs, chloride, perchlorate, hex chrom & diss. Metals
SIGNATURE	

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Field Parameters - MWA-51I-	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet

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Field Parameters - MWA-51I-10:10	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:10:00 AM
PH	7.31
TEMPERATURE	18.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5009
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-38.2
TURBIDITY (NTU)	10.97
DEPTH TO WATER	22.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	75
STABLE	No

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Field Parameters - MWA-51I-10:16	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:16:00 AM
PH	7.30
TEMPERATURE	17.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5128
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.97
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-120.6
TURBIDITY (NTU)	10.85
DEPTH TO WATER	22.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-51I-10:20	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:20:00 AM
PH	7.31
TEMPERATURE	17.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5107
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.55
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-136.3
TURBIDITY (NTU)	10.94
DEPTH TO WATER	22.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-51I-10:40	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:40:00 AM
PH	7.28
TEMPERATURE	19.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5120
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.99
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-148.5
TURBIDITY (NTU)	10.61
DEPTH TO WATER	22.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-51I-10:45	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:45:00 AM
PH	7.28
TEMPERATURE	18.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5131
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.04
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-152.2
TURBIDITY (NTU)	10.58
DEPTH TO WATER	22.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-51I-10:50	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:50:00 AM
PH	7.29
TEMPERATURE	18.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5119
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-155.2
TURBIDITY (NTU)	10.56
DEPTH TO WATER	22.25
DEPTH UNIT	feet
STABLE	No

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Field equipment used - 2 bladder pump	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	2 bladder pump

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Sample information - Sample ID: MWA-51i-052620 Sample Time: 10:55	
Groundwater Monitoring - MWA-51I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/26/2020 10:55:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-51i-052620
SAMPLE ID CONFIRMATION	MWA-51i-052620
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
PARAMETER(S)	Metals - dissolved,Volatile organic compounds (VOCs),Others
OTHER PARAMETERS	Chloride, Perchlorate, Hexavalent Chromium
CONTAINER TYPE(S)	Plastic bottle/jar,Glass vial
CONTAINER SIZE(S)	250mL,60mL
PRESERVATIVE(S)	HCl, Nitric acid
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-42
MAP	Latitude=45.5704323, Longitude=-122.7428492, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/26/2020 3:25:00 PM
FIELD WORKER/S	Avery Soplata
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.84
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	31.08
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	26.63
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	2.0
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-42-	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet

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Field Parameters - MWA-42-15:45	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:45:00 PM
PH	9.75
TEMPERATURE	18.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	861
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.94
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	77.5
TURBIDITY (NTU)	89.04
DEPTH TO WATER	22.86
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-42-15:50	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:50:00 PM
PH	9.39
TEMPERATURE	18.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	814
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.82
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	80.6
TURBIDITY (NTU)	76.10
DEPTH TO WATER	22.86
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-42-15:55	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:55:00 PM
PH	9.45
TEMPERATURE	18.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	789
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	86.0
TURBIDITY (NTU)	59.75
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-42-16:00	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 4:00:00 PM
PH	9.46
TEMPERATURE	17.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	783
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.72
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	87.1
TURBIDITY (NTU)	56.01
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-42-16:05	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 4:05:00 PM
PH	9.65
TEMPERATURE	17.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	774
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	81.4
TURBIDITY (NTU)	54.23
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-42-16:10	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 4:10:00 PM
PH	9.66
TEMPERATURE	17.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	756
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	84.0
TURBIDITY (NTU)	53.98
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-42-16:15	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 4:15:00 PM
PH	9.61
TEMPERATURE	17.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	736
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	86.4
TURBIDITY (NTU)	56.81
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - 2 bladder pump	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	2 bladder pump

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Groundwater Monitoring

Sample information - Sample ID: MWA-42-052620 Sample Time: 16:20	
Groundwater Monitoring - MWA-42 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/26/2020 4:20:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-42-052620
SAMPLE ID CONFIRMATION	MWA-42-052620
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
PARAMETER(S)	Metals - dissolved,Volatile organic compounds (VOCs),Others
OTHER PARAMETERS	Chloride, Perchlorate, Hexavalent Chromium
CONTAINER TYPE(S)	Glass vial,Plastic bottle/jar
CONTAINER SIZE(S)	60mL,250mL
PRESERVATIVE(S)	HCl, Nitric acid
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-11I(D)
MAP	Latitude=45.5707889, Longitude=-122.743592, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/29/2020 8:24:00 AM
FIELD WORKER/S	Avery Soplata
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.46
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	51.10
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	48.3
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	3
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-11I(D)-	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet

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Field Parameters - MWA-11I(D)-08:56	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:56:00 AM
PH	9.90
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2390
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	6.23
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	144.2
TURBIDITY (NTU)	19.37
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:00	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:00:00 AM
PH	8.78
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4575
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.50
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	17.2
TURBIDITY (NTU)	12.83
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:05	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:05:00 AM
PH	8.76
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4697
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.98
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-26.9
TURBIDITY (NTU)	19.17
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:10	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:10:00 AM
PH	8.81
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4705
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.84
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-54.7
TURBIDITY (NTU)	21.47
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:15	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:15:00 AM
PH	8.85
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4667
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.77
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-71.9
TURBIDITY (NTU)	16.03
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:20	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:20:00 AM
PH	8.88
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4629
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.72
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-81.1
TURBIDITY (NTU)	13.20
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:26	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:26:00 AM
PH	8.93
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4598
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.69
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-87.6
TURBIDITY (NTU)	8.84
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:30	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:30:00 AM
PH	9.33
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4583
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.67
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-90.6
TURBIDITY (NTU)	7.38
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:40	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:40:00 AM
PH	10.17
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4560
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.63
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-96.0
TURBIDITY (NTU)	4.45
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:45	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:45:00 AM
PH	10.12
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4551
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-97.8
TURBIDITY (NTU)	3.83
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:50	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:50:00 AM
PH	9.75
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4554
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.61
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-99.3
TURBIDITY (NTU)	3.61
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:35	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:35:00 AM
PH	9.00
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4574
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.65
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-93.7
TURBIDITY (NTU)	5.86
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-09:55	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:55:00 AM
PH	10.02
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4549
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.60
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-100.6
TURBIDITY (NTU)	3.00
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-10:00	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:00:00 AM
PH	10.37
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4555
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.59
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-102.0
TURBIDITY (NTU)	2.49
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-11I(D)-	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet

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Field Parameters - MWA-11I(D)-	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
UNIT FOR TEMPERATURE	ºC
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
UNIT FOR DISSOLVED OXYGEN	mg/L
DEPTH UNIT	feet

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Field Parameters - MWA-11I(D)-10:10	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:10:00 AM
PH	10.25
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4554
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.57
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-104.0
TURBIDITY (NTU)	2.10
DEPTH TO WATER	21.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - 2 bladder pump	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
EQUIPMENT TYPE	2 bladder pump

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Groundwater Monitoring

Sample information - Sample ID: MWA-11i(d)-052920 Sample Time: 10:20	
Groundwater Monitoring - MWA-11I(D) - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/29/2020 10:20:00 AM
CLARITY	Cloudy
ODOR	None
SAMPLE ID	MWA-11i(d)-052920
SAMPLE ID CONFIRMATION	MWA-11i(d)-052920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
PARAMETER(S)	Pesticides - organochlorine (OCP),Volatile organic compounds (VOCs),Metals - dissolved,Metals - total,Others
OTHER PARAMETERS	Chloride, Perchlorate, Hexavalent Chromium
CONTAINER TYPE(S)	Glass bottle/jar - amber,Glass vial,Plastic bottle/jar
CONTAINER SIZE(S)	60mL,250mL
PRESERVATIVE(S)	HCl, Nitric acid
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-15I
MAP	Latitude=45.5689917, Longitude=-122.741464, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 8:24:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.9
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	42.5
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons

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Groundwater Monitoring

SIGNATURE	

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Field Parameters - PA-15I-09:00	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:00:00 AM
PH	6.84
TEMPERATURE	56.8
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1725
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.77
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-0.9
TURBIDITY (NTU)	17.5
DEPTH TO WATER	26.15
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-15I-09:15	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:15:00 AM
PH	6.87
TEMPERATURE	57.5
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1757
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.95
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	4.9
TURBIDITY (NTU)	26.6
DEPTH TO WATER	26.15
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-15I-09:19	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:19:00 AM
PH	6.89
TEMPERATURE	57.8
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1696
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	8.5
TURBIDITY (NTU)	32.6
DEPTH TO WATER	26.15
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-15I-09:48	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:48:00 AM
PH	6.94
TEMPERATURE	60.5
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1495
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.61
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	26.6
TURBIDITY (NTU)	41.7
DEPTH TO WATER	26.15
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-15I-09:51	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:51:00 AM
PH	6.94
TEMPERATURE	60.1
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1493
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.7
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	25.9
TURBIDITY (NTU)	41.4
DEPTH TO WATER	26.15
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-15I-09:26	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:26:00 AM
PH	6.91
TEMPERATURE	58.4
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1601
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	14.4
TURBIDITY (NTU)	38.2
DEPTH TO WATER	26.15
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-15I-09:57	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 9:57:00 AM
PH	6.94
TEMPERATURE	60
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1492
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.72
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	26
TURBIDITY (NTU)	41.2
DEPTH TO WATER	26.15
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field equipment used - 1 Bladder Pump	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	1 Bladder Pump

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Groundwater Monitoring

Sample information - Sample ID: PA-15I-051820 Sample Time: 10:10	
Groundwater Monitoring - PA-15I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 10:10:00 AM
CLARITY	Colored
ODOR	None
ADDITIONAL SAMPLE DETAILS	No pesticides or total metals collected
SAMPLE ID	PA-15I-051820
SAMPLE ID CONFIRMATION	PA-15I-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-25D
MAP	Latitude=45.5689977, Longitude=-122.7414935, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 11:44:00 AM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	26.41
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	82.58
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	80
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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Groundwater Monitoring

VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-25D-12:14	
Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:14:00 PM
PH	7.05
TEMPERATURE	60.8
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	580
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.31
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-110.5
TURBIDITY (NTU)	7.8
DEPTH TO WATER	28.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-25D-12:08	
Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:08:00 PM
PH	7.04
TEMPERATURE	60.5
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	499
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-877
TURBIDITY (NTU)	8
DEPTH TO WATER	27.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-25D-12:19	
Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:19:00 PM
PH	7.06
TEMPERATURE	60.8
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	587
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.98
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-113
TURBIDITY (NTU)	7.8
DEPTH TO WATER	29.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-25D-12:21	
Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:21:00 PM
PH	7.08
TEMPERATURE	60.9
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	591
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.6
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-118.9
TURBIDITY (NTU)	7.3
DEPTH TO WATER	30.25
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-25D-12:32	
Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:32:00 PM
PH	7.08
TEMPERATURE	60.4
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	592
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.28
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-123.9
TURBIDITY (NTU)	3.7
DEPTH TO WATER	32.12
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-25D-12:26	
Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:26:00 PM
PH	7.08
TEMPERATURE	60.6
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	592
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.31
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-122.4
TURBIDITY (NTU)	4.2
DEPTH TO WATER	31.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-25D-12:29	
Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 12:29:00 PM
PH	7.08
TEMPERATURE	60.5
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	592
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.30
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-123.4
TURBIDITY (NTU)	3.8
DEPTH TO WATER	31.98
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Sample information - Sample ID: Pa-25d-051820 Sample Time: 12:45	
Groundwater Monitoring - PA-25D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 12:45:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	Pa-25d-051820
SAMPLE ID CONFIRMATION	Pa-25d-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring

Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-29
MAP	Latitude=45.5692398, Longitude=-122.7406952, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 1:53:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	31.60
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	42.11
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	35
NUMBER OF CONSECTUTIVE	3

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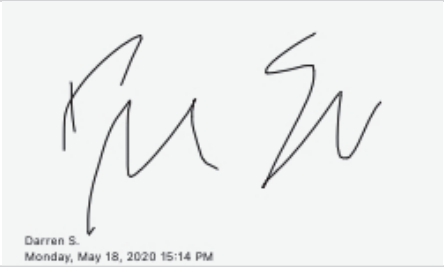
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-29-14:13	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:13:00 PM
PH	7.21
TEMPERATURE	70
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1481
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.76
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	97.2
TURBIDITY (NTU)	58.5
DEPTH TO WATER	31.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-29-14:09	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:09:00 PM
PH	7.26
TEMPERATURE	60.3
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1478
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.69
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	95.2
TURBIDITY (NTU)	60.7
DEPTH TO WATER	31.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-29-14:20	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:20:00 PM
PH	7.18
TEMPERATURE	59.7
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1482
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.38
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	101.4
TURBIDITY (NTU)	55.9
DEPTH TO WATER	31.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-29-14:26	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:26:00 PM
PH	7.17
TEMPERATURE	59
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1481
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.28
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	104.3
TURBIDITY (NTU)	54.8
DEPTH TO WATER	31.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-29-14:34	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:34:00 PM
PH	7.16
TEMPERATURE	57.7
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1478
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.19
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	105.6
TURBIDITY (NTU)	54.8
DEPTH TO WATER	31.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-29-14:39	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:39:00 PM
PH	7.15
TEMPERATURE	57.7
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1471
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.14
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	105
TURBIDITY (NTU)	54.6
DEPTH TO WATER	31.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-29-14:47	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:47:00 PM
PH	7.16
TEMPERATURE	57.8
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1468
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.12
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	102.4
TURBIDITY (NTU)	53.6
DEPTH TO WATER	31.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-29-14:55	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:55:00 PM
PH	7.17
TEMPERATURE	57.9
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	1465
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.09
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	98.6
TURBIDITY (NTU)	54
DEPTH TO WATER	31.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Sample information - Sample ID: MWA-29-051820 Sample Time: 15:15	
Groundwater Monitoring - MWA-29 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 3:15:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-29-051820
SAMPLE ID CONFIRMATION	MWA-29-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-29I
MAP	Latitude=45.5696177, Longitude=-122.7408162, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 8:46:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.15
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	44.59
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	41.5
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-29I-08:57	
Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 8:57:00 AM
PH	6.89
TEMPERATURE	58.9
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	5247
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.36
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-57.4
TURBIDITY (NTU)	77.4
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-29I-09:05	
Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:05:00 AM
PH	6.82
TEMPERATURE	59
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	5269
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.26
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-56.1
TURBIDITY (NTU)	61.7
DEPTH TO WATER	25.42
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-29I-09:11	
Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:11:00 AM
PH	6.81
TEMPERATURE	59.3
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	5312
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.13
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-53.9
TURBIDITY (NTU)	46.3
DEPTH TO WATER	25.42
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-29I-09:44	
Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:44:00 AM
PH	6.78
TEMPERATURE	60.2
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	5397
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.25
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-38.8
TURBIDITY (NTU)	21.6
DEPTH TO WATER	25.42
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-29I-09:48	
Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:48:00 AM
PH	6.77
TEMPERATURE	60.9
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	5458
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-38.2
TURBIDITY (NTU)	15.6
DEPTH TO WATER	25.42
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-29I-09:53	
Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:53:00 AM
PH	6.77
TEMPERATURE	60.7
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	5467
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-38.1
TURBIDITY (NTU)	15
DEPTH TO WATER	25.42
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-29I-09:56	
Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:56:00 AM
PH	6.77
TEMPERATURE	60.3
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	5494
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-38.5
TURBIDITY (NTU)	15.2
DEPTH TO WATER	25.42
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: PA-29i-051920 Sample Time: 10:00	
Groundwater Monitoring - PA-29I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 10:00:00 AM
CLARITY	Translucent
ODOR	None
SAMPLE ID	PA-29i-051920
SAMPLE ID CONFIRMATION	PA-29i-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-28 - Not started	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-28
MAP	Latitude=45.5700633, Longitude=-122.7417193, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00

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Groundwater Monitoring

Groundwater Monitoring - PA-24D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-24D
MAP	Latitude=45.5695898, Longitude=-122.7407902, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 11:00:00 AM
FIELD WORKER/S	Ds
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	27.85
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	84.51
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	80
NUMBER OF CONSECTUTIVE	3

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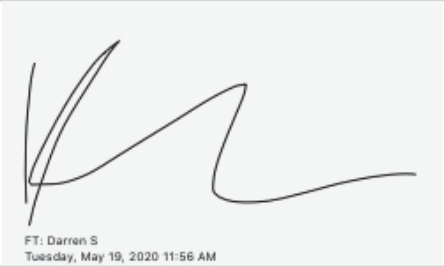
Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-24D-11:30	
Groundwater Monitoring - PA-24D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 11:30:00 AM
PH	6.49
TEMPERATURE	59.9
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	89.81
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-82.6
TURBIDITY (NTU)	4.2
DEPTH TO WATER	29.90
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-24D-11:37	
Groundwater Monitoring - PA-24D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 11:37:00 AM
PH	6.5
TEMPERATURE	59.4
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	89.85
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.52
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-83.1
TURBIDITY (NTU)	3.5
DEPTH TO WATER	30.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-24D-11:40	
Groundwater Monitoring - PA-24D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 11:40:00 AM
PH	6.5
TEMPERATURE	59.3
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	89.79
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.46
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-83.6
TURBIDITY (NTU)	2.9
DEPTH TO WATER	30.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-24D-11:43	
Groundwater Monitoring - PA-24D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 11:43:00 AM
PH	6.5
TEMPERATURE	59.1
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	89.81
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.42
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-83.9
TURBIDITY (NTU)	2.6
DEPTH TO WATER	31
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-24D-11:46	
Groundwater Monitoring - PA-24D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 11:46:00 AM
PH	6.51
TEMPERATURE	59
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	89.78
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.39
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-84.2
TURBIDITY (NTU)	2.6
DEPTH TO WATER	31
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Sample information - Sample ID: PA-24d-051920 Sample Time: 12:00	
Groundwater Monitoring - PA-24D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 12:00:00 PM
CLARITY	Transparent
ODOR	None
ADDITIONAL SAMPLE DETAILS	During sample collection, water turned extremely turbid. Will not collect for pesticides or total metals.
SAMPLE ID	PA-24d-051920
SAMPLE ID CONFIRMATION	PA-24d-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-49I
MAP	Latitude=45.5704354, Longitude=-122.7416115, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 1:54:00 PM
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.98
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	43.84
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	40
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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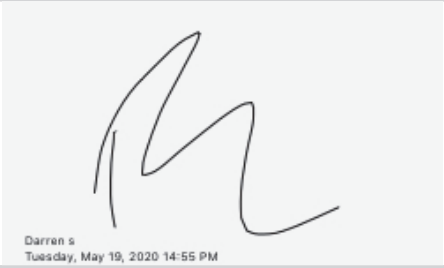
Groundwater Monitoring

VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-49I-14:00	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:00:00 PM
PH	6.93
TEMPERATURE	60
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	4.75
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.21
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-6.3
TURBIDITY (NTU)	85.7
DEPTH TO WATER	24.20
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-49I-14:14	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:14:00 PM
PH	6.94
TEMPERATURE	59.4
UNIT FOR TEMPERATURE	ºF
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.77
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-6.4
TURBIDITY (NTU)	85.3
DEPTH TO WATER	24.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-49I-14:19	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:19:00 PM
PH	6.94
TEMPERATURE	59.4
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	3.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.36
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-5.9
TURBIDITY (NTU)	86.7
DEPTH TO WATER	24.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-49I-14:23	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:23:00 PM
PH	6.95
TEMPERATURE	59.5
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	3.81
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.18
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-4.5
TURBIDITY (NTU)	87.4
DEPTH TO WATER	24.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-49I-14:27	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:27:00 PM
PH	6.94
TEMPERATURE	59.9
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	3.74
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.10
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-2.1
TURBIDITY (NTU)	89.1
DEPTH TO WATER	24.55
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-49I-14:37	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:37:00 PM
PH	6.94
TEMPERATURE	60.5
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	3.68
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.02
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	3.7
TURBIDITY (NTU)	89.8
DEPTH TO WATER	24.55
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-49I-14:45	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:45:00 PM
PH	6.93
TEMPERATURE	60.8
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	3.68
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.02
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	9.3
TURBIDITY (NTU)	89.5
DEPTH TO WATER	24.55
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-49I-14:48	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:48:00 PM
PH	6.93
TEMPERATURE	60.8
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	3.68
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	11.8
TURBIDITY (NTU)	89.7
DEPTH TO WATER	24.55
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-49I-14:51	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 2:51:00 PM
PH	6.93
TEMPERATURE	60.8
UNIT FOR TEMPERATURE	ºF
SPECIFIC CONDUCTIVITY	3.68
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	13.9
TURBIDITY (NTU)	89.7
DEPTH TO WATER	24.55
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: MWA-49i-051920 Sample Time: 15:10	
Groundwater Monitoring - MWA-49I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 3:10:00 PM
CLARITY	Colored
ODOR	None
ADDITIONAL SAMPLE DETAILS	Collected RB-01-051920 @ 1355
SAMPLE ID	MWA-49i-051920
SAMPLE ID CONFIRMATION	MWA-49i-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-09 - Not started	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-09
MAP	Latitude=45.5688647, Longitude=-122.7413422, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00

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Groundwater Monitoring

Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-23D
MAP	Latitude=45.5695262, Longitude=-122.7409761, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 8:50:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	24.5
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	82.91
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	80
NUMBER OF CONSECTUTIVE	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-23D-09:13	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:13:00 AM
PH	7.18
TEMPERATURE	13.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	16.4
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.85
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	106.3
TURBIDITY (NTU)	1.9
DEPTH TO WATER	30.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-23D-09:04	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:04:00 AM
PH	7.19
TEMPERATURE	13.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	16.353
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.91
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	119
TURBIDITY (NTU)	1.6
DEPTH TO WATER	27.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-23D-09:10	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:10:00 AM
PH	7.18
TEMPERATURE	13.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	16.422
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.03
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	110.8
TURBIDITY (NTU)	2
DEPTH TO WATER	29.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-23D-09:22	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:22:00 AM
PH	7.16
TEMPERATURE	13.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	16.18
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	93.3
TURBIDITY (NTU)	2.6
DEPTH TO WATER	31.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-23D-09:17	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:17:00 AM
PH	7.17
TEMPERATURE	13.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	16.35
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.74
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	101.5
TURBIDITY (NTU)	2.6
DEPTH TO WATER	31.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-23D-09:25	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:25:00 AM
PH	7.16
TEMPERATURE	13.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	15.98
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	85.3
TURBIDITY (NTU)	2.5
DEPTH TO WATER	31.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-23D-09:28	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:28:00 AM
PH	7.16
TEMPERATURE	13.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	15.83
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.7
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	77.6
TURBIDITY (NTU)	2.5
DEPTH TO WATER	31.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-23D-09:31	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:31:00 AM
PH	7.15
TEMPERATURE	13.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	15.7
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.67
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	66.4
TURBIDITY (NTU)	2.6
DEPTH TO WATER	31.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-23D-09:33	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:33:00 AM
PH	7.15
TEMPERATURE	13.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	15.22
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	63.9
TURBIDITY (NTU)	2.9
DEPTH TO WATER	32
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-23D-09:36	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:36:00 AM
PH	7.14
TEMPERATURE	14
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	15.03
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.79
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	60
TURBIDITY (NTU)	3.1
DEPTH TO WATER	32.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-23d-052020 Sample Time: 09:45	
Groundwater Monitoring - PA-23D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 9:45:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	PA-23d-052020
SAMPLE ID CONFIRMATION	PA-23d-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-13I
MAP	Latitude=45.5701041, Longitude=-122.7417281, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 11:20:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	23.95
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	41.9
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	40.6
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION	3

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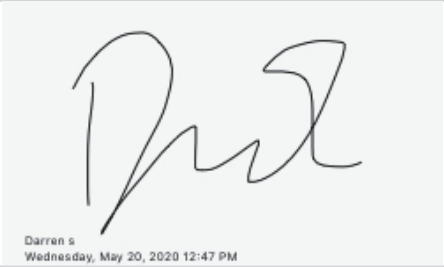
Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-13I-11:40	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 11:40:00 AM
PH	6.55
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5.744
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.06
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-57.7
TURBIDITY (NTU)	31.9
DEPTH TO WATER	26.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-13I-11:48	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 11:48:00 AM
PH	6.51
TEMPERATURE	16.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5.792
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-66.3
TURBIDITY (NTU)	59.3
DEPTH TO WATER	27.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-13I-12:05	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:05:00 PM
PH	6.53
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5.74
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-62.5
TURBIDITY (NTU)	44.4
DEPTH TO WATER	28.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-13I-12:10	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:10:00 PM
PH	6.54
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5.71
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-62.2
TURBIDITY (NTU)	39.5
DEPTH TO WATER	28.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-13I-12:15	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:15:00 PM
PH	6.54
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5.71
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-62
TURBIDITY (NTU)	38.2
DEPTH TO WATER	29.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-13I-12:22	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:22:00 PM
PH	6.54
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5.70
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-62.5
TURBIDITY (NTU)	34.8
DEPTH TO WATER	29.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-13I-12:30	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:30:00 PM
PH	6.54
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5.70
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-62.5
TURBIDITY (NTU)	34.4
DEPTH TO WATER	30
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-13I-12:33	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:33:00 PM
PH	6.54
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	5.70
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-62
TURBIDITY (NTU)	34.9
DEPTH TO WATER	30.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-13i-052020 Sample Time: 12:40	
Groundwater Monitoring - PA-13I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 12:40:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-13i-052020
SAMPLE ID CONFIRMATION	PA-13i-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-22D
MAP	Latitude=45.5701091, Longitude=-122.7416841, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 1:30:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	24
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	62.39
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	59.5
NUMBER OF CONSECTUTIVE	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-22D-13:40	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 1:40:00 PM
PH	6.72
TEMPERATURE	15
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	23.8
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.16
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	90.3
TURBIDITY (NTU)	3.4
DEPTH TO WATER	24.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-22D-13:45	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 1:45:00 PM
PH	6.72
TEMPERATURE	15
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	24.39
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.28
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	91.7
TURBIDITY (NTU)	2.7
DEPTH TO WATER	24.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-22D-13:49	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 1:49:00 PM
PH	6.72
TEMPERATURE	15
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	24.46
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.9
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	92.5
TURBIDITY (NTU)	1.4
DEPTH TO WATER	24.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-22D-13:54	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 1:54:00 PM
PH	6.73
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	24.54
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.66
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	92.8
TURBIDITY (NTU)	1.3
DEPTH TO WATER	24.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-22D-14:00	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:00:00 PM
PH	6.73
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	25.28
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.49
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	94.6
TURBIDITY (NTU)	1.4
DEPTH TO WATER	24.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-22D-14:04	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:04:00 PM
PH	6.74
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	26.73
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.4
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	96.1
TURBIDITY (NTU)	1.1
DEPTH TO WATER	24.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-22D-14:07	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:07:00 PM
PH	6.75
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	27.60
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.38
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	96.7
TURBIDITY (NTU)	0.9
DEPTH TO WATER	24.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-22D-14:10	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:10:00 PM
PH	6.76
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	27.68
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.32
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	96.7
TURBIDITY (NTU)	1
DEPTH TO WATER	24.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-22d-052020 Sample Time: 14:30	
Groundwater Monitoring - PA-22D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 2:30:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	PA-22d-052020
SAMPLE ID CONFIRMATION	PA-22d-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring

Groundwater Monitoring - MWA-31I(D) - Not started	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-31I(D)
MAP	Latitude=45.5698897, Longitude=-122.7410174, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00

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Groundwater Monitoring

Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-20D
MAP	Latitude=45.5708573, Longitude=-122.742884, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 10:00:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.14
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	62.29
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	59.5
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	0.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-20D-10:20	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:20:00 AM
PH	6.81
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.087
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.19
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-87.2
TURBIDITY (NTU)	2.5
DEPTH TO WATER	24.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-20D-10:33	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:33:00 AM
PH	6.78
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.125
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.27
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-95.1
TURBIDITY (NTU)	2.3
DEPTH TO WATER	26.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-20D-10:29	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:29:00 AM
PH	6.79
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.12
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.7
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-90.7
TURBIDITY (NTU)	2.4
DEPTH TO WATER	25.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-20D-10:37	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:37:00 AM
PH	6.77
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.12
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.05
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-98.9
TURBIDITY (NTU)	2.8
DEPTH TO WATER	27.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-20D-10:42	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:42:00 AM
PH	6.77
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.12
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.85
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-101.9
TURBIDITY (NTU)	2.7
DEPTH TO WATER	27.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-20D-10:48	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:48:00 AM
PH	6.76
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.13
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.61
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-104
TURBIDITY (NTU)	2.7
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-20D-10:51	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:51:00 AM
PH	6.75
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.13
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.58
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-104
TURBIDITY (NTU)	3.1
DEPTH TO WATER	28.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-20D-10:54	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:54:00 AM
PH	6.75
TEMPERATURE	16.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.18
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-103.9
TURBIDITY (NTU)	2.8
DEPTH TO WATER	28.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Sample information - Sample ID: PA-20d-052120 Sample Time: 11:00	
Groundwater Monitoring - PA-20D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 11:00:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	PA-20d-052120
SAMPLE ID CONFIRMATION	PA-20d-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring

Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-21D
MAP	Latitude=45.5712061, Longitude=-122.7428627, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 12:19:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.05
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	56.14
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	53.5
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-21D-12:29	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:29:00 PM
PH	6.04
TEMPERATURE	17.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.92
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.07
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-20.2
TURBIDITY (NTU)	9
DEPTH TO WATER	25.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-21D-12:38	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:38:00 PM
PH	6.03
TEMPERATURE	17.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.95
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.52
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-17.9
TURBIDITY (NTU)	6.1
DEPTH TO WATER	26.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-21D-12:43	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:43:00 PM
PH	6.03
TEMPERATURE	17.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.92
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.35
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-17.6
TURBIDITY (NTU)	7.5
DEPTH TO WATER	27.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-21D-12:47	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:47:00 PM
PH	6.03
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.95
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.30
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-18.2
TURBIDITY (NTU)	10.9
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-21D-12:52	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:52:00 PM
PH	6.02
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.92
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.26
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-16.9
TURBIDITY (NTU)	10.5
DEPTH TO WATER	28.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-21D-13:00	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:00:00 PM
PH	6.03
TEMPERATURE	18.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.92
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.18
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-16.1
TURBIDITY (NTU)	14.8
DEPTH TO WATER	28.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-21D-13:07	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:07:00 PM
PH	6.03
TEMPERATURE	17.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.92
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.14
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-16.6
TURBIDITY (NTU)	14.4
DEPTH TO WATER	29.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-21D-13:16	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:16:00 PM
PH	6.03
TEMPERATURE	17.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.98
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.12
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-17.9
TURBIDITY (NTU)	12.7
DEPTH TO WATER	29.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-21D-13:24	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:24:00 PM
PH	6.02
TEMPERATURE	17.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3.96
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.10
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-17.1
TURBIDITY (NTU)	13.2
DEPTH TO WATER	29.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Sample information - Sample ID: PA-21D-052120 Sample Time: 13:30	
Groundwater Monitoring - PA-21D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 1:30:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	PA-21D-052120
SAMPLE ID CONFIRMATION	PA-21D-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-30D
MAP	Latitude=45.5715156, Longitude=-122.7436213, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 2:20:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.6
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	51.28
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	50
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	0.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-30D-14:50	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 2:50:00 PM
PH	8.10
TEMPERATURE	18.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.20
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.7
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	4.4
TURBIDITY (NTU)	18.2
DEPTH TO WATER	22.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-30D-15:07	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:07:00 PM
PH	8.12
TEMPERATURE	18.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.12
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.43
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-3.7
TURBIDITY (NTU)	19
DEPTH TO WATER	22.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-30D-15:12	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:12:00 PM
PH	8.15
TEMPERATURE	17.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.15
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.16
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-48.8
TURBIDITY (NTU)	20
DEPTH TO WATER	23
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-30D-15:19	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:19:00 PM
PH	8.18
TEMPERATURE	18.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.21
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-144.3
TURBIDITY (NTU)	25.8
DEPTH TO WATER	23
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-30D-15:23	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:23:00 PM
PH	8.23
TEMPERATURE	18.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.21
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-173.5
TURBIDITY (NTU)	37.1
DEPTH TO WATER	23
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-30D-15:28	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:28:00 PM
PH	8.28
TEMPERATURE	17.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.16
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-190.2
TURBIDITY (NTU)	47
DEPTH TO WATER	23
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-30D-15:36	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:36:00 PM
PH	8.36
TEMPERATURE	18.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.08
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-192.7
TURBIDITY (NTU)	28.7
DEPTH TO WATER	23
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-30D-15:39	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:39:00 PM
PH	8.37
TEMPERATURE	18.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.09
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-193.1
TURBIDITY (NTU)	25
DEPTH TO WATER	23
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-30D-15:42	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:42:00 PM
PH	8.38
TEMPERATURE	18.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.10
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-193.2
TURBIDITY (NTU)	28.2
DEPTH TO WATER	23
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-30d-052120 Sample Time: 16:00	
Groundwater Monitoring - PA-30D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 4:00:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	PA-30d-052120
SAMPLE ID CONFIRMATION	PA-30d-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-11I
MAP	Latitude=45.5714882, Longitude=-122.7436506, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/22/2020 8:22:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.3
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	44.62
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	43.5
NUMBER OF CONSECTUTIVE	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	0.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-11I-08:36	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:36:00 AM
PH	6.26
TEMPERATURE	13
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.90
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-29.2
TURBIDITY (NTU)	64.4
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-11I-08:42	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:42:00 AM
PH	6.41
TEMPERATURE	13.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.16
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.05
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-51.3
TURBIDITY (NTU)	34.2
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-11I-08:46	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:46:00 AM
PH	6.50
TEMPERATURE	13.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.47
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-66.7
TURBIDITY (NTU)	11.4
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-11I-08:50	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:50:00 AM
PH	6.51
TEMPERATURE	13.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.66
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.52
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-72.1
TURBIDITY (NTU)	8.7
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-11I-08:54	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:54:00 AM
PH	6.52
TEMPERATURE	13.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.72
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.29
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-76.5
TURBIDITY (NTU)	7.4
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-11I-08:59	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:59:00 AM
PH	6.53
TEMPERATURE	14
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.76
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.11
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-80.4
TURBIDITY (NTU)	6.8
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-11I-09:03	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:03:00 AM
PH	6.53
TEMPERATURE	14.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.77
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.03
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-82.1
TURBIDITY (NTU)	7.2
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-11I-09:10	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:10:00 AM
PH	6.53
TEMPERATURE	14.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.77
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-84.2
TURBIDITY (NTU)	8
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-11I-09:23	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:23:00 AM
PH	6.53
TEMPERATURE	14.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.75
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-88.5
TURBIDITY (NTU)	10.7
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-11I-09:29	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:29:00 AM
PH	6.53
TEMPERATURE	14.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.75
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-90.0
TURBIDITY (NTU)	7.5
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-11I-09:33	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:33:00 AM
PH	6.53
TEMPERATURE	14.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.75
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-90.7
TURBIDITY (NTU)	7.5
DEPTH TO WATER	22.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-11i-052220 Sample Time: 09:45	
Groundwater Monitoring - PA-11I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/22/2020 9:45:00 AM
CLARITY	Translucent
ODOR	None
SAMPLE ID	PA-11i-052220
SAMPLE ID CONFIRMATION	PA-11i-052220
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-54I
MAP	Latitude=45.5704145, Longitude=-122.7428352, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/26/2020 10:00:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	40.73
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	37.5
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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Groundwater Monitoring

VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-54I-10:10	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:10:00 AM
PH	8.01
TEMPERATURE	19
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.42
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-164.2
TURBIDITY (NTU)	12
DEPTH TO WATER	27.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-54I-10:16	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:16:00 AM
PH	8.01
TEMPERATURE	19.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.41
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-165.7
TURBIDITY (NTU)	13.3
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-54I-10:31	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:31:00 AM
PH	8.01
TEMPERATURE	19.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.42
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-169.4
TURBIDITY (NTU)	17.5
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-54I-10:38	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:38:00 AM
PH	8.00
TEMPERATURE	19.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.42
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-173.1
TURBIDITY (NTU)	24.8
DEPTH TO WATER	28.0
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-54I-10:42	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:42:00 AM
PH	8
TEMPERATURE	19.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.43
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-174.6
TURBIDITY (NTU)	26.6
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - MWA-54I-10:46	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:46:00 AM
PH	8
TEMPERATURE	19.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.43
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-176.0
TURBIDITY (NTU)	28.9
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-54I-10:51	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:51:00 AM
PH	8
TEMPERATURE	19.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.43
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-177.5
TURBIDITY (NTU)	30.5
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-54I-10:54	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:54:00 AM
PH	8
TEMPERATURE	19.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.43
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-178.4
TURBIDITY (NTU)	32.2
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-54I-11:00	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 11:00:00 AM
PH	8
TEMPERATURE	19.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.45
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-177.3
TURBIDITY (NTU)	29.0
DEPTH TO WATER	28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: MWA-54i-052620 Sample Time: 11:15	
Groundwater Monitoring - MWA-54I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/26/2020 11:15:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-54i-052620
SAMPLE ID CONFIRMATION	MWA-54i-052620
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-63
MAP	Latitude=45.5720389, Longitude=-122.7449797, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/26/2020 12:24:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.7
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	29.91
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	24.5
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-63-12:42	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 12:42:00 PM
PH	6.88
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.56
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	4.40
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	102.3
TURBIDITY (NTU)	19.7
DEPTH TO WATER	23.0
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-63-12:35	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 12:35:00 PM
PH	7.07
TEMPERATURE	18.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.61
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	5.09
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	81.3
TURBIDITY (NTU)	19.7
DEPTH TO WATER	22.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-63-12:45	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 12:45:00 PM
PH	6.86
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.54
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	4.32
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	104.8
TURBIDITY (NTU)	18.1
DEPTH TO WATER	23.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-63-12:50	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 12:50:00 PM
PH	6.84
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.54
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	4.19
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	106.5
TURBIDITY (NTU)	16.3
DEPTH TO WATER	23.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-12:56	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 12:56:00 PM
PH	6.84
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.54
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	4.11
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	107.2
TURBIDITY (NTU)	14.2
DEPTH TO WATER	23.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-13:15	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:15:00 PM
PH	6.84
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.53
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	4.02
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	108.3
TURBIDITY (NTU)	8.3
DEPTH TO WATER	23.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-13:20	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:20:00 PM
PH	6.84
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.53
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	3.97
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	108.8
TURBIDITY (NTU)	6.8
DEPTH TO WATER	23.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-13:25	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:25:00 PM
PH	6.84
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.53
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	3.97
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	108.9
TURBIDITY (NTU)	5.7
DEPTH TO WATER	23.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-13:05	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:05:00 PM
PH	6.84
TEMPERATURE	16.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.54
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	4.04
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	107.8
TURBIDITY (NTU)	10.4
DEPTH TO WATER	23.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-13:00	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:00:00 PM
PH	6.84
TEMPERATURE	16.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.54
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	4.06
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	107.6
TURBIDITY (NTU)	12.0
DEPTH TO WATER	23.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-13:29	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:29:00 PM
PH	6.84
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.53
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	3.95
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	109.1
TURBIDITY (NTU)	5.1
DEPTH TO WATER	23.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-13:33	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:33:00 PM
PH	6.84
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.53
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	3.93
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	109.2
TURBIDITY (NTU)	4.8
DEPTH TO WATER	23.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-63-13:36	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:36:00 PM
PH	6.84
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.53
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	3.93
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	109.3
TURBIDITY (NTU)	4.7
DEPTH TO WATER	23.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Sample information - Sample ID: MWA-63-052620 Sample Time: 13:40	
Groundwater Monitoring - MWA-63 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/26/2020 1:40:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-63-052620
SAMPLE ID CONFIRMATION	MWA-63-052620
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-31
MAP	Latitude=45.5715012161, Longitude=-122.7448822684, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/27/2020 8:27:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	10.2
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	27.9
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	22.0
NUMBER OF CONSECTUTIVE	3

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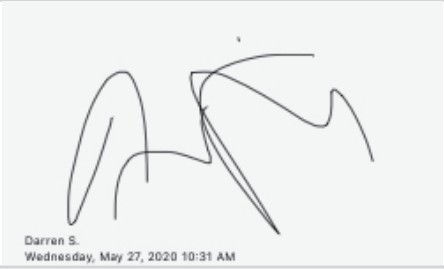
Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-31-08:47	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 8:47:00 AM
PH	9.61
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.935
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	10.2
TURBIDITY (NTU)	167.5
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - PA-31-08:51	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 8:51:00 AM
PH	9.6
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.48
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	8
TURBIDITY (NTU)	171.1
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-31-09:01	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:01:00 AM
PH	9.59
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.42
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	3.6
TURBIDITY (NTU)	123.2
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - PA-31-09:08	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:08:00 AM
PH	9.58
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.34
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	0.9
TURBIDITY (NTU)	99.8
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - PA-31-09:16	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:16:00 AM
PH	9.57
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.27
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-1.9
TURBIDITY (NTU)	76.5
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - PA-31-09:27	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:27:00 AM
PH	9.57
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.21
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-6.1
TURBIDITY (NTU)	57.1
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - PA-31-09:33	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:33:00 AM
PH	9.58
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.19
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-7.9
TURBIDITY (NTU)	52.1
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-31-09:41	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:41:00 AM
PH	9.58
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.16
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-10.5
TURBIDITY (NTU)	50.3
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	Yes

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Field Parameters - PA-31-09:47	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:47:00 AM
PH	9.57
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.16
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-11.8
TURBIDITY (NTU)	46.6
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	Yes

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Groundwater Monitoring

Field Parameters - PA-31-09:51	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:51:00 AM
PH	9.57
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.933
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.15
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-12.7
TURBIDITY (NTU)	43.7
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	Yes

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Field Parameters - PA-31-09:54	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:54:00 AM
PH	9.57
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.14
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-13.2
TURBIDITY (NTU)	42.4
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	Yes

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Field Parameters - PA-31-09:57	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 9:57:00 AM
PH	9.57
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.93
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.13
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-13.8
TURBIDITY (NTU)	43
DEPTH TO WATER	10.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	Yes

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Sample information - Sample ID: PA-31-052720 Sample Time: 10:10	
Groundwater Monitoring - PA-31 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/27/2020 10:10:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-31-052720
SAMPLE ID CONFIRMATION	PA-31-052720
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-69
MAP	Latitude=45.5711945, Longitude=-122.7428174, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/27/2020 12:01:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	19.7
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	29.58
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	25
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1.0

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Groundwater Monitoring

VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-69-12:15	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:15:00 PM
PH	6.63
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.76
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.29
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-108
TURBIDITY (NTU)	12.8
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-69-12:22	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:22:00 PM
PH	6.63
TEMPERATURE	19.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.78
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.21
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-109.8
TURBIDITY (NTU)	12.6
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-69-12:27	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:27:00 PM
PH	6.64
TEMPERATURE	19.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.78
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.11
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-112.8
TURBIDITY (NTU)	12.4
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-69-12:37	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:37:00 PM
PH	6.64
TEMPERATURE	19.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.81
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-118.1
TURBIDITY (NTU)	9.7
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-69-12:32	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:32:00 PM
PH	6.64
TEMPERATURE	19.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.79
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.05
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-115.3
TURBIDITY (NTU)	11.3
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-69-12:41	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:41:00 PM
PH	6.64
TEMPERATURE	19.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.82
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-120.5
TURBIDITY (NTU)	8.6
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-69-13:04	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 1:04:00 PM
PH	6.65
TEMPERATURE	20.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.98
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-129.1
TURBIDITY (NTU)	4.8
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-69-12:45	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:45:00 PM
PH	6.64
TEMPERATURE	19.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.84
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-123.4
TURBIDITY (NTU)	7.9
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-69-12:53	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:53:00 PM
PH	6.64
TEMPERATURE	19.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.89
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	%
ORP (MV)	-126
TURBIDITY (NTU)	7.1
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-69-12:58	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 12:58:00 PM
PH	6.64
TEMPERATURE	19.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.92
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-127.2
TURBIDITY (NTU)	5.8
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-69-13:19	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 1:19:00 PM
PH	6.65
TEMPERATURE	20.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.99
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-130.8
TURBIDITY (NTU)	4.6
DEPTH TO WATER	19.7
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Sample information - Sample ID: MWA-69-052720 Sample Time: 13:30	
Groundwater Monitoring - MWA-69 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/27/2020 1:30:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-69-052720
SAMPLE ID CONFIRMATION	MWA-69-052720
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-64I
MAP	Latitude=45.5715881, Longitude=-122.7434495, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/27/2020 3:01:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	20.9
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	46.67
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	44
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-64I-15:11	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:11:00 PM
PH	9.44
TEMPERATURE	19.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.31
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-146.7
TURBIDITY (NTU)	24.7
DEPTH TO WATER	21.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-64I-15:21	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:21:00 PM
PH	9.44
TEMPERATURE	21.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.355
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.14
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-149.7
TURBIDITY (NTU)	25.3
DEPTH TO WATER	20.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-64I-15:28	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:28:00 PM
PH	9.36
TEMPERATURE	21.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.47
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.02
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-149.6
TURBIDITY (NTU)	30.4
DEPTH TO WATER	20.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-64I-15:32	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:32:00 PM
PH	9.33
TEMPERATURE	21.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.51
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-154
TURBIDITY (NTU)	29.1
DEPTH TO WATER	20.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-64I-15:36	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:36:00 PM
PH	9.33
TEMPERATURE	21.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.52
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-157.6
TURBIDITY (NTU)	30
DEPTH TO WATER	20.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-64I-15:41	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:41:00 PM
PH	9.31
TEMPERATURE	21.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.52
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	%
ORP (MV)	-161
TURBIDITY (NTU)	28.2
DEPTH TO WATER	20.9
DEPTH UNIT	metres
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-64I-15:45	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:45:00 PM
PH	9.31
TEMPERATURE	20.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.54
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-167.1
TURBIDITY (NTU)	28.1
DEPTH TO WATER	20.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-64I-15:57	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:57:00 PM
PH	9.25
TEMPERATURE	21.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.57
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-185.2
TURBIDITY (NTU)	28.0
DEPTH TO WATER	20.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-64I-15:50	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 3:50:00 PM
PH	9.3
TEMPERATURE	21
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.55
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-179.2
TURBIDITY (NTU)	28.9
DEPTH TO WATER	20.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-64I-16:00	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 4:00:00 PM
PH	9.24
TEMPERATURE	21.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2.58
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-187.4
TURBIDITY (NTU)	27.9
DEPTH TO WATER	20.9
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Sample information - Sample ID: MWA-64i-052720 Sample Time: 16:10	
Groundwater Monitoring - MWA-64I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/27/2020 4:10:00 PM
CLARITY	Colored
ODOR	None
ADDITIONAL SAMPLE DETAILS	Collected RB-03-052720 @ 1605
SAMPLE ID	MWA-64i-052720
SAMPLE ID CONFIRMATION	MWA-64i-052720
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-66I
MAP	Latitude=45.5711826, Longitude=-122.74279, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/28/2020 9:00:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	19.55
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	42.35
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	39.5
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-66I-09:10	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 9:10:00 AM
PH	6.32
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.92
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.86
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	28.9
TURBIDITY (NTU)	41.8
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-66I-09:20	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 9:20:00 AM
PH	6.4
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.85
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.51
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	31
TURBIDITY (NTU)	44.4
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-66I-09:30	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 9:30:00 AM
PH	6.35
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.81
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	30.6
TURBIDITY (NTU)	32.8
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-66I-09:50	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 9:50:00 AM
PH	6.32
TEMPERATURE	17.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.86
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.5
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	39.3
TURBIDITY (NTU)	15.9
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-66I-10:00	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 10:00:00 AM
PH	6.31
TEMPERATURE	17.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.85
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.49
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	39.8
TURBIDITY (NTU)	11.3
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-66I-09:40	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 9:40:00 AM
PH	6.33
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.82
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.51
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	33.1
TURBIDITY (NTU)	22.3
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-66I-10:05	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 10:05:00 AM
PH	6.31
TEMPERATURE	17.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.89
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.46
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	40.9
TURBIDITY (NTU)	8.8
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-66I-10:10	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 10:10:00 AM
PH	6.31
TEMPERATURE	17.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.86
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.44
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	41.3
TURBIDITY (NTU)	6.5
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-66I-10:15	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 10:15:00 AM
PH	6.30
TEMPERATURE	17.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.90
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	42.3
TURBIDITY (NTU)	5.3
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-66I-10:20	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 10:20:00 AM
PH	6.29
TEMPERATURE	17.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.91
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.38
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	42.8
TURBIDITY (NTU)	4.9
DEPTH TO WATER	19.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Sample information - Sample ID: MWA-66i-052820 Sample Time: 10:30	
Groundwater Monitoring - MWA-66I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/28/2020 10:30:00 AM
CLARITY	Transparent
ODOR	None
ADDITIONAL SAMPLE DETAILS	Collected RB-03-052820 @ 0900
SAMPLE ID	MWA-66i-052820
SAMPLE ID CONFIRMATION	MWA-66i-052820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring

Groundwater Monitoring - PA-37I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-37I
MAP	Latitude=45.5715204283, Longitude=-122.7438648796, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/28/2020 4:15:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.10
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	47.36
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	42.5
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Groundwater Monitoring

Field Parameters - PA-37I-16:27	
Groundwater Monitoring - PA-37I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 4:27:00 PM
PH	6.16
TEMPERATURE	25.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.82
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.23
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	4
TURBIDITY (NTU)	4.6
DEPTH TO WATER	22.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - PA-37I-16:32	
Groundwater Monitoring - PA-37I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 4:32:00 PM
PH	6.18
TEMPERATURE	26.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.88
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.08
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	0.9
TURBIDITY (NTU)	4.9
DEPTH TO WATER	22.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - PA-37I-16:36	
Groundwater Monitoring - PA-37I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 4:36:00 PM
PH	6.18
TEMPERATURE	26.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.95
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	0.5
TURBIDITY (NTU)	4.3
DEPTH TO WATER	22.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - PA-37I-16:39	
Groundwater Monitoring - PA-37I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 4:39:00 PM
PH	6.18
TEMPERATURE	26.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.97
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.98
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	0.2
TURBIDITY (NTU)	4.9
DEPTH TO WATER	22.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - PA-37I-16:42	
Groundwater Monitoring - PA-37I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 4:42:00 PM
PH	6.19
TEMPERATURE	26.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.99
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.95
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-0.4
TURBIDITY (NTU)	4.8
DEPTH TO WATER	22.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-37i-052820 Sample Time: 16:50	
Groundwater Monitoring - PA-37I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/28/2020 4:50:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	PA-37i-052820
SAMPLE ID CONFIRMATION	PA-37i-052820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring

Groundwater Monitoring - MWA-22 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-22
MAP	Latitude=45.5709439, Longitude=-122.7440591, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/28/2020 5:10:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	19.1
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	34.69
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	30
NUMBER OF CONSECTUTIVE	3

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Groundwater Monitoring

FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	0.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-22-17:19	
Groundwater Monitoring - MWA-22 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 5:19:00 PM
PH	10.71
TEMPERATURE	22.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.03
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-328.9
TURBIDITY (NTU)	4.9
DEPTH TO WATER	19.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-22-17:22	
Groundwater Monitoring - MWA-22 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 5:22:00 PM
PH	10.77
TEMPERATURE	22
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.08
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-345
TURBIDITY (NTU)	4.8
DEPTH TO WATER	19.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-22-17:25	
Groundwater Monitoring - MWA-22 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 5:25:00 PM
PH	10.81
TEMPERATURE	22.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.10
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-359.2
TURBIDITY (NTU)	4.9
DEPTH TO WATER	19.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-22-17:28	
Groundwater Monitoring - MWA-22 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 5:28:00 PM
PH	10.84
TEMPERATURE	22.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.12
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-364.2
TURBIDITY (NTU)	4.2
DEPTH TO WATER	19.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	No

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Field Parameters - MWA-22-17:31	
Groundwater Monitoring - MWA-22 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 5:31:00 PM
PH	10.88
TEMPERATURE	22.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4.15
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-369.1
TURBIDITY (NTU)	4.5
DEPTH TO WATER	19.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	200
STABLE	Yes

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Sample information - Sample ID: MWA-22-052820 Sample Time: 17:40	
Groundwater Monitoring - MWA-22 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/28/2020 5:40:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-22-052820
SAMPLE ID CONFIRMATION	MWA-22-052820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring

Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-19D
MAP	Latitude=45.571663, Longitude=-122.7436369, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/29/2020 7:58:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	24.6
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	48.07
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	46.5
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-19D-08:02	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:02:00 AM
PH	7.31
TEMPERATURE	17
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.54
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.38
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-32
TURBIDITY (NTU)	9.3
DEPTH TO WATER	26.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-19D-08:10	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:10:00 AM
PH	7.23
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.52
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.04
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-60.9
TURBIDITY (NTU)	11.7
DEPTH TO WATER	27.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-19D-08:20	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:20:00 AM
PH	7.19
TEMPERATURE	17
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.51
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.91
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-76.9
TURBIDITY (NTU)	14.2
DEPTH TO WATER	28.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-19D-08:30	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:30:00 AM
PH	7.14
TEMPERATURE	18.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.50
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.26
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-96.2
TURBIDITY (NTU)	18.7
DEPTH TO WATER	29.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-19D-08:40	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:40:00 AM
PH	7.14
TEMPERATURE	18
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.511
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.23
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-96.6
TURBIDITY (NTU)	21
DEPTH TO WATER	29.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-19D-08:45	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:45:00 AM
PH	7.14
TEMPERATURE	17.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.51
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.18
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-96.9
TURBIDITY (NTU)	22.6
DEPTH TO WATER	30.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-19D-08:50	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:50:00 AM
PH	7.14
TEMPERATURE	17.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.51
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.15
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-97.3
TURBIDITY (NTU)	27.2
DEPTH TO WATER	30.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-19D-08:55	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 8:55:00 AM
PH	7.14
TEMPERATURE	17.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.51
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.13
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-96.9
TURBIDITY (NTU)	21.1
DEPTH TO WATER	31.1
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Groundwater Monitoring

Sample information - Sample ID: PA-19d-052920 Sample Time: 09:00	
Groundwater Monitoring - PA-19D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/29/2020 9:00:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-19d-052920
SAMPLE ID CONFIRMATION	PA-19d-052920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-15R
MAP	Latitude=45.5708986, Longitude=-122.7434432, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/29/2020 10:00:00 AM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.2
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	32.26
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	27.5
NUMBER OF CONSECTUTIVE	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - MWA-15R-10:05	
Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:05:00 AM
PH	5.93
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.228
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	151.8
TURBIDITY (NTU)	11.1
DEPTH TO WATER	21.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-15R-10:15	
Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:15:00 AM
PH	5.88
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.22
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	153.5
TURBIDITY (NTU)	9.7
DEPTH TO WATER	21.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-15R-10:25	
Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:25:00 AM
PH	5.77
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.21
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	158.7
TURBIDITY (NTU)	8.5
DEPTH TO WATER	21.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-15R-10:33	
Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:33:00 AM
PH	5.67
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.21
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.34
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	161.4
TURBIDITY (NTU)	6.0
DEPTH TO WATER	21.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-15R-10:36	
Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:36:00 AM
PH	5.66
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.21
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.3
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	161.8
TURBIDITY (NTU)	5.4
DEPTH TO WATER	21.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - MWA-15R-10:30	
Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:30:00 AM
PH	5.69
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.21
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.44
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	161.2
TURBIDITY (NTU)	7.1
DEPTH TO WATER	21.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - MWA-15R-10:40	
Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 10:40:00 AM
PH	5.66
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.21
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.29
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	161.9
TURBIDITY (NTU)	4.9
DEPTH TO WATER	21.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Sample information - Sample ID: MWA-15r-052920 Sample Time: 10:50	
Groundwater Monitoring - MWA-15R - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/29/2020 10:50:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-15r-052920
SAMPLE ID CONFIRMATION	MWA-15r-052920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-36
MAP	Latitude=45.5716022236, Longitude=-122.7439564404, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/28/2020 2:40:00 PM
FIELD WORKER/S	DS
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	23.1
WAS TOTAL DEPTH OF THE WELL MEASURED?	Yes
TOTAL WELL DEPTH	38.33
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	No
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	35
NUMBER OF CONSECTUTIVE	3

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FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	1.5
VOLUME UNIT	gallons
SIGNATURE	

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Field Parameters - PA-36-14:50	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 2:50:00 PM
PH	7.03
TEMPERATURE	20.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.72
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	94.4
TURBIDITY (NTU)	14.4
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - PA-36-15:00	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 3:00:00 PM
PH	6.93
TEMPERATURE	22.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.71
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.49
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	83
TURBIDITY (NTU)	15.9
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - PA-36-15:10	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 3:10:00 PM
PH	6.97
TEMPERATURE	24.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.718
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.50
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	70.5
TURBIDITY (NTU)	15.6
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - PA-36-15:20	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 3:20:00 PM
PH	6.99
TEMPERATURE	24.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.71
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.45
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	69.7
TURBIDITY (NTU)	14.4
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - PA-36-15:30	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 3:30:00 PM
PH	6.97
TEMPERATURE	24.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.71
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.39
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	65.7
TURBIDITY (NTU)	14.9
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Groundwater Monitoring

Field Parameters - PA-36-15:45	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 3:45:00 PM
PH	6.95
TEMPERATURE	24.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.71
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.29
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	45.8
TURBIDITY (NTU)	17.2
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Field Parameters - PA-36-15:49	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 3:49:00 PM
PH	6.95
TEMPERATURE	24.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.71
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.29
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	44.1
TURBIDITY (NTU)	17.7
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	Yes

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Field Parameters - PA-36-15:40	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 3:40:00 PM
PH	6.97
TEMPERATURE	24.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.71
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.33
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	52.6
TURBIDITY (NTU)	14.1
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	150
STABLE	No

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Groundwater Monitoring

Sample information - Sample ID: PA-36-052820 Sample Time: 16:00	
Groundwater Monitoring - PA-36 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/28/2020 4:00:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-36-052820
SAMPLE ID CONFIRMATION	PA-36-052820

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Groundwater Monitoring

Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-26D
MAP	Latitude=45.5688527, Longitude=-122.74136, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 10:23:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	61.20
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	80
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Yes
VOLUME PURGED	3800

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Groundwater Monitoring

VOLUME UNIT	litres
ADDITIONAL COMMENTS	Vol purged in mL not L
SIGNATURE	

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Groundwater Monitoring

Field Parameters - PA-26D-11:08	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:08:00 AM
PH	7.4
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.491
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.91
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	100.2
TURBIDITY (NTU)	13.55
DEPTH TO WATER	65.45
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-26D-11:12	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:12:00 AM
PH	7.03
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.513
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	11.6
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	80.1
TURBIDITY (NTU)	13.29
DEPTH TO WATER	65.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-26D-11:16	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:16:00 AM
PH	7.01
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.522
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.99
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	60.5
TURBIDITY (NTU)	153.77
DEPTH TO WATER	64.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-26D-11:19	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:19:00 AM
PH	7
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.528
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.88
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	39.8
TURBIDITY (NTU)	44.59
DEPTH TO WATER	65.6
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-26D-11:42	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:42:00 AM
PH	7.01
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.532
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.64
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-32.6
TURBIDITY (NTU)	5.13
DEPTH TO WATER	65.60
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-26D-11:45	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:45:00 AM
PH	7.03
TEMPERATURE	16.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.531
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.64
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-35.3
TURBIDITY (NTU)	4.04
DEPTH TO WATER	65.60
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-26D-11:32	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:32:00 AM
PH	7.01
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.536
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-12.2
TURBIDITY (NTU)	7.18
DEPTH TO WATER	65.60
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-26D-11:22	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:22:00 AM
PH	6.99
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.530
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.83
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	24.1
TURBIDITY (NTU)	42.21
DEPTH TO WATER	65.60
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-26D-11:48	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 11:48:00 AM
PH	7
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.528
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-39.8
TURBIDITY (NTU)	2.87
DEPTH TO WATER	65.60
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Groundwater Monitoring

Sample information - Sample ID: PA-26D-051820 Sample Time: 11:49	
Groundwater Monitoring - PA-26D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/18/2020 11:49:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	PA-26D-051820
SAMPLE ID CONFIRMATION	PA-26D-051820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron

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Groundwater Monitoring

Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-09
MAP	Latitude=45.5688647, Longitude=-122.7413422, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/18/2020 12:55:00 PM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.77
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	30
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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VOLUME PURGED	8700
VOLUME UNIT	litres
ADDITIONAL COMMENTS	Vol purged in mL
SIGNATURE	

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Field Parameters - PA-09-13:11	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:11:00 PM
PH	7.76
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.347
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	2.22
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	18.2
TURBIDITY (NTU)	72.42
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-09-13:14	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:14:00 PM
PH	7.05
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.337
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.06
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	18.3
TURBIDITY (NTU)	54.18
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-09-13:17	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:17:00 PM
PH	6.90
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.330
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.80
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	17.3
TURBIDITY (NTU)	48.63
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-09-13:20	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:20:00 PM
PH	6.86
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.329
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.68
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	16.7
TURBIDITY (NTU)	45.95
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-09-13:23	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:23:00 PM
PH	6.83
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.334
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	16.6
TURBIDITY (NTU)	46.55
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-09-13:38	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:38:00 PM
PH	6.74
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.349
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.49
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	21.7
TURBIDITY (NTU)	43.44
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-09-13:51	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 1:51:00 PM
PH	6.68
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.355
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.45
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	27.9
TURBIDITY (NTU)	40.89
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-09-14:06	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:06:00 PM
PH	6.66
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.354
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.42
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	31.5
TURBIDITY (NTU)	49.77
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-09-14:21	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:21:00 PM
PH	6.66
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.352
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.40
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	33.7
TURBIDITY (NTU)	39.68
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-09-14:36	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/18/2020 2:36:00 PM
PH	6.69
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.349
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.42
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	34.1
TURBIDITY (NTU)	41.66
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Groundwater Monitoring

Sample information - Sample ID: Default Value Sample Time: 14:37	
Groundwater Monitoring - PA-09 - Complete	
Parameter	**Value**
SAMPLE DATE/TIME	5/18/2020 2:37:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID CONFIRMATION	Default Value
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron

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Groundwater Monitoring

Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-16I
MAP	Latitude=45.5688897, Longitude=-122.741304, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 8:42:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.92
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	42
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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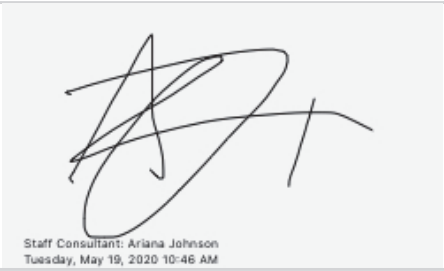
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-16I-09:00	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:00:00 AM
PH	7.49
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.680
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	1.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	110.5
TURBIDITY (NTU)	51.59
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-16I-09:03	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:03:00 AM
PH	7.12
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.770
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.97
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	86.7
TURBIDITY (NTU)	106.35
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-16I-09:06	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:06:00 AM
PH	7.09
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.863
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	81
TURBIDITY (NTU)	136.31
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-16I-09:09	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:09:00 AM
PH	7.06
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.923
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.74
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	77.7
TURBIDITY (NTU)	178.30
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-16I-09:12	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:12:00 AM
PH	7.05
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	0.970
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.67
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	74
TURBIDITY (NTU)	345.97
DEPTH TO WATER	26.54
DEPTH UNIT	feet
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-16I-09:27	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:27:00 AM
PH	6.98
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.081
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.55
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	62.1
TURBIDITY (NTU)	264.78
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-16I-09:47	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 9:47:00 AM
PH	7.01
TEMPERATURE	16.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1.143
UNIT FOR SPECIFIC CONDUCTIVITY	mS/cm
DISSOLVED OXYGEN	0.48
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	50.5
TURBIDITY (NTU)	504.22
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-16I-10:02	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:02:00 AM
PH	6.95
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1164
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.46
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	45.7
TURBIDITY (NTU)	633.44
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-16I-10:17	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:17:00 AM
PH	6.94
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1170
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.44
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	42.4
TURBIDITY (NTU)	97.69
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-16I-10:32	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 10:32:00 AM
PH	6.93
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1175
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.43
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	39.7
TURBIDITY (NTU)	252.93
DEPTH TO WATER	26.54
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Groundwater Monitoring

Sample information - Sample ID: PA-16i-051920 Sample Time: 10:33	
Groundwater Monitoring - PA-16I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 10:33:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-16i-051920
SAMPLE ID CONFIRMATION	PA-16i-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-08
MAP	Latitude=45.5689721, Longitude=-122.7414959, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/19/2020 11:53:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.35
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	30
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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Groundwater Monitoring

VOLUME PURGED	7.5
VOLUME UNIT	litres
SIGNATURE	

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Groundwater Monitoring

Field Parameters - PA-08-12:11	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:11:00 PM
PH	7.99
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	882
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.78
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	61.5
TURBIDITY (NTU)	58.73
DEPTH TO WATER	25.40
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-08-12:14	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:14:00 PM
PH	7.73
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	880
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.33
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	59.4
TURBIDITY (NTU)	99.16
DEPTH TO WATER	25.40
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-08-12:17	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:17:00 PM
PH	7.53
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	867
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.79
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	54.2
TURBIDITY (NTU)	107.26
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-08-12:20	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:20:00 PM
PH	7.51
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	872
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.72
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	53.5
TURBIDITY (NTU)	48.83
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-08-12:23	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:23:00 PM
PH	7.51
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	869
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.64
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	51.2
TURBIDITY (NTU)	79.92
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-08-12:38	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:38:00 PM
PH	7.52
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	883
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.51
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	46.7
TURBIDITY (NTU)	32.52
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-08-12:53	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 12:53:00 PM
PH	7.54
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	889
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	42.4
TURBIDITY (NTU)	94.14
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-08-13:08	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 1:08:00 PM
PH	7.55
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	896
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.43
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	40.1
TURBIDITY (NTU)	276.15
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-08-13:23	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 1:23:00 PM
PH	7.52
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	894
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	38.2
TURBIDITY (NTU)	102.74
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-08-13:38	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/19/2020 1:38:00 PM
PH	7.51
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	901
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	36.4
TURBIDITY (NTU)	81.02
DEPTH TO WATER	25.4
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Sample information - Sample ID: PA-08-051920 Sample Time: 13:39	
Groundwater Monitoring - PA-08 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/19/2020 1:39:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-08-051920
SAMPLE ID CONFIRMATION	PA-08-051920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-28
MAP	Latitude=45.5700633, Longitude=-122.7417193, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 8:55:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.58
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	35
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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VOLUME PURGED	7.2
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-28-09:17	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:17:00 AM
PH	8.98
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1347
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.63
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	55.9
TURBIDITY (NTU)	33.99
DEPTH TO WATER	22.58
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-28-09:23	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:23:00 AM
PH	9.43
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1382
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.74
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	39.3
TURBIDITY (NTU)	48.50
DEPTH TO WATER	22.58
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-28-09:26	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:26:00 AM
PH	9.44
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1399
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.63
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	35.9
TURBIDITY (NTU)	54.2
DEPTH TO WATER	22.58
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-28-09:29	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:29:00 AM
PH	9.45
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1411
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	33.0
TURBIDITY (NTU)	62.85
DEPTH TO WATER	22.58
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-28-09:44	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:44:00 AM
PH	9.46
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1418
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.45
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	23.6
TURBIDITY (NTU)	187.74
DEPTH TO WATER	22.58
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-28-09:59	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 9:59:00 AM
PH	9.44
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1406
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	16.3
TURBIDITY (NTU)	380.55
DEPTH TO WATER	22.58
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-28-10:14	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 10:14:00 AM
PH	9.43
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1398
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.38
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	4.2
TURBIDITY (NTU)	470.99
DEPTH TO WATER	22.58
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-28-10:29	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 10:29:00 AM
PH	9.43
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1390
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.37
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-4.1
TURBIDITY (NTU)	392.40
DEPTH TO WATER	22.58
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Sample information - Sample ID: PA-28-052020 Sample Time: 10:30	
Groundwater Monitoring - PA-28 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 10:30:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-28-052020
SAMPLE ID CONFIRMATION	PA-28-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-14I
MAP	Latitude=45.5695467, Longitude=-122.7410009, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 11:30:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	24.02
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	41
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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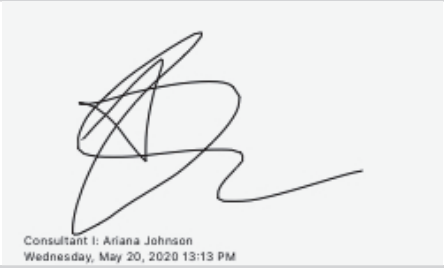
Groundwater Monitoring

VOLUME PURGED	7.2
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-14I-11:38	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 11:38:00 AM
PH	7.73
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1486
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.98
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	22.8
TURBIDITY (NTU)	51.25
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-14I-11:41	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 11:41:00 AM
PH	7.49
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1492
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.78
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	26.7
TURBIDITY (NTU)	52.24
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-14I-11:44	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 11:44:00 AM
PH	7.48
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1507
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.63
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	27.1
TURBIDITY (NTU)	57.22
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-14I-11:47	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 11:47:00 AM
PH	7.47
TEMPERATURE	15.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1520
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.48
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	26.4
TURBIDITY (NTU)	83.18
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-14I-11:50	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 11:50:00 AM
PH	7.46
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1524
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.31
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	23.9
TURBIDITY (NTU)	114.51
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-14I-12:05	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:05:00 PM
PH	7.46
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1509
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	19.6
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	1.5
TURBIDITY (NTU)	152.81
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-14I-12:20	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:20:00 PM
PH	7.46
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1493
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.52
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-10.6
TURBIDITY (NTU)	198.73
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-14I-12:35	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:35:00 PM
PH	7.46
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1479
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.15
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-16.3
TURBIDITY (NTU)	252.86
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-14I-12:50	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 12:50:00 PM
PH	7.45
TEMPERATURE	15.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1468
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.79
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-19.7
TURBIDITY (NTU)	124.56
DEPTH TO WATER	24.09
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Sample information - Sample ID: PA-14I-052020 Sample Time: 12:51	
Groundwater Monitoring - PA-14I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 12:51:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-14I-052020
SAMPLE ID CONFIRMATION	PA-14I-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-07
MAP	Latitude=45.5694981, Longitude=-122.7409937, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/20/2020 1:49:00 PM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	23.47
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	33
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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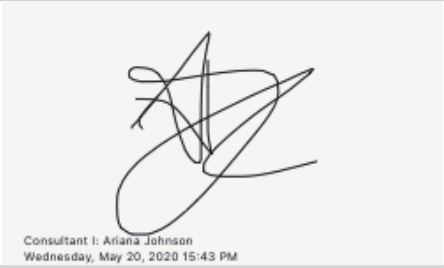
Groundwater Monitoring

VOLUME PURGED	6
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-07-14:03	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:03:00 PM
PH	7.07
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1992
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.28
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	43.6
TURBIDITY (NTU)	39.63
DEPTH TO WATER	23.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-14:06	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:06:00 PM
PH	7.11
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2066
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.92
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	28.2
TURBIDITY (NTU)	48.86
DEPTH TO WATER	23.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-14:09	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:09:00 PM
PH	7.15
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2101
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-1.3
TURBIDITY (NTU)	73.29
DEPTH TO WATER	23.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-14:12	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:12:00 PM
PH	7.18
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2085
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.57
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-40.3
TURBIDITY (NTU)	134.81
DEPTH TO WATER	23.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-14:15	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:15:00 PM
PH	7.19
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2082
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.53
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-51.0
TURBIDITY (NTU)	187.78
DEPTH TO WATER	23.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-14:30	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:30:00 PM
PH	7.20
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2080
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-80.5
TURBIDITY (NTU)	275.44
DEPTH TO WATER	23.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-14:45	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 2:45:00 PM
PH	7.19
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2089
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.37
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-89.0
TURBIDITY (NTU)	388.43
DEPTH TO WATER	23.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-15:00	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 3:00:00 PM
PH	7.19
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2101
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.34
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-93.4
TURBIDITY (NTU)	573.96
DEPTH TO WATER	23.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-15:15	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 3:15:00 PM
PH	7.18
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2167
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.33
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-95.1
TURBIDITY (NTU)	158.90
DEPTH TO WATER	23.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-07-15:18	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/20/2020 3:18:00 PM
PH	7.17
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2175
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.33
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-95.2
TURBIDITY (NTU)	251.50
DEPTH TO WATER	23.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Sample information - Sample ID: PA-07-052020 Sample Time: 15:20	
Groundwater Monitoring - PA-07 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/20/2020 3:20:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-07-052020
SAMPLE ID CONFIRMATION	PA-07-052020
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-03
MAP	Latitude=45.5718191, Longitude=-122.7452641, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 9:19:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	11.45
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	24
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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VOLUME PURGED	7.2
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-03-09:30	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 9:30:00 AM
PH	10.52
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	870
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	3.09
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	55.9
TURBIDITY (NTU)	133.72
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-03-09:33	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 9:33:00 AM
PH	10.39
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	872
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	33.8
TURBIDITY (NTU)	115.49
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-03-09:36	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 9:36:00 AM
PH	10.37
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	886
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.26
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	26.9
TURBIDITY (NTU)	99.03
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-03-09:39	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 9:39:00 AM
PH	10.31
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	908
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.87
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	20.6
TURBIDITY (NTU)	83.79
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-03-09:42	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 9:42:00 AM
PH	10.31
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	892
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	17.5
TURBIDITY (NTU)	97.73
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-03-09:57	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 9:57:00 AM
PH	10.31
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	871
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	9.9
TURBIDITY (NTU)	86.92
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-03-10:12	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:12:00 AM
PH	10.31
TEMPERATURE	15.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	859
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.42
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	4.6
TURBIDITY (NTU)	293.83
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-03-10:27	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:27:00 AM
PH	10.30
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	847
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	1.3
TURBIDITY (NTU)	564.30
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-03-10:42	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 10:42:00 AM
PH	10.3
TEMPERATURE	15.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	843
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.45
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-2.5
TURBIDITY (NTU)	456.53
DEPTH TO WATER	13.08
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Sample information - Sample ID: PA-03-052120 Sample Time: 10:43	
Groundwater Monitoring - PA-03 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 10:43:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-03-052120
SAMPLE ID CONFIRMATION	PA-03-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-27D
MAP	Latitude=45.5718554, Longitude=-122.7452764, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 11:14:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.75
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	46
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
VOLUME PURGED	3.3

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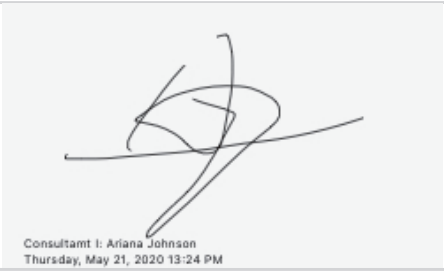
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-27D-11:35	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 11:35:00 AM
PH	8.50
TEMPERATURE	16.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4307
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.05
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	69.9
TURBIDITY (NTU)	3.25
DEPTH TO WATER	24.80
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-11:38	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 11:38:00 AM
PH	7.40
TEMPERATURE	16.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4742
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.12
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	73.0
TURBIDITY (NTU)	8.25
DEPTH TO WATER	24.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-11:41	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 11:41:00 AM
PH	7.09
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4831
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.84
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	73.6
TURBIDITY (NTU)	14.65
DEPTH TO WATER	24.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-11:44	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 11:44:00 AM
PH	7.02
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4747
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.73
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	72.7
TURBIDITY (NTU)	40.32
DEPTH TO WATER	24.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-11:47	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 11:47:00 AM
PH	7.01
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	4417
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.62
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	69.4
TURBIDITY (NTU)	75.98
DEPTH TO WATER	24.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-12:02	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:02:00 PM
PH	7.09
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3824
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.53
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	56.9
TURBIDITY (NTU)	29.04
DEPTH TO WATER	24.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-12:17	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:17:00 PM
PH	7.15
TEMPERATURE	17.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3785
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	43.1
TURBIDITY (NTU)	66.90
DEPTH TO WATER	24.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-12:37	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:37:00 PM
PH	7.18
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3776
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.43
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	33.2
TURBIDITY (NTU)	162.40
DEPTH TO WATER	24.80
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-12:52	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 12:52:00 PM
PH	7.16
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3751
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	29.3
TURBIDITY (NTU)	141.5
DEPTH TO WATER	24.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-27D-13:07	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 1:07:00 PM
PH	7.14
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	3733
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.37
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	24.8
TURBIDITY (NTU)	140.43
DEPTH TO WATER	24.8
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Sample information - Sample ID: PA-27D-052120 Sample Time: 13:08	
Groundwater Monitoring - PA-27D - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 1:08:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-27D-052120
SAMPLE ID CONFIRMATION	PA-27D-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-17IR
MAP	Latitude=45.57183, Longitude=-122.745202, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/21/2020 1:43:00 PM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	21.13
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	40
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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Groundwater Monitoring

VOLUME PURGED	7.2
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-17IR-14:05	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 2:05:00 PM
PH	8.45
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	801
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.07
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	12.5
TURBIDITY (NTU)	35.40
DEPTH TO WATER	22.88
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-17IR-14:08	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 2:08:00 PM
PH	7.83
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	746
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.00
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	8.4
TURBIDITY (NTU)	50.50
DEPTH TO WATER	22.88
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-17IR-14:11	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 2:11:00 PM
PH	7.62
TEMPERATURE	16.0
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	709
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.90
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	8.9
TURBIDITY (NTU)	58.16
DEPTH TO WATER	22.88
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-17IR-14:17	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 2:17:00 PM
PH	7.63
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	671
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.70
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	6.3
TURBIDITY (NTU)	137.90
DEPTH TO WATER	24.42
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-17IR-14:32	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 2:32:00 PM
PH	8.41
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	899
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.43
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-24.1
TURBIDITY (NTU)	199.37
DEPTH TO WATER	25.50
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-17IR-14:14	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 2:14:00 PM
PH	7.58
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	671
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	8.8
TURBIDITY (NTU)	68.82
DEPTH TO WATER	23.72
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-17IR-14:47	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 2:47:00 PM
PH	9.24
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1244
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.34
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-61.2
TURBIDITY (NTU)	185.73
DEPTH TO WATER	25.75
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-17IR-15:02	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:02:00 PM
PH	9.34
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1292
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.33
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-85
TURBIDITY (NTU)	114.50
DEPTH TO WATER	25.82
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-17IR-15:17	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/21/2020 3:17:00 PM
PH	9.38
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1309
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.30
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-107.6
TURBIDITY (NTU)	48.67
DEPTH TO WATER	25.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Groundwater Monitoring

Sample information - Sample ID: PA-17IR-052120 Sample Time: 15:18	
Groundwater Monitoring - PA-17IR - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/21/2020 3:18:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-17IR-052120
SAMPLE ID CONFIRMATION	PA-17IR-052120
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-04
MAP	Latitude=45.5716066, Longitude=-122.7450121, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/22/2020 8:19:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	10.38
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	25
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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Groundwater Monitoring

VOLUME PURGED	7.2
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-04-08:33	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:33:00 AM
PH	10.17
TEMPERATURE	14.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	951
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	30.9
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	39.9
TURBIDITY (NTU)	95.57
DEPTH TO WATER	10.75
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-04-08:36	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:36:00 AM
PH	10.14
TEMPERATURE	14.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	939
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.88
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	24.4
TURBIDITY (NTU)	69.14
DEPTH TO WATER	10.75
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-04-08:39	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:39:00 AM
PH	10.11
TEMPERATURE	14.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	935
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	12.2
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	12.5
TURBIDITY (NTU)	59.52
DEPTH TO WATER	10.75
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-04-08:42	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:42:00 AM
PH	10.09
TEMPERATURE	14.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	933
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.92
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	4.0
TURBIDITY (NTU)	75.36
DEPTH TO WATER	10.75
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-04-08:45	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 8:45:00 AM
PH	10.09
TEMPERATURE	14.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	934
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.80
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	0.1
TURBIDITY (NTU)	104.42
DEPTH TO WATER	10.80
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-04-09:00	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:00:00 AM
PH	10.08
TEMPERATURE	14.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	924
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.57
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-5.3
TURBIDITY (NTU)	509.03
DEPTH TO WATER	10.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-04-09:15	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:15:00 AM
PH	10.06
TEMPERATURE	15
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	919
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.49
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-5.0
TURBIDITY (NTU)	606.72
DEPTH TO WATER	10.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-04-09:30	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:30:00 AM
PH	10.08
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	916
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.45
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-5.3
TURBIDITY (NTU)	701.56
DEPTH TO WATER	10.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-04-09:45	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/22/2020 9:45:00 AM
PH	10.08
TEMPERATURE	15.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	917
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.43
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-7.0
TURBIDITY (NTU)	784.90
DEPTH TO WATER	10.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Sample information - Sample ID: PA-04-052220 Sample Time: 09:46	
Groundwater Monitoring - PA-04 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/22/2020 9:46:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-04-052220
SAMPLE ID CONFIRMATION	PA-04-052220
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-10I
MAP	Latitude=45.5716096, Longitude=-122.7449669, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/26/2020 9:28:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	20.2
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	35
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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VOLUME PURGED	9
VOLUME UNIT	litres
SIGNATURE	

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Groundwater Monitoring

Field Parameters - PA-10I-09:40	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 9:40:00 AM
PH	8.87
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1054
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.26
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	19.8
TURBIDITY (NTU)	132.32
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-09:43	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 9:43:00 AM
PH	8.01
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1040
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.07
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	17.2
TURBIDITY (NTU)	117.33
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-09:46	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 9:46:00 AM
PH	7.84
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1043
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	12.9
TURBIDITY (NTU)	87.67
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-09:49	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 9:49:00 AM
PH	7.81
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1046
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.63
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	3.4
TURBIDITY (NTU)	77.20
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-09:52	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 9:52:00 AM
PH	7.79
TEMPERATURE	15.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1047
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.59
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-2.3
TURBIDITY (NTU)	73.46
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-09:55	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 9:55:00 AM
PH	7.79
TEMPERATURE	15.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1047
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.55
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-11.1
TURBIDITY (NTU)	72.77
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-10:10	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:10:00 AM
PH	7.78
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1045
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-50.7
TURBIDITY (NTU)	120.71
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-10:25	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:25:00 AM
PH	7.77
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1043
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-70.3
TURBIDITY (NTU)	83.36
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-10:40	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:40:00 AM
PH	7.76
TEMPERATURE	16.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1041
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.40
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-80.6
TURBIDITY (NTU)	82.06
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-10I-10:55	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 10:55:00 AM
PH	7.74
TEMPERATURE	16
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1039
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.39
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-87.1
TURBIDITY (NTU)	121.75
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-10I-11:10	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 11:10:00 AM
PH	7.74
TEMPERATURE	16.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1037
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.36
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-91.3
TURBIDITY (NTU)	141.66
DEPTH TO WATER	20.26
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Groundwater Monitoring

Sample information - Sample ID: PA-10I-052620 Sample Time: 11:11	
Groundwater Monitoring - PA-10I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/26/2020 11:11:00 AM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-10I-052620
SAMPLE ID CONFIRMATION	PA-10I-052620
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-12I
MAP	Latitude=45.5708809, Longitude=-122.7429076, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/26/2020 12:38:00 PM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.72
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	40
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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Groundwater Monitoring

VOLUME PURGED	10
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-12I-12:55	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 12:55:00 PM
PH	6.87
TEMPERATURE	17.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	437.1
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.80
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	45.5
TURBIDITY (NTU)	7.75
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-12I-12:58	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 12:58:00 PM
PH	6.25
TEMPERATURE	18
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	455.3
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.27
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	57.4
TURBIDITY (NTU)	7.93
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-12I-13:01	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:01:00 PM
PH	6.14
TEMPERATURE	18
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	489.2
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.94
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	61.7
TURBIDITY (NTU)	6.27
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-12I-13:04	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:04:00 PM
PH	6.12
TEMPERATURE	17.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	497
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.79
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	64
TURBIDITY (NTU)	6.74
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-12I-13:07	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:07:00 PM
PH	6.10
TEMPERATURE	17.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	495.6
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.69
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	65.9
TURBIDITY (NTU)	7.32
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Groundwater Monitoring

Field Parameters - PA-12I-13:10	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:10:00 PM
PH	6.10
TEMPERATURE	17.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	491.2
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.64
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	67.4
TURBIDITY (NTU)	5.08
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-12I-13:20	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:20:00 PM
PH	6.09
TEMPERATURE	18
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	485.6
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	71.3
TURBIDITY (NTU)	6.93
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-12I-13:50	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:50:00 PM
PH	6.05
TEMPERATURE	18.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	473.2
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.44
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	78.8
TURBIDITY (NTU)	7.86
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-12I-14:05	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 2:05:00 PM
PH	6.03
TEMPERATURE	18.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	468.4
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.41
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	80.4
TURBIDITY (NTU)	6.77
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-12I-13:35	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 1:35:00 PM
PH	6.06
TEMPERATURE	18.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	481.3
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	76.2
TURBIDITY (NTU)	10.75
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-12I-14:20	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 2:20:00 PM
PH	6.02
TEMPERATURE	18.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	465.5
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.40
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	81.2
TURBIDITY (NTU)	8.35
DEPTH TO WATER	22.85
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - PA-12I-14:35	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 2:35:00 PM
PH	6
TEMPERATURE	18.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	463
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.39
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	82.2
TURBIDITY (NTU)	10.52
DEPTH TO WATER	22.85
DEPTH UNIT	feet
STABLE	Yes

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI

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Groundwater Monitoring

Sample information - Sample ID: PA-12I-052620 Sample Time: 14:37	
Groundwater Monitoring - PA-12I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/26/2020 2:37:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-12I-052620
SAMPLE ID CONFIRMATION	PA-12I-052620
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron

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Groundwater Monitoring

Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-06
MAP	Latitude=45.5709134, Longitude=-122.7429221, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/26/2020 3:06:00 PM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	25.05
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	30
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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VOLUME PURGED	9
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-06-15:13	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:13:00 PM
PH	6.94
TEMPERATURE	20.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1150
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	6.30
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	57.2
TURBIDITY (NTU)	21.12
DEPTH TO WATER	25.05
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-15:16	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:16:00 PM
PH	6.93
TEMPERATURE	20.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1214
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	6.93
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	48.9
TURBIDITY (NTU)	17.04
DEPTH TO WATER	25.05
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-15:19	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:19:00 PM
PH	7.05
TEMPERATURE	20.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1290
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.66
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	34.5
TURBIDITY (NTU)	14.91
DEPTH TO WATER	25.05
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-15:22	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:22:00 PM
PH	7.11
TEMPERATURE	20.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1326
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.94
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	25.7
TURBIDITY (NTU)	11.82
DEPTH TO WATER	25.05
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-15:25	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:25:00 PM
PH	7.16
TEMPERATURE	20.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1348
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	8.02
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	18.8
TURBIDITY (NTU)	12.27
DEPTH TO WATER	25.05
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-15:28	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:28:00 PM
PH	7.17
TEMPERATURE	21
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1354
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	8.08
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	13.9
TURBIDITY (NTU)	15.42
DEPTH TO WATER	24.5
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-15:43	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:43:00 PM
PH	7.90
TEMPERATURE	22.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1332
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	8.78
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-19.5
TURBIDITY (NTU)	40.33
DEPTH TO WATER	23.02
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-15:58	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 3:58:00 PM
PH	8.24
TEMPERATURE	23.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1321
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	9.08
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-13.9
TURBIDITY (NTU)	39.63
DEPTH TO WATER	22.78
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-16:13	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 4:13:00 PM
PH	8.40
TEMPERATURE	25
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1312
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	9.12
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-8.2
TURBIDITY (NTU)	38.93
DEPTH TO WATER	22.75
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-16:28	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 4:28:00 PM
PH	8.46
TEMPERATURE	25.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1303
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	9.16
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-7.3
TURBIDITY (NTU)	39.39
DEPTH TO WATER	22.73
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-06-16:43	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/26/2020 4:43:00 PM
PH	8.18
TEMPERATURE	25.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1335
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	7.82
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-0.5
TURBIDITY (NTU)	35.54
DEPTH TO WATER	23.2
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Field equipment used - YSI	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Sample information - Sample ID: PA-06-052620 Sample Time: 16:44	
Groundwater Monitoring - PA-06 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/26/2020 4:44:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	PA-06-052620
SAMPLE ID CONFIRMATION	PA-06-052620
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron

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Groundwater Monitoring

Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	PA-05
MAP	Latitude=45.5715193, Longitude=-122.7436679, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/27/2020 9:59:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	23.21
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	31
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
VOLUME PURGED	3.7

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Groundwater Monitoring

VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - PA-05-10:24	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 10:24:00 AM
PH	5.90
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	685
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.20
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	98.8
TURBIDITY (NTU)	36.55
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-05-10:27	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 10:27:00 AM
PH	5.45
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	773
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.54
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	124.8
TURBIDITY (NTU)	109.36
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-05-10:30	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 10:30:00 AM
PH	5.02
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1080
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.03
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	135.0
TURBIDITY (NTU)	205.73
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-05-10:33	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 10:33:00 AM
PH	4.95
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1154
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.82
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	138.7
TURBIDITY (NTU)	225.97
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - PA-05-10:36	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 10:36:00 AM
PH	4.91
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1176
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.77
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	140.1
TURBIDITY (NTU)	92.06
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-05-10:51	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 10:51:00 AM
PH	4.82
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1329
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.58
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	148.7
TURBIDITY (NTU)	123.62
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-05-11:06	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 11:06:00 AM
PH	4.77
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1541
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.51
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	154.6
TURBIDITY (NTU)	306.81
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-05-11:21	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 11:21:00 AM
PH	4.74
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1684
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.42
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	158.1
TURBIDITY (NTU)	67.07
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-05-11:36	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 11:36:00 AM
PH	4.72
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1776
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.40
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	160.3
TURBIDITY (NTU)	155.54
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - PA-05-11:51	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 11:51:00 AM
PH	4.70
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1822
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.39
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	161.5
TURBIDITY (NTU)	112.91
DEPTH TO WATER	23.3
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - YSI	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Field equipment used - Peri pump	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	Peri pump

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Sample information - Sample ID: PA-05-052720 Sample Time: 11:52	
Groundwater Monitoring - PA-05 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/27/2020 11:52:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	PA-05-052720
SAMPLE ID CONFIRMATION	PA-05-052720
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	7

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Groundwater Monitoring

Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-61
MAP	Latitude=45.5715702, Longitude=-122.7434197, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/27/2020 1:36:00 PM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.28
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	25
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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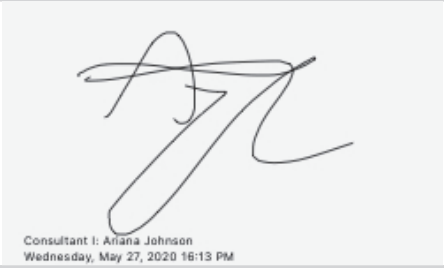
Groundwater Monitoring

VOLUME PURGED	1800
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - MWA-61-14:05	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 2:05:00 PM
PH	7.61
TEMPERATURE	18
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1549
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.37
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	157.6
TURBIDITY (NTU)	6.98
DEPTH TO WATER	22.28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-61-14:08	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 2:08:00 PM
PH	6.79
TEMPERATURE	17.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1538
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.30
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	145.1
TURBIDITY (NTU)	4.48
DEPTH TO WATER	22.28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-61-14:11	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 2:11:00 PM
PH	6.61
TEMPERATURE	16.8
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1534
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.01
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	139.2
TURBIDITY (NTU)	3.72
DEPTH TO WATER	22.28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-61-14:14	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 2:14:00 PM
PH	6.54
TEMPERATURE	16.7
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1533
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.81
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	133
TURBIDITY (NTU)	3.48
DEPTH TO WATER	22.28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-61-14:17	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 2:17:00 PM
PH	6.54
TEMPERATURE	16.6
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1533
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	128.1
TURBIDITY (NTU)	3.28
DEPTH TO WATER	22.28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-61-14:22	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 2:22:00 PM
PH	6.54
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1533
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.65
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	123.4
TURBIDITY (NTU)	2.82
DEPTH TO WATER	22.28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Groundwater Monitoring

Field Parameters - MWA-61-14:25	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/27/2020 2:25:00 PM
PH	6.53
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	1531
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.58
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	116.7
TURBIDITY (NTU)	2.44
DEPTH TO WATER	22.28
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - 2 inch bladder	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	2 inch bladder

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Field equipment used - YSI	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Groundwater Monitoring

Sample information - Sample ID: MWA-61-052720 Sample Time: 14:26	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/27/2020 2:26:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-61-052720
SAMPLE ID CONFIRMATION	MWA-61-052720
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes

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Sample information - Sample ID: MWA-61-052720-MS Sample Time: 14:26	
Groundwater Monitoring - MWA-61 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Field triplicate
SAMPLE DATE/TIME	5/27/2020 2:26:00 PM
CLARITY	Transparent
ODOR	None
SAMPLE NUMBER IDENTIFIER	01
SAMPLE ID	MWA-61-052720-MS
PARENT SAMPLE ID	MWA-61-052720
SAMPLE ID CONFIRMATION	MWA-61-052720-MS
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron

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Groundwater Monitoring

Groundwater Monitoring - MWA-32I - Not started	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-32I
MAP	Latitude=45.5699201, Longitude=-122.7410518, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00

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Groundwater Monitoring

Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-8I
MAP	Latitude=45.5716887, Longitude=-122.7436497, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/28/2020 1:06:00 PM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.38
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	45
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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Groundwater Monitoring

VOLUME PURGED	2500
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - MWA-8I-13:16	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 1:16:00 PM
PH	7.59
TEMPERATURE	16.3
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2387
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.95
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-14
TURBIDITY (NTU)	4.80
DEPTH TO WATER	22.38
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-8I-13:19	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 1:19:00 PM
PH	7.68
TEMPERATURE	16.5
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2444
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.75
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-22.0
TURBIDITY (NTU)	3.61
DEPTH TO WATER	22.38
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-8I-13:22	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 1:22:00 PM
PH	7.66
TEMPERATURE	18.9
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2405
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.67
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-33.0
TURBIDITY (NTU)	3.59
DEPTH TO WATER	22.38
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-8I-13:25	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 1:25:00 PM
PH	7.90
TEMPERATURE	21.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2406
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.61
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-44.5
TURBIDITY (NTU)	3.46
DEPTH TO WATER	22.38
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-8I-13:28	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 1:28:00 PM
PH	8.10
TEMPERATURE	23
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2436
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.57
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-54.8
TURBIDITY (NTU)	3.10
DEPTH TO WATER	22.38
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-8I-13:31	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 1:31:00 PM
PH	8.24
TEMPERATURE	24.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2474
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.56
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-63.6
TURBIDITY (NTU)	3.12
DEPTH TO WATER	22.38
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-8I-13:41	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/28/2020 1:41:00 PM
PH	8.27
TEMPERATURE	26.4
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	2494
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.47
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	-72.1
TURBIDITY (NTU)	3.09
DEPTH TO WATER	22.38
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - 2 inch bladder	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
EQUIPMENT TYPE	2 inch bladder

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Groundwater Monitoring

Sample information - Sample ID: MWA-8I-052820 Sample Time: 13:43	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/28/2020 1:43:00 PM
CLARITY	Colored
ODOR	None
SAMPLE ID	MWA-8I-052820
SAMPLE ID CONFIRMATION	MWA-8I-052820
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron

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Groundwater Monitoring

Sample information - Sample ID: DUP-04-WG-20200528 Sample Time: 13:43	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Field duplicate
SAMPLE DATE/TIME	5/28/2020 1:43:00 PM
CLARITY	Colored
ODOR	None
SAMPLE NUMBER IDENTIFIER	04
SAMPLE ID	DUP-04-WG-20200528
PARENT SAMPLE ID	MWA-8I-WG-20200528
SAMPLE ID CONFIRMATION	DUP-04-WG-20200528
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron
TOTAL CONTAINER QUANTITY	10

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Sample information - Sample ID: MWA-8i-052820-MS Sample Time: 13:43	
Groundwater Monitoring - MWA-8I - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Field triplicate
SAMPLE DATE/TIME	5/28/2020 1:43:00 PM
CLARITY	Colored
ODOR	None
SAMPLE NUMBER IDENTIFIER	01
SAMPLE ID	MWA-8i-052820-MS
PARENT SAMPLE ID	MWA-8i-052820
SAMPLE ID CONFIRMATION	MWA-8i-052820-MS

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Groundwater Monitoring

Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
SITE	ARKEMA-PORTLAND
TASK CODE	20200511-GroundWaterMonitor
LOCATION	MWA-2
MAP	Latitude=45.5717066, Longitude=-122.7436775, Accuracy=0, Altitude=0, AltitudeAccuracy=0, Heading=0, Speed=0, TimeStamp=1/1/0001 12:00:00 AM +00:00
START DATE	5/29/2020 8:37:00 AM
FIELD WORKER/S	AJ
ARE YOU ABLE TO ACCESS THE WELL?	Yes
WELL HEAD VAPOR MEASUREMENT?	No
A PREVIOUSLY MEASURED DEPTH TO WATER DURING FLUID LEVEL ACTIVITY	Report fluid level measurements
UNITS FOR DEPTH MEASUREMENTS	ft
MEASURING POINT	Top of casing
IS THE WELL DRY?	No
FREE PRODUCT PRESENT?	No
DEPTH TO WATER	22.74
WAS TOTAL DEPTH OF THE WELL MEASURED?	No
PURGE METHOD	Low Flow
ARE YOU TAKING FIELD PARAMETER MEASUREMENTS?	Yes
DOCUMENT FIELD EQUIPMENT USED	Yes
SAMPLE COLLECTED?	Collect a groundwater sample
PUMP INTAKE DEPTH:	30
NUMBER OF CONSECTUTIVE READINGS FOR STABILISATION:	3
FIELD PARAMETERS STABILIZED?	Y

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Groundwater Monitoring

VOLUME PURGED	4.5
VOLUME UNIT	litres
SIGNATURE	

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Field Parameters - MWA-2-09:05	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:05:00 AM
PH	7.37
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	394.2
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	2.09
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	67
TURBIDITY (NTU)	14.45
DEPTH TO WATER	22.74
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Groundwater Monitoring

Field Parameters - MWA-2-09:08	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:08:00 AM
PH	6.81
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	392.8
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.19
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	69.9
TURBIDITY (NTU)	11.83
DEPTH TO WATER	22.74
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-2-09:11	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:11:00 AM
PH	6.69
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	392.5
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	1.05
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	70.2
TURBIDITY (NTU)	10.98
DEPTH TO WATER	22.74
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-2-09:14	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:14:00 AM
PH	6.6
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	392.1
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.96
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	70.3
TURBIDITY (NTU)	9.95
DEPTH TO WATER	22.74
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-2-09:17	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:17:00 AM
PH	6.56
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	391.9
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.88
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	70.1
TURBIDITY (NTU)	8.33
DEPTH TO WATER	22.74
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-2-09:20	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:20:00 AM
PH	6.53
TEMPERATURE	15.1
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	398.7
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.83
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	70.1
TURBIDITY (NTU)	7.35
DEPTH TO WATER	22.74
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	Yes

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Field Parameters - MWA-2-09:35	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:35:00 AM
PH	6.52
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	385.2
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.71
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	69.8
TURBIDITY (NTU)	5.42
DEPTH TO WATER	22.74
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field Parameters - MWA-2-09:50	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
TIME OF MEASUREMENT	5/29/2020 9:50:00 AM
PH	6.52
TEMPERATURE	15.2
UNIT FOR TEMPERATURE	ºC
SPECIFIC CONDUCTIVITY	382
UNIT FOR SPECIFIC CONDUCTIVITY	µS/cm
DISSOLVED OXYGEN	0.66
UNIT FOR DISSOLVED OXYGEN	mg/L
ORP (MV)	70.1
TURBIDITY (NTU)	4.36
DEPTH TO WATER	22.74
DEPTH UNIT	feet
FLOW RATE (ML/MIN)	100
STABLE	No

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Field equipment used - 2 inch bladder	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	2 inch bladder

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Field equipment used - YSI	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
EQUIPMENT TYPE	YSI
MODEL	43870

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Groundwater Monitoring

Sample information - Sample ID: MWA-02-052920 Sample Time: 09:55	
Groundwater Monitoring - MWA-2 - Complete	
Parameter	**Value**
SAMPLE MATRIX	Groundwater
SAMPLE TYPE	Normal sample
SAMPLE DATE/TIME	5/29/2020 9:55:00 AM
CLARITY	Transparent
ODOR	None
SAMPLE ID	MWA-02-052920
SAMPLE ID CONFIRMATION	MWA-02-052920
CAPTURE SAMPLE ANALYTICAL SUITE AND PARAMETERS?	Yes
FILTERED	Yes
FILTER TYPE	0.45 micron

APPENDIX B LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94756-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event
Revision: 1

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/12/2020 9:18:45 AM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94756-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94756-1

Comments
6/10/2020 client requested to change formatter to regular MDL reporting.

Receipt
The samples were received on 5/18/2020 1:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3º C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-328821 recovered outside acceptance criteria, low biased, for 4-Chlorotoluene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Methods 8260C LL, 8260D: The CCV for analytical batch 580-328821 recovered outside control limits for the following analyte(s): Acetone and 4-Methyl-2-pentanone (MIBK). Acetone and 4-Methyl-2-pentanone (MIBK) have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-328821 was outside criteria for the following analyte(s): Chloroethane, 2-Hexanone, 4-Methyl-2-pentanone (MIBK) and 2-Butanone (MEK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8260D: The method blank for analytical batch 580-328821 contained 1,2-Dichlorobenzene, 1,2,4-Trimethylbenzene, Naphthalene, 1,4-Dichlorobenzene and Hexachlorobutadiene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-328821 recovered outside control limits for Acetone. Acetone has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-329468 was outside criteria for the following analyte(s): 1,3-Dichlorobenzene and Tetrachloroethene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-329468 recovered outside control limits for the following analytes: cis-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329468 recovered outside control limits for the following analytes: n-Butylbenzene.

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

HPLC/IC
Method 218.6: The following samples were diluted due to the nature of the sample matrix: MWA-33-051820 (580-94756-2), MWA-70i-051820 (580-94756-3) and PA-15i-051820 (580-94756-4). Elevated reporting limits (RLs) are provided.the following samples have brown color matrix.

Method 314.0: The following samples were diluted due to high conductivity background and very dark black color of the sample matrix: MWA-33-051820 (580-94756-2), MWA-70i-051820 (580-94756-3) and PA-15i-051820 (580-94756-4). Elevated reporting limits (RLs) are provided.

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

Job ID: 580-94756-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

GC Semi VOA
Method 8081B_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-609371 and analytical batch 440-609466. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-609371/2-A)

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

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

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

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-609371. Method 8081B

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

HPLC/IC

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

Metals

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

General Chemistry

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

Glossary

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

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820
Lab Sample ID: 580-94756-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/18/20 13:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/21/20 19:00	1
Chloromethane	ND		0.50	0.068	ug/L			05/21/20 19:00	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/21/20 19:00	1
Bromomethane	ND		0.50	0.062	ug/L			05/21/20 19:00	1
Chloroethane	ND		0.50	0.096	ug/L			05/21/20 19:00	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/21/20 19:00	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/21/20 19:00	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/21/20 19:00	1
Acetone	ND	*	10	3.1	ug/L			05/21/20 19:00	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/21/20 19:00	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/21/20 19:00	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/21/20 19:00	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/21/20 19:00	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/21/20 19:00	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/21/20 19:00	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/21/20 19:00	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/21/20 19:00	1
Chloroform	ND		0.20	0.030	ug/L			05/21/20 19:00	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/21/20 19:00	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/21/20 19:00	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/21/20 19:00	1
Benzene	ND		0.20	0.030	ug/L			05/21/20 19:00	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/21/20 19:00	1
Trichloroethene	ND		0.20	0.066	ug/L			05/21/20 19:00	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/21/20 19:00	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/21/20 19:00	1
Dibromomethane	ND		0.20	0.062	ug/L			05/21/20 19:00	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/21/20 19:00	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/21/20 19:00	1
Toluene	ND		0.20	0.050	ug/L			05/21/20 19:00	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/21/20 19:00	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/21/20 19:00	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/21/20 19:00	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/21/20 19:00	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/21/20 19:00	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/21/20 19:00	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/21/20 19:00	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/21/20 19:00	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/21/20 19:00	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/21/20 19:00	1
o-Xylene	ND		0.50	0.15	ug/L			05/21/20 19:00	1
Styrene	ND		1.0	0.19	ug/L			05/21/20 19:00	1
Bromoform	ND		0.50	0.16	ug/L			05/21/20 19:00	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/21/20 19:00	1
Bromobenzene	ND		0.20	0.035	ug/L			05/21/20 19:00	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/21/20 19:00	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/21/20 19:00	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/21/20 19:00	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/21/20 19:00	1

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820
Lab Sample ID: 580-94756-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/18/20 13:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/21/20 19:00	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/21/20 19:00	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/21/20 19:00	1
1,2,4-Trimethylbenzene	**0.10**	**J B**	0.30	0.072	ug/L			05/21/20 19:00	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/21/20 19:00	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/21/20 19:00	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/21/20 19:00	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/21/20 19:00	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/21/20 19:00	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/21/20 19:00	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/21/20 19:00	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/21/20 19:00	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/21/20 19:00	1
Naphthalene	**0.40**	**J B**	1.0	0.22	ug/L			05/21/20 19:00	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/21/20 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*05/21/20 19:00*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/21/20 19:00*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*05/21/20 19:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*05/21/20 19:00*	*1*

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-33-051820
Lab Sample ID: 580-94756-2
Date Collected: 05/18/20 09:01
Matrix: Water
Date Received: 05/18/20 13:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/30/20 18:29	1
Chloromethane	ND		20	0.28	ug/L			05/30/20 18:29	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/30/20 18:29	1
Bromomethane	ND		6.0	0.21	ug/L			05/30/20 18:29	1
Chloroethane	ND		5.0	0.35	ug/L			05/30/20 18:29	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/30/20 18:29	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/30/20 18:29	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/30/20 18:29	1
Acetone	ND		50	3.2	ug/L			05/30/20 18:29	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/30/20 18:29	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/30/20 18:29	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/30/20 18:29	1
1,1-Dichloroethane	**0.29**	**J**	2.0	0.22	ug/L			05/30/20 18:29	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/30/20 18:29	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/30/20 18:29	1
cis-1,2-Dichloroethene	ND	*	3.0	0.69	ug/L			05/30/20 18:29	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/30/20 18:29	1
Chloroform	ND		5.0	0.26	ug/L			05/30/20 18:29	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/30/20 18:29	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/30/20 18:29	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/30/20 18:29	1
Benzene	**0.55**	**J**	3.0	0.24	ug/L			05/30/20 18:29	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/30/20 18:29	1
Trichloroethene	ND		3.0	0.26	ug/L			05/30/20 18:29	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/30/20 18:29	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/30/20 18:29	1
Dibromomethane	ND		2.0	0.34	ug/L			05/30/20 18:29	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/30/20 18:29	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/30/20 18:29	1
Toluene	**0.81**	**J**	2.0	0.39	ug/L			05/30/20 18:29	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/30/20 18:29	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/30/20 18:29	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/30/20 18:29	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/30/20 18:29	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/30/20 18:29	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/30/20 18:29	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/30/20 18:29	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/30/20 18:29	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/30/20 18:29	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/30/20 18:29	1
o-Xylene	ND		2.0	0.39	ug/L			05/30/20 18:29	1
Styrene	ND		5.0	1.0	ug/L			05/30/20 18:29	1
Bromoform	ND		3.0	0.56	ug/L			05/30/20 18:29	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/30/20 18:29	1
Bromobenzene	ND		2.0	0.43	ug/L			05/30/20 18:29	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/30/20 18:29	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/30/20 18:29	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/30/20 18:29	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/30/20 18:29	1

Client Sample ID: MWA-33-051820
Lab Sample ID: 580-94756-2

Date Collected: 05/18/20 09:01
Matrix: Water

Date Received: 05/18/20 13:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/30/20 18:29	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/30/20 18:29	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/30/20 18:29	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/30/20 18:29	1
4-Isopropyltoluene	**1.2**	**J**	3.0	0.28	ug/L			05/30/20 18:29	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/30/20 18:29	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/30/20 18:29	1
n-Butylbenzene	ND	*1	3.0	0.44	ug/L			05/30/20 18:29	1
1,2-Dichlorobenzene	**1.2**	**J**	2.0	0.46	ug/L			05/30/20 18:29	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/30/20 18:29	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/30/20 18:29	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/30/20 18:29	1
Naphthalene	ND		4.0	0.93	ug/L			05/30/20 18:29	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/30/20 18:29	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/30/20 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/30/20 18:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*05/30/20 18:29*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*05/30/20 18:29*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/30/20 18:29*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 14:47	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 14:47	1
4,4'-DDT	**0.047**		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 14:47	1
Aldrin	ND		0.0048	0.0014	ug/L		05/20/20 05:44	05/20/20 14:47	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 14:47	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/20/20 05:44	05/20/20 14:47	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/20/20 05:44	05/20/20 14:47	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/20/20 05:44	05/20/20 14:47	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/20/20 05:44	05/20/20 14:47	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/20/20 05:44	05/20/20 14:47	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/20/20 05:44	05/20/20 14:47	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/20/20 05:44	05/20/20 14:47	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/20/20 05:44	05/20/20 14:47	1
Endrin	ND		0.0048	0.0019	ug/L		05/20/20 05:44	05/20/20 14:47	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/20/20 05:44	05/20/20 14:47	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/20/20 05:44	05/20/20 14:47	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/20/20 05:44	05/20/20 14:47	1
trans-Chlordane	ND		0.096	0.029	ug/L		05/20/20 05:44	05/20/20 14:47	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/20/20 05:44	05/20/20 14:47	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 14:47	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/20/20 05:44	05/20/20 14:47	1
Toxaphene	ND		0.48	0.24	ug/L		05/20/20 05:44	05/20/20 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*66*		*28 - 108*	*05/20/20 05:44*	*05/20/20 14:47*	*1*
Tetrachloro-m-xylene	*63*		*10 - 123*	*05/20/20 05:44*	*05/20/20 14:47*	*1*

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-33-051820
Lab Sample ID: 580-94756-2
Date Collected: 05/18/20 09:01
Matrix: Water
Date Received: 05/18/20 13:15

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	2.2	J	5.0	1.3	ug/L			05/21/20 07:42	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 17:59	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.091		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 20:21	5
Chromium	0.030		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 20:21	5
Iron	8.3		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 20:21	5
Manganese	0.39		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 20:21	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.099		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:46	5
Chromium	0.044		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:46	5
Iron	3.7		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:46	5
Manganese	0.15		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:46	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79	B	9.0	1.4	mg/L			05/23/20 08:08	10

Client Sample ID: MWA-70i-051820
Lab Sample ID: 580-94756-3

Date Collected: 05/18/20 10:01
Matrix: Water

Date Received: 05/18/20 13:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 02:35	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 02:35	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 02:35	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 02:35	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 02:35	1
Carbon disulfide	**0.095**	**J**	0.30	0.083	ug/L			05/22/20 02:35	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 02:35	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 02:35	1
Acetone	ND	*	10	3.1	ug/L			05/22/20 02:35	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 02:35	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 02:35	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 02:35	1
trans-1,2-Dichloroethene	**0.061**	**J**	0.20	0.033	ug/L			05/22/20 02:35	1
1,1-Dichloroethane	**0.36**		0.20	0.025	ug/L			05/22/20 02:35	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 02:35	1
cis-1,2-Dichloroethene	**0.16**	**J**	0.20	0.055	ug/L			05/22/20 02:35	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 02:35	1
Chloroform	**0.066**	**J**	0.20	0.030	ug/L			05/22/20 02:35	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 02:35	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 02:35	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 02:35	1
Benzene	**0.25**		0.20	0.030	ug/L			05/22/20 02:35	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 02:35	1
Trichloroethene	**0.41**		0.20	0.066	ug/L			05/22/20 02:35	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 02:35	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 02:35	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 02:35	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 02:35	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 02:35	1
Toluene	**0.60**		0.20	0.050	ug/L			05/22/20 02:35	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 02:35	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 02:35	1
Tetrachloroethene	**0.79**		0.50	0.084	ug/L			05/22/20 02:35	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 02:35	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 02:35	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 02:35	1
Chlorobenzene	**0.46**		0.20	0.025	ug/L			05/22/20 02:35	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 02:35	1
Ethylbenzene	**0.055**	**J**	0.20	0.030	ug/L			05/22/20 02:35	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 02:35	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 02:35	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 02:35	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 02:35	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 02:35	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 02:35	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 02:35	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 02:35	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 02:35	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 02:35	1

Client Sample ID: MWA-70i-051820
Lab Sample ID: 580-94756-3
Date Collected: 05/18/20 10:01
Matrix: Water
Date Received: 05/18/20 13:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 02:35	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 02:35	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 02:35	1
1,2,4-Trimethylbenzene	**0.13**	**J B**	0.30	0.072	ug/L			05/22/20 02:35	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 02:35	1
4-Isopropyltoluene	**1.3**		0.50	0.15	ug/L			05/22/20 02:35	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 02:35	1
1,4-Dichlorobenzene	**0.20**	**J B**	0.30	0.050	ug/L			05/22/20 02:35	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 02:35	1
1,2-Dichlorobenzene	**1.2**	**B**	0.30	0.024	ug/L			05/22/20 02:35	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 02:35	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 02:35	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 02:35	1
Naphthalene	**0.77**	**J B**	1.0	0.22	ug/L			05/22/20 02:35	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 02:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/22/20 02:35*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 120*		*05/22/20 02:35*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*05/22/20 02:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*05/22/20 02:35*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 15:03	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 15:03	1
4,4'-DDT	**0.011**	**p**	0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 15:03	1
Aldrin	ND		0.0048	0.0014	ug/L		05/20/20 05:44	05/20/20 15:03	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 15:03	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/20/20 05:44	05/20/20 15:03	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/20/20 05:44	05/20/20 15:03	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/20/20 05:44	05/20/20 15:03	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/20/20 05:44	05/20/20 15:03	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/20/20 05:44	05/20/20 15:03	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/20/20 05:44	05/20/20 15:03	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/20/20 05:44	05/20/20 15:03	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/20/20 05:44	05/20/20 15:03	1
Endrin	ND		0.0048	0.0019	ug/L		05/20/20 05:44	05/20/20 15:03	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/20/20 05:44	05/20/20 15:03	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/20/20 05:44	05/20/20 15:03	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/20/20 05:44	05/20/20 15:03	1
trans-Chlordane	ND		0.096	0.029	ug/L		05/20/20 05:44	05/20/20 15:03	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/20/20 05:44	05/20/20 15:03	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/20/20 05:44	05/20/20 15:03	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/20/20 05:44	05/20/20 15:03	1
Toxaphene	ND		0.48	0.24	ug/L		05/20/20 05:44	05/20/20 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*57*		*28 - 108*	*05/20/20 05:44*	*05/20/20 15:03*	*1*
Tetrachloro-m-xylene	*53*		*10 - 123*	*05/20/20 05:44*	*05/20/20 15:03*	*1*

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-70i-051820
Lab Sample ID: 580-94756-3
Date Collected: 05/18/20 10:01
Matrix: Water
Date Received: 05/18/20 13:15

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			05/21/20 07:54	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 18:35	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.036**		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 21:02	5
Chromium	**0.11**		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 21:02	5
Iron	**7.6**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 21:02	5
Manganese	**0.24**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 21:02	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.049**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:56	5
Chromium	**0.055**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:56	5
Iron	**1.4**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:56	5
Manganese	**0.039**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:56	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**45**	**B**	9.0	1.4	mg/L			05/23/20 08:20	10

Client Sample ID: PA-15i-051820
Lab Sample ID: 580-94756-4

Date Collected: 05/18/20 10:10
Matrix: Water

Date Received: 05/18/20 13:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 03:02	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 03:02	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 03:02	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 03:02	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 03:02	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 03:02	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 03:02	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 03:02	1
Acetone	ND	*	10	3.1	ug/L			05/22/20 03:02	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 03:02	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 03:02	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 03:02	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 03:02	1
1,1-Dichloroethane	**0.48**		0.20	0.025	ug/L			05/22/20 03:02	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 03:02	1
cis-1,2-Dichloroethene	**0.15**	**J**	0.20	0.055	ug/L			05/22/20 03:02	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 03:02	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 03:02	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 03:02	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 03:02	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 03:02	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 03:02	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 03:02	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 03:02	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 03:02	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 03:02	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 03:02	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 03:02	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 03:02	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 03:02	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 03:02	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 03:02	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 03:02	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 03:02	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 03:02	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 03:02	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 03:02	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 03:02	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 03:02	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 03:02	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 03:02	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 03:02	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 03:02	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 03:02	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 03:02	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 03:02	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 03:02	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 03:02	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 03:02	1

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-15i-051820
Lab Sample ID: 580-94756-4
Date Collected: 05/18/20 10:10
Matrix: Water
Date Received: 05/18/20 13:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 03:02	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 03:02	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 03:02	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/22/20 03:02	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 03:02	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 03:02	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 03:02	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 03:02	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 03:02	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 03:02	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 03:02	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 03:02	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 03:02	1
Naphthalene	**0.38**	**J B**	1.0	0.22	ug/L			05/22/20 03:02	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 03:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/22/20 03:02*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 120*		*05/22/20 03:02*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*05/22/20 03:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*05/22/20 03:02*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			05/21/20 08:07	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 19:46	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0032**	**J**	0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:43	5
Chromium	**0.10**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:43	5
Iron	**2.5**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:43	5
Manganese	**0.079**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:43	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**270**	**B**	9.0	1.4	mg/L			05/23/20 08:55	10

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

Lab Sample ID: MB 580-328821/7
Matrix: Water
Analysis Batch: 328821

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/21/20 18:06	1
Chloromethane	ND		0.50	0.068	ug/L			05/21/20 18:06	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/21/20 18:06	1
Bromomethane	ND		0.50	0.062	ug/L			05/21/20 18:06	1
Chloroethane	ND		0.50	0.096	ug/L			05/21/20 18:06	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/21/20 18:06	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/21/20 18:06	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/21/20 18:06	1
Acetone	ND		10	3.1	ug/L			05/21/20 18:06	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/21/20 18:06	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/21/20 18:06	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/21/20 18:06	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/21/20 18:06	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/21/20 18:06	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/21/20 18:06	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/21/20 18:06	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/21/20 18:06	1
Chloroform	ND		0.20	0.030	ug/L			05/21/20 18:06	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/21/20 18:06	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/21/20 18:06	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/21/20 18:06	1
Benzene	ND		0.20	0.030	ug/L			05/21/20 18:06	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/21/20 18:06	1
Trichloroethene	ND		0.20	0.066	ug/L			05/21/20 18:06	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/21/20 18:06	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/21/20 18:06	1
Dibromomethane	ND		0.20	0.062	ug/L			05/21/20 18:06	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/21/20 18:06	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/21/20 18:06	1
Toluene	ND		0.20	0.050	ug/L			05/21/20 18:06	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/21/20 18:06	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/21/20 18:06	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/21/20 18:06	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/21/20 18:06	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/21/20 18:06	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/21/20 18:06	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/21/20 18:06	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/21/20 18:06	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/21/20 18:06	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/21/20 18:06	1
o-Xylene	ND		0.50	0.15	ug/L			05/21/20 18:06	1
Styrene	ND		1.0	0.19	ug/L			05/21/20 18:06	1
Bromoform	ND		0.50	0.16	ug/L			05/21/20 18:06	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/21/20 18:06	1
Bromobenzene	ND		0.20	0.035	ug/L			05/21/20 18:06	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/21/20 18:06	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/21/20 18:06	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/21/20 18:06	1

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

Lab Sample ID: MB 580-328821/7
Matrix: Water
Analysis Batch: 328821

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/21/20 18:06	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/21/20 18:06	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/21/20 18:06	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/21/20 18:06	1
1,2,4-Trimethylbenzene	0.115	J	0.30	0.072	ug/L			05/21/20 18:06	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/21/20 18:06	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/21/20 18:06	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/21/20 18:06	1
1,4-Dichlorobenzene	0.0530	J	0.30	0.050	ug/L			05/21/20 18:06	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/21/20 18:06	1
1,2-Dichlorobenzene	0.0426	J	0.30	0.024	ug/L			05/21/20 18:06	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/21/20 18:06	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/21/20 18:06	1
Hexachlorobutadiene	0.109	J	0.50	0.067	ug/L			05/21/20 18:06	1
Naphthalene	0.470	J	1.0	0.22	ug/L			05/21/20 18:06	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/21/20 18:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/21/20 18:06*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*05/21/20 18:06*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/21/20 18:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*05/21/20 18:06*	*1*

Lab Sample ID: LCS 580-328821/4
Matrix: Water
Analysis Batch: 328821

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	4.71		ug/L		94	20 - 137
Chloromethane	5.00	5.22		ug/L		104	32 - 143
Vinyl chloride	5.00	4.74		ug/L		95	52 - 128
Bromomethane	5.00	4.92		ug/L		98	68 - 120
Chloroethane	5.00	5.89		ug/L		118	49 - 135
Carbon disulfide	5.00	5.17		ug/L		103	65 - 128
Trichlorofluoromethane	5.00	5.05		ug/L		101	60 - 132
1,1-Dichloroethene	5.00	4.94		ug/L		99	71 - 126
Acetone	25.0	4.62	J *	ug/L		18	49 - 150
Methylene Chloride	5.00	3.98	J	ug/L		80	75 - 134
Methyl tert-butyl ether	5.00	5.16		ug/L		103	60 - 150
2-Butanone (MEK)	25.0	26.6		ug/L		106	64 - 136
trans-1,2-Dichloroethene	5.00	4.56		ug/L		91	63 - 133
1,1-Dichloroethane	5.00	4.94		ug/L		99	74 - 135
2,2-Dichloropropane	5.00	5.03		ug/L		101	58 - 150
cis-1,2-Dichloroethene	5.00	5.15		ug/L		103	72 - 130
Chlorobromomethane	5.00	4.97		ug/L		99	79 - 131
Chloroform	5.00	5.05		ug/L		101	80 - 130
1,1,1-Trichloroethane	5.00	4.70		ug/L		94	74 - 128
Carbon tetrachloride	5.00	4.78		ug/L		96	71 - 132

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

Lab Sample ID: LCS 580-328821/4
Matrix: Water
Analysis Batch: 328821

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	5.00	5.17		ug/L		103	72 - 132
Benzene	5.00	5.28		ug/L		106	73 - 133
1,2-Dichloroethane	5.00	5.01		ug/L		100	74 - 130
Trichloroethene	5.00	5.14		ug/L		103	72 - 136
1,2-Dichloropropane	5.00	5.39		ug/L		108	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	28.5		ug/L		114	65 - 137
Dibromomethane	5.00	5.23		ug/L		105	65 - 141
Dichlorobromomethane	5.00	5.13		ug/L		103	74 - 131
cis-1,3-Dichloropropene	5.00	5.37		ug/L		107	66 - 141
Toluene	5.00	5.22		ug/L		104	80 - 126
trans-1,3-Dichloropropene	5.00	5.33		ug/L		107	71 - 128
1,1,2-Trichloroethane	5.00	5.21		ug/L		104	80 - 127
Tetrachloroethene	5.00	5.05		ug/L		101	75 - 131
1,3-Dichloropropane	5.00	5.49		ug/L		110	80 - 130
Chlorodibromomethane	5.00	5.21		ug/L		104	76 - 131
Ethylene Dibromide	5.00	5.20		ug/L		104	80 - 126
Chlorobenzene	5.00	5.20		ug/L		104	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.00		ug/L		100	79 - 127
Ethylbenzene	5.00	5.60		ug/L		112	80 - 130
m-Xylene & p-Xylene	5.00	5.56		ug/L		111	78 - 130
o-Xylene	5.00	5.68		ug/L		114	80 - 139
Styrene	5.00	5.95		ug/L		119	74 - 136
Bromoform	5.00	5.37		ug/L		107	69 - 137
Isopropylbenzene	5.00	5.48		ug/L		110	75 - 137
Bromobenzene	5.00	5.26		ug/L		105	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.44		ug/L		109	69 - 139
1,2,3-Trichloropropane	5.00	5.84		ug/L		117	80 - 127
N-Propylbenzene	5.00	5.71		ug/L		114	77 - 142
2-Chlorotoluene	5.00	5.80		ug/L		116	80 - 136
4-Chlorotoluene	5.00	5.85		ug/L		117	80 - 130
1,3,5-Trimethylbenzene	5.00	5.34		ug/L		107	80 - 139
tert-Butylbenzene	5.00	5.49		ug/L		110	77 - 140
1,2,4-Trimethylbenzene	5.00	5.41		ug/L		108	78 - 136
sec-Butylbenzene	5.00	5.72		ug/L		114	78 - 140
4-Isopropyltoluene	5.00	5.33		ug/L		107	78 - 132
1,3-Dichlorobenzene	5.00	5.42		ug/L		108	80 - 130
1,4-Dichlorobenzene	5.00	5.44		ug/L		109	80 - 129
n-Butylbenzene	5.00	5.13		ug/L		103	73 - 135
1,2-Dichlorobenzene	5.00	5.37		ug/L		107	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.07		ug/L		101	69 - 130
1,2,4-Trichlorobenzene	5.00	5.42		ug/L		108	79 - 130
Hexachlorobutadiene	5.00	5.17		ug/L		103	72 - 138
Naphthalene	5.00	4.51		ug/L		90	64 - 132
1,2,3-Trichlorobenzene	5.00	5.52		ug/L		110	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*80 - 120*

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

Lab Sample ID: LCS 580-328821/4
Matrix: Water
Analysis Batch: 328821

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*

Lab Sample ID: LCSD 580-328821/5
Matrix: Water
Analysis Batch: 328821

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			5.00	4.97		ug/L		99	20 - 137	5	22
Chloromethane			5.00	5.18		ug/L		104	32 - 143	1	23
Vinyl chloride			5.00	4.81		ug/L		96	52 - 128	1	21
Bromomethane			5.00	4.82		ug/L		96	68 - 120	2	18
Chloroethane			5.00	5.59		ug/L		112	49 - 135	5	27
Carbon disulfide			5.00	5.32		ug/L		106	65 - 128	3	23
Trichlorofluoromethane			5.00	5.45		ug/L		109	60 - 132	8	20
1,1-Dichloroethene			5.00	4.68		ug/L		94	71 - 126	5	17
Acetone			25.0	4.06	J *	ug/L		16	49 - 150	13	24
Methylene Chloride			5.00	4.58	J	ug/L		92	75 - 134	14	18
Methyl tert-butyl ether			5.00	5.31		ug/L		106	60 - 150	3	25
2-Butanone (MEK)			25.0	23.5		ug/L		94	64 - 136	12	23
trans-1,2-Dichloroethene			5.00	4.79		ug/L		96	63 - 133	5	17
1,1-Dichloroethane			5.00	4.98		ug/L		100	74 - 135	1	20
2,2-Dichloropropane			5.00	4.85		ug/L		97	58 - 150	4	28
cis-1,2-Dichloroethene			5.00	5.37		ug/L		107	72 - 130	4	20
Chlorobromomethane			5.00	5.11		ug/L		102	79 - 131	3	20
Chloroform			5.00	5.41		ug/L		108	80 - 130	7	20
1,1,1-Trichloroethane			5.00	4.75		ug/L		95	74 - 128	1	14
Carbon tetrachloride			5.00	4.93		ug/L		99	71 - 132	3	15
1,1-Dichloropropene			5.00	5.39		ug/L		108	72 - 132	4	13
Benzene			5.00	5.30		ug/L		106	73 - 133	0	20
1,2-Dichloroethane			5.00	5.06		ug/L		101	74 - 130	1	15
Trichloroethene			5.00	5.24		ug/L		105	72 - 136	2	14
1,2-Dichloropropane			5.00	5.15		ug/L		103	80 - 130	5	14
4-Methyl-2-pentanone (MIBK)			25.0	30.4		ug/L		122	65 - 137	7	24
Dibromomethane			5.00	5.06		ug/L		101	65 - 141	3	20
Dichlorobromomethane			5.00	4.93		ug/L		99	74 - 131	4	20
cis-1,3-Dichloropropene			5.00	5.52		ug/L		110	66 - 141	3	22
Toluene			5.00	5.27		ug/L		105	80 - 126	1	20
trans-1,3-Dichloropropene			5.00	5.17		ug/L		103	71 - 128	3	21
1,1,2-Trichloroethane			5.00	5.39		ug/L		108	80 - 127	3	19
Tetrachloroethene			5.00	5.08		ug/L		102	75 - 131	1	20
1,3-Dichloropropane			5.00	5.40		ug/L		108	80 - 130	2	19
Chlorodibromomethane			5.00	5.31		ug/L		106	76 - 131	2	20
Ethylene Dibromide			5.00	5.35		ug/L		107	80 - 126	3	20
Chlorobenzene			5.00	5.18		ug/L		104	80 - 123	0	12
1,1,1,2-Tetrachloroethane			5.00	5.35		ug/L		107	79 - 127	7	20
Ethylbenzene			5.00	5.58		ug/L		112	80 - 130	0	20
m-Xylene & p-Xylene			5.00	5.70		ug/L		114	78 - 130	2	20

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

Lab Sample ID: LCSD 580-328821/5
Matrix: Water
Analysis Batch: 328821

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	5.00	5.78		ug/L		116	80 - 139	2	20
Styrene	5.00	5.84		ug/L		117	74 - 136	2	20
Bromoform	5.00	5.42		ug/L		108	69 - 137	1	20
Isopropylbenzene	5.00	5.63		ug/L		113	75 - 137	3	20
Bromobenzene	5.00	5.11		ug/L		102	80 - 130	3	20
1,1,2,2-Tetrachloroethane	5.00	5.71		ug/L		114	69 - 139	5	22
1,2,3-Trichloropropane	5.00	5.51		ug/L		110	80 - 127	6	20
N-Propylbenzene	5.00	5.49		ug/L		110	77 - 142	4	20
2-Chlorotoluene	5.00	5.66		ug/L		113	80 - 136	2	20
4-Chlorotoluene	5.00	5.74		ug/L		115	80 - 130	2	20
1,3,5-Trimethylbenzene	5.00	5.26		ug/L		105	80 - 139	2	20
tert-Butylbenzene	5.00	5.42		ug/L		108	77 - 140	1	20
1,2,4-Trimethylbenzene	5.00	5.38		ug/L		108	78 - 136	1	20
sec-Butylbenzene	5.00	5.62		ug/L		112	78 - 140	2	20
4-Isopropyltoluene	5.00	5.33		ug/L		107	78 - 132	0	14
1,3-Dichlorobenzene	5.00	5.42		ug/L		108	80 - 130	0	12
1,4-Dichlorobenzene	5.00	5.49		ug/L		110	80 - 129	1	11
n-Butylbenzene	5.00	5.28		ug/L		106	73 - 135	3	18
1,2-Dichlorobenzene	5.00	5.59		ug/L		112	80 - 129	4	14
1,2-Dibromo-3-Chloropropane	5.00	5.35		ug/L		107	69 - 130	5	26
1,2,4-Trichlorobenzene	5.00	5.71		ug/L		114	79 - 130	5	20
Hexachlorobutadiene	5.00	5.20		ug/L		104	72 - 138	1	20
Naphthalene	5.00	4.85		ug/L		97	64 - 132	7	20
1,2,3-Trichlorobenzene	5.00	5.73		ug/L		115	75 - 137	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*

Lab Sample ID: MB 580-329468/7
Matrix: Water
Analysis Batch: 329468

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/30/20 15:48	1
Chloromethane	ND		20	0.28	ug/L			05/30/20 15:48	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/30/20 15:48	1
Bromomethane	ND		6.0	0.21	ug/L			05/30/20 15:48	1
Chloroethane	ND		5.0	0.35	ug/L			05/30/20 15:48	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/30/20 15:48	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/30/20 15:48	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/30/20 15:48	1
Acetone	ND		50	3.2	ug/L			05/30/20 15:48	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/30/20 15:48	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/30/20 15:48	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/30/20 15:48	1

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

Lab Sample ID: MB 580-329468/7
Matrix: Water
Analysis Batch: 329468

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/30/20 15:48	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/30/20 15:48	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/30/20 15:48	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/30/20 15:48	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/30/20 15:48	1
Chloroform	ND		5.0	0.26	ug/L			05/30/20 15:48	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/30/20 15:48	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/30/20 15:48	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/30/20 15:48	1
Benzene	ND		3.0	0.24	ug/L			05/30/20 15:48	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/30/20 15:48	1
Trichloroethene	ND		3.0	0.26	ug/L			05/30/20 15:48	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/30/20 15:48	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/30/20 15:48	1
Dibromomethane	ND		2.0	0.34	ug/L			05/30/20 15:48	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/30/20 15:48	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/30/20 15:48	1
Toluene	ND		2.0	0.39	ug/L			05/30/20 15:48	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/30/20 15:48	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/30/20 15:48	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/30/20 15:48	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/30/20 15:48	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/30/20 15:48	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/30/20 15:48	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/30/20 15:48	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/30/20 15:48	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/30/20 15:48	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/30/20 15:48	1
o-Xylene	ND		2.0	0.39	ug/L			05/30/20 15:48	1
Styrene	ND		5.0	1.0	ug/L			05/30/20 15:48	1
Bromoform	ND		3.0	0.56	ug/L			05/30/20 15:48	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/30/20 15:48	1
Bromobenzene	ND		2.0	0.43	ug/L			05/30/20 15:48	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/30/20 15:48	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/30/20 15:48	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/30/20 15:48	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/30/20 15:48	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/30/20 15:48	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/30/20 15:48	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/30/20 15:48	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/30/20 15:48	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/30/20 15:48	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/30/20 15:48	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/30/20 15:48	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/30/20 15:48	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/30/20 15:48	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/30/20 15:48	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/30/20 15:48	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/30/20 15:48	1

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

Lab Sample ID: MB 580-329468/7
Matrix: Water
Analysis Batch: 329468

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		4.0	0.93	ug/L			05/30/20 15:48	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/30/20 15:48	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/30/20 15:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/30/20 15:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*05/30/20 15:48*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*05/30/20 15:48*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/30/20 15:48*	*1*

Lab Sample ID: LCS 580-329468/4
Matrix: Water
Analysis Batch: 329468

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	11.1		ug/L		111	20 - 150
Chloromethane	10.0	11.5	J	ug/L		115	52 - 135
Vinyl chloride	10.0	11.3		ug/L		113	65 - 130
Bromomethane	10.0	10.7		ug/L		107	66 - 125
Chloroethane	10.0	9.84		ug/L		98	65 - 132
Trichlorofluoromethane	10.0	9.96		ug/L		100	64 - 136
Carbon disulfide	10.0	8.01		ug/L		80	69 - 122
1,1-Dichloroethene	10.0	10.5		ug/L		105	70 - 129
Acetone	50.0	54.4		ug/L		109	43 - 150
Methylene Chloride	10.0	10.1		ug/L		101	77 - 125
Methyl tert-butyl ether	10.0	10.3		ug/L		103	72 - 130
trans-1,2-Dichloroethene	10.0	9.83		ug/L		98	77 - 124
1,1-Dichloroethane	10.0	11.0		ug/L		110	70 - 129
2-Butanone (MEK)	50.0	52.4		ug/L		105	65 - 127
2,2-Dichloropropane	10.0	10.9		ug/L		109	62 - 140
cis-1,2-Dichloroethene	10.0	16.1	*	ug/L		161	76 - 129
Bromochloromethane	10.0	9.55		ug/L		96	78 - 120
Chloroform	10.0	11.1		ug/L		111	73 - 127
1,1,1-Trichloroethane	10.0	10.3		ug/L		103	74 - 130
Carbon tetrachloride	10.0	9.76		ug/L		98	72 - 129
1,1-Dichloropropene	10.0	9.93		ug/L		99	80 - 120
Benzene	10.0	10.8		ug/L		108	75 - 121
1,2-Dichloroethane	10.0	10.5		ug/L		105	76 - 131
Trichloroethene	10.0	10.1		ug/L		101	70 - 120
1,2-Dichloropropane	10.0	10.8		ug/L		108	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	49.9		ug/L		100	69 - 124
Dibromomethane	10.0	10.5		ug/L		105	80 - 120
Bromodichloromethane	10.0	11.0		ug/L		110	75 - 124
cis-1,3-Dichloropropene	10.0	11.4		ug/L		114	77 - 120
Toluene	10.0	10.7		ug/L		107	80 - 120
trans-1,3-Dichloropropene	10.0	10.7		ug/L		107	80 - 122
1,1,2-Trichloroethane	10.0	10.5		ug/L		105	80 - 121
Tetrachloroethene	10.0	9.19		ug/L		92	76 - 120

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

Lab Sample ID: LCS 580-329468/4
Matrix: Water
Analysis Batch: 329468

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	10.0	10.7		ug/L		107	79 - 120
Dibromochloromethane	10.0	9.90		ug/L		99	71 - 120
1,2-Dibromoethane	10.0	10.2		ug/L		102	79 - 120
Chlorobenzene	10.0	10.3		ug/L		103	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.75		ug/L		97	79 - 120
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120
m-Xylene & p-Xylene	10.0	10.4		ug/L		104	80 - 120
o-Xylene	10.0	10.1		ug/L		101	80 - 120
Styrene	10.0	9.68		ug/L		97	76 - 121
Bromoform	10.0	9.05		ug/L		90	61 - 132
Isopropylbenzene	10.0	10.3		ug/L		103	75 - 120
Bromobenzene	10.0	10.3		ug/L		103	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.8		ug/L		108	74 - 124
1,2,3-Trichloropropane	10.0	10.4		ug/L		104	76 - 124
N-Propylbenzene	10.0	10.5		ug/L		105	80 - 120
2-Chlorotoluene	10.0	10.7		ug/L		107	80 - 120
4-Chlorotoluene	10.0	10.8		ug/L		108	80 - 120
t-Butylbenzene	10.0	10.7		ug/L		107	80 - 121
1,2,4-Trimethylbenzene	10.0	10.8		ug/L		108	80 - 120
sec-Butylbenzene	10.0	10.8		ug/L		108	78 - 120
4-Isopropyltoluene	10.0	10.7		ug/L		107	77 - 120
1,3-Dichlorobenzene	10.0	9.21		ug/L		92	80 - 120
1,4-Dichlorobenzene	10.0	10.4		ug/L		104	80 - 120
n-Butylbenzene	10.0	11.3		ug/L		113	78 - 120
1,2-Dichlorobenzene	10.0	10.5		ug/L		105	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	10.3		ug/L		103	65 - 125
1,2,4-Trichlorobenzene	10.0	10.4		ug/L		104	57 - 140
Hexachlorobutadiene	10.0	10.9		ug/L		109	74 - 125
Naphthalene	10.0	13.7		ug/L		137	44 - 144
1,2,3-Trichlorobenzene	10.0	12.9		ug/L		129	23 - 150
1,3,5-Trimethylbenzene	10.0	10.9		ug/L		109	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 126*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-329468/5
Matrix: Water
Analysis Batch: 329468

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	9.24	J	ug/L		92	20 - 150	19	35
Chloromethane	10.0	10.1	J	ug/L		101	52 - 135	12	23
Vinyl chloride	10.0	10.1		ug/L		101	65 - 130	11	28
Bromomethane	10.0	9.65		ug/L		96	66 - 125	11	27
Chloroethane	10.0	9.19		ug/L		92	65 - 132	7	35

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

Lab Sample ID: LCSD 580-329468/5
Matrix: Water
Analysis Batch: 329468

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	10.0	8.91		ug/L		89	64 - 136	11	27
Carbon disulfide	10.0	6.97		ug/L		70	69 - 122	14	20
1,1-Dichloroethene	10.0	9.15		ug/L		91	70 - 129	13	27
Acetone	50.0	52.0		ug/L		104	43 - 150	5	35
Methylene Chloride	10.0	9.21		ug/L		92	77 - 125	9	18
Methyl tert-butyl ether	10.0	9.66		ug/L		97	72 - 130	6	18
trans-1,2-Dichloroethene	10.0	9.83		ug/L		98	77 - 124	0	21
1,1-Dichloroethane	10.0	9.83		ug/L		98	70 - 129	11	26
2-Butanone (MEK)	50.0	47.2		ug/L		94	65 - 127	10	29
2,2-Dichloropropane	10.0	10.0		ug/L		100	62 - 140	9	23
cis-1,2-Dichloroethene	10.0	18.6	*	ug/L		186	76 - 129	14	15
Bromochloromethane	10.0	8.93		ug/L		89	78 - 120	7	20
Chloroform	10.0	9.91		ug/L		99	73 - 127	11	22
1,1,1-Trichloroethane	10.0	9.68		ug/L		97	74 - 130	6	18
Carbon tetrachloride	10.0	9.01		ug/L		90	72 - 129	8	19
1,1-Dichloropropene	10.0	9.11		ug/L		91	80 - 120	9	14
Benzene	10.0	9.51		ug/L		95	75 - 121	13	14
1,2-Dichloroethane	10.0	9.99		ug/L		100	76 - 131	5	18
Trichloroethene	10.0	9.10		ug/L		91	70 - 120	11	21
1,2-Dichloropropane	10.0	10.0		ug/L		100	72 - 126	7	26
4-Methyl-2-pentanone (MIBK)	50.0	45.7		ug/L		91	69 - 124	9	22
Dibromomethane	10.0	9.59		ug/L		96	80 - 120	9	22
Bromodichloromethane	10.0	10.0		ug/L		100	75 - 124	9	22
cis-1,3-Dichloropropene	10.0	10.5		ug/L		105	77 - 120	8	20
Toluene	10.0	9.68		ug/L		97	80 - 120	10	19
trans-1,3-Dichloropropene	10.0	9.49		ug/L		95	80 - 122	12	25
1,1,2-Trichloroethane	10.0	9.45		ug/L		95	80 - 121	10	21
Tetrachloroethene	10.0	8.40		ug/L		84	76 - 120	9	20
1,3-Dichloropropane	10.0	9.59		ug/L		96	79 - 120	11	26
Dibromochloromethane	10.0	8.89		ug/L		89	71 - 120	11	24
1,2-Dibromoethane	10.0	9.49		ug/L		95	79 - 120	7	20
Chlorobenzene	10.0	9.05		ug/L		91	80 - 120	13	15
1,1,1,2-Tetrachloroethane	10.0	8.85		ug/L		89	79 - 120	10	20
Ethylbenzene	10.0	9.22		ug/L		92	80 - 120	10	14
m-Xylene & p-Xylene	10.0	9.20		ug/L		92	80 - 120	13	14
o-Xylene	10.0	9.07		ug/L		91	80 - 120	10	16
Styrene	10.0	8.58		ug/L		86	76 - 121	12	16
Bromoform	10.0	8.17		ug/L		82	61 - 132	10	20
Isopropylbenzene	10.0	9.02		ug/L		90	75 - 120	13	20
Bromobenzene	10.0	9.12		ug/L		91	80 - 120	13	13
1,1,2,2-Tetrachloroethane	10.0	9.77		ug/L		98	74 - 124	10	18
1,2,3-Trichloropropane	10.0	9.72		ug/L		97	76 - 124	7	30
N-Propylbenzene	10.0	9.42		ug/L		94	80 - 120	11	13
2-Chlorotoluene	10.0	9.59		ug/L		96	80 - 120	10	15
4-Chlorotoluene	10.0	9.59		ug/L		96	80 - 120	12	14
t-Butylbenzene	10.0	9.38		ug/L		94	80 - 121	13	14
1,2,4-Trimethylbenzene	10.0	9.54		ug/L		95	80 - 120	12	16
sec-Butylbenzene	10.0	9.54		ug/L		95	78 - 120	13	15
4-Isopropyltoluene	10.0	9.32		ug/L		93	77 - 120	13	13

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

Lab Sample ID: LCSD 580-329468/5
Matrix: Water
Analysis Batch: 329468

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichlorobenzene			10.0	8.34		ug/L		83	80 - 120	10	14
1,4-Dichlorobenzene			10.0	9.19		ug/L		92	80 - 120	12	17
n-Butylbenzene			10.0	9.58	*1	ug/L		96	78 - 120	16	14
1,2-Dichlorobenzene			10.0	9.12		ug/L		91	80 - 120	14	15
1,2-Dibromo-3-Chloropropane			10.0	9.09	J	ug/L		91	65 - 125	12	27
1,2,4-Trichlorobenzene			10.0	8.70		ug/L		87	57 - 140	18	27
Hexachlorobutadiene			10.0	9.10		ug/L		91	74 - 125	18	22
Naphthalene			10.0	11.5		ug/L		115	44 - 144	18	31
1,2,3-Trichlorobenzene			10.0	10.8		ug/L		108	23 - 150	17	35
1,3,5-Trimethylbenzene			10.0	9.62		ug/L		96	80 - 120	12	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609371/1-A
Matrix: Water
Analysis Batch: 609466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609371

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/20/20 05:44	05/20/20 13:06	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/20/20 05:44	05/20/20 13:06	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/20/20 05:44	05/20/20 13:06	1
Aldrin	ND		0.0050	0.0015	ug/L		05/20/20 05:44	05/20/20 13:06	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/20/20 05:44	05/20/20 13:06	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/20/20 05:44	05/20/20 13:06	1
beta-BHC	ND		0.010	0.0040	ug/L		05/20/20 05:44	05/20/20 13:06	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/20/20 05:44	05/20/20 13:06	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/20/20 05:44	05/20/20 13:06	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/20/20 05:44	05/20/20 13:06	1
Endosulfan I	ND		0.0050	0.0030	ug/L		05/20/20 05:44	05/20/20 13:06	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/20/20 05:44	05/20/20 13:06	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/20/20 05:44	05/20/20 13:06	1
Endrin	ND		0.0050	0.0020	ug/L		05/20/20 05:44	05/20/20 13:06	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/20/20 05:44	05/20/20 13:06	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/20/20 05:44	05/20/20 13:06	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/20/20 05:44	05/20/20 13:06	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/20/20 05:44	05/20/20 13:06	1
Heptachlor	ND		0.010	0.0030	ug/L		05/20/20 05:44	05/20/20 13:06	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/20/20 05:44	05/20/20 13:06	1
Methoxychlor	ND		0.0050	0.0035	ug/L		05/20/20 05:44	05/20/20 13:06	1
Toxaphene	ND		0.50	0.25	ug/L		05/20/20 05:44	05/20/20 13:06	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-609371/1-A
Matrix: Water
Analysis Batch: 609466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609371

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	80		28 - 108	05/20/20 05:44	05/20/20 13:06	1
Tetrachloro-m-xylene	67		10 - 123	05/20/20 05:44	05/20/20 13:06	1

Lab Sample ID: LCS 440-609371/2-A
Matrix: Water
Analysis Batch: 609466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609371

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.278		ug/L		70	50 - 128
4,4'-DDE	0.400	0.272		ug/L		68	49 - 121
4,4'-DDT	0.400	0.290		ug/L		73	41 - 140
Aldrin	0.400	0.280		ug/L		70	37 - 115
alpha-BHC	0.400	0.279		ug/L		70	44 - 115
cis-Chlordane	0.400	0.292		ug/L		73	40 - 122
beta-BHC	0.400	0.300		ug/L		75	46 - 121
delta-BHC	0.400	0.273		ug/L		68	32 - 129
Dieldrin	0.400	0.298		ug/L		74	39 - 126
Endosulfan I	0.400	0.290		ug/L		72	47 - 115
Endosulfan II	0.400	0.294		ug/L		74	47 - 120
Endosulfan sulfate	0.400	0.289		ug/L		72	48 - 126
Endrin	0.400	0.300		ug/L		75	43 - 127
Endrin aldehyde	0.400	0.279		ug/L		70	43 - 120
Endrin ketone	0.400	0.283		ug/L		71	47 - 123
gamma-BHC (Lindane)	0.400	0.279		ug/L		70	45 - 116
trans-Chlordane	0.400	0.277		ug/L		69	37 - 129
Heptachlor	0.400	0.294		ug/L		74	37 - 115
Heptachlor epoxide	0.400	0.286		ug/L		71	41 - 129
Methoxychlor	0.400	0.333		ug/L		83	44 - 141

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	69		28 - 108
Tetrachloro-m-xylene	62		10 - 123

Lab Sample ID: LCSD 440-609371/3-A
Matrix: Water
Analysis Batch: 609466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609371

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.400	0.279		ug/L		70	50 - 128	0	26
4,4'-DDE	0.400	0.269		ug/L		67	49 - 121	1	22
4,4'-DDT	0.400	0.285		ug/L		71	41 - 140	2	20
Aldrin	0.400	0.270		ug/L		67	37 - 115	4	24
alpha-BHC	0.400	0.275		ug/L		69	44 - 115	1	26
cis-Chlordane	0.400	0.288		ug/L		72	40 - 122	1	35
beta-BHC	0.400	0.285		ug/L		71	46 - 121	5	27
delta-BHC	0.400	0.270		ug/L		67	32 - 129	1	35
Dieldrin	0.400	0.294		ug/L		73	39 - 126	1	35
Endosulfan I	0.400	0.286		ug/L		71	47 - 115	1	27

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 440-609371/3-A
Matrix: Water
Analysis Batch: 609466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609371

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endosulfan II			0.400	0.289		ug/L		72	47 - 120	2	29
Endosulfan sulfate			0.400	0.286		ug/L		71	48 - 126	1	26
Endrin			0.400	0.295		ug/L		74	43 - 127	2	35
Endrin aldehyde			0.400	0.275		ug/L		69	43 - 120	1	35
Endrin ketone			0.400	0.280		ug/L		70	47 - 123	1	27
gamma-BHC (Lindane)			0.400	0.274		ug/L		69	45 - 116	2	28
trans-Chlordane			0.400	0.274		ug/L		68	37 - 129	1	35
Heptachlor			0.400	0.289		ug/L		72	37 - 115	2	35
Heptachlor epoxide			0.400	0.282		ug/L		70	41 - 129	1	35
Methoxychlor			0.400	0.327		ug/L		82	44 - 141	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*67*		*28 - 108*
Tetrachloro-m-xylene	*60*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-609546/6
Matrix: Water
Analysis Batch: 609546

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/21/20 06:32	1

Lab Sample ID: LCS 440-609546/5
Matrix: Water
Analysis Batch: 609546

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	49.4		ug/L		99	90 - 110		

Lab Sample ID: MRL 440-609546/4
Matrix: Water
Analysis Batch: 609546

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			1.00	1.00		ug/L		100	50 - 150		

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610162/6
Matrix: Water
Analysis Batch: 610162

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/27/20 10:15	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 440-610162/5
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.70		ug/L		97	85 - 115

Lab Sample ID: MRL 440-610162/4
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		93	75 - 125

Lab Sample ID: MRL 440-610162/8
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.33	J	ug/L		83	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-328767/24-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:12	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:12	5
Iron	ND		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:12	5
Manganese	ND		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:12	5

Lab Sample ID: LCS 580-328767/25-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.971		mg/L		97	80 - 120
Chromium	1.00	0.978		mg/L		98	80 - 120
Iron	20.0	19.5		mg/L		97	80 - 120
Manganese	1.00	0.975		mg/L		97	80 - 120

Lab Sample ID: LCSD 580-328767/26-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.978		mg/L		98	80 - 120	1	20
Chromium	1.00	0.985		mg/L		98	80 - 120	1	20
Iron	20.0	19.6		mg/L		98	80 - 120	1	20
Manganese	1.00	0.971		mg/L		97	80 - 120	0	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-328770/15-A
Matrix: Water
Analysis Batch: 329011
Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 20:18	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 20:18	5
Iron	ND		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 20:18	5
Manganese	ND		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 20:18	5

Lab Sample ID: LCS 580-328770/16-A
Matrix: Water
Analysis Batch: 329011
Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.974		mg/L		97	80 - 120
Chromium	1.00	0.931		mg/L		93	80 - 120
Iron	20.0	19.2		mg/L		96	80 - 120
Manganese	1.00	0.976		mg/L		98	80 - 120

Lab Sample ID: LCSD 580-328770/17-A
Matrix: Water
Analysis Batch: 329011
Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.974		mg/L		97	80 - 120	0	20
Chromium	1.00	0.946		mg/L		95	80 - 120	2	20
Iron	20.0	19.0		mg/L		95	80 - 120	1	20
Manganese	1.00	0.989		mg/L		99	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329020/3
Matrix: Water
Analysis Batch: 329020
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.142	J	0.90	0.14	mg/L			05/23/20 06:34	1

Lab Sample ID: LCS 580-329020/4
Matrix: Water
Analysis Batch: 329020
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-329020/5
Matrix: Water
Analysis Batch: 329020
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	51.7		mg/L		103	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820
Lab Sample ID: 580-94756-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/18/20 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328821	05/21/20 19:00	W1T	TAL SEA

Client Sample ID: MWA-33-051820
Lab Sample ID: 580-94756-2
Date Collected: 05/18/20 09:01
Matrix: Water
Date Received: 05/18/20 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329468	05/30/20 18:29	CJ	TAL SEA
Total/NA	Prep	3510C			609371	05/20/20 05:44	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	609466	05/20/20 14:47	D1D	TAL IRV
Dissolved	Analysis	218.6		5	609546	05/21/20 07:42	MN	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 17:59	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:46	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 20:21	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329020	05/23/20 08:08	AAC	TAL SEA

Client Sample ID: MWA-70i-051820
Lab Sample ID: 580-94756-3
Date Collected: 05/18/20 10:01
Matrix: Water
Date Received: 05/18/20 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328821	05/22/20 02:35	W1T	TAL SEA
Total/NA	Prep	3510C			609371	05/20/20 05:44	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	609466	05/20/20 15:03	D1D	TAL IRV
Dissolved	Analysis	218.6		5	609546	05/21/20 07:54	MN	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 18:35	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 18:56	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 21:02	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329020	05/23/20 08:20	AAC	TAL SEA

Client Sample ID: PA-15i-051820
Lab Sample ID: 580-94756-4
Date Collected: 05/18/20 10:10
Matrix: Water
Date Received: 05/18/20 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328821	05/22/20 03:02	W1T	TAL SEA
Dissolved	Analysis	218.6		5	609546	05/21/20 08:07	MN	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 19:46	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:43	FCW	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-15i-051820
Lab Sample ID: 580-94756-4
Date Collected: 05/18/20 10:10
Matrix: Water
Date Received: 05/18/20 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	329020	05/23/20 08:55	AAC	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94756-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94756-1	TB-051820	Water	05/18/20 00:01	05/18/20 13:15	
580-94756-2	MWA-33-051820	Water	05/18/20 09:01	05/18/20 13:15	
580-94756-3	MWA-70i-051820	Water	05/18/20 10:01	05/18/20 13:15	
580-94756-4	PA-15i-051820	Water	05/18/20 10:10	05/18/20 13:15	

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

Chain of Custody Record

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Client Information	Sampler: ST, DS	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0481059.02			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q1 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-051820	5/18/20		G	Water									X			3	
MWA-33-051820		0901	G	Water			X	X		X	X	X		X	X	10	
MWA-70i-051820		1001		Water			X	X		X	X		X	X	X	10	
PA-15i-051820		1010		Water			X				X		X	X	X	7	
				Water													
				Water													
				Water													
				Water													
				Water													

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

580-94756 Chain of Custody

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/18/20 1200	ERM		5/18/20 1200	M.E.
2		5/18/20 1315	M.E.		5/18/20 1315	DHL
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 5.3

Ver: 01/16/2019

6/12/2020 (Rev. 1)

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

Chain of Custody Record

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Client Information	Sampler: ST, DS	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0481059.02			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q1 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-051820	5/18/20		G	Water									X			3	
MWA-33-051820	↓	0901	G	Water			X	X		X	X	X		X	X	10	
MWA-70i-051820	↓	1001	↓	Water			X	X		X	X		X	X	X	10	
PA-15i-051820	↓	1010	↓	Water			X				X		X	X	X	7	
				Water													
				Water													
				Water													
				Water													
				Water													

580-94756 Chain of Custody

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

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

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5/18/20 1200	ERM	[signature]	5/18/20 1200	M.E.
[signature]	5/18/20 1315	M.E.	[signature]	5/18/20 1315	TAPOR
[signature]	5/18/20 1700	TAPOR	Tom Blanks	5/19/20 0950	TA-Sea

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 5.3 IR7 0.0/-0.2

Ver: 01/16/2019

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No.: 580-76866.1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94756-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/5/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MWA-33-051820 (580-94756-2)	5/18/20	09:01 Pacific		Water			X	X	X	4	Sample should have been field filtered then preserved by Portland Please confirm via
MWA-70i-051820 (580-94756-3)	5/18/20	10:01 Pacific		Water			X	X	X	4	Sample should have been field filtered then preserved by Portland Please confirm via
PA-15i-051820 (580-94756-4)	5/18/20	10:10 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland. Please confirm via

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

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

Empty Kit Relinquished by:	Date	Time:	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/18/20 1700	DAER			
2	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time: 5/19/20 0945	Company: EC LRV

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: IR89 2.7/2.7

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94756-1

Login Number: 94756
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94756-1

Login Number: 94756
List Number: 2
Creator: Dolidze, Lado

List Source: Eurofins Irvine
List Creation: 05/19/20 01:11 PM

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

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94768-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event
Revision: 1

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/12/2020 9:23:28 AM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94768-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94768-1

Comments
6/10/2020 client requested to change formatter to regular MDL reporting.

Receipt
The samples were received on 5/18/2020 4:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.9º C and 5.7º C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-328821 recovered outside acceptance criteria, low biased, for 4-Chlorotoluene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Methods 8260C LL, 8260D: The CCV for analytical batch 580-328821 recovered outside control limits for the following analyte(s): Acetone and 4-Methyl-2-pentanone (MIBK). Acetone and 4-Methyl-2-pentanone (MIBK) have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-328821 was outside criteria for the following analyte(s): Chloroethane, 2-Hexanone, 4-Methyl-2-pentanone (MIBK) and 2-Butanone (MEK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8260D: The method blank for analytical batch 580-328821 contained 1,2-Dichlorobenzene, 1,2,4-Trimethylbenzene, Naphthalene, 1,4-Dichlorobenzene and Hexachlorobutadiene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-328821 recovered outside control limits for Acetone. Acetone has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-328859 recovered outside acceptance criteria, low biased, for Vinyl chloride and 2,2-Dichloropropane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Methods 8260C LL, 8260D: The CCVIS for analytical batch 580-328859 recovered outside control limits for the following analyte(s): Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK) has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-328859 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Methods 8260C LL, 8260D: The method blank for analytical batch 580-328859 contained 1,2,4-Trimethylbenzene and Naphthalene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-328859 recovered outside control limits for the following analyte(s): 2-Butanone (MEK). 2-Butanone (MEK) has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Methods 8260C LL, 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-328859 recovered outside control limits for the following analytes: 2-Butanone (MEK).

Job ID: 580-94768-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Methods 8260C LL, 8260D: The method blank for analytical batch 580-329263 contained Acetone above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329263 recovered outside control limits for the following analytes: acetone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The CCV for analytical batch 580-329501 recovered outside control limits for the following analytes: Dichlorodifluoromethane. It has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329501 recovered above the upper control limit for Chlorobenzene and Styrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-329501/3).

Method 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-329501 was outside criteria for the following analyte(s): Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329501 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Methods 8260C LL, 8260D: The method blank for analytical batch 580-329501 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The CCV for analytical batch 580-329532 recovered outside control limits for the following analyte: Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-329532 was outside criteria for the following analyte(s): Chloroethane, Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analytes is considered estimated.

Method 8260D: The CCV for analytical batch 580-329532 recovered outside control limits for the following analyte: Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-329532 was outside criteria for the following analyte(s): Chloroethane, Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analytes is considered estimated.

Method 8260D: The method blank for analytical batch 580-329532 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329263 recovered above the upper control limit for acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 580-94768-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329210 recovered above the upper control limit for Acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-25d-051820 (580-94768-6), PA-26d-051820 (580-94768-7) and (CCVIS 580-329210/3).

Method 8260D: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed outside the 7-day holding time specified for unpreserved samples but within the 14-day holding time specified for preserved samples: MWA-40-051820 (580-94768-3).

Method 8260D: The following sample was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: MWA-24-051820 (580-94768-2).

Methods 8260C LL, 8260D: Sample PA-09-051820 (580-94768-8) reanalyzed due to carry over.

Method 8260D: The following sample were reanalyzed due to carry over:TB-051820-A (580-94768-1)

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

HPLC/IC

Method 218.6: The following sample was diluted due to the nature of the sample matrix: MWA-24-051820 (580-94768-2). Elevated reporting limits (RLs) are provided.the following samples have brown color matrix.

Method 218.6: The following sample was diluted due to the nature of the sample matrix: MWA-40-051820 (580-94768-3). Elevated reporting limits (RLs) are provided.the sample has dark brown color matrix.

Method 218.6: The reference method requires samples to be preserved to a pH of 9.3 to 9.7. The following samples were received with insufficient preservation at a pH out of this range.MWA-24-051820 (580-94768-2) and MWA-40-051820 (580-94768-3). The sample(s) was preserved to the appropriate pH in the laboratory.

Method 314.0: The following samples were diluted due to high conductivity background and intense dark black color of the sample matrix: MWA-24-051820 (580-94768-2) and MWA-40-051820 (580-94768-3). Elevated reporting limits (RLs) are provided.

Method 314.0: The following sample was diluted due to medium dark brown color of of the sample matrix: PA-09-051820 (580-94768-8). Elevated reporting limits (RLs) are provided.

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

GC Semi VOA

Method 8081B_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-609549 and analytical batch 440-610211. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-609549/2-A)

Methods 8081A, 8081B_LL: The following samples in preparation batch 440-609549 required a copper clean-up to reduce matrix interferences caused by sulfur. The associated batch QC were also processed with the copper cleanup procedure. MWA-24-051820 (580-94768-2) and MWA-40-051820 (580-94768-3).

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

Metals

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

General Chemistry

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

Organic Prep

Job ID: 580-94768-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 440-609549.

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

VOA Prep

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
H4	Container indicated preservation, however measured pH was >2 at time of analysis. Analysis date was more than 7 days from sampling date, as required for samples not preserved to pH<2.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

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

General Chemistry

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

Glossary

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

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820-A
Lab Sample ID: 580-94768-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/21/20 18:33	1
Chloromethane	ND		0.50	0.068	ug/L			05/21/20 18:33	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/21/20 18:33	1
Bromomethane	ND		0.50	0.062	ug/L			05/21/20 18:33	1
Chloroethane	ND		0.50	0.096	ug/L			05/21/20 18:33	1
Carbon disulfide	**0.084**	**J**	0.30	0.083	ug/L			05/21/20 18:33	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/21/20 18:33	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/21/20 18:33	1
Acetone	ND	*	10	3.1	ug/L			05/21/20 18:33	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/21/20 18:33	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/21/20 18:33	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/21/20 18:33	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/21/20 18:33	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/21/20 18:33	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/21/20 18:33	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/21/20 18:33	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/21/20 18:33	1
Chloroform	ND		0.20	0.030	ug/L			05/21/20 18:33	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/21/20 18:33	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/21/20 18:33	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/21/20 18:33	1
Benzene	ND		0.20	0.030	ug/L			05/21/20 18:33	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/21/20 18:33	1
Trichloroethene	ND		0.20	0.066	ug/L			05/21/20 18:33	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/21/20 18:33	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/21/20 18:33	1
Dibromomethane	ND		0.20	0.062	ug/L			05/21/20 18:33	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/21/20 18:33	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/21/20 18:33	1
Toluene	ND		0.20	0.050	ug/L			05/21/20 18:33	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/21/20 18:33	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/21/20 18:33	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/21/20 18:33	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/21/20 18:33	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/21/20 18:33	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/21/20 18:33	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/21/20 18:33	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/21/20 18:33	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/21/20 18:33	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/21/20 18:33	1
o-Xylene	ND		0.50	0.15	ug/L			05/21/20 18:33	1
Styrene	ND		1.0	0.19	ug/L			05/21/20 18:33	1
Bromoform	ND		0.50	0.16	ug/L			05/21/20 18:33	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/21/20 18:33	1
Bromobenzene	ND		0.20	0.035	ug/L			05/21/20 18:33	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/21/20 18:33	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/21/20 18:33	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/21/20 18:33	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/21/20 18:33	1

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820-A
Lab Sample ID: 580-94768-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/21/20 18:33	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/21/20 18:33	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/21/20 18:33	1
1,2,4-Trimethylbenzene	**0.10**	**J B**	0.30	0.072	ug/L			05/21/20 18:33	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/21/20 18:33	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/21/20 18:33	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/21/20 18:33	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/21/20 18:33	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/21/20 18:33	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/21/20 18:33	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/21/20 18:33	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/21/20 18:33	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/21/20 18:33	1
Naphthalene	**0.41**	**J B**	1.0	0.22	ug/L			05/21/20 18:33	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/21/20 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/21/20 18:33*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*05/21/20 18:33*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*05/21/20 18:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*05/21/20 18:33*	*1*

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/01/20 19:42*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/01/20 19:42*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/01/20 19:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*06/01/20 19:42*	*1*

Client Sample ID: MWA-24-051820
Lab Sample ID: 580-94768-2

Date Collected: 05/18/20 11:39
Matrix: Water

Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 02:08	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 02:08	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 02:08	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 02:08	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 02:08	1
Carbon disulfide	**0.75**		0.30	0.083	ug/L			05/22/20 02:08	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 02:08	1
1,1-Dichloroethene	**0.60**		0.20	0.035	ug/L			05/22/20 02:08	1
Acetone	ND	*	10	3.1	ug/L			05/22/20 02:08	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 02:08	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 02:08	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 02:08	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 02:08	1
1,1-Dichloroethane	**1.1**		0.20	0.025	ug/L			05/22/20 02:08	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 02:08	1
cis-1,2-Dichloroethene	**0.11**	**J**	0.20	0.055	ug/L			05/22/20 02:08	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 02:08	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 02:08	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 02:08	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 02:08	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 02:08	1
Benzene	**0.88**		0.20	0.030	ug/L			05/22/20 02:08	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 02:08	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 02:08	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 02:08	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 02:08	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 02:08	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 02:08	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 02:08	1
Toluene	**1.1**		0.20	0.050	ug/L			05/22/20 02:08	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 02:08	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 02:08	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 02:08	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 02:08	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 02:08	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 02:08	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 02:08	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 02:08	1
Ethylbenzene	**0.046**	**J**	0.20	0.030	ug/L			05/22/20 02:08	1
m-Xylene & p-Xylene	**0.12**	**J**	0.50	0.12	ug/L			05/22/20 02:08	1
o-Xylene	**0.22**	**J**	0.50	0.15	ug/L			05/22/20 02:08	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 02:08	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 02:08	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 02:08	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 02:08	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 02:08	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 02:08	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 02:08	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 02:08	1

Client Sample ID: MWA-24-051820
Lab Sample ID: 580-94768-2

Date Collected: 05/18/20 11:39
Matrix: Water

Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 02:08	1
1,3,5-Trimethylbenzene	**0.16**	**J**	0.50	0.15	ug/L			05/22/20 02:08	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 02:08	1
1,2,4-Trimethylbenzene	**0.21**	**J B**	0.30	0.072	ug/L			05/22/20 02:08	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 02:08	1
4-Isopropyltoluene	**0.59**		0.50	0.15	ug/L			05/22/20 02:08	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 02:08	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 02:08	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 02:08	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 02:08	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 02:08	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 02:08	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 02:08	1
Naphthalene	**0.87**	**J B**	1.0	0.22	ug/L			05/22/20 02:08	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/22/20 02:08*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 120*		*05/22/20 02:08*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/22/20 02:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*80 - 120*		*05/22/20 02:08*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.036**	**p**	0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 14:32	1
4,4'-DDE	**0.015**		0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 14:32	1
4,4'-DDT	**0.15**	**p**	0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 14:32	1
Aldrin	ND		0.0048	0.0014	ug/L		05/21/20 05:31	05/29/20 14:32	1
alpha-BHC	**0.0057**		0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 14:32	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/21/20 05:31	05/29/20 14:32	1
beta-BHC	**0.0044**	**J p**	0.0096	0.0038	ug/L		05/21/20 05:31	05/29/20 14:32	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/21/20 05:31	05/29/20 14:32	1
delta-BHC	**0.0041**	**J**	0.0048	0.0033	ug/L		05/21/20 05:31	05/29/20 14:32	1
Dieldrin	**0.0033**	**J p**	0.0048	0.0019	ug/L		05/21/20 05:31	05/29/20 14:32	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/21/20 05:31	05/29/20 14:32	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/29/20 14:32	1
Endosulfan sulfate	**0.0073**	**J**	0.0096	0.0029	ug/L		05/21/20 05:31	05/29/20 14:32	1
Endrin	**0.0036**	**J p**	0.0048	0.0019	ug/L		05/21/20 05:31	05/29/20 14:32	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/21/20 05:31	05/29/20 14:32	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/21/20 05:31	05/29/20 14:32	1
gamma-BHC (Lindane)	**0.0033**	**J p**	0.0096	0.0029	ug/L		05/21/20 05:31	05/29/20 14:32	1
trans-Chlordane	ND		0.096	0.029	ug/L		05/21/20 05:31	05/29/20 14:32	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/29/20 14:32	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 14:32	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/29/20 14:32	1
Toxaphene	ND		0.48	0.24	ug/L		05/21/20 05:31	05/29/20 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*64*		*28 - 108*	*05/21/20 05:31*	*05/29/20 14:32*	*1*
Tetrachloro-m-xylene	*55*		*10 - 123*	*05/21/20 05:31*	*05/29/20 14:32*	*1*

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-24-051820
Lab Sample ID: 580-94768-2
Date Collected: 05/18/20 11:39
Matrix: Water
Date Received: 05/18/20 16:05

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	5.0	1.3	ug/L			05/21/20 08:20	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/01/20 20:48	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.65**		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 21:22	5
Chromium	**0.014**		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 21:22	5
Iron	**7.4**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 21:22	5
Manganese	**0.63**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 21:22	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.64**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:18	5
Chromium	**0.0079**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:18	5
Iron	**1.6**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:18	5
Manganese	**0.17**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:18	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**	**B**	9.0	1.4	mg/L			05/23/20 09:07	10

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-40-051820
Lab Sample ID: 580-94768-3
Date Collected: 05/18/20 12:32
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H4 *	0.40	0.13	ug/L			05/30/20 02:38	1
Chloromethane	ND	H4	0.50	0.068	ug/L			05/30/20 02:38	1
Vinyl chloride	**0.83**	**H4**	0.020	0.013	ug/L			05/30/20 02:38	1
Bromomethane	ND	H4	0.50	0.062	ug/L			05/30/20 02:38	1
Chloroethane	ND	H4	0.50	0.096	ug/L			05/30/20 02:38	1
Carbon disulfide	**0.53**	**H4**	0.30	0.083	ug/L			05/30/20 02:38	1
Trichlorofluoromethane	ND	H4	0.50	0.043	ug/L			05/30/20 02:38	1
1,1-Dichloroethene	**0.30**	**H4**	0.20	0.035	ug/L			05/30/20 02:38	1
Acetone	ND	H4	10	3.1	ug/L			05/30/20 02:38	1
Methylene Chloride	ND	H4	5.0	1.2	ug/L			05/30/20 02:38	1
Methyl tert-butyl ether	ND	H4	0.30	0.070	ug/L			05/30/20 02:38	1
2-Butanone (MEK)	ND	H4	10	2.5	ug/L			05/30/20 02:38	1
trans-1,2-Dichloroethene	ND	H4	0.20	0.033	ug/L			05/30/20 02:38	1
1,1-Dichloroethane	**3.2**	**H4**	0.20	0.025	ug/L			05/30/20 02:38	1
2,2-Dichloropropane	ND	H4	0.50	0.060	ug/L			05/30/20 02:38	1
cis-1,2-Dichloroethene	**1.1**	**H4**	0.20	0.055	ug/L			05/30/20 02:38	1
Chlorobromomethane	ND	H4	0.20	0.025	ug/L			05/30/20 02:38	1
Chloroform	ND	H4	0.20	0.030	ug/L			05/30/20 02:38	1
1,1,1-Trichloroethane	ND	H4	0.20	0.025	ug/L			05/30/20 02:38	1
Carbon tetrachloride	ND	H4	0.20	0.025	ug/L			05/30/20 02:38	1
1,1-Dichloropropene	ND	H4	0.20	0.036	ug/L			05/30/20 02:38	1
Benzene	**2.0**	**H4**	0.20	0.030	ug/L			05/30/20 02:38	1
1,2-Dichloroethane	ND	H4	0.20	0.043	ug/L			05/30/20 02:38	1
Trichloroethene	**0.11**	**J H4 B**	0.20	0.066	ug/L			05/30/20 02:38	1
1,2-Dichloropropane	ND	H4	0.20	0.060	ug/L			05/30/20 02:38	1
4-Methyl-2-pentanone (MIBK)	ND	H4	10	1.7	ug/L			05/30/20 02:38	1
Dibromomethane	ND	H4	0.20	0.062	ug/L			05/30/20 02:38	1
Dichlorobromomethane	ND	H4	0.20	0.060	ug/L			05/30/20 02:38	1
cis-1,3-Dichloropropene	ND	H4	0.20	0.090	ug/L			05/30/20 02:38	1
Toluene	**1.3**	**H4**	0.20	0.050	ug/L			05/30/20 02:38	1
trans-1,3-Dichloropropene	ND	H4	0.20	0.092	ug/L			05/30/20 02:38	1
1,1,2-Trichloroethane	ND	H4	0.20	0.070	ug/L			05/30/20 02:38	1
Tetrachloroethene	ND	H4	0.50	0.084	ug/L			05/30/20 02:38	1
1,3-Dichloropropane	ND	H4	0.20	0.025	ug/L			05/30/20 02:38	1
Chlorodibromomethane	ND	H4	0.20	0.055	ug/L			05/30/20 02:38	1
Ethylene Dibromide	ND	H4	0.10	0.025	ug/L			05/30/20 02:38	1
Chlorobenzene	ND	H4	0.20	0.025	ug/L			05/30/20 02:38	1
1,1,1,2-Tetrachloroethane	ND	H4	0.30	0.027	ug/L			05/30/20 02:38	1
Ethylbenzene	**0.18**	**J H4**	0.20	0.030	ug/L			05/30/20 02:38	1
m-Xylene & p-Xylene	**0.31**	**J H4**	0.50	0.12	ug/L			05/30/20 02:38	1
o-Xylene	**0.80**	**H4**	0.50	0.15	ug/L			05/30/20 02:38	1
Styrene	ND	H4	1.0	0.19	ug/L			05/30/20 02:38	1
Bromoform	ND	H4	0.50	0.16	ug/L			05/30/20 02:38	1
Isopropylbenzene	ND	H4	1.0	0.19	ug/L			05/30/20 02:38	1
Bromobenzene	ND	H4	0.20	0.035	ug/L			05/30/20 02:38	1
1,1,2,2-Tetrachloroethane	ND	H4	0.20	0.056	ug/L			05/30/20 02:38	1
1,2,3-Trichloropropane	ND	H4	0.20	0.050	ug/L			05/30/20 02:38	1
N-Propylbenzene	ND	H4	0.30	0.091	ug/L			05/30/20 02:38	1
2-Chlorotoluene	ND	H4	0.50	0.12	ug/L			05/30/20 02:38	1

Client Sample ID: MWA-40-051820
Lab Sample ID: 580-94768-3

Date Collected: 05/18/20 12:32
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND	H4	0.30	0.050	ug/L			05/30/20 02:38	1
1,3,5-Trimethylbenzene	ND	H4	0.50	0.15	ug/L			05/30/20 02:38	1
tert-Butylbenzene	ND	H4	0.50	0.26	ug/L			05/30/20 02:38	1
1,2,4-Trimethylbenzene	**0.10**	**J H4**	0.30	0.072	ug/L			05/30/20 02:38	1
sec-Butylbenzene	ND	H4	1.0	0.17	ug/L			05/30/20 02:38	1
4-Isopropyltoluene	**1.1**	**H4**	0.50	0.15	ug/L			05/30/20 02:38	1
1,3-Dichlorobenzene	ND	H4	0.30	0.050	ug/L			05/30/20 02:38	1
1,4-Dichlorobenzene	ND	H4	0.30	0.050	ug/L			05/30/20 02:38	1
n-Butylbenzene	ND	H4	1.0	0.23	ug/L			05/30/20 02:38	1
1,2-Dichlorobenzene	ND	H4	0.30	0.024	ug/L			05/30/20 02:38	1
1,2-Dibromo-3-Chloropropane	ND	H4	2.0	0.44	ug/L			05/30/20 02:38	1
1,2,4-Trichlorobenzene	ND	H4	0.50	0.17	ug/L			05/30/20 02:38	1
Hexachlorobutadiene	ND	H4	0.50	0.067	ug/L			05/30/20 02:38	1
Naphthalene	**1.4**	**H4**	1.0	0.22	ug/L			05/30/20 02:38	1
1,2,3-Trichlorobenzene	ND	H4	0.50	0.15	ug/L			05/30/20 02:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/30/20 02:38*	*1*
Trifluorotoluene (Surr)					*05/30/20 02:38*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/30/20 02:38*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/30/20 02:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*05/30/20 02:38*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.0062**		0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 15:02	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 15:02	1
4,4'-DDT	**0.012**		0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 15:02	1
Aldrin	ND		0.0048	0.0014	ug/L		05/21/20 05:31	05/29/20 15:02	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 15:02	1
cis-Chlordane	ND		0.095	0.013	ug/L		05/21/20 05:31	05/29/20 15:02	1
beta-BHC	ND		0.0095	0.0038	ug/L		05/21/20 05:31	05/29/20 15:02	1
Chlordane (technical)	ND		0.095	0.076	ug/L		05/21/20 05:31	05/29/20 15:02	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/29/20 15:02	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/29/20 15:02	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/21/20 05:31	05/29/20 15:02	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/29/20 15:02	1
Endosulfan sulfate	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/29/20 15:02	1
Endrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/29/20 15:02	1
Endrin aldehyde	ND		0.0095	0.0019	ug/L		05/21/20 05:31	05/29/20 15:02	1
Endrin ketone	ND		0.0095	0.0067	ug/L		05/21/20 05:31	05/29/20 15:02	1
gamma-BHC (Lindane)	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/29/20 15:02	1
trans-Chlordane	ND		0.095	0.029	ug/L		05/21/20 05:31	05/29/20 15:02	1
Heptachlor	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/29/20 15:02	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/29/20 15:02	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/29/20 15:02	1
Toxaphene	ND		0.48	0.24	ug/L		05/21/20 05:31	05/29/20 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*57*		*28 - 108*	*05/21/20 05:31*	*05/29/20 15:02*	*1*

Client Sample ID: MWA-40-051820
Lab Sample ID: 580-94768-3

Date Collected: 05/18/20 12:32
Matrix: Water
Date Received: 05/18/20 16:05

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*56*		*10 - 123*	*05/21/20 05:31*	*05/29/20 15:02*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	20	5.0	ug/L			05/21/20 08:32	20

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400	95	ug/L			06/01/20 21:24	100

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.45**		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 21:25	5
Chromium	**0.072**		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 21:25	5
Iron	**4.1**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 21:25	5
Manganese	**0.16**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 21:25	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.42**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:59	5
Chromium	**0.057**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:59	5
Iron	**2.8**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:59	5
Manganese	**0.094**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:59	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**290**	**B**	9.0	1.4	mg/L			05/23/20 09:18	10

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-41-051820
Lab Sample ID: 580-94768-4
Date Collected: 05/18/20 13:34
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*	0.40	0.13	ug/L			05/30/20 03:05	1
Chloromethane	ND		0.50	0.068	ug/L			05/30/20 03:05	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/30/20 03:05	1
Bromomethane	ND		0.50	0.062	ug/L			05/30/20 03:05	1
Chloroethane	ND		0.50	0.096	ug/L			05/30/20 03:05	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/30/20 03:05	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/30/20 03:05	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/30/20 03:05	1
Acetone	ND		10	3.1	ug/L			05/30/20 03:05	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/30/20 03:05	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/30/20 03:05	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/30/20 03:05	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/30/20 03:05	1
1,1-Dichloroethane	**0.035**	**J**	0.20	0.025	ug/L			05/30/20 03:05	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/30/20 03:05	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/30/20 03:05	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/30/20 03:05	1
Chloroform	ND		0.20	0.030	ug/L			05/30/20 03:05	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/30/20 03:05	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/30/20 03:05	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/30/20 03:05	1
Benzene	ND		0.20	0.030	ug/L			05/30/20 03:05	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/30/20 03:05	1
Trichloroethene	**0.11**	**J B**	0.20	0.066	ug/L			05/30/20 03:05	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/30/20 03:05	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/30/20 03:05	1
Dibromomethane	ND		0.20	0.062	ug/L			05/30/20 03:05	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/30/20 03:05	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/30/20 03:05	1
Toluene	**0.098**	**J**	0.20	0.050	ug/L			05/30/20 03:05	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/30/20 03:05	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/30/20 03:05	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/30/20 03:05	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/30/20 03:05	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/30/20 03:05	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/30/20 03:05	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/30/20 03:05	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/30/20 03:05	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/30/20 03:05	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/30/20 03:05	1
o-Xylene	ND		0.50	0.15	ug/L			05/30/20 03:05	1
Styrene	ND		1.0	0.19	ug/L			05/30/20 03:05	1
Bromoform	ND		0.50	0.16	ug/L			05/30/20 03:05	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/30/20 03:05	1
Bromobenzene	ND		0.20	0.035	ug/L			05/30/20 03:05	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/30/20 03:05	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/30/20 03:05	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/30/20 03:05	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/30/20 03:05	1

Client Sample ID: MWA-41-051820
Lab Sample ID: 580-94768-4

Date Collected: 05/18/20 13:34
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/30/20 03:05	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/30/20 03:05	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/30/20 03:05	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/30/20 03:05	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/30/20 03:05	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/30/20 03:05	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 03:05	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 03:05	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/30/20 03:05	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/30/20 03:05	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/30/20 03:05	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/30/20 03:05	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/30/20 03:05	1
Naphthalene	ND		1.0	0.22	ug/L			05/30/20 03:05	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/30/20 03:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/30/20 03:05*	*1*
Trifluorotoluene (Surr)					*05/30/20 03:05*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*05/30/20 03:05*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/30/20 03:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*05/30/20 03:05*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:38	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:38	1
4,4'-DDT	**0.0068**		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:38	1
Aldrin	ND		0.0048	0.0014	ug/L		05/21/20 05:31	05/27/20 19:38	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:38	1
cis-Chlordane	ND		0.095	0.013	ug/L		05/21/20 05:31	05/27/20 19:38	1
beta-BHC	ND		0.0095	0.0038	ug/L		05/21/20 05:31	05/27/20 19:38	1
Chlordane (technical)	ND		0.095	0.076	ug/L		05/21/20 05:31	05/27/20 19:38	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/27/20 19:38	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 19:38	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/21/20 05:31	05/27/20 19:38	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 19:38	1
Endosulfan sulfate	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/27/20 19:38	1
Endrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 19:38	1
Endrin aldehyde	ND		0.0095	0.0019	ug/L		05/21/20 05:31	05/27/20 19:38	1
Endrin ketone	ND		0.0095	0.0067	ug/L		05/21/20 05:31	05/27/20 19:38	1
gamma-BHC (Lindane)	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/27/20 19:38	1
trans-Chlordane	ND		0.095	0.029	ug/L		05/21/20 05:31	05/27/20 19:38	1
Heptachlor	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/27/20 19:38	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:38	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/27/20 19:38	1
Toxaphene	ND		0.48	0.24	ug/L		05/21/20 05:31	05/27/20 19:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*61*		*28 - 108*	*05/21/20 05:31*	*05/27/20 19:38*	*1*

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-41-051820
Lab Sample ID: 580-94768-4
Date Collected: 05/18/20 13:34
Matrix: Water
Date Received: 05/18/20 16:05

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*10 - 123*	*05/21/20 05:31*	*05/27/20 19:38*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/21/20 08:45	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/04/20 20:54	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 21:06	5
Chromium	**0.00092**	**J**	0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 21:06	5
Iron	**0.28**	**J**	1.0	0.18	mg/L		05/21/20 09:10	05/22/20 21:06	5
Manganese	**0.92**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 21:06	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:18	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:18	5
Iron	ND		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:18	5
Manganese	**0.63**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:18	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14**	**B**	0.90	0.14	mg/L			05/23/20 09:30	1

Client Sample ID: MWA-81i-051820
Lab Sample ID: 580-94768-5

Date Collected: 05/18/20 14:12
Matrix: Water

Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*	0.40	0.13	ug/L			05/30/20 03:31	1
Chloromethane	ND		0.50	0.068	ug/L			05/30/20 03:31	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/30/20 03:31	1
Bromomethane	ND		0.50	0.062	ug/L			05/30/20 03:31	1
Chloroethane	ND		0.50	0.096	ug/L			05/30/20 03:31	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/30/20 03:31	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/30/20 03:31	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/30/20 03:31	1
Acetone	**3.1**	**J**	10	3.1	ug/L			05/30/20 03:31	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/30/20 03:31	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/30/20 03:31	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/30/20 03:31	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/30/20 03:31	1
1,1-Dichloroethane	**0.15**	**J**	0.20	0.025	ug/L			05/30/20 03:31	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/30/20 03:31	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/30/20 03:31	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/30/20 03:31	1
Chloroform	ND		0.20	0.030	ug/L			05/30/20 03:31	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/30/20 03:31	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/30/20 03:31	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/30/20 03:31	1
Benzene	ND		0.20	0.030	ug/L			05/30/20 03:31	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/30/20 03:31	1
Trichloroethene	**0.10**	**J B**	0.20	0.066	ug/L			05/30/20 03:31	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/30/20 03:31	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/30/20 03:31	1
Dibromomethane	ND		0.20	0.062	ug/L			05/30/20 03:31	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/30/20 03:31	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/30/20 03:31	1
Toluene	**0.050**	**J**	0.20	0.050	ug/L			05/30/20 03:31	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/30/20 03:31	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/30/20 03:31	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/30/20 03:31	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/30/20 03:31	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/30/20 03:31	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/30/20 03:31	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/30/20 03:31	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/30/20 03:31	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/30/20 03:31	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/30/20 03:31	1
o-Xylene	ND		0.50	0.15	ug/L			05/30/20 03:31	1
Styrene	ND		1.0	0.19	ug/L			05/30/20 03:31	1
Bromoform	ND		0.50	0.16	ug/L			05/30/20 03:31	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/30/20 03:31	1
Bromobenzene	ND		0.20	0.035	ug/L			05/30/20 03:31	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/30/20 03:31	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/30/20 03:31	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/30/20 03:31	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/30/20 03:31	1

Client Sample ID: MWA-81i-051820
Lab Sample ID: 580-94768-5

Date Collected: 05/18/20 14:12
Matrix: Water

Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/30/20 03:31	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/30/20 03:31	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/30/20 03:31	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/30/20 03:31	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/30/20 03:31	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/30/20 03:31	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 03:31	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 03:31	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/30/20 03:31	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/30/20 03:31	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/30/20 03:31	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/30/20 03:31	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/30/20 03:31	1
Naphthalene	ND		1.0	0.22	ug/L			05/30/20 03:31	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/30/20 03:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/30/20 03:31*	*1*
Trifluorotoluene (Surr)					*05/30/20 03:31*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/30/20 03:31*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/30/20 03:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*05/30/20 03:31*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:54	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:54	1
4,4'-DDT	**0.0063**	**p**	0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:54	1
Aldrin	**0.0028**	**J**	0.0048	0.0014	ug/L		05/21/20 05:31	05/27/20 19:54	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:54	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/21/20 05:31	05/27/20 19:54	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/21/20 05:31	05/27/20 19:54	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/21/20 05:31	05/27/20 19:54	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/27/20 19:54	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 19:54	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/21/20 05:31	05/27/20 19:54	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 19:54	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 19:54	1
Endrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 19:54	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/21/20 05:31	05/27/20 19:54	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/21/20 05:31	05/27/20 19:54	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 19:54	1
trans-Chlordane	ND		0.096	0.029	ug/L		05/21/20 05:31	05/27/20 19:54	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 19:54	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 19:54	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/27/20 19:54	1
Toxaphene	ND		0.48	0.24	ug/L		05/21/20 05:31	05/27/20 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*70*		*28 - 108*	*05/21/20 05:31*	*05/27/20 19:54*	*1*

Client Sample ID: MWA-81i-051820
Lab Sample ID: 580-94768-5

Date Collected: 05/18/20 14:12
Matrix: Water

Date Received: 05/18/20 16:05

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*69*		*10 - 123*	*05/21/20 05:31*	*05/27/20 19:54*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/21/20 09:55	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/04/20 21:12	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0011**	**J**	0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 21:09	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 21:09	5
Iron	**1.0**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 21:09	5
Manganese	**3.3**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 21:09	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0012**	**J**	0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:59	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:59	5
Iron	**1.1**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:59	5
Manganese	**3.2**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:59	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**95**	**B**	9.0	1.4	mg/L			05/23/20 09:42	10

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-25d-051820
Lab Sample ID: 580-94768-6
Date Collected: 05/18/20 12:45
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 08:49	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 08:49	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 08:49	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 08:49	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 08:49	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 08:49	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 08:49	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 08:49	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 08:49	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 08:49	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/22/20 08:49	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 08:49	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/22/20 08:49	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 08:49	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/22/20 08:49	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 08:49	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 08:49	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 08:49	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 08:49	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 08:49	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 08:49	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 08:49	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 08:49	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 08:49	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 08:49	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 08:49	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 08:49	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 08:49	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 08:49	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 08:49	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 08:49	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 08:49	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 08:49	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 08:49	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 08:49	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 08:49	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 08:49	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 08:49	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 08:49	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 08:49	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 08:49	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 08:49	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 08:49	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 08:49	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 08:49	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 08:49	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 08:49	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 08:49	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 08:49	1

Client Sample ID: PA-25d-051820
Lab Sample ID: 580-94768-6

Date Collected: 05/18/20 12:45
Matrix: Water

Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 08:49	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 08:49	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/22/20 08:49	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 08:49	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 08:49	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 08:49	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 08:49	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 08:49	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 08:49	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 08:49	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 08:49	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 08:49	1
Naphthalene	**0.38**	**J B**	1.0	0.22	ug/L			05/22/20 08:49	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 08:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/22/20 08:49*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*05/22/20 08:49*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*05/22/20 08:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*05/22/20 08:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.1	ug/L			05/27/20 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/27/20 15:10*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*05/27/20 15:10*	*1*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*		*05/27/20 15:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*05/27/20 15:10*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.0099**		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:11	1
4,4'-DDE	**0.0041**	**J**	0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:11	1
4,4'-DDT	**0.058**		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:11	1
Aldrin	ND		0.0048	0.0014	ug/L		05/21/20 05:31	05/27/20 20:11	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:11	1
cis-Chlordane	ND		0.095	0.013	ug/L		05/21/20 05:31	05/27/20 20:11	1
beta-BHC	ND		0.0095	0.0038	ug/L		05/21/20 05:31	05/27/20 20:11	1
Chlordane (technical)	ND		0.095	0.076	ug/L		05/21/20 05:31	05/27/20 20:11	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/27/20 20:11	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 20:11	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/21/20 05:31	05/27/20 20:11	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 20:11	1
Endosulfan sulfate	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/27/20 20:11	1
Endrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 20:11	1
Endrin aldehyde	ND		0.0095	0.0019	ug/L		05/21/20 05:31	05/27/20 20:11	1
Endrin ketone	ND		0.0095	0.0067	ug/L		05/21/20 05:31	05/27/20 20:11	1
gamma-BHC (Lindane)	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/27/20 20:11	1

Client Sample ID: PA-25d-051820
Lab Sample ID: 580-94768-6
Date Collected: 05/18/20 12:45
Matrix: Water
Date Received: 05/18/20 16:05

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.095	0.029	ug/L		05/21/20 05:31	05/27/20 20:11	1
Heptachlor	ND		0.0095	0.0029	ug/L		05/21/20 05:31	05/27/20 20:11	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:11	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/21/20 05:31	05/27/20 20:11	1
Toxaphene	ND		0.48	0.24	ug/L		05/21/20 05:31	05/27/20 20:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*74*		*28 - 108*	*05/21/20 05:31*	*05/27/20 20:11*	*1*
Tetrachloro-m-xylene	*70*		*10 - 123*	*05/21/20 05:31*	*05/27/20 20:11*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/21/20 10:07	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/04/20 21:30	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.014**		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 21:12	5
Chromium	**0.0013**	**J**	0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 21:12	5
Iron	**6.5**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 21:12	5
Manganese	**0.69**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 21:12	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.013**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:02	5
Chromium	**0.0046**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:02	5
Iron	**6.4**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:02	5
Manganese	**0.70**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:02	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**23**	**B**	0.90	0.14	mg/L			05/23/20 09:53	1

Client Sample ID: PA-26d-051820
Lab Sample ID: 580-94768-7
Date Collected: 05/18/20 11:49
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 08:22	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 08:22	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 08:22	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 08:22	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 08:22	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 08:22	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 08:22	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 08:22	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 08:22	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 08:22	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/22/20 08:22	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 08:22	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/22/20 08:22	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 08:22	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/22/20 08:22	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 08:22	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 08:22	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 08:22	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 08:22	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 08:22	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 08:22	1
1,2-Dichloroethane	**0.10**	**J**	0.20	0.043	ug/L			05/22/20 08:22	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 08:22	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 08:22	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 08:22	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 08:22	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 08:22	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 08:22	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 08:22	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 08:22	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 08:22	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 08:22	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 08:22	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 08:22	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 08:22	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 08:22	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 08:22	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 08:22	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 08:22	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 08:22	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 08:22	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 08:22	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 08:22	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 08:22	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 08:22	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 08:22	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 08:22	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 08:22	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 08:22	1

Client Sample ID: PA-26d-051820
Lab Sample ID: 580-94768-7
Date Collected: 05/18/20 11:49
Matrix: Water
Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 08:22	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 08:22	1
1,2,4-Trimethylbenzene	**0.10**	**J B**	0.30	0.072	ug/L			05/22/20 08:22	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 08:22	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 08:22	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 08:22	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 08:22	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 08:22	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 08:22	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 08:22	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 08:22	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 08:22	1
Naphthalene	**0.42**	**J B**	1.0	0.22	ug/L			05/22/20 08:22	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 08:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/22/20 08:22*	*1*
Dibromofluoromethane (Surr)	*113*		*80 - 120*		*05/22/20 08:22*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*05/22/20 08:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*80 - 120*		*05/22/20 08:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.1	ug/L			05/27/20 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/27/20 15:36*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*05/27/20 15:36*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*05/27/20 15:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*05/27/20 15:36*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.024**		0.0049	0.0025	ug/L		05/21/20 05:31	05/27/20 20:28	1
4,4'-DDE	**0.0092**		0.0049	0.0025	ug/L		05/21/20 05:31	05/27/20 20:28	1
4,4'-DDT	**0.0038**	**J p**	0.0049	0.0025	ug/L		05/21/20 05:31	05/27/20 20:28	1
Aldrin	ND		0.0049	0.0015	ug/L		05/21/20 05:31	05/27/20 20:28	1
alpha-BHC	ND		0.0049	0.0025	ug/L		05/21/20 05:31	05/27/20 20:28	1
cis-Chlordane	ND		0.098	0.014	ug/L		05/21/20 05:31	05/27/20 20:28	1
beta-BHC	ND		0.0098	0.0039	ug/L		05/21/20 05:31	05/27/20 20:28	1
Chlordane (technical)	ND		0.098	0.078	ug/L		05/21/20 05:31	05/27/20 20:28	1
delta-BHC	ND		0.0049	0.0034	ug/L		05/21/20 05:31	05/27/20 20:28	1
Dieldrin	ND		0.0049	0.0020	ug/L		05/21/20 05:31	05/27/20 20:28	1
Endosulfan I	ND		0.0049	0.0029	ug/L		05/21/20 05:31	05/27/20 20:28	1
Endosulfan II	ND		0.0049	0.0020	ug/L		05/21/20 05:31	05/27/20 20:28	1
Endosulfan sulfate	ND		0.0098	0.0029	ug/L		05/21/20 05:31	05/27/20 20:28	1
Endrin	ND		0.0049	0.0020	ug/L		05/21/20 05:31	05/27/20 20:28	1
Endrin aldehyde	ND		0.0098	0.0020	ug/L		05/21/20 05:31	05/27/20 20:28	1
Endrin ketone	ND		0.0098	0.0069	ug/L		05/21/20 05:31	05/27/20 20:28	1
gamma-BHC (Lindane)	ND		0.0098	0.0029	ug/L		05/21/20 05:31	05/27/20 20:28	1

Client Sample ID: PA-26d-051820
Lab Sample ID: 580-94768-7

Date Collected: 05/18/20 11:49
Matrix: Water

Date Received: 05/18/20 16:05

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.098	0.029	ug/L		05/21/20 05:31	05/27/20 20:28	1
Heptachlor	ND		0.0098	0.0029	ug/L		05/21/20 05:31	05/27/20 20:28	1
Heptachlor epoxide	ND		0.0049	0.0025	ug/L		05/21/20 05:31	05/27/20 20:28	1
Methoxychlor	ND		0.0049	0.0034	ug/L		05/21/20 05:31	05/27/20 20:28	1
Toxaphene	ND		0.49	0.25	ug/L		05/21/20 05:31	05/27/20 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*74*		*28 - 108*	*05/21/20 05:31*	*05/27/20 20:28*	*1*
Tetrachloro-m-xylene	*56*		*10 - 123*	*05/21/20 05:31*	*05/27/20 20:28*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/21/20 10:20	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/04/20 21:47	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.011**		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 21:15	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 21:15	5
Iron	**5.6**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 21:15	5
Manganese	**0.63**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 21:15	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.011**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:05	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:05	5
Iron	**5.4**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:05	5
Manganese	**0.58**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:05	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**48**	**B**	0.90	0.14	mg/L			05/23/20 10:05	1

Client Sample ID: PA-09-051820
Lab Sample ID: 580-94768-8

Date Collected: 05/18/20 14:37
Matrix: Water

Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 07:55	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 07:55	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 07:55	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 07:55	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 07:55	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 07:55	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 07:55	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 07:55	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 07:55	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 07:55	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/22/20 07:55	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 07:55	1
1,1-Dichloroethane	**0.030**	**J**	0.20	0.025	ug/L			05/22/20 07:55	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 07:55	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/22/20 07:55	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 07:55	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 07:55	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 07:55	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 07:55	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 07:55	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 07:55	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 07:55	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 07:55	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 07:55	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 07:55	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 07:55	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 07:55	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 07:55	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 07:55	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 07:55	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 07:55	1
Tetrachloroethene	**0.29**	**J**	0.50	0.084	ug/L			05/22/20 07:55	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 07:55	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 07:55	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 07:55	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 07:55	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 07:55	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 07:55	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 07:55	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 07:55	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 07:55	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 07:55	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 07:55	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 07:55	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 07:55	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 07:55	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 07:55	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 07:55	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 07:55	1

Client Sample ID: PA-09-051820
Lab Sample ID: 580-94768-8

Date Collected: 05/18/20 14:37
Matrix: Water

Date Received: 05/18/20 16:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 07:55	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 07:55	1
1,2,4-Trimethylbenzene	**0.10**	**J B**	0.30	0.072	ug/L			05/22/20 07:55	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 07:55	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 07:55	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 07:55	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 07:55	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 07:55	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 07:55	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 07:55	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 07:55	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 07:55	1
Naphthalene	**0.40**	**J B**	1.0	0.22	ug/L			05/22/20 07:55	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 07:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/22/20 07:55*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/22/20 07:55*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*05/22/20 07:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*05/22/20 07:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*	10	3.1	ug/L			05/28/20 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/28/20 14:04*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/28/20 14:04*	*1*
4-Bromofluorobenzene (Surr)	*73*	*X*	*80 - 120*		*05/28/20 14:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*05/28/20 14:04*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/21/20 10:33	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		80	19	ug/L			06/04/20 22:05	20

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0036**	**J**	0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:15	5
Chromium	**0.0048**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:15	5
Iron	**0.22**	**J**	1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:15	5
Manganese	**0.0031**	**J**	0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14**	**B**	0.90	0.14	mg/L			05/23/20 10:17	1

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

Lab Sample ID: MB 580-328821/7
Matrix: Water
Analysis Batch: 328821

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/21/20 18:06	1
Chloromethane	ND		0.50	0.068	ug/L			05/21/20 18:06	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/21/20 18:06	1
Bromomethane	ND		0.50	0.062	ug/L			05/21/20 18:06	1
Chloroethane	ND		0.50	0.096	ug/L			05/21/20 18:06	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/21/20 18:06	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/21/20 18:06	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/21/20 18:06	1
Acetone	ND		10	3.1	ug/L			05/21/20 18:06	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/21/20 18:06	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/21/20 18:06	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/21/20 18:06	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/21/20 18:06	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/21/20 18:06	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/21/20 18:06	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/21/20 18:06	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/21/20 18:06	1
Chloroform	ND		0.20	0.030	ug/L			05/21/20 18:06	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/21/20 18:06	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/21/20 18:06	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/21/20 18:06	1
Benzene	ND		0.20	0.030	ug/L			05/21/20 18:06	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/21/20 18:06	1
Trichloroethene	ND		0.20	0.066	ug/L			05/21/20 18:06	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/21/20 18:06	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/21/20 18:06	1
Dibromomethane	ND		0.20	0.062	ug/L			05/21/20 18:06	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/21/20 18:06	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/21/20 18:06	1
Toluene	ND		0.20	0.050	ug/L			05/21/20 18:06	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/21/20 18:06	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/21/20 18:06	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/21/20 18:06	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/21/20 18:06	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/21/20 18:06	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/21/20 18:06	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/21/20 18:06	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/21/20 18:06	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/21/20 18:06	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/21/20 18:06	1
o-Xylene	ND		0.50	0.15	ug/L			05/21/20 18:06	1
Styrene	ND		1.0	0.19	ug/L			05/21/20 18:06	1
Bromoform	ND		0.50	0.16	ug/L			05/21/20 18:06	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/21/20 18:06	1
Bromobenzene	ND		0.20	0.035	ug/L			05/21/20 18:06	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/21/20 18:06	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/21/20 18:06	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/21/20 18:06	1

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

Lab Sample ID: MB 580-328821/7
Matrix: Water
Analysis Batch: 328821

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/21/20 18:06	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/21/20 18:06	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/21/20 18:06	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/21/20 18:06	1
1,2,4-Trimethylbenzene	0.115	J	0.30	0.072	ug/L			05/21/20 18:06	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/21/20 18:06	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/21/20 18:06	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/21/20 18:06	1
1,4-Dichlorobenzene	0.0530	J	0.30	0.050	ug/L			05/21/20 18:06	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/21/20 18:06	1
1,2-Dichlorobenzene	0.0426	J	0.30	0.024	ug/L			05/21/20 18:06	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/21/20 18:06	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/21/20 18:06	1
Hexachlorobutadiene	0.109	J	0.50	0.067	ug/L			05/21/20 18:06	1
Naphthalene	0.470	J	1.0	0.22	ug/L			05/21/20 18:06	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/21/20 18:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/21/20 18:06*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*05/21/20 18:06*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/21/20 18:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*05/21/20 18:06*	*1*

Lab Sample ID: LCS 580-328821/4
Matrix: Water
Analysis Batch: 328821

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	4.71		ug/L		94	20 - 137
Chloromethane	5.00	5.22		ug/L		104	32 - 143
Vinyl chloride	5.00	4.74		ug/L		95	52 - 128
Bromomethane	5.00	4.92		ug/L		98	68 - 120
Chloroethane	5.00	5.89		ug/L		118	49 - 135
Carbon disulfide	5.00	5.17		ug/L		103	65 - 128
Trichlorofluoromethane	5.00	5.05		ug/L		101	60 - 132
1,1-Dichloroethene	5.00	4.94		ug/L		99	71 - 126
Acetone	25.0	4.62	J *	ug/L		18	49 - 150
Methylene Chloride	5.00	3.98	J	ug/L		80	75 - 134
Methyl tert-butyl ether	5.00	5.16		ug/L		103	60 - 150
2-Butanone (MEK)	25.0	26.6		ug/L		106	64 - 136
trans-1,2-Dichloroethene	5.00	4.56		ug/L		91	63 - 133
1,1-Dichloroethane	5.00	4.94		ug/L		99	74 - 135
2,2-Dichloropropane	5.00	5.03		ug/L		101	58 - 150
cis-1,2-Dichloroethene	5.00	5.15		ug/L		103	72 - 130
Chlorobromomethane	5.00	4.97		ug/L		99	79 - 131
Chloroform	5.00	5.05		ug/L		101	80 - 130
1,1,1-Trichloroethane	5.00	4.70		ug/L		94	74 - 128
Carbon tetrachloride	5.00	4.78		ug/L		96	71 - 132

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

Lab Sample ID: LCS 580-328821/4
Matrix: Water
Analysis Batch: 328821

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	5.00	5.17		ug/L		103	72 - 132
Benzene	5.00	5.28		ug/L		106	73 - 133
1,2-Dichloroethane	5.00	5.01		ug/L		100	74 - 130
Trichloroethene	5.00	5.14		ug/L		103	72 - 136
1,2-Dichloropropane	5.00	5.39		ug/L		108	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	28.5		ug/L		114	65 - 137
Dibromomethane	5.00	5.23		ug/L		105	65 - 141
Dichlorobromomethane	5.00	5.13		ug/L		103	74 - 131
cis-1,3-Dichloropropene	5.00	5.37		ug/L		107	66 - 141
Toluene	5.00	5.22		ug/L		104	80 - 126
trans-1,3-Dichloropropene	5.00	5.33		ug/L		107	71 - 128
1,1,2-Trichloroethane	5.00	5.21		ug/L		104	80 - 127
Tetrachloroethene	5.00	5.05		ug/L		101	75 - 131
1,3-Dichloropropane	5.00	5.49		ug/L		110	80 - 130
Chlorodibromomethane	5.00	5.21		ug/L		104	76 - 131
Ethylene Dibromide	5.00	5.20		ug/L		104	80 - 126
Chlorobenzene	5.00	5.20		ug/L		104	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.00		ug/L		100	79 - 127
Ethylbenzene	5.00	5.60		ug/L		112	80 - 130
m-Xylene & p-Xylene	5.00	5.56		ug/L		111	78 - 130
o-Xylene	5.00	5.68		ug/L		114	80 - 139
Styrene	5.00	5.95		ug/L		119	74 - 136
Bromoform	5.00	5.37		ug/L		107	69 - 137
Isopropylbenzene	5.00	5.48		ug/L		110	75 - 137
Bromobenzene	5.00	5.26		ug/L		105	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.44		ug/L		109	69 - 139
1,2,3-Trichloropropane	5.00	5.84		ug/L		117	80 - 127
N-Propylbenzene	5.00	5.71		ug/L		114	77 - 142
2-Chlorotoluene	5.00	5.80		ug/L		116	80 - 136
4-Chlorotoluene	5.00	5.85		ug/L		117	80 - 130
1,3,5-Trimethylbenzene	5.00	5.34		ug/L		107	80 - 139
tert-Butylbenzene	5.00	5.49		ug/L		110	77 - 140
1,2,4-Trimethylbenzene	5.00	5.41		ug/L		108	78 - 136
sec-Butylbenzene	5.00	5.72		ug/L		114	78 - 140
4-Isopropyltoluene	5.00	5.33		ug/L		107	78 - 132
1,3-Dichlorobenzene	5.00	5.42		ug/L		108	80 - 130
1,4-Dichlorobenzene	5.00	5.44		ug/L		109	80 - 129
n-Butylbenzene	5.00	5.13		ug/L		103	73 - 135
1,2-Dichlorobenzene	5.00	5.37		ug/L		107	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.07		ug/L		101	69 - 130
1,2,4-Trichlorobenzene	5.00	5.42		ug/L		108	79 - 130
Hexachlorobutadiene	5.00	5.17		ug/L		103	72 - 138
Naphthalene	5.00	4.51		ug/L		90	64 - 132
1,2,3-Trichlorobenzene	5.00	5.52		ug/L		110	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*80 - 120*

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

Lab Sample ID: LCS 580-328821/4
Matrix: Water
Analysis Batch: 328821

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*

Lab Sample ID: LCSD 580-328821/5
Matrix: Water
Analysis Batch: 328821

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			5.00	4.97		ug/L		99	20 - 137	5	22
Chloromethane			5.00	5.18		ug/L		104	32 - 143	1	23
Vinyl chloride			5.00	4.81		ug/L		96	52 - 128	1	21
Bromomethane			5.00	4.82		ug/L		96	68 - 120	2	18
Chloroethane			5.00	5.59		ug/L		112	49 - 135	5	27
Carbon disulfide			5.00	5.32		ug/L		106	65 - 128	3	23
Trichlorofluoromethane			5.00	5.45		ug/L		109	60 - 132	8	20
1,1-Dichloroethene			5.00	4.68		ug/L		94	71 - 126	5	17
Acetone			25.0	4.06	J *	ug/L		16	49 - 150	13	24
Methylene Chloride			5.00	4.58	J	ug/L		92	75 - 134	14	18
Methyl tert-butyl ether			5.00	5.31		ug/L		106	60 - 150	3	25
2-Butanone (MEK)			25.0	23.5		ug/L		94	64 - 136	12	23
trans-1,2-Dichloroethene			5.00	4.79		ug/L		96	63 - 133	5	17
1,1-Dichloroethane			5.00	4.98		ug/L		100	74 - 135	1	20
2,2-Dichloropropane			5.00	4.85		ug/L		97	58 - 150	4	28
cis-1,2-Dichloroethene			5.00	5.37		ug/L		107	72 - 130	4	20
Chlorobromomethane			5.00	5.11		ug/L		102	79 - 131	3	20
Chloroform			5.00	5.41		ug/L		108	80 - 130	7	20
1,1,1-Trichloroethane			5.00	4.75		ug/L		95	74 - 128	1	14
Carbon tetrachloride			5.00	4.93		ug/L		99	71 - 132	3	15
1,1-Dichloropropene			5.00	5.39		ug/L		108	72 - 132	4	13
Benzene			5.00	5.30		ug/L		106	73 - 133	0	20
1,2-Dichloroethane			5.00	5.06		ug/L		101	74 - 130	1	15
Trichloroethene			5.00	5.24		ug/L		105	72 - 136	2	14
1,2-Dichloropropane			5.00	5.15		ug/L		103	80 - 130	5	14
4-Methyl-2-pentanone (MIBK)			25.0	30.4		ug/L		122	65 - 137	7	24
Dibromomethane			5.00	5.06		ug/L		101	65 - 141	3	20
Dichlorobromomethane			5.00	4.93		ug/L		99	74 - 131	4	20
cis-1,3-Dichloropropene			5.00	5.52		ug/L		110	66 - 141	3	22
Toluene			5.00	5.27		ug/L		105	80 - 126	1	20
trans-1,3-Dichloropropene			5.00	5.17		ug/L		103	71 - 128	3	21
1,1,2-Trichloroethane			5.00	5.39		ug/L		108	80 - 127	3	19
Tetrachloroethene			5.00	5.08		ug/L		102	75 - 131	1	20
1,3-Dichloropropane			5.00	5.40		ug/L		108	80 - 130	2	19
Chlorodibromomethane			5.00	5.31		ug/L		106	76 - 131	2	20
Ethylene Dibromide			5.00	5.35		ug/L		107	80 - 126	3	20
Chlorobenzene			5.00	5.18		ug/L		104	80 - 123	0	12
1,1,1,2-Tetrachloroethane			5.00	5.35		ug/L		107	79 - 127	7	20
Ethylbenzene			5.00	5.58		ug/L		112	80 - 130	0	20
m-Xylene & p-Xylene			5.00	5.70		ug/L		114	78 - 130	2	20

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

Lab Sample ID: LCSD 580-328821/5
Matrix: Water
Analysis Batch: 328821

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene			5.00	5.78		ug/L		116	80 - 139	2	20
Styrene			5.00	5.84		ug/L		117	74 - 136	2	20
Bromoform			5.00	5.42		ug/L		108	69 - 137	1	20
Isopropylbenzene			5.00	5.63		ug/L		113	75 - 137	3	20
Bromobenzene			5.00	5.11		ug/L		102	80 - 130	3	20
1,1,2,2-Tetrachloroethane			5.00	5.71		ug/L		114	69 - 139	5	22
1,2,3-Trichloropropane			5.00	5.51		ug/L		110	80 - 127	6	20
N-Propylbenzene			5.00	5.49		ug/L		110	77 - 142	4	20
2-Chlorotoluene			5.00	5.66		ug/L		113	80 - 136	2	20
4-Chlorotoluene			5.00	5.74		ug/L		115	80 - 130	2	20
1,3,5-Trimethylbenzene			5.00	5.26		ug/L		105	80 - 139	2	20
tert-Butylbenzene			5.00	5.42		ug/L		108	77 - 140	1	20
1,2,4-Trimethylbenzene			5.00	5.38		ug/L		108	78 - 136	1	20
sec-Butylbenzene			5.00	5.62		ug/L		112	78 - 140	2	20
4-Isopropyltoluene			5.00	5.33		ug/L		107	78 - 132	0	14
1,3-Dichlorobenzene			5.00	5.42		ug/L		108	80 - 130	0	12
1,4-Dichlorobenzene			5.00	5.49		ug/L		110	80 - 129	1	11
n-Butylbenzene			5.00	5.28		ug/L		106	73 - 135	3	18
1,2-Dichlorobenzene			5.00	5.59		ug/L		112	80 - 129	4	14
1,2-Dibromo-3-Chloropropane			5.00	5.35		ug/L		107	69 - 130	5	26
1,2,4-Trichlorobenzene			5.00	5.71		ug/L		114	79 - 130	5	20
Hexachlorobutadiene			5.00	5.20		ug/L		104	72 - 138	1	20
Naphthalene			5.00	4.85		ug/L		97	64 - 132	7	20
1,2,3-Trichlorobenzene			5.00	5.73		ug/L		115	75 - 137	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*

Lab Sample ID: MB 580-328859/7
Matrix: Water
Analysis Batch: 328859

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 05:42	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 05:42	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 05:42	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 05:42	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 05:42	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 05:42	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 05:42	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 05:42	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 05:42	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 05:42	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 05:42	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 05:42	1

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

Lab Sample ID: MB 580-328859/7
Matrix: Water
Analysis Batch: 328859

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/22/20 05:42	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 05:42	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/22/20 05:42	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 05:42	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 05:42	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 05:42	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 05:42	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 05:42	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 05:42	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 05:42	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 05:42	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 05:42	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 05:42	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 05:42	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 05:42	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 05:42	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 05:42	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 05:42	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 05:42	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 05:42	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 05:42	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 05:42	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 05:42	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 05:42	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 05:42	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 05:42	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 05:42	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 05:42	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 05:42	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 05:42	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 05:42	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 05:42	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 05:42	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 05:42	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 05:42	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 05:42	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 05:42	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 05:42	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 05:42	1
1,2,4-Trimethylbenzene	0.100	J	0.30	0.072	ug/L			05/22/20 05:42	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 05:42	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 05:42	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 05:42	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 05:42	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 05:42	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 05:42	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 05:42	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 05:42	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 05:42	1

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

Lab Sample ID: MB 580-328859/7
Matrix: Water
Analysis Batch: 328859

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.405	J	1.0	0.22	ug/L			05/22/20 05:42	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 05:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/22/20 05:42*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*05/22/20 05:42*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*05/22/20 05:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*05/22/20 05:42*	*1*

Lab Sample ID: LCS 580-328859/4
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	4.52		ug/L		90	20 - 137
Chloromethane	5.00	4.18		ug/L		84	32 - 143
Vinyl chloride	5.00	3.60		ug/L		72	52 - 128
Bromomethane	5.00	4.57		ug/L		91	68 - 120
Chloroethane	5.00	5.56		ug/L		111	49 - 135
Carbon disulfide	5.00	4.36		ug/L		87	65 - 128
Trichlorofluoromethane	5.00	5.26		ug/L		105	60 - 132
1,1-Dichloroethene	5.00	3.84		ug/L		77	71 - 126
Methylene Chloride	5.00	4.85	J	ug/L		97	75 - 134
Methyl tert-butyl ether	5.00	4.58		ug/L		92	60 - 150
2-Butanone (MEK)	25.0	26.9		ug/L		108	64 - 136
trans-1,2-Dichloroethene	5.00	4.37		ug/L		87	63 - 133
1,1-Dichloroethane	5.00	4.57		ug/L		91	74 - 135
2,2-Dichloropropane	5.00	4.07		ug/L		81	58 - 150
cis-1,2-Dichloroethene	5.00	4.87		ug/L		97	72 - 130
Chlorobromomethane	5.00	4.63		ug/L		93	79 - 131
Chloroform	5.00	4.99		ug/L		100	80 - 130
1,1,1-Trichloroethane	5.00	4.57		ug/L		91	74 - 128
Carbon tetrachloride	5.00	4.76		ug/L		95	71 - 132
1,1-Dichloropropene	5.00	4.90		ug/L		98	72 - 132
Benzene	5.00	4.87		ug/L		97	73 - 133
1,2-Dichloroethane	5.00	4.87		ug/L		97	74 - 130
Trichloroethene	5.00	4.76		ug/L		95	72 - 136
1,2-Dichloropropane	5.00	4.65		ug/L		93	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	28.1		ug/L		112	65 - 137
Dibromomethane	5.00	4.61		ug/L		92	65 - 141
Dichlorobromomethane	5.00	4.69		ug/L		94	74 - 131
cis-1,3-Dichloropropene	5.00	4.77		ug/L		95	66 - 141
Toluene	5.00	5.11		ug/L		102	80 - 126
trans-1,3-Dichloropropene	5.00	4.61		ug/L		92	71 - 128
1,1,2-Trichloroethane	5.00	5.08		ug/L		102	80 - 127
Tetrachloroethene	5.00	4.89		ug/L		98	75 - 131
1,3-Dichloropropane	5.00	5.06		ug/L		101	80 - 130
Chlorodibromomethane	5.00	5.18		ug/L		104	76 - 131

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

Lab Sample ID: LCS 580-328859/4
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	5.00	4.99		ug/L		100	80 - 126
Chlorobenzene	5.00	5.05		ug/L		101	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.23		ug/L		105	79 - 127
Ethylbenzene	5.00	5.34		ug/L		107	80 - 130
m-Xylene & p-Xylene	5.00	5.34		ug/L		107	78 - 130
o-Xylene	5.00	5.39		ug/L		108	80 - 139
Styrene	5.00	5.75		ug/L		115	74 - 136
Bromoform	5.00	5.13		ug/L		103	69 - 137
Isopropylbenzene	5.00	5.34		ug/L		107	75 - 137
Bromobenzene	5.00	5.15		ug/L		103	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.74		ug/L		115	69 - 139
1,2,3-Trichloropropane	5.00	5.44		ug/L		109	80 - 127
N-Propylbenzene	5.00	5.43		ug/L		109	77 - 142
2-Chlorotoluene	5.00	5.57		ug/L		111	80 - 136
4-Chlorotoluene	5.00	5.59		ug/L		112	80 - 130
1,3,5-Trimethylbenzene	5.00	5.23		ug/L		105	80 - 139
tert-Butylbenzene	5.00	5.39		ug/L		108	77 - 140
1,2,4-Trimethylbenzene	5.00	5.33		ug/L		107	78 - 136
sec-Butylbenzene	5.00	5.57		ug/L		111	78 - 140
4-Isopropyltoluene	5.00	5.29		ug/L		106	78 - 132
1,3-Dichlorobenzene	5.00	5.33		ug/L		107	80 - 130
1,4-Dichlorobenzene	5.00	5.49		ug/L		110	80 - 129
n-Butylbenzene	5.00	5.00		ug/L		100	73 - 135
1,2-Dichlorobenzene	5.00	5.52		ug/L		110	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.40		ug/L		108	69 - 130
1,2,4-Trichlorobenzene	5.00	5.27		ug/L		105	79 - 130
Hexachlorobutadiene	5.00	5.05		ug/L		101	72 - 138
Naphthalene	5.00	4.48		ug/L		90	64 - 132
1,2,3-Trichlorobenzene	5.00	5.50		ug/L		110	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*

Lab Sample ID: LCSD 580-328859/5
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	4.19		ug/L		84	20 - 137	8	22
Chloromethane	5.00	4.09		ug/L		82	32 - 143	2	23
Vinyl chloride	5.00	4.03		ug/L		81	52 - 128	11	21
Bromomethane	5.00	4.69		ug/L		94	68 - 120	3	18
Chloroethane	5.00	4.77		ug/L		95	49 - 135	15	27
Carbon disulfide	5.00	4.79		ug/L		96	65 - 128	9	23
Trichlorofluoromethane	5.00	5.28		ug/L		106	60 - 132	0	20

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

Lab Sample ID: LCSD 580-328859/5
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	5.00	4.22		ug/L		84	71 - 126	9	17
Methylene Chloride	5.00	4.82	J	ug/L		96	75 - 134	1	18
Methyl tert-butyl ether	5.00	4.53		ug/L		91	60 - 150	1	25
2-Butanone (MEK)	25.0	20.4	*1	ug/L		82	64 - 136	27	23
trans-1,2-Dichloroethene	5.00	4.28		ug/L		86	63 - 133	2	17
1,1-Dichloroethane	5.00	4.61		ug/L		92	74 - 135	1	20
2,2-Dichloropropane	5.00	3.56		ug/L		71	58 - 150	13	28
cis-1,2-Dichloroethene	5.00	4.75		ug/L		95	72 - 130	3	20
Chlorobromomethane	5.00	4.67		ug/L		93	79 - 131	1	20
Chloroform	5.00	4.88		ug/L		98	80 - 130	2	20
1,1,1-Trichloroethane	5.00	4.45		ug/L		89	74 - 128	3	14
Carbon tetrachloride	5.00	4.57		ug/L		91	71 - 132	4	15
1,1-Dichloropropene	5.00	4.65		ug/L		93	72 - 132	5	13
Benzene	5.00	4.63		ug/L		93	73 - 133	5	20
1,2-Dichloroethane	5.00	4.73		ug/L		95	74 - 130	3	15
Trichloroethene	5.00	4.59		ug/L		92	72 - 136	4	14
1,2-Dichloropropane	5.00	4.51		ug/L		90	80 - 130	3	14
4-Methyl-2-pentanone (MIBK)	25.0	27.1		ug/L		108	65 - 137	4	24
Dibromomethane	5.00	4.73		ug/L		95	65 - 141	3	20
Dichlorobromomethane	5.00	4.59		ug/L		92	74 - 131	2	20
cis-1,3-Dichloropropene	5.00	4.77		ug/L		95	66 - 141	0	22
Toluene	5.00	4.85		ug/L		97	80 - 126	5	20
trans-1,3-Dichloropropene	5.00	4.41		ug/L		88	71 - 128	4	21
1,1,2-Trichloroethane	5.00	5.04		ug/L		101	80 - 127	1	19
Tetrachloroethene	5.00	4.72		ug/L		94	75 - 131	3	20
1,3-Dichloropropane	5.00	5.07		ug/L		101	80 - 130	0	19
Chlorodibromomethane	5.00	5.23		ug/L		105	76 - 131	1	20
Ethylene Dibromide	5.00	4.90		ug/L		98	80 - 126	2	20
Chlorobenzene	5.00	4.80		ug/L		96	80 - 123	5	12
1,1,1,2-Tetrachloroethane	5.00	5.10		ug/L		102	79 - 127	2	20
Ethylbenzene	5.00	5.05		ug/L		101	80 - 130	6	20
m-Xylene & p-Xylene	5.00	5.12		ug/L		102	78 - 130	4	20
o-Xylene	5.00	5.30		ug/L		106	80 - 139	2	20
Styrene	5.00	5.56		ug/L		111	74 - 136	3	20
Bromoform	5.00	5.00		ug/L		100	69 - 137	3	20
Isopropylbenzene	5.00	5.14		ug/L		103	75 - 137	4	20
Bromobenzene	5.00	4.76		ug/L		95	80 - 130	8	20
1,1,2,2-Tetrachloroethane	5.00	5.42		ug/L		108	69 - 139	6	22
1,2,3-Trichloropropane	5.00	5.19		ug/L		104	80 - 127	5	20
N-Propylbenzene	5.00	5.06		ug/L		101	77 - 142	7	20
2-Chlorotoluene	5.00	5.24		ug/L		105	80 - 136	6	20
4-Chlorotoluene	5.00	5.06		ug/L		101	80 - 130	10	20
1,3,5-Trimethylbenzene	5.00	4.86		ug/L		97	80 - 139	7	20
tert-Butylbenzene	5.00	5.04		ug/L		101	77 - 140	7	20
1,2,4-Trimethylbenzene	5.00	5.02		ug/L		100	78 - 136	6	20
sec-Butylbenzene	5.00	5.23		ug/L		105	78 - 140	6	20
4-Isopropyltoluene	5.00	4.99		ug/L		100	78 - 132	6	14
1,3-Dichlorobenzene	5.00	5.16		ug/L		103	80 - 130	3	12
1,4-Dichlorobenzene	5.00	5.11		ug/L		102	80 - 129	7	11

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

Lab Sample ID: LCSD 580-328859/5
Matrix: Water
Analysis Batch: 328859

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
n-Butylbenzene			5.00	4.80		ug/L		96	73 - 135	4	18
1,2-Dichlorobenzene			5.00	5.31		ug/L		106	80 - 129	4	14
1,2-Dibromo-3-Chloropropane			5.00	5.36		ug/L		107	69 - 130	1	26
1,2,4-Trichlorobenzene			5.00	5.19		ug/L		104	79 - 130	2	20
Hexachlorobutadiene			5.00	4.82		ug/L		96	72 - 138	5	20
Naphthalene			5.00	4.38		ug/L		88	64 - 132	2	20
1,2,3-Trichlorobenzene			5.00	5.40		ug/L		108	75 - 137	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 580-329210/7
Matrix: Water
Analysis Batch: 329210

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.1	ug/L			05/27/20 13:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/27/20 13:37*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/27/20 13:37*	*1*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*05/27/20 13:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*05/27/20 13:37*	*1*

Lab Sample ID: LCS 580-329210/4
Matrix: Water
Analysis Batch: 329210

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acetone			25.0	34.8		ug/L		139	49 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*

Lab Sample ID: LCSD 580-329210/5
Matrix: Water
Analysis Batch: 329210

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			25.0	33.4		ug/L		134	49 - 150	4	24

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

Lab Sample ID: LCSD 580-329210/5
Matrix: Water
Analysis Batch: 329210

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120
4-Bromofluorobenzene (Surr)	93		80 - 120
1,2-Dichloroethane-d4 (Surr)	89		80 - 120

Lab Sample ID: MB 580-329263/7
Matrix: Water
Analysis Batch: 329263

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7.26	J	10	3.1	ug/L			05/28/20 10:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120		05/28/20 10:58	1
Dibromofluoromethane (Surr)	101		80 - 120		05/28/20 10:58	1
4-Bromofluorobenzene (Surr)	77	X	80 - 120		05/28/20 10:58	1
1,2-Dichloroethane-d4 (Surr)	87		80 - 120		05/28/20 10:58	1

Lab Sample ID: LCS 580-329263/4
Matrix: Water
Analysis Batch: 329263

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acetone			25.0	42.7	*	ug/L		171	49 - 150		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	92		80 - 120
4-Bromofluorobenzene (Surr)	86		80 - 120
1,2-Dichloroethane-d4 (Surr)	83		80 - 120

Lab Sample ID: LCSD 580-329263/5
Matrix: Water
Analysis Batch: 329263

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			25.0	45.7	*	ug/L		183	49 - 150	7	24

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	93		80 - 120
4-Bromofluorobenzene (Surr)	86		80 - 120
1,2-Dichloroethane-d4 (Surr)	85		80 - 120

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

Lab Sample ID: MB 580-329501/7
Matrix: Water
Analysis Batch: 329501

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/30/20 00:25	1
Chloromethane	ND		0.50	0.068	ug/L			05/30/20 00:25	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/30/20 00:25	1
Bromomethane	ND		0.50	0.062	ug/L			05/30/20 00:25	1
Chloroethane	ND		0.50	0.096	ug/L			05/30/20 00:25	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/30/20 00:25	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/30/20 00:25	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/30/20 00:25	1
Acetone	ND		10	3.1	ug/L			05/30/20 00:25	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/30/20 00:25	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/30/20 00:25	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/30/20 00:25	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/30/20 00:25	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/30/20 00:25	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/30/20 00:25	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/30/20 00:25	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/30/20 00:25	1
Chloroform	ND		0.20	0.030	ug/L			05/30/20 00:25	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/30/20 00:25	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/30/20 00:25	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/30/20 00:25	1
Benzene	ND		0.20	0.030	ug/L			05/30/20 00:25	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/30/20 00:25	1
Trichloroethene	0.0983	J	0.20	0.066	ug/L			05/30/20 00:25	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/30/20 00:25	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/30/20 00:25	1
Dibromomethane	ND		0.20	0.062	ug/L			05/30/20 00:25	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/30/20 00:25	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/30/20 00:25	1
Toluene	ND		0.20	0.050	ug/L			05/30/20 00:25	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/30/20 00:25	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/30/20 00:25	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/30/20 00:25	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/30/20 00:25	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/30/20 00:25	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/30/20 00:25	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/30/20 00:25	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/30/20 00:25	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/30/20 00:25	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/30/20 00:25	1
o-Xylene	ND		0.50	0.15	ug/L			05/30/20 00:25	1
Styrene	ND		1.0	0.19	ug/L			05/30/20 00:25	1
Bromoform	ND		0.50	0.16	ug/L			05/30/20 00:25	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/30/20 00:25	1
Bromobenzene	ND		0.20	0.035	ug/L			05/30/20 00:25	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/30/20 00:25	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/30/20 00:25	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/30/20 00:25	1

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

Lab Sample ID: MB 580-329501/7
Matrix: Water
Analysis Batch: 329501

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/30/20 00:25	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/30/20 00:25	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/30/20 00:25	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/30/20 00:25	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/30/20 00:25	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/30/20 00:25	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/30/20 00:25	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 00:25	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 00:25	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/30/20 00:25	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/30/20 00:25	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/30/20 00:25	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/30/20 00:25	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/30/20 00:25	1
Naphthalene	ND		1.0	0.22	ug/L			05/30/20 00:25	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/30/20 00:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/30/20 00:25*	*1*
Trifluorotoluene (Surr)					*05/30/20 00:25*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*05/30/20 00:25*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/30/20 00:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*05/30/20 00:25*	*1*

Lab Sample ID: LCS 580-329501/4
Matrix: Water
Analysis Batch: 329501

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	7.66	*	ug/L		153	20 - 137
Chloromethane	5.00	5.66		ug/L		113	32 - 143
Vinyl chloride	5.00	5.23		ug/L		105	52 - 128
Bromomethane	5.00	5.25		ug/L		105	68 - 120
Chloroethane	5.00	5.17		ug/L		103	49 - 135
Carbon disulfide	5.00	4.72		ug/L		94	65 - 128
Trichlorofluoromethane	5.00	5.20		ug/L		104	60 - 132
1,1-Dichloroethene	5.00	5.33		ug/L		107	71 - 126
Acetone	25.0	24.4		ug/L		98	49 - 150
Methylene Chloride	5.00	4.55	J	ug/L		91	75 - 134
Methyl tert-butyl ether	5.00	4.50		ug/L		90	60 - 150
2-Butanone (MEK)	25.0	24.3		ug/L		97	64 - 136
trans-1,2-Dichloroethene	5.00	5.43		ug/L		109	63 - 133
1,1-Dichloroethane	5.00	4.92		ug/L		98	74 - 135
2,2-Dichloropropane	5.00	4.34		ug/L		87	58 - 150
cis-1,2-Dichloroethene	5.00	5.20		ug/L		104	72 - 130
Chlorobromomethane	5.00	5.36		ug/L		107	79 - 131
Chloroform	5.00	5.22		ug/L		104	80 - 130
1,1,1-Trichloroethane	5.00	4.76		ug/L		95	74 - 128

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

Lab Sample ID: LCS 580-329501/4
Matrix: Water
Analysis Batch: 329501

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	5.00	4.68		ug/L		94	71 - 132
1,1-Dichloropropene	5.00	5.19		ug/L		104	72 - 132
Benzene	5.00	5.34		ug/L		107	73 - 133
1,2-Dichloroethane	5.00	5.25		ug/L		105	74 - 130
Trichloroethene	5.00	5.68		ug/L		114	72 - 136
1,2-Dichloropropane	5.00	5.32		ug/L		106	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.6		ug/L		98	65 - 137
Dibromomethane	5.00	5.29		ug/L		106	65 - 141
Dichlorobromomethane	5.00	5.19		ug/L		104	74 - 131
cis-1,3-Dichloropropene	5.00	4.87		ug/L		97	66 - 141
Toluene	5.00	5.02		ug/L		100	80 - 126
trans-1,3-Dichloropropene	5.00	4.71		ug/L		94	71 - 128
1,1,2-Trichloroethane	5.00	5.48		ug/L		110	80 - 127
Tetrachloroethene	5.00	5.22		ug/L		104	75 - 131
1,3-Dichloropropane	5.00	5.44		ug/L		109	80 - 130
Chlorodibromomethane	5.00	5.45		ug/L		109	76 - 131
Ethylene Dibromide	5.00	5.67		ug/L		113	80 - 126
Chlorobenzene	5.00	6.05		ug/L		121	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.07		ug/L		101	79 - 127
Ethylbenzene	5.00	5.06		ug/L		101	80 - 130
m-Xylene & p-Xylene	5.00	5.23		ug/L		105	78 - 130
o-Xylene	5.00	5.88		ug/L		118	80 - 139
Styrene	5.00	6.22		ug/L		124	74 - 136
Bromoform	5.00	4.55		ug/L		91	69 - 137
Isopropylbenzene	5.00	5.34		ug/L		107	75 - 137
Bromobenzene	5.00	5.72		ug/L		114	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.38		ug/L		108	69 - 139
1,2,3-Trichloropropane	5.00	5.40		ug/L		108	80 - 127
N-Propylbenzene	5.00	5.48		ug/L		110	77 - 142
2-Chlorotoluene	5.00	5.27		ug/L		105	80 - 136
4-Chlorotoluene	5.00	5.68		ug/L		114	80 - 130
1,3,5-Trimethylbenzene	5.00	5.70		ug/L		114	80 - 139
tert-Butylbenzene	5.00	5.63		ug/L		113	77 - 140
1,2,4-Trimethylbenzene	5.00	5.41		ug/L		108	78 - 136
sec-Butylbenzene	5.00	5.60		ug/L		112	78 - 140
4-Isopropyltoluene	5.00	5.55		ug/L		111	78 - 132
1,3-Dichlorobenzene	5.00	5.77		ug/L		115	80 - 130
1,4-Dichlorobenzene	5.00	5.67		ug/L		113	80 - 129
n-Butylbenzene	5.00	5.19		ug/L		104	73 - 135
1,2-Dichlorobenzene	5.00	5.63		ug/L		113	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.47		ug/L		89	69 - 130
1,2,4-Trichlorobenzene	5.00	5.06		ug/L		101	79 - 130
Hexachlorobutadiene	5.00	5.02		ug/L		100	72 - 138
Naphthalene	5.00	5.02		ug/L		100	64 - 132
1,2,3-Trichlorobenzene	5.00	5.09		ug/L		102	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*

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

Lab Sample ID: LCS 580-329501/4
Matrix: Water
Analysis Batch: 329501

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329501/5
Matrix: Water
Analysis Batch: 329501

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			5.00	7.64	*	ug/L		153	20 - 137	0	22
Chloromethane			5.00	5.34		ug/L		107	32 - 143	6	23
Vinyl chloride			5.00	4.90		ug/L		98	52 - 128	7	21
Bromomethane			5.00	5.05		ug/L		101	68 - 120	4	18
Chloroethane			5.00	4.80		ug/L		96	49 - 135	7	27
Carbon disulfide			5.00	4.68		ug/L		94	65 - 128	1	23
Trichlorofluoromethane			5.00	5.16		ug/L		103	60 - 132	1	20
1,1-Dichloroethene			5.00	5.27		ug/L		105	71 - 126	1	17
Acetone			25.0	25.2		ug/L		101	49 - 150	3	24
Methylene Chloride			5.00	4.60	J	ug/L		92	75 - 134	1	18
Methyl tert-butyl ether			5.00	4.58		ug/L		92	60 - 150	2	25
2-Butanone (MEK)			25.0	25.6		ug/L		102	64 - 136	5	23
trans-1,2-Dichloroethene			5.00	5.40		ug/L		108	63 - 133	0	17
1,1-Dichloroethane			5.00	4.93		ug/L		99	74 - 135	0	20
2,2-Dichloropropane			5.00	4.19		ug/L		84	58 - 150	3	28
cis-1,2-Dichloroethene			5.00	5.16		ug/L		103	72 - 130	1	20
Chlorobromomethane			5.00	5.51		ug/L		110	79 - 131	3	20
Chloroform			5.00	5.26		ug/L		105	80 - 130	1	20
1,1,1-Trichloroethane			5.00	4.75		ug/L		95	74 - 128	0	14
Carbon tetrachloride			5.00	4.62		ug/L		92	71 - 132	1	15
1,1-Dichloropropene			5.00	5.25		ug/L		105	72 - 132	1	13
Benzene			5.00	5.37		ug/L		107	73 - 133	1	20
1,2-Dichloroethane			5.00	5.27		ug/L		105	74 - 130	0	15
Trichloroethene			5.00	5.70		ug/L		114	72 - 136	0	14
1,2-Dichloropropane			5.00	5.31		ug/L		106	80 - 130	0	14
4-Methyl-2-pentanone (MIBK)			25.0	27.8		ug/L		111	65 - 137	12	24
Dibromomethane			5.00	5.39		ug/L		108	65 - 141	2	20
Dichlorobromomethane			5.00	5.20		ug/L		104	74 - 131	0	20
cis-1,3-Dichloropropene			5.00	5.03		ug/L		101	66 - 141	3	22
Toluene			5.00	5.02		ug/L		100	80 - 126	0	20
trans-1,3-Dichloropropene			5.00	4.82		ug/L		96	71 - 128	2	21
1,1,2-Trichloroethane			5.00	5.55		ug/L		111	80 - 127	1	19
Tetrachloroethene			5.00	5.29		ug/L		106	75 - 131	1	20
1,3-Dichloropropane			5.00	5.55		ug/L		111	80 - 130	2	19
Chlorodibromomethane			5.00	5.56		ug/L		111	76 - 131	2	20
Ethylene Dibromide			5.00	5.88		ug/L		118	80 - 126	4	20
Chlorobenzene			5.00	6.06		ug/L		121	80 - 123	0	12
1,1,1,2-Tetrachloroethane			5.00	5.17		ug/L		103	79 - 127	2	20
Ethylbenzene			5.00	5.00		ug/L		100	80 - 130	1	20

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

Lab Sample ID: LCSD 580-329501/5
Matrix: Water
Analysis Batch: 329501

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
m-Xylene & p-Xylene	5.00	5.19		ug/L		104	78 - 130	1	20
o-Xylene	5.00	5.88		ug/L		118	80 - 139	0	20
Styrene	5.00	6.29		ug/L		126	74 - 136	1	20
Bromoform	5.00	4.68		ug/L		94	69 - 137	3	20
Isopropylbenzene	5.00	5.38		ug/L		108	75 - 137	1	20
Bromobenzene	5.00	5.67		ug/L		113	80 - 130	1	20
1,1,2,2-Tetrachloroethane	5.00	5.54		ug/L		111	69 - 139	3	22
1,2,3-Trichloropropane	5.00	5.51		ug/L		110	80 - 127	2	20
N-Propylbenzene	5.00	5.40		ug/L		108	77 - 142	1	20
2-Chlorotoluene	5.00	5.23		ug/L		105	80 - 136	1	20
4-Chlorotoluene	5.00	5.66		ug/L		113	80 - 130	0	20
1,3,5-Trimethylbenzene	5.00	5.70		ug/L		114	80 - 139	0	20
tert-Butylbenzene	5.00	5.66		ug/L		113	77 - 140	1	20
1,2,4-Trimethylbenzene	5.00	5.46		ug/L		109	78 - 136	1	20
sec-Butylbenzene	5.00	5.60		ug/L		112	78 - 140	0	20
4-Isopropyltoluene	5.00	5.57		ug/L		111	78 - 132	0	14
1,3-Dichlorobenzene	5.00	5.82		ug/L		116	80 - 130	1	12
1,4-Dichlorobenzene	5.00	5.74		ug/L		115	80 - 129	1	11
n-Butylbenzene	5.00	5.36		ug/L		107	73 - 135	3	18
1,2-Dichlorobenzene	5.00	5.73		ug/L		115	80 - 129	2	14
1,2-Dibromo-3-Chloropropane	5.00	4.70		ug/L		94	69 - 130	5	26
1,2,4-Trichlorobenzene	5.00	5.17		ug/L		103	79 - 130	2	20
Hexachlorobutadiene	5.00	5.04		ug/L		101	72 - 138	0	20
Naphthalene	5.00	5.22		ug/L		104	64 - 132	4	20
1,2,3-Trichlorobenzene	5.00	5.14		ug/L		103	75 - 137	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/01/20 16:10	1
Chloromethane	ND		0.50	0.068	ug/L			06/01/20 16:10	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/01/20 16:10	1
Bromomethane	ND		0.50	0.062	ug/L			06/01/20 16:10	1
Chloroethane	ND		0.50	0.096	ug/L			06/01/20 16:10	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/01/20 16:10	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/01/20 16:10	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/01/20 16:10	1
Acetone	ND		10	3.1	ug/L			06/01/20 16:10	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/01/20 16:10	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/01/20 16:10	1

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

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		10	2.5	ug/L			06/01/20 16:10	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/01/20 16:10	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/01/20 16:10	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/01/20 16:10	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Chloroform	ND		0.20	0.030	ug/L			06/01/20 16:10	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/01/20 16:10	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/01/20 16:10	1
Benzene	ND		0.20	0.030	ug/L			06/01/20 16:10	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/01/20 16:10	1
Trichloroethene	0.151	J	0.20	0.066	ug/L			06/01/20 16:10	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/01/20 16:10	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/01/20 16:10	1
Dibromomethane	ND		0.20	0.062	ug/L			06/01/20 16:10	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/01/20 16:10	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/01/20 16:10	1
Toluene	ND		0.20	0.050	ug/L			06/01/20 16:10	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/01/20 16:10	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/01/20 16:10	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/01/20 16:10	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/01/20 16:10	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/01/20 16:10	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/01/20 16:10	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/01/20 16:10	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/01/20 16:10	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/01/20 16:10	1
o-Xylene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
Styrene	ND		1.0	0.19	ug/L			06/01/20 16:10	1
Bromoform	ND		0.50	0.16	ug/L			06/01/20 16:10	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/01/20 16:10	1
Bromobenzene	ND		0.20	0.035	ug/L			06/01/20 16:10	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/01/20 16:10	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/01/20 16:10	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/01/20 16:10	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/01/20 16:10	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/01/20 16:10	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/01/20 16:10	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/01/20 16:10	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/01/20 16:10	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/01/20 16:10	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/01/20 16:10	1

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

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/01/20 16:10	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/01/20 16:10	1
Naphthalene	ND		1.0	0.22	ug/L			06/01/20 16:10	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/01/20 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/01/20 16:10*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/01/20 16:10*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/01/20 16:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*06/01/20 16:10*	*1*

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	6.35		ug/L		127	20 - 137
Chloromethane	5.00	5.43		ug/L		109	32 - 143
Vinyl chloride	5.00	4.77		ug/L		95	52 - 128
Bromomethane	5.00	5.02		ug/L		100	68 - 120
Chloroethane	5.00	4.99		ug/L		100	49 - 135
Carbon disulfide	5.00	4.27		ug/L		85	65 - 128
Trichlorofluoromethane	5.00	4.49		ug/L		90	60 - 132
1,1-Dichloroethene	5.00	4.71		ug/L		94	71 - 126
Acetone	25.0	25.2		ug/L		101	49 - 150
Methylene Chloride	5.00	4.34	J	ug/L		87	75 - 134
Methyl tert-butyl ether	5.00	4.54		ug/L		91	60 - 150
2-Butanone (MEK)	25.0	24.5		ug/L		98	64 - 136
trans-1,2-Dichloroethene	5.00	4.92		ug/L		98	63 - 133
1,1-Dichloroethane	5.00	4.60		ug/L		92	74 - 135
2,2-Dichloropropane	5.00	3.96		ug/L		79	58 - 150
cis-1,2-Dichloroethene	5.00	4.83		ug/L		97	72 - 130
Chlorobromomethane	5.00	5.15		ug/L		103	79 - 131
Chloroform	5.00	4.89		ug/L		98	80 - 130
1,1,1-Trichloroethane	5.00	4.29		ug/L		86	74 - 128
Carbon tetrachloride	5.00	4.14		ug/L		83	71 - 132
1,1-Dichloropropene	5.00	4.59		ug/L		92	72 - 132
Benzene	5.00	5.03		ug/L		101	73 - 133
1,2-Dichloroethane	5.00	5.18		ug/L		104	74 - 130
Trichloroethene	5.00	5.26		ug/L		105	72 - 136
1,2-Dichloropropane	5.00	5.10		ug/L		102	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.2		ug/L		97	65 - 137
Dibromomethane	5.00	5.15		ug/L		103	65 - 141
Dichlorobromomethane	5.00	4.98		ug/L		100	74 - 131
cis-1,3-Dichloropropene	5.00	4.71		ug/L		94	66 - 141
Toluene	5.00	4.62		ug/L		92	80 - 126
trans-1,3-Dichloropropene	5.00	4.57		ug/L		91	71 - 128
1,1,2-Trichloroethane	5.00	5.25		ug/L		105	80 - 127

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

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	5.00	4.64		ug/L		93	75 - 131
1,3-Dichloropropane	5.00	5.24		ug/L		105	80 - 130
Chlorodibromomethane	5.00	5.08		ug/L		102	76 - 131
Ethylene Dibromide	5.00	5.47		ug/L		109	80 - 126
Chlorobenzene	5.00	5.55		ug/L		111	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.59		ug/L		92	79 - 127
Ethylbenzene	5.00	4.52		ug/L		90	80 - 130
m-Xylene & p-Xylene	5.00	4.69		ug/L		94	78 - 130
o-Xylene	5.00	5.22		ug/L		104	80 - 139
Styrene	5.00	5.61		ug/L		112	74 - 136
Bromoform	5.00	4.27		ug/L		85	69 - 137
Isopropylbenzene	5.00	4.65		ug/L		93	75 - 137
Bromobenzene	5.00	5.05		ug/L		101	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.05		ug/L		101	69 - 139
1,2,3-Trichloropropane	5.00	4.91		ug/L		98	80 - 127
N-Propylbenzene	5.00	4.69		ug/L		94	77 - 142
2-Chlorotoluene	5.00	4.54		ug/L		91	80 - 136
4-Chlorotoluene	5.00	4.93		ug/L		99	80 - 130
1,3,5-Trimethylbenzene	5.00	4.89		ug/L		98	80 - 139
tert-Butylbenzene	5.00	4.81		ug/L		96	77 - 140
1,2,4-Trimethylbenzene	5.00	4.67		ug/L		93	78 - 136
sec-Butylbenzene	5.00	4.76		ug/L		95	78 - 140
4-Isopropyltoluene	5.00	4.74		ug/L		95	78 - 132
1,3-Dichlorobenzene	5.00	5.07		ug/L		101	80 - 130
1,4-Dichlorobenzene	5.00	5.01		ug/L		100	80 - 129
n-Butylbenzene	5.00	4.42		ug/L		88	73 - 135
1,2-Dichlorobenzene	5.00	4.96		ug/L		99	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.05		ug/L		81	69 - 130
1,2,4-Trichlorobenzene	5.00	4.53		ug/L		91	79 - 130
Hexachlorobutadiene	5.00	4.22		ug/L		84	72 - 138
Naphthalene	5.00	4.87		ug/L		97	64 - 132
1,2,3-Trichlorobenzene	5.00	4.59		ug/L		92	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	6.34		ug/L		127	20 - 137	0	22
Chloromethane	5.00	5.32		ug/L		106	32 - 143	2	23
Vinyl chloride	5.00	4.67		ug/L		93	52 - 128	2	21
Bromomethane	5.00	4.85		ug/L		97	68 - 120	4	18

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

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroethane	5.00	4.61		ug/L		92	49 - 135	8	27
Carbon disulfide	5.00	4.19		ug/L		84	65 - 128	2	23
Trichlorofluoromethane	5.00	4.37		ug/L		87	60 - 132	3	20
1,1-Dichloroethene	5.00	4.63		ug/L		93	71 - 126	2	17
Acetone	25.0	23.4		ug/L		94	49 - 150	7	24
Methylene Chloride	5.00	4.24	J	ug/L		85	75 - 134	2	18
Methyl tert-butyl ether	5.00	4.17		ug/L		83	60 - 150	9	25
2-Butanone (MEK)	25.0	22.4		ug/L		90	64 - 136	9	23
trans-1,2-Dichloroethene	5.00	4.88		ug/L		98	63 - 133	1	17
1,1-Dichloroethane	5.00	4.52		ug/L		90	74 - 135	2	20
2,2-Dichloropropane	5.00	3.90		ug/L		78	58 - 150	1	28
cis-1,2-Dichloroethene	5.00	4.76		ug/L		95	72 - 130	1	20
Chlorobromomethane	5.00	4.98		ug/L		100	79 - 131	3	20
Chloroform	5.00	4.80		ug/L		96	80 - 130	2	20
1,1,1-Trichloroethane	5.00	4.23		ug/L		85	74 - 128	1	14
Carbon tetrachloride	5.00	4.03		ug/L		81	71 - 132	3	15
1,1-Dichloropropene	5.00	4.51		ug/L		90	72 - 132	2	13
Benzene	5.00	4.88		ug/L		98	73 - 133	3	20
1,2-Dichloroethane	5.00	4.87		ug/L		97	74 - 130	6	15
Trichloroethene	5.00	5.21		ug/L		104	72 - 136	1	14
1,2-Dichloropropane	5.00	4.85		ug/L		97	80 - 130	5	14
4-Methyl-2-pentanone (MIBK)	25.0	24.0		ug/L		96	65 - 137	1	24
Dibromomethane	5.00	4.79		ug/L		96	65 - 141	7	20
Dichlorobromomethane	5.00	4.69		ug/L		94	74 - 131	6	20
cis-1,3-Dichloropropene	5.00	4.47		ug/L		89	66 - 141	5	22
Toluene	5.00	4.57		ug/L		91	80 - 126	1	20
trans-1,3-Dichloropropene	5.00	4.27		ug/L		85	71 - 128	7	21
1,1,2-Trichloroethane	5.00	4.91		ug/L		98	80 - 127	7	19
Tetrachloroethene	5.00	4.57		ug/L		91	75 - 131	1	20
1,3-Dichloropropane	5.00	4.88		ug/L		98	80 - 130	7	19
Chlorodibromomethane	5.00	4.81		ug/L		96	76 - 131	5	20
Ethylene Dibromide	5.00	5.22		ug/L		104	80 - 126	5	20
Chlorobenzene	5.00	5.40		ug/L		108	80 - 123	3	12
1,1,1,2-Tetrachloroethane	5.00	4.58		ug/L		92	79 - 127	0	20
Ethylbenzene	5.00	4.48		ug/L		90	80 - 130	1	20
m-Xylene & p-Xylene	5.00	4.65		ug/L		93	78 - 130	1	20
o-Xylene	5.00	5.27		ug/L		105	80 - 139	1	20
Styrene	5.00	5.60		ug/L		112	74 - 136	0	20
Bromoform	5.00	3.98		ug/L		80	69 - 137	7	20
Isopropylbenzene	5.00	4.73		ug/L		95	75 - 137	2	20
Bromobenzene	5.00	4.80		ug/L		96	80 - 130	5	20
1,1,2,2-Tetrachloroethane	5.00	4.61		ug/L		92	69 - 139	9	22
1,2,3-Trichloropropane	5.00	4.69		ug/L		94	80 - 127	5	20
N-Propylbenzene	5.00	4.65		ug/L		93	77 - 142	1	20
2-Chlorotoluene	5.00	4.45		ug/L		89	80 - 136	2	20
4-Chlorotoluene	5.00	4.89		ug/L		98	80 - 130	1	20
1,3,5-Trimethylbenzene	5.00	4.90		ug/L		98	80 - 139	0	20
tert-Butylbenzene	5.00	4.81		ug/L		96	77 - 140	0	20
1,2,4-Trimethylbenzene	5.00	4.71		ug/L		94	78 - 136	1	20

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

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
sec-Butylbenzene	5.00	4.76		ug/L		95	78 - 140	0	20
4-Isopropyltoluene	5.00	4.77		ug/L		95	78 - 132	1	14
1,3-Dichlorobenzene	5.00	4.96		ug/L		99	80 - 130	2	12
1,4-Dichlorobenzene	5.00	4.87		ug/L		97	80 - 129	3	11
n-Butylbenzene	5.00	4.51		ug/L		90	73 - 135	2	18
1,2-Dichlorobenzene	5.00	4.87		ug/L		97	80 - 129	2	14
1,2-Dibromo-3-Chloropropane	5.00	3.86		ug/L		77	69 - 130	5	26
1,2,4-Trichlorobenzene	5.00	4.46		ug/L		89	79 - 130	2	20
Hexachlorobutadiene	5.00	4.25		ug/L		85	72 - 138	1	20
Naphthalene	5.00	4.38		ug/L		88	64 - 132	11	20
1,2,3-Trichlorobenzene	5.00	4.49		ug/L		90	75 - 137	2	20

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

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609549/1-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
Aldrin	ND		0.0050	0.0015	ug/L		05/21/20 05:31	05/27/20 18:13	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/21/20 05:31	05/27/20 18:13	1
beta-BHC	ND		0.010	0.0040	ug/L		05/21/20 05:31	05/27/20 18:13	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/21/20 05:31	05/27/20 18:13	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/21/20 05:31	05/27/20 18:13	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endosulfan I	ND		0.0050	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/21/20 05:31	05/27/20 18:13	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Heptachlor	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
Methoxychlor	ND		0.0050	0.0035	ug/L		05/21/20 05:31	05/27/20 18:13	1
Toxaphene	ND		0.50	0.25	ug/L		05/21/20 05:31	05/27/20 18:13	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-609549/1-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609549

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	68		28 - 108	05/21/20 05:31	05/27/20 18:13	1
Tetrachloro-m-xylene	62		10 - 123	05/21/20 05:31	05/27/20 18:13	1

Lab Sample ID: LCS 440-609549/2-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609549

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.354		ug/L		88	50 - 128
4,4'-DDE	0.400	0.335		ug/L		84	49 - 121
4,4'-DDT	0.400	0.372		ug/L		93	41 - 140
Aldrin	0.400	0.282		ug/L		71	37 - 115
alpha-BHC	0.400	0.317		ug/L		79	44 - 115
cis-Chlordane	0.400	0.327		ug/L		82	40 - 122
beta-BHC	0.400	0.315		ug/L		79	46 - 121
delta-BHC	0.400	0.329		ug/L		82	32 - 129
Dieldrin	0.400	0.336		ug/L		84	39 - 126
Endosulfan I	0.400	0.325		ug/L		81	47 - 115
Endosulfan II	0.400	0.322		ug/L		81	47 - 120
Endosulfan sulfate	0.400	0.326		ug/L		82	48 - 126
Endrin	0.400	0.336		ug/L		84	43 - 127
Endrin aldehyde	0.400	0.317		ug/L		79	43 - 120
Endrin ketone	0.400	0.337		ug/L		84	47 - 123
gamma-BHC (Lindane)	0.400	0.321		ug/L		80	45 - 116
trans-Chlordane	0.400	0.324		ug/L		81	37 - 129
Heptachlor	0.400	0.328		ug/L		82	37 - 115
Heptachlor epoxide	0.400	0.326		ug/L		81	41 - 129
Methoxychlor	0.400	0.462		ug/L		116	44 - 141

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	72		28 - 108
Tetrachloro-m-xylene	74		10 - 123

Lab Sample ID: LCSD 440-609549/3-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609549

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.400	0.386		ug/L		96	50 - 128	9	26
4,4'-DDE	0.400	0.361		ug/L		90	49 - 121	7	22
4,4'-DDT	0.400	0.394		ug/L		98	41 - 140	6	20
Aldrin	0.400	0.302		ug/L		75	37 - 115	7	24
alpha-BHC	0.400	0.341		ug/L		85	44 - 115	7	26
cis-Chlordane	0.400	0.351		ug/L		88	40 - 122	7	35
beta-BHC	0.400	0.339		ug/L		85	46 - 121	7	27
delta-BHC	0.400	0.353		ug/L		88	32 - 129	7	35
Dieldrin	0.400	0.361		ug/L		90	39 - 126	7	35
Endosulfan I	0.400	0.350		ug/L		88	47 - 115	7	27

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 440-609549/3-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609549

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endosulfan II			0.400	0.348		ug/L		87	47 - 120	8	29
Endosulfan sulfate			0.400	0.353		ug/L		88	48 - 126	8	26
Endrin			0.400	0.364		ug/L		91	43 - 127	8	35
Endrin aldehyde			0.400	0.341		ug/L		85	43 - 120	7	35
Endrin ketone			0.400	0.367		ug/L		92	47 - 123	9	27
gamma-BHC (Lindane)			0.400	0.344		ug/L		86	45 - 116	7	28
trans-Chlordane			0.400	0.349		ug/L		87	37 - 129	7	35
Heptachlor			0.400	0.351		ug/L		88	37 - 115	7	35
Heptachlor epoxide			0.400	0.349		ug/L		87	41 - 129	7	35
Methoxychlor			0.400	0.496		ug/L		124	44 - 141	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*76*		*28 - 108*
Tetrachloro-m-xylene	*78*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-609546/6
Matrix: Water
Analysis Batch: 609546

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/21/20 06:32	1

Lab Sample ID: LCS 440-609546/5
Matrix: Water
Analysis Batch: 609546

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	49.4		ug/L		99	90 - 110		

Lab Sample ID: MRL 440-609546/4
Matrix: Water
Analysis Batch: 609546

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			1.00	1.00		ug/L		100	50 - 150		

Lab Sample ID: 580-94768-4 MS
Matrix: Water
Analysis Batch: 609546

Client Sample ID: MWA-41-051820
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		50.0	49.0		ug/L		98	90 - 110		

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: 580-94768-4 MSD
Matrix: Water
Analysis Batch: 609546

Client Sample ID: MWA-41-051820
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	46.1		ug/L		92	90 - 110	6	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610758/6
Matrix: Water
Analysis Batch: 610758

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/01/20 10:15	1

Lab Sample ID: LCS 440-610758/5
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.36		ug/L		94	85 - 115

Lab Sample ID: MRL 440-610758/4
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.01	J	ug/L		101	75 - 125

Lab Sample ID: MRL 440-610758/8
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.84	J	ug/L		96	75 - 125

Lab Sample ID: MB 440-611322/6
Matrix: Water
Analysis Batch: 611322

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/04/20 11:25	1

Lab Sample ID: LCS 440-611322/5
Matrix: Water
Analysis Batch: 611322

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.9		ug/L		109	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-611322/4
Matrix: Water
Analysis Batch: 611322

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.13	J	ug/L		113	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-328767/24-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:12	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:12	5
Iron	ND		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:12	5
Manganese	ND		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:12	5

Lab Sample ID: LCS 580-328767/25-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.971		mg/L		97	80 - 120
Chromium	1.00	0.978		mg/L		98	80 - 120
Iron	20.0	19.5		mg/L		97	80 - 120
Manganese	1.00	0.975		mg/L		97	80 - 120

Lab Sample ID: LCSD 580-328767/26-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.978		mg/L		98	80 - 120	1	20
Chromium	1.00	0.985		mg/L		98	80 - 120	1	20
Iron	20.0	19.6		mg/L		98	80 - 120	1	20
Manganese	1.00	0.971		mg/L		97	80 - 120	0	20

Lab Sample ID: MB 580-328770/15-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 20:18	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 20:18	5
Iron	ND		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 20:18	5
Manganese	ND		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 20:18	5

Lab Sample ID: LCS 580-328770/16-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.974		mg/L		97	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-328770/16-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	1.00	0.931		mg/L		93	80 - 120
Iron	20.0	19.2		mg/L		96	80 - 120
Manganese	1.00	0.976		mg/L		98	80 - 120

Lab Sample ID: LCSD 580-328770/17-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.974		mg/L		97	80 - 120	0	20
Chromium	1.00	0.946		mg/L		95	80 - 120	2	20
Iron	20.0	19.0		mg/L		95	80 - 120	1	20
Manganese	1.00	0.989		mg/L		99	80 - 120	1	20

Lab Sample ID: 580-94768-4 MS
Matrix: Water
Analysis Batch: 329011

Client Sample ID: MWA-41-051820
Prep Type: Dissolved
Prep Batch: 328767

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		1.00	0.936		mg/L		94	80 - 120
Chromium	ND		1.00	0.943		mg/L		94	80 - 120
Iron	ND		20.0	18.8		mg/L		94	80 - 120
Manganese	0.63		1.00	1.59		mg/L		96	80 - 120

Lab Sample ID: 580-94768-4 MSD
Matrix: Water
Analysis Batch: 329011

Client Sample ID: MWA-41-051820
Prep Type: Dissolved
Prep Batch: 328767

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		1.00	0.941		mg/L		94	80 - 120	1	20
Chromium	ND		1.00	0.935		mg/L		94	80 - 120	1	20
Iron	ND		20.0	18.7		mg/L		93	80 - 120	1	20
Manganese	0.63		1.00	1.58		mg/L		95	80 - 120	0	20

Lab Sample ID: 580-94768-4 DU
Matrix: Water
Analysis Batch: 329011

Client Sample ID: MWA-41-051820
Prep Type: Dissolved
Prep Batch: 328767

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	ND		ND		mg/L		NC	20
Chromium	ND		ND		mg/L		NC	20
Iron	ND		ND		mg/L		NC	20
Manganese	0.63		0.645		mg/L		3	20

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329020/3
Matrix: Water
Analysis Batch: 329020

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.142	J	0.90	0.14	mg/L			05/23/20 06:34	1

Lab Sample ID: LCS 580-329020/4
Matrix: Water
Analysis Batch: 329020

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	51.7		mg/L		103	90 - 110		

Lab Sample ID: LCSD 580-329020/5
Matrix: Water
Analysis Batch: 329020

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	51.7		mg/L		103	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820-A
Lab Sample ID: 580-94768-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328821	05/21/20 18:33	W1T	TAL SEA
Total/NA	Analysis	8260D	RA	1	329532	06/01/20 19:42	K1G	TAL SEA

Client Sample ID: MWA-24-051820
Lab Sample ID: 580-94768-2
Date Collected: 05/18/20 11:39
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328821	05/22/20 02:08	W1T	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610567	05/29/20 14:32	D1D	TAL IRV
Dissolved	Analysis	218.6		5	609546	05/21/20 08:20	MN	TAL IRV
Total/NA	Analysis	314.0		50	610758	06/01/20 20:48	OH1	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:18	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 21:22	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329020	05/23/20 09:07	AAC	TAL SEA

Client Sample ID: MWA-40-051820
Lab Sample ID: 580-94768-3
Date Collected: 05/18/20 12:32
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329501	05/30/20 02:38	K1G	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610567	05/29/20 15:02	D1D	TAL IRV
Dissolved	Analysis	218.6		20	609546	05/21/20 08:32	MN	TAL IRV
Total/NA	Analysis	314.0		100	610758	06/01/20 21:24	OH1	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:59	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 21:25	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329020	05/23/20 09:18	AAC	TAL SEA

Client Sample ID: MWA-41-051820
Lab Sample ID: 580-94768-4
Date Collected: 05/18/20 13:34
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329501	05/30/20 03:05	K1G	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610211	05/27/20 19:38	D1D	TAL IRV
Dissolved	Analysis	218.6		1	609546	05/21/20 08:45	MN	TAL IRV

Lab Chronicle

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-41-051820
Lab Sample ID: 580-94768-4
Date Collected: 05/18/20 13:34
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	314.0		1	611322	06/04/20 20:54	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 18:18	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 21:06	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329020	05/23/20 09:30	AAC	TAL SEA

Client Sample ID: MWA-81i-051820
Lab Sample ID: 580-94768-5
Date Collected: 05/18/20 14:12
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329501	05/30/20 03:31	K1G	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610211	05/27/20 19:54	D1D	TAL IRV
Dissolved	Analysis	218.6		1	609546	05/21/20 09:55	MN	TAL IRV
Total/NA	Analysis	314.0		1	611322	06/04/20 21:12	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 18:59	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 21:09	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329020	05/23/20 09:42	AAC	TAL SEA

Client Sample ID: PA-25d-051820
Lab Sample ID: 580-94768-6
Date Collected: 05/18/20 12:45
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328859	05/22/20 08:49	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329210	05/27/20 15:10	TL1	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610211	05/27/20 20:11	D1D	TAL IRV
Dissolved	Analysis	218.6		1	609546	05/21/20 10:07	MN	TAL IRV
Total/NA	Analysis	314.0		1	611322	06/04/20 21:30	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:02	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 21:12	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329020	05/23/20 09:53	AAC	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-26d-051820
Lab Sample ID: 580-94768-7
Date Collected: 05/18/20 11:49
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328859	05/22/20 08:22	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329210	05/27/20 15:36	TL1	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610211	05/27/20 20:28	D1D	TAL IRV
Dissolved	Analysis	218.6		1	609546	05/21/20 10:20	MN	TAL IRV
Total/NA	Analysis	314.0		1	611322	06/04/20 21:47	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:05	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 21:15	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329020	05/23/20 10:05	AAC	TAL SEA

Client Sample ID: PA-09-051820
Lab Sample ID: 580-94768-8
Date Collected: 05/18/20 14:37
Matrix: Water
Date Received: 05/18/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328859	05/22/20 07:55	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329263	05/28/20 14:04	T1W	TAL SEA
Dissolved	Analysis	218.6		1	609546	05/21/20 10:33	MN	TAL IRV
Total/NA	Analysis	314.0		20	611322	06/04/20 22:05	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 18:15	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329020	05/23/20 10:17	AAC	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94768-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94768-1	TB-051820-A	Water	05/18/20 00:01	05/18/20 16:05	
580-94768-2	MWA-24-051820	Water	05/18/20 11:39	05/18/20 16:05	
580-94768-3	MWA-40-051820	Water	05/18/20 12:32	05/18/20 16:05	
580-94768-4	MWA-41-051820	Water	05/18/20 13:34	05/18/20 16:05	
580-94768-5	MWA-81i-051820	Water	05/18/20 14:12	05/18/20 16:05	
580-94768-6	PA-25d-051820	Water	05/18/20 12:45	05/18/20 16:05	
580-94768-7	PA-26d-051820	Water	05/18/20 11:49	05/18/20 16:05	
580-94768-8	PA-09-051820	Water	05/18/20 14:37	05/18/20 16:05	

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

Chain of Custody Record

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Client Information	Sampler: ST, DS	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0481059.02			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q1 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-051820-A	5/18/20		G	Water									X			3	
MWA-24-051820		1139		Water			X	X		X	X		X	X	X	10	
MWA-40-051820		1232		Water			X	X		X	X		X	X	X	10	
MWA-41-051820		1334		Water			X	X		X	X		X	X	X	10	
MWA-81-051820		1412		Water			X	X		X	X		X	X	X	10	
PA-25d-051820		1245		Water			X	X		X	X		X	X	X	10	
PA-26d-051820		1149		Water			X	X		X	X		X	X	X	10	
PA-09-051820		1437		Water			X				X		X	X	X	7	
				Water													

580-94768 Chain of Custody

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

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

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

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: SZ	Date/Time: 5/18/20	Company: ERM	Received by:	Date/Time: 5/18/20 1605	Company: TAOR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 4.9, 5.7

Ver: 01/16/2019

6/12/2020 (Rev. 1)

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

Chain of Custody Record

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Client Information	Sampler: ST, DS	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0481059.02			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q1 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-051820-A	5/18/20		G	Water									X			3	
MWA-24-051820		1139		Water			X	X		X	X		X	X	X	10	
MWA-40-051820		1232		Water			X	X		X	X		X	X	X	10	
MWA-41-051820		1334		Water			X	X		X	X		X	X	X	10	
MWA-81i-051820		1412		Water			X	X		X	X		X	X	X	10	
PA-25d-051820		1245		Water			X	X		X	X		X	X	X	10	
PA-26d-051820		1149		Water			X	X		X	X		X	X	X	10	
PA-09-051820		1437		Water			X				X		X	X	X	10	
				Water													

Preservation Codes:

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

Other:

580-94768 Chain of Custody

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/18/20	ERM		5/18/20 1605	TAOR
2		5/18/20 1700	TAOR		5/20/20 0945	TASEA
3						

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.9, 5.7

IR6 = 0.5/0.1

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

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No: 580-76903 1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94768-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/5/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Preservation Codes:

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

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MWA-24-051820 (580-94768-2)	5/18/20	11:39 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm via
MWA-40-051820 (580-94768-3)	5/18/20	12:32 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm via
MWA-41-051820 (580-94768-4)	5/18/20	13:34 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm via
MWA-81i-051820 (580-94768-5)	5/18/20	14:12 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm via
PA-25d-051820 (580-94768-6)	5/18/20	12:45 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm via
PA-26d-051820 (580-94768-7)	5/18/20	11:49 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm via
PA-09-051820 (580-94768-8)	5/18/20	14:37 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm via

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

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

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	5/19/20 1700	TAL OK	[signature]		
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time 5/20/20 0445	Company EC IR

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: IR44 2.8/3.0

TH: 1872 5088 3927 2.7/2.7 IR-89

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94768-1

Login Number: 94768
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94768-1

Login Number: 94768
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Irvine
List Creation: 05/20/20 12:34 PM

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

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94780-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event
Revision: 1

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/12/2020 9:41:52 AM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94780-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94780-1

Comments
6/10/2020 client requested to change formatter to regular MDL reporting.

Receipt
The samples were received on 5/19/2020 12:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved MWA-29-051820 (580-94780-2), MWA-82-051920 (580-94780-3), PA-44i-051920 (580-94780-4), PA-29i-051920 (580-94780-5), PA-42-051920 (580-94780-6) and PA-16i-051920 (580-94780-7).. The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-328859 recovered outside acceptance criteria, low biased, for Vinyl chloride and 2,2-Dichloropropane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Methods 8260C LL, 8260D: The CCVIS for analytical batch 580-328859 recovered outside control limits for the following analyte(s): Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK) has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The method blank for analytical batch 580-328859 contained 1,2,4-Trimethylbenzene and Naphthalene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-328859 recovered outside control limits for the following analytes: 2-Butanone (MEK).

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-328926 recovered outside acceptance criteria, low biased, for Carbon disulfide and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The method blank for analytical batch 580-328926 contained cis-1,2-Dichloroethene and Methylene Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329022 recovered above the upper control limit for Chlorobenzene, Chlorodibromomethane, o-Xylene, Styrene and Trichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-329022/3).

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329022 recovered outside acceptance criteria, low biased, for Chloromethane and Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The CCV for analytical batch 580-329022 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane, Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329263 recovered above the upper

Job ID: 580-94780-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

control limit for acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Methods 8260C LL, 8260D: The method blank for analytical batch 580-329263 contained Acetone above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: Surrogate recovery was outside control limits for the following sample: TB-051820-B (580-94780-1), MWA-29-051820 (580-94780-2) and (MB 580-329263/7). Bromofluorobenzene is not chemically associated with the reported analytes.

Methods 8260C LL, 8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329263 recovered outside control limits for the following analytes: acetone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329346 recovered outside control limits for the following analyte: Chlorobenzene and Trichloroethene.

Method 8260D: The method blank for 580-329346 contained Trichloroethene above the reporting limit (RL). There was insufficient sample to perform a re-extraction and/or re-analysis; therefore, the data have been reported.

Method 8260D: The method blank for analytical batch 580-329532 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The CCV for analytical batch 580-329532 recovered outside control limits for the following analyte: Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The method blank for analytical batch 580-329674 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: Sample TB-051820-B (580-94780-1) and MWA-29-051820 (580-94780-2) were reanalyzed due to carry over.

Method 8260D: The following sample were reanalyzed due to carry over:PA-16i-051920 (580-94780-7)

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

HPLC/IC

Method 218.6: The following sample was diluted due to the nature of the sample matrix: MWA-29-051820 (580-94780-2). Elevated reporting limits (RLs) are provided. The sample has dark brown color matrix.

Method 218.6: The following samples were diluted due to the nature of the sample matrix: MWA-82-051920 (580-94780-3) and PA-44i-051920 (580-94780-4). Elevated reporting limits (RLs) are provided. The sample has brown color matrix.

Method 218.6: The following samples were diluted due to the nature of the sample matrix: PA-29i-051920 (580-94780-5), PA-42-051920 (580-94780-6) and PA-16i-051920 (580-94780-7). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to high conductivity background and very dark black color of the sample matrix: PA-42-051920 (580-94780-6) and PA-16i-051920 (580-94780-7). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to high conductivity background and intense dark black color of the sample matrix: MWA-29-051820 (580-94780-2), MWA-82-051920 (580-94780-3) and PA-44i-051920 (580-94780-4). Elevated reporting limits (RLs) are provided.

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

Job ID: 580-94780-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

GC Semi VOA
Method 8081B_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-609549 and analytical batch 440-610211. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-609549/2-A)

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

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

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

Organic Prep
Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 440-609549.

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

GC Semi VOA

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

HPLC/IC

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

Metals

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

Glossary

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

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820-B
Lab Sample ID: 580-94780-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 06:08	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 06:08	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 06:08	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 06:08	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 06:08	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 06:08	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 06:08	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 06:08	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 06:08	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 06:08	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/22/20 06:08	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 06:08	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/22/20 06:08	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 06:08	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/22/20 06:08	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 06:08	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 06:08	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 06:08	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 06:08	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 06:08	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 06:08	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 06:08	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 06:08	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 06:08	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 06:08	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 06:08	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 06:08	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 06:08	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 06:08	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 06:08	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 06:08	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 06:08	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 06:08	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 06:08	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 06:08	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 06:08	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 06:08	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 06:08	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 06:08	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 06:08	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 06:08	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 06:08	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 06:08	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 06:08	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 06:08	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 06:08	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 06:08	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 06:08	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 06:08	1

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820-B
Lab Sample ID: 580-94780-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 06:08	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 06:08	1
1,2,4-Trimethylbenzene	**0.097**	**J B**	0.30	0.072	ug/L			05/22/20 06:08	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 06:08	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 06:08	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 06:08	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 06:08	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 06:08	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 06:08	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 06:08	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 06:08	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 06:08	1
Naphthalene	**0.39**	**J B**	1.0	0.22	ug/L			05/22/20 06:08	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 06:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/22/20 06:08*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*05/22/20 06:08*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*05/22/20 06:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*05/22/20 06:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*	10	3.1	ug/L			05/28/20 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/28/20 15:50*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*05/28/20 15:50*	*1*
4-Bromofluorobenzene (Surr)	*72*	*X*	*80 - 120*		*05/28/20 15:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*05/28/20 15:50*	*1*

Client Sample ID: MWA-29-051820
Lab Sample ID: 580-94780-2

Date Collected: 05/18/20 15:15
Matrix: Water

Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 07:28	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 07:28	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 07:28	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 07:28	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 07:28	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 07:28	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 07:28	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 07:28	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 07:28	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 07:28	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/22/20 07:28	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 07:28	1
1,1-Dichloroethane	**0.074**	**J**	0.20	0.025	ug/L			05/22/20 07:28	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 07:28	1
cis-1,2-Dichloroethene	**0.076**	**J**	0.20	0.055	ug/L			05/22/20 07:28	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 07:28	1
Chloroform	**0.032**	**J**	0.20	0.030	ug/L			05/22/20 07:28	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 07:28	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 07:28	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 07:28	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 07:28	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 07:28	1
Trichloroethene	**0.093**	**J**	0.20	0.066	ug/L			05/22/20 07:28	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 07:28	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 07:28	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 07:28	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 07:28	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 07:28	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 07:28	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 07:28	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 07:28	1
Tetrachloroethene	**0.11**	**J**	0.50	0.084	ug/L			05/22/20 07:28	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 07:28	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 07:28	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 07:28	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 07:28	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 07:28	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 07:28	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 07:28	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 07:28	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 07:28	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 07:28	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 07:28	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 07:28	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 07:28	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 07:28	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 07:28	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 07:28	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 07:28	1

Client Sample ID: MWA-29-051820
Lab Sample ID: 580-94780-2

Date Collected: 05/18/20 15:15
Matrix: Water

Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 07:28	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 07:28	1
1,2,4-Trimethylbenzene	**0.098**	**J B**	0.30	0.072	ug/L			05/22/20 07:28	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 07:28	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 07:28	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 07:28	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 07:28	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 07:28	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 07:28	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 07:28	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 07:28	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 07:28	1
Naphthalene	**0.38**	**J B**	1.0	0.22	ug/L			05/22/20 07:28	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 07:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*05/22/20 07:28*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*05/22/20 07:28*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*05/22/20 07:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*80 - 120*		*05/22/20 07:28*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*	10	3.1	ug/L			05/28/20 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/28/20 16:16*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/28/20 16:16*	*1*
4-Bromofluorobenzene (Surr)	*72*	*X*	*80 - 120*		*05/28/20 16:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*05/28/20 16:16*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			05/22/20 23:59	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/02/20 00:23	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0076**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:53	5
Chromium	**0.031**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:53	5
Iron	**0.54**	**J**	1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:53	5
Manganese	**0.017**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:53	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**310**		9.0	1.4	mg/L			05/25/20 00:26	10

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-82-051920
Lab Sample ID: 580-94780-3
Date Collected: 05/19/20 07:46
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 21:03	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 21:03	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 21:03	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 21:03	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 21:03	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 21:03	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 21:03	1
Acetone	ND		10	3.1	ug/L			05/22/20 21:03	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 21:03	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 21:03	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 21:03	1
trans-1,2-Dichloroethene	**0.091**	**J**	0.20	0.033	ug/L			05/22/20 21:03	1
1,1-Dichloroethane	**0.052**	**J**	0.20	0.025	ug/L			05/22/20 21:03	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 21:03	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 21:03	1
Chloroform	**0.71**		0.20	0.030	ug/L			05/22/20 21:03	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 21:03	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 21:03	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 21:03	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 21:03	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 21:03	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 21:03	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 21:03	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 21:03	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 21:03	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 21:03	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 21:03	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 21:03	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 21:03	1
Tetrachloroethene	**0.51**		0.50	0.084	ug/L			05/22/20 21:03	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 21:03	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 21:03	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 21:03	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 21:03	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 21:03	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 21:03	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 21:03	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 21:03	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 21:03	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 21:03	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 21:03	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 21:03	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 21:03	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 21:03	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 21:03	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 21:03	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 21:03	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 21:03	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 21:03	1

Client Sample ID: MWA-82-051920
Lab Sample ID: 580-94780-3

Date Collected: 05/19/20 07:46
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/22/20 21:03	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 21:03	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 21:03	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 21:03	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 21:03	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 21:03	1
1,2-Dichlorobenzene	**0.057**	**J**	0.30	0.024	ug/L			05/22/20 21:03	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 21:03	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 21:03	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 21:03	1
Naphthalene	ND		1.0	0.22	ug/L			05/22/20 21:03	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/22/20 21:03*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*05/22/20 21:03*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/22/20 21:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*		*05/22/20 21:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.013	ug/L			05/25/20 04:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*05/25/20 04:02*	*1*
Trifluorotoluene (Surr)					*05/25/20 04:02*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/25/20 04:02*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/25/20 04:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*05/25/20 04:02*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**0.064**	**J**	0.20	0.055	ug/L			05/29/20 21:36	1
Trichloroethene	**0.59**	**B *1**	0.20	0.066	ug/L			05/29/20 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/29/20 21:36*	*1*
Trifluorotoluene (Surr)					*05/29/20 21:36*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*05/29/20 21:36*	*1*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*		*05/29/20 21:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*05/29/20 21:36*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:45	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:45	1
4,4'-DDT	**0.0097**		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:45	1
Aldrin	ND		0.0048	0.0014	ug/L		05/21/20 05:31	05/27/20 20:45	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:45	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/21/20 05:31	05/27/20 20:45	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/21/20 05:31	05/27/20 20:45	1

Client Sample ID: MWA-82-051920
Lab Sample ID: 580-94780-3

Date Collected: 05/19/20 07:46
Matrix: Water

Date Received: 05/19/20 12:30

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.096	0.077	ug/L		05/21/20 05:31	05/27/20 20:45	1
delta-BHC	ND		0.0048	0.0034	ug/L		05/21/20 05:31	05/27/20 20:45	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 20:45	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/21/20 05:31	05/27/20 20:45	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 20:45	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 20:45	1
Endrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 20:45	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/21/20 05:31	05/27/20 20:45	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/21/20 05:31	05/27/20 20:45	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 20:45	1
trans-Chlordane	ND		0.096	0.029	ug/L		05/21/20 05:31	05/27/20 20:45	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 20:45	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 20:45	1
Methoxychlor	ND		0.0048	0.0034	ug/L		05/21/20 05:31	05/27/20 20:45	1
Toxaphene	ND		0.48	0.24	ug/L		05/21/20 05:31	05/27/20 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*62*		*28 - 108*	*05/21/20 05:31*	*05/27/20 20:45*	*1*
Tetrachloro-m-xylene	*60*		*10 - 123*	*05/21/20 05:31*	*05/27/20 20:45*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			05/23/20 00:11	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**71**	**J**	200	48	ug/L			06/02/20 00:58	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.071**		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 20:59	5
Chromium	**0.021**		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 20:59	5
Iron	**1.1**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 20:59	5
Manganese	**0.038**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 20:59	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.067**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:08	5
Chromium	**0.017**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:08	5
Iron	**1.9**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:08	5
Manganese	**0.12**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:08	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10**		0.90	0.14	mg/L			05/25/20 00:38	1

Client: ERM-West
Project/Site: Arkema - Q2 2020 Groundwater Event

Job ID: 580-94780-1

Client Sample ID: PA-44i-051920
Date Collected: 05/19/20 09:52
Date Received: 05/19/20 12:30

Lab Sample ID: 580-94780-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 21:30	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 21:30	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 21:30	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 21:30	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 21:30	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 21:30	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 21:30	1
Acetone	ND		10	3.1	ug/L			05/22/20 21:30	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 21:30	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 21:30	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 21:30	1
trans-1,2-Dichloroethene	**0.068**	**J**	0.20	0.033	ug/L			05/22/20 21:30	1
1,1-Dichloroethane	**0.23**		0.20	0.025	ug/L			05/22/20 21:30	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 21:30	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 21:30	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 21:30	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 21:30	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 21:30	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 21:30	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 21:30	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 21:30	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 21:30	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 21:30	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 21:30	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 21:30	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 21:30	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 21:30	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 21:30	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 21:30	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 21:30	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 21:30	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 21:30	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 21:30	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 21:30	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 21:30	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 21:30	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 21:30	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 21:30	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 21:30	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 21:30	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 21:30	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 21:30	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 21:30	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 21:30	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 21:30	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 21:30	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 21:30	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 21:30	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 21:30	1

Client Sample ID: PA-44i-051920
Lab Sample ID: 580-94780-4
Date Collected: 05/19/20 09:52
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/22/20 21:30	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 21:30	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 21:30	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 21:30	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 21:30	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 21:30	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 21:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 21:30	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 21:30	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 21:30	1
Naphthalene	ND		1.0	0.22	ug/L			05/22/20 21:30	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/22/20 21:30*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*05/22/20 21:30*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/22/20 21:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*05/22/20 21:30*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.013	ug/L			05/25/20 04:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/25/20 04:28*	*1*
Trifluorotoluene (Surr)					*05/25/20 04:28*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/25/20 04:28*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/25/20 04:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*05/25/20 04:28*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**0.12**	**J**	0.20	0.055	ug/L			05/29/20 22:02	1
Trichloroethene	**0.20**	**B *1**	0.20	0.066	ug/L			05/29/20 22:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/29/20 22:02*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*05/29/20 22:02*	*1*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*		*05/29/20 22:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*05/29/20 22:02*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			05/23/20 00:24	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400	95	ug/L			06/01/20 22:00	100

Client Sample Results

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-44i-051920
Lab Sample ID: 580-94780-4

Date Collected: 05/19/20 09:52
Matrix: Water
Date Received: 05/19/20 12:30

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0035	J	0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:15	5
Chromium	0.084		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:15	5
Iron	1.1		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:15	5
Manganese	0.054		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		0.90	0.14	mg/L			05/25/20 00:50	1

Client: ERM-West
Project/Site: Arkema - Q2 2020 Groundwater Event

Job ID: 580-94780-1

Client Sample ID: PA-29i-051920
Date Collected: 05/19/20 10:00
Date Received: 05/19/20 12:30

Lab Sample ID: 580-94780-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 21:57	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 21:57	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 21:57	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 21:57	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 21:57	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 21:57	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 21:57	1
Acetone	ND		10	3.1	ug/L			05/22/20 21:57	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 21:57	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 21:57	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 21:57	1
trans-1,2-Dichloroethene	**0.059**	**J**	0.20	0.033	ug/L			05/22/20 21:57	1
1,1-Dichloroethane	**0.31**		0.20	0.025	ug/L			05/22/20 21:57	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 21:57	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 21:57	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 21:57	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 21:57	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 21:57	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 21:57	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 21:57	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 21:57	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 21:57	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 21:57	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 21:57	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 21:57	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 21:57	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 21:57	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 21:57	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 21:57	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 21:57	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 21:57	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 21:57	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 21:57	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 21:57	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 21:57	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 21:57	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 21:57	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 21:57	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 21:57	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 21:57	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 21:57	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 21:57	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 21:57	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 21:57	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 21:57	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 21:57	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 21:57	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 21:57	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 21:57	1

Client Sample ID: PA-29i-051920
Lab Sample ID: 580-94780-5
Date Collected: 05/19/20 10:00
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/22/20 21:57	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 21:57	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 21:57	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 21:57	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 21:57	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 21:57	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 21:57	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 21:57	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 21:57	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 21:57	1
Naphthalene	ND		1.0	0.22	ug/L			05/22/20 21:57	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/22/20 21:57*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/22/20 21:57*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/22/20 21:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*05/22/20 21:57*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.013	ug/L			05/25/20 04:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/25/20 04:55*	*1*
Trifluorotoluene (Surr)					*05/25/20 04:55*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/25/20 04:55*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/25/20 04:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*05/25/20 04:55*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**0.20**		0.20	0.055	ug/L			05/29/20 22:29	1
Trichloroethene	**0.22**	**B *1**	0.20	0.066	ug/L			05/29/20 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/29/20 22:29*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*05/29/20 22:29*	*1*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*		*05/29/20 22:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*05/29/20 22:29*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		2.0	0.50	ug/L			05/23/20 00:36	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**51**	**J**	200	48	ug/L			06/02/20 18:11	50

Client Sample Results

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-29i-051920
Lab Sample ID: 580-94780-5

Date Collected: 05/19/20 10:00
Matrix: Water
Date Received: 05/19/20 12:30

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0028	J	0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:12	5
Chromium	0.028		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:12	5
Iron	1.7		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:12	5
Manganese	0.11		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:12	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700		90	14	mg/L			05/25/20 01:01	100

Client Sample ID: PA-42-051920
Lab Sample ID: 580-94780-6

Date Collected: 05/19/20 11:02
Matrix: Water

Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/25/20 05:22	1
Chloromethane	ND		0.50	0.068	ug/L			05/25/20 05:22	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/25/20 05:22	1
Bromomethane	ND		0.50	0.062	ug/L			05/25/20 05:22	1
Chloroethane	ND		0.50	0.096	ug/L			05/25/20 05:22	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/25/20 05:22	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/25/20 05:22	1
1,1-Dichloroethene	**0.047**	**J**	0.20	0.035	ug/L			05/25/20 05:22	1
Acetone	ND		10	3.1	ug/L			05/25/20 05:22	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/25/20 05:22	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/25/20 05:22	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/25/20 05:22	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/25/20 05:22	1
1,1-Dichloroethane	**0.36**		0.20	0.025	ug/L			05/25/20 05:22	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/25/20 05:22	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/25/20 05:22	1
Chloroform	ND		0.20	0.030	ug/L			05/25/20 05:22	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/25/20 05:22	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/25/20 05:22	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/25/20 05:22	1
Benzene	ND		0.20	0.030	ug/L			05/25/20 05:22	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/25/20 05:22	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/25/20 05:22	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/25/20 05:22	1
Dibromomethane	ND		0.20	0.062	ug/L			05/25/20 05:22	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/25/20 05:22	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/25/20 05:22	1
Toluene	ND		0.20	0.050	ug/L			05/25/20 05:22	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/25/20 05:22	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/25/20 05:22	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/25/20 05:22	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/25/20 05:22	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/25/20 05:22	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/25/20 05:22	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/25/20 05:22	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/25/20 05:22	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/25/20 05:22	1
o-Xylene	ND		0.50	0.15	ug/L			05/25/20 05:22	1
Styrene	ND		1.0	0.19	ug/L			05/25/20 05:22	1
Bromoform	ND		0.50	0.16	ug/L			05/25/20 05:22	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/25/20 05:22	1
Bromobenzene	ND		0.20	0.035	ug/L			05/25/20 05:22	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/25/20 05:22	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/25/20 05:22	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/25/20 05:22	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/25/20 05:22	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/25/20 05:22	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/25/20 05:22	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/25/20 05:22	1

Client Sample ID: PA-42-051920
Lab Sample ID: 580-94780-6

Date Collected: 05/19/20 11:02
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/25/20 05:22	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/25/20 05:22	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/25/20 05:22	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/25/20 05:22	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/25/20 05:22	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/25/20 05:22	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/25/20 05:22	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/25/20 05:22	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/25/20 05:22	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/25/20 05:22	1
Naphthalene	ND		1.0	0.22	ug/L			05/25/20 05:22	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/25/20 05:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/25/20 05:22*	*1*
Trifluorotoluene (Surr)					*05/25/20 05:22*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*05/25/20 05:22*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/25/20 05:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*05/25/20 05:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**0.50**		0.20	0.055	ug/L			05/29/20 22:56	1
Chlorobenzene	**0.069**	**J *1**	0.20	0.025	ug/L			05/29/20 22:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/29/20 22:56*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*05/29/20 22:56*	*1*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*		*05/29/20 22:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*05/29/20 22:56*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.30**	**B**	0.20	0.066	ug/L			06/02/20 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 20:18*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/02/20 20:18*	*1*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*		*06/02/20 20:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/02/20 20:18*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 21:02	1
4,4'-DDE	**0.0025**	**J**	0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 21:02	1
4,4'-DDT	**0.0069**		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 21:02	1
Aldrin	ND		0.0048	0.0014	ug/L		05/21/20 05:31	05/27/20 21:02	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 21:02	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/21/20 05:31	05/27/20 21:02	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/21/20 05:31	05/27/20 21:02	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/21/20 05:31	05/27/20 21:02	1

Client Sample ID: PA-42-051920
Lab Sample ID: 580-94780-6

Date Collected: 05/19/20 11:02
Matrix: Water
Date Received: 05/19/20 12:30

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	ND		0.0048	0.0034	ug/L		05/21/20 05:31	05/27/20 21:02	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 21:02	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/21/20 05:31	05/27/20 21:02	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 21:02	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 21:02	1
Endrin	ND		0.0048	0.0019	ug/L		05/21/20 05:31	05/27/20 21:02	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/21/20 05:31	05/27/20 21:02	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/21/20 05:31	05/27/20 21:02	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 21:02	1
trans-Chlordane	ND		0.096	0.029	ug/L		05/21/20 05:31	05/27/20 21:02	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/21/20 05:31	05/27/20 21:02	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/21/20 05:31	05/27/20 21:02	1
Methoxychlor	ND		0.0048	0.0034	ug/L		05/21/20 05:31	05/27/20 21:02	1
Toxaphene	ND		0.48	0.24	ug/L		05/21/20 05:31	05/27/20 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*43*		*28 - 108*	*05/21/20 05:31*	*05/27/20 21:02*	*1*
Tetrachloro-m-xylene	*32*		*10 - 123*	*05/21/20 05:31*	*05/27/20 21:02*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10	2.5	ug/L			05/23/20 01:14	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 16:48	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0051**		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 21:18	5
Chromium	**0.18**		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 21:18	5
Iron	**5.4**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 21:18	5
Manganese	**0.24**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 21:18	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0055**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:37	5
Chromium	**0.27**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:37	5
Iron	**4.3**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:37	5
Manganese	**0.18**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:37	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**490**		90	14	mg/L			05/25/20 01:13	100

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-16i-051920
Lab Sample ID: 580-94780-7
Date Collected: 05/19/20 10:33
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/25/20 05:48	1
Chloromethane	ND		0.50	0.068	ug/L			05/25/20 05:48	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/25/20 05:48	1
Bromomethane	ND		0.50	0.062	ug/L			05/25/20 05:48	1
Chloroethane	ND		0.50	0.096	ug/L			05/25/20 05:48	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/25/20 05:48	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/25/20 05:48	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/25/20 05:48	1
Acetone	ND		10	3.1	ug/L			05/25/20 05:48	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/25/20 05:48	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/25/20 05:48	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/25/20 05:48	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/25/20 05:48	1
1,1-Dichloroethane	**0.34**		0.20	0.025	ug/L			05/25/20 05:48	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/25/20 05:48	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/25/20 05:48	1
Chloroform	ND		0.20	0.030	ug/L			05/25/20 05:48	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/25/20 05:48	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/25/20 05:48	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/25/20 05:48	1
Benzene	ND		0.20	0.030	ug/L			05/25/20 05:48	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/25/20 05:48	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/25/20 05:48	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/25/20 05:48	1
Dibromomethane	ND		0.20	0.062	ug/L			05/25/20 05:48	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/25/20 05:48	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/25/20 05:48	1
Toluene	ND		0.20	0.050	ug/L			05/25/20 05:48	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/25/20 05:48	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/25/20 05:48	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/25/20 05:48	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/25/20 05:48	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/25/20 05:48	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/25/20 05:48	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/25/20 05:48	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/25/20 05:48	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/25/20 05:48	1
o-Xylene	ND		0.50	0.15	ug/L			05/25/20 05:48	1
Styrene	ND		1.0	0.19	ug/L			05/25/20 05:48	1
Bromoform	ND		0.50	0.16	ug/L			05/25/20 05:48	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/25/20 05:48	1
Bromobenzene	ND		0.20	0.035	ug/L			05/25/20 05:48	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/25/20 05:48	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/25/20 05:48	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/25/20 05:48	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/25/20 05:48	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/25/20 05:48	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/25/20 05:48	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/25/20 05:48	1

Client Sample ID: PA-16i-051920
Lab Sample ID: 580-94780-7
Date Collected: 05/19/20 10:33
Matrix: Water
Date Received: 05/19/20 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/25/20 05:48	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/25/20 05:48	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/25/20 05:48	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/25/20 05:48	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/25/20 05:48	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/25/20 05:48	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/25/20 05:48	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/25/20 05:48	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/25/20 05:48	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/25/20 05:48	1
Naphthalene	ND		1.0	0.22	ug/L			05/25/20 05:48	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/25/20 05:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/25/20 05:48*	*1*
Trifluorotoluene (Surr)					*05/25/20 05:48*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/25/20 05:48*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/25/20 05:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*05/25/20 05:48*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**0.13**	**J**	0.20	0.055	ug/L			05/29/20 23:22	1
Trichloroethene	**0.12**	**J B**	0.20	0.066	ug/L			06/01/20 19:15	1
Chlorobenzene	**0.073**	**J *1**	0.20	0.025	ug/L			05/29/20 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/29/20 23:22*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/20 19:15*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*05/29/20 23:22*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/01/20 19:15*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*05/29/20 23:22*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/01/20 19:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*05/29/20 23:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/01/20 19:15*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10	2.5	ug/L			05/23/20 01:27	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 17:24	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0035**	**J**	0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:40	5
Chromium	**0.11**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:40	5
Iron	**1.7**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:40	5
Manganese	**0.083**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:40	5

Client Sample Results

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-16i-051920
Lab Sample ID: 580-94780-7
Date Collected: 05/19/20 10:33
Matrix: Water
Date Received: 05/19/20 12:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		9.0	1.4	mg/L			05/25/20 01:25	10

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

Lab Sample ID: MB 580-328859/7
Matrix: Water
Analysis Batch: 328859

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 05:42	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 05:42	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 05:42	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 05:42	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 05:42	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 05:42	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 05:42	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 05:42	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 05:42	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 05:42	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 05:42	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 05:42	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/22/20 05:42	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 05:42	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/22/20 05:42	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 05:42	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 05:42	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 05:42	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 05:42	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 05:42	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 05:42	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 05:42	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 05:42	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 05:42	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 05:42	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 05:42	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 05:42	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 05:42	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 05:42	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 05:42	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 05:42	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 05:42	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 05:42	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 05:42	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 05:42	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 05:42	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 05:42	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 05:42	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 05:42	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 05:42	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 05:42	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 05:42	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 05:42	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 05:42	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 05:42	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 05:42	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 05:42	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 05:42	1

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

Lab Sample ID: MB 580-328859/7
Matrix: Water
Analysis Batch: 328859

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 05:42	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 05:42	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 05:42	1
1,2,4-Trimethylbenzene	0.100	J	0.30	0.072	ug/L			05/22/20 05:42	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 05:42	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 05:42	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 05:42	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 05:42	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 05:42	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 05:42	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 05:42	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 05:42	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 05:42	1
Naphthalene	0.405	J	1.0	0.22	ug/L			05/22/20 05:42	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 05:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/22/20 05:42*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*05/22/20 05:42*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*05/22/20 05:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*05/22/20 05:42*	*1*

Lab Sample ID: LCS 580-328859/4
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	4.52		ug/L		90	20 - 137
Chloromethane	5.00	4.18		ug/L		84	32 - 143
Vinyl chloride	5.00	3.60		ug/L		72	52 - 128
Bromomethane	5.00	4.57		ug/L		91	68 - 120
Chloroethane	5.00	5.56		ug/L		111	49 - 135
Carbon disulfide	5.00	4.36		ug/L		87	65 - 128
Trichlorofluoromethane	5.00	5.26		ug/L		105	60 - 132
1,1-Dichloroethene	5.00	3.84		ug/L		77	71 - 126
Methylene Chloride	5.00	4.85	J	ug/L		97	75 - 134
Methyl tert-butyl ether	5.00	4.58		ug/L		92	60 - 150
2-Butanone (MEK)	25.0	26.9		ug/L		108	64 - 136
trans-1,2-Dichloroethene	5.00	4.37		ug/L		87	63 - 133
1,1-Dichloroethane	5.00	4.57		ug/L		91	74 - 135
2,2-Dichloropropane	5.00	4.07		ug/L		81	58 - 150
cis-1,2-Dichloroethene	5.00	4.87		ug/L		97	72 - 130
Chlorobromomethane	5.00	4.63		ug/L		93	79 - 131
Chloroform	5.00	4.99		ug/L		100	80 - 130
1,1,1-Trichloroethane	5.00	4.57		ug/L		91	74 - 128
Carbon tetrachloride	5.00	4.76		ug/L		95	71 - 132
1,1-Dichloropropene	5.00	4.90		ug/L		98	72 - 132
Benzene	5.00	4.87		ug/L		97	73 - 133

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

Lab Sample ID: LCS 580-328859/4
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	5.00	4.87		ug/L		97	74 - 130
Trichloroethene	5.00	4.76		ug/L		95	72 - 136
1,2-Dichloropropane	5.00	4.65		ug/L		93	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	28.1		ug/L		112	65 - 137
Dibromomethane	5.00	4.61		ug/L		92	65 - 141
Dichlorobromomethane	5.00	4.69		ug/L		94	74 - 131
cis-1,3-Dichloropropene	5.00	4.77		ug/L		95	66 - 141
Toluene	5.00	5.11		ug/L		102	80 - 126
trans-1,3-Dichloropropene	5.00	4.61		ug/L		92	71 - 128
1,1,2-Trichloroethane	5.00	5.08		ug/L		102	80 - 127
Tetrachloroethene	5.00	4.89		ug/L		98	75 - 131
1,3-Dichloropropane	5.00	5.06		ug/L		101	80 - 130
Chlorodibromomethane	5.00	5.18		ug/L		104	76 - 131
Ethylene Dibromide	5.00	4.99		ug/L		100	80 - 126
Chlorobenzene	5.00	5.05		ug/L		101	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.23		ug/L		105	79 - 127
Ethylbenzene	5.00	5.34		ug/L		107	80 - 130
m-Xylene & p-Xylene	5.00	5.34		ug/L		107	78 - 130
o-Xylene	5.00	5.39		ug/L		108	80 - 139
Styrene	5.00	5.75		ug/L		115	74 - 136
Bromoform	5.00	5.13		ug/L		103	69 - 137
Isopropylbenzene	5.00	5.34		ug/L		107	75 - 137
Bromobenzene	5.00	5.15		ug/L		103	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.74		ug/L		115	69 - 139
1,2,3-Trichloropropane	5.00	5.44		ug/L		109	80 - 127
N-Propylbenzene	5.00	5.43		ug/L		109	77 - 142
2-Chlorotoluene	5.00	5.57		ug/L		111	80 - 136
4-Chlorotoluene	5.00	5.59		ug/L		112	80 - 130
1,3,5-Trimethylbenzene	5.00	5.23		ug/L		105	80 - 139
tert-Butylbenzene	5.00	5.39		ug/L		108	77 - 140
1,2,4-Trimethylbenzene	5.00	5.33		ug/L		107	78 - 136
sec-Butylbenzene	5.00	5.57		ug/L		111	78 - 140
4-Isopropyltoluene	5.00	5.29		ug/L		106	78 - 132
1,3-Dichlorobenzene	5.00	5.33		ug/L		107	80 - 130
1,4-Dichlorobenzene	5.00	5.49		ug/L		110	80 - 129
n-Butylbenzene	5.00	5.00		ug/L		100	73 - 135
1,2-Dichlorobenzene	5.00	5.52		ug/L		110	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.40		ug/L		108	69 - 130
1,2,4-Trichlorobenzene	5.00	5.27		ug/L		105	79 - 130
Hexachlorobutadiene	5.00	5.05		ug/L		101	72 - 138
Naphthalene	5.00	4.48		ug/L		90	64 - 132
1,2,3-Trichlorobenzene	5.00	5.50		ug/L		110	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*

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

Lab Sample ID: LCSD 580-328859/5
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	4.19		ug/L		84	20 - 137	8	22
Chloromethane	5.00	4.09		ug/L		82	32 - 143	2	23
Vinyl chloride	5.00	4.03		ug/L		81	52 - 128	11	21
Bromomethane	5.00	4.69		ug/L		94	68 - 120	3	18
Chloroethane	5.00	4.77		ug/L		95	49 - 135	15	27
Carbon disulfide	5.00	4.79		ug/L		96	65 - 128	9	23
Trichlorofluoromethane	5.00	5.28		ug/L		106	60 - 132	0	20
1,1-Dichloroethene	5.00	4.22		ug/L		84	71 - 126	9	17
Methylene Chloride	5.00	4.82	J	ug/L		96	75 - 134	1	18
Methyl tert-butyl ether	5.00	4.53		ug/L		91	60 - 150	1	25
2-Butanone (MEK)	25.0	20.4	*1	ug/L		82	64 - 136	27	23
trans-1,2-Dichloroethene	5.00	4.28		ug/L		86	63 - 133	2	17
1,1-Dichloroethane	5.00	4.61		ug/L		92	74 - 135	1	20
2,2-Dichloropropane	5.00	3.56		ug/L		71	58 - 150	13	28
cis-1,2-Dichloroethene	5.00	4.75		ug/L		95	72 - 130	3	20
Chlorobromomethane	5.00	4.67		ug/L		93	79 - 131	1	20
Chloroform	5.00	4.88		ug/L		98	80 - 130	2	20
1,1,1-Trichloroethane	5.00	4.45		ug/L		89	74 - 128	3	14
Carbon tetrachloride	5.00	4.57		ug/L		91	71 - 132	4	15
1,1-Dichloropropene	5.00	4.65		ug/L		93	72 - 132	5	13
Benzene	5.00	4.63		ug/L		93	73 - 133	5	20
1,2-Dichloroethane	5.00	4.73		ug/L		95	74 - 130	3	15
Trichloroethene	5.00	4.59		ug/L		92	72 - 136	4	14
1,2-Dichloropropane	5.00	4.51		ug/L		90	80 - 130	3	14
4-Methyl-2-pentanone (MIBK)	25.0	27.1		ug/L		108	65 - 137	4	24
Dibromomethane	5.00	4.73		ug/L		95	65 - 141	3	20
Dichlorobromomethane	5.00	4.59		ug/L		92	74 - 131	2	20
cis-1,3-Dichloropropene	5.00	4.77		ug/L		95	66 - 141	0	22
Toluene	5.00	4.85		ug/L		97	80 - 126	5	20
trans-1,3-Dichloropropene	5.00	4.41		ug/L		88	71 - 128	4	21
1,1,2-Trichloroethane	5.00	5.04		ug/L		101	80 - 127	1	19
Tetrachloroethene	5.00	4.72		ug/L		94	75 - 131	3	20
1,3-Dichloropropane	5.00	5.07		ug/L		101	80 - 130	0	19
Chlorodibromomethane	5.00	5.23		ug/L		105	76 - 131	1	20
Ethylene Dibromide	5.00	4.90		ug/L		98	80 - 126	2	20
Chlorobenzene	5.00	4.80		ug/L		96	80 - 123	5	12
1,1,1,2-Tetrachloroethane	5.00	5.10		ug/L		102	79 - 127	2	20
Ethylbenzene	5.00	5.05		ug/L		101	80 - 130	6	20
m-Xylene & p-Xylene	5.00	5.12		ug/L		102	78 - 130	4	20
o-Xylene	5.00	5.30		ug/L		106	80 - 139	2	20
Styrene	5.00	5.56		ug/L		111	74 - 136	3	20
Bromoform	5.00	5.00		ug/L		100	69 - 137	3	20
Isopropylbenzene	5.00	5.14		ug/L		103	75 - 137	4	20
Bromobenzene	5.00	4.76		ug/L		95	80 - 130	8	20
1,1,2,2-Tetrachloroethane	5.00	5.42		ug/L		108	69 - 139	6	22
1,2,3-Trichloropropane	5.00	5.19		ug/L		104	80 - 127	5	20
N-Propylbenzene	5.00	5.06		ug/L		101	77 - 142	7	20
2-Chlorotoluene	5.00	5.24		ug/L		105	80 - 136	6	20

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

Lab Sample ID: LCSD 580-328859/5
Matrix: Water
Analysis Batch: 328859

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chlorotoluene			5.00	5.06		ug/L		101	80 - 130	10	20
1,3,5-Trimethylbenzene			5.00	4.86		ug/L		97	80 - 139	7	20
tert-Butylbenzene			5.00	5.04		ug/L		101	77 - 140	7	20
1,2,4-Trimethylbenzene			5.00	5.02		ug/L		100	78 - 136	6	20
sec-Butylbenzene			5.00	5.23		ug/L		105	78 - 140	6	20
4-Isopropyltoluene			5.00	4.99		ug/L		100	78 - 132	6	14
1,3-Dichlorobenzene			5.00	5.16		ug/L		103	80 - 130	3	12
1,4-Dichlorobenzene			5.00	5.11		ug/L		102	80 - 129	7	11
n-Butylbenzene			5.00	4.80		ug/L		96	73 - 135	4	18
1,2-Dichlorobenzene			5.00	5.31		ug/L		106	80 - 129	4	14
1,2-Dibromo-3-Chloropropane			5.00	5.36		ug/L		107	69 - 130	1	26
1,2,4-Trichlorobenzene			5.00	5.19		ug/L		104	79 - 130	2	20
Hexachlorobutadiene			5.00	4.82		ug/L		96	72 - 138	5	20
Naphthalene			5.00	4.38		ug/L		88	64 - 132	2	20
1,2,3-Trichlorobenzene			5.00	5.40		ug/L		108	75 - 137	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 580-328926/7
Matrix: Water
Analysis Batch: 328926

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 13:06	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 13:06	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 13:06	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 13:06	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 13:06	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 13:06	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 13:06	1
Acetone	ND		10	3.1	ug/L			05/22/20 13:06	1
Methylene Chloride	2.56	J	5.0	1.2	ug/L			05/22/20 13:06	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 13:06	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 13:06	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 13:06	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/22/20 13:06	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 13:06	1
cis-1,2-Dichloroethene	0.110	J	0.20	0.055	ug/L			05/22/20 13:06	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 13:06	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 13:06	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 13:06	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 13:06	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 13:06	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 13:06	1

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

Lab Sample ID: MB 580-328926/7
Matrix: Water
Analysis Batch: 328926

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 13:06	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 13:06	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 13:06	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 13:06	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 13:06	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 13:06	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 13:06	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 13:06	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 13:06	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 13:06	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 13:06	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 13:06	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 13:06	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 13:06	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 13:06	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 13:06	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 13:06	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 13:06	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 13:06	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 13:06	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 13:06	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 13:06	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 13:06	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 13:06	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 13:06	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 13:06	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 13:06	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 13:06	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 13:06	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/22/20 13:06	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 13:06	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 13:06	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 13:06	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 13:06	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 13:06	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 13:06	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 13:06	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 13:06	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 13:06	1
Naphthalene	ND		1.0	0.22	ug/L			05/22/20 13:06	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 13:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/22/20 13:06*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*05/22/20 13:06*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*05/22/20 13:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*05/22/20 13:06*	*1*

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

Lab Sample ID: LCS 580-328926/4
Matrix: Water
Analysis Batch: 328926

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	3.65		ug/L		73	20 - 137
Chloromethane	5.00	3.85		ug/L		77	32 - 143
Bromomethane	5.00	4.09		ug/L		82	68 - 120
Chloroethane	5.00	4.01		ug/L		80	49 - 135
Carbon disulfide	5.00	3.98		ug/L		80	65 - 128
Trichlorofluoromethane	5.00	4.20		ug/L		84	60 - 132
1,1-Dichloroethene	5.00	4.60		ug/L		92	71 - 126
Acetone	25.0	22.2		ug/L		89	49 - 150
Methylene Chloride	5.00	6.63		ug/L		133	75 - 134
Methyl tert-butyl ether	5.00	4.34		ug/L		87	60 - 150
2-Butanone (MEK)	25.0	24.2		ug/L		97	64 - 136
trans-1,2-Dichloroethene	5.00	4.81		ug/L		96	63 - 133
1,1-Dichloroethane	5.00	4.46		ug/L		89	74 - 135
2,2-Dichloropropane	5.00	4.07		ug/L		81	58 - 150
cis-1,2-Dichloroethene	5.00	4.86		ug/L		97	72 - 130
Chlorobromomethane	5.00	4.99		ug/L		100	79 - 131
Chloroform	5.00	4.75		ug/L		95	80 - 130
1,1,1-Trichloroethane	5.00	4.27		ug/L		85	74 - 128
Carbon tetrachloride	5.00	4.13		ug/L		83	71 - 132
1,1-Dichloropropene	5.00	4.65		ug/L		93	72 - 132
Benzene	5.00	4.88		ug/L		98	73 - 133
1,2-Dichloroethane	5.00	4.78		ug/L		96	74 - 130
Trichloroethene	5.00	5.81		ug/L		116	72 - 136
1,2-Dichloropropane	5.00	4.89		ug/L		98	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	23.9		ug/L		96	65 - 137
Dibromomethane	5.00	5.00		ug/L		100	65 - 141
Dichlorobromomethane	5.00	4.93		ug/L		99	74 - 131
cis-1,3-Dichloropropene	5.00	4.85		ug/L		97	66 - 141
Toluene	5.00	4.66		ug/L		93	80 - 126
trans-1,3-Dichloropropene	5.00	4.64		ug/L		93	71 - 128
1,1,2-Trichloroethane	5.00	5.17		ug/L		103	80 - 127
Tetrachloroethene	5.00	4.83		ug/L		97	75 - 131
1,3-Dichloropropane	5.00	5.18		ug/L		104	80 - 130
Chlorodibromomethane	5.00	5.19		ug/L		104	76 - 131
Ethylene Dibromide	5.00	5.43		ug/L		109	80 - 126
Chlorobenzene	5.00	5.59		ug/L		112	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.72		ug/L		94	79 - 127
Ethylbenzene	5.00	4.58		ug/L		92	80 - 130
m-Xylene & p-Xylene	5.00	4.73		ug/L		95	78 - 130
o-Xylene	5.00	5.35		ug/L		107	80 - 139
Styrene	5.00	5.63		ug/L		113	74 - 136
Bromoform	5.00	4.43		ug/L		89	69 - 137
Isopropylbenzene	5.00	4.88		ug/L		98	75 - 137
Bromobenzene	5.00	5.29		ug/L		106	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.11		ug/L		102	69 - 139
1,2,3-Trichloropropane	5.00	5.05		ug/L		101	80 - 127
N-Propylbenzene	5.00	5.00		ug/L		100	77 - 142
2-Chlorotoluene	5.00	4.87		ug/L		97	80 - 136

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

Lab Sample ID: LCS 580-328926/4
Matrix: Water
Analysis Batch: 328926

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4-Chlorotoluene			5.00	5.19		ug/L		104	80 - 130		
1,3,5-Trimethylbenzene			5.00	5.28		ug/L		106	80 - 139		
tert-Butylbenzene			5.00	5.27		ug/L		105	77 - 140		
1,2,4-Trimethylbenzene			5.00	5.02		ug/L		100	78 - 136		
sec-Butylbenzene			5.00	5.22		ug/L		104	78 - 140		
4-Isopropyltoluene			5.00	5.15		ug/L		103	78 - 132		
1,3-Dichlorobenzene			5.00	5.33		ug/L		107	80 - 130		
1,4-Dichlorobenzene			5.00	5.22		ug/L		104	80 - 129		
n-Butylbenzene			5.00	4.93		ug/L		99	73 - 135		
1,2-Dichlorobenzene			5.00	5.26		ug/L		105	80 - 129		
1,2-Dibromo-3-Chloropropane			5.00	4.51		ug/L		90	69 - 130		
1,2,4-Trichlorobenzene			5.00	5.13		ug/L		103	79 - 130		
Hexachlorobutadiene			5.00	4.79		ug/L		96	72 - 138		
Naphthalene			5.00	5.24		ug/L		105	64 - 132		
1,2,3-Trichlorobenzene			5.00	5.20		ug/L		104	75 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 580-328926/5
Matrix: Water
Analysis Batch: 328926

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			5.00	3.50		ug/L		70	20 - 137	4	22
Chloromethane			5.00	3.68		ug/L		74	32 - 143	5	23
Bromomethane			5.00	3.88		ug/L		78	68 - 120	5	18
Chloroethane			5.00	3.82		ug/L		76	49 - 135	5	27
Carbon disulfide			5.00	3.81		ug/L		76	65 - 128	4	23
Trichlorofluoromethane			5.00	4.15		ug/L		83	60 - 132	1	20
1,1-Dichloroethene			5.00	4.40		ug/L		88	71 - 126	4	17
Acetone			25.0	21.8		ug/L		87	49 - 150	2	24
Methylene Chloride			5.00	6.64		ug/L		133	75 - 134	0	18
Methyl tert-butyl ether			5.00	4.35		ug/L		87	60 - 150	0	25
2-Butanone (MEK)			25.0	24.8		ug/L		99	64 - 136	3	23
trans-1,2-Dichloroethene			5.00	4.54		ug/L		91	63 - 133	6	17
1,1-Dichloroethane			5.00	4.20		ug/L		84	74 - 135	6	20
2,2-Dichloropropane			5.00	3.83		ug/L		77	58 - 150	6	28
cis-1,2-Dichloroethene			5.00	4.62		ug/L		92	72 - 130	5	20
Chlorobromomethane			5.00	4.86		ug/L		97	79 - 131	3	20
Chloroform			5.00	4.49		ug/L		90	80 - 130	6	20
1,1,1-Trichloroethane			5.00	4.10		ug/L		82	74 - 128	4	14
Carbon tetrachloride			5.00	4.01		ug/L		80	71 - 132	3	15
1,1-Dichloropropene			5.00	4.46		ug/L		89	72 - 132	4	13
Benzene			5.00	4.69		ug/L		94	73 - 133	4	20

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

Lab Sample ID: LCSD 580-328926/5
Matrix: Water
Analysis Batch: 328926

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane			5.00	4.80		ug/L		96	74 - 130	0	15
Trichloroethene			5.00	5.54		ug/L		111	72 - 136	5	14
1,2-Dichloropropane			5.00	4.86		ug/L		97	80 - 130	1	14
4-Methyl-2-pentanone (MIBK)			25.0	24.1		ug/L		97	65 - 137	1	24
Dibromomethane			5.00	4.94		ug/L		99	65 - 141	1	20
Dichlorobromomethane			5.00	4.85		ug/L		97	74 - 131	2	20
cis-1,3-Dichloropropene			5.00	4.68		ug/L		94	66 - 141	3	22
Toluene			5.00	4.43		ug/L		89	80 - 126	5	20
trans-1,3-Dichloropropene			5.00	4.64		ug/L		93	71 - 128	0	21
1,1,2-Trichloroethane			5.00	5.16		ug/L		103	80 - 127	0	19
Tetrachloroethene			5.00	4.62		ug/L		92	75 - 131	4	20
1,3-Dichloropropane			5.00	5.18		ug/L		104	80 - 130	0	19
Chlorodibromomethane			5.00	5.15		ug/L		103	76 - 131	1	20
Ethylene Dibromide			5.00	5.40		ug/L		108	80 - 126	1	20
Chlorobenzene			5.00	5.39		ug/L		108	80 - 123	4	12
1,1,1,2-Tetrachloroethane			5.00	4.46		ug/L		89	79 - 127	6	20
Ethylbenzene			5.00	4.37		ug/L		87	80 - 130	5	20
m-Xylene & p-Xylene			5.00	4.55		ug/L		91	78 - 130	4	20
o-Xylene			5.00	5.04		ug/L		101	80 - 139	6	20
Styrene			5.00	5.50		ug/L		110	74 - 136	2	20
Bromoform			5.00	4.44		ug/L		89	69 - 137	0	20
Isopropylbenzene			5.00	4.57		ug/L		91	75 - 137	7	20
Bromobenzene			5.00	5.02		ug/L		100	80 - 130	5	20
1,1,2,2-Tetrachloroethane			5.00	5.02		ug/L		100	69 - 139	2	22
1,2,3-Trichloropropane			5.00	4.98		ug/L		100	80 - 127	1	20
N-Propylbenzene			5.00	4.66		ug/L		93	77 - 142	7	20
2-Chlorotoluene			5.00	4.49		ug/L		90	80 - 136	8	20
4-Chlorotoluene			5.00	4.89		ug/L		98	80 - 130	6	20
1,3,5-Trimethylbenzene			5.00	4.86		ug/L		97	80 - 139	8	20
tert-Butylbenzene			5.00	4.86		ug/L		97	77 - 140	8	20
1,2,4-Trimethylbenzene			5.00	4.63		ug/L		93	78 - 136	8	20
sec-Butylbenzene			5.00	4.78		ug/L		96	78 - 140	9	20
4-Isopropyltoluene			5.00	4.73		ug/L		95	78 - 132	8	14
1,3-Dichlorobenzene			5.00	5.03		ug/L		101	80 - 130	6	12
1,4-Dichlorobenzene			5.00	4.96		ug/L		99	80 - 129	5	11
n-Butylbenzene			5.00	4.47		ug/L		89	73 - 135	10	18
1,2-Dichlorobenzene			5.00	4.93		ug/L		99	80 - 129	6	14
1,2-Dibromo-3-Chloropropane			5.00	4.30		ug/L		86	69 - 130	5	26
1,2,4-Trichlorobenzene			5.00	4.65		ug/L		93	79 - 130	10	20
Hexachlorobutadiene			5.00	4.41		ug/L		88	72 - 138	8	20
Naphthalene			5.00	4.78		ug/L		96	64 - 132	9	20
1,2,3-Trichlorobenzene			5.00	4.72		ug/L		94	75 - 137	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*

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

Lab Sample ID: MB 580-329022/7
Matrix: Water
Analysis Batch: 329022

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/24/20 22:17	1
Chloromethane	ND		0.50	0.068	ug/L			05/24/20 22:17	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/24/20 22:17	1
Bromomethane	ND		0.50	0.062	ug/L			05/24/20 22:17	1
Chloroethane	ND		0.50	0.096	ug/L			05/24/20 22:17	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/24/20 22:17	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/24/20 22:17	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/24/20 22:17	1
Acetone	ND		10	3.1	ug/L			05/24/20 22:17	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/24/20 22:17	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/24/20 22:17	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/24/20 22:17	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/24/20 22:17	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/24/20 22:17	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/24/20 22:17	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/24/20 22:17	1
Chloroform	ND		0.20	0.030	ug/L			05/24/20 22:17	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/24/20 22:17	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/24/20 22:17	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/24/20 22:17	1
Benzene	ND		0.20	0.030	ug/L			05/24/20 22:17	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/24/20 22:17	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/24/20 22:17	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/24/20 22:17	1
Dibromomethane	ND		0.20	0.062	ug/L			05/24/20 22:17	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/24/20 22:17	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/24/20 22:17	1
Toluene	ND		0.20	0.050	ug/L			05/24/20 22:17	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/24/20 22:17	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/24/20 22:17	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/24/20 22:17	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/24/20 22:17	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/24/20 22:17	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/24/20 22:17	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/24/20 22:17	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/24/20 22:17	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/24/20 22:17	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/24/20 22:17	1
o-Xylene	ND		0.50	0.15	ug/L			05/24/20 22:17	1
Styrene	ND		1.0	0.19	ug/L			05/24/20 22:17	1
Bromoform	ND		0.50	0.16	ug/L			05/24/20 22:17	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/24/20 22:17	1
Bromobenzene	ND		0.20	0.035	ug/L			05/24/20 22:17	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/24/20 22:17	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/24/20 22:17	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/24/20 22:17	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/24/20 22:17	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/24/20 22:17	1

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

Lab Sample ID: MB 580-329022/7
Matrix: Water
Analysis Batch: 329022

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/24/20 22:17	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/24/20 22:17	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/24/20 22:17	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/24/20 22:17	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/24/20 22:17	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/24/20 22:17	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/24/20 22:17	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/24/20 22:17	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/24/20 22:17	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/24/20 22:17	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/24/20 22:17	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/24/20 22:17	1
Naphthalene	ND		1.0	0.22	ug/L			05/24/20 22:17	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/24/20 22:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/24/20 22:17*	*1*
Trifluorotoluene (Surr)					*05/24/20 22:17*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/24/20 22:17*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/24/20 22:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*05/24/20 22:17*	*1*

Lab Sample ID: LCS 580-329022/4
Matrix: Water
Analysis Batch: 329022

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	2.97		ug/L		59	20 - 137
Chloromethane	5.00	3.66		ug/L		73	32 - 143
Vinyl chloride	5.00	3.68		ug/L		74	52 - 128
Bromomethane	5.00	4.01		ug/L		80	68 - 120
Chloroethane	5.00	4.05		ug/L		81	49 - 135
Carbon disulfide	5.00	4.05		ug/L		81	65 - 128
Trichlorofluoromethane	5.00	4.35		ug/L		87	60 - 132
1,1-Dichloroethene	5.00	4.76		ug/L		95	71 - 126
Acetone	25.0	19.5		ug/L		78	49 - 150
Methylene Chloride	5.00	4.15	J	ug/L		83	75 - 134
Methyl tert-butyl ether	5.00	4.13		ug/L		83	60 - 150
2-Butanone (MEK)	25.0	21.6		ug/L		86	64 - 136
trans-1,2-Dichloroethene	5.00	5.08		ug/L		102	63 - 133
1,1-Dichloroethane	5.00	4.55		ug/L		91	74 - 135
2,2-Dichloropropane	5.00	4.57		ug/L		91	58 - 150
Chlorobromomethane	5.00	4.99		ug/L		100	79 - 131
Chloroform	5.00	4.87		ug/L		97	80 - 130
1,1,1-Trichloroethane	5.00	4.58		ug/L		92	74 - 128
Carbon tetrachloride	5.00	4.52		ug/L		90	71 - 132
1,1-Dichloropropene	5.00	4.90		ug/L		98	72 - 132
Benzene	5.00	4.96		ug/L		99	73 - 133

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

Lab Sample ID: LCS 580-329022/4
Matrix: Water
Analysis Batch: 329022

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	5.00	4.62		ug/L		92	74 - 130
1,2-Dichloropropane	5.00	4.86		ug/L		97	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	22.6		ug/L		90	65 - 137
Dibromomethane	5.00	4.96		ug/L		99	65 - 141
Dichlorobromomethane	5.00	4.95		ug/L		99	74 - 131
cis-1,3-Dichloropropene	5.00	4.83		ug/L		97	66 - 141
Toluene	5.00	4.90		ug/L		98	80 - 126
trans-1,3-Dichloropropene	5.00	4.56		ug/L		91	71 - 128
1,1,2-Trichloroethane	5.00	5.06		ug/L		101	80 - 127
Tetrachloroethene	5.00	5.30		ug/L		106	75 - 131
1,3-Dichloropropane	5.00	4.99		ug/L		100	80 - 130
Chlorodibromomethane	5.00	5.33		ug/L		107	76 - 131
Ethylene Dibromide	5.00	5.32		ug/L		106	80 - 126
Chlorobenzene	5.00	5.87		ug/L		117	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.14		ug/L		103	79 - 127
Ethylbenzene	5.00	4.97		ug/L		99	80 - 130
m-Xylene & p-Xylene	5.00	5.13		ug/L		103	78 - 130
o-Xylene	5.00	5.82		ug/L		116	80 - 139
Styrene	5.00	6.00		ug/L		120	74 - 136
Bromoform	5.00	4.61		ug/L		92	69 - 137
Isopropylbenzene	5.00	5.45		ug/L		109	75 - 137
Bromobenzene	5.00	5.47		ug/L		109	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.06		ug/L		101	69 - 139
1,2,3-Trichloropropane	5.00	5.05		ug/L		101	80 - 127
N-Propylbenzene	5.00	5.49		ug/L		110	77 - 142
2-Chlorotoluene	5.00	5.30		ug/L		106	80 - 136
4-Chlorotoluene	5.00	5.57		ug/L		111	80 - 130
1,3,5-Trimethylbenzene	5.00	5.76		ug/L		115	80 - 139
tert-Butylbenzene	5.00	5.75		ug/L		115	77 - 140
1,2,4-Trimethylbenzene	5.00	5.44		ug/L		109	78 - 136
sec-Butylbenzene	5.00	5.73		ug/L		115	78 - 140
4-Isopropyltoluene	5.00	5.69		ug/L		114	78 - 132
1,3-Dichlorobenzene	5.00	5.67		ug/L		113	80 - 130
1,4-Dichlorobenzene	5.00	5.46		ug/L		109	80 - 129
n-Butylbenzene	5.00	5.47		ug/L		109	73 - 135
1,2-Dichlorobenzene	5.00	5.50		ug/L		110	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.61		ug/L		92	69 - 130
1,2,4-Trichlorobenzene	5.00	5.26		ug/L		105	79 - 130
Hexachlorobutadiene	5.00	5.34		ug/L		107	72 - 138
Naphthalene	5.00	5.36		ug/L		107	64 - 132
1,2,3-Trichlorobenzene	5.00	5.22		ug/L		104	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*

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

Lab Sample ID: LCSD 580-329022/5
Matrix: Water
Analysis Batch: 329022

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	2.76		ug/L		55	20 - 137	7	22
Chloromethane	5.00	3.34		ug/L		67	32 - 143	9	23
Vinyl chloride	5.00	3.35		ug/L		67	52 - 128	9	21
Bromomethane	5.00	3.73		ug/L		75	68 - 120	7	18
Chloroethane	5.00	3.73		ug/L		75	49 - 135	8	27
Carbon disulfide	5.00	3.88		ug/L		78	65 - 128	4	23
Trichlorofluoromethane	5.00	4.20		ug/L		84	60 - 132	4	20
1,1-Dichloroethene	5.00	4.57		ug/L		91	71 - 126	4	17
Acetone	25.0	20.4		ug/L		82	49 - 150	4	24
Methylene Chloride	5.00	4.04	J	ug/L		81	75 - 134	3	18
Methyl tert-butyl ether	5.00	4.21		ug/L		84	60 - 150	2	25
2-Butanone (MEK)	25.0	23.3		ug/L		93	64 - 136	8	23
trans-1,2-Dichloroethene	5.00	4.77		ug/L		95	63 - 133	6	17
1,1-Dichloroethane	5.00	4.37		ug/L		87	74 - 135	4	20
2,2-Dichloropropane	5.00	4.31		ug/L		86	58 - 150	6	28
Chlorobromomethane	5.00	4.97		ug/L		99	79 - 131	0	20
Chloroform	5.00	4.79		ug/L		96	80 - 130	2	20
1,1,1-Trichloroethane	5.00	4.42		ug/L		88	74 - 128	3	14
Carbon tetrachloride	5.00	4.35		ug/L		87	71 - 132	4	15
1,1-Dichloropropene	5.00	4.78		ug/L		96	72 - 132	3	13
Benzene	5.00	4.91		ug/L		98	73 - 133	1	20
1,2-Dichloroethane	5.00	4.77		ug/L		95	74 - 130	3	15
1,2-Dichloropropane	5.00	4.99		ug/L		100	80 - 130	3	14
4-Methyl-2-pentanone (MIBK)	25.0	25.0		ug/L		100	65 - 137	10	24
Dibromomethane	5.00	5.04		ug/L		101	65 - 141	2	20
Dichlorobromomethane	5.00	5.11		ug/L		102	74 - 131	3	20
cis-1,3-Dichloropropene	5.00	4.91		ug/L		98	66 - 141	2	22
Toluene	5.00	4.72		ug/L		94	80 - 126	4	20
trans-1,3-Dichloropropene	5.00	4.81		ug/L		96	71 - 128	5	21
1,1,2-Trichloroethane	5.00	5.32		ug/L		106	80 - 127	5	19
Tetrachloroethene	5.00	5.08		ug/L		102	75 - 131	4	20
1,3-Dichloropropane	5.00	5.24		ug/L		105	80 - 130	5	19
Chlorodibromomethane	5.00	5.51		ug/L		110	76 - 131	3	20
Ethylene Dibromide	5.00	5.62		ug/L		112	80 - 126	6	20
Chlorobenzene	5.00	5.82		ug/L		116	80 - 123	1	12
1,1,1,2-Tetrachloroethane	5.00	4.85		ug/L		97	79 - 127	6	20
Ethylbenzene	5.00	4.81		ug/L		96	80 - 130	3	20
m-Xylene & p-Xylene	5.00	5.00		ug/L		100	78 - 130	3	20
o-Xylene	5.00	5.56		ug/L		111	80 - 139	5	20
Styrene	5.00	6.12		ug/L		122	74 - 136	2	20
Bromoform	5.00	4.80		ug/L		96	69 - 137	4	20
Isopropylbenzene	5.00	5.17		ug/L		103	75 - 137	5	20
Bromobenzene	5.00	5.57		ug/L		111	80 - 130	2	20
1,1,2,2-Tetrachloroethane	5.00	5.22		ug/L		104	69 - 139	3	22
1,2,3-Trichloropropane	5.00	5.32		ug/L		106	80 - 127	5	20
N-Propylbenzene	5.00	5.24		ug/L		105	77 - 142	5	20
2-Chlorotoluene	5.00	5.01		ug/L		100	80 - 136	6	20
4-Chlorotoluene	5.00	5.54		ug/L		111	80 - 130	1	20

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

Lab Sample ID: LCSD 580-329022/5
Matrix: Water
Analysis Batch: 329022

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene			5.00	5.47		ug/L		109	80 - 139	5	20
tert-Butylbenzene			5.00	5.48		ug/L		110	77 - 140	5	20
1,2,4-Trimethylbenzene			5.00	5.18		ug/L		104	78 - 136	5	20
sec-Butylbenzene			5.00	5.43		ug/L		109	78 - 140	5	20
4-Isopropyltoluene			5.00	5.40		ug/L		108	78 - 132	5	14
1,3-Dichlorobenzene			5.00	5.62		ug/L		112	80 - 130	1	12
1,4-Dichlorobenzene			5.00	5.54		ug/L		111	80 - 129	1	11
n-Butylbenzene			5.00	5.19		ug/L		104	73 - 135	5	18
1,2-Dichlorobenzene			5.00	5.40		ug/L		108	80 - 129	2	14
1,2-Dibromo-3-Chloropropane			5.00	4.69		ug/L		94	69 - 130	2	26
1,2,4-Trichlorobenzene			5.00	5.07		ug/L		101	79 - 130	4	20
Hexachlorobutadiene			5.00	5.00		ug/L		100	72 - 138	7	20
Naphthalene			5.00	5.05		ug/L		101	64 - 132	6	20
1,2,3-Trichlorobenzene			5.00	5.02		ug/L		100	75 - 137	4	20

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

Lab Sample ID: MB 580-329263/7
Matrix: Water
Analysis Batch: 329263

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7.26	J	10	3.1	ug/L			05/28/20 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/28/20 10:58*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/28/20 10:58*	*1*
4-Bromofluorobenzene (Surr)	*77*	*X*	*80 - 120*		*05/28/20 10:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*05/28/20 10:58*	*1*

Lab Sample ID: LCS 580-329263/4
Matrix: Water
Analysis Batch: 329263

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acetone			25.0	42.7	*	ug/L		171	49 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*80 - 120*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*83*		*80 - 120*

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

Lab Sample ID: LCSD 580-329263/5
Matrix: Water
Analysis Batch: 329263

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			25.0	45.7	*	ug/L		183	49 - 150	7	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*85*		*80 - 120*

Lab Sample ID: MB 580-329346/7
Matrix: Water
Analysis Batch: 329346

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 15:24	1
Trichloroethene	0.238		0.20	0.066	ug/L			05/29/20 15:24	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/29/20 15:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/29/20 15:24*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/29/20 15:24*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*05/29/20 15:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*05/29/20 15:24*	*1*

Lab Sample ID: LCS 580-329346/4
Matrix: Water
Analysis Batch: 329346

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene			5.00	5.36		ug/L		107	72 - 130
Trichloroethene			5.00	5.58		ug/L		112	72 - 136
Chlorobenzene			5.00	5.17		ug/L		103	80 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329346/5
Matrix: Water
Analysis Batch: 329346

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene			5.00	4.51		ug/L		90	72 - 130	17	20
Trichloroethene			5.00	4.52	*1	ug/L		90	72 - 136	21	14
Chlorobenzene			5.00	4.37	*1	ug/L		87	80 - 123	17	12

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

Lab Sample ID: LCSD 580-329346/5
Matrix: Water
Analysis Batch: 329346

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/01/20 16:10	1
Chloromethane	ND		0.50	0.068	ug/L			06/01/20 16:10	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/01/20 16:10	1
Bromomethane	ND		0.50	0.062	ug/L			06/01/20 16:10	1
Chloroethane	ND		0.50	0.096	ug/L			06/01/20 16:10	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/01/20 16:10	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/01/20 16:10	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/01/20 16:10	1
Acetone	ND		10	3.1	ug/L			06/01/20 16:10	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/01/20 16:10	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/01/20 16:10	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/01/20 16:10	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/01/20 16:10	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/01/20 16:10	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/01/20 16:10	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Chloroform	ND		0.20	0.030	ug/L			06/01/20 16:10	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/01/20 16:10	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/01/20 16:10	1
Benzene	ND		0.20	0.030	ug/L			06/01/20 16:10	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/01/20 16:10	1
Trichloroethene	0.151	J	0.20	0.066	ug/L			06/01/20 16:10	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/01/20 16:10	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/01/20 16:10	1
Dibromomethane	ND		0.20	0.062	ug/L			06/01/20 16:10	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/01/20 16:10	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/01/20 16:10	1
Toluene	ND		0.20	0.050	ug/L			06/01/20 16:10	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/01/20 16:10	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/01/20 16:10	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/01/20 16:10	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/01/20 16:10	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/01/20 16:10	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/01/20 16:10	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/01/20 16:10	1

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

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.20	0.030	ug/L			06/01/20 16:10	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/01/20 16:10	1
o-Xylene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
Styrene	ND		1.0	0.19	ug/L			06/01/20 16:10	1
Bromoform	ND		0.50	0.16	ug/L			06/01/20 16:10	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/01/20 16:10	1
Bromobenzene	ND		0.20	0.035	ug/L			06/01/20 16:10	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/01/20 16:10	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/01/20 16:10	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/01/20 16:10	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/01/20 16:10	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/01/20 16:10	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/01/20 16:10	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/01/20 16:10	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/01/20 16:10	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/01/20 16:10	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/01/20 16:10	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/01/20 16:10	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/01/20 16:10	1
Naphthalene	ND		1.0	0.22	ug/L			06/01/20 16:10	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/01/20 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/01/20 16:10*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/01/20 16:10*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/01/20 16:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*06/01/20 16:10*	*1*

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	6.35		ug/L		127	20 - 137
Chloromethane	5.00	5.43		ug/L		109	32 - 143
Vinyl chloride	5.00	4.77		ug/L		95	52 - 128
Bromomethane	5.00	5.02		ug/L		100	68 - 120
Chloroethane	5.00	4.99		ug/L		100	49 - 135
Carbon disulfide	5.00	4.27		ug/L		85	65 - 128
Trichlorofluoromethane	5.00	4.49		ug/L		90	60 - 132
1,1-Dichloroethene	5.00	4.71		ug/L		94	71 - 126
Acetone	25.0	25.2		ug/L		101	49 - 150
Methylene Chloride	5.00	4.34	J	ug/L		87	75 - 134

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

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	5.00	4.54		ug/L		91	60 - 150
2-Butanone (MEK)	25.0	24.5		ug/L		98	64 - 136
trans-1,2-Dichloroethene	5.00	4.92		ug/L		98	63 - 133
1,1-Dichloroethane	5.00	4.60		ug/L		92	74 - 135
2,2-Dichloropropane	5.00	3.96		ug/L		79	58 - 150
cis-1,2-Dichloroethene	5.00	4.83		ug/L		97	72 - 130
Chlorobromomethane	5.00	5.15		ug/L		103	79 - 131
Chloroform	5.00	4.89		ug/L		98	80 - 130
1,1,1-Trichloroethane	5.00	4.29		ug/L		86	74 - 128
Carbon tetrachloride	5.00	4.14		ug/L		83	71 - 132
1,1-Dichloropropene	5.00	4.59		ug/L		92	72 - 132
Benzene	5.00	5.03		ug/L		101	73 - 133
1,2-Dichloroethane	5.00	5.18		ug/L		104	74 - 130
Trichloroethene	5.00	5.26		ug/L		105	72 - 136
1,2-Dichloropropane	5.00	5.10		ug/L		102	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.2		ug/L		97	65 - 137
Dibromomethane	5.00	5.15		ug/L		103	65 - 141
Dichlorobromomethane	5.00	4.98		ug/L		100	74 - 131
cis-1,3-Dichloropropene	5.00	4.71		ug/L		94	66 - 141
Toluene	5.00	4.62		ug/L		92	80 - 126
trans-1,3-Dichloropropene	5.00	4.57		ug/L		91	71 - 128
1,1,2-Trichloroethane	5.00	5.25		ug/L		105	80 - 127
Tetrachloroethene	5.00	4.64		ug/L		93	75 - 131
1,3-Dichloropropane	5.00	5.24		ug/L		105	80 - 130
Chlorodibromomethane	5.00	5.08		ug/L		102	76 - 131
Ethylene Dibromide	5.00	5.47		ug/L		109	80 - 126
Chlorobenzene	5.00	5.55		ug/L		111	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.59		ug/L		92	79 - 127
Ethylbenzene	5.00	4.52		ug/L		90	80 - 130
m-Xylene & p-Xylene	5.00	4.69		ug/L		94	78 - 130
o-Xylene	5.00	5.22		ug/L		104	80 - 139
Styrene	5.00	5.61		ug/L		112	74 - 136
Bromoform	5.00	4.27		ug/L		85	69 - 137
Isopropylbenzene	5.00	4.65		ug/L		93	75 - 137
Bromobenzene	5.00	5.05		ug/L		101	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.05		ug/L		101	69 - 139
1,2,3-Trichloropropane	5.00	4.91		ug/L		98	80 - 127
N-Propylbenzene	5.00	4.69		ug/L		94	77 - 142
2-Chlorotoluene	5.00	4.54		ug/L		91	80 - 136
4-Chlorotoluene	5.00	4.93		ug/L		99	80 - 130
1,3,5-Trimethylbenzene	5.00	4.89		ug/L		98	80 - 139
tert-Butylbenzene	5.00	4.81		ug/L		96	77 - 140
1,2,4-Trimethylbenzene	5.00	4.67		ug/L		93	78 - 136
sec-Butylbenzene	5.00	4.76		ug/L		95	78 - 140
4-Isopropyltoluene	5.00	4.74		ug/L		95	78 - 132
1,3-Dichlorobenzene	5.00	5.07		ug/L		101	80 - 130
1,4-Dichlorobenzene	5.00	5.01		ug/L		100	80 - 129
n-Butylbenzene	5.00	4.42		ug/L		88	73 - 135
1,2-Dichlorobenzene	5.00	4.96		ug/L		99	80 - 129

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

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dibromo-3-Chloropropane			5.00	4.05		ug/L		81	69 - 130		
1,2,4-Trichlorobenzene			5.00	4.53		ug/L		91	79 - 130		
Hexachlorobutadiene			5.00	4.22		ug/L		84	72 - 138		
Naphthalene			5.00	4.87		ug/L		97	64 - 132		
1,2,3-Trichlorobenzene			5.00	4.59		ug/L		92	75 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			5.00	6.34		ug/L		127	20 - 137	0	22
Chloromethane			5.00	5.32		ug/L		106	32 - 143	2	23
Vinyl chloride			5.00	4.67		ug/L		93	52 - 128	2	21
Bromomethane			5.00	4.85		ug/L		97	68 - 120	4	18
Chloroethane			5.00	4.61		ug/L		92	49 - 135	8	27
Carbon disulfide			5.00	4.19		ug/L		84	65 - 128	2	23
Trichlorofluoromethane			5.00	4.37		ug/L		87	60 - 132	3	20
1,1-Dichloroethene			5.00	4.63		ug/L		93	71 - 126	2	17
Acetone			25.0	23.4		ug/L		94	49 - 150	7	24
Methylene Chloride			5.00	4.24	J	ug/L		85	75 - 134	2	18
Methyl tert-butyl ether			5.00	4.17		ug/L		83	60 - 150	9	25
2-Butanone (MEK)			25.0	22.4		ug/L		90	64 - 136	9	23
trans-1,2-Dichloroethene			5.00	4.88		ug/L		98	63 - 133	1	17
1,1-Dichloroethane			5.00	4.52		ug/L		90	74 - 135	2	20
2,2-Dichloropropane			5.00	3.90		ug/L		78	58 - 150	1	28
cis-1,2-Dichloroethene			5.00	4.76		ug/L		95	72 - 130	1	20
Chlorobromomethane			5.00	4.98		ug/L		100	79 - 131	3	20
Chloroform			5.00	4.80		ug/L		96	80 - 130	2	20
1,1,1-Trichloroethane			5.00	4.23		ug/L		85	74 - 128	1	14
Carbon tetrachloride			5.00	4.03		ug/L		81	71 - 132	3	15
1,1-Dichloropropene			5.00	4.51		ug/L		90	72 - 132	2	13
Benzene			5.00	4.88		ug/L		98	73 - 133	3	20
1,2-Dichloroethane			5.00	4.87		ug/L		97	74 - 130	6	15
Trichloroethene			5.00	5.21		ug/L		104	72 - 136	1	14
1,2-Dichloropropane			5.00	4.85		ug/L		97	80 - 130	5	14
4-Methyl-2-pentanone (MIBK)			25.0	24.0		ug/L		96	65 - 137	1	24
Dibromomethane			5.00	4.79		ug/L		96	65 - 141	7	20
Dichlorobromomethane			5.00	4.69		ug/L		94	74 - 131	6	20
cis-1,3-Dichloropropene			5.00	4.47		ug/L		89	66 - 141	5	22
Toluene			5.00	4.57		ug/L		91	80 - 126	1	20
trans-1,3-Dichloropropene			5.00	4.27		ug/L		85	71 - 128	7	21

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

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloroethane			5.00	4.91		ug/L		98	80 - 127	7	19
Tetrachloroethene			5.00	4.57		ug/L		91	75 - 131	1	20
1,3-Dichloropropane			5.00	4.88		ug/L		98	80 - 130	7	19
Chlorodibromomethane			5.00	4.81		ug/L		96	76 - 131	5	20
Ethylene Dibromide			5.00	5.22		ug/L		104	80 - 126	5	20
Chlorobenzene			5.00	5.40		ug/L		108	80 - 123	3	12
1,1,1,2-Tetrachloroethane			5.00	4.58		ug/L		92	79 - 127	0	20
Ethylbenzene			5.00	4.48		ug/L		90	80 - 130	1	20
m-Xylene & p-Xylene			5.00	4.65		ug/L		93	78 - 130	1	20
o-Xylene			5.00	5.27		ug/L		105	80 - 139	1	20
Styrene			5.00	5.60		ug/L		112	74 - 136	0	20
Bromoform			5.00	3.98		ug/L		80	69 - 137	7	20
Isopropylbenzene			5.00	4.73		ug/L		95	75 - 137	2	20
Bromobenzene			5.00	4.80		ug/L		96	80 - 130	5	20
1,1,2,2-Tetrachloroethane			5.00	4.61		ug/L		92	69 - 139	9	22
1,2,3-Trichloropropane			5.00	4.69		ug/L		94	80 - 127	5	20
N-Propylbenzene			5.00	4.65		ug/L		93	77 - 142	1	20
2-Chlorotoluene			5.00	4.45		ug/L		89	80 - 136	2	20
4-Chlorotoluene			5.00	4.89		ug/L		98	80 - 130	1	20
1,3,5-Trimethylbenzene			5.00	4.90		ug/L		98	80 - 139	0	20
tert-Butylbenzene			5.00	4.81		ug/L		96	77 - 140	0	20
1,2,4-Trimethylbenzene			5.00	4.71		ug/L		94	78 - 136	1	20
sec-Butylbenzene			5.00	4.76		ug/L		95	78 - 140	0	20
4-Isopropyltoluene			5.00	4.77		ug/L		95	78 - 132	1	14
1,3-Dichlorobenzene			5.00	4.96		ug/L		99	80 - 130	2	12
1,4-Dichlorobenzene			5.00	4.87		ug/L		97	80 - 129	3	11
n-Butylbenzene			5.00	4.51		ug/L		90	73 - 135	2	18
1,2-Dichlorobenzene			5.00	4.87		ug/L		97	80 - 129	2	14
1,2-Dibromo-3-Chloropropane			5.00	3.86		ug/L		77	69 - 130	5	26
1,2,4-Trichlorobenzene			5.00	4.46		ug/L		89	79 - 130	2	20
Hexachlorobutadiene			5.00	4.25		ug/L		85	72 - 138	1	20
Naphthalene			5.00	4.38		ug/L		88	64 - 132	11	20
1,2,3-Trichlorobenzene			5.00	4.49		ug/L		90	75 - 137	2	20

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

Lab Sample ID: MB 580-329674/7
Matrix: Water
Analysis Batch: 329674

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.0959	J	0.20	0.066	ug/L			06/02/20 19:52	1

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

Lab Sample ID: MB 580-329674/7
Matrix: Water
Analysis Batch: 329674

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/02/20 19:52*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/02/20 19:52*	*1*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*		*06/02/20 19:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*06/02/20 19:52*	*1*

Lab Sample ID: LCS 580-329674/4
Matrix: Water
Analysis Batch: 329674

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Trichloroethene			5.00	4.25		ug/L		85	72 - 136		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329674/5
Matrix: Water
Analysis Batch: 329674

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene			5.00	4.19		ug/L		84	72 - 136	1	14

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609549/1-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
Aldrin	ND		0.0050	0.0015	ug/L		05/21/20 05:31	05/27/20 18:13	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/21/20 05:31	05/27/20 18:13	1
beta-BHC	ND		0.010	0.0040	ug/L		05/21/20 05:31	05/27/20 18:13	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/21/20 05:31	05/27/20 18:13	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/21/20 05:31	05/27/20 18:13	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-609549/1-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	ND		0.0050	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/21/20 05:31	05/27/20 18:13	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Heptachlor	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
Methoxychlor	ND		0.0050	0.0035	ug/L		05/21/20 05:31	05/27/20 18:13	1
Toxaphene	ND		0.50	0.25	ug/L		05/21/20 05:31	05/27/20 18:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*68*		*28 - 108*	*05/21/20 05:31*	*05/27/20 18:13*	*1*
Tetrachloro-m-xylene	*62*		*10 - 123*	*05/21/20 05:31*	*05/27/20 18:13*	*1*

Lab Sample ID: LCS 440-609549/2-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609549

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.354		ug/L		88	50 - 128
4,4'-DDE	0.400	0.335		ug/L		84	49 - 121
4,4'-DDT	0.400	0.372		ug/L		93	41 - 140
Aldrin	0.400	0.282		ug/L		71	37 - 115
alpha-BHC	0.400	0.317		ug/L		79	44 - 115
cis-Chlordane	0.400	0.327		ug/L		82	40 - 122
beta-BHC	0.400	0.315		ug/L		79	46 - 121
delta-BHC	0.400	0.329		ug/L		82	32 - 129
Dieldrin	0.400	0.336		ug/L		84	39 - 126
Endosulfan I	0.400	0.325		ug/L		81	47 - 115
Endosulfan II	0.400	0.322		ug/L		81	47 - 120
Endosulfan sulfate	0.400	0.326		ug/L		82	48 - 126
Endrin	0.400	0.336		ug/L		84	43 - 127
Endrin aldehyde	0.400	0.317		ug/L		79	43 - 120
Endrin ketone	0.400	0.337		ug/L		84	47 - 123
gamma-BHC (Lindane)	0.400	0.321		ug/L		80	45 - 116
trans-Chlordane	0.400	0.324		ug/L		81	37 - 129
Heptachlor	0.400	0.328		ug/L		82	37 - 115
Heptachlor epoxide	0.400	0.326		ug/L		81	41 - 129
Methoxychlor	0.400	0.462		ug/L		116	44 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*72*		*28 - 108*
Tetrachloro-m-xylene	*74*		*10 - 123*

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 440-609549/3-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609549

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD			0.400	0.386		ug/L		96	50 - 128	9	26
4,4'-DDE			0.400	0.361		ug/L		90	49 - 121	7	22
4,4'-DDT			0.400	0.394		ug/L		98	41 - 140	6	20
Aldrin			0.400	0.302		ug/L		75	37 - 115	7	24
alpha-BHC			0.400	0.341		ug/L		85	44 - 115	7	26
cis-Chlordane			0.400	0.351		ug/L		88	40 - 122	7	35
beta-BHC			0.400	0.339		ug/L		85	46 - 121	7	27
delta-BHC			0.400	0.353		ug/L		88	32 - 129	7	35
Dieldrin			0.400	0.361		ug/L		90	39 - 126	7	35
Endosulfan I			0.400	0.350		ug/L		88	47 - 115	7	27
Endosulfan II			0.400	0.348		ug/L		87	47 - 120	8	29
Endosulfan sulfate			0.400	0.353		ug/L		88	48 - 126	8	26
Endrin			0.400	0.364		ug/L		91	43 - 127	8	35
Endrin aldehyde			0.400	0.341		ug/L		85	43 - 120	7	35
Endrin ketone			0.400	0.367		ug/L		92	47 - 123	9	27
gamma-BHC (Lindane)			0.400	0.344		ug/L		86	45 - 116	7	28
trans-Chlordane			0.400	0.349		ug/L		87	37 - 129	7	35
Heptachlor			0.400	0.351		ug/L		88	37 - 115	7	35
Heptachlor epoxide			0.400	0.349		ug/L		87	41 - 129	7	35
Methoxychlor			0.400	0.496		ug/L		124	44 - 141	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*76*		*28 - 108*
Tetrachloro-m-xylene	*78*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-609720/6
Matrix: Water
Analysis Batch: 609720

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/22/20 06:53	1

Lab Sample ID: LCS 440-609720/8
Matrix: Water
Analysis Batch: 609720

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent			50.0	49.1		ug/L		98	90 - 110

Lab Sample ID: MRL 440-609720/4
Matrix: Water
Analysis Batch: 609720

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent			1.00	1.06		ug/L		106	50 - 150

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: 580-94780-5 MS
Matrix: Water
Analysis Batch: 609720

Client Sample ID: PA-29i-051920
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		50.0	49.7		ug/L		99	90 - 110		

Lab Sample ID: 580-94780-5 MSD
Matrix: Water
Analysis Batch: 609720

Client Sample ID: PA-29i-051920
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	46.7		ug/L		93	90 - 110	6	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610162/6
Matrix: Water
Analysis Batch: 610162

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/27/20 10:15	1

Lab Sample ID: LCS 440-610162/5
Matrix: Water
Analysis Batch: 610162

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			10.0	9.70		ug/L		97	85 - 115		

Lab Sample ID: MRL 440-610162/4
Matrix: Water
Analysis Batch: 610162

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			1.00	ND		ug/L		93	75 - 125		

Lab Sample ID: MRL 440-610162/8
Matrix: Water
Analysis Batch: 610162

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.33	J	ug/L		83	75 - 125		

Lab Sample ID: MB 440-610758/6
Matrix: Water
Analysis Batch: 610758

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/01/20 10:15	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 440-610758/5
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.36		ug/L		94	85 - 115

Lab Sample ID: MRL 440-610758/4
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.01	J	ug/L		101	75 - 125

Lab Sample ID: MRL 440-610758/8
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.84	J	ug/L		96	75 - 125

Lab Sample ID: MB 440-610910/6
Matrix: Water
Analysis Batch: 610910

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/02/20 11:13	1

Lab Sample ID: LCS 440-610910/5
Matrix: Water
Analysis Batch: 610910

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.1		ug/L		101	85 - 115

Lab Sample ID: MRL 440-610910/8
Matrix: Water
Analysis Batch: 610910

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.12		ug/L		103	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-328767/24-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:12	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:12	5
Iron	ND		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:12	5
Manganese	ND		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:12	5

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-328767/25-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.971		mg/L		97	80 - 120
Chromium	1.00	0.978		mg/L		98	80 - 120
Iron	20.0	19.5		mg/L		97	80 - 120
Manganese	1.00	0.975		mg/L		97	80 - 120

Lab Sample ID: LCSD 580-328767/26-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.978		mg/L		98	80 - 120	1	20
Chromium	1.00	0.985		mg/L		98	80 - 120	1	20
Iron	20.0	19.6		mg/L		98	80 - 120	1	20
Manganese	1.00	0.971		mg/L		97	80 - 120	0	20

Lab Sample ID: MB 580-328770/15-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 20:18	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 20:18	5
Iron	ND		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 20:18	5
Manganese	ND		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 20:18	5

Lab Sample ID: LCS 580-328770/16-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.974		mg/L		97	80 - 120
Chromium	1.00	0.931		mg/L		93	80 - 120
Iron	20.0	19.2		mg/L		96	80 - 120
Manganese	1.00	0.976		mg/L		98	80 - 120

Lab Sample ID: LCSD 580-328770/17-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.974		mg/L		97	80 - 120	0	20
Chromium	1.00	0.946		mg/L		95	80 - 120	2	20
Iron	20.0	19.0		mg/L		95	80 - 120	1	20
Manganese	1.00	0.989		mg/L		99	80 - 120	1	20

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329053/3
Matrix: Water
Analysis Batch: 329053

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			05/24/20 23:51	1

Lab Sample ID: LCS 580-329053/4
Matrix: Water
Analysis Batch: 329053

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	51.6		mg/L		103	90 - 110		

Lab Sample ID: LCSD 580-329053/5
Matrix: Water
Analysis Batch: 329053

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	51.6		mg/L		103	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051820-B
Lab Sample ID: 580-94780-1
Date Collected: 05/18/20 00:01
Matrix: Water
Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328859	05/22/20 06:08	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329263	05/28/20 15:50	T1W	TAL SEA

Client Sample ID: MWA-29-051820
Lab Sample ID: 580-94780-2
Date Collected: 05/18/20 15:15
Matrix: Water
Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328859	05/22/20 07:28	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329263	05/28/20 16:16	T1W	TAL SEA
Dissolved	Analysis	218.6		5	609720	05/22/20 23:59	PS	TAL IRV
Total/NA	Analysis	314.0		50	610758	06/02/20 00:23	OH1	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 18:53	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329053	05/25/20 00:26	ADB	TAL SEA

Client Sample ID: MWA-82-051920
Lab Sample ID: 580-94780-3
Date Collected: 05/19/20 07:46
Matrix: Water
Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA2	1	329346	05/29/20 21:36	T1W	TAL SEA
Total/NA	Analysis	8260D		1	328926	05/22/20 21:03	TL1	TAL SEA
Total/NA	Analysis	8260D	RA	1	329022	05/25/20 04:02	JSM	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610211	05/27/20 20:45	D1D	TAL IRV
Dissolved	Analysis	218.6		5	609720	05/23/20 00:11	PS	TAL IRV
Total/NA	Analysis	314.0		50	610758	06/02/20 00:58	OH1	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:08	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 20:59	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329053	05/25/20 00:38	ADB	TAL SEA

Client Sample ID: PA-44i-051920
Lab Sample ID: 580-94780-4
Date Collected: 05/19/20 09:52
Matrix: Water
Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA2	1	329346	05/29/20 22:02	T1W	TAL SEA
Total/NA	Analysis	8260D		1	328926	05/22/20 21:30	TL1	TAL SEA
Total/NA	Analysis	8260D	RA	1	329022	05/25/20 04:28	JSM	TAL SEA
Dissolved	Analysis	218.6		5	609720	05/23/20 00:24	PS	TAL IRV

Client Sample ID: PA-44i-051920
Lab Sample ID: 580-94780-4
Date Collected: 05/19/20 09:52
Matrix: Water
Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	314.0		100	610758	06/01/20 22:00	OH1	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:15	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329053	05/25/20 00:50	ADB	TAL SEA

Client Sample ID: PA-29i-051920
Lab Sample ID: 580-94780-5
Date Collected: 05/19/20 10:00
Matrix: Water
Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA2	1	329346	05/29/20 22:29	T1W	TAL SEA
Total/NA	Analysis	8260D		1	328926	05/22/20 21:57	TL1	TAL SEA
Total/NA	Analysis	8260D	RA	1	329022	05/25/20 04:55	JSM	TAL SEA
Dissolved	Analysis	218.6		2	609720	05/23/20 00:36	PS	TAL IRV
Total/NA	Analysis	314.0		50	610910	06/02/20 18:11	OH1	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:12	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329053	05/25/20 01:01	ADB	TAL SEA

Client Sample ID: PA-42-051920
Lab Sample ID: 580-94780-6
Date Collected: 05/19/20 11:02
Matrix: Water
Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA	1	329346	05/29/20 22:56	T1W	TAL SEA
Total/NA	Analysis	8260D	RA2	1	329674	06/02/20 20:18	TL1	TAL SEA
Total/NA	Analysis	8260D		1	329022	05/25/20 05:22	JSM	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610211	05/27/20 21:02	D1D	TAL IRV
Dissolved	Analysis	218.6		10	609720	05/23/20 01:14	PS	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 16:48	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:37	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 21:18	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329053	05/25/20 01:13	ADB	TAL SEA

Client Sample ID: PA-16i-051920
Lab Sample ID: 580-94780-7
Date Collected: 05/19/20 10:33
Matrix: Water
Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA	1	329346	05/29/20 23:22	T1W	TAL SEA
Total/NA	Analysis	8260D		1	329022	05/25/20 05:48	JSM	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-16i-051920
Lab Sample ID: 580-94780-7

Date Collected: 05/19/20 10:33
Matrix: Water

Date Received: 05/19/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA	1	329532	06/01/20 19:15	K1G	TAL SEA
Dissolved	Analysis	218.6		10	609720	05/23/20 01:27	PS	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 17:24	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:40	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329053	05/25/20 01:25	ADB	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94780-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94780-1	TB-051820-B	Water	05/18/20 00:01	05/19/20 12:30	
580-94780-2	MWA-29-051820	Water	05/18/20 15:15	05/19/20 12:30	
580-94780-3	MWA-82-051920	Water	05/19/20 07:46	05/19/20 12:30	
580-94780-4	PA-44i-051920	Water	05/19/20 09:52	05/19/20 12:30	
580-94780-5	PA-29i-051920	Water	05/19/20 10:00	05/19/20 12:30	
580-94780-6	PA-42-051920	Water	05/19/20 11:02	05/19/20 12:30	
580-94780-7	PA-16i-051920	Water	05/19/20 10:33	05/19/20 12:30	

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

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: ST, DS, AJ	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0481059.02			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q1 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-051820-B	5/18/20		G	Water									X			3	
MWA-29-051820	↓	1515	↓	Water			X				X		X	X	X	7	
MWA-82-051920	5/19/20	0746	G	Water			X	X		X	X		X	X	X	10	
~~STMWA~~PA-44i-051920		0952		Water			X				X		X	X	X	7	
PA-29i-051920		1000		Water			X				X		X	X	X	7	
PA-42-051920		1102		Water			X	X		X	X		X	X	X		
PA-16i-051920	↓	1033	↓	Water			X				X		X	X	X		
				Water													
				Water													

580-94780 Chain of Custody

Preservation Codes:

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

Other:

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

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

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

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 5/19/20 1205	Company ERM	Received by:	Date/Time: 5/19/20 1205	Company M.E.
Relinquished by:	Date/Time: 5/19/20 1230	Company M.E.	Received by:	Date/Time: 5/19/20 1230	Company JV FOR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 3.6

Ver: 01/16/2019

rofins TestAmerica, Seattle
755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: ST, DS, AJ	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0481059.02			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q1 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	D	D	A	A	N			
TB-051820-B	5/18/20		G	Water									X			3	
MWA-29-051820	↓	1515	↓	Water			X				X		X	X	X	7	
MWA-82-051920	5/19/20	0746	G	Water			X	X		X	X		X	X	X	10	
~~ST~~ ~~MW~~ PA-44i-051920		0952		Water			X				X		X	X	X	7	
PA-29i-051920		1000		Water			X				X		X	X	X	7	
PA-42-051920		1102		Water			X	X		X	X		X	X	X		
PA-16i-051920		1033		Water			X				X		X	X	X		
				Water													
				Water													

580-94780 Chain of Custody

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/19/20 1205	ERM		5/19/20 1205	M-E-
2		5/19/20 1230	M.E.		5/19/20 1230	TVMR
3		5/19/20 1700	TVMR		5/20/20 0945	TASPA

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

Cooler Temperature(s) °C and Other Remarks: 3.6

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No: 580-76903.1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri cruz@testamericainc com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94780-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/8/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817	PO #			
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	WO #			
Email	Project #: 58014456			
Project Name: Arkema - Q2 2020 Groundwater Event	SSOW#			
Site				

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MWA-29-051820 (580-94780-2)	5/18/20	15.15 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland Please confirm via
MWA-82-051920 (580-94780-3)	5/19/20	07:46 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm via
PA-44i-051920 (580-94780-4)	5/19/20	09:52 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm via
PA-29i-051920 (580-94780-5)	5/19/20	10 00 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm via
PA-42-051920 (580-94780-6)	5/19/20	11:02 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm via
PA-16i-051920 (580-94780-7)	5/19/20	10:33 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland Please confirm via

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

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

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	5/19/20 1700	TAMCR	[signature]		
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
					5/20/20 0945	EC IRV

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: IR44 / 2.8/3.0

Ver 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94780-1

Login Number: 94780
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94780-1

Login Number: 94780
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Irvine
List Creation: 05/20/20 12:34 PM

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

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94786-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/12/2020 10:05:06 AM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94786-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94786-1

Comments
No additional comments.

Receipt
The samples were received on 5/19/2020 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved PA-38-051920 (580-94786-2), PA-39i-051920 (580-94786-3), PA-08-051920 (580-94786-4) and PA-24d-051920 (580-94786-5). The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-328859 recovered outside acceptance criteria, low biased, for Vinyl chloride and 2,2-Dichloropropane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Methods 8260C LL, 8260D: The CCVIS for analytical batch 580-328859 recovered outside control limits for the following analyte(s): Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). Acetone, 2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK) has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329022 recovered above the upper control limit for Chlorobenzene, Chlorodibromomethane, o-Xylene, Styrene and Trichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-329022/3).

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329022 recovered outside acceptance criteria, low biased, for Chloromethane and Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The CCV for analytical batch 580-329022 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane, Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329346 recovered above the upper control limit for Acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-39i-051920 (580-94786-3) and (CCVIS 580-329346/3).

Method 8260D: The method blank for analytical batch 580-329346 contained Acetone above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The laboratory control sample (LCS) for analytical batch 580-329346 recovered outside control limits for the following analyte: Acetone. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The method blank for analytical batch 580-329532 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The CCV for analytical batch 580-329532 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Job ID: 580-94786-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method 8260D: The method blank for analytical batch 580-329674 contained Trichloroethene and Acetone above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The following samples were reanalyzed due to carry over: PA-38-051920 (580-94786-2) and PA-08-051920 (580-94786-4)

Method 8260D: Reanalysis of the following sample was performed outside of the analytical holding time due to dilution needed : PA-24d-051920 (580-94786-5).

Methods 8260C LL, 8260D: Surrogate recovery for the following sample was outside the upper control limit: PA-24d-051920 (580-94786-5). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC

Method 218.6: The following samples were diluted due to the nature of the sample matrix: PA-38-051920 (580-94786-2), PA-39i-051920 (580-94786-3), PA-08-051920 (580-94786-4) and PA-24d-051920 (580-94786-5). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to high conductivity background and very dark black color of the sample matrix: PA-38-051920 (580-94786-2) and PA-39i-051920 (580-94786-3). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to high conductivity background and intense dark black color of the sample matrix: PA-08-051920 (580-94786-4) and PA-24d-051920 (580-94786-5). Elevated reporting limits (RLs) are provided.

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

GC Semi VOA

Method 8081B_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-609549 and analytical batch 440-610211. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-609549/2-A)

Methods 8081A, 8081B_LL: The following samples in preparation batch 440-609549 required a copper clean-up to reduce matrix interferences caused by sulfur. The associated batch QC were also processed with the copper cleanup procedure. PA-24d-051920 (580-94786-5).

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

Metals

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

General Chemistry

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

Organic Prep

Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 440-609549.

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

VOA Prep

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-94786-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

HPLC/IC

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

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

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

Client: ERM-West
Job ID: 580-94786-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051920
Lab Sample ID: 580-94786-1
Date Collected: 05/19/20 00:01
Matrix: Water
Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/25/20 00:03	1
Chloromethane	ND		0.50	0.068	ug/L			05/25/20 00:03	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/25/20 00:03	1
Bromomethane	ND		0.50	0.062	ug/L			05/25/20 00:03	1
Chloroethane	ND		0.50	0.096	ug/L			05/25/20 00:03	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/25/20 00:03	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/25/20 00:03	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/25/20 00:03	1
Acetone	ND		10	3.1	ug/L			05/25/20 00:03	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/25/20 00:03	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/25/20 00:03	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/25/20 00:03	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/25/20 00:03	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/25/20 00:03	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/25/20 00:03	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/25/20 00:03	1
Chloroform	ND		0.20	0.030	ug/L			05/25/20 00:03	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/25/20 00:03	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/25/20 00:03	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/25/20 00:03	1
Benzene	ND		0.20	0.030	ug/L			05/25/20 00:03	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/25/20 00:03	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/25/20 00:03	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/25/20 00:03	1
Dibromomethane	ND		0.20	0.062	ug/L			05/25/20 00:03	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/25/20 00:03	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/25/20 00:03	1
Toluene	ND		0.20	0.050	ug/L			05/25/20 00:03	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/25/20 00:03	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/25/20 00:03	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/25/20 00:03	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/25/20 00:03	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/25/20 00:03	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/25/20 00:03	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/25/20 00:03	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/25/20 00:03	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/25/20 00:03	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/25/20 00:03	1
o-Xylene	ND		0.50	0.15	ug/L			05/25/20 00:03	1
Styrene	ND		1.0	0.19	ug/L			05/25/20 00:03	1
Bromoform	ND		0.50	0.16	ug/L			05/25/20 00:03	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/25/20 00:03	1
Bromobenzene	ND		0.20	0.035	ug/L			05/25/20 00:03	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/25/20 00:03	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/25/20 00:03	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/25/20 00:03	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/25/20 00:03	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/25/20 00:03	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/25/20 00:03	1

Client Sample ID: TB-051920
Date Collected: 05/19/20 00:01
Date Received: 05/19/20 15:45

Lab Sample ID: 580-94786-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/25/20 00:03	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/25/20 00:03	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/25/20 00:03	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/25/20 00:03	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/25/20 00:03	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/25/20 00:03	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/25/20 00:03	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/25/20 00:03	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/25/20 00:03	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/25/20 00:03	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/25/20 00:03	1
Naphthalene	ND		1.0	0.22	ug/L			05/25/20 00:03	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/25/20 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/25/20 00:03*	*1*
Trifluorotoluene (Surr)					*05/25/20 00:03*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*05/25/20 00:03*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/25/20 00:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*05/25/20 00:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 16:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/29/20 16:44*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*05/29/20 16:44*	*1*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*05/29/20 16:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*05/29/20 16:44*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.077**	**J B**	0.20	0.066	ug/L			06/02/20 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/02/20 20:45*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/02/20 20:45*	*1*
4-Bromofluorobenzene (Surr)	*84*		*80 - 120*		*06/02/20 20:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*06/02/20 20:45*	*1*

Client Sample ID: PA-38-051920
Lab Sample ID: 580-94786-2

Date Collected: 05/19/20 12:59
Matrix: Water

Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/01/20 20:35	1
Chloromethane	ND		0.50	0.068	ug/L			06/01/20 20:35	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/01/20 20:35	1
Bromomethane	ND		0.50	0.062	ug/L			06/01/20 20:35	1
Chloroethane	ND		0.50	0.096	ug/L			06/01/20 20:35	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/01/20 20:35	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/01/20 20:35	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/01/20 20:35	1
Acetone	ND		10	3.1	ug/L			06/01/20 20:35	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/01/20 20:35	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/01/20 20:35	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/01/20 20:35	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/01/20 20:35	1
1,1-Dichloroethane	**0.21**		0.20	0.025	ug/L			06/01/20 20:35	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/01/20 20:35	1
cis-1,2-Dichloroethene	**0.15**	**J**	0.20	0.055	ug/L			06/01/20 20:35	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/01/20 20:35	1
Chloroform	**0.036**	**J**	0.20	0.030	ug/L			06/01/20 20:35	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/01/20 20:35	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/01/20 20:35	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/01/20 20:35	1
Benzene	ND		0.20	0.030	ug/L			06/01/20 20:35	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/01/20 20:35	1
Trichloroethene	**0.68**	**B**	0.20	0.066	ug/L			06/01/20 20:35	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/01/20 20:35	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/01/20 20:35	1
Dibromomethane	ND		0.20	0.062	ug/L			06/01/20 20:35	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/01/20 20:35	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/01/20 20:35	1
Toluene	ND		0.20	0.050	ug/L			06/01/20 20:35	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/01/20 20:35	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/01/20 20:35	1
Tetrachloroethene	**0.98**		0.50	0.084	ug/L			06/01/20 20:35	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/01/20 20:35	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/01/20 20:35	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/01/20 20:35	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/01/20 20:35	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/01/20 20:35	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/01/20 20:35	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/01/20 20:35	1
o-Xylene	ND		0.50	0.15	ug/L			06/01/20 20:35	1
Styrene	ND		1.0	0.19	ug/L			06/01/20 20:35	1
Bromoform	ND		0.50	0.16	ug/L			06/01/20 20:35	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/01/20 20:35	1
Bromobenzene	ND		0.20	0.035	ug/L			06/01/20 20:35	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/01/20 20:35	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/01/20 20:35	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/01/20 20:35	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/01/20 20:35	1

Client Sample ID: PA-38-051920
Lab Sample ID: 580-94786-2

Date Collected: 05/19/20 12:59
Matrix: Water

Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/01/20 20:35	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/01/20 20:35	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/01/20 20:35	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/01/20 20:35	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/01/20 20:35	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/01/20 20:35	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 20:35	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 20:35	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/01/20 20:35	1
1,2-Dichlorobenzene	**0.37**		0.30	0.024	ug/L			06/01/20 20:35	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/01/20 20:35	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/01/20 20:35	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/01/20 20:35	1
Naphthalene	ND		1.0	0.22	ug/L			06/01/20 20:35	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/01/20 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/20 20:35*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/01/20 20:35*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/01/20 20:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*06/01/20 20:35*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		20	5.0	ug/L			05/26/20 23:01	20

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 21:34	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.17**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:49	5
Chromium	**0.38**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:49	5
Iron	**2.9**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:49	5
Manganese	**0.28**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:49	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**82**	**B**	9.0	1.4	mg/L			05/23/20 10:28	10

Client Sample ID: PA-39i-051920
Lab Sample ID: 580-94786-3
Date Collected: 05/19/20 14:32
Matrix: Water
Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 10:09	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 10:09	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 10:09	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 10:09	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 10:09	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 10:09	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 10:09	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 10:09	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 10:09	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 10:09	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 10:09	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 10:09	1
1,1-Dichloroethane	**0.47**		0.20	0.025	ug/L			05/22/20 10:09	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 10:09	1
cis-1,2-Dichloroethene	**0.21**		0.20	0.055	ug/L			05/22/20 10:09	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 10:09	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 10:09	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 10:09	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 10:09	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 10:09	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 10:09	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 10:09	1
Trichloroethene	ND		0.20	0.066	ug/L			05/22/20 10:09	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 10:09	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 10:09	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 10:09	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 10:09	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 10:09	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 10:09	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 10:09	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 10:09	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/22/20 10:09	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 10:09	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 10:09	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 10:09	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/22/20 10:09	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 10:09	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 10:09	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 10:09	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 10:09	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 10:09	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 10:09	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 10:09	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 10:09	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 10:09	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 10:09	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 10:09	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 10:09	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 10:09	1

Client Sample ID: PA-39i-051920
Lab Sample ID: 580-94786-3

Date Collected: 05/19/20 14:32
Matrix: Water

Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 10:09	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 10:09	1
1,2,4-Trimethylbenzene	**0.094**	**J**	0.30	0.072	ug/L			05/22/20 10:09	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 10:09	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 10:09	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 10:09	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 10:09	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 10:09	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/22/20 10:09	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 10:09	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 10:09	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 10:09	1
Naphthalene	**0.38**	**J**	1.0	0.22	ug/L			05/22/20 10:09	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 10:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/22/20 10:09*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*05/22/20 10:09*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*05/22/20 10:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*05/22/20 10:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*	10	3.1	ug/L			05/30/20 00:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/30/20 00:15*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*05/30/20 00:15*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*05/30/20 00:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*05/30/20 00:15*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		50	13	ug/L			05/26/20 23:14	50

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 22:09	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.016**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:53	5
Chromium	**0.24**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:53	5
Iron	**5.1**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:53	5
Manganese	**0.10**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:53	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**480**	**B**	9.0	1.4	mg/L			05/23/20 10:40	10

Client Sample ID: PA-08-051920
Lab Sample ID: 580-94786-4
Date Collected: 05/19/20 13:39
Matrix: Water
Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/22/20 09:43	1
Chloromethane	ND		0.50	0.068	ug/L			05/22/20 09:43	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/22/20 09:43	1
Bromomethane	ND		0.50	0.062	ug/L			05/22/20 09:43	1
Chloroethane	ND		0.50	0.096	ug/L			05/22/20 09:43	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/22/20 09:43	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/22/20 09:43	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/22/20 09:43	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/22/20 09:43	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/22/20 09:43	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/22/20 09:43	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/22/20 09:43	1
1,1-Dichloroethane	**0.10**	**J**	0.20	0.025	ug/L			05/22/20 09:43	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/22/20 09:43	1
cis-1,2-Dichloroethene	**0.078**	**J**	0.20	0.055	ug/L			05/22/20 09:43	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/22/20 09:43	1
Chloroform	ND		0.20	0.030	ug/L			05/22/20 09:43	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/22/20 09:43	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/22/20 09:43	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/22/20 09:43	1
Benzene	ND		0.20	0.030	ug/L			05/22/20 09:43	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/22/20 09:43	1
Trichloroethene	**0.11**	**J**	0.20	0.066	ug/L			05/22/20 09:43	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/22/20 09:43	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/22/20 09:43	1
Dibromomethane	ND		0.20	0.062	ug/L			05/22/20 09:43	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/22/20 09:43	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/22/20 09:43	1
Toluene	ND		0.20	0.050	ug/L			05/22/20 09:43	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/22/20 09:43	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/22/20 09:43	1
Tetrachloroethene	**0.31**	**J**	0.50	0.084	ug/L			05/22/20 09:43	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/22/20 09:43	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/22/20 09:43	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/22/20 09:43	1
Chlorobenzene	**0.11**	**J**	0.20	0.025	ug/L			05/22/20 09:43	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/22/20 09:43	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/22/20 09:43	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/22/20 09:43	1
o-Xylene	ND		0.50	0.15	ug/L			05/22/20 09:43	1
Styrene	ND		1.0	0.19	ug/L			05/22/20 09:43	1
Bromoform	ND		0.50	0.16	ug/L			05/22/20 09:43	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/22/20 09:43	1
Bromobenzene	ND		0.20	0.035	ug/L			05/22/20 09:43	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/22/20 09:43	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/22/20 09:43	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/22/20 09:43	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/22/20 09:43	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/22/20 09:43	1

Client Sample ID: PA-08-051920
Lab Sample ID: 580-94786-4

Date Collected: 05/19/20 13:39
Matrix: Water

Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/22/20 09:43	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/22/20 09:43	1
1,2,4-Trimethylbenzene	**0.097**	**J**	0.30	0.072	ug/L			05/22/20 09:43	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/22/20 09:43	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/22/20 09:43	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 09:43	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/22/20 09:43	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/22/20 09:43	1
1,2-Dichlorobenzene	**0.11**	**J**	0.30	0.024	ug/L			05/22/20 09:43	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/22/20 09:43	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/22/20 09:43	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/22/20 09:43	1
Naphthalene	ND		1.0	0.22	ug/L			05/22/20 09:43	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/22/20 09:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/22/20 09:43*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*05/22/20 09:43*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*05/22/20 09:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*80 - 120*		*05/22/20 09:43*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.1	ug/L			06/01/20 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/20 20:08*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/01/20 20:08*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/01/20 20:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/01/20 20:08*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			05/26/20 23:26	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/01/20 22:35	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.037**		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:34	5
Chromium	**0.11**		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:34	5
Iron	**0.88**	**J**	1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:34	5
Manganese	**0.048**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:34	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**	**B**	9.0	1.4	mg/L			05/23/20 11:15	10

Client: ERM-West
Job ID: 580-94786-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-24d-051920
Lab Sample ID: 580-94786-5
Date Collected: 05/19/20 12:00
Matrix: Water
Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/22/20 09:16	1
Chloromethane	ND		20	0.28	ug/L			05/22/20 09:16	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/22/20 09:16	1
Bromomethane	ND		6.0	0.21	ug/L			05/22/20 09:16	1
Chloroethane	ND		5.0	0.35	ug/L			05/22/20 09:16	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/22/20 09:16	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/22/20 09:16	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/22/20 09:16	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/22/20 09:16	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/22/20 09:16	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/22/20 09:16	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/22/20 09:16	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/22/20 09:16	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/22/20 09:16	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/22/20 09:16	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/22/20 09:16	1
Chloroform	ND		5.0	0.26	ug/L			05/22/20 09:16	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/22/20 09:16	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/22/20 09:16	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/22/20 09:16	1
Benzene	ND		3.0	0.24	ug/L			05/22/20 09:16	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/22/20 09:16	1
Trichloroethene	ND		3.0	0.26	ug/L			05/22/20 09:16	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/22/20 09:16	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/22/20 09:16	1
Dibromomethane	ND		2.0	0.34	ug/L			05/22/20 09:16	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/22/20 09:16	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/22/20 09:16	1
Toluene	ND		2.0	0.39	ug/L			05/22/20 09:16	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/22/20 09:16	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/22/20 09:16	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/22/20 09:16	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/22/20 09:16	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/22/20 09:16	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/22/20 09:16	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/22/20 09:16	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/22/20 09:16	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/22/20 09:16	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/22/20 09:16	1
o-Xylene	ND		2.0	0.39	ug/L			05/22/20 09:16	1
Styrene	ND		5.0	1.0	ug/L			05/22/20 09:16	1
Bromoform	ND		3.0	0.56	ug/L			05/22/20 09:16	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/22/20 09:16	1
Bromobenzene	ND		2.0	0.43	ug/L			05/22/20 09:16	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/22/20 09:16	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/22/20 09:16	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/22/20 09:16	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/22/20 09:16	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/22/20 09:16	1

Client Sample ID: PA-24d-051920
Lab Sample ID: 580-94786-5

Date Collected: 05/19/20 12:00
Matrix: Water

Date Received: 05/19/20 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			05/22/20 09:16	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/22/20 09:16	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/22/20 09:16	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/22/20 09:16	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/22/20 09:16	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/22/20 09:16	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/22/20 09:16	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/22/20 09:16	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/22/20 09:16	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/22/20 09:16	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/22/20 09:16	1
Naphthalene	ND		4.0	0.93	ug/L			05/22/20 09:16	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/22/20 09:16	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/22/20 09:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*05/22/20 09:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*131*	*X*	*80 - 126*		*05/22/20 09:16*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/22/20 09:16*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*05/22/20 09:16*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	H	50	3.2	ug/L			06/10/20 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/10/20 16:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 126*		*06/10/20 16:05*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/10/20 16:05*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/10/20 16:05*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0045	0.0023	ug/L		05/21/20 05:31	05/29/20 14:17	1
4,4'-DDE	ND		0.0045	0.0023	ug/L		05/21/20 05:31	05/29/20 14:17	1
4,4'-DDT	**0.011**		0.0045	0.0023	ug/L		05/21/20 05:31	05/29/20 14:17	1
Aldrin	ND		0.0045	0.0014	ug/L		05/21/20 05:31	05/29/20 14:17	1
alpha-BHC	ND		0.0045	0.0023	ug/L		05/21/20 05:31	05/29/20 14:17	1
cis-Chlordane	ND		0.090	0.013	ug/L		05/21/20 05:31	05/29/20 14:17	1
beta-BHC	ND		0.0090	0.0036	ug/L		05/21/20 05:31	05/29/20 14:17	1
Chlordane (technical)	ND		0.090	0.072	ug/L		05/21/20 05:31	05/29/20 14:17	1
delta-BHC	ND		0.0045	0.0032	ug/L		05/21/20 05:31	05/29/20 14:17	1
Dieldrin	ND		0.0045	0.0018	ug/L		05/21/20 05:31	05/29/20 14:17	1
Endosulfan I	ND		0.0045	0.0027	ug/L		05/21/20 05:31	05/29/20 14:17	1
Endosulfan II	ND		0.0045	0.0018	ug/L		05/21/20 05:31	05/29/20 14:17	1
Endosulfan sulfate	ND		0.0090	0.0027	ug/L		05/21/20 05:31	05/29/20 14:17	1
Endrin	ND		0.0045	0.0018	ug/L		05/21/20 05:31	05/29/20 14:17	1
Endrin aldehyde	ND		0.0090	0.0018	ug/L		05/21/20 05:31	05/29/20 14:17	1
Endrin ketone	ND		0.0090	0.0063	ug/L		05/21/20 05:31	05/29/20 14:17	1
gamma-BHC (Lindane)	ND		0.0090	0.0027	ug/L		05/21/20 05:31	05/29/20 14:17	1

Client Sample ID: PA-24d-051920
Lab Sample ID: 580-94786-5

Date Collected: 05/19/20 12:00
Matrix: Water
Date Received: 05/19/20 15:45

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.090	0.027	ug/L		05/21/20 05:31	05/29/20 14:17	1
Heptachlor	ND		0.0090	0.0027	ug/L		05/21/20 05:31	05/29/20 14:17	1
Heptachlor epoxide	ND		0.0045	0.0023	ug/L		05/21/20 05:31	05/29/20 14:17	1
Methoxychlor	ND		0.0045	0.0032	ug/L		05/21/20 05:31	05/29/20 14:17	1
Toxaphene	ND		0.45	0.23	ug/L		05/21/20 05:31	05/29/20 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*82*		*28 - 108*	*05/21/20 05:31*	*05/29/20 14:17*	*1*
Tetrachloro-m-xylene	*80*		*10 - 123*	*05/21/20 05:31*	*05/29/20 14:17*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		2.0	0.50	ug/L			05/26/20 23:39	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/01/20 23:11	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 20:24	5
Chromium	**0.0028**	**J**	0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 20:24	5
Iron	**120**		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 20:24	5
Manganese	**31**		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 20:24	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0015**	**J**	0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 19:56	5
Chromium	**0.0011**	**J**	0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 19:56	5
Iron	**120**		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 19:56	5
Manganese	**31**		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 19:56	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**46000**	**B**	900	140	mg/L			05/24/20 23:16	1000

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

Lab Sample ID: MB 580-328859/7
Matrix: Water
Analysis Batch: 328859

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/22/20 05:42	1
Chloromethane	ND		20	0.28	ug/L			05/22/20 05:42	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/22/20 05:42	1
Bromomethane	ND		6.0	0.21	ug/L			05/22/20 05:42	1
Chloroethane	ND		5.0	0.35	ug/L			05/22/20 05:42	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/22/20 05:42	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/22/20 05:42	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/22/20 05:42	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/22/20 05:42	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/22/20 05:42	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/22/20 05:42	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/22/20 05:42	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/22/20 05:42	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/22/20 05:42	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/22/20 05:42	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/22/20 05:42	1
Chlorobromomethane	ND		2.0	0.29	ug/L			05/22/20 05:42	1
Chloroform	ND		5.0	0.26	ug/L			05/22/20 05:42	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/22/20 05:42	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/22/20 05:42	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/22/20 05:42	1
Benzene	ND		3.0	0.24	ug/L			05/22/20 05:42	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/22/20 05:42	1
Trichloroethene	ND		3.0	0.26	ug/L			05/22/20 05:42	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/22/20 05:42	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/22/20 05:42	1
Dibromomethane	ND		2.0	0.34	ug/L			05/22/20 05:42	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/22/20 05:42	1
Dichlorobromomethane	ND		2.0	0.29	ug/L			05/22/20 05:42	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/22/20 05:42	1
Toluene	ND		2.0	0.39	ug/L			05/22/20 05:42	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/22/20 05:42	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/22/20 05:42	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/22/20 05:42	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/22/20 05:42	1
Chlorodibromomethane	ND		2.0	0.43	ug/L			05/22/20 05:42	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/22/20 05:42	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/22/20 05:42	1
Ethylene Dibromide	ND		2.0	0.40	ug/L			05/22/20 05:42	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/22/20 05:42	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/22/20 05:42	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/22/20 05:42	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/22/20 05:42	1
o-Xylene	ND		2.0	0.39	ug/L			05/22/20 05:42	1
Styrene	ND		5.0	1.0	ug/L			05/22/20 05:42	1
Bromoform	ND		3.0	0.56	ug/L			05/22/20 05:42	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/22/20 05:42	1
Bromobenzene	ND		2.0	0.43	ug/L			05/22/20 05:42	1

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

Lab Sample ID: MB 580-328859/7
Matrix: Water
Analysis Batch: 328859

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/22/20 05:42	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/22/20 05:42	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/22/20 05:42	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/22/20 05:42	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/22/20 05:42	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/22/20 05:42	1
tert-Butylbenzene	ND		3.0	0.58	ug/L			05/22/20 05:42	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/22/20 05:42	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/22/20 05:42	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/22/20 05:42	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/22/20 05:42	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/22/20 05:42	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/22/20 05:42	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/22/20 05:42	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/22/20 05:42	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/22/20 05:42	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/22/20 05:42	1
Naphthalene	ND		4.0	0.93	ug/L			05/22/20 05:42	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/22/20 05:42	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/22/20 05:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/22/20 05:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 126*		*05/22/20 05:42*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*05/22/20 05:42*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*05/22/20 05:42*	*1*

Lab Sample ID: LCS 580-328859/4
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	4.52	J	ug/L		90	20 - 150
Chloromethane	5.00	4.18	J	ug/L		84	52 - 135
Vinyl chloride	5.00	3.60		ug/L		72	65 - 130
Bromomethane	5.00	4.57	J	ug/L		91	66 - 125
Chloroethane	5.00	5.56		ug/L		111	65 - 132
Trichlorofluoromethane	5.00	5.26		ug/L		105	64 - 136
Carbon disulfide	5.00	4.36		ug/L		87	69 - 122
1,1-Dichloroethene	5.00	3.84	J	ug/L		77	70 - 129
Methylene Chloride	5.00	4.85	J	ug/L		97	77 - 125
Methyl tert-butyl ether	5.00	4.58		ug/L		92	72 - 130
trans-1,2-Dichloroethene	5.00	4.37		ug/L		87	77 - 124
1,1-Dichloroethane	5.00	4.57		ug/L		91	70 - 129
2-Butanone (MEK)	25.0	26.9		ug/L		108	65 - 127
2,2-Dichloropropane	5.00	4.07		ug/L		81	62 - 140
cis-1,2-Dichloroethene	5.00	4.87		ug/L		97	76 - 129
Bromochloromethane	5.00	4.63		ug/L		93	78 - 120

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

Lab Sample ID: LCS 580-328859/4
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobromomethane	5.00	4.63		ug/L		93	78 - 120
Chloroform	5.00	4.99	J	ug/L		100	73 - 127
1,1,1-Trichloroethane	5.00	4.57		ug/L		91	74 - 130
Carbon tetrachloride	5.00	4.76		ug/L		95	72 - 129
1,1-Dichloropropene	5.00	4.90		ug/L		98	80 - 120
Benzene	5.00	4.87		ug/L		97	75 - 121
1,2-Dichloroethane	5.00	4.87		ug/L		97	76 - 131
Trichloroethene	5.00	4.76		ug/L		95	70 - 120
1,2-Dichloropropane	5.00	4.65		ug/L		93	72 - 126
4-Methyl-2-pentanone (MIBK)	25.0	28.1		ug/L		112	69 - 124
Dibromomethane	5.00	4.61		ug/L		92	80 - 120
Bromodichloromethane	5.00	4.69		ug/L		94	75 - 124
Dichlorobromomethane	5.00	4.69		ug/L		94	75 - 124
cis-1,3-Dichloropropene	5.00	4.77		ug/L		95	77 - 120
Toluene	5.00	5.11		ug/L		102	80 - 120
trans-1,3-Dichloropropene	5.00	4.61		ug/L		92	80 - 122
1,1,2-Trichloroethane	5.00	5.08		ug/L		102	80 - 121
Tetrachloroethene	5.00	4.89		ug/L		98	76 - 120
1,3-Dichloropropane	5.00	5.06		ug/L		101	79 - 120
Chlorodibromomethane	5.00	5.18		ug/L		104	71 - 120
Dibromochloromethane	5.00	5.18		ug/L		104	71 - 120
1,2-Dibromoethane	5.00	4.99		ug/L		100	79 - 120
Ethylene Dibromide	5.00	4.99		ug/L		100	79 - 120
Chlorobenzene	5.00	5.05		ug/L		101	80 - 120
1,1,1,2-Tetrachloroethane	5.00	5.23		ug/L		105	79 - 120
Ethylbenzene	5.00	5.34		ug/L		107	80 - 120
m-Xylene & p-Xylene	5.00	5.34		ug/L		107	80 - 120
o-Xylene	5.00	5.39		ug/L		108	80 - 120
Styrene	5.00	5.75		ug/L		115	76 - 121
Bromoform	5.00	5.13		ug/L		103	61 - 132
Isopropylbenzene	5.00	5.34		ug/L		107	75 - 120
Bromobenzene	5.00	5.15		ug/L		103	80 - 120
1,1,2,2-Tetrachloroethane	5.00	5.74		ug/L		115	74 - 124
1,2,3-Trichloropropane	5.00	5.44		ug/L		109	76 - 124
N-Propylbenzene	5.00	5.43		ug/L		109	80 - 120
2-Chlorotoluene	5.00	5.57		ug/L		111	80 - 120
4-Chlorotoluene	5.00	5.59		ug/L		112	80 - 120
t-Butylbenzene	5.00	5.39		ug/L		108	80 - 121
tert-Butylbenzene	5.00	5.39		ug/L		108	80 - 121
1,2,4-Trimethylbenzene	5.00	5.33		ug/L		107	80 - 120
sec-Butylbenzene	5.00	5.57		ug/L		111	78 - 120
4-Isopropyltoluene	5.00	5.29		ug/L		106	77 - 120
1,3-Dichlorobenzene	5.00	5.33		ug/L		107	80 - 120
1,4-Dichlorobenzene	5.00	5.49		ug/L		110	80 - 120
n-Butylbenzene	5.00	5.00		ug/L		100	78 - 120
1,2-Dichlorobenzene	5.00	5.52		ug/L		110	80 - 120
1,2-Dibromo-3-Chloropropane	5.00	5.40	J	ug/L		108	65 - 125
1,2,4-Trichlorobenzene	5.00	5.27		ug/L		105	57 - 140
Hexachlorobutadiene	5.00	5.05	J	ug/L		101	74 - 125

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

Lab Sample ID: LCS 580-328859/4
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	5.00	4.48		ug/L		90	44 - 144
1,2,3-Trichlorobenzene	5.00	5.50		ug/L		110	23 - 150
1,3,5-Trimethylbenzene	5.00	5.23		ug/L		105	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*

Lab Sample ID: LCSD 580-328859/5
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	4.19	J	ug/L		84	20 - 150	8	35
Chloromethane	5.00	4.09	J	ug/L		82	52 - 135	2	23
Vinyl chloride	5.00	4.03		ug/L		81	65 - 130	11	28
Bromomethane	5.00	4.69	J	ug/L		94	66 - 125	3	27
Chloroethane	5.00	4.77	J	ug/L		95	65 - 132	15	35
Trichlorofluoromethane	5.00	5.28		ug/L		106	64 - 136	0	27
Carbon disulfide	5.00	4.79		ug/L		96	69 - 122	9	20
1,1-Dichloroethene	5.00	4.22		ug/L		84	70 - 129	9	27
Methylene Chloride	5.00	4.82	J	ug/L		96	77 - 125	1	18
Methyl tert-butyl ether	5.00	4.53		ug/L		91	72 - 130	1	18
trans-1,2-Dichloroethene	5.00	4.28		ug/L		86	77 - 124	2	21
1,1-Dichloroethane	5.00	4.61		ug/L		92	70 - 129	1	26
2-Butanone (MEK)	25.0	20.4		ug/L		82	65 - 127	27	29
2,2-Dichloropropane	5.00	3.56		ug/L		71	62 - 140	13	23
cis-1,2-Dichloroethene	5.00	4.75		ug/L		95	76 - 129	3	15
Bromochloromethane	5.00	4.67		ug/L		93	78 - 120	1	20
Chlorobromomethane	5.00	4.67		ug/L		93	78 - 120	1	20
Chloroform	5.00	4.88	J	ug/L		98	73 - 127	2	22
1,1,1-Trichloroethane	5.00	4.45		ug/L		89	74 - 130	3	18
Carbon tetrachloride	5.00	4.57		ug/L		91	72 - 129	4	19
1,1-Dichloropropene	5.00	4.65		ug/L		93	80 - 120	5	14
Benzene	5.00	4.63		ug/L		93	75 - 121	5	14
1,2-Dichloroethane	5.00	4.73		ug/L		95	76 - 131	3	18
Trichloroethene	5.00	4.59		ug/L		92	70 - 120	4	21
1,2-Dichloropropane	5.00	4.51		ug/L		90	72 - 126	3	26
4-Methyl-2-pentanone (MIBK)	25.0	27.1		ug/L		108	69 - 124	4	22
Dibromomethane	5.00	4.73		ug/L		95	80 - 120	3	22
Bromodichloromethane	5.00	4.59		ug/L		92	75 - 124	2	22
Dichlorobromomethane	5.00	4.59		ug/L		92	75 - 124	2	22
cis-1,3-Dichloropropene	5.00	4.77		ug/L		95	77 - 120	0	20
Toluene	5.00	4.85		ug/L		97	80 - 120	5	19
trans-1,3-Dichloropropene	5.00	4.41		ug/L		88	80 - 122	4	25
1,1,2-Trichloroethane	5.00	5.04		ug/L		101	80 - 121	1	21

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

Lab Sample ID: LCSD 580-328859/5
Matrix: Water
Analysis Batch: 328859

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	5.00	4.72		ug/L		94	76 - 120	3	20
1,3-Dichloropropane	5.00	5.07		ug/L		101	79 - 120	0	26
Chlorodibromomethane	5.00	5.23		ug/L		105	71 - 120	1	24
Dibromochloromethane	5.00	5.23		ug/L		105	71 - 120	1	24
1,2-Dibromoethane	5.00	4.90		ug/L		98	79 - 120	2	20
Ethylene Dibromide	5.00	4.90		ug/L		98	79 - 120	2	20
Chlorobenzene	5.00	4.80		ug/L		96	80 - 120	5	15
1,1,1,2-Tetrachloroethane	5.00	5.10		ug/L		102	79 - 120	2	20
Ethylbenzene	5.00	5.05		ug/L		101	80 - 120	6	14
m-Xylene & p-Xylene	5.00	5.12		ug/L		102	80 - 120	4	14
o-Xylene	5.00	5.30		ug/L		106	80 - 120	2	16
Styrene	5.00	5.56		ug/L		111	76 - 121	3	16
Bromoform	5.00	5.00		ug/L		100	61 - 132	3	20
Isopropylbenzene	5.00	5.14		ug/L		103	75 - 120	4	20
Bromobenzene	5.00	4.76		ug/L		95	80 - 120	8	13
1,1,2,2-Tetrachloroethane	5.00	5.42		ug/L		108	74 - 124	6	18
1,2,3-Trichloropropane	5.00	5.19		ug/L		104	76 - 124	5	30
N-Propylbenzene	5.00	5.06		ug/L		101	80 - 120	7	13
2-Chlorotoluene	5.00	5.24		ug/L		105	80 - 120	6	15
4-Chlorotoluene	5.00	5.06		ug/L		101	80 - 120	10	14
t-Butylbenzene	5.00	5.04		ug/L		101	80 - 121	7	14
tert-Butylbenzene	5.00	5.04		ug/L		101	80 - 121	7	14
1,2,4-Trimethylbenzene	5.00	5.02		ug/L		100	80 - 120	6	16
sec-Butylbenzene	5.00	5.23		ug/L		105	78 - 120	6	15
4-Isopropyltoluene	5.00	4.99		ug/L		100	77 - 120	6	13
1,3-Dichlorobenzene	5.00	5.16		ug/L		103	80 - 120	3	14
1,4-Dichlorobenzene	5.00	5.11		ug/L		102	80 - 120	7	17
n-Butylbenzene	5.00	4.80		ug/L		96	78 - 120	4	14
1,2-Dichlorobenzene	5.00	5.31		ug/L		106	80 - 120	4	15
1,2-Dibromo-3-Chloropropane	5.00	5.36	J	ug/L		107	65 - 125	1	27
1,2,4-Trichlorobenzene	5.00	5.19		ug/L		104	57 - 140	2	27
Hexachlorobutadiene	5.00	4.82	J	ug/L		96	74 - 125	5	22
Naphthalene	5.00	4.38		ug/L		88	44 - 144	2	31
1,2,3-Trichlorobenzene	5.00	5.40		ug/L		108	23 - 150	2	35
1,3,5-Trimethylbenzene	5.00	4.86		ug/L		97	80 - 120	7	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*107*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 126*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 580-329022/7
Matrix: Water
Analysis Batch: 329022

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/24/20 22:17	1

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

Lab Sample ID: MB 580-329022/7
Matrix: Water
Analysis Batch: 329022

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.068	ug/L			05/24/20 22:17	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/24/20 22:17	1
Bromomethane	ND		0.50	0.062	ug/L			05/24/20 22:17	1
Chloroethane	ND		0.50	0.096	ug/L			05/24/20 22:17	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/24/20 22:17	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/24/20 22:17	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/24/20 22:17	1
Acetone	ND		10	3.1	ug/L			05/24/20 22:17	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/24/20 22:17	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/24/20 22:17	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/24/20 22:17	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/24/20 22:17	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/24/20 22:17	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/24/20 22:17	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/24/20 22:17	1
Chloroform	ND		0.20	0.030	ug/L			05/24/20 22:17	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/24/20 22:17	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/24/20 22:17	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/24/20 22:17	1
Benzene	ND		0.20	0.030	ug/L			05/24/20 22:17	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/24/20 22:17	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/24/20 22:17	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/24/20 22:17	1
Dibromomethane	ND		0.20	0.062	ug/L			05/24/20 22:17	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/24/20 22:17	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/24/20 22:17	1
Toluene	ND		0.20	0.050	ug/L			05/24/20 22:17	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/24/20 22:17	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/24/20 22:17	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/24/20 22:17	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/24/20 22:17	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/24/20 22:17	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/24/20 22:17	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/24/20 22:17	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/24/20 22:17	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/24/20 22:17	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/24/20 22:17	1
o-Xylene	ND		0.50	0.15	ug/L			05/24/20 22:17	1
Styrene	ND		1.0	0.19	ug/L			05/24/20 22:17	1
Bromoform	ND		0.50	0.16	ug/L			05/24/20 22:17	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/24/20 22:17	1
Bromobenzene	ND		0.20	0.035	ug/L			05/24/20 22:17	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/24/20 22:17	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/24/20 22:17	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/24/20 22:17	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/24/20 22:17	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/24/20 22:17	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/24/20 22:17	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/24/20 22:17	1

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

Lab Sample ID: MB 580-329022/7
Matrix: Water
Analysis Batch: 329022

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/24/20 22:17	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/24/20 22:17	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/24/20 22:17	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/24/20 22:17	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/24/20 22:17	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/24/20 22:17	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/24/20 22:17	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/24/20 22:17	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/24/20 22:17	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/24/20 22:17	1
Naphthalene	ND		1.0	0.22	ug/L			05/24/20 22:17	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/24/20 22:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/24/20 22:17*	*1*
Trifluorotoluene (Surr)					*05/24/20 22:17*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/24/20 22:17*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/24/20 22:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*05/24/20 22:17*	*1*

Lab Sample ID: LCS 580-329022/4
Matrix: Water
Analysis Batch: 329022

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	2.97		ug/L		59	20 - 137
Chloromethane	5.00	3.66		ug/L		73	32 - 143
Vinyl chloride	5.00	3.68		ug/L		74	52 - 128
Bromomethane	5.00	4.01		ug/L		80	68 - 120
Chloroethane	5.00	4.05		ug/L		81	49 - 135
Carbon disulfide	5.00	4.05		ug/L		81	65 - 128
Trichlorofluoromethane	5.00	4.35		ug/L		87	60 - 132
1,1-Dichloroethene	5.00	4.76		ug/L		95	71 - 126
Acetone	25.0	19.5		ug/L		78	49 - 150
Methylene Chloride	5.00	4.15	J	ug/L		83	75 - 134
Methyl tert-butyl ether	5.00	4.13		ug/L		83	60 - 150
2-Butanone (MEK)	25.0	21.6		ug/L		86	64 - 136
trans-1,2-Dichloroethene	5.00	5.08		ug/L		102	63 - 133
1,1-Dichloroethane	5.00	4.55		ug/L		91	74 - 135
2,2-Dichloropropane	5.00	4.57		ug/L		91	58 - 150
cis-1,2-Dichloroethene	5.00	5.17		ug/L		103	72 - 130
Chlorobromomethane	5.00	4.99		ug/L		100	79 - 131
Chloroform	5.00	4.87		ug/L		97	80 - 130
1,1,1-Trichloroethane	5.00	4.58		ug/L		92	74 - 128
Carbon tetrachloride	5.00	4.52		ug/L		90	71 - 132
1,1-Dichloropropene	5.00	4.90		ug/L		98	72 - 132
Benzene	5.00	4.96		ug/L		99	73 - 133
1,2-Dichloroethane	5.00	4.62		ug/L		92	74 - 130

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

Lab Sample ID: LCS 580-329022/4
Matrix: Water
Analysis Batch: 329022

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	5.00	6.50		ug/L		130	72 - 136
1,2-Dichloropropane	5.00	4.86		ug/L		97	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	22.6		ug/L		90	65 - 137
Dibromomethane	5.00	4.96		ug/L		99	65 - 141
Dichlorobromomethane	5.00	4.95		ug/L		99	74 - 131
cis-1,3-Dichloropropene	5.00	4.83		ug/L		97	66 - 141
Toluene	5.00	4.90		ug/L		98	80 - 126
trans-1,3-Dichloropropene	5.00	4.56		ug/L		91	71 - 128
1,1,2-Trichloroethane	5.00	5.06		ug/L		101	80 - 127
Tetrachloroethene	5.00	5.30		ug/L		106	75 - 131
1,3-Dichloropropane	5.00	4.99		ug/L		100	80 - 130
Chlorodibromomethane	5.00	5.33		ug/L		107	76 - 131
Ethylene Dibromide	5.00	5.32		ug/L		106	80 - 126
Chlorobenzene	5.00	5.87		ug/L		117	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.14		ug/L		103	79 - 127
Ethylbenzene	5.00	4.97		ug/L		99	80 - 130
m-Xylene & p-Xylene	5.00	5.13		ug/L		103	78 - 130
o-Xylene	5.00	5.82		ug/L		116	80 - 139
Styrene	5.00	6.00		ug/L		120	74 - 136
Bromoform	5.00	4.61		ug/L		92	69 - 137
Isopropylbenzene	5.00	5.45		ug/L		109	75 - 137
Bromobenzene	5.00	5.47		ug/L		109	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.06		ug/L		101	69 - 139
1,2,3-Trichloropropane	5.00	5.05		ug/L		101	80 - 127
N-Propylbenzene	5.00	5.49		ug/L		110	77 - 142
2-Chlorotoluene	5.00	5.30		ug/L		106	80 - 136
4-Chlorotoluene	5.00	5.57		ug/L		111	80 - 130
1,3,5-Trimethylbenzene	5.00	5.76		ug/L		115	80 - 139
tert-Butylbenzene	5.00	5.75		ug/L		115	77 - 140
1,2,4-Trimethylbenzene	5.00	5.44		ug/L		109	78 - 136
sec-Butylbenzene	5.00	5.73		ug/L		115	78 - 140
4-Isopropyltoluene	5.00	5.69		ug/L		114	78 - 132
1,3-Dichlorobenzene	5.00	5.67		ug/L		113	80 - 130
1,4-Dichlorobenzene	5.00	5.46		ug/L		109	80 - 129
n-Butylbenzene	5.00	5.47		ug/L		109	73 - 135
1,2-Dichlorobenzene	5.00	5.50		ug/L		110	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.61		ug/L		92	69 - 130
1,2,4-Trichlorobenzene	5.00	5.26		ug/L		105	79 - 130
Hexachlorobutadiene	5.00	5.34		ug/L		107	72 - 138
Naphthalene	5.00	5.36		ug/L		107	64 - 132
1,2,3-Trichlorobenzene	5.00	5.22		ug/L		104	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*

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

Lab Sample ID: LCSD 580-329022/5
Matrix: Water
Analysis Batch: 329022

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	2.76		ug/L		55	20 - 137	7	22
Chloromethane	5.00	3.34		ug/L		67	32 - 143	9	23
Vinyl chloride	5.00	3.35		ug/L		67	52 - 128	9	21
Bromomethane	5.00	3.73		ug/L		75	68 - 120	7	18
Chloroethane	5.00	3.73		ug/L		75	49 - 135	8	27
Carbon disulfide	5.00	3.88		ug/L		78	65 - 128	4	23
Trichlorofluoromethane	5.00	4.20		ug/L		84	60 - 132	4	20
1,1-Dichloroethene	5.00	4.57		ug/L		91	71 - 126	4	17
Acetone	25.0	20.4		ug/L		82	49 - 150	4	24
Methylene Chloride	5.00	4.04	J	ug/L		81	75 - 134	3	18
Methyl tert-butyl ether	5.00	4.21		ug/L		84	60 - 150	2	25
2-Butanone (MEK)	25.0	23.3		ug/L		93	64 - 136	8	23
trans-1,2-Dichloroethene	5.00	4.77		ug/L		95	63 - 133	6	17
1,1-Dichloroethane	5.00	4.37		ug/L		87	74 - 135	4	20
2,2-Dichloropropane	5.00	4.31		ug/L		86	58 - 150	6	28
Chlorobromomethane	5.00	4.97		ug/L		99	79 - 131	0	20
Chloroform	5.00	4.79		ug/L		96	80 - 130	2	20
1,1,1-Trichloroethane	5.00	4.42		ug/L		88	74 - 128	3	14
Carbon tetrachloride	5.00	4.35		ug/L		87	71 - 132	4	15
1,1-Dichloropropene	5.00	4.78		ug/L		96	72 - 132	3	13
Benzene	5.00	4.91		ug/L		98	73 - 133	1	20
1,2-Dichloroethane	5.00	4.77		ug/L		95	74 - 130	3	15
1,2-Dichloropropane	5.00	4.99		ug/L		100	80 - 130	3	14
4-Methyl-2-pentanone (MIBK)	25.0	25.0		ug/L		100	65 - 137	10	24
Dibromomethane	5.00	5.04		ug/L		101	65 - 141	2	20
Dichlorobromomethane	5.00	5.11		ug/L		102	74 - 131	3	20
cis-1,3-Dichloropropene	5.00	4.91		ug/L		98	66 - 141	2	22
Toluene	5.00	4.72		ug/L		94	80 - 126	4	20
trans-1,3-Dichloropropene	5.00	4.81		ug/L		96	71 - 128	5	21
1,1,2-Trichloroethane	5.00	5.32		ug/L		106	80 - 127	5	19
Tetrachloroethene	5.00	5.08		ug/L		102	75 - 131	4	20
1,3-Dichloropropane	5.00	5.24		ug/L		105	80 - 130	5	19
Chlorodibromomethane	5.00	5.51		ug/L		110	76 - 131	3	20
Ethylene Dibromide	5.00	5.62		ug/L		112	80 - 126	6	20
Chlorobenzene	5.00	5.82		ug/L		116	80 - 123	1	12
1,1,1,2-Tetrachloroethane	5.00	4.85		ug/L		97	79 - 127	6	20
Ethylbenzene	5.00	4.81		ug/L		96	80 - 130	3	20
m-Xylene & p-Xylene	5.00	5.00		ug/L		100	78 - 130	3	20
o-Xylene	5.00	5.56		ug/L		111	80 - 139	5	20
Styrene	5.00	6.12		ug/L		122	74 - 136	2	20
Bromoform	5.00	4.80		ug/L		96	69 - 137	4	20
Isopropylbenzene	5.00	5.17		ug/L		103	75 - 137	5	20
Bromobenzene	5.00	5.57		ug/L		111	80 - 130	2	20
1,1,2,2-Tetrachloroethane	5.00	5.22		ug/L		104	69 - 139	3	22
1,2,3-Trichloropropane	5.00	5.32		ug/L		106	80 - 127	5	20
N-Propylbenzene	5.00	5.24		ug/L		105	77 - 142	5	20
2-Chlorotoluene	5.00	5.01		ug/L		100	80 - 136	6	20
4-Chlorotoluene	5.00	5.54		ug/L		111	80 - 130	1	20

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

Lab Sample ID: LCSD 580-329022/5
Matrix: Water
Analysis Batch: 329022

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene			5.00	5.47		ug/L		109	80 - 139	5	20
tert-Butylbenzene			5.00	5.48		ug/L		110	77 - 140	5	20
1,2,4-Trimethylbenzene			5.00	5.18		ug/L		104	78 - 136	5	20
sec-Butylbenzene			5.00	5.43		ug/L		109	78 - 140	5	20
4-Isopropyltoluene			5.00	5.40		ug/L		108	78 - 132	5	14
1,3-Dichlorobenzene			5.00	5.62		ug/L		112	80 - 130	1	12
1,4-Dichlorobenzene			5.00	5.54		ug/L		111	80 - 129	1	11
n-Butylbenzene			5.00	5.19		ug/L		104	73 - 135	5	18
1,2-Dichlorobenzene			5.00	5.40		ug/L		108	80 - 129	2	14
1,2-Dibromo-3-Chloropropane			5.00	4.69		ug/L		94	69 - 130	2	26
1,2,4-Trichlorobenzene			5.00	5.07		ug/L		101	79 - 130	4	20
Hexachlorobutadiene			5.00	5.00		ug/L		100	72 - 138	7	20
Naphthalene			5.00	5.05		ug/L		101	64 - 132	6	20
1,2,3-Trichlorobenzene			5.00	5.02		ug/L		100	75 - 137	4	20

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

Lab Sample ID: MB 580-329346/7
Matrix: Water
Analysis Batch: 329346

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7.28	J	10	3.1	ug/L			05/29/20 15:24	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 15:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/29/20 15:24*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/29/20 15:24*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*05/29/20 15:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*05/29/20 15:24*	*1*

Lab Sample ID: LCS 580-329346/4
Matrix: Water
Analysis Batch: 329346

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone			25.0	44.8	*	ug/L		179	49 - 150
cis-1,2-Dichloroethene			5.00	5.36		ug/L		107	72 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

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

Lab Sample ID: LCSD 580-329346/5
Matrix: Water
Analysis Batch: 329346

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			25.0	37.5		ug/L		150	49 - 150	18	24
cis-1,2-Dichloroethene			5.00	4.51		ug/L		90	72 - 130	17	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/01/20 16:10	1
Chloromethane	ND		0.50	0.068	ug/L			06/01/20 16:10	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/01/20 16:10	1
Bromomethane	ND		0.50	0.062	ug/L			06/01/20 16:10	1
Chloroethane	ND		0.50	0.096	ug/L			06/01/20 16:10	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/01/20 16:10	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/01/20 16:10	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/01/20 16:10	1
Acetone	ND		10	3.1	ug/L			06/01/20 16:10	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/01/20 16:10	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/01/20 16:10	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/01/20 16:10	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/01/20 16:10	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/01/20 16:10	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/01/20 16:10	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Chloroform	ND		0.20	0.030	ug/L			06/01/20 16:10	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/01/20 16:10	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/01/20 16:10	1
Benzene	ND		0.20	0.030	ug/L			06/01/20 16:10	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/01/20 16:10	1
Trichloroethene	0.151	J	0.20	0.066	ug/L			06/01/20 16:10	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/01/20 16:10	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/01/20 16:10	1
Dibromomethane	ND		0.20	0.062	ug/L			06/01/20 16:10	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/01/20 16:10	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/01/20 16:10	1
Toluene	ND		0.20	0.050	ug/L			06/01/20 16:10	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/01/20 16:10	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/01/20 16:10	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/01/20 16:10	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/01/20 16:10	1

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

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/01/20 16:10	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/01/20 16:10	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/01/20 16:10	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/01/20 16:10	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/01/20 16:10	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/01/20 16:10	1
o-Xylene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
Styrene	ND		1.0	0.19	ug/L			06/01/20 16:10	1
Bromoform	ND		0.50	0.16	ug/L			06/01/20 16:10	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/01/20 16:10	1
Bromobenzene	ND		0.20	0.035	ug/L			06/01/20 16:10	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/01/20 16:10	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/01/20 16:10	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/01/20 16:10	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/01/20 16:10	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/01/20 16:10	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/01/20 16:10	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/01/20 16:10	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/01/20 16:10	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/01/20 16:10	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/01/20 16:10	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/01/20 16:10	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/01/20 16:10	1
Naphthalene	ND		1.0	0.22	ug/L			06/01/20 16:10	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/01/20 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/01/20 16:10*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/01/20 16:10*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/01/20 16:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*06/01/20 16:10*	*1*

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	6.35		ug/L		127	20 - 137
Chloromethane	5.00	5.43		ug/L		109	32 - 143
Vinyl chloride	5.00	4.77		ug/L		95	52 - 128
Bromomethane	5.00	5.02		ug/L		100	68 - 120
Chloroethane	5.00	4.99		ug/L		100	49 - 135
Carbon disulfide	5.00	4.27		ug/L		85	65 - 128

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

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	5.00	4.49		ug/L		90	60 - 132
1,1-Dichloroethene	5.00	4.71		ug/L		94	71 - 126
Acetone	25.0	25.2		ug/L		101	49 - 150
Methylene Chloride	5.00	4.34	J	ug/L		87	75 - 134
Methyl tert-butyl ether	5.00	4.54		ug/L		91	60 - 150
2-Butanone (MEK)	25.0	24.5		ug/L		98	64 - 136
trans-1,2-Dichloroethene	5.00	4.92		ug/L		98	63 - 133
1,1-Dichloroethane	5.00	4.60		ug/L		92	74 - 135
2,2-Dichloropropane	5.00	3.96		ug/L		79	58 - 150
cis-1,2-Dichloroethene	5.00	4.83		ug/L		97	72 - 130
Chlorobromomethane	5.00	5.15		ug/L		103	79 - 131
Chloroform	5.00	4.89		ug/L		98	80 - 130
1,1,1-Trichloroethane	5.00	4.29		ug/L		86	74 - 128
Carbon tetrachloride	5.00	4.14		ug/L		83	71 - 132
1,1-Dichloropropene	5.00	4.59		ug/L		92	72 - 132
Benzene	5.00	5.03		ug/L		101	73 - 133
1,2-Dichloroethane	5.00	5.18		ug/L		104	74 - 130
Trichloroethene	5.00	5.26		ug/L		105	72 - 136
1,2-Dichloropropane	5.00	5.10		ug/L		102	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.2		ug/L		97	65 - 137
Dibromomethane	5.00	5.15		ug/L		103	65 - 141
Dichlorobromomethane	5.00	4.98		ug/L		100	74 - 131
cis-1,3-Dichloropropene	5.00	4.71		ug/L		94	66 - 141
Toluene	5.00	4.62		ug/L		92	80 - 126
trans-1,3-Dichloropropene	5.00	4.57		ug/L		91	71 - 128
1,1,2-Trichloroethane	5.00	5.25		ug/L		105	80 - 127
Tetrachloroethene	5.00	4.64		ug/L		93	75 - 131
1,3-Dichloropropane	5.00	5.24		ug/L		105	80 - 130
Chlorodibromomethane	5.00	5.08		ug/L		102	76 - 131
Ethylene Dibromide	5.00	5.47		ug/L		109	80 - 126
Chlorobenzene	5.00	5.55		ug/L		111	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.59		ug/L		92	79 - 127
Ethylbenzene	5.00	4.52		ug/L		90	80 - 130
m-Xylene & p-Xylene	5.00	4.69		ug/L		94	78 - 130
o-Xylene	5.00	5.22		ug/L		104	80 - 139
Styrene	5.00	5.61		ug/L		112	74 - 136
Bromoform	5.00	4.27		ug/L		85	69 - 137
Isopropylbenzene	5.00	4.65		ug/L		93	75 - 137
Bromobenzene	5.00	5.05		ug/L		101	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.05		ug/L		101	69 - 139
1,2,3-Trichloropropane	5.00	4.91		ug/L		98	80 - 127
N-Propylbenzene	5.00	4.69		ug/L		94	77 - 142
2-Chlorotoluene	5.00	4.54		ug/L		91	80 - 136
4-Chlorotoluene	5.00	4.93		ug/L		99	80 - 130
1,3,5-Trimethylbenzene	5.00	4.89		ug/L		98	80 - 139
tert-Butylbenzene	5.00	4.81		ug/L		96	77 - 140
1,2,4-Trimethylbenzene	5.00	4.67		ug/L		93	78 - 136
sec-Butylbenzene	5.00	4.76		ug/L		95	78 - 140
4-Isopropyltoluene	5.00	4.74		ug/L		95	78 - 132

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

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	5.00	5.07		ug/L		101	80 - 130
1,4-Dichlorobenzene	5.00	5.01		ug/L		100	80 - 129
n-Butylbenzene	5.00	4.42		ug/L		88	73 - 135
1,2-Dichlorobenzene	5.00	4.96		ug/L		99	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.05		ug/L		81	69 - 130
1,2,4-Trichlorobenzene	5.00	4.53		ug/L		91	79 - 130
Hexachlorobutadiene	5.00	4.22		ug/L		84	72 - 138
Naphthalene	5.00	4.87		ug/L		97	64 - 132
1,2,3-Trichlorobenzene	5.00	4.59		ug/L		92	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	6.34		ug/L		127	20 - 137	0	22
Chloromethane	5.00	5.32		ug/L		106	32 - 143	2	23
Vinyl chloride	5.00	4.67		ug/L		93	52 - 128	2	21
Bromomethane	5.00	4.85		ug/L		97	68 - 120	4	18
Chloroethane	5.00	4.61		ug/L		92	49 - 135	8	27
Carbon disulfide	5.00	4.19		ug/L		84	65 - 128	2	23
Trichlorofluoromethane	5.00	4.37		ug/L		87	60 - 132	3	20
1,1-Dichloroethene	5.00	4.63		ug/L		93	71 - 126	2	17
Acetone	25.0	23.4		ug/L		94	49 - 150	7	24
Methylene Chloride	5.00	4.24	J	ug/L		85	75 - 134	2	18
Methyl tert-butyl ether	5.00	4.17		ug/L		83	60 - 150	9	25
2-Butanone (MEK)	25.0	22.4		ug/L		90	64 - 136	9	23
trans-1,2-Dichloroethene	5.00	4.88		ug/L		98	63 - 133	1	17
1,1-Dichloroethane	5.00	4.52		ug/L		90	74 - 135	2	20
2,2-Dichloropropane	5.00	3.90		ug/L		78	58 - 150	1	28
cis-1,2-Dichloroethene	5.00	4.76		ug/L		95	72 - 130	1	20
Chlorobromomethane	5.00	4.98		ug/L		100	79 - 131	3	20
Chloroform	5.00	4.80		ug/L		96	80 - 130	2	20
1,1,1-Trichloroethane	5.00	4.23		ug/L		85	74 - 128	1	14
Carbon tetrachloride	5.00	4.03		ug/L		81	71 - 132	3	15
1,1-Dichloropropene	5.00	4.51		ug/L		90	72 - 132	2	13
Benzene	5.00	4.88		ug/L		98	73 - 133	3	20
1,2-Dichloroethane	5.00	4.87		ug/L		97	74 - 130	6	15
Trichloroethene	5.00	5.21		ug/L		104	72 - 136	1	14
1,2-Dichloropropane	5.00	4.85		ug/L		97	80 - 130	5	14
4-Methyl-2-pentanone (MIBK)	25.0	24.0		ug/L		96	65 - 137	1	24
Dibromomethane	5.00	4.79		ug/L		96	65 - 141	7	20

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

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorobromomethane			5.00	4.69		ug/L		94	74 - 131	6	20
cis-1,3-Dichloropropene			5.00	4.47		ug/L		89	66 - 141	5	22
Toluene			5.00	4.57		ug/L		91	80 - 126	1	20
trans-1,3-Dichloropropene			5.00	4.27		ug/L		85	71 - 128	7	21
1,1,2-Trichloroethane			5.00	4.91		ug/L		98	80 - 127	7	19
Tetrachloroethene			5.00	4.57		ug/L		91	75 - 131	1	20
1,3-Dichloropropane			5.00	4.88		ug/L		98	80 - 130	7	19
Chlorodibromomethane			5.00	4.81		ug/L		96	76 - 131	5	20
Ethylene Dibromide			5.00	5.22		ug/L		104	80 - 126	5	20
Chlorobenzene			5.00	5.40		ug/L		108	80 - 123	3	12
1,1,1,2-Tetrachloroethane			5.00	4.58		ug/L		92	79 - 127	0	20
Ethylbenzene			5.00	4.48		ug/L		90	80 - 130	1	20
m-Xylene & p-Xylene			5.00	4.65		ug/L		93	78 - 130	1	20
o-Xylene			5.00	5.27		ug/L		105	80 - 139	1	20
Styrene			5.00	5.60		ug/L		112	74 - 136	0	20
Bromoform			5.00	3.98		ug/L		80	69 - 137	7	20
Isopropylbenzene			5.00	4.73		ug/L		95	75 - 137	2	20
Bromobenzene			5.00	4.80		ug/L		96	80 - 130	5	20
1,1,2,2-Tetrachloroethane			5.00	4.61		ug/L		92	69 - 139	9	22
1,2,3-Trichloropropane			5.00	4.69		ug/L		94	80 - 127	5	20
N-Propylbenzene			5.00	4.65		ug/L		93	77 - 142	1	20
2-Chlorotoluene			5.00	4.45		ug/L		89	80 - 136	2	20
4-Chlorotoluene			5.00	4.89		ug/L		98	80 - 130	1	20
1,3,5-Trimethylbenzene			5.00	4.90		ug/L		98	80 - 139	0	20
tert-Butylbenzene			5.00	4.81		ug/L		96	77 - 140	0	20
1,2,4-Trimethylbenzene			5.00	4.71		ug/L		94	78 - 136	1	20
sec-Butylbenzene			5.00	4.76		ug/L		95	78 - 140	0	20
4-Isopropyltoluene			5.00	4.77		ug/L		95	78 - 132	1	14
1,3-Dichlorobenzene			5.00	4.96		ug/L		99	80 - 130	2	12
1,4-Dichlorobenzene			5.00	4.87		ug/L		97	80 - 129	3	11
n-Butylbenzene			5.00	4.51		ug/L		90	73 - 135	2	18
1,2-Dichlorobenzene			5.00	4.87		ug/L		97	80 - 129	2	14
1,2-Dibromo-3-Chloropropane			5.00	3.86		ug/L		77	69 - 130	5	26
1,2,4-Trichlorobenzene			5.00	4.46		ug/L		89	79 - 130	2	20
Hexachlorobutadiene			5.00	4.25		ug/L		85	72 - 138	1	20
Naphthalene			5.00	4.38		ug/L		88	64 - 132	11	20
1,2,3-Trichlorobenzene			5.00	4.49		ug/L		90	75 - 137	2	20

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

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

Lab Sample ID: MB 580-329674/7
Matrix: Water
Analysis Batch: 329674

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.0959	J	0.20	0.066	ug/L			06/02/20 19:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/02/20 19:52*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/02/20 19:52*	*1*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*		*06/02/20 19:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*06/02/20 19:52*	*1*

Lab Sample ID: LCS 580-329674/4
Matrix: Water
Analysis Batch: 329674

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Trichloroethene			5.00	4.25		ug/L		85	72 - 136		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329674/5
Matrix: Water
Analysis Batch: 329674

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene			5.00	4.19		ug/L		84	72 - 136	1	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 580-330260/7
Matrix: Water
Analysis Batch: 330260

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50	3.2	ug/L			06/10/20 12:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/10/20 12:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 126*		*06/10/20 12:03*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/10/20 12:03*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/10/20 12:03*	*1*

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

Lab Sample ID: LCS 580-330260/4
Matrix: Water
Analysis Batch: 330260

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acetone			25.0	28.0	J	ug/L		112	43 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-330260/5
Matrix: Water
Analysis Batch: 330260

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			25.0	23.7	J	ug/L		95	43 - 150	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609549/1-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
Aldrin	ND		0.0050	0.0015	ug/L		05/21/20 05:31	05/27/20 18:13	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/21/20 05:31	05/27/20 18:13	1
beta-BHC	ND		0.010	0.0040	ug/L		05/21/20 05:31	05/27/20 18:13	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/21/20 05:31	05/27/20 18:13	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/21/20 05:31	05/27/20 18:13	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endosulfan I	ND		0.0050	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin	ND		0.0050	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/21/20 05:31	05/27/20 18:13	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/21/20 05:31	05/27/20 18:13	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Heptachlor	ND		0.010	0.0030	ug/L		05/21/20 05:31	05/27/20 18:13	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/21/20 05:31	05/27/20 18:13	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-609549/1-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND		0.0050	0.0035	ug/L		05/21/20 05:31	05/27/20 18:13	1
Toxaphene	ND		0.50	0.25	ug/L		05/21/20 05:31	05/27/20 18:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*68*		*28 - 108*	*05/21/20 05:31*	*05/27/20 18:13*	*1*
Tetrachloro-m-xylene	*62*		*10 - 123*	*05/21/20 05:31*	*05/27/20 18:13*	*1*

Lab Sample ID: LCS 440-609549/2-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609549

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.354		ug/L		88	50 - 128
4,4'-DDE	0.400	0.335		ug/L		84	49 - 121
4,4'-DDT	0.400	0.372		ug/L		93	41 - 140
Aldrin	0.400	0.282		ug/L		71	37 - 115
alpha-BHC	0.400	0.317		ug/L		79	44 - 115
cis-Chlordane	0.400	0.327		ug/L		82	40 - 122
beta-BHC	0.400	0.315		ug/L		79	46 - 121
delta-BHC	0.400	0.329		ug/L		82	32 - 129
Dieldrin	0.400	0.336		ug/L		84	39 - 126
Endosulfan I	0.400	0.325		ug/L		81	47 - 115
Endosulfan II	0.400	0.322		ug/L		81	47 - 120
Endosulfan sulfate	0.400	0.326		ug/L		82	48 - 126
Endrin	0.400	0.336		ug/L		84	43 - 127
Endrin aldehyde	0.400	0.317		ug/L		79	43 - 120
Endrin ketone	0.400	0.337		ug/L		84	47 - 123
gamma-BHC (Lindane)	0.400	0.321		ug/L		80	45 - 116
trans-Chlordane	0.400	0.324		ug/L		81	37 - 129
Heptachlor	0.400	0.328		ug/L		82	37 - 115
Heptachlor epoxide	0.400	0.326		ug/L		81	41 - 129
Methoxychlor	0.400	0.462		ug/L		116	44 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*72*		*28 - 108*
Tetrachloro-m-xylene	*74*		*10 - 123*

Lab Sample ID: LCSD 440-609549/3-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609549

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.400	0.386		ug/L		96	50 - 128	9	26
4,4'-DDE	0.400	0.361		ug/L		90	49 - 121	7	22
4,4'-DDT	0.400	0.394		ug/L		98	41 - 140	6	20
Aldrin	0.400	0.302		ug/L		75	37 - 115	7	24
alpha-BHC	0.400	0.341		ug/L		85	44 - 115	7	26
cis-Chlordane	0.400	0.351		ug/L		88	40 - 122	7	35

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 440-609549/3-A
Matrix: Water
Analysis Batch: 610211

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 609549

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
beta-BHC	0.400	0.339		ug/L		85	46 - 121	7	27
delta-BHC	0.400	0.353		ug/L		88	32 - 129	7	35
Dieldrin	0.400	0.361		ug/L		90	39 - 126	7	35
Endosulfan I	0.400	0.350		ug/L		88	47 - 115	7	27
Endosulfan II	0.400	0.348		ug/L		87	47 - 120	8	29
Endosulfan sulfate	0.400	0.353		ug/L		88	48 - 126	8	26
Endrin	0.400	0.364		ug/L		91	43 - 127	8	35
Endrin aldehyde	0.400	0.341		ug/L		85	43 - 120	7	35
Endrin ketone	0.400	0.367		ug/L		92	47 - 123	9	27
gamma-BHC (Lindane)	0.400	0.344		ug/L		86	45 - 116	7	28
trans-Chlordane	0.400	0.349		ug/L		87	37 - 129	7	35
Heptachlor	0.400	0.351		ug/L		88	37 - 115	7	35
Heptachlor epoxide	0.400	0.349		ug/L		87	41 - 129	7	35
Methoxychlor	0.400	0.496		ug/L		124	44 - 141	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*76*		*28 - 108*
Tetrachloro-m-xylene	*78*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-609966/6
Matrix: Water
Analysis Batch: 609966

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/26/20 09:07	1

Lab Sample ID: LCS 440-609966/5
Matrix: Water
Analysis Batch: 609966

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.5		ug/L		97	90 - 110

Lab Sample ID: MRL 440-609966/4
Matrix: Water
Analysis Batch: 609966

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.973	J	ug/L		97	50 - 150

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610162/6
Matrix: Water
Analysis Batch: 610162

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/27/20 10:15	1

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: LCS 440-610162/5
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.70		ug/L		97	85 - 115

Lab Sample ID: MRL 440-610162/4
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		93	75 - 125

Lab Sample ID: MRL 440-610162/8
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.33	J	ug/L		83	75 - 125

Lab Sample ID: MB 440-610758/6
Matrix: Water
Analysis Batch: 610758

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/01/20 10:15	1

Lab Sample ID: LCS 440-610758/5
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.36		ug/L		94	85 - 115

Lab Sample ID: MRL 440-610758/4
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.01	J	ug/L		101	75 - 125

Lab Sample ID: MRL 440-610758/8
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.84	J	ug/L		96	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-328767/24-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 08:54	05/22/20 18:12	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 08:54	05/22/20 18:12	5
Iron	ND		1.0	0.18	mg/L		05/21/20 08:54	05/22/20 18:12	5
Manganese	ND		0.010	0.0023	mg/L		05/21/20 08:54	05/22/20 18:12	5

Lab Sample ID: LCS 580-328767/25-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.971		mg/L		97	80 - 120
Chromium	1.00	0.978		mg/L		98	80 - 120
Iron	20.0	19.5		mg/L		97	80 - 120
Manganese	1.00	0.975		mg/L		97	80 - 120

Lab Sample ID: LCSD 580-328767/26-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.978		mg/L		98	80 - 120	1	20
Chromium	1.00	0.985		mg/L		98	80 - 120	1	20
Iron	20.0	19.6		mg/L		98	80 - 120	1	20
Manganese	1.00	0.971		mg/L		97	80 - 120	0	20

Lab Sample ID: MB 580-328770/15-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/21/20 09:10	05/22/20 20:18	5
Chromium	ND		0.0040	0.00087	mg/L		05/21/20 09:10	05/22/20 20:18	5
Iron	ND		1.0	0.18	mg/L		05/21/20 09:10	05/22/20 20:18	5
Manganese	ND		0.010	0.0023	mg/L		05/21/20 09:10	05/22/20 20:18	5

Lab Sample ID: LCS 580-328770/16-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.974		mg/L		97	80 - 120
Chromium	1.00	0.931		mg/L		93	80 - 120
Iron	20.0	19.2		mg/L		96	80 - 120
Manganese	1.00	0.976		mg/L		98	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-328770/17-A
Matrix: Water
Analysis Batch: 329011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			1.00	0.974		mg/L		97	80 - 120	0	20
Chromium			1.00	0.946		mg/L		95	80 - 120	2	20
Iron			20.0	19.0		mg/L		95	80 - 120	1	20
Manganese			1.00	0.989		mg/L		99	80 - 120	1	20

Lab Sample ID: 580-94786-5 MS
Matrix: Water
Analysis Batch: 329011

Client Sample ID: PA-24d-051920
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		1.00	0.925		mg/L		93	80 - 120
Chromium	0.0028	J	1.00	0.799		mg/L		80	80 - 120
Iron	120		20.0	138	4	mg/L		78	80 - 120
Manganese	31		1.00	33.2	4	mg/L		243	80 - 120

Lab Sample ID: 580-94786-5 MSD
Matrix: Water
Analysis Batch: 329011

Client Sample ID: PA-24d-051920
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		1.00	0.943		mg/L		94	80 - 120	2	20
Chromium	0.0028	J	1.00	0.813		mg/L		81	80 - 120	2	20
Iron	120		20.0	141	4	mg/L		90	80 - 120	2	20
Manganese	31		1.00	33.9	4	mg/L		307	80 - 120	2	20

Lab Sample ID: 580-94786-5 DU
Matrix: Water
Analysis Batch: 329011

Client Sample ID: PA-24d-051920
Prep Type: Total Recoverable
Prep Batch: 328770

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	ND		ND		mg/L		NC	20
Chromium	0.0028	J	0.00275	J	mg/L		3	20
Iron	120		121		mg/L		1	20
Manganese	31		30.0		mg/L		3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329020/3
Matrix: Water
Analysis Batch: 329020

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.142	J	0.90	0.14	mg/L			05/23/20 06:34	1

Lab Sample ID: LCS 580-329020/4
Matrix: Water
Analysis Batch: 329020

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			50.0	51.7		mg/L		103	90 - 110

Client: ERM-West
Job ID: 580-94786-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 580-329020/5
Matrix: Water
Analysis Batch: 329020

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	51.7		mg/L		103	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94786-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051920
Lab Sample ID: 580-94786-1
Date Collected: 05/19/20 00:01
Matrix: Water
Date Received: 05/19/20 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA	1	329346	05/29/20 16:44	T1W	TAL SEA
Total/NA	Analysis	8260D	RA2	1	329674	06/02/20 20:45	TL1	TAL SEA
Total/NA	Analysis	8260D		1	329022	05/25/20 00:03	JSM	TAL SEA

Client Sample ID: PA-38-051920
Lab Sample ID: 580-94786-2
Date Collected: 05/19/20 12:59
Matrix: Water
Date Received: 05/19/20 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA	1	329532	06/01/20 20:35	K1G	TAL SEA
Dissolved	Analysis	218.6		20	609966	05/26/20 23:01	PS	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 21:34	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:49	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329020	05/23/20 10:28	AAC	TAL SEA

Client Sample ID: PA-39i-051920
Lab Sample ID: 580-94786-3
Date Collected: 05/19/20 14:32
Matrix: Water
Date Received: 05/19/20 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328859	05/22/20 10:09	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329346	05/30/20 00:15	T1W	TAL SEA
Dissolved	Analysis	218.6		50	609966	05/26/20 23:14	PS	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 22:09	PS	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:53	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329020	05/23/20 10:40	AAC	TAL SEA

Client Sample ID: PA-08-051920
Lab Sample ID: 580-94786-4
Date Collected: 05/19/20 13:39
Matrix: Water
Date Received: 05/19/20 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	328859	05/22/20 09:43	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329532	06/01/20 20:08	K1G	TAL SEA
Dissolved	Analysis	218.6		5	609966	05/26/20 23:26	PS	TAL IRV
Total/NA	Analysis	314.0		50	610758	06/01/20 22:35	OH1	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:34	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329020	05/23/20 11:15	AAC	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94786-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-24d-051920
Lab Sample ID: 580-94786-5

Date Collected: 05/19/20 12:00
Matrix: Water

Date Received: 05/19/20 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA	1	330260	06/10/20 16:05	CJB	TAL SEA
Total/NA	Analysis	8260D		1	328859	05/22/20 09:16	CJ	TAL SEA
Total/NA	Prep	3510C			609549	05/21/20 05:31	L1A	TAL IRV
Total/NA	Analysis	8081B_LL		1	610567	05/29/20 14:17	D1D	TAL IRV
Dissolved	Analysis	218.6		2	609966	05/26/20 23:39	PS	TAL IRV
Total/NA	Analysis	314.0		50	610758	06/01/20 23:11	OH1	TAL IRV
Dissolved	Prep	3005A			328767	05/21/20 08:54	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329011	05/22/20 19:56	FCW	TAL SEA
Total Recoverable	Prep	3005A			328770	05/21/20 09:10	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329011	05/22/20 20:24	FCW	TAL SEA
Total/NA	Analysis	300.0		1000	329020	05/24/20 23:16	AAC	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94786-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94786-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94786-1	TB-051920	Water	05/19/20 00:01	05/19/20 15:45	
580-94786-2	PA-38-051920	Water	05/19/20 12:59	05/19/20 15:45	
580-94786-3	PA-39i-051920	Water	05/19/20 14:32	05/19/20 15:45	
580-94786-4	PA-08-051920	Water	05/19/20 13:39	05/19/20 15:45	
580-94786-5	PA-24d-051920	Water	05/19/20 12:00	05/19/20 15:45	

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

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST, DS, AJ	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: ~~0481059.02~~ 543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - ~~QT~~ 2020 Groundwater event	Project #: 58014456			
Site: Q2	SSOW#:			

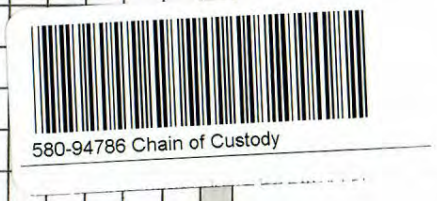
Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-051920	5/19/20		G	Water									X			3	
PA-38-051920		1259	~~P~~	Water			X				X		X	X	X	7	
PA-39-051920		1432		Water			X				X		X	X	X	7	
PA-08-051920		1339		Water			X				X		X	X	X	7	
PA-24d-051920		1200		Water			X	X		X	X	X	~~X~~ 5	X	X	9	
				Water													
				Water													
				Water													
				Water													



Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	BM	5/19/20	ERM		5/19/20 1545	TAPOR
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.0

Ver: 01/16/2019

6/12/2020

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

Chain of Custody Record

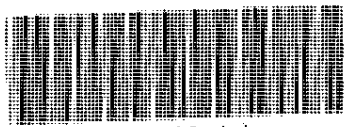
eurofins Environment Testing TestAmerica

Client Information	Sampler: ST, DS, AJ	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: ~~0481059.02~~ 543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - ~~Q1~~ 2020 Groundwater event	Project #: 58014456			
Site: Q2	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-051920	5/19/20		G	Water									X			3	
PA-38-051920	↓	1259	~~H~~	Water			X				X		X	X	X	7	
PA-39i-051920	↓	1432	↓	Water			X				X		X	X	X	7	
PA-08-051920	↓	1339	↓	Water			X				X		X	X	X	7	
PA-24d-051920	↓	1200	↓	Water			X	X		X	X	X	~~X~~ ST	X	X	9	
				Water													
				Water													
				Water													
				Water													



580-94786 Chain of Custody

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

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

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

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5/19/20	Company: ERM	Received by: [signature]	Date/Time: 5/19/20 1545	Company: TAPOK
Relinquished by: [signature]	Date/Time: 5/19/20 1700	Company: TAPOK	Received by: [signature]	Date/Time: 5-20-20 0945	Company: TASEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 4.0

IR6 = 0.5 / 0.1

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No: 580-76903.1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94786-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/8/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817	PO #:			
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	WO #:			
Email:	Project #: 58014456			
Project Name: Arkema - Q2 2020 Groundwater Event	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
Preservation Code:											
PA-38-051920 (580-94786-2)	5/19/20	12 59 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland Please confirm via
PA-39i-051920 (580-94786-3)	5/19/20	14.32 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland Please confirm via
PA-08-051920 (580-94786-4)	5/19/20	13:39 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm via
PA-24d-051920 (580-94786-5)	5/19/20	12.00 Pacific		Water			X	X	X	3	, Sample should have been field filtered then preserved by Portland. Please confirm via

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

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

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/19/20 1900	TMark			
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time 6/20/20 0945	Company ECI PV

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1R94 2.8/3.0

Ver. 01/16/2019

6/12/2020

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94786-1

Login Number: 94786
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94786-1

Login Number: 94786
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Irvine
List Creation: 05/20/20 12:34 PM

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

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94806-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event
Revision: 1

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/29/2020 7:16:22 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94806-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94806-1

Comments
5/21/2020 client confirmed by email that sample PA-28-052020 (580-94806-9) should not be analyzed for total metals.
6/29/2020 revised report to fix 8260 MS/MSD in AB 329341

Receipt
The samples were received on 5/20/2020 12:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.1º C and 5.3º C.

Receipt Exceptions
The following sample was collected in an improper container: EB-01-051920 (580-94806-4), for dissolved metals. The sample was transferred to the correct container with preserved HNO3.

The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved MWA-49i-051920 (580-94806-2), RB-01-051920 (580-94806-3), EB-01-051920 (580-94806-4), MWA-53i-052020 (580-94806-5), Dup-01-052020 (580-94806-6), MWA-32i-052020 (580-94806-7), MWA-32i-052020 (580-94806-7[MS]), MWA-32i-052020 (580-94806-7[MSD]), MWA-31i(d)-052020 (580-94806-8), PA-28-052020 (580-94806-9) and PA-23d-052020 (580-94806-10).. The samples were preserved to the appropriate pH at the service center.

The following sample was activated for 8081_LL to Irvine analysis by the client on 5/21/2020: PA-23d-052020 (580-94806-10). This analysis was originally requested for Seattle 8081 on the chain-of-custody (COC). Client emailed the change on 5/21/2020

GC/MS VOA
Methods 8260C LL, 8260D: The CCVIS for analytical batch 580-329050 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane. Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329050 recovered outside acceptance criteria, low biased, for Chloromethane, Vinyl chloride, Trichlorofluoromethane, Carbon disulfide, Chloroethane and Bromomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The method blank for analytical batch 580-329050 contained cis-1,2-Dichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329050 recovered outside control limits for the following analyte(s): Bromomethane. Bromomethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8260D: The CCV for analytical batch 580-329320 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane and Chloromethane. Dichlorodifluoromethane and Chloromethane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329320 recovered outside acceptance criteria, low biased, for cis-1,2-Dichloroethene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-329320 recovered outside control limits for the following analytes: cis-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Job ID: 580-94806-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329320 recovered outside control limits for the following analyte: cis-1,2-Dichloroethene.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329341 recovered outside acceptance criteria, low biased, for 2,2-Dichloropropane and Carbon tetrachloride. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329341 recovered outside acceptance criteria, low biased, for Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The method blank for analytical batch 580-329341 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The laboratory control sample (LCS) for analytical batch 580-329341 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following analyte(s) recovered outside control limits for the LCSD associated with analytical batch 580-329341: trans-1,3-Dichloropropene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. Methods 8260C LL, 8260D: Reanalysis for carry over TB-051920-A (580-94806-1), MWA-49i-051920 (580-94806-2), RB-01-051920 (580-94806-3), MWA-53i-052020 (580-94806-5), Dup-01-052020 (580-94806-6), MWA-32i-052020 (580-94806-7), MWA-32i-052020 (580-94806-7[MS]) and MWA-32i-052020 (580-94806-7[MSD])

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329341 recovered outside control limits for the following analytes: 1,1,1-Trichloroethane, 1,1-Dichloropropene, 1,1-Dichloroethene, Carbon tetrachloride, Dichlorodifluoromethane, Trichlorofluoromethane, 1,2-Dichlorobenzene, 2-Chlorotoluene, 1,2,3-Trichloropropane, cis-1,2-Dichloroethene, Chlorobenzene, sec-Butylbenzene, Dibromomethane, 1,2,4-Trichlorobenzene, Dichlorobromomethane, 1,3-Dichlorobenzene, trans-1,3-Dichloropropene, N-Propylbenzene, 4-Isopropyltoluene, n-Butylbenzene, 1,1,2,2-Tetrachloroethane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 1,3-Dichloropropane, 4-Chlorotoluene, Chlorobromomethane, 1,1,2-Trichloroethane, tert-Butylbenzene, 1,2-Dichloroethane, Tetrachloroethene, 2,2-Dichloropropane, Ethylene Dibromide, Trichloroethene, Bromobenzene, 2-Butanone (MEK), 1,2-Dichloropropane, 1,4-Dichlorobenzene and Hexachlorobutadiene

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PA-28-052020 (580-94806-9). Elevated reporting limits (RLs) are provided.

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

HPLC/IC

Method 218.6: The following samples were diluted due to the nature of the sample matrix: MWA-49i-051920 (580-94806-2), MWA-53i-052020 (580-94806-5), Dup-01-052020 (580-94806-6), MWA-32i-052020 (580-94806-7) and PA-28-052020 (580-94806-9). Elevated reporting limits (RLs) are provided.

Method 218.6: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with analytical batch 440-609966 were outside control limits: MWA-32i-052020 (580-94806-7[MS]) and MWA-32i-052020 (580-94806-7[MSD]). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 314.0: The following sample was diluted due to high conductivity background and very dark black color of the sample matrix: PA-28-052020 (580-94806-9). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to high conductivity background and intense dark black color of the sample matrix: MWA-49i-051920 (580-94806-2), MWA-53i-052020 (580-94806-5) and Dup-01-052020 (580-94806-6). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to medium dark black color of the sample matrix: MWA-32i-052020 (580-94806-7),

Job ID: 580-94806-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

MWA-32i-052020 (580-94806-7[MS]) and MWA-32i-052020 (580-94806-7[MSD]). Elevated reporting limits (RLs) are provided.

Method 314.0: The following sample was diluted due to the nature of the sample matrix: PA-23d-052020 (580-94806-10). Elevated reporting limits (RLs) are provided.

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

GC Semi VOA

Methods 8081A, 8081B: The following CCB and LCSD associated with analytical batch 580-329167 recovered outside acceptance criteria on the confirmation column internal standard 1-Bromo-2-nitrobenzene. The associated CCV and sample results met criteria and were reported. (CCB 580-329167/9)

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-329167 recovered outside acceptance criteria on the confirmation column for Chlordane (technical), DCB Decachlorobiphenyl, Tetrachloro-m-xylene, delta-BHC and Endosulfan I. The associated sample results for those analytes were reported from the primary column which met acceptance criteria. The following samples are impacted: RB-01-051920 (580-94806-3), (CCV 580-329167/4) and (CCVIS 580-329167/7)

Method 8081B_LL: The Tetrachloro-m-xylene surrogate recovery for the following samples was outside acceptance limits (high biased) on the primary column due to matrix interference: MWA-32i-052020 (580-94806-7). The recovery is within acceptance limits on the confirmation column, indicating that the extraction process was in control.

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

Metals

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

General Chemistry

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

Organic Prep

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

VOA Prep

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

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

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate recovery exceeds control limits

HPLC/IC

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

Metals

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

General Chemistry

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

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: ERM-West
Project/Site: Arkema - Q2 2020 Groundwater Event

Job ID: 580-94806-1

Client Sample ID: TB-051920-A
Date Collected: 05/19/20 00:01
Date Received: 05/20/20 12:15

Lab Sample ID: 580-94806-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/26/20 13:32	1
Chloromethane	ND		0.50	0.068	ug/L			05/26/20 13:32	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/26/20 13:32	1
Bromomethane	ND	*	0.50	0.062	ug/L			05/26/20 13:32	1
Chloroethane	ND		0.50	0.096	ug/L			05/26/20 13:32	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/26/20 13:32	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/26/20 13:32	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/26/20 13:32	1
Acetone	ND		10	3.1	ug/L			05/26/20 13:32	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/26/20 13:32	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/26/20 13:32	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/26/20 13:32	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/26/20 13:32	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/26/20 13:32	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/26/20 13:32	1
cis-1,2-Dichloroethene	**0.095**	**J B**	0.20	0.055	ug/L			05/26/20 13:32	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/26/20 13:32	1
Chloroform	ND		0.20	0.030	ug/L			05/26/20 13:32	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/26/20 13:32	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/26/20 13:32	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/26/20 13:32	1
Benzene	ND		0.20	0.030	ug/L			05/26/20 13:32	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/26/20 13:32	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/26/20 13:32	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/26/20 13:32	1
Dibromomethane	ND		0.20	0.062	ug/L			05/26/20 13:32	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/26/20 13:32	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/26/20 13:32	1
Toluene	ND		0.20	0.050	ug/L			05/26/20 13:32	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/26/20 13:32	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/26/20 13:32	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/26/20 13:32	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/26/20 13:32	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/26/20 13:32	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/26/20 13:32	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/26/20 13:32	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/26/20 13:32	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/26/20 13:32	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/26/20 13:32	1
o-Xylene	ND		0.50	0.15	ug/L			05/26/20 13:32	1
Styrene	ND		1.0	0.19	ug/L			05/26/20 13:32	1
Bromoform	ND		0.50	0.16	ug/L			05/26/20 13:32	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/26/20 13:32	1
Bromobenzene	ND		0.20	0.035	ug/L			05/26/20 13:32	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/26/20 13:32	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/26/20 13:32	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/26/20 13:32	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/26/20 13:32	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/26/20 13:32	1

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051920-A
Lab Sample ID: 580-94806-1
Date Collected: 05/19/20 00:01
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/26/20 13:32	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/26/20 13:32	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/26/20 13:32	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/26/20 13:32	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/26/20 13:32	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 13:32	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 13:32	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/26/20 13:32	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/26/20 13:32	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/26/20 13:32	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/26/20 13:32	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/26/20 13:32	1
Naphthalene	ND		1.0	0.22	ug/L			05/26/20 13:32	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/26/20 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/26/20 13:32*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/26/20 13:32*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/26/20 13:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*05/26/20 13:32*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.097**	**J B *1**	0.20	0.066	ug/L			05/29/20 21:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/29/20 21:20*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/29/20 21:20*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/29/20 21:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*05/29/20 21:20*	*1*

Client Sample ID: MWA-49i-051920
Lab Sample ID: 580-94806-2

Date Collected: 05/19/20 15:10
Matrix: Water

Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/26/20 14:25	1
Chloromethane	ND		0.50	0.068	ug/L			05/26/20 14:25	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/26/20 14:25	1
Bromomethane	ND	*	0.50	0.062	ug/L			05/26/20 14:25	1
Chloroethane	ND		0.50	0.096	ug/L			05/26/20 14:25	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/26/20 14:25	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/26/20 14:25	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/26/20 14:25	1
Acetone	ND		10	3.1	ug/L			05/26/20 14:25	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/26/20 14:25	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/26/20 14:25	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/26/20 14:25	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/26/20 14:25	1
1,1-Dichloroethane	**0.25**		0.20	0.025	ug/L			05/26/20 14:25	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/26/20 14:25	1
cis-1,2-Dichloroethene	**0.25**	**B**	0.20	0.055	ug/L			05/26/20 14:25	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/26/20 14:25	1
Chloroform	**0.59**		0.20	0.030	ug/L			05/26/20 14:25	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/26/20 14:25	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/26/20 14:25	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/26/20 14:25	1
Benzene	ND		0.20	0.030	ug/L			05/26/20 14:25	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/26/20 14:25	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/26/20 14:25	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/26/20 14:25	1
Dibromomethane	ND		0.20	0.062	ug/L			05/26/20 14:25	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/26/20 14:25	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/26/20 14:25	1
Toluene	ND		0.20	0.050	ug/L			05/26/20 14:25	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/26/20 14:25	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/26/20 14:25	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/26/20 14:25	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/26/20 14:25	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/26/20 14:25	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/26/20 14:25	1
Chlorobenzene	**0.025**	**J**	0.20	0.025	ug/L			05/26/20 14:25	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/26/20 14:25	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/26/20 14:25	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/26/20 14:25	1
o-Xylene	ND		0.50	0.15	ug/L			05/26/20 14:25	1
Styrene	ND		1.0	0.19	ug/L			05/26/20 14:25	1
Bromoform	ND		0.50	0.16	ug/L			05/26/20 14:25	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/26/20 14:25	1
Bromobenzene	ND		0.20	0.035	ug/L			05/26/20 14:25	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/26/20 14:25	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/26/20 14:25	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/26/20 14:25	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/26/20 14:25	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/26/20 14:25	1

Client Sample ID: MWA-49i-051920
Lab Sample ID: 580-94806-2
Date Collected: 05/19/20 15:10
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/26/20 14:25	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/26/20 14:25	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/26/20 14:25	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/26/20 14:25	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/26/20 14:25	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 14:25	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 14:25	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/26/20 14:25	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/26/20 14:25	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/26/20 14:25	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/26/20 14:25	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/26/20 14:25	1
Naphthalene	ND		1.0	0.22	ug/L			05/26/20 14:25	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/26/20 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/26/20 14:25*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/26/20 14:25*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*05/26/20 14:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*05/26/20 14:25*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.11**	**J B *1**	0.20	0.066	ug/L			05/29/20 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/29/20 20:53*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*05/29/20 20:53*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/29/20 20:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*05/29/20 20:53*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		100	25	ug/L			05/26/20 23:52	100

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400	95	ug/L			06/02/20 01:34	100

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0054**		0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 18:04	5
Chromium	**0.036**		0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 18:04	5
Iron	**4.7**		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 18:04	5
Manganese	**0.49**		0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 18:04	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**840**		90	14	mg/L			05/25/20 01:36	100

Client Sample ID: RB-01-051920
Lab Sample ID: 580-94806-3

Date Collected: 05/19/20 13:55
Matrix: Water

Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/26/20 13:59	1
Chloromethane	ND		0.50	0.068	ug/L			05/26/20 13:59	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/26/20 13:59	1
Bromomethane	ND	*	0.50	0.062	ug/L			05/26/20 13:59	1
Chloroethane	ND		0.50	0.096	ug/L			05/26/20 13:59	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/26/20 13:59	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/26/20 13:59	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/26/20 13:59	1
Acetone	ND		10	3.1	ug/L			05/26/20 13:59	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/26/20 13:59	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/26/20 13:59	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/26/20 13:59	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/26/20 13:59	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/26/20 13:59	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/26/20 13:59	1
cis-1,2-Dichloroethene	**0.091**	**J B**	0.20	0.055	ug/L			05/26/20 13:59	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/26/20 13:59	1
Chloroform	**13**		0.20	0.030	ug/L			05/26/20 13:59	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/26/20 13:59	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/26/20 13:59	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/26/20 13:59	1
Benzene	ND		0.20	0.030	ug/L			05/26/20 13:59	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/26/20 13:59	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/26/20 13:59	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/26/20 13:59	1
Dibromomethane	ND		0.20	0.062	ug/L			05/26/20 13:59	1
Dichlorobromomethane	**0.56**		0.20	0.060	ug/L			05/26/20 13:59	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/26/20 13:59	1
Toluene	ND		0.20	0.050	ug/L			05/26/20 13:59	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/26/20 13:59	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/26/20 13:59	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/26/20 13:59	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/26/20 13:59	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/26/20 13:59	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/26/20 13:59	1
Chlorobenzene	**0.027**	**J**	0.20	0.025	ug/L			05/26/20 13:59	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/26/20 13:59	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/26/20 13:59	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/26/20 13:59	1
o-Xylene	ND		0.50	0.15	ug/L			05/26/20 13:59	1
Styrene	ND		1.0	0.19	ug/L			05/26/20 13:59	1
Bromoform	ND		0.50	0.16	ug/L			05/26/20 13:59	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/26/20 13:59	1
Bromobenzene	ND		0.20	0.035	ug/L			05/26/20 13:59	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/26/20 13:59	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/26/20 13:59	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/26/20 13:59	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/26/20 13:59	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/26/20 13:59	1

Client Sample ID: RB-01-051920
Lab Sample ID: 580-94806-3

Date Collected: 05/19/20 13:55
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/26/20 13:59	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/26/20 13:59	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/26/20 13:59	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/26/20 13:59	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/26/20 13:59	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 13:59	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 13:59	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/26/20 13:59	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/26/20 13:59	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/26/20 13:59	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/26/20 13:59	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/26/20 13:59	1
Naphthalene	ND		1.0	0.22	ug/L			05/26/20 13:59	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/26/20 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/26/20 13:59*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*05/26/20 13:59*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/26/20 13:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*05/26/20 13:59*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.10**	**J B *1**	0.20	0.066	ug/L			05/29/20 20:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/29/20 20:27*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/29/20 20:27*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*05/29/20 20:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*05/29/20 20:27*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.014	0.0055	ug/L		05/26/20 15:42	05/27/20 16:21	1
4,4'-DDE	ND		0.0092	0.0028	ug/L		05/26/20 15:42	05/27/20 16:21	1
4,4'-DDT	ND		0.018	0.0046	ug/L		05/26/20 15:42	05/27/20 16:21	1
Aldrin	ND		0.022	0.0065	ug/L		05/26/20 15:42	05/27/20 16:21	1
alpha-BHC	ND		0.017	0.0037	ug/L		05/26/20 15:42	05/27/20 16:21	1
cis-Chlordane	ND		0.025	0.0074	ug/L		05/26/20 15:42	05/27/20 16:21	1
beta-BHC	ND		0.019	0.0046	ug/L		05/26/20 15:42	05/27/20 16:21	1
Chlordane (technical)	ND		0.18	0.028	ug/L		05/26/20 15:42	05/27/20 16:21	1
delta-BHC	ND		0.014	0.0046	ug/L		05/26/20 15:42	05/27/20 16:21	1
Dieldrin	ND		0.017	0.0046	ug/L		05/26/20 15:42	05/27/20 16:21	1
Endosulfan I	ND		0.018	0.0028	ug/L		05/26/20 15:42	05/27/20 16:21	1
Endosulfan II	ND		0.022	0.0046	ug/L		05/26/20 15:42	05/27/20 16:21	1
Endosulfan sulfate	ND		0.018	0.0028	ug/L		05/26/20 15:42	05/27/20 16:21	1
Endrin	ND		0.011	0.0028	ug/L		05/26/20 15:42	05/27/20 16:21	1
Endrin aldehyde	ND		0.055	0.031	ug/L		05/26/20 15:42	05/27/20 16:21	1
Endrin ketone	ND		0.018	0.0018	ug/L		05/26/20 15:42	05/27/20 16:21	1
gamma-BHC (Lindane)	ND		0.018	0.0046	ug/L		05/26/20 15:42	05/27/20 16:21	1

Client Sample ID: RB-01-051920
Lab Sample ID: 580-94806-3

Date Collected: 05/19/20 13:55
Matrix: Water
Date Received: 05/20/20 12:15

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.018	0.0028	ug/L		05/26/20 15:42	05/27/20 16:21	1
Heptachlor	ND		0.014	0.0037	ug/L		05/26/20 15:42	05/27/20 16:21	1
Heptachlor epoxide	ND		0.018	0.0028	ug/L		05/26/20 15:42	05/27/20 16:21	1
Methoxychlor	ND		0.092	0.0046	ug/L		05/26/20 15:42	05/27/20 16:21	1
Toxaphene	ND		1.8	0.42	ug/L		05/26/20 15:42	05/27/20 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*45 - 127*	*05/26/20 15:42*	*05/27/20 16:21*	*1*
Tetrachloro-m-xylene	*53*		*33 - 120*	*05/26/20 15:42*	*05/27/20 16:21*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/27/20 03:16	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/08/20 17:05	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/22/20 10:49	05/26/20 13:34	5
Chromium	ND		0.0040	0.00087	mg/L		05/22/20 10:49	05/26/20 13:34	5
Iron	ND		1.0	0.18	mg/L		05/22/20 10:49	05/26/20 13:34	5
Manganese	ND		0.010	0.0023	mg/L		05/22/20 10:49	05/26/20 13:34	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 17:23	5
Chromium	ND		0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 17:23	5
Iron	ND		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 17:23	5
Manganese	**0.0048**	**J**	0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 17:23	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**0.22**	**J**	0.90	0.14	mg/L			05/25/20 02:12	1

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: EB-01-051920
Lab Sample ID: 580-94806-4

Date Collected: 05/19/20 15:00
Matrix: Water
Date Received: 05/20/20 12:15

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/27/20 03:28	1

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/22/20 11:53	05/26/20 17:27	5
Chromium	ND		0.0040	0.00087	mg/L		05/22/20 11:53	05/26/20 17:27	5
Iron	ND		1.0	0.18	mg/L		05/22/20 11:53	05/26/20 17:27	5
Manganese	ND		0.010	0.0023	mg/L		05/22/20 11:53	05/26/20 17:27	5

Client: ERM-West
Project/Site: Arkema - Q2 2020 Groundwater Event

Job ID: 580-94806-1

Client Sample ID: MWA-53i-052020
Date Collected: 05/20/20 07:31
Date Received: 05/20/20 12:15

Lab Sample ID: 580-94806-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/26/20 18:24	1
Chloromethane	ND		0.50	0.068	ug/L			05/26/20 18:24	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/26/20 18:24	1
Bromomethane	ND	*	0.50	0.062	ug/L			05/26/20 18:24	1
Chloroethane	ND		0.50	0.096	ug/L			05/26/20 18:24	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/26/20 18:24	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/26/20 18:24	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/26/20 18:24	1
Acetone	ND		10	3.1	ug/L			05/26/20 18:24	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/26/20 18:24	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/26/20 18:24	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/26/20 18:24	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/26/20 18:24	1
1,1-Dichloroethane	**0.22**		0.20	0.025	ug/L			05/26/20 18:24	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/26/20 18:24	1
cis-1,2-Dichloroethene	**0.15**	**J B**	0.20	0.055	ug/L			05/26/20 18:24	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/26/20 18:24	1
Chloroform	ND		0.20	0.030	ug/L			05/26/20 18:24	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/26/20 18:24	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/26/20 18:24	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/26/20 18:24	1
Benzene	ND		0.20	0.030	ug/L			05/26/20 18:24	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/26/20 18:24	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/26/20 18:24	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/26/20 18:24	1
Dibromomethane	ND		0.20	0.062	ug/L			05/26/20 18:24	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/26/20 18:24	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/26/20 18:24	1
Toluene	ND		0.20	0.050	ug/L			05/26/20 18:24	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/26/20 18:24	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/26/20 18:24	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/26/20 18:24	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/26/20 18:24	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/26/20 18:24	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/26/20 18:24	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/26/20 18:24	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/26/20 18:24	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/26/20 18:24	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/26/20 18:24	1
o-Xylene	ND		0.50	0.15	ug/L			05/26/20 18:24	1
Styrene	ND		1.0	0.19	ug/L			05/26/20 18:24	1
Bromoform	ND		0.50	0.16	ug/L			05/26/20 18:24	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/26/20 18:24	1
Bromobenzene	ND		0.20	0.035	ug/L			05/26/20 18:24	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/26/20 18:24	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/26/20 18:24	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/26/20 18:24	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/26/20 18:24	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/26/20 18:24	1

Client Sample ID: MWA-53i-052020
Lab Sample ID: 580-94806-5
Date Collected: 05/20/20 07:31
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/26/20 18:24	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/26/20 18:24	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/26/20 18:24	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/26/20 18:24	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/26/20 18:24	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 18:24	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 18:24	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/26/20 18:24	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/26/20 18:24	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/26/20 18:24	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/26/20 18:24	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/26/20 18:24	1
Naphthalene	ND		1.0	0.22	ug/L			05/26/20 18:24	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/26/20 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/26/20 18:24*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/26/20 18:24*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*05/26/20 18:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*05/26/20 18:24*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.15**	**J B *1**	0.20	0.066	ug/L			05/29/20 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/29/20 16:55*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*05/29/20 16:55*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*05/29/20 16:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*05/29/20 16:55*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:16	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:16	1
4,4'-DDT	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:16	1
Aldrin	ND		0.0048	0.0014	ug/L		05/26/20 05:25	05/29/20 13:16	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:16	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/26/20 05:25	05/29/20 13:16	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/26/20 05:25	05/29/20 13:16	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/26/20 05:25	05/29/20 13:16	1
delta-BHC	ND		0.0048	0.0034	ug/L		05/26/20 05:25	05/29/20 13:16	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/29/20 13:16	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/26/20 05:25	05/29/20 13:16	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/29/20 13:16	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/29/20 13:16	1
Endrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/29/20 13:16	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/26/20 05:25	05/29/20 13:16	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/26/20 05:25	05/29/20 13:16	1
gamma-BHC (Lindane)	**0.0033**	**J p**	0.0096	0.0029	ug/L		05/26/20 05:25	05/29/20 13:16	1

Client Sample ID: MWA-53i-052020
Lab Sample ID: 580-94806-5

Date Collected: 05/20/20 07:31
Matrix: Water

Date Received: 05/20/20 12:15

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.096	0.029	ug/L		05/26/20 05:25	05/29/20 13:16	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/29/20 13:16	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:16	1
Methoxychlor	ND		0.0048	0.0034	ug/L		05/26/20 05:25	05/29/20 13:16	1
Toxaphene	ND		0.48	0.24	ug/L		05/26/20 05:25	05/29/20 13:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*67*		*28 - 108*	*05/26/20 05:25*	*05/29/20 13:16*	*1*
Tetrachloro-m-xylene	*69*		*10 - 123*	*05/26/20 05:25*	*05/29/20 13:16*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10	2.5	ug/L			05/27/20 01:30	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/02/20 02:10	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0033**	**J**	0.0050	0.0010	mg/L		05/22/20 10:49	05/26/20 13:37	5
Chromium	**0.069**		0.0040	0.00087	mg/L		05/22/20 10:49	05/26/20 13:37	5
Iron	**3.3**		1.0	0.18	mg/L		05/22/20 10:49	05/26/20 13:37	5
Manganese	**0.056**		0.010	0.0023	mg/L		05/22/20 10:49	05/26/20 13:37	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0024**	**J**	0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 17:58	5
Chromium	**0.088**		0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 17:58	5
Iron	**1.5**		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 17:58	5
Manganese	**0.044**		0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 17:58	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**380**		9.0	1.4	mg/L			05/25/20 02:23	10

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: Dup-01-052020
Lab Sample ID: 580-94806-6
Date Collected: 05/20/20 07:32
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/26/20 18:51	1
Chloromethane	ND		0.50	0.068	ug/L			05/26/20 18:51	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/26/20 18:51	1
Bromomethane	ND	*	0.50	0.062	ug/L			05/26/20 18:51	1
Chloroethane	ND		0.50	0.096	ug/L			05/26/20 18:51	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/26/20 18:51	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/26/20 18:51	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/26/20 18:51	1
Acetone	ND		10	3.1	ug/L			05/26/20 18:51	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/26/20 18:51	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/26/20 18:51	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/26/20 18:51	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/26/20 18:51	1
1,1-Dichloroethane	**0.22**		0.20	0.025	ug/L			05/26/20 18:51	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/26/20 18:51	1
cis-1,2-Dichloroethene	**0.15**	**J B**	0.20	0.055	ug/L			05/26/20 18:51	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/26/20 18:51	1
Chloroform	ND		0.20	0.030	ug/L			05/26/20 18:51	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/26/20 18:51	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/26/20 18:51	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/26/20 18:51	1
Benzene	ND		0.20	0.030	ug/L			05/26/20 18:51	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/26/20 18:51	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/26/20 18:51	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/26/20 18:51	1
Dibromomethane	ND		0.20	0.062	ug/L			05/26/20 18:51	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/26/20 18:51	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/26/20 18:51	1
Toluene	ND		0.20	0.050	ug/L			05/26/20 18:51	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/26/20 18:51	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/26/20 18:51	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/26/20 18:51	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/26/20 18:51	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/26/20 18:51	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/26/20 18:51	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/26/20 18:51	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/26/20 18:51	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/26/20 18:51	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/26/20 18:51	1
o-Xylene	ND		0.50	0.15	ug/L			05/26/20 18:51	1
Styrene	ND		1.0	0.19	ug/L			05/26/20 18:51	1
Bromoform	ND		0.50	0.16	ug/L			05/26/20 18:51	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/26/20 18:51	1
Bromobenzene	ND		0.20	0.035	ug/L			05/26/20 18:51	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/26/20 18:51	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/26/20 18:51	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/26/20 18:51	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/26/20 18:51	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/26/20 18:51	1

Client Sample ID: Dup-01-052020
Lab Sample ID: 580-94806-6

Date Collected: 05/20/20 07:32
Matrix: Water

Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/26/20 18:51	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/26/20 18:51	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/26/20 18:51	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/26/20 18:51	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/26/20 18:51	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 18:51	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 18:51	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/26/20 18:51	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/26/20 18:51	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/26/20 18:51	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/26/20 18:51	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/26/20 18:51	1
Naphthalene	ND		1.0	0.22	ug/L			05/26/20 18:51	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/26/20 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/26/20 18:51*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/26/20 18:51*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/26/20 18:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*05/26/20 18:51*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.16**	**J B *1**	0.20	0.066	ug/L			05/29/20 16:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/29/20 16:28*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/29/20 16:28*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/29/20 16:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*05/29/20 16:28*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:32	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:32	1
4,4'-DDT	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:32	1
Aldrin	ND		0.0048	0.0014	ug/L		05/26/20 05:25	05/29/20 13:32	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:32	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/26/20 05:25	05/29/20 13:32	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/26/20 05:25	05/29/20 13:32	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/26/20 05:25	05/29/20 13:32	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/26/20 05:25	05/29/20 13:32	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/29/20 13:32	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/26/20 05:25	05/29/20 13:32	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/29/20 13:32	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/29/20 13:32	1
Endrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/29/20 13:32	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/26/20 05:25	05/29/20 13:32	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/26/20 05:25	05/29/20 13:32	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/29/20 13:32	1

Client Sample ID: Dup-01-052020
Lab Sample ID: 580-94806-6
Date Collected: 05/20/20 07:32
Matrix: Water
Date Received: 05/20/20 12:15

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.096	0.029	ug/L		05/26/20 05:25	05/29/20 13:32	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/29/20 13:32	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/29/20 13:32	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/26/20 05:25	05/29/20 13:32	1
Toxaphene	ND		0.48	0.24	ug/L		05/26/20 05:25	05/29/20 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*64*		*28 - 108*	*05/26/20 05:25*	*05/29/20 13:32*	*1*
Tetrachloro-m-xylene	*66*		*10 - 123*	*05/26/20 05:25*	*05/29/20 13:32*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10	2.5	ug/L			05/27/20 01:43	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/02/20 02:45	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0040**	**J**	0.0050	0.0010	mg/L		05/22/20 10:49	05/26/20 13:40	5
Chromium	**0.11**		0.0040	0.00087	mg/L		05/22/20 10:49	05/26/20 13:40	5
Iron	**4.6**		1.0	0.18	mg/L		05/22/20 10:49	05/26/20 13:40	5
Manganese	**0.060**		0.010	0.0023	mg/L		05/22/20 10:49	05/26/20 13:40	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0027**	**J**	0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 18:01	5
Chromium	**0.12**		0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 18:01	5
Iron	**1.9**		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 18:01	5
Manganese	**0.043**		0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 18:01	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**380**		9.0	1.4	mg/L			05/25/20 02:35	10

Client Sample ID: MWA-32i-052020
Lab Sample ID: 580-94806-7

Date Collected: 05/20/20 08:56
Matrix: Water

Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*1 *	0.40	0.13	ug/L			05/29/20 16:02	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 16:02	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 16:02	1
Bromomethane	ND		0.50	0.062	ug/L			05/29/20 16:02	1
Chloroethane	ND		0.50	0.096	ug/L			05/29/20 16:02	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/29/20 16:02	1
Trichlorofluoromethane	ND	*1	0.50	0.043	ug/L			05/29/20 16:02	1
1,1-Dichloroethene	ND	*1	0.20	0.035	ug/L			05/29/20 16:02	1
Acetone	ND		10	3.1	ug/L			05/29/20 16:02	1
Methylene Chloride	ND	F1	5.0	1.2	ug/L			05/29/20 16:02	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 16:02	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/29/20 16:02	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 16:02	1
1,1-Dichloroethane	**0.29**		0.20	0.025	ug/L			05/29/20 16:02	1
2,2-Dichloropropane	ND	F1 *1	0.50	0.060	ug/L			05/29/20 16:02	1
cis-1,2-Dichloroethene	**0.14**	**J**	0.20	0.055	ug/L			05/29/20 16:02	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 16:02	1
Chloroform	ND		0.20	0.030	ug/L			05/29/20 16:02	1
1,1,1-Trichloroethane	ND	*1	0.20	0.025	ug/L			05/29/20 16:02	1
Carbon tetrachloride	ND	*1	0.20	0.025	ug/L			05/29/20 16:02	1
1,1-Dichloropropene	ND	*1	0.20	0.036	ug/L			05/29/20 16:02	1
Benzene	ND		0.20	0.030	ug/L			05/29/20 16:02	1
1,2-Dichloroethane	ND	*1	0.20	0.043	ug/L			05/29/20 16:02	1
Trichloroethene	**0.23**	**B *1**	0.20	0.066	ug/L			05/29/20 16:02	1
1,2-Dichloropropane	ND	*1	0.20	0.060	ug/L			05/29/20 16:02	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 16:02	1
Dibromomethane	ND	*1	0.20	0.062	ug/L			05/29/20 16:02	1
Dichlorobromomethane	ND	*1	0.20	0.060	ug/L			05/29/20 16:02	1
cis-1,3-Dichloropropene	ND	*1	0.20	0.090	ug/L			05/29/20 16:02	1
Toluene	ND	F1	0.20	0.050	ug/L			05/29/20 16:02	1
trans-1,3-Dichloropropene	ND	F1 * *1	0.20	0.092	ug/L			05/29/20 16:02	1
1,1,2-Trichloroethane	ND	*1	0.20	0.070	ug/L			05/29/20 16:02	1
Tetrachloroethene	ND	*1	0.50	0.084	ug/L			05/29/20 16:02	1
1,3-Dichloropropane	ND	*1	0.20	0.025	ug/L			05/29/20 16:02	1
Chlorodibromomethane	ND	*1	0.20	0.055	ug/L			05/29/20 16:02	1
Ethylene Dibromide	ND	*1	0.10	0.025	ug/L			05/29/20 16:02	1
Chlorobenzene	**0.11**	**J *1**	0.20	0.025	ug/L			05/29/20 16:02	1
1,1,1,2-Tetrachloroethane	ND	F1	0.30	0.027	ug/L			05/29/20 16:02	1
Ethylbenzene	ND	F1	0.20	0.030	ug/L			05/29/20 16:02	1
m-Xylene & p-Xylene	ND	F1	0.50	0.12	ug/L			05/29/20 16:02	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 16:02	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 16:02	1
Bromoform	ND	F1	0.50	0.16	ug/L			05/29/20 16:02	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 16:02	1
Bromobenzene	ND	*1	0.20	0.035	ug/L			05/29/20 16:02	1
1,1,2,2-Tetrachloroethane	ND	*1	0.20	0.056	ug/L			05/29/20 16:02	1
1,2,3-Trichloropropane	ND	*1 F1	0.20	0.050	ug/L			05/29/20 16:02	1
N-Propylbenzene	ND	*1	0.30	0.091	ug/L			05/29/20 16:02	1
2-Chlorotoluene	ND	F1 *1	0.50	0.12	ug/L			05/29/20 16:02	1

Client Sample ID: MWA-32i-052020
Lab Sample ID: 580-94806-7

Date Collected: 05/20/20 08:56
Matrix: Water

Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND	*1	0.30	0.050	ug/L			05/29/20 16:02	1
1,3,5-Trimethylbenzene	ND	*1 F1	0.50	0.15	ug/L			05/29/20 16:02	1
tert-Butylbenzene	ND	*1	0.50	0.26	ug/L			05/29/20 16:02	1
1,2,4-Trimethylbenzene	ND	F1 *1	0.30	0.072	ug/L			05/29/20 16:02	1
sec-Butylbenzene	ND	*1	1.0	0.17	ug/L			05/29/20 16:02	1
4-Isopropyltoluene	ND	F1 *1	0.50	0.15	ug/L			05/29/20 16:02	1
1,3-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 16:02	1
1,4-Dichlorobenzene	ND	*1 F1	0.30	0.050	ug/L			05/29/20 16:02	1
n-Butylbenzene	ND	F1 *1	1.0	0.23	ug/L			05/29/20 16:02	1
1,2-Dichlorobenzene	**0.039**	**J *1 F1**	0.30	0.024	ug/L			05/29/20 16:02	1
1,2-Dibromo-3-Chloropropane	ND	F1	2.0	0.44	ug/L			05/29/20 16:02	1
1,2,4-Trichlorobenzene	ND	F1 *1	0.50	0.17	ug/L			05/29/20 16:02	1
Hexachlorobutadiene	ND	F1 *1	0.50	0.067	ug/L			05/29/20 16:02	1
Naphthalene	ND		1.0	0.22	ug/L			05/29/20 16:02	1
1,2,3-Trichlorobenzene	ND	F1	0.50	0.15	ug/L			05/29/20 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/29/20 16:02*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/29/20 16:02*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*05/29/20 16:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*05/29/20 16:02*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.011**		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 14:30	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 14:30	1
4,4'-DDT	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 14:30	1
Aldrin	ND		0.0048	0.0014	ug/L		05/26/20 05:25	05/26/20 14:30	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 14:30	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/26/20 05:25	05/26/20 14:30	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/26/20 05:25	05/26/20 14:30	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/26/20 05:25	05/26/20 14:30	1
delta-BHC	**0.0045**	**J p**	0.0048	0.0033	ug/L		05/26/20 05:25	05/26/20 14:30	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/26/20 14:30	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/26/20 05:25	05/26/20 14:30	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/26/20 14:30	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/26/20 14:30	1
Endrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/26/20 14:30	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/26/20 05:25	05/26/20 14:30	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/26/20 05:25	05/26/20 14:30	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/26/20 14:30	1
trans-Chlordane	ND		0.096	0.029	ug/L		05/26/20 05:25	05/26/20 14:30	1
Heptachlor	**0.0073**	**J**	0.0096	0.0029	ug/L		05/26/20 05:25	05/26/20 14:30	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 14:30	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/26/20 05:25	05/26/20 14:30	1
Toxaphene	ND		0.48	0.24	ug/L		05/26/20 05:25	05/26/20 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*61*		*28 - 108*	*05/26/20 05:25*	*05/26/20 14:30*	*1*
Tetrachloro-m-xylene	*407*	*X*	*10 - 123*	*05/26/20 05:25*	*05/26/20 14:30*	*1*

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-32i-052020
Lab Sample ID: 580-94806-7
Date Collected: 05/20/20 08:56
Matrix: Water
Date Received: 05/20/20 12:15

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	F1	10	2.5	ug/L			05/27/20 01:57	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		80	19	ug/L			06/08/20 20:16	20

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.015**		0.0050	0.0010	mg/L		05/22/20 10:49	05/26/20 13:00	5
Chromium	**0.10**		0.0040	0.00087	mg/L		05/22/20 10:49	05/26/20 13:00	5
Iron	**10**		1.0	0.18	mg/L		05/22/20 10:49	05/26/20 13:00	5
Manganese	**0.26**		0.010	0.0023	mg/L		05/22/20 10:49	05/26/20 13:00	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.015**		0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 16:46	5
Chromium	**0.069**		0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 16:46	5
Iron	**9.1**		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 16:46	5
Manganese	**0.24**		0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 16:46	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**		90	14	mg/L			05/25/20 02:47	100

Client Sample ID: MWA-31i(d)-052020
Lab Sample ID: 580-94806-8

Date Collected: 05/20/20 11:00
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/28/20 18:34	1
Chloromethane	ND		20	0.28	ug/L			05/28/20 18:34	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/28/20 18:34	1
Bromomethane	ND		6.0	0.21	ug/L			05/28/20 18:34	1
Chloroethane	ND		5.0	0.35	ug/L			05/28/20 18:34	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/28/20 18:34	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/28/20 18:34	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/28/20 18:34	1
Acetone	ND		50	3.2	ug/L			05/28/20 18:34	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/28/20 18:34	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/28/20 18:34	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/28/20 18:34	1
1,1-Dichloroethane	**0.37**	**J**	2.0	0.22	ug/L			05/28/20 18:34	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/28/20 18:34	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/28/20 18:34	1
cis-1,2-Dichloroethene	ND	* *1	3.0	0.69	ug/L			05/28/20 18:34	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/28/20 18:34	1
Chloroform	**73**		5.0	0.26	ug/L			05/28/20 18:34	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/28/20 18:34	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/28/20 18:34	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/28/20 18:34	1
Benzene	ND		3.0	0.24	ug/L			05/28/20 18:34	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/28/20 18:34	1
Trichloroethene	ND		3.0	0.26	ug/L			05/28/20 18:34	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/28/20 18:34	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/28/20 18:34	1
Dibromomethane	ND		2.0	0.34	ug/L			05/28/20 18:34	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/28/20 18:34	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/28/20 18:34	1
Toluene	ND		2.0	0.39	ug/L			05/28/20 18:34	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/28/20 18:34	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/28/20 18:34	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/28/20 18:34	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/28/20 18:34	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/28/20 18:34	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/28/20 18:34	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/28/20 18:34	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/28/20 18:34	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/28/20 18:34	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/28/20 18:34	1
o-Xylene	ND		2.0	0.39	ug/L			05/28/20 18:34	1
Styrene	ND		5.0	1.0	ug/L			05/28/20 18:34	1
Bromoform	ND		3.0	0.56	ug/L			05/28/20 18:34	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/28/20 18:34	1
Bromobenzene	ND		2.0	0.43	ug/L			05/28/20 18:34	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/28/20 18:34	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/28/20 18:34	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/28/20 18:34	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/28/20 18:34	1

Client Sample ID: MWA-31i(d)-052020
Lab Sample ID: 580-94806-8

Date Collected: 05/20/20 11:00
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/28/20 18:34	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/28/20 18:34	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/28/20 18:34	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/28/20 18:34	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/28/20 18:34	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/28/20 18:34	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/28/20 18:34	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/28/20 18:34	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/28/20 18:34	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/28/20 18:34	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/28/20 18:34	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/28/20 18:34	1
Naphthalene	ND		4.0	0.93	ug/L			05/28/20 18:34	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/28/20 18:34	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/28/20 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*05/28/20 18:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*05/28/20 18:34*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*05/28/20 18:34*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/28/20 18:34*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0046	0.0023	ug/L		05/26/20 05:25	05/29/20 13:47	1
4,4'-DDE	**0.0054**		0.0046	0.0023	ug/L		05/26/20 05:25	05/29/20 13:47	1
4,4'-DDT	ND		0.0046	0.0023	ug/L		05/26/20 05:25	05/29/20 13:47	1
Aldrin	ND		0.0046	0.0014	ug/L		05/26/20 05:25	05/29/20 13:47	1
alpha-BHC	ND		0.0046	0.0023	ug/L		05/26/20 05:25	05/29/20 13:47	1
cis-Chlordane	ND		0.093	0.013	ug/L		05/26/20 05:25	05/29/20 13:47	1
beta-BHC	ND		0.0093	0.0037	ug/L		05/26/20 05:25	05/29/20 13:47	1
Chlordane (technical)	ND		0.093	0.074	ug/L		05/26/20 05:25	05/29/20 13:47	1
delta-BHC	ND		0.0046	0.0032	ug/L		05/26/20 05:25	05/29/20 13:47	1
Dieldrin	ND		0.0046	0.0019	ug/L		05/26/20 05:25	05/29/20 13:47	1
Endosulfan I	ND		0.0046	0.0028	ug/L		05/26/20 05:25	05/29/20 13:47	1
Endosulfan II	ND		0.0046	0.0019	ug/L		05/26/20 05:25	05/29/20 13:47	1
Endosulfan sulfate	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/29/20 13:47	1
Endrin	ND		0.0046	0.0019	ug/L		05/26/20 05:25	05/29/20 13:47	1
Endrin aldehyde	ND		0.0093	0.0019	ug/L		05/26/20 05:25	05/29/20 13:47	1
Endrin ketone	ND		0.0093	0.0065	ug/L		05/26/20 05:25	05/29/20 13:47	1
gamma-BHC (Lindane)	**0.013**	**p**	0.0093	0.0028	ug/L		05/26/20 05:25	05/29/20 13:47	1
trans-Chlordane	ND		0.093	0.028	ug/L		05/26/20 05:25	05/29/20 13:47	1
Heptachlor	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/29/20 13:47	1
Heptachlor epoxide	**0.0046**	**p**	0.0046	0.0023	ug/L		05/26/20 05:25	05/29/20 13:47	1
Methoxychlor	ND		0.0046	0.0032	ug/L		05/26/20 05:25	05/29/20 13:47	1
Toxaphene	ND		0.46	0.23	ug/L		05/26/20 05:25	05/29/20 13:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*70*		*28 - 108*	*05/26/20 05:25*	*05/29/20 13:47*	*1*
Tetrachloro-m-xylene	*69*		*10 - 123*	*05/26/20 05:25*	*05/29/20 13:47*	*1*

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-31i(d)-052020
Lab Sample ID: 580-94806-8
Date Collected: 05/20/20 11:00
Matrix: Water
Date Received: 05/20/20 12:15

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/27/20 02:38	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**100000**		8000	1900	ug/L			06/10/20 12:40	2000

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0037**	**J**	0.0050	0.0010	mg/L		05/22/20 10:49	05/26/20 13:43	5
Chromium	**0.040**		0.0040	0.00087	mg/L		05/22/20 10:49	05/26/20 13:43	5
Iron	**0.27**	**J**	1.0	0.18	mg/L		05/22/20 10:49	05/26/20 13:43	5
Manganese	**17**		0.010	0.0023	mg/L		05/22/20 10:49	05/26/20 13:43	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0036**	**J**	0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 17:33	5
Chromium	**0.0027**	**J**	0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 17:33	5
Iron	ND		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 17:33	5
Manganese	**27**		0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 17:33	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**27000**		900	140	mg/L			05/25/20 04:32	1000

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-28-052020
Lab Sample ID: 580-94806-9
Date Collected: 05/20/20 10:30
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/28/20 19:01	1
Chloromethane	ND		20	0.28	ug/L			05/28/20 19:01	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/28/20 19:01	1
Bromomethane	ND		6.0	0.21	ug/L			05/28/20 19:01	1
Chloroethane	ND		5.0	0.35	ug/L			05/28/20 19:01	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/28/20 19:01	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/28/20 19:01	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/28/20 19:01	1
Acetone	ND		50	3.2	ug/L			05/28/20 19:01	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/28/20 19:01	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/28/20 19:01	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/28/20 19:01	1
1,1-Dichloroethane	**0.86**	**J**	2.0	0.22	ug/L			05/28/20 19:01	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/28/20 19:01	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/28/20 19:01	1
cis-1,2-Dichloroethene	ND	* *1	3.0	0.69	ug/L			05/28/20 19:01	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/28/20 19:01	1
Chloroform	**2.0**	**J**	5.0	0.26	ug/L			05/28/20 19:01	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/28/20 19:01	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/28/20 19:01	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/28/20 19:01	1
Benzene	**7.8**		3.0	0.24	ug/L			05/28/20 19:01	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/28/20 19:01	1
Trichloroethene	**3.0**		3.0	0.26	ug/L			05/28/20 19:01	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/28/20 19:01	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/28/20 19:01	1
Dibromomethane	ND		2.0	0.34	ug/L			05/28/20 19:01	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/28/20 19:01	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/28/20 19:01	1
Toluene	ND		2.0	0.39	ug/L			05/28/20 19:01	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/28/20 19:01	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/28/20 19:01	1
Tetrachloroethene	**0.54**	**J**	3.0	0.41	ug/L			05/28/20 19:01	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/28/20 19:01	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/28/20 19:01	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/28/20 19:01	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/28/20 19:01	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/28/20 19:01	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/28/20 19:01	1
o-Xylene	ND		2.0	0.39	ug/L			05/28/20 19:01	1
Styrene	ND		5.0	1.0	ug/L			05/28/20 19:01	1
Bromoform	ND		3.0	0.56	ug/L			05/28/20 19:01	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/28/20 19:01	1
Bromobenzene	ND		2.0	0.43	ug/L			05/28/20 19:01	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/28/20 19:01	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/28/20 19:01	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/28/20 19:01	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/28/20 19:01	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/28/20 19:01	1

Client Sample ID: PA-28-052020
Lab Sample ID: 580-94806-9

Date Collected: 05/20/20 10:30
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			05/28/20 19:01	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/28/20 19:01	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/28/20 19:01	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/28/20 19:01	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/28/20 19:01	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/28/20 19:01	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/28/20 19:01	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/28/20 19:01	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/28/20 19:01	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/28/20 19:01	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/28/20 19:01	1
Naphthalene	ND		4.0	0.93	ug/L			05/28/20 19:01	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/28/20 19:01	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/28/20 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/28/20 19:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*05/28/20 19:01*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/28/20 19:01*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/28/20 19:01*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**2000**		200	44	ug/L			06/03/20 01:20	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/03/20 01:20*	*100*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/03/20 01:20*	*100*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/03/20 01:20*	*100*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/03/20 01:20*	*100*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		50	13	ug/L			05/27/20 02:51	50

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 16:12	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.023**		0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 18:07	5
Chromium	**0.063**		0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 18:07	5
Iron	**2.2**		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 18:07	5
Manganese	**0.074**		0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 18:07	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79**		0.90	0.14	mg/L			05/25/20 04:44	1

Client: ERM-West
Project/Site: Arkema - Q2 2020 Groundwater Event

Job ID: 580-94806-1

Client Sample ID: PA-23d-052020
Date Collected: 05/20/20 09:45
Date Received: 05/20/20 12:15

Lab Sample ID: 580-94806-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/28/20 19:27	1
Chloromethane	ND		20	0.28	ug/L			05/28/20 19:27	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/28/20 19:27	1
Bromomethane	ND		6.0	0.21	ug/L			05/28/20 19:27	1
Chloroethane	ND		5.0	0.35	ug/L			05/28/20 19:27	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/28/20 19:27	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/28/20 19:27	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/28/20 19:27	1
Acetone	ND		50	3.2	ug/L			05/28/20 19:27	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/28/20 19:27	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/28/20 19:27	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/28/20 19:27	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/28/20 19:27	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/28/20 19:27	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/28/20 19:27	1
cis-1,2-Dichloroethene	ND	* *1	3.0	0.69	ug/L			05/28/20 19:27	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/28/20 19:27	1
Chloroform	ND		5.0	0.26	ug/L			05/28/20 19:27	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/28/20 19:27	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/28/20 19:27	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/28/20 19:27	1
Benzene	ND		3.0	0.24	ug/L			05/28/20 19:27	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/28/20 19:27	1
Trichloroethene	ND		3.0	0.26	ug/L			05/28/20 19:27	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/28/20 19:27	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/28/20 19:27	1
Dibromomethane	ND		2.0	0.34	ug/L			05/28/20 19:27	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/28/20 19:27	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/28/20 19:27	1
Toluene	ND		2.0	0.39	ug/L			05/28/20 19:27	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/28/20 19:27	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/28/20 19:27	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/28/20 19:27	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/28/20 19:27	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/28/20 19:27	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/28/20 19:27	1
Chlorobenzene	**1.3**	**J**	2.0	0.44	ug/L			05/28/20 19:27	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/28/20 19:27	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/28/20 19:27	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/28/20 19:27	1
o-Xylene	ND		2.0	0.39	ug/L			05/28/20 19:27	1
Styrene	ND		5.0	1.0	ug/L			05/28/20 19:27	1
Bromoform	ND		3.0	0.56	ug/L			05/28/20 19:27	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/28/20 19:27	1
Bromobenzene	ND		2.0	0.43	ug/L			05/28/20 19:27	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/28/20 19:27	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/28/20 19:27	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/28/20 19:27	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/28/20 19:27	1

Client Sample ID: PA-23d-052020
Lab Sample ID: 580-94806-10

Date Collected: 05/20/20 09:45
Matrix: Water
Date Received: 05/20/20 12:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/28/20 19:27	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/28/20 19:27	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/28/20 19:27	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/28/20 19:27	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/28/20 19:27	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/28/20 19:27	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/28/20 19:27	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/28/20 19:27	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/28/20 19:27	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/28/20 19:27	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/28/20 19:27	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/28/20 19:27	1
Naphthalene	ND		4.0	0.93	ug/L			05/28/20 19:27	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/28/20 19:27	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/28/20 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/28/20 19:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*05/28/20 19:27*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*05/28/20 19:27*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/28/20 19:27*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.0073**		0.0049	0.0024	ug/L		05/26/20 05:25	05/29/20 14:02	1
4,4'-DDE	**0.0073**		0.0049	0.0024	ug/L		05/26/20 05:25	05/29/20 14:02	1
4,4'-DDT	**0.080**		0.0049	0.0024	ug/L		05/26/20 05:25	05/29/20 14:02	1
Aldrin	ND		0.0049	0.0015	ug/L		05/26/20 05:25	05/29/20 14:02	1
alpha-BHC	ND		0.0049	0.0024	ug/L		05/26/20 05:25	05/29/20 14:02	1
cis-Chlordane	ND		0.098	0.014	ug/L		05/26/20 05:25	05/29/20 14:02	1
beta-BHC	ND		0.0098	0.0039	ug/L		05/26/20 05:25	05/29/20 14:02	1
Chlordane (technical)	ND		0.098	0.078	ug/L		05/26/20 05:25	05/29/20 14:02	1
delta-BHC	ND		0.0049	0.0034	ug/L		05/26/20 05:25	05/29/20 14:02	1
Dieldrin	ND		0.0049	0.0020	ug/L		05/26/20 05:25	05/29/20 14:02	1
Endosulfan I	ND		0.0049	0.0029	ug/L		05/26/20 05:25	05/29/20 14:02	1
Endosulfan II	ND		0.0049	0.0020	ug/L		05/26/20 05:25	05/29/20 14:02	1
Endosulfan sulfate	ND		0.0098	0.0029	ug/L		05/26/20 05:25	05/29/20 14:02	1
Endrin	ND		0.0049	0.0020	ug/L		05/26/20 05:25	05/29/20 14:02	1
Endrin aldehyde	ND		0.0098	0.0020	ug/L		05/26/20 05:25	05/29/20 14:02	1
Endrin ketone	ND		0.0098	0.0068	ug/L		05/26/20 05:25	05/29/20 14:02	1
gamma-BHC (Lindane)	ND		0.0098	0.0029	ug/L		05/26/20 05:25	05/29/20 14:02	1
trans-Chlordane	ND		0.098	0.029	ug/L		05/26/20 05:25	05/29/20 14:02	1
Heptachlor	ND		0.0098	0.0029	ug/L		05/26/20 05:25	05/29/20 14:02	1
Heptachlor epoxide	ND		0.0049	0.0024	ug/L		05/26/20 05:25	05/29/20 14:02	1
Methoxychlor	ND		0.0049	0.0034	ug/L		05/26/20 05:25	05/29/20 14:02	1
Toxaphene	ND		0.49	0.24	ug/L		05/26/20 05:25	05/29/20 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*75*		*28 - 108*	*05/26/20 05:25*	*05/29/20 14:02*	*1*
Tetrachloro-m-xylene	*76*		*10 - 123*	*05/26/20 05:25*	*05/29/20 14:02*	*1*

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-23d-052020
Lab Sample ID: 580-94806-10
Date Collected: 05/20/20 09:45
Matrix: Water
Date Received: 05/20/20 12:15

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/27/20 03:03	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	4.8	ug/L			06/09/20 19:57	5

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0015**	**J**	0.0050	0.0010	mg/L		05/22/20 10:49	05/26/20 13:46	5
Chromium	**0.0020**	**J**	0.0040	0.00087	mg/L		05/22/20 10:49	05/26/20 13:46	5
Iron	**0.53**	**J**	1.0	0.18	mg/L		05/22/20 10:49	05/26/20 13:46	5
Manganese	**9.6**		0.010	0.0023	mg/L		05/22/20 10:49	05/26/20 13:46	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0019**	**J**	0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 17:39	5
Chromium	ND		0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 17:39	5
Iron	**1.8**		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 17:39	5
Manganese	**16**		0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 17:39	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12000**		900	140	mg/L			05/25/20 05:07	1000

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

Lab Sample ID: MB 580-329050/7
Matrix: Water
Analysis Batch: 329050

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/26/20 13:06	1
Chloromethane	ND		0.50	0.068	ug/L			05/26/20 13:06	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/26/20 13:06	1
Bromomethane	ND		0.50	0.062	ug/L			05/26/20 13:06	1
Chloroethane	ND		0.50	0.096	ug/L			05/26/20 13:06	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/26/20 13:06	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/26/20 13:06	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/26/20 13:06	1
Acetone	ND		10	3.1	ug/L			05/26/20 13:06	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/26/20 13:06	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/26/20 13:06	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/26/20 13:06	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/26/20 13:06	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/26/20 13:06	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/26/20 13:06	1
cis-1,2-Dichloroethene	0.103	J	0.20	0.055	ug/L			05/26/20 13:06	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/26/20 13:06	1
Chloroform	ND		0.20	0.030	ug/L			05/26/20 13:06	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/26/20 13:06	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/26/20 13:06	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/26/20 13:06	1
Benzene	ND		0.20	0.030	ug/L			05/26/20 13:06	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/26/20 13:06	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/26/20 13:06	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/26/20 13:06	1
Dibromomethane	ND		0.20	0.062	ug/L			05/26/20 13:06	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/26/20 13:06	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/26/20 13:06	1
Toluene	ND		0.20	0.050	ug/L			05/26/20 13:06	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/26/20 13:06	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/26/20 13:06	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/26/20 13:06	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/26/20 13:06	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/26/20 13:06	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/26/20 13:06	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/26/20 13:06	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/26/20 13:06	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/26/20 13:06	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/26/20 13:06	1
o-Xylene	ND		0.50	0.15	ug/L			05/26/20 13:06	1
Styrene	ND		1.0	0.19	ug/L			05/26/20 13:06	1
Bromoform	ND		0.50	0.16	ug/L			05/26/20 13:06	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/26/20 13:06	1
Bromobenzene	ND		0.20	0.035	ug/L			05/26/20 13:06	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/26/20 13:06	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/26/20 13:06	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/26/20 13:06	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/26/20 13:06	1

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

Lab Sample ID: MB 580-329050/7
Matrix: Water
Analysis Batch: 329050

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/26/20 13:06	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/26/20 13:06	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/26/20 13:06	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/26/20 13:06	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/26/20 13:06	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/26/20 13:06	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 13:06	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/26/20 13:06	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/26/20 13:06	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/26/20 13:06	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/26/20 13:06	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/26/20 13:06	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/26/20 13:06	1
Naphthalene	ND		1.0	0.22	ug/L			05/26/20 13:06	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/26/20 13:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/26/20 13:06*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*05/26/20 13:06*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/26/20 13:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*05/26/20 13:06*	*1*

Lab Sample ID: LCS 580-329050/4
Matrix: Water
Analysis Batch: 329050

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	2.52		ug/L		50	20 - 137
Chloromethane	5.00	3.20		ug/L		64	32 - 143
Vinyl chloride	5.00	3.28		ug/L		66	52 - 128
Bromomethane	5.00	3.70		ug/L		74	68 - 120
Chloroethane	5.00	3.69		ug/L		74	49 - 135
Carbon disulfide	5.00	3.80		ug/L		76	65 - 128
Trichlorofluoromethane	5.00	4.01		ug/L		80	60 - 132
1,1-Dichloroethene	5.00	4.45		ug/L		89	71 - 126
Acetone	25.0	20.2		ug/L		81	49 - 150
Methylene Chloride	5.00	4.04	J	ug/L		81	75 - 134
Methyl tert-butyl ether	5.00	4.15		ug/L		83	60 - 150
2-Butanone (MEK)	25.0	20.7		ug/L		83	64 - 136
trans-1,2-Dichloroethene	5.00	4.77		ug/L		95	63 - 133
1,1-Dichloroethane	5.00	4.35		ug/L		87	74 - 135
2,2-Dichloropropane	5.00	4.17		ug/L		83	58 - 150
cis-1,2-Dichloroethene	5.00	4.76		ug/L		95	72 - 130
Chlorobromomethane	5.00	4.86		ug/L		97	79 - 131
Chloroform	5.00	4.64		ug/L		93	80 - 130
1,1,1-Trichloroethane	5.00	4.27		ug/L		85	74 - 128
Carbon tetrachloride	5.00	4.17		ug/L		83	71 - 132
1,1-Dichloropropene	5.00	4.45		ug/L		89	72 - 132

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

Lab Sample ID: LCS 580-329050/4
Matrix: Water
Analysis Batch: 329050

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	4.56		ug/L		91	73 - 133
1,2-Dichloroethane	5.00	4.40		ug/L		88	74 - 130
1,2-Dichloropropane	5.00	4.44		ug/L		89	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	21.1		ug/L		84	65 - 137
Dibromomethane	5.00	4.68		ug/L		94	65 - 141
Dichlorobromomethane	5.00	4.50		ug/L		90	74 - 131
cis-1,3-Dichloropropene	5.00	4.29		ug/L		86	66 - 141
Toluene	5.00	4.37		ug/L		87	80 - 126
trans-1,3-Dichloropropene	5.00	4.01		ug/L		80	71 - 128
1,1,2-Trichloroethane	5.00	4.62		ug/L		92	80 - 127
Tetrachloroethene	5.00	4.71		ug/L		94	75 - 131
1,3-Dichloropropane	5.00	4.48		ug/L		90	80 - 130
Chlorodibromomethane	5.00	4.82		ug/L		96	76 - 131
Ethylene Dibromide	5.00	4.84		ug/L		97	80 - 126
Chlorobenzene	5.00	5.19		ug/L		104	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.58		ug/L		92	79 - 127
Ethylbenzene	5.00	4.38		ug/L		88	80 - 130
m-Xylene & p-Xylene	5.00	4.54		ug/L		91	78 - 130
o-Xylene	5.00	5.16		ug/L		103	80 - 139
Styrene	5.00	5.29		ug/L		106	74 - 136
Bromoform	5.00	4.18		ug/L		84	69 - 137
Isopropylbenzene	5.00	4.80		ug/L		96	75 - 137
Bromobenzene	5.00	4.78		ug/L		96	80 - 130
1,1,2,2-Tetrachloroethane	5.00	4.66		ug/L		93	69 - 139
1,2,3-Trichloropropane	5.00	4.47		ug/L		89	80 - 127
N-Propylbenzene	5.00	4.79		ug/L		96	77 - 142
2-Chlorotoluene	5.00	4.62		ug/L		92	80 - 136
4-Chlorotoluene	5.00	4.82		ug/L		96	80 - 130
1,3,5-Trimethylbenzene	5.00	5.00		ug/L		100	80 - 139
tert-Butylbenzene	5.00	4.86		ug/L		97	77 - 140
1,2,4-Trimethylbenzene	5.00	4.73		ug/L		95	78 - 136
sec-Butylbenzene	5.00	4.98		ug/L		100	78 - 140
4-Isopropyltoluene	5.00	4.95		ug/L		99	78 - 132
1,3-Dichlorobenzene	5.00	5.00		ug/L		100	80 - 130
1,4-Dichlorobenzene	5.00	4.83		ug/L		97	80 - 129
n-Butylbenzene	5.00	4.78		ug/L		96	73 - 135
1,2-Dichlorobenzene	5.00	4.93		ug/L		99	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.35		ug/L		87	69 - 130
1,2,4-Trichlorobenzene	5.00	4.87		ug/L		97	79 - 130
Hexachlorobutadiene	5.00	4.64		ug/L		93	72 - 138
Naphthalene	5.00	4.99		ug/L		100	64 - 132
1,2,3-Trichlorobenzene	5.00	4.96		ug/L		99	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*

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

Lab Sample ID: LCSD 580-329050/5
Matrix: Water
Analysis Batch: 329050

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	2.23		ug/L		45	20 - 137	12	22
Chloromethane	5.00	2.74		ug/L		55	32 - 143	15	23
Vinyl chloride	5.00	2.75		ug/L		55	52 - 128	18	21
Bromomethane	5.00	3.30	*	ug/L		66	68 - 120	12	18
Chloroethane	5.00	3.18		ug/L		64	49 - 135	15	27
Carbon disulfide	5.00	3.41		ug/L		68	65 - 128	11	23
Trichlorofluoromethane	5.00	3.69		ug/L		74	60 - 132	8	20
1,1-Dichloroethene	5.00	4.02		ug/L		80	71 - 126	10	17
Acetone	25.0	20.5		ug/L		82	49 - 150	2	24
Methylene Chloride	5.00	3.77	J	ug/L		75	75 - 134	7	18
Methyl tert-butyl ether	5.00	4.06		ug/L		81	60 - 150	2	25
2-Butanone (MEK)	25.0	22.1		ug/L		88	64 - 136	6	23
trans-1,2-Dichloroethene	5.00	4.33		ug/L		87	63 - 133	10	17
1,1-Dichloroethane	5.00	4.00		ug/L		80	74 - 135	8	20
2,2-Dichloropropane	5.00	3.73		ug/L		75	58 - 150	11	28
cis-1,2-Dichloroethene	5.00	4.46		ug/L		89	72 - 130	7	20
Chlorobromomethane	5.00	4.69		ug/L		94	79 - 131	4	20
Chloroform	5.00	4.39		ug/L		88	80 - 130	6	20
1,1,1-Trichloroethane	5.00	3.92		ug/L		78	74 - 128	9	14
Carbon tetrachloride	5.00	3.79		ug/L		76	71 - 132	10	15
1,1-Dichloropropene	5.00	4.20		ug/L		84	72 - 132	6	13
Benzene	5.00	4.42		ug/L		88	73 - 133	3	20
1,2-Dichloroethane	5.00	4.51		ug/L		90	74 - 130	3	15
1,2-Dichloropropane	5.00	4.50		ug/L		90	80 - 130	1	14
4-Methyl-2-pentanone (MIBK)	25.0	22.0		ug/L		88	65 - 137	4	24
Dibromomethane	5.00	4.74		ug/L		95	65 - 141	1	20
Dichlorobromomethane	5.00	4.59		ug/L		92	74 - 131	2	20
cis-1,3-Dichloropropene	5.00	4.42		ug/L		88	66 - 141	3	22
Toluene	5.00	4.25		ug/L		85	80 - 126	3	20
trans-1,3-Dichloropropene	5.00	4.26		ug/L		85	71 - 128	6	21
1,1,2-Trichloroethane	5.00	4.83		ug/L		97	80 - 127	5	19
Tetrachloroethene	5.00	4.50		ug/L		90	75 - 131	4	20
1,3-Dichloropropane	5.00	4.75		ug/L		95	80 - 130	6	19
Chlorodibromomethane	5.00	4.96		ug/L		99	76 - 131	3	20
Ethylene Dibromide	5.00	5.12		ug/L		102	80 - 126	6	20
Chlorobenzene	5.00	5.06		ug/L		101	80 - 123	3	12
1,1,1,2-Tetrachloroethane	5.00	4.38		ug/L		88	79 - 127	4	20
Ethylbenzene	5.00	4.15		ug/L		83	80 - 130	5	20
m-Xylene & p-Xylene	5.00	4.33		ug/L		87	78 - 130	5	20
o-Xylene	5.00	4.87		ug/L		97	80 - 139	6	20
Styrene	5.00	5.17		ug/L		103	74 - 136	2	20
Bromoform	5.00	4.20		ug/L		84	69 - 137	0	20
Isopropylbenzene	5.00	4.48		ug/L		90	75 - 137	7	20
Bromobenzene	5.00	4.75		ug/L		95	80 - 130	1	20
1,1,2,2-Tetrachloroethane	5.00	4.75		ug/L		95	69 - 139	2	22
1,2,3-Trichloropropane	5.00	4.71		ug/L		94	80 - 127	5	20
N-Propylbenzene	5.00	4.47		ug/L		89	77 - 142	7	20
2-Chlorotoluene	5.00	4.32		ug/L		86	80 - 136	7	20

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

Lab Sample ID: LCSD 580-329050/5
Matrix: Water
Analysis Batch: 329050

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chlorotoluene			5.00	4.59		ug/L		92	80 - 130	5	20
1,3,5-Trimethylbenzene			5.00	4.67		ug/L		93	80 - 139	7	20
tert-Butylbenzene			5.00	4.70		ug/L		94	77 - 140	3	20
1,2,4-Trimethylbenzene			5.00	4.44		ug/L		89	78 - 136	7	20
sec-Butylbenzene			5.00	4.66		ug/L		93	78 - 140	7	20
4-Isopropyltoluene			5.00	4.59		ug/L		92	78 - 132	8	14
1,3-Dichlorobenzene			5.00	4.77		ug/L		95	80 - 130	5	12
1,4-Dichlorobenzene			5.00	4.71		ug/L		94	80 - 129	3	11
n-Butylbenzene			5.00	4.36		ug/L		87	73 - 135	9	18
1,2-Dichlorobenzene			5.00	4.73		ug/L		95	80 - 129	4	14
1,2-Dibromo-3-Chloropropane			5.00	4.28		ug/L		86	69 - 130	2	26
1,2,4-Trichlorobenzene			5.00	4.58		ug/L		92	79 - 130	6	20
Hexachlorobutadiene			5.00	4.24		ug/L		85	72 - 138	9	20
Naphthalene			5.00	4.69		ug/L		94	64 - 132	6	20
1,2,3-Trichlorobenzene			5.00	4.68		ug/L		94	75 - 137	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 580-329320/7
Matrix: Water
Analysis Batch: 329320

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/28/20 16:47	1
Chloromethane	ND		20	0.28	ug/L			05/28/20 16:47	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/28/20 16:47	1
Bromomethane	ND		6.0	0.21	ug/L			05/28/20 16:47	1
Chloroethane	ND		5.0	0.35	ug/L			05/28/20 16:47	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/28/20 16:47	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/28/20 16:47	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/28/20 16:47	1
Acetone	ND		50	3.2	ug/L			05/28/20 16:47	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/28/20 16:47	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/28/20 16:47	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/28/20 16:47	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/28/20 16:47	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/28/20 16:47	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/28/20 16:47	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/28/20 16:47	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/28/20 16:47	1
Chloroform	ND		5.0	0.26	ug/L			05/28/20 16:47	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/28/20 16:47	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/28/20 16:47	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/28/20 16:47	1

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

Lab Sample ID: MB 580-329320/7
Matrix: Water
Analysis Batch: 329320

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.24	ug/L			05/28/20 16:47	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/28/20 16:47	1
Trichloroethene	ND		3.0	0.26	ug/L			05/28/20 16:47	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/28/20 16:47	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/28/20 16:47	1
Dibromomethane	ND		2.0	0.34	ug/L			05/28/20 16:47	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/28/20 16:47	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/28/20 16:47	1
Toluene	ND		2.0	0.39	ug/L			05/28/20 16:47	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/28/20 16:47	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/28/20 16:47	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/28/20 16:47	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/28/20 16:47	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/28/20 16:47	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/28/20 16:47	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/28/20 16:47	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/28/20 16:47	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/28/20 16:47	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/28/20 16:47	1
o-Xylene	ND		2.0	0.39	ug/L			05/28/20 16:47	1
Styrene	ND		5.0	1.0	ug/L			05/28/20 16:47	1
Bromoform	ND		3.0	0.56	ug/L			05/28/20 16:47	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/28/20 16:47	1
Bromobenzene	ND		2.0	0.43	ug/L			05/28/20 16:47	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/28/20 16:47	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/28/20 16:47	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/28/20 16:47	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/28/20 16:47	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/28/20 16:47	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/28/20 16:47	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/28/20 16:47	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/28/20 16:47	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/28/20 16:47	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/28/20 16:47	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/28/20 16:47	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/28/20 16:47	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/28/20 16:47	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/28/20 16:47	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/28/20 16:47	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/28/20 16:47	1
Naphthalene	ND		4.0	0.93	ug/L			05/28/20 16:47	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/28/20 16:47	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/28/20 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/28/20 16:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*05/28/20 16:47*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/28/20 16:47*	*1*

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

Lab Sample ID: MB 580-329320/7
Matrix: Water
Analysis Batch: 329320

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		80 - 120		05/28/20 16:47	1

Lab Sample ID: LCS 580-329320/4
Matrix: Water
Analysis Batch: 329320

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.81	J	ug/L		48	20 - 150
Chloromethane	10.0	8.35	J	ug/L		84	52 - 135
Vinyl chloride	10.0	8.89		ug/L		89	65 - 130
Bromomethane	10.0	9.70		ug/L		97	66 - 125
Chloroethane	10.0	9.05		ug/L		90	65 - 132
Trichlorofluoromethane	10.0	9.73		ug/L		97	64 - 136
Carbon disulfide	10.0	7.88		ug/L		79	69 - 122
1,1-Dichloroethene	10.0	10.1		ug/L		101	70 - 129
Acetone	50.0	58.1		ug/L		116	43 - 150
Methylene Chloride	10.0	10.0		ug/L		100	77 - 125
Methyl tert-butyl ether	10.0	9.59		ug/L		96	72 - 130
trans-1,2-Dichloroethene	10.0	9.89		ug/L		99	77 - 124
1,1-Dichloroethane	10.0	10.3		ug/L		103	70 - 129
2-Butanone (MEK)	50.0	48.0		ug/L		96	65 - 127
2,2-Dichloropropane	10.0	9.33		ug/L		93	62 - 140
cis-1,2-Dichloroethene	10.0	16.0	*	ug/L		160	76 - 129
Bromochloromethane	10.0	9.96		ug/L		100	78 - 120
Chloroform	10.0	10.4		ug/L		104	73 - 127
1,1,1-Trichloroethane	10.0	9.94		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.80		ug/L		98	72 - 129
1,1-Dichloropropene	10.0	9.62		ug/L		96	80 - 120
Benzene	10.0	9.78		ug/L		98	75 - 121
1,2-Dichloroethane	10.0	10.5		ug/L		105	76 - 131
Trichloroethene	10.0	9.88		ug/L		99	70 - 120
1,2-Dichloropropane	10.0	10.0		ug/L		100	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	47.5		ug/L		95	69 - 124
Dibromomethane	10.0	9.83		ug/L		98	80 - 120
Bromodichloromethane	10.0	10.2		ug/L		102	75 - 124
cis-1,3-Dichloropropene	10.0	9.77		ug/L		98	77 - 120
Toluene	10.0	9.98		ug/L		100	80 - 120
trans-1,3-Dichloropropene	10.0	9.57		ug/L		96	80 - 122
1,1,2-Trichloroethane	10.0	9.67		ug/L		97	80 - 121
Tetrachloroethene	10.0	9.14		ug/L		91	76 - 120
1,3-Dichloropropane	10.0	9.84		ug/L		98	79 - 120
Dibromochloromethane	10.0	9.09		ug/L		91	71 - 120
1,2-Dibromoethane	10.0	9.53		ug/L		95	79 - 120
Chlorobenzene	10.0	9.65		ug/L		96	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.56		ug/L		96	79 - 120
Ethylbenzene	10.0	9.63		ug/L		96	80 - 120
m-Xylene & p-Xylene	10.0	9.86		ug/L		99	80 - 120
o-Xylene	10.0	9.63		ug/L		96	80 - 120

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

Lab Sample ID: LCS 580-329320/4
Matrix: Water
Analysis Batch: 329320

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Styrene	10.0	9.28		ug/L		93	76 - 121
Bromoform	10.0	8.65		ug/L		86	61 - 132
Isopropylbenzene	10.0	9.85		ug/L		98	75 - 120
Bromobenzene	10.0	9.43		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	10.0	9.77		ug/L		98	74 - 124
1,2,3-Trichloropropane	10.0	9.63		ug/L		96	76 - 124
N-Propylbenzene	10.0	9.53		ug/L		95	80 - 120
2-Chlorotoluene	10.0	9.56		ug/L		96	80 - 120
4-Chlorotoluene	10.0	9.62		ug/L		96	80 - 120
t-Butylbenzene	10.0	9.60		ug/L		96	80 - 121
1,2,4-Trimethylbenzene	10.0	9.73		ug/L		97	80 - 120
sec-Butylbenzene	10.0	9.73		ug/L		97	78 - 120
4-Isopropyltoluene	10.0	9.61		ug/L		96	77 - 120
1,3-Dichlorobenzene	10.0	9.27		ug/L		93	80 - 120
1,4-Dichlorobenzene	10.0	9.54		ug/L		95	80 - 120
n-Butylbenzene	10.0	9.88		ug/L		99	78 - 120
1,2-Dichlorobenzene	10.0	9.63		ug/L		96	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.89	J	ug/L		99	65 - 125
1,2,4-Trichlorobenzene	10.0	9.87		ug/L		99	57 - 140
Hexachlorobutadiene	10.0	9.58		ug/L		96	74 - 125
Naphthalene	10.0	12.0		ug/L		120	44 - 144
1,2,3-Trichlorobenzene	10.0	11.1		ug/L		111	23 - 150
1,3,5-Trimethylbenzene	10.0	9.71		ug/L		97	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 580-329320/5
Matrix: Water
Analysis Batch: 329320

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	4.90	J	ug/L		49	20 - 150	2	35
Chloromethane	10.0	8.01	J	ug/L		80	52 - 135	4	23
Vinyl chloride	10.0	8.58		ug/L		86	65 - 130	4	28
Bromomethane	10.0	9.02		ug/L		90	66 - 125	7	27
Chloroethane	10.0	8.70		ug/L		87	65 - 132	4	35
Trichlorofluoromethane	10.0	9.11		ug/L		91	64 - 136	7	27
Carbon disulfide	10.0	7.28		ug/L		73	69 - 122	8	20
1,1-Dichloroethene	10.0	9.38		ug/L		94	70 - 129	7	27
Acetone	50.0	50.4		ug/L		101	43 - 150	14	35
Methylene Chloride	10.0	9.69		ug/L		97	77 - 125	3	18
Methyl tert-butyl ether	10.0	9.80		ug/L		98	72 - 130	2	18
trans-1,2-Dichloroethene	10.0	8.36		ug/L		84	77 - 124	17	21
1,1-Dichloroethane	10.0	9.52		ug/L		95	70 - 129	8	26

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

Lab Sample ID: LCSD 580-329320/5
Matrix: Water
Analysis Batch: 329320

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Butanone (MEK)	50.0	44.3		ug/L		89	65 - 127	8	29
2,2-Dichloropropane	10.0	10.3		ug/L		103	62 - 140	10	23
cis-1,2-Dichloroethene	10.0	21.0	* *1	ug/L		210	76 - 129	27	15
Bromochloromethane	10.0	9.41		ug/L		94	78 - 120	6	20
Chloroform	10.0	10.0		ug/L		100	73 - 127	4	22
1,1,1-Trichloroethane	10.0	9.76		ug/L		98	74 - 130	2	18
Carbon tetrachloride	10.0	9.42		ug/L		94	72 - 129	4	19
1,1-Dichloropropene	10.0	9.24		ug/L		92	80 - 120	4	14
Benzene	10.0	9.27		ug/L		93	75 - 121	5	14
1,2-Dichloroethane	10.0	9.97		ug/L		100	76 - 131	5	18
Trichloroethene	10.0	9.34		ug/L		93	70 - 120	6	21
1,2-Dichloropropane	10.0	9.42		ug/L		94	72 - 126	6	26
4-Methyl-2-pentanone (MIBK)	50.0	44.9		ug/L		90	69 - 124	6	22
Dibromomethane	10.0	9.50		ug/L		95	80 - 120	3	22
Bromodichloromethane	10.0	9.26		ug/L		93	75 - 124	10	22
cis-1,3-Dichloropropene	10.0	9.44		ug/L		94	77 - 120	3	20
Toluene	10.0	9.56		ug/L		96	80 - 120	4	19
trans-1,3-Dichloropropene	10.0	8.98		ug/L		90	80 - 122	6	25
1,1,2-Trichloroethane	10.0	9.04		ug/L		90	80 - 121	7	21
Tetrachloroethene	10.0	8.71		ug/L		87	76 - 120	5	20
1,3-Dichloropropane	10.0	9.39		ug/L		94	79 - 120	5	26
Dibromochloromethane	10.0	8.78		ug/L		88	71 - 120	4	24
1,2-Dibromoethane	10.0	9.10		ug/L		91	79 - 120	5	20
Chlorobenzene	10.0	9.20		ug/L		92	80 - 120	5	15
1,1,1,2-Tetrachloroethane	10.0	9.09		ug/L		91	79 - 120	5	20
Ethylbenzene	10.0	9.23		ug/L		92	80 - 120	4	14
m-Xylene & p-Xylene	10.0	9.26		ug/L		93	80 - 120	6	14
o-Xylene	10.0	9.03		ug/L		90	80 - 120	6	16
Styrene	10.0	8.78		ug/L		88	76 - 121	6	16
Bromoform	10.0	8.05		ug/L		80	61 - 132	7	20
Isopropylbenzene	10.0	9.22		ug/L		92	75 - 120	7	20
Bromobenzene	10.0	9.17		ug/L		92	80 - 120	3	13
1,1,2,2-Tetrachloroethane	10.0	9.24		ug/L		92	74 - 124	6	18
1,2,3-Trichloropropane	10.0	9.32		ug/L		93	76 - 124	3	30
N-Propylbenzene	10.0	9.48		ug/L		95	80 - 120	1	13
2-Chlorotoluene	10.0	9.57		ug/L		96	80 - 120	0	15
4-Chlorotoluene	10.0	9.47		ug/L		95	80 - 120	2	14
t-Butylbenzene	10.0	9.28		ug/L		93	80 - 121	3	14
1,2,4-Trimethylbenzene	10.0	9.47		ug/L		95	80 - 120	3	16
sec-Butylbenzene	10.0	9.52		ug/L		95	78 - 120	2	15
4-Isopropyltoluene	10.0	9.31		ug/L		93	77 - 120	3	13
1,3-Dichlorobenzene	10.0	8.67		ug/L		87	80 - 120	7	14
1,4-Dichlorobenzene	10.0	9.07		ug/L		91	80 - 120	5	17
n-Butylbenzene	10.0	9.56		ug/L		96	78 - 120	3	14
1,2-Dichlorobenzene	10.0	9.05		ug/L		90	80 - 120	6	15
1,2-Dibromo-3-Chloropropane	10.0	8.82	J	ug/L		88	65 - 125	11	27
1,2,4-Trichlorobenzene	10.0	7.91		ug/L		79	57 - 140	22	27
Hexachlorobutadiene	10.0	8.56		ug/L		86	74 - 125	11	22
Naphthalene	10.0	9.59		ug/L		96	44 - 144	22	31

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

Lab Sample ID: LCSD 580-329320/5
Matrix: Water
Analysis Batch: 329320

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene			10.0	8.57		ug/L		86	23 - 150	26	35
1,3,5-Trimethylbenzene			10.0	9.48		ug/L		95	80 - 120	2	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 580-329341/7
Matrix: Water
Analysis Batch: 329341

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/29/20 12:30	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 12:30	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 12:30	1
Bromomethane	ND		0.50	0.062	ug/L			05/29/20 12:30	1
Chloroethane	ND		0.50	0.096	ug/L			05/29/20 12:30	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/29/20 12:30	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/29/20 12:30	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/29/20 12:30	1
Acetone	ND		10	3.1	ug/L			05/29/20 12:30	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/29/20 12:30	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 12:30	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/29/20 12:30	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 12:30	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/29/20 12:30	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/29/20 12:30	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 12:30	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 12:30	1
Chloroform	ND		0.20	0.030	ug/L			05/29/20 12:30	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/29/20 12:30	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/29/20 12:30	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/29/20 12:30	1
Benzene	ND		0.20	0.030	ug/L			05/29/20 12:30	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/29/20 12:30	1
Trichloroethene	0.163	J	0.20	0.066	ug/L			05/29/20 12:30	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/29/20 12:30	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 12:30	1
Dibromomethane	ND		0.20	0.062	ug/L			05/29/20 12:30	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/29/20 12:30	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/29/20 12:30	1
Toluene	ND		0.20	0.050	ug/L			05/29/20 12:30	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/29/20 12:30	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/29/20 12:30	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/29/20 12:30	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/29/20 12:30	1

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

Lab Sample ID: MB 580-329341/7
Matrix: Water
Analysis Batch: 329341

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/29/20 12:30	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/29/20 12:30	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/29/20 12:30	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/29/20 12:30	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/29/20 12:30	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/29/20 12:30	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 12:30	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 12:30	1
Bromoform	ND		0.50	0.16	ug/L			05/29/20 12:30	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 12:30	1
Bromobenzene	ND		0.20	0.035	ug/L			05/29/20 12:30	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/29/20 12:30	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/29/20 12:30	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/29/20 12:30	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/29/20 12:30	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/29/20 12:30	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/29/20 12:30	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/29/20 12:30	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/29/20 12:30	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/29/20 12:30	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/29/20 12:30	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/29/20 12:30	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/29/20 12:30	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/29/20 12:30	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/29/20 12:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/29/20 12:30	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/29/20 12:30	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/29/20 12:30	1
Naphthalene	ND		1.0	0.22	ug/L			05/29/20 12:30	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/29/20 12:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/29/20 12:30*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*05/29/20 12:30*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/29/20 12:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*05/29/20 12:30*	*1*

Lab Sample ID: LCS 580-329341/28
Matrix: Water
Analysis Batch: 329341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	8.65	*	ug/L		173	20 - 137
Chloromethane	5.00	6.73		ug/L		135	32 - 143
Vinyl chloride	5.00	6.09		ug/L		122	52 - 128
Bromomethane	5.00	5.86		ug/L		117	68 - 120
Chloroethane	5.00	5.94		ug/L		119	49 - 135
Carbon disulfide	5.00	5.30		ug/L		106	65 - 128

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

Lab Sample ID: LCS 580-329341/28
Matrix: Water
Analysis Batch: 329341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	5.00	5.79		ug/L		116	60 - 132
1,1-Dichloroethene	5.00	5.94		ug/L		119	71 - 126
Acetone	25.0	29.0		ug/L		116	49 - 150
Methylene Chloride	5.00	5.11		ug/L		102	75 - 134
Methyl tert-butyl ether	5.00	5.07		ug/L		101	60 - 150
2-Butanone (MEK)	25.0	24.8		ug/L		99	64 - 136
trans-1,2-Dichloroethene	5.00	6.07		ug/L		121	63 - 133
1,1-Dichloroethane	5.00	5.35		ug/L		107	74 - 135
2,2-Dichloropropane	5.00	4.80		ug/L		96	58 - 150
cis-1,2-Dichloroethene	5.00	5.66		ug/L		113	72 - 130
Chlorobromomethane	5.00	5.98		ug/L		120	79 - 131
Chloroform	5.00	5.65		ug/L		113	80 - 130
1,1,1-Trichloroethane	5.00	5.18		ug/L		104	74 - 128
Carbon tetrachloride	5.00	5.12		ug/L		102	71 - 132
1,1-Dichloropropene	5.00	5.50		ug/L		110	72 - 132
Benzene	5.00	5.56		ug/L		111	73 - 133
1,2-Dichloroethane	5.00	5.43		ug/L		109	74 - 130
Trichloroethene	5.00	5.83		ug/L		117	72 - 136
1,2-Dichloropropane	5.00	5.34		ug/L		107	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	26.2		ug/L		105	65 - 137
Dibromomethane	5.00	5.52		ug/L		110	65 - 141
Dichlorobromomethane	5.00	5.21		ug/L		104	74 - 131
cis-1,3-Dichloropropene	5.00	4.87		ug/L		97	66 - 141
Toluene	5.00	5.20		ug/L		104	80 - 126
trans-1,3-Dichloropropene	5.00	4.54		ug/L		91	71 - 128
1,1,2-Trichloroethane	5.00	5.50		ug/L		110	80 - 127
Tetrachloroethene	5.00	5.49		ug/L		110	75 - 131
1,3-Dichloropropane	5.00	5.35		ug/L		107	80 - 130
Chlorodibromomethane	5.00	5.49		ug/L		110	76 - 131
Ethylene Dibromide	5.00	5.72		ug/L		114	80 - 126
Chlorobenzene	5.00	6.09		ug/L		122	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.41		ug/L		108	79 - 127
Ethylbenzene	5.00	5.23		ug/L		105	80 - 130
m-Xylene & p-Xylene	5.00	5.36		ug/L		107	78 - 130
o-Xylene	5.00	6.17		ug/L		123	80 - 139
Styrene	5.00	6.28		ug/L		126	74 - 136
Bromoform	5.00	4.65		ug/L		93	69 - 137
Isopropylbenzene	5.00	5.64		ug/L		113	75 - 137
Bromobenzene	5.00	5.63		ug/L		113	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.73		ug/L		115	69 - 139
1,2,3-Trichloropropane	5.00	5.51		ug/L		110	80 - 127
N-Propylbenzene	5.00	5.63		ug/L		113	77 - 142
2-Chlorotoluene	5.00	5.39		ug/L		108	80 - 136
4-Chlorotoluene	5.00	5.64		ug/L		113	80 - 130
1,3,5-Trimethylbenzene	5.00	5.85		ug/L		117	80 - 139
tert-Butylbenzene	5.00	5.63		ug/L		113	77 - 140
1,2,4-Trimethylbenzene	5.00	5.57		ug/L		111	78 - 136
sec-Butylbenzene	5.00	5.81		ug/L		116	78 - 140
4-Isopropyltoluene	5.00	5.78		ug/L		116	78 - 132

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

Lab Sample ID: LCS 580-329341/28
Matrix: Water
Analysis Batch: 329341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	5.00	5.87		ug/L		117	80 - 130
1,4-Dichlorobenzene	5.00	5.70		ug/L		114	80 - 129
n-Butylbenzene	5.00	5.52		ug/L		110	73 - 135
1,2-Dichlorobenzene	5.00	5.87		ug/L		117	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.67		ug/L		93	69 - 130
1,2,4-Trichlorobenzene	5.00	5.62		ug/L		112	79 - 130
Hexachlorobutadiene	5.00	5.37		ug/L		107	72 - 138
Naphthalene	5.00	5.54		ug/L		111	64 - 132
1,2,3-Trichlorobenzene	5.00	5.66		ug/L		113	75 - 137

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

Lab Sample ID: LCSD 580-329341/5
Matrix: Water
Analysis Batch: 329341

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	6.47	*1	ug/L		129	20 - 137	29	22
Chloromethane	5.00	5.80		ug/L		116	32 - 143	15	23
Vinyl chloride	5.00	4.93		ug/L		99	52 - 128	21	21
Bromomethane	5.00	5.23		ug/L		105	68 - 120	11	18
Chloroethane	5.00	5.17		ug/L		103	49 - 135	14	27
Carbon disulfide	5.00	4.37		ug/L		87	65 - 128	19	23
Trichlorofluoromethane	5.00	4.44	*1	ug/L		89	60 - 132	27	20
1,1-Dichloroethene	5.00	4.83	*1	ug/L		97	71 - 126	21	17
Acetone	25.0	24.3		ug/L		97	49 - 150	18	24
Methylene Chloride	5.00	4.73	J	ug/L		95	75 - 134	8	18
Methyl tert-butyl ether	5.00	4.56		ug/L		91	60 - 150	11	25
2-Butanone (MEK)	25.0	19.1	*1	ug/L		76	64 - 136	26	23
trans-1,2-Dichloroethene	5.00	5.24		ug/L		105	63 - 133	15	17
1,1-Dichloroethane	5.00	4.75		ug/L		95	74 - 135	12	20
2,2-Dichloropropane	5.00	3.07	*1	ug/L		61	58 - 150	44	28
cis-1,2-Dichloroethene	5.00	5.06		ug/L		101	72 - 130	11	20
Chlorobromomethane	5.00	5.19		ug/L		104	79 - 131	14	20
Chloroform	5.00	4.96		ug/L		99	80 - 130	13	20
1,1,1-Trichloroethane	5.00	4.38	*1	ug/L		88	74 - 128	17	14
Carbon tetrachloride	5.00	4.13	*1	ug/L		83	71 - 132	21	15
1,1-Dichloropropene	5.00	4.23	*1	ug/L		85	72 - 132	26	13
Benzene	5.00	4.61		ug/L		92	73 - 133	19	20
1,2-Dichloroethane	5.00	4.33	*1	ug/L		87	74 - 130	23	15
Trichloroethene	5.00	4.88	*1	ug/L		98	72 - 136	18	14
1,2-Dichloropropane	5.00	4.34	*1	ug/L		87	80 - 130	21	14
4-Methyl-2-pentanone (MIBK)	25.0	21.2		ug/L		85	65 - 137	21	24
Dibromomethane	5.00	4.42	*1	ug/L		88	65 - 141	22	20

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

Lab Sample ID: LCSD 580-329341/5
Matrix: Water
Analysis Batch: 329341

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorobromomethane			5.00	4.17	*1	ug/L		83	74 - 131	22	20
cis-1,3-Dichloropropene			5.00	3.55	*1	ug/L		71	66 - 141	31	22
Toluene			5.00	4.33		ug/L		87	80 - 126	18	20
trans-1,3-Dichloropropene			5.00	3.20	* *1	ug/L		64	71 - 128	35	21
1,1,2-Trichloroethane			5.00	4.31	*1	ug/L		86	80 - 127	24	19
Tetrachloroethene			5.00	4.23	*1	ug/L		85	75 - 131	26	20
1,3-Dichloropropane			5.00	4.17	*1	ug/L		83	80 - 130	25	19
Chlorodibromomethane			5.00	4.42	*1	ug/L		88	76 - 131	22	20
Ethylene Dibromide			5.00	4.53	*1	ug/L		91	80 - 126	23	20
Chlorobenzene			5.00	5.01	*1	ug/L		100	80 - 123	20	12
1,1,1,2-Tetrachloroethane			5.00	4.68		ug/L		94	79 - 127	15	20
Ethylbenzene			5.00	4.37		ug/L		87	80 - 130	18	20
m-Xylene & p-Xylene			5.00	4.47		ug/L		89	78 - 130	18	20
o-Xylene			5.00	5.28		ug/L		106	80 - 139	16	20
Styrene			5.00	5.22		ug/L		104	74 - 136	18	20
Bromoform			5.00	3.83		ug/L		77	69 - 137	19	20
Isopropylbenzene			5.00	4.70		ug/L		94	75 - 137	18	20
Bromobenzene			5.00	4.43	*1	ug/L		89	80 - 130	24	20
1,1,2,2-Tetrachloroethane			5.00	4.14	*1	ug/L		83	69 - 139	32	22
1,2,3-Trichloropropane			5.00	4.22	*1	ug/L		84	80 - 127	27	20
N-Propylbenzene			5.00	4.30	*1	ug/L		86	77 - 142	27	20
2-Chlorotoluene			5.00	4.30	*1	ug/L		86	80 - 136	23	20
4-Chlorotoluene			5.00	4.42	*1	ug/L		88	80 - 130	24	20
1,3,5-Trimethylbenzene			5.00	4.54	*1	ug/L		91	80 - 139	25	20
tert-Butylbenzene			5.00	4.10	*1	ug/L		82	77 - 140	31	20
1,2,4-Trimethylbenzene			5.00	4.42	*1	ug/L		88	78 - 136	23	20
sec-Butylbenzene			5.00	4.33	*1	ug/L		87	78 - 140	29	20
4-Isopropyltoluene			5.00	4.36	*1	ug/L		87	78 - 132	28	14
1,3-Dichlorobenzene			5.00	4.67	*1	ug/L		93	80 - 130	23	12
1,4-Dichlorobenzene			5.00	4.49	*1	ug/L		90	80 - 129	24	11
n-Butylbenzene			5.00	4.11	*1	ug/L		82	73 - 135	29	18
1,2-Dichlorobenzene			5.00	4.73	*1	ug/L		95	80 - 129	21	14
1,2-Dibromo-3-Chloropropane			5.00	3.85		ug/L		77	69 - 130	19	26
1,2,4-Trichlorobenzene			5.00	4.55	*1	ug/L		91	79 - 130	21	20
Hexachlorobutadiene			5.00	3.94	*1	ug/L		79	72 - 138	31	20
Naphthalene			5.00	4.54		ug/L		91	64 - 132	20	20
1,2,3-Trichlorobenzene			5.00	4.69		ug/L		94	75 - 137	19	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*

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

Lab Sample ID: 580-94806-7 MS
Matrix: Water
Analysis Batch: 329341

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND	*1 *	5.00	6.51		ug/L		130	20 - 137
Chloromethane	ND		5.00	4.93		ug/L		99	32 - 143
Vinyl chloride	ND		5.00	4.48		ug/L		90	52 - 128
Bromomethane	ND		5.00	4.09		ug/L		82	68 - 120
Chloroethane	ND		5.00	4.24		ug/L		85	49 - 135
Carbon disulfide	ND		5.00	3.67		ug/L		73	65 - 128
Trichlorofluoromethane	ND	*1	5.00	4.19		ug/L		84	60 - 132
1,1-Dichloroethene	ND	*1	5.00	4.27		ug/L		85	71 - 126
Acetone	ND		25.0	19.8		ug/L		79	49 - 150
Methylene Chloride	ND	F1	5.00	3.45	J F1	ug/L		69	75 - 134
Methyl tert-butyl ether	ND		5.00	3.40		ug/L		68	60 - 150
2-Butanone (MEK)	ND	*1	25.0	17.6		ug/L		71	64 - 136
trans-1,2-Dichloroethene	ND		5.00	4.20		ug/L		84	63 - 133
1,1-Dichloroethane	0.29		5.00	4.10		ug/L		76	74 - 135
2,2-Dichloropropane	ND	F1 *1	5.00	2.29	F1	ug/L		46	58 - 150
cis-1,2-Dichloroethene	0.14	J	5.00	4.09		ug/L		79	72 - 130
Chlorobromomethane	ND		5.00	4.12		ug/L		82	79 - 131
Chloroform	ND		5.00	4.00		ug/L		80	80 - 130
1,1,1-Trichloroethane	ND	*1	5.00	3.73		ug/L		75	74 - 128
Carbon tetrachloride	ND	*1	5.00	3.68		ug/L		74	71 - 132
1,1-Dichloropropene	ND	*1	5.00	4.09		ug/L		82	72 - 132
Benzene	ND		5.00	4.18		ug/L		84	73 - 133
1,2-Dichloroethane	ND	*1	5.00	3.99		ug/L		80	74 - 130
Trichloroethene	0.23	B *1	5.00	4.52		ug/L		86	72 - 136
1,2-Dichloropropane	ND	*1	5.00	4.11		ug/L		82	80 - 130
4-Methyl-2-pentanone (MIBK)	ND		25.0	18.0		ug/L		72	65 - 137
Dibromomethane	ND	*1	5.00	4.00		ug/L		80	65 - 141
Dichlorobromomethane	ND	*1	5.00	3.89		ug/L		78	74 - 131
cis-1,3-Dichloropropene	ND	*1	5.00	3.36		ug/L		67	66 - 141
Toluene	ND	F1	5.00	3.84	F1	ug/L		77	80 - 126
trans-1,3-Dichloropropene	ND	F1 * *1	5.00	3.15	F1	ug/L		63	71 - 128
1,1,2-Trichloroethane	ND	*1	5.00	4.00		ug/L		80	80 - 127
Tetrachloroethene	ND	*1	5.00	3.99		ug/L		80	75 - 131
1,3-Dichloropropane	ND	*1	5.00	3.99		ug/L		80	80 - 130
Chlorodibromomethane	ND	*1	5.00	3.87		ug/L		77	76 - 131
Ethylene Dibromide	ND	*1	5.00	4.18		ug/L		84	80 - 126
Chlorobenzene	0.11	J *1	5.00	4.61		ug/L		90	80 - 123
1,1,1,2-Tetrachloroethane	ND	F1	5.00	3.63	F1	ug/L		73	79 - 127
Ethylbenzene	ND	F1	5.00	3.74	F1	ug/L		75	80 - 130
m-Xylene & p-Xylene	ND	F1	5.00	3.83	F1	ug/L		77	78 - 130
o-Xylene	ND		5.00	4.26		ug/L		85	80 - 139
Styrene	ND		5.00	4.39		ug/L		88	74 - 136
Bromoform	ND	F1	5.00	3.18	F1	ug/L		64	69 - 137
Isopropylbenzene	ND		5.00	3.90		ug/L		78	75 - 137
Bromobenzene	ND	*1	5.00	4.05		ug/L		81	80 - 130
1,1,2,2-Tetrachloroethane	ND	*1	5.00	3.75		ug/L		75	69 - 139
1,2,3-Trichloropropane	ND	*1 F1	5.00	3.73	F1	ug/L		75	80 - 127
N-Propylbenzene	ND	*1	5.00	3.87		ug/L		77	77 - 142

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

Lab Sample ID: 580-94806-7 MS
Matrix: Water
Analysis Batch: 329341

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorotoluene	ND	F1 *1	5.00	3.66	F1	ug/L		73	80 - 136
4-Chlorotoluene	ND	*1	5.00	3.98		ug/L		80	80 - 130
1,3,5-Trimethylbenzene	ND	*1 F1	5.00	3.95	F1	ug/L		79	80 - 139
tert-Butylbenzene	ND	*1	5.00	4.01		ug/L		80	77 - 140
1,2,4-Trimethylbenzene	ND	F1 *1	5.00	3.74	F1	ug/L		75	78 - 136
sec-Butylbenzene	ND	*1	5.00	3.96		ug/L		79	78 - 140
4-Isopropyltoluene	ND	F1 *1	5.00	3.82	F1	ug/L		76	78 - 132
1,3-Dichlorobenzene	ND	*1	5.00	4.03		ug/L		81	80 - 130
1,4-Dichlorobenzene	ND	*1 F1	5.00	3.96	F1	ug/L		79	80 - 129
n-Butylbenzene	ND	F1 *1	5.00	3.45	F1	ug/L		69	73 - 135
1,2-Dichlorobenzene	0.039	J *1 F1	5.00	3.97	F1	ug/L		79	80 - 129
1,2-Dibromo-3-Chloropropane	ND	F1	5.00	3.09	F1	ug/L		62	69 - 130
1,2,4-Trichlorobenzene	ND	F1 *1	5.00	3.47	F1	ug/L		69	79 - 130
Hexachlorobutadiene	ND	F1 *1	5.00	3.23	F1	ug/L		65	72 - 138
Naphthalene	ND		5.00	3.61		ug/L		72	64 - 132
1,2,3-Trichlorobenzene	ND	F1	5.00	3.60	F1	ug/L		72	75 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

Lab Sample ID: 580-94806-7 MSD
Matrix: Water
Analysis Batch: 329341

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND	*1 *	5.00	6.79		ug/L		136	20 - 137	4	22
Chloromethane	ND		5.00	5.13		ug/L		103	32 - 143	4	23
Vinyl chloride	ND		5.00	4.70		ug/L		94	52 - 128	5	21
Bromomethane	ND		5.00	4.33		ug/L		87	68 - 120	6	18
Chloroethane	ND		5.00	4.51		ug/L		90	49 - 135	6	27
Carbon disulfide	ND		5.00	3.88		ug/L		78	65 - 128	6	23
Trichlorofluoromethane	ND	*1	5.00	4.42		ug/L		88	60 - 132	5	20
1,1-Dichloroethene	ND	*1	5.00	4.55		ug/L		91	71 - 126	6	17
Acetone	ND		25.0	22.9		ug/L		92	49 - 150	14	24
Methylene Chloride	ND	F1	5.00	3.79	J	ug/L		76	75 - 134	9	18
Methyl tert-butyl ether	ND		5.00	3.84		ug/L		77	60 - 150	12	25
2-Butanone (MEK)	ND	*1	25.0	19.4		ug/L		78	64 - 136	9	23
trans-1,2-Dichloroethene	ND		5.00	4.48		ug/L		90	63 - 133	6	17
1,1-Dichloroethane	0.29		5.00	4.38		ug/L		82	74 - 135	6	20
2,2-Dichloropropane	ND	F1 *1	5.00	2.43	F1	ug/L		49	58 - 150	6	28
cis-1,2-Dichloroethene	0.14	J	5.00	4.39		ug/L		85	72 - 130	7	20
Chlorobromomethane	ND		5.00	4.53		ug/L		91	79 - 131	9	20
Chloroform	ND		5.00	4.30		ug/L		86	80 - 130	7	20
1,1,1-Trichloroethane	ND	*1	5.00	3.99		ug/L		80	74 - 128	7	14
Carbon tetrachloride	ND	*1	5.00	3.90		ug/L		78	71 - 132	6	15

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

Lab Sample ID: 580-94806-7 MSD
Matrix: Water
Analysis Batch: 329341

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloropropene	ND	*1	5.00	4.25		ug/L		85	72 - 132	4	13
Benzene	ND		5.00	4.39		ug/L		88	73 - 133	5	20
1,2-Dichloroethane	ND	*1	5.00	4.29		ug/L		86	74 - 130	7	15
Trichloroethene	0.23	B *1	5.00	4.71		ug/L		90	72 - 136	4	14
1,2-Dichloropropane	ND	*1	5.00	4.24		ug/L		85	80 - 130	3	14
4-Methyl-2-pentanone (MIBK)	ND		25.0	20.2		ug/L		81	65 - 137	11	24
Dibromomethane	ND	*1	5.00	4.31		ug/L		86	65 - 141	7	20
Dichlorobromomethane	ND	*1	5.00	4.15		ug/L		83	74 - 131	7	20
cis-1,3-Dichloropropene	ND	*1	5.00	3.57		ug/L		71	66 - 141	6	22
Toluene	ND	F1	5.00	4.08		ug/L		82	80 - 126	6	20
trans-1,3-Dichloropropene	ND	F1 * *1	5.00	3.35	F1	ug/L		67	71 - 128	6	21
1,1,2-Trichloroethane	ND	*1	5.00	4.29		ug/L		86	80 - 127	7	19
Tetrachloroethene	ND	*1	5.00	4.06		ug/L		81	75 - 131	2	20
1,3-Dichloropropane	ND	*1	5.00	4.26		ug/L		85	80 - 130	6	19
Chlorodibromomethane	ND	*1	5.00	4.24		ug/L		85	76 - 131	9	20
Ethylene Dibromide	ND	*1	5.00	4.49		ug/L		90	80 - 126	7	20
Chlorobenzene	0.11	J *1	5.00	4.84		ug/L		95	80 - 123	5	12
1,1,1,2-Tetrachloroethane	ND	F1	5.00	3.98		ug/L		80	79 - 127	9	20
Ethylbenzene	ND	F1	5.00	3.89	F1	ug/L		78	80 - 130	4	20
m-Xylene & p-Xylene	ND	F1	5.00	3.98		ug/L		80	78 - 130	4	20
o-Xylene	ND		5.00	4.54		ug/L		91	80 - 139	6	20
Styrene	ND		5.00	4.58		ug/L		92	74 - 136	4	20
Bromoform	ND	F1	5.00	3.46		ug/L		69	69 - 137	8	20
Isopropylbenzene	ND		5.00	4.11		ug/L		82	75 - 137	5	20
Bromobenzene	ND	*1	5.00	4.20		ug/L		84	80 - 130	4	20
1,1,2,2-Tetrachloroethane	ND	*1	5.00	4.12		ug/L		82	69 - 139	9	22
1,2,3-Trichloropropane	ND	*1 F1	5.00	4.05		ug/L		81	80 - 127	8	20
N-Propylbenzene	ND	*1	5.00	3.90		ug/L		78	77 - 142	1	20
2-Chlorotoluene	ND	F1 *1	5.00	3.83	F1	ug/L		77	80 - 136	5	20
4-Chlorotoluene	ND	*1	5.00	4.01		ug/L		80	80 - 130	1	20
1,3,5-Trimethylbenzene	ND	*1 F1	5.00	4.05		ug/L		81	80 - 139	2	20
tert-Butylbenzene	ND	*1	5.00	4.10		ug/L		82	77 - 140	2	20
1,2,4-Trimethylbenzene	ND	F1 *1	5.00	3.84	F1	ug/L		77	78 - 136	3	20
sec-Butylbenzene	ND	*1	5.00	4.01		ug/L		80	78 - 140	1	20
4-Isopropyltoluene	ND	F1 *1	5.00	3.83	F1	ug/L		77	78 - 132	0	14
1,3-Dichlorobenzene	ND	*1	5.00	4.08		ug/L		82	80 - 130	1	12
1,4-Dichlorobenzene	ND	*1 F1	5.00	4.00		ug/L		80	80 - 129	1	11
n-Butylbenzene	ND	F1 *1	5.00	3.37	F1	ug/L		67	73 - 135	2	18
1,2-Dichlorobenzene	0.039	J *1 F1	5.00	4.19		ug/L		83	80 - 129	6	14
1,2-Dibromo-3-Chloropropane	ND	F1	5.00	3.39	F1	ug/L		68	69 - 130	9	26
1,2,4-Trichlorobenzene	ND	F1 *1	5.00	3.63	F1	ug/L		73	79 - 130	4	20
Hexachlorobutadiene	ND	F1 *1	5.00	3.07	F1	ug/L		61	72 - 138	5	20
Naphthalene	ND		5.00	3.98		ug/L		80	64 - 132	10	20
1,2,3-Trichlorobenzene	ND	F1	5.00	3.91		ug/L		78	75 - 137	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

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

Lab Sample ID: 580-94806-7 MSD
Matrix: Water
Analysis Batch: 329341

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*105*		*80 - 120*		*06/02/20 18:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/02/20 18:11*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/02/20 18:11*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 18:11*	*1*

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene			10.0	9.56		ug/L		96	80 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			10.0	9.56		ug/L		96	80 - 120	0	15

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-329097/1-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.015	0.0060	ug/L		05/26/20 15:42	05/27/20 15:05	1
4,4'-DDE	ND		0.010	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
4,4'-DDT	ND		0.020	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Aldrin	ND		0.024	0.0070	ug/L		05/26/20 15:42	05/27/20 15:05	1
alpha-BHC	ND		0.018	0.0040	ug/L		05/26/20 15:42	05/27/20 15:05	1
cis-Chlordane	ND		0.027	0.0080	ug/L		05/26/20 15:42	05/27/20 15:05	1
beta-BHC	ND		0.021	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Chlordane (technical)	ND		0.20	0.030	ug/L		05/26/20 15:42	05/27/20 15:05	1
delta-BHC	ND		0.015	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Dieldrin	ND		0.018	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endosulfan I	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endosulfan II	ND		0.024	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin	ND		0.012	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin aldehyde	ND		0.060	0.034	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin ketone	ND		0.020	0.0020	ug/L		05/26/20 15:42	05/27/20 15:05	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Heptachlor	ND		0.015	0.0040	ug/L		05/26/20 15:42	05/27/20 15:05	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Methoxychlor	ND		0.10	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Toxaphene	ND		2.0	0.46	ug/L		05/26/20 15:42	05/27/20 15:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*67*		*45 - 127*	*05/26/20 15:42*	*05/27/20 15:05*	*1*
Tetrachloro-m-xylene	*86*		*33 - 120*	*05/26/20 15:42*	*05/27/20 15:05*	*1*

Lab Sample ID: LCS 580-329097/2-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.200	0.195		ug/L		98	53 - 139
4,4'-DDE	0.200	0.189		ug/L		94	47 - 126
4,4'-DDT	0.200	0.194		ug/L		97	38 - 150
Aldrin	0.200	0.170		ug/L		85	30 - 124
alpha-BHC	0.200	0.171		ug/L		85	53 - 120
cis-Chlordane	0.200	0.190		ug/L		95	56 - 120
beta-BHC	0.200	0.185		ug/L		92	63 - 120
delta-BHC	0.200	0.170		ug/L		85	44 - 120
Dieldrin	0.200	0.198		ug/L		99	61 - 122
Endosulfan I	0.200	0.190		ug/L		95	62 - 123
Endosulfan II	0.200	0.188		ug/L		94	52 - 121
Endosulfan sulfate	0.200	0.188		ug/L		94	60 - 120
Endrin	0.200	0.203		ug/L		102	45 - 140
Endrin aldehyde	0.200	0.181		ug/L		91	47 - 136
Endrin ketone	0.200	0.220		ug/L		110	60 - 137
gamma-BHC (Lindane)	0.200	0.180		ug/L		90	53 - 120

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-329097/2-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-Chlordane	0.200	0.189		ug/L		95	49 - 121
Heptachlor	0.200	0.184		ug/L		92	38 - 127
Heptachlor epoxide	0.200	0.191		ug/L		96	49 - 126
Methoxychlor	0.200	0.217		ug/L		108	35 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*98*		*45 - 127*
Tetrachloro-m-xylene	*85*		*33 - 120*

Lab Sample ID: LCSD 580-329097/3-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329097

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.200	0.179		ug/L		89	53 - 139	9	19
4,4'-DDE	0.200	0.175		ug/L		88	47 - 126	7	20
4,4'-DDT	0.200	0.179		ug/L		90	38 - 150	8	23
Aldrin	0.200	0.153		ug/L		76	30 - 124	10	27
alpha-BHC	0.200	0.156		ug/L		78	53 - 120	9	18
cis-Chlordane	0.200	0.177		ug/L		89	56 - 120	7	17
beta-BHC	0.200	0.161		ug/L		81	63 - 120	13	19
delta-BHC	0.200	0.160		ug/L		80	44 - 120	6	18
Dieldrin	0.200	0.184		ug/L		92	61 - 122	7	20
Endosulfan I	0.200	0.177		ug/L		88	62 - 123	7	18
Endosulfan II	0.200	0.175		ug/L		87	52 - 121	7	21
Endosulfan sulfate	0.200	0.175		ug/L		87	60 - 120	7	26
Endrin	0.200	0.188		ug/L		94	45 - 140	8	35
Endrin aldehyde	0.200	0.164		ug/L		82	47 - 136	10	25
Endrin ketone	0.200	0.206		ug/L		103	60 - 137	7	18
gamma-BHC (Lindane)	0.200	0.165		ug/L		83	53 - 120	9	21
trans-Chlordane	0.200	0.177		ug/L		89	49 - 121	7	18
Heptachlor	0.200	0.173		ug/L		87	38 - 127	6	26
Heptachlor epoxide	0.200	0.179		ug/L		89	49 - 126	7	18
Methoxychlor	0.200	0.199		ug/L		99	35 - 150	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*108*		*45 - 127*
Tetrachloro-m-xylene	*81*		*33 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609932/1-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-609932/1-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
Aldrin	ND		0.0050	0.0015	ug/L		05/26/20 05:25	05/26/20 12:21	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/26/20 05:25	05/26/20 12:21	1
beta-BHC	ND		0.010	0.0040	ug/L		05/26/20 05:25	05/26/20 12:21	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/26/20 05:25	05/26/20 12:21	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/26/20 05:25	05/26/20 12:21	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan I	ND		0.0050	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/26/20 05:25	05/26/20 12:21	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Heptachlor	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
Methoxychlor	ND		0.0050	0.0035	ug/L		05/26/20 05:25	05/26/20 12:21	1
Toxaphene	ND		0.50	0.25	ug/L		05/26/20 05:25	05/26/20 12:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*80*		*28 - 108*	*05/26/20 05:25*	*05/26/20 12:21*	*1*
Tetrachloro-m-xylene	*90*		*10 - 123*	*05/26/20 05:25*	*05/26/20 12:21*	*1*

Lab Sample ID: LCS 440-609932/2-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.408		ug/L		102	50 - 128
4,4'-DDE	0.400	0.410		ug/L		103	49 - 121
4,4'-DDT	0.400	0.394		ug/L		99	41 - 140
Aldrin	0.400	0.386		ug/L		96	37 - 115
alpha-BHC	0.400	0.399		ug/L		100	44 - 115
cis-Chlordane	0.400	0.387		ug/L		97	40 - 122
beta-BHC	0.400	0.383		ug/L		96	46 - 121
delta-BHC	0.400	0.385		ug/L		96	32 - 129
Dieldrin	0.400	0.397		ug/L		99	39 - 126
Endosulfan I	0.400	0.381		ug/L		95	47 - 115
Endosulfan II	0.400	0.377		ug/L		94	47 - 120
Endosulfan sulfate	0.400	0.369		ug/L		92	48 - 126
Endrin	0.400	0.367		ug/L		92	43 - 127
Endrin aldehyde	0.400	0.358		ug/L		90	43 - 120
Endrin ketone	0.400	0.386		ug/L		97	47 - 123
gamma-BHC (Lindane)	0.400	0.387		ug/L		97	45 - 116
trans-Chlordane	0.400	0.363		ug/L		91	37 - 129
Heptachlor	0.400	0.372		ug/L		93	37 - 115

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-609932/2-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Heptachlor epoxide	0.400	0.385		ug/L		96	41 - 129
Methoxychlor	0.400	0.454		ug/L		114	44 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*83*		*28 - 108*
Tetrachloro-m-xylene	*100*		*10 - 123*

Lab Sample ID: 580-94806-7 MS
Matrix: Water
Analysis Batch: 609978

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.011		0.386	0.344		ug/L		86	50 - 125
4,4'-DDE	ND		0.386	0.346		ug/L		90	45 - 125
4,4'-DDT	ND		0.386	0.325		ug/L		84	50 - 125
Aldrin	ND		0.386	0.379		ug/L		98	35 - 120
alpha-BHC	ND		0.386	0.370		ug/L		96	40 - 120
cis-Chlordane	ND		0.386	0.337		ug/L		87	50 - 115
beta-BHC	ND		0.386	0.351		ug/L		91	50 - 120
delta-BHC	0.0045	J p	0.386	0.350		ug/L		89	50 - 120
Dieldrin	ND		0.386	0.346		ug/L		89	50 - 120
Endosulfan I	ND		0.386	0.335		ug/L		87	50 - 120
Endosulfan II	ND		0.386	0.317		ug/L		82	50 - 125
Endosulfan sulfate	ND		0.386	0.343		ug/L		89	55 - 125
Endrin	ND		0.386	0.348		ug/L		90	50 - 120
Endrin aldehyde	ND		0.386	0.314		ug/L		81	45 - 125
Endrin ketone	ND		0.386	0.367		ug/L		95	50 - 125
gamma-BHC (Lindane)	ND		0.386	0.366		ug/L		95	40 - 120
trans-Chlordane	ND		0.386	0.327		ug/L		85	50 - 115
Heptachlor	0.0073	J	0.386	0.361		ug/L		92	40 - 120
Heptachlor epoxide	ND		0.386	0.373		ug/L		96	50 - 120
Methoxychlor	ND		0.386	0.410		ug/L		106	55 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*83*		*28 - 108*
Tetrachloro-m-xylene	*92*		*10 - 123*

Lab Sample ID: 580-94806-7 MSD
Matrix: Water
Analysis Batch: 609978

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.011		0.383	0.310		ug/L		78	50 - 125	10	30
4,4'-DDE	ND		0.383	0.307		ug/L		80	45 - 125	12	30
4,4'-DDT	ND		0.383	0.298		ug/L		78	50 - 125	9	30
Aldrin	ND		0.383	0.330		ug/L		86	35 - 120	14	30
alpha-BHC	ND		0.383	0.319		ug/L		83	40 - 120	15	30
cis-Chlordane	ND		0.383	0.300		ug/L		79	50 - 115	11	30

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-94806-7 MSD — **Client Sample ID: MWA-32i-052020**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 609978 — **Prep Batch: 609932**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
beta-BHC	ND		0.383	0.301		ug/L		79	50 - 120	15	30
delta-BHC	0.0045	J p	0.383	0.311		ug/L		80	50 - 120	12	30
Dieldrin	ND		0.383	0.305		ug/L		80	50 - 120	12	30
Endosulfan I	ND		0.383	0.289		ug/L		75	50 - 120	15	30
Endosulfan II	ND		0.383	0.284		ug/L		74	50 - 125	11	30
Endosulfan sulfate	ND		0.383	0.308		ug/L		80	55 - 125	11	30
Endrin	ND		0.383	0.318		ug/L		83	50 - 120	9	30
Endrin aldehyde	ND		0.383	0.286		ug/L		75	45 - 125	9	30
Endrin ketone	ND		0.383	0.326		ug/L		85	50 - 125	12	30
gamma-BHC (Lindane)	ND		0.383	0.319		ug/L		83	40 - 120	14	30
trans-Chlordane	ND		0.383	0.290		ug/L		76	50 - 115	12	30
Heptachlor	0.0073	J	0.383	0.325		ug/L		83	40 - 120	11	30
Heptachlor epoxide	ND		0.383	0.324		ug/L		85	50 - 120	14	30
Methoxychlor	ND		0.383	0.385		ug/L		101	55 - 125	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*80*		*28 - 108*
Tetrachloro-m-xylene	*79*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-609966/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 609966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/26/20 09:07	1

Lab Sample ID: LCS 440-609966/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 609966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.5		ug/L		97	90 - 110

Lab Sample ID: MRL 440-609966/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 609966

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.973	J	ug/L		97	50 - 150

Lab Sample ID: 580-94806-7 MS — **Client Sample ID: MWA-32i-052020**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 609966

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND	F1	50.0	43.9	F1	ug/L		88	90 - 110

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: 580-94806-7 MSD
Matrix: Water
Analysis Batch: 609966

Client Sample ID: MWA-32i-052020
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND	F1	50.0	43.8	F1	ug/L		88	90 - 110	0	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610162/6
Matrix: Water
Analysis Batch: 610162

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/27/20 10:15	1

Lab Sample ID: LCS 440-610162/5
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.70		ug/L		97	85 - 115

Lab Sample ID: MRL 440-610162/4
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		93	75 - 125

Lab Sample ID: MRL 440-610162/8
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.33	J	ug/L		83	75 - 125

Lab Sample ID: MB 440-610758/6
Matrix: Water
Analysis Batch: 610758

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/01/20 10:15	1

Lab Sample ID: LCS 440-610758/5
Matrix: Water
Analysis Batch: 610758

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.36		ug/L		94	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-610758/4
Matrix: Water
Analysis Batch: 610758

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			1.00	1.01	J	ug/L		101	75 - 125		

Lab Sample ID: MRL 440-610758/8
Matrix: Water
Analysis Batch: 610758

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.84	J	ug/L		96	75 - 125		

Lab Sample ID: MB 440-611670/6
Matrix: Water
Analysis Batch: 611670

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/08/20 10:02	1

Lab Sample ID: LCS 440-611670/5
Matrix: Water
Analysis Batch: 611670

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			10.0	9.91		ug/L		99	85 - 115		

Lab Sample ID: MRL 440-611670/4
Matrix: Water
Analysis Batch: 611670

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			1.00	0.956	J	ug/L		96	75 - 125		

Lab Sample ID: MRL 440-611670/8
Matrix: Water
Analysis Batch: 611670

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	4.83		ug/L		121	75 - 125		

Lab Sample ID: 580-94806-7 MS
Matrix: Water
Analysis Batch: 611670

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	ND		200	202		ug/L		101	80 - 120		

Lab Sample ID: 580-94806-7 MSD
Matrix: Water
Analysis Batch: 611670

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		200	202		ug/L		101	80 - 120	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-611678/13
Matrix: Water
Analysis Batch: 611678

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/08/20 16:04	1

Lab Sample ID: LCS 440-611678/12
Matrix: Water
Analysis Batch: 611678

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.2		ug/L		97	85 - 115

Lab Sample ID: MRL 440-611678/11
Matrix: Water
Analysis Batch: 611678

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.09	J	ug/L		109	75 - 125

Lab Sample ID: MRL 440-611678/15
Matrix: Water
Analysis Batch: 611678

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.77	J	ug/L		94	75 - 125

Lab Sample ID: 580-94806-3 MS
Matrix: Water
Analysis Batch: 611678

Client Sample ID: RB-01-051920
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		25.0	24.0		ug/L		96	80 - 120

Lab Sample ID: 580-94806-3 MSD
Matrix: Water
Analysis Batch: 611678

Client Sample ID: RB-01-051920
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		25.0	24.2		ug/L		97	80 - 120	1	15

Lab Sample ID: MB 440-611851/29
Matrix: Water
Analysis Batch: 611851

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/09/20 18:15	1

Lab Sample ID: MB 440-611851/6
Matrix: Water
Analysis Batch: 611851

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/09/20 10:16	1

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: LCS 440-611851/30
Matrix: Water
Analysis Batch: 611851

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	27.1		ug/L		108	85 - 115

Lab Sample ID: LCS 440-611851/5
Matrix: Water
Analysis Batch: 611851

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	23.4		ug/L		94	85 - 115

Lab Sample ID: MRL 440-611851/4
Matrix: Water
Analysis Batch: 611851

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.14	J	ug/L		114	75 - 125

Lab Sample ID: MRL 440-611851/8
Matrix: Water
Analysis Batch: 611851

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.80		ug/L		120	75 - 125

Lab Sample ID: MB 440-612058/6
Matrix: Water
Analysis Batch: 612058

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/10/20 10:12	1

Lab Sample ID: LCS 440-612058/5
Matrix: Water
Analysis Batch: 612058

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	25.5		ug/L		102	85 - 115

Lab Sample ID: MRL 440-612058/8
Matrix: Water
Analysis Batch: 612058

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.52	J	ug/L		88	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-328905/14-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328905

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		05/22/20 10:49	05/26/20 12:57	1
Chromium	ND		0.00080	0.00017	mg/L		05/22/20 10:49	05/26/20 12:57	1
Iron	ND		0.20	0.036	mg/L		05/22/20 10:49	05/26/20 12:57	1
Manganese	ND		0.0020	0.00046	mg/L		05/22/20 10:49	05/26/20 12:57	1

Lab Sample ID: LCS 580-328905/15-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328905

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.989		mg/L		99	80 - 120
Chromium	1.00	0.998		mg/L		100	80 - 120
Iron	20.0	20.0		mg/L		100	80 - 120
Manganese	1.00	0.999		mg/L		100	80 - 120

Lab Sample ID: LCSD 580-328905/16-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328905

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.989		mg/L		99	80 - 120	0	20
Chromium	1.00	0.991		mg/L		99	80 - 120	1	20
Iron	20.0	19.6		mg/L		98	80 - 120	2	20
Manganese	1.00	0.983		mg/L		98	80 - 120	2	20

Lab Sample ID: 580-94806-7 MS
Matrix: Water
Analysis Batch: 329129

Client Sample ID: MWA-32i-052020
Prep Type: Total Recoverable
Prep Batch: 328905

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.015		1.00	0.920		mg/L		90	80 - 120
Chromium	0.10		1.00	0.986		mg/L		88	80 - 120
Iron	10		20.0	27.8		mg/L		87	80 - 120
Manganese	0.26		1.00	1.14		mg/L		88	80 - 120

Lab Sample ID: 580-94806-7 MSD
Matrix: Water
Analysis Batch: 329129

Client Sample ID: MWA-32i-052020
Prep Type: Total Recoverable
Prep Batch: 328905

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.015		1.00	0.921		mg/L		91	80 - 120	0	20
Chromium	0.10		1.00	0.995		mg/L		89	80 - 120	1	20
Iron	10		20.0	28.1		mg/L		89	80 - 120	1	20
Manganese	0.26		1.00	1.16		mg/L		90	80 - 120	2	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-94806-7 DU
Matrix: Water
Analysis Batch: 329129

Client Sample ID: MWA-32i-052020
Prep Type: Total Recoverable
Prep Batch: 328905

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.015		0.0152		mg/L		2	20
Chromium	0.10		0.101		mg/L		0.5	20
Iron	10		10.2		mg/L		2	20
Manganese	0.26		0.267		mg/L		1	20

Lab Sample ID: MB 580-328910/16-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 328910

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/22/20 11:06	05/26/20 16:43	5
Chromium	ND		0.0040	0.00087	mg/L		05/22/20 11:06	05/26/20 16:43	5
Iron	ND		1.0	0.18	mg/L		05/22/20 11:06	05/26/20 16:43	5
Manganese	ND		0.010	0.0023	mg/L		05/22/20 11:06	05/26/20 16:43	5

Lab Sample ID: LCS 580-328910/17-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 328910

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.02		mg/L		102	80 - 120
Chromium	1.00	0.986		mg/L		99	80 - 120
Iron	20.0	19.3		mg/L		97	80 - 120
Manganese	1.00	0.974		mg/L		97	80 - 120

Lab Sample ID: LCSD 580-328910/18-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 328910

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.01		mg/L		101	80 - 120	1	20
Chromium	1.00	0.997		mg/L		100	80 - 120	1	20
Iron	20.0	19.2		mg/L		96	80 - 120	1	20
Manganese	1.00	0.970		mg/L		97	80 - 120	0	20

Lab Sample ID: 580-94806-7 MS
Matrix: Water
Analysis Batch: 329129

Client Sample ID: MWA-32i-052020
Prep Type: Dissolved
Prep Batch: 328910

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.015		1.00	0.944		mg/L		93	80 - 120
Chromium	0.069		1.00	0.956		mg/L		89	80 - 120
Iron	9.1		20.0	27.0		mg/L		90	80 - 120
Manganese	0.24		1.00	1.13		mg/L		89	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-94806-7 MSD
Matrix: Water
Analysis Batch: 329129

Client Sample ID: MWA-32i-052020
Prep Type: Dissolved
Prep Batch: 328910

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.015		1.00	0.961		mg/L		95	80 - 120	2	20
Chromium	0.069		1.00	0.958		mg/L		89	80 - 120	0	20
Iron	9.1		20.0	27.2		mg/L		91	80 - 120	1	20
Manganese	0.24		1.00	1.14		mg/L		89	80 - 120	1	20

Lab Sample ID: 580-94806-7 DU
Matrix: Water
Analysis Batch: 329129

Client Sample ID: MWA-32i-052020
Prep Type: Dissolved
Prep Batch: 328910

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.015		0.0146		mg/L		0.4	20
Chromium	0.069		0.0682		mg/L		1	20
Iron	9.1		9.01		mg/L		0.8	20
Manganese	0.24		0.243		mg/L		0.6	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329053/3
Matrix: Water
Analysis Batch: 329053

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			05/24/20 23:51	1

Lab Sample ID: LCS 580-329053/4
Matrix: Water
Analysis Batch: 329053

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-329053/5
Matrix: Water
Analysis Batch: 329053

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	51.6		mg/L		103	90 - 110	0	15

Lab Sample ID: 580-94806-7 MS
Matrix: Water
Analysis Batch: 329053

Client Sample ID: MWA-32i-052020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2500		5000	7500		mg/L		100	90 - 110

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 580-94806-7 MSD
Client Sample ID: MWA-32i-052020
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 329053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2500		5000	7530		mg/L		101	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-051920-A
Lab Sample ID: 580-94806-1
Date Collected: 05/19/20 00:01
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329050	05/26/20 13:32	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329341	05/29/20 21:20	JSM	TAL SEA

Client Sample ID: MWA-49i-051920
Lab Sample ID: 580-94806-2
Date Collected: 05/19/20 15:10
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329050	05/26/20 14:25	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329341	05/29/20 20:53	JSM	TAL SEA
Dissolved	Analysis	218.6		100	609966	05/26/20 23:52	PS	TAL IRV
Total/NA	Analysis	314.0		100	610758	06/02/20 01:34	OH1	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:06	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 18:04	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329053	05/25/20 01:36	ADB	TAL SEA

Client Sample ID: RB-01-051920
Lab Sample ID: 580-94806-3
Date Collected: 05/19/20 13:55
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329050	05/26/20 13:59	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329341	05/29/20 20:27	JSM	TAL SEA
Total/NA	Prep	3510C			329097	05/26/20 15:42	RJL	TAL SEA
Total/NA	Analysis	8081B		1	329167	05/27/20 16:21	T1W	TAL SEA
Dissolved	Analysis	218.6		1	609966	05/27/20 03:16	PS	TAL IRV
Total/NA	Analysis	314.0		1	611678	06/08/20 17:05	CTH	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:06	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 17:23	FCW	TAL SEA
Total Recoverable	Prep	3005A			328905	05/22/20 10:49	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 13:34	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329053	05/25/20 02:12	ADB	TAL SEA

Client Sample ID: EB-01-051920
Lab Sample ID: 580-94806-4
Date Collected: 05/19/20 15:00
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	218.6		1	609966	05/27/20 03:28	PS	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:53	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 17:27	FCW	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-53i-052020
Lab Sample ID: 580-94806-5
Date Collected: 05/20/20 07:31
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329050	05/26/20 18:24	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329341	05/29/20 16:55	JSM	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610567	05/29/20 13:16	D1D	TAL IRV
Dissolved	Analysis	218.6		10	609966	05/27/20 01:30	PS	TAL IRV
Total/NA	Analysis	314.0		50	610758	06/02/20 02:10	OH1	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:06	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 17:58	FCW	TAL SEA
Total Recoverable	Prep	3005A			328905	05/22/20 10:49	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 13:37	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329053	05/25/20 02:23	ADB	TAL SEA

Client Sample ID: Dup-01-052020
Lab Sample ID: 580-94806-6
Date Collected: 05/20/20 07:32
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329050	05/26/20 18:51	CJ	TAL SEA
Total/NA	Analysis	8260D	RA	1	329341	05/29/20 16:28	JSM	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610567	05/29/20 13:32	D1D	TAL IRV
Dissolved	Analysis	218.6		10	609966	05/27/20 01:43	PS	TAL IRV
Total/NA	Analysis	314.0		50	610758	06/02/20 02:45	OH1	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:06	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 18:01	FCW	TAL SEA
Total Recoverable	Prep	3005A			328905	05/22/20 10:49	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 13:40	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329053	05/25/20 02:35	ADB	TAL SEA

Client Sample ID: MWA-32i-052020
Lab Sample ID: 580-94806-7
Date Collected: 05/20/20 08:56
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329341	05/29/20 16:02	JSM	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	609978	05/26/20 14:30	JM	TAL IRV
Dissolved	Analysis	218.6		10	609966	05/27/20 01:57	PS	TAL IRV
Total/NA	Analysis	314.0		20	611670	06/08/20 20:16	PS	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:06	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 16:46	FCW	TAL SEA
Total Recoverable	Prep	3005A			328905	05/22/20 10:49	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 13:00	FCW	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-32i-052020
Lab Sample ID: 580-94806-7
Date Collected: 05/20/20 08:56
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	329053	05/25/20 02:47	ADB	TAL SEA

Client Sample ID: MWA-31i(d)-052020
Lab Sample ID: 580-94806-8
Date Collected: 05/20/20 11:00
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329320	05/28/20 18:34	W1T	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610567	05/29/20 13:47	D1D	TAL IRV
Dissolved	Analysis	218.6		1	609966	05/27/20 02:38	PS	TAL IRV
Total/NA	Analysis	314.0		2000	612058	06/10/20 12:40	PS	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:06	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 17:33	FCW	TAL SEA
Total Recoverable	Prep	3005A			328905	05/22/20 10:49	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 13:43	FCW	TAL SEA
Total/NA	Analysis	300.0		1000	329053	05/25/20 04:32	ADB	TAL SEA

Client Sample ID: PA-28-052020
Lab Sample ID: 580-94806-9
Date Collected: 05/20/20 10:30
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329320	05/28/20 19:01	W1T	TAL SEA
Total/NA	Analysis	8260D	DL	100	329648	06/03/20 01:20	T1W	TAL SEA
Dissolved	Analysis	218.6		50	609966	05/27/20 02:51	PS	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 16:12	PS	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:06	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 18:07	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329053	05/25/20 04:44	ADB	TAL SEA

Client Sample ID: PA-23d-052020
Lab Sample ID: 580-94806-10
Date Collected: 05/20/20 09:45
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329320	05/28/20 19:27	W1T	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610567	05/29/20 14:02	D1D	TAL IRV
Dissolved	Analysis	218.6		1	609966	05/27/20 03:03	PS	TAL IRV
Total/NA	Analysis	314.0		5	611851	06/09/20 19:57	PS	TAL IRV
Dissolved	Prep	3005A			328910	05/22/20 11:06	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329129	05/26/20 17:39	FCW	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-23d-052020
Lab Sample ID: 580-94806-10

Date Collected: 05/20/20 09:45
Matrix: Water
Date Received: 05/20/20 12:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			328905	05/22/20 10:49	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 13:46	FCW	TAL SEA
Total/NA	Analysis	300.0		1000	329053	05/25/20 05:07	ADB	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94806-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94806-1	TB-051920-A	Water	05/19/20 00:01	05/20/20 12:15	
580-94806-2	MWA-49i-051920	Water	05/19/20 15:10	05/20/20 12:15	
580-94806-3	RB-01-051920	Water	05/19/20 13:55	05/20/20 12:15	
580-94806-4	EB-01-051920	Water	05/19/20 15:00	05/20/20 12:15	
580-94806-5	MWA-53i-052020	Water	05/20/20 07:31	05/20/20 12:15	
580-94806-6	Dup-01-052020	Water	05/20/20 07:32	05/20/20 12:15	
580-94806-7	MWA-32i-052020	Water	05/20/20 08:56	05/20/20 12:15	
580-94806-8	MWA-31i(d)-052020	Water	05/20/20 11:00	05/20/20 12:15	
580-94806-9	PA-28-052020	Water	05/20/20 10:30	05/20/20 12:15	
580-94806-10	PA-23d-052020	Water	05/20/20 09:45	05/20/20 12:15	

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

Chain of Custody Record

580-94806 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST, AJ, DS	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page:
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: 0543821.107		
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:		
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine			MS/MSD			Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N	N	D	D	A	A	N									
TB-051920-A	5/19/20		G	Water									X								3	
MWA-49i-051920		1510		Water			X				X		X	X	X						7	
RB-01-051920		1355		Water			X		X	X	X		X	X	X						10	
EB-01-051920		1500		Water							X				X						2	
MWA-53i-052020	5/20/20	0731	G	Water			X	X		X	X		X	X	X						10	
Dup-01-052020		0732		Water			X	X		X	X		X	X	X						10	
MWA-32i-052020		0856		Water			X	X		X	X		X	X	X			X			30	
MWA-31i(d)-052020		1100		Water			X	X		X	X	X		X	X						10	~~DO~~ ST
PA-28-052020		1030		Water			X			X	X	X		X	X						7	Dil VOC
PA-23d-052020		0945					X		X	X	X	X		X	X						10	

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/20/20 1150	ERM		5/20/20 1150	M.E.
2		5/20/20 1215	M.E.		5/20/20 1215	TAPOR
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 5.3,

Ver: 01/16/2019

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

Chain of Custody Record

580-94806 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST, AJ, DS	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page:
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: 0543821.107		
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:		
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine			MS/MSD			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N									
TB-051920-A	5/19/20		G	Water									X									3	
MWA-49i-051920		1510		Water			X				X		X	X	X							7	
RB-01-051920		1355		Water			X		X	X	X		X	X	X							10	
EB-01-051920		1500		Water							X				X							2	
MWA-53i-052020	5/20/20	0731	G	Water			X	X		X	X		X	X	X							10	
Dup-01-052020		0732		Water			X	X		X	X		X	X	X							10	
MWA-32i-052020		0856		Water			X	X		X	X		X	X	X			X				30	
MWA-31i(d)-052020		1100		Water			X	X		X	X	X		X	X							10	DO ~~4.40~~ ST
PA-28-052020		1030		Water			X			[redacted]	X	X		X	X							7	Dil VOC
PA-23d-052020		0945					X		X	X	X	X		X	X							10	

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

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

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

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

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

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	5/20/20 1150	ERM		5/20/20 1150	M.E.
Relinquished by:	5/20/20 1215	M.E.		5/20/20 1215	TAPOR
Relinquished by:	5/20/20 1700	TAPOR		5/21/20 0920	TA-Sea

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

Cooler Temperature(s) °C and Other Remarks: 5.3, IR6 2.8/2.4

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): 1872 5088 3941	COC No: 580-76990 1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94806-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/9/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MWA-49i-051920 (580-94806-2)	5/19/20	15:10 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm
RB-01-051920 (580-94806-3)	5/19/20	13:55 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm
EB-01-051920 (580-94806-4)	5/19/20	15:00 Pacific		Water				X		1	Sample should have been field filtered then preserved by Portland. Please confirm via
MWA-53i-052020 (580-94806-5)	5/20/20	07:31 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm
Dup-01-052020 (580-94806-6)	5/20/20	07:32 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm
MWA-32i-052020 (580-94806-7)	5/20/20	08:56 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm
MWA-32i-052020 (580-94806-7MS)	5/20/20	08:56 Pacific	MS	Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm
MWA-32i-052020 (580-94806-7MSD)	5/20/20	08:56 Pacific	MSD	Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm
MWA-31i(d)-052020 (580-94806-8)	5/20/20	11:00 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm

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

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

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/21/20 1700	TAL		5/22/20 0930	EC
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
☐ Yes ☐ No		2.1/2.3 IR-94

Ver: 01/16/2019

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

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): 1Z 772 508 8 3941	COC No: 580-76990 2
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94806-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/9/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
PA-28-052020 (580-94806-9)	5/20/20	10.30 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm
PA-23d-052020 (580-94806-10)	5/20/20	09:45 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm

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

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

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/21/20 1700	TAL		5/22/20 0930	EV-IRV
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No :	Cooler Temperature(s) °C and Other Remarks: 2.1/2.3 IR-94

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94806-1

Login Number: 94806
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94806-1

Login Number: 94806
List Number: 2
Creator: Bonta, Lucia F

List Source: Eurofins Irvine
List Creation: 05/22/20 12:45 PM

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

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94822-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event
Revision: 1

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/10/2020 4:42:16 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94822-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94822-1

Comments
6/10/2020 client requested to change formatter to regular MDL reporting.

Receipt
The samples were received on 5/20/2020 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved MWA-30-052020 (580-94822-2), PA-13i-052020 (580-94822-3), PA-14i-052020 (580-94822-4) and MWA-47-052020 (580-94822-5). The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329341 recovered outside acceptance criteria, low biased, for Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-329341 was outside criteria for the following analyte(s): Acetone, Chloroethane and 2-Butanone (MEK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8260D: The method blank for analytical batch 580-329341 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The laboratory control sample (LCS) for analytical batch 580-329341 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following analyte(s) recovered outside control limits for the LCSD associated with analytical batch 580-329341: trans-1,3-Dichloropropene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329341 recovered outside control limits for the following analytes: 1,1,1-Trichloroethane, 1,1-Dichloropropene, 1,1-Dichloroethene, Bromomethane, Carbon tetrachloride, Chloromethane, Dichlorodifluoromethane, Methylene Chloride, trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, Trichlorofluoromethane and Vinyl chloride.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329346 recovered above the upper control limit for 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 4-Isopropyltoluene, Acetone, Chloroethane, n-Butylbenzene, N-Propylbenzene, sec-Butylbenzene and tert-Butylbenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-13i-052020 (580-94822-3), PA-14i-052020 (580-94822-4) and (CCVIS 580-329346/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329346 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-329346 was outside criteria for the following analyte(s): Chloroethane,2-Butanone (MEK) and 4-Methyl-2-pentanone (MIBK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Job ID: 580-94822-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method 8260D: The method blank for analytical batch 580-329346 contained 1,2-Dichloroethane, Acetone and Naphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 8260C LL, 8260D: The laboratory control sample (LCS) for analytical batch 580-329346 recovered outside control limits for the following analyte: Acetone, Chloroethane, 1,1-Dichloroethene and Bromomethane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329346 recovered outside control limits for the following analytes: 1,1,1-Trichloroethane, 1,1-Dichloroethene, 1,1-Dichloropropene, 1,2,3-Trichlorobenzene, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 4-Isopropyltoluene, Bromomethane, Carbon tetrachloride, Chlorobenzene, Dichlorobromomethane, Dichlorodifluoromethane, Methylene Chloride, n-Butylbenzene and Trichlorofluoromethane.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329674 recovered above the upper control limit for Acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-13i-052020 (580-94822-3) and (CCVIS 580-329674/3).

Method 8260D: The method blank for analytical batch 580-329674 contained Trichloroethene and Acetone above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC

Method 218.6: The following sample was diluted to bring the concentration of target analytes within the calibration range: PA-13i-052020 (580-94822-3). Elevated reporting limits (RLs) are provided.the sample has dark brown color matrix.

Method 218.6: The following samples were diluted to bring the concentration of target analytes within the calibration range: PA-14i-052020 (580-94822-4) and MWA-47-052020 (580-94822-5). Elevated reporting limits (RLs) are provided.the following samples have brown color matrix.

Method 314.0: The following samples were diluted due to high conductivity background and very dark black color of the sample matrix: PA-13i-052020 (580-94822-3) and PA-14i-052020 (580-94822-4). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to the nature of the sample matrix: MWA-30-052020 (580-94822-2) and MWA-47-052020 (580-94822-5). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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

VOA Prep

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-94822-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

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

Metals

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

Glossary

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

Client Sample ID: TB-052020
Lab Sample ID: 580-94822-1

Date Collected: 05/20/20 00:01
Matrix: Water

Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*1 *	0.40	0.13	ug/L			05/29/20 14:42	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 14:42	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 14:42	1
Bromomethane	ND		0.50	0.062	ug/L			05/29/20 14:42	1
Chloroethane	ND		0.50	0.096	ug/L			05/29/20 14:42	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/29/20 14:42	1
Trichlorofluoromethane	ND	*1	0.50	0.043	ug/L			05/29/20 14:42	1
1,1-Dichloroethene	ND	*1	0.20	0.035	ug/L			05/29/20 14:42	1
Acetone	ND		10	3.1	ug/L			05/29/20 14:42	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/29/20 14:42	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 14:42	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/29/20 14:42	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 14:42	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/29/20 14:42	1
2,2-Dichloropropane	ND	*1	0.50	0.060	ug/L			05/29/20 14:42	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 14:42	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 14:42	1
Chloroform	ND		0.20	0.030	ug/L			05/29/20 14:42	1
1,1,1-Trichloroethane	ND	*1	0.20	0.025	ug/L			05/29/20 14:42	1
Carbon tetrachloride	ND	*1	0.20	0.025	ug/L			05/29/20 14:42	1
1,1-Dichloropropene	ND	*1	0.20	0.036	ug/L			05/29/20 14:42	1
Benzene	ND		0.20	0.030	ug/L			05/29/20 14:42	1
1,2-Dichloroethane	ND	*1	0.20	0.043	ug/L			05/29/20 14:42	1
Trichloroethene	**0.13**	**J B *1**	0.20	0.066	ug/L			05/29/20 14:42	1
1,2-Dichloropropane	ND	*1	0.20	0.060	ug/L			05/29/20 14:42	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 14:42	1
Dibromomethane	ND	*1	0.20	0.062	ug/L			05/29/20 14:42	1
Dichlorobromomethane	ND	*1	0.20	0.060	ug/L			05/29/20 14:42	1
cis-1,3-Dichloropropene	ND	*1	0.20	0.090	ug/L			05/29/20 14:42	1
Toluene	ND		0.20	0.050	ug/L			05/29/20 14:42	1
trans-1,3-Dichloropropene	ND	* *1	0.20	0.092	ug/L			05/29/20 14:42	1
1,1,2-Trichloroethane	ND	*1	0.20	0.070	ug/L			05/29/20 14:42	1
Tetrachloroethene	ND	*1	0.50	0.084	ug/L			05/29/20 14:42	1
1,3-Dichloropropane	ND	*1	0.20	0.025	ug/L			05/29/20 14:42	1
Chlorodibromomethane	ND	*1	0.20	0.055	ug/L			05/29/20 14:42	1
Ethylene Dibromide	ND	*1	0.10	0.025	ug/L			05/29/20 14:42	1
Chlorobenzene	ND	*1	0.20	0.025	ug/L			05/29/20 14:42	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/29/20 14:42	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/29/20 14:42	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/29/20 14:42	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 14:42	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 14:42	1
Bromoform	ND		0.50	0.16	ug/L			05/29/20 14:42	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 14:42	1
Bromobenzene	ND	*1	0.20	0.035	ug/L			05/29/20 14:42	1
1,1,2,2-Tetrachloroethane	ND	*1	0.20	0.056	ug/L			05/29/20 14:42	1
1,2,3-Trichloropropane	ND	*1	0.20	0.050	ug/L			05/29/20 14:42	1
N-Propylbenzene	ND	*1	0.30	0.091	ug/L			05/29/20 14:42	1
2-Chlorotoluene	ND	*1	0.50	0.12	ug/L			05/29/20 14:42	1

Client: ERM-West
Job ID: 580-94822-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052020
Lab Sample ID: 580-94822-1
Date Collected: 05/20/20 00:01
Matrix: Water
Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND	*1	0.30	0.050	ug/L			05/29/20 14:42	1
1,3,5-Trimethylbenzene	ND	*1	0.50	0.15	ug/L			05/29/20 14:42	1
tert-Butylbenzene	ND	*1	0.50	0.26	ug/L			05/29/20 14:42	1
1,2,4-Trimethylbenzene	ND	*1	0.30	0.072	ug/L			05/29/20 14:42	1
sec-Butylbenzene	ND	*1	1.0	0.17	ug/L			05/29/20 14:42	1
4-Isopropyltoluene	ND	*1	0.50	0.15	ug/L			05/29/20 14:42	1
1,3-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 14:42	1
1,4-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 14:42	1
n-Butylbenzene	ND	*1	1.0	0.23	ug/L			05/29/20 14:42	1
1,2-Dichlorobenzene	ND	*1	0.30	0.024	ug/L			05/29/20 14:42	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/29/20 14:42	1
1,2,4-Trichlorobenzene	ND	*1	0.50	0.17	ug/L			05/29/20 14:42	1
Hexachlorobutadiene	ND	*1	0.50	0.067	ug/L			05/29/20 14:42	1
Naphthalene	ND		1.0	0.22	ug/L			05/29/20 14:42	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/29/20 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/29/20 14:42*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/29/20 14:42*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/29/20 14:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*05/29/20 14:42*	*1*

Client Sample ID: MWA-30-052020
Lab Sample ID: 580-94822-2

Date Collected: 05/20/20 12:49
Matrix: Water
Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*1 *	0.40	0.13	ug/L			05/29/20 14:16	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 14:16	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 14:16	1
Bromomethane	ND		0.50	0.062	ug/L			05/29/20 14:16	1
Chloroethane	ND		0.50	0.096	ug/L			05/29/20 14:16	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/29/20 14:16	1
Trichlorofluoromethane	ND	*1	0.50	0.043	ug/L			05/29/20 14:16	1
1,1-Dichloroethene	ND	*1	0.20	0.035	ug/L			05/29/20 14:16	1
Acetone	ND		10	3.1	ug/L			05/29/20 14:16	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/29/20 14:16	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 14:16	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/29/20 14:16	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 14:16	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/29/20 14:16	1
2,2-Dichloropropane	ND	*1	0.50	0.060	ug/L			05/29/20 14:16	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 14:16	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 14:16	1
Chloroform	**0.15**	**J**	0.20	0.030	ug/L			05/29/20 14:16	1
1,1,1-Trichloroethane	ND	*1	0.20	0.025	ug/L			05/29/20 14:16	1
Carbon tetrachloride	ND	*1	0.20	0.025	ug/L			05/29/20 14:16	1
1,1-Dichloropropene	ND	*1	0.20	0.036	ug/L			05/29/20 14:16	1
Benzene	ND		0.20	0.030	ug/L			05/29/20 14:16	1
1,2-Dichloroethane	ND	*1	0.20	0.043	ug/L			05/29/20 14:16	1
Trichloroethene	**0.14**	**J B *1**	0.20	0.066	ug/L			05/29/20 14:16	1
1,2-Dichloropropane	ND	*1	0.20	0.060	ug/L			05/29/20 14:16	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 14:16	1
Dibromomethane	ND	*1	0.20	0.062	ug/L			05/29/20 14:16	1
Dichlorobromomethane	ND	*1	0.20	0.060	ug/L			05/29/20 14:16	1
cis-1,3-Dichloropropene	ND	*1	0.20	0.090	ug/L			05/29/20 14:16	1
Toluene	**0.068**	**J**	0.20	0.050	ug/L			05/29/20 14:16	1
trans-1,3-Dichloropropene	ND	* *1	0.20	0.092	ug/L			05/29/20 14:16	1
1,1,2-Trichloroethane	ND	*1	0.20	0.070	ug/L			05/29/20 14:16	1
Tetrachloroethene	ND	*1	0.50	0.084	ug/L			05/29/20 14:16	1
1,3-Dichloropropane	ND	*1	0.20	0.025	ug/L			05/29/20 14:16	1
Chlorodibromomethane	ND	*1	0.20	0.055	ug/L			05/29/20 14:16	1
Ethylene Dibromide	ND	*1	0.10	0.025	ug/L			05/29/20 14:16	1
Chlorobenzene	ND	*1	0.20	0.025	ug/L			05/29/20 14:16	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/29/20 14:16	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/29/20 14:16	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/29/20 14:16	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 14:16	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 14:16	1
Bromoform	ND		0.50	0.16	ug/L			05/29/20 14:16	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 14:16	1
Bromobenzene	ND	*1	0.20	0.035	ug/L			05/29/20 14:16	1
1,1,2,2-Tetrachloroethane	ND	*1	0.20	0.056	ug/L			05/29/20 14:16	1
1,2,3-Trichloropropane	ND	*1	0.20	0.050	ug/L			05/29/20 14:16	1
N-Propylbenzene	ND	*1	0.30	0.091	ug/L			05/29/20 14:16	1
2-Chlorotoluene	ND	*1	0.50	0.12	ug/L			05/29/20 14:16	1

Client Sample ID: MWA-30-052020
Lab Sample ID: 580-94822-2

Date Collected: 05/20/20 12:49
Matrix: Water
Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND	*1	0.30	0.050	ug/L			05/29/20 14:16	1
1,3,5-Trimethylbenzene	ND	*1	0.50	0.15	ug/L			05/29/20 14:16	1
tert-Butylbenzene	ND	*1	0.50	0.26	ug/L			05/29/20 14:16	1
1,2,4-Trimethylbenzene	ND	*1	0.30	0.072	ug/L			05/29/20 14:16	1
sec-Butylbenzene	ND	*1	1.0	0.17	ug/L			05/29/20 14:16	1
4-Isopropyltoluene	ND	*1	0.50	0.15	ug/L			05/29/20 14:16	1
1,3-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 14:16	1
1,4-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 14:16	1
n-Butylbenzene	ND	*1	1.0	0.23	ug/L			05/29/20 14:16	1
1,2-Dichlorobenzene	ND	*1	0.30	0.024	ug/L			05/29/20 14:16	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/29/20 14:16	1
1,2,4-Trichlorobenzene	ND	*1	0.50	0.17	ug/L			05/29/20 14:16	1
Hexachlorobutadiene	ND	*1	0.50	0.067	ug/L			05/29/20 14:16	1
Naphthalene	ND		1.0	0.22	ug/L			05/29/20 14:16	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/29/20 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/29/20 14:16*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*05/29/20 14:16*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/29/20 14:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*05/29/20 14:16*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**5.4**		1.0	0.25	ug/L			05/29/20 06:57	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/02/20 18:47	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 18:03	5
Chromium	**0.0080**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 18:03	5
Iron	**0.21**	**J**	1.0	0.18	mg/L		05/26/20 12:43	05/27/20 18:03	5
Manganese	**0.14**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 18:03	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**830**		90	14	mg/L			05/25/20 05:19	100

Client Sample ID: PA-13i-052020
Lab Sample ID: 580-94822-3

Date Collected: 05/20/20 12:40
Matrix: Water

Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*1	0.40	0.13	ug/L			05/29/20 16:17	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 16:17	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 16:17	1
Bromomethane	ND	* *1	0.50	0.062	ug/L			05/29/20 16:17	1
Chloroethane	ND	*	0.50	0.096	ug/L			05/29/20 16:17	1
Carbon disulfide	**0.16**	**J**	0.30	0.083	ug/L			05/29/20 16:17	1
Trichlorofluoromethane	ND	*1	0.50	0.043	ug/L			05/29/20 16:17	1
1,1-Dichloroethene	ND	* *1	0.20	0.035	ug/L			05/29/20 16:17	1
Methylene Chloride	ND	*1	5.0	1.2	ug/L			05/29/20 16:17	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 16:17	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/29/20 16:17	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 16:17	1
1,1-Dichloroethane	**0.64**		0.20	0.025	ug/L			05/29/20 16:17	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/29/20 16:17	1
cis-1,2-Dichloroethene	**0.35**		0.20	0.055	ug/L			05/29/20 16:17	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 16:17	1
Chloroform	**0.057**	**J**	0.20	0.030	ug/L			05/29/20 16:17	1
1,1,1-Trichloroethane	ND	*1	0.20	0.025	ug/L			05/29/20 16:17	1
Carbon tetrachloride	ND	*1	0.20	0.025	ug/L			05/29/20 16:17	1
1,1-Dichloropropene	ND	*1	0.20	0.036	ug/L			05/29/20 16:17	1
Benzene	ND		0.20	0.030	ug/L			05/29/20 16:17	1
1,2-Dichloroethane	ND	*1	0.20	0.043	ug/L			05/29/20 16:17	1
1,2-Dichloropropane	ND	*1	0.20	0.060	ug/L			05/29/20 16:17	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 16:17	1
Dibromomethane	ND		0.20	0.062	ug/L			05/29/20 16:17	1
Dichlorobromomethane	ND	*1	0.20	0.060	ug/L			05/29/20 16:17	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/29/20 16:17	1
Toluene	ND		0.20	0.050	ug/L			05/29/20 16:17	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/29/20 16:17	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/29/20 16:17	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/29/20 16:17	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/29/20 16:17	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/29/20 16:17	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/29/20 16:17	1
Chlorobenzene	**0.27**	***1**	0.20	0.025	ug/L			05/29/20 16:17	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/29/20 16:17	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/29/20 16:17	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/29/20 16:17	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 16:17	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 16:17	1
Bromoform	ND		0.50	0.16	ug/L			05/29/20 16:17	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 16:17	1
Bromobenzene	ND		0.20	0.035	ug/L			05/29/20 16:17	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/29/20 16:17	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/29/20 16:17	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/29/20 16:17	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/29/20 16:17	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/29/20 16:17	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/29/20 16:17	1

Client Sample ID: PA-13i-052020
Lab Sample ID: 580-94822-3
Date Collected: 05/20/20 12:40
Matrix: Water
Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/29/20 16:17	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/29/20 16:17	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/29/20 16:17	1
4-Isopropyltoluene	ND	*1	0.50	0.15	ug/L			05/29/20 16:17	1
1,3-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 16:17	1
1,4-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 16:17	1
n-Butylbenzene	ND	*1	1.0	0.23	ug/L			05/29/20 16:17	1
1,2-Dichlorobenzene	ND	*1	0.30	0.024	ug/L			05/29/20 16:17	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/29/20 16:17	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/29/20 16:17	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/29/20 16:17	1
Naphthalene	**0.29**	**J B**	1.0	0.22	ug/L			05/29/20 16:17	1
1,2,3-Trichlorobenzene	ND	*1	0.50	0.15	ug/L			05/29/20 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/29/20 16:17*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/29/20 16:17*	*1*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*05/29/20 16:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*05/29/20 16:17*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**4.2**	**J B**	10	3.1	ug/L			06/02/20 21:38	1
Trichloroethene	**0.10**	**J B**	0.20	0.066	ug/L			06/02/20 21:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 21:38*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/02/20 21:38*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*06/02/20 21:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*06/02/20 21:38*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		20	5.0	ug/L			05/29/20 07:10	20

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400	95	ug/L			05/27/20 20:22	100

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.020**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 18:18	5
Chromium	**0.29**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 18:18	5
Iron	**29**		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 18:18	5
Manganese	**0.85**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 18:18	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**		90	14	mg/L			05/25/20 05:31	100

Client: ERM-West
Job ID: 580-94822-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-14i-052020
Lab Sample ID: 580-94822-4
Date Collected: 05/20/20 12:51
Matrix: Water
Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*1	0.40	0.13	ug/L			05/29/20 15:51	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 15:51	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 15:51	1
Bromomethane	ND	* *1	0.50	0.062	ug/L			05/29/20 15:51	1
Chloroethane	ND	*	0.50	0.096	ug/L			05/29/20 15:51	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/29/20 15:51	1
Trichlorofluoromethane	ND	*1	0.50	0.043	ug/L			05/29/20 15:51	1
1,1-Dichloroethene	**0.049**	**J * *1**	0.20	0.035	ug/L			05/29/20 15:51	1
Acetone	ND	*	10	3.1	ug/L			05/29/20 15:51	1
Methylene Chloride	ND	*1	5.0	1.2	ug/L			05/29/20 15:51	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 15:51	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/29/20 15:51	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 15:51	1
1,1-Dichloroethane	**0.21**		0.20	0.025	ug/L			05/29/20 15:51	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/29/20 15:51	1
cis-1,2-Dichloroethene	**0.79**		0.20	0.055	ug/L			05/29/20 15:51	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 15:51	1
Chloroform	ND		0.20	0.030	ug/L			05/29/20 15:51	1
1,1,1-Trichloroethane	ND	*1	0.20	0.025	ug/L			05/29/20 15:51	1
Carbon tetrachloride	ND	*1	0.20	0.025	ug/L			05/29/20 15:51	1
1,1-Dichloropropene	ND	*1	0.20	0.036	ug/L			05/29/20 15:51	1
Benzene	**0.35**		0.20	0.030	ug/L			05/29/20 15:51	1
1,2-Dichloroethane	ND	*1	0.20	0.043	ug/L			05/29/20 15:51	1
1,2-Dichloropropane	ND	*1	0.20	0.060	ug/L			05/29/20 15:51	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 15:51	1
Dibromomethane	ND		0.20	0.062	ug/L			05/29/20 15:51	1
Dichlorobromomethane	ND	*1	0.20	0.060	ug/L			05/29/20 15:51	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/29/20 15:51	1
Toluene	ND		0.20	0.050	ug/L			05/29/20 15:51	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/29/20 15:51	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/29/20 15:51	1
Tetrachloroethene	**0.21**	**J**	0.50	0.084	ug/L			05/29/20 15:51	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/29/20 15:51	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/29/20 15:51	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/29/20 15:51	1
Chlorobenzene	**13**	***1**	0.20	0.025	ug/L			05/29/20 15:51	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/29/20 15:51	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/29/20 15:51	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/29/20 15:51	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 15:51	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 15:51	1
Bromoform	ND		0.50	0.16	ug/L			05/29/20 15:51	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 15:51	1
Bromobenzene	ND		0.20	0.035	ug/L			05/29/20 15:51	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/29/20 15:51	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/29/20 15:51	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/29/20 15:51	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/29/20 15:51	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/29/20 15:51	1

Client Sample ID: PA-14i-052020
Lab Sample ID: 580-94822-4

Date Collected: 05/20/20 12:51
Matrix: Water

Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/29/20 15:51	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/29/20 15:51	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/29/20 15:51	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/29/20 15:51	1
4-Isopropyltoluene	ND	*1	0.50	0.15	ug/L			05/29/20 15:51	1
1,3-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 15:51	1
1,4-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 15:51	1
n-Butylbenzene	ND	*1	1.0	0.23	ug/L			05/29/20 15:51	1
1,2-Dichlorobenzene	ND	*1	0.30	0.024	ug/L			05/29/20 15:51	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/29/20 15:51	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/29/20 15:51	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/29/20 15:51	1
Naphthalene	**0.29**	**J B**	1.0	0.22	ug/L			05/29/20 15:51	1
1,2,3-Trichlorobenzene	ND	*1	0.50	0.15	ug/L			05/29/20 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/29/20 15:51*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*05/29/20 15:51*	*1*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*		*05/29/20 15:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*05/29/20 15:51*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**0.49**	**B**	0.20	0.066	ug/L			06/02/20 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/02/20 22:04*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*06/02/20 22:04*	*1*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*06/02/20 22:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*06/02/20 22:04*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**7.7**		5.0	1.3	ug/L			05/29/20 07:23	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/27/20 20:58	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.023**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 18:15	5
Chromium	**0.31**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 18:15	5
Iron	**4.3**		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 18:15	5
Manganese	**0.13**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 18:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**200**		9.0	1.4	mg/L			05/25/20 05:42	10

Client: ERM-West
Job ID: 580-94822-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-47-052020
Lab Sample ID: 580-94822-5
Date Collected: 05/20/20 14:16
Matrix: Water
Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*1 *	0.40	0.13	ug/L			05/29/20 12:56	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 12:56	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 12:56	1
Bromomethane	ND		0.50	0.062	ug/L			05/29/20 12:56	1
Chloroethane	ND		0.50	0.096	ug/L			05/29/20 12:56	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/29/20 12:56	1
Trichlorofluoromethane	ND	*1	0.50	0.043	ug/L			05/29/20 12:56	1
1,1-Dichloroethene	ND	*1	0.20	0.035	ug/L			05/29/20 12:56	1
Acetone	ND		10	3.1	ug/L			05/29/20 12:56	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/29/20 12:56	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 12:56	1
2-Butanone (MEK)	ND	*1	10	2.5	ug/L			05/29/20 12:56	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 12:56	1
1,1-Dichloroethane	**0.047**	**J**	0.20	0.025	ug/L			05/29/20 12:56	1
2,2-Dichloropropane	ND	*1	0.50	0.060	ug/L			05/29/20 12:56	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 12:56	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 12:56	1
Chloroform	**0.043**	**J**	0.20	0.030	ug/L			05/29/20 12:56	1
1,1,1-Trichloroethane	ND	*1	0.20	0.025	ug/L			05/29/20 12:56	1
Carbon tetrachloride	ND	*1	0.20	0.025	ug/L			05/29/20 12:56	1
1,1-Dichloropropene	ND	*1	0.20	0.036	ug/L			05/29/20 12:56	1
Benzene	ND		0.20	0.030	ug/L			05/29/20 12:56	1
1,2-Dichloroethane	ND	*1	0.20	0.043	ug/L			05/29/20 12:56	1
Trichloroethene	**0.16**	**J B *1**	0.20	0.066	ug/L			05/29/20 12:56	1
1,2-Dichloropropane	ND	*1	0.20	0.060	ug/L			05/29/20 12:56	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 12:56	1
Dibromomethane	ND	*1	0.20	0.062	ug/L			05/29/20 12:56	1
Dichlorobromomethane	ND	*1	0.20	0.060	ug/L			05/29/20 12:56	1
cis-1,3-Dichloropropene	ND	*1	0.20	0.090	ug/L			05/29/20 12:56	1
Toluene	ND		0.20	0.050	ug/L			05/29/20 12:56	1
1,1,2-Trichloroethane	ND	*1	0.20	0.070	ug/L			05/29/20 12:56	1
Tetrachloroethene	**0.087**	**J *1**	0.50	0.084	ug/L			05/29/20 12:56	1
1,3-Dichloropropane	ND	*1	0.20	0.025	ug/L			05/29/20 12:56	1
Chlorodibromomethane	ND	*1	0.20	0.055	ug/L			05/29/20 12:56	1
Ethylene Dibromide	ND	*1	0.10	0.025	ug/L			05/29/20 12:56	1
Chlorobenzene	ND	*1	0.20	0.025	ug/L			05/29/20 12:56	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/29/20 12:56	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/29/20 12:56	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/29/20 12:56	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 12:56	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 12:56	1
Bromoform	ND		0.50	0.16	ug/L			05/29/20 12:56	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 12:56	1
Bromobenzene	ND	*1	0.20	0.035	ug/L			05/29/20 12:56	1
1,1,2,2-Tetrachloroethane	ND	*1	0.20	0.056	ug/L			05/29/20 12:56	1
1,2,3-Trichloropropane	ND	*1	0.20	0.050	ug/L			05/29/20 12:56	1
N-Propylbenzene	ND	*1	0.30	0.091	ug/L			05/29/20 12:56	1
2-Chlorotoluene	ND	*1	0.50	0.12	ug/L			05/29/20 12:56	1
4-Chlorotoluene	ND	*1	0.30	0.050	ug/L			05/29/20 12:56	1

Client Sample ID: MWA-47-052020
Lab Sample ID: 580-94822-5

Date Collected: 05/20/20 14:16
Matrix: Water
Date Received: 05/20/20 15:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND	*1	0.50	0.15	ug/L			05/29/20 12:56	1
tert-Butylbenzene	ND	*1	0.50	0.26	ug/L			05/29/20 12:56	1
1,2,4-Trimethylbenzene	ND	*1	0.30	0.072	ug/L			05/29/20 12:56	1
sec-Butylbenzene	ND	*1	1.0	0.17	ug/L			05/29/20 12:56	1
4-Isopropyltoluene	ND	*1	0.50	0.15	ug/L			05/29/20 12:56	1
1,3-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 12:56	1
1,4-Dichlorobenzene	ND	*1	0.30	0.050	ug/L			05/29/20 12:56	1
n-Butylbenzene	ND	*1	1.0	0.23	ug/L			05/29/20 12:56	1
1,2-Dichlorobenzene	ND	*1	0.30	0.024	ug/L			05/29/20 12:56	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/29/20 12:56	1
1,2,4-Trichlorobenzene	ND	*1	0.50	0.17	ug/L			05/29/20 12:56	1
Hexachlorobutadiene	ND	*1	0.50	0.067	ug/L			05/29/20 12:56	1
Naphthalene	ND		1.0	0.22	ug/L			05/29/20 12:56	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/29/20 12:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/29/20 12:56*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/29/20 12:56*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/29/20 12:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*05/29/20 12:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 22:31*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*06/02/20 22:31*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*06/02/20 22:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*06/02/20 22:31*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			05/29/20 07:35	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/02/20 19:23	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0030**	**J**	0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 18:06	5
Chromium	**0.0083**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 18:06	5
Iron	**0.88**	**J**	1.0	0.18	mg/L		05/26/20 12:43	05/27/20 18:06	5
Manganese	**0.0097**	**J**	0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 18:06	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**900**		90	14	mg/L			05/25/20 05:54	100

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

Lab Sample ID: MB 580-329341/7
Matrix: Water
Analysis Batch: 329341

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/29/20 12:30	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 12:30	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 12:30	1
Bromomethane	ND		0.50	0.062	ug/L			05/29/20 12:30	1
Chloroethane	ND		0.50	0.096	ug/L			05/29/20 12:30	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/29/20 12:30	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/29/20 12:30	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/29/20 12:30	1
Acetone	ND		10	3.1	ug/L			05/29/20 12:30	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/29/20 12:30	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 12:30	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/29/20 12:30	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 12:30	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/29/20 12:30	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/29/20 12:30	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 12:30	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 12:30	1
Chloroform	ND		0.20	0.030	ug/L			05/29/20 12:30	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/29/20 12:30	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/29/20 12:30	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/29/20 12:30	1
Benzene	ND		0.20	0.030	ug/L			05/29/20 12:30	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/29/20 12:30	1
Trichloroethene	0.163	J	0.20	0.066	ug/L			05/29/20 12:30	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/29/20 12:30	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 12:30	1
Dibromomethane	ND		0.20	0.062	ug/L			05/29/20 12:30	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/29/20 12:30	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/29/20 12:30	1
Toluene	ND		0.20	0.050	ug/L			05/29/20 12:30	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/29/20 12:30	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/29/20 12:30	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/29/20 12:30	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/29/20 12:30	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/29/20 12:30	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/29/20 12:30	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/29/20 12:30	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/29/20 12:30	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/29/20 12:30	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 12:30	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 12:30	1
Bromoform	ND		0.50	0.16	ug/L			05/29/20 12:30	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 12:30	1
Bromobenzene	ND		0.20	0.035	ug/L			05/29/20 12:30	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/29/20 12:30	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/29/20 12:30	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/29/20 12:30	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/29/20 12:30	1

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

Lab Sample ID: MB 580-329341/7
Matrix: Water
Analysis Batch: 329341

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/29/20 12:30	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/29/20 12:30	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/29/20 12:30	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/29/20 12:30	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/29/20 12:30	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/29/20 12:30	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/29/20 12:30	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/29/20 12:30	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/29/20 12:30	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/29/20 12:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/29/20 12:30	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/29/20 12:30	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/29/20 12:30	1
Naphthalene	ND		1.0	0.22	ug/L			05/29/20 12:30	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/29/20 12:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/29/20 12:30*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*05/29/20 12:30*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/29/20 12:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*05/29/20 12:30*	*1*

Lab Sample ID: LCS 580-329341/28
Matrix: Water
Analysis Batch: 329341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	8.65	*	ug/L		173	20 - 137
Chloromethane	5.00	6.73		ug/L		135	32 - 143
Vinyl chloride	5.00	6.09		ug/L		122	52 - 128
Bromomethane	5.00	5.86		ug/L		117	68 - 120
Chloroethane	5.00	5.94		ug/L		119	49 - 135
Carbon disulfide	5.00	5.30		ug/L		106	65 - 128
Trichlorofluoromethane	5.00	5.79		ug/L		116	60 - 132
1,1-Dichloroethene	5.00	5.94		ug/L		119	71 - 126
Acetone	25.0	29.0		ug/L		116	49 - 150
Methylene Chloride	5.00	5.11		ug/L		102	75 - 134
Methyl tert-butyl ether	5.00	5.07		ug/L		101	60 - 150
2-Butanone (MEK)	25.0	24.8		ug/L		99	64 - 136
trans-1,2-Dichloroethene	5.00	6.07		ug/L		121	63 - 133
1,1-Dichloroethane	5.00	5.35		ug/L		107	74 - 135
2,2-Dichloropropane	5.00	4.80		ug/L		96	58 - 150
cis-1,2-Dichloroethene	5.00	5.66		ug/L		113	72 - 130
Chlorobromomethane	5.00	5.98		ug/L		120	79 - 131
Chloroform	5.00	5.65		ug/L		113	80 - 130
1,1,1-Trichloroethane	5.00	5.18		ug/L		104	74 - 128
Carbon tetrachloride	5.00	5.12		ug/L		102	71 - 132
1,1-Dichloropropene	5.00	5.50		ug/L		110	72 - 132

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

Lab Sample ID: LCS 580-329341/28
Matrix: Water
Analysis Batch: 329341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	5.56		ug/L		111	73 - 133
1,2-Dichloroethane	5.00	5.43		ug/L		109	74 - 130
Trichloroethene	5.00	5.83		ug/L		117	72 - 136
1,2-Dichloropropane	5.00	5.34		ug/L		107	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	26.2		ug/L		105	65 - 137
Dibromomethane	5.00	5.52		ug/L		110	65 - 141
Dichlorobromomethane	5.00	5.21		ug/L		104	74 - 131
cis-1,3-Dichloropropene	5.00	4.87		ug/L		97	66 - 141
Toluene	5.00	5.20		ug/L		104	80 - 126
trans-1,3-Dichloropropene	5.00	4.54		ug/L		91	71 - 128
1,1,2-Trichloroethane	5.00	5.50		ug/L		110	80 - 127
Tetrachloroethene	5.00	5.49		ug/L		110	75 - 131
1,3-Dichloropropane	5.00	5.35		ug/L		107	80 - 130
Chlorodibromomethane	5.00	5.49		ug/L		110	76 - 131
Ethylene Dibromide	5.00	5.72		ug/L		114	80 - 126
Chlorobenzene	5.00	6.09		ug/L		122	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.41		ug/L		108	79 - 127
Ethylbenzene	5.00	5.23		ug/L		105	80 - 130
m-Xylene & p-Xylene	5.00	5.36		ug/L		107	78 - 130
o-Xylene	5.00	6.17		ug/L		123	80 - 139
Styrene	5.00	6.28		ug/L		126	74 - 136
Bromoform	5.00	4.65		ug/L		93	69 - 137
Isopropylbenzene	5.00	5.64		ug/L		113	75 - 137
Bromobenzene	5.00	5.63		ug/L		113	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.73		ug/L		115	69 - 139
1,2,3-Trichloropropane	5.00	5.51		ug/L		110	80 - 127
N-Propylbenzene	5.00	5.63		ug/L		113	77 - 142
2-Chlorotoluene	5.00	5.39		ug/L		108	80 - 136
4-Chlorotoluene	5.00	5.64		ug/L		113	80 - 130
1,3,5-Trimethylbenzene	5.00	5.85		ug/L		117	80 - 139
tert-Butylbenzene	5.00	5.63		ug/L		113	77 - 140
1,2,4-Trimethylbenzene	5.00	5.57		ug/L		111	78 - 136
sec-Butylbenzene	5.00	5.81		ug/L		116	78 - 140
4-Isopropyltoluene	5.00	5.78		ug/L		116	78 - 132
1,3-Dichlorobenzene	5.00	5.87		ug/L		117	80 - 130
1,4-Dichlorobenzene	5.00	5.70		ug/L		114	80 - 129
n-Butylbenzene	5.00	5.52		ug/L		110	73 - 135
1,2-Dichlorobenzene	5.00	5.87		ug/L		117	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.67		ug/L		93	69 - 130
1,2,4-Trichlorobenzene	5.00	5.62		ug/L		112	79 - 130
Hexachlorobutadiene	5.00	5.37		ug/L		107	72 - 138
Naphthalene	5.00	5.54		ug/L		111	64 - 132
1,2,3-Trichlorobenzene	5.00	5.66		ug/L		113	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*

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

Lab Sample ID: LCS 580-329341/28
Matrix: Water
Analysis Batch: 329341

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-329341/5
Matrix: Water
Analysis Batch: 329341

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			5.00	6.47	*1	ug/L		129	20 - 137	29	22
Chloromethane			5.00	5.80		ug/L		116	32 - 143	15	23
Vinyl chloride			5.00	4.93		ug/L		99	52 - 128	21	21
Bromomethane			5.00	5.23		ug/L		105	68 - 120	11	18
Chloroethane			5.00	5.17		ug/L		103	49 - 135	14	27
Carbon disulfide			5.00	4.37		ug/L		87	65 - 128	19	23
Trichlorofluoromethane			5.00	4.44	*1	ug/L		89	60 - 132	27	20
1,1-Dichloroethene			5.00	4.83	*1	ug/L		97	71 - 126	21	17
Acetone			25.0	24.3		ug/L		97	49 - 150	18	24
Methylene Chloride			5.00	4.73	J	ug/L		95	75 - 134	8	18
Methyl tert-butyl ether			5.00	4.56		ug/L		91	60 - 150	11	25
2-Butanone (MEK)			25.0	19.1	*1	ug/L		76	64 - 136	26	23
trans-1,2-Dichloroethene			5.00	5.24		ug/L		105	63 - 133	15	17
1,1-Dichloroethane			5.00	4.75		ug/L		95	74 - 135	12	20
2,2-Dichloropropane			5.00	3.07	*1	ug/L		61	58 - 150	44	28
cis-1,2-Dichloroethene			5.00	5.06		ug/L		101	72 - 130	11	20
Chlorobromomethane			5.00	5.19		ug/L		104	79 - 131	14	20
Chloroform			5.00	4.96		ug/L		99	80 - 130	13	20
1,1,1-Trichloroethane			5.00	4.38	*1	ug/L		88	74 - 128	17	14
Carbon tetrachloride			5.00	4.13	*1	ug/L		83	71 - 132	21	15
1,1-Dichloropropene			5.00	4.23	*1	ug/L		85	72 - 132	26	13
Benzene			5.00	4.61		ug/L		92	73 - 133	19	20
1,2-Dichloroethane			5.00	4.33	*1	ug/L		87	74 - 130	23	15
Trichloroethene			5.00	4.88	*1	ug/L		98	72 - 136	18	14
1,2-Dichloropropane			5.00	4.34	*1	ug/L		87	80 - 130	21	14
4-Methyl-2-pentanone (MIBK)			25.0	21.2		ug/L		85	65 - 137	21	24
Dibromomethane			5.00	4.42	*1	ug/L		88	65 - 141	22	20
Dichlorobromomethane			5.00	4.17	*1	ug/L		83	74 - 131	22	20
cis-1,3-Dichloropropene			5.00	3.55	*1	ug/L		71	66 - 141	31	22
Toluene			5.00	4.33		ug/L		87	80 - 126	18	20
trans-1,3-Dichloropropene			5.00	3.20	* *1	ug/L		64	71 - 128	35	21
1,1,2-Trichloroethane			5.00	4.31	*1	ug/L		86	80 - 127	24	19
Tetrachloroethene			5.00	4.23	*1	ug/L		85	75 - 131	26	20
1,3-Dichloropropane			5.00	4.17	*1	ug/L		83	80 - 130	25	19
Chlorodibromomethane			5.00	4.42	*1	ug/L		88	76 - 131	22	20
Ethylene Dibromide			5.00	4.53	*1	ug/L		91	80 - 126	23	20
Chlorobenzene			5.00	5.01	*1	ug/L		100	80 - 123	20	12
1,1,1,2-Tetrachloroethane			5.00	4.68		ug/L		94	79 - 127	15	20
Ethylbenzene			5.00	4.37		ug/L		87	80 - 130	18	20
m-Xylene & p-Xylene			5.00	4.47		ug/L		89	78 - 130	18	20
o-Xylene			5.00	5.28		ug/L		106	80 - 139	16	20

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

Lab Sample ID: LCSD 580-329341/5
Matrix: Water
Analysis Batch: 329341

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Styrene	5.00	5.22		ug/L		104	74 - 136	18	20
Bromoform	5.00	3.83		ug/L		77	69 - 137	19	20
Isopropylbenzene	5.00	4.70		ug/L		94	75 - 137	18	20
Bromobenzene	5.00	4.43	*1	ug/L		89	80 - 130	24	20
1,1,2,2-Tetrachloroethane	5.00	4.14	*1	ug/L		83	69 - 139	32	22
1,2,3-Trichloropropane	5.00	4.22	*1	ug/L		84	80 - 127	27	20
N-Propylbenzene	5.00	4.30	*1	ug/L		86	77 - 142	27	20
2-Chlorotoluene	5.00	4.30	*1	ug/L		86	80 - 136	23	20
4-Chlorotoluene	5.00	4.42	*1	ug/L		88	80 - 130	24	20
1,3,5-Trimethylbenzene	5.00	4.54	*1	ug/L		91	80 - 139	25	20
tert-Butylbenzene	5.00	4.10	*1	ug/L		82	77 - 140	31	20
1,2,4-Trimethylbenzene	5.00	4.42	*1	ug/L		88	78 - 136	23	20
sec-Butylbenzene	5.00	4.33	*1	ug/L		87	78 - 140	29	20
4-Isopropyltoluene	5.00	4.36	*1	ug/L		87	78 - 132	28	14
1,3-Dichlorobenzene	5.00	4.67	*1	ug/L		93	80 - 130	23	12
1,4-Dichlorobenzene	5.00	4.49	*1	ug/L		90	80 - 129	24	11
n-Butylbenzene	5.00	4.11	*1	ug/L		82	73 - 135	29	18
1,2-Dichlorobenzene	5.00	4.73	*1	ug/L		95	80 - 129	21	14
1,2-Dibromo-3-Chloropropane	5.00	3.85		ug/L		77	69 - 130	19	26
1,2,4-Trichlorobenzene	5.00	4.55	*1	ug/L		91	79 - 130	21	20
Hexachlorobutadiene	5.00	3.94	*1	ug/L		79	72 - 138	31	20
Naphthalene	5.00	4.54		ug/L		91	64 - 132	20	20
1,2,3-Trichlorobenzene	5.00	4.69		ug/L		94	75 - 137	19	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*

Lab Sample ID: MB 580-329346/7
Matrix: Water
Analysis Batch: 329346

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/29/20 15:24	1
Chloromethane	ND		0.50	0.068	ug/L			05/29/20 15:24	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/29/20 15:24	1
Bromomethane	ND		0.50	0.062	ug/L			05/29/20 15:24	1
Chloroethane	ND		0.50	0.096	ug/L			05/29/20 15:24	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/29/20 15:24	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/29/20 15:24	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/29/20 15:24	1
Acetone	7.28	J	10	3.1	ug/L			05/29/20 15:24	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/29/20 15:24	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/29/20 15:24	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/29/20 15:24	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/29/20 15:24	1

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

Lab Sample ID: MB 580-329346/7
Matrix: Water
Analysis Batch: 329346

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/29/20 15:24	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/29/20 15:24	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/29/20 15:24	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/29/20 15:24	1
Chloroform	ND		0.20	0.030	ug/L			05/29/20 15:24	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/29/20 15:24	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/29/20 15:24	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/29/20 15:24	1
Benzene	ND		0.20	0.030	ug/L			05/29/20 15:24	1
1,2-Dichloroethane	0.0441	J	0.20	0.043	ug/L			05/29/20 15:24	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/29/20 15:24	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/29/20 15:24	1
Dibromomethane	ND		0.20	0.062	ug/L			05/29/20 15:24	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/29/20 15:24	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/29/20 15:24	1
Toluene	ND		0.20	0.050	ug/L			05/29/20 15:24	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/29/20 15:24	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/29/20 15:24	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/29/20 15:24	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/29/20 15:24	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/29/20 15:24	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/29/20 15:24	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/29/20 15:24	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/29/20 15:24	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/29/20 15:24	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/29/20 15:24	1
o-Xylene	ND		0.50	0.15	ug/L			05/29/20 15:24	1
Styrene	ND		1.0	0.19	ug/L			05/29/20 15:24	1
Bromoform	ND		0.50	0.16	ug/L			05/29/20 15:24	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/29/20 15:24	1
Bromobenzene	ND		0.20	0.035	ug/L			05/29/20 15:24	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/29/20 15:24	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/29/20 15:24	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/29/20 15:24	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/29/20 15:24	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/29/20 15:24	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/29/20 15:24	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/29/20 15:24	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/29/20 15:24	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/29/20 15:24	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/29/20 15:24	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/29/20 15:24	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/29/20 15:24	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/29/20 15:24	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/29/20 15:24	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/29/20 15:24	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/29/20 15:24	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/29/20 15:24	1
Naphthalene	0.296	J	1.0	0.22	ug/L			05/29/20 15:24	1

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

Lab Sample ID: MB 580-329346/7
Matrix: Water
Analysis Batch: 329346

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/29/20 15:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/29/20 15:24*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/29/20 15:24*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*05/29/20 15:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*05/29/20 15:24*	*1*

Lab Sample ID: LCS 580-329346/4
Matrix: Water
Analysis Batch: 329346

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	4.10		ug/L		82	20 - 137
Chloromethane	5.00	6.74		ug/L		135	32 - 143
Vinyl chloride	5.00	6.17		ug/L		123	52 - 128
Bromomethane	5.00	6.43	*	ug/L		129	68 - 120
Chloroethane	5.00	7.27	*	ug/L		145	49 - 135
Carbon disulfide	5.00	4.66		ug/L		93	65 - 128
Trichlorofluoromethane	5.00	5.98		ug/L		120	60 - 132
1,1-Dichloroethene	5.00	6.36	*	ug/L		127	71 - 126
Acetone	25.0	44.8	*	ug/L		179	49 - 150
Methylene Chloride	5.00	5.41		ug/L		108	75 - 134
Methyl tert-butyl ether	5.00	5.11		ug/L		102	60 - 150
2-Butanone (MEK)	25.0	17.1		ug/L		68	64 - 136
trans-1,2-Dichloroethene	5.00	5.01		ug/L		100	63 - 133
1,1-Dichloroethane	5.00	5.44		ug/L		109	74 - 135
2,2-Dichloropropane	5.00	5.20		ug/L		104	58 - 150
cis-1,2-Dichloroethene	5.00	5.36		ug/L		107	72 - 130
Chlorobromomethane	5.00	5.07		ug/L		101	79 - 131
Chloroform	5.00	5.43		ug/L		109	80 - 130
1,1,1-Trichloroethane	5.00	5.08		ug/L		102	74 - 128
Carbon tetrachloride	5.00	5.11		ug/L		102	71 - 132
1,1-Dichloropropene	5.00	5.34		ug/L		107	72 - 132
Benzene	5.00	5.33		ug/L		107	73 - 133
1,2-Dichloroethane	5.00	5.14		ug/L		103	74 - 130
1,2-Dichloropropane	5.00	5.63		ug/L		113	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	27.6		ug/L		111	65 - 137
Dibromomethane	5.00	4.62		ug/L		92	65 - 141
Dichlorobromomethane	5.00	5.19		ug/L		104	74 - 131
cis-1,3-Dichloropropene	5.00	5.08		ug/L		102	66 - 141
Toluene	5.00	5.55		ug/L		111	80 - 126
trans-1,3-Dichloropropene	5.00	4.76		ug/L		95	71 - 128
1,1,2-Trichloroethane	5.00	4.83		ug/L		97	80 - 127
Tetrachloroethene	5.00	5.03		ug/L		101	75 - 131
1,3-Dichloropropane	5.00	5.17		ug/L		103	80 - 130
Chlorodibromomethane	5.00	5.40		ug/L		108	76 - 131
Ethylene Dibromide	5.00	5.06		ug/L		101	80 - 126

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

Lab Sample ID: LCS 580-329346/4
Matrix: Water
Analysis Batch: 329346

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	5.00	5.17		ug/L		103	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.16		ug/L		103	79 - 127
Ethylbenzene	5.00	5.63		ug/L		113	80 - 130
m-Xylene & p-Xylene	5.00	5.58		ug/L		112	78 - 130
o-Xylene	5.00	5.76		ug/L		115	80 - 139
Styrene	5.00	5.60		ug/L		112	74 - 136
Bromoform	5.00	4.73		ug/L		95	69 - 137
Isopropylbenzene	5.00	5.91		ug/L		118	75 - 137
Bromobenzene	5.00	4.95		ug/L		99	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.12		ug/L		102	69 - 139
1,2,3-Trichloropropane	5.00	5.19		ug/L		104	80 - 127
N-Propylbenzene	5.00	5.93		ug/L		119	77 - 142
2-Chlorotoluene	5.00	5.84		ug/L		117	80 - 136
4-Chlorotoluene	5.00	5.83		ug/L		117	80 - 130
1,3,5-Trimethylbenzene	5.00	6.00		ug/L		120	80 - 139
tert-Butylbenzene	5.00	5.94		ug/L		119	77 - 140
1,2,4-Trimethylbenzene	5.00	6.20		ug/L		124	78 - 136
sec-Butylbenzene	5.00	6.16		ug/L		123	78 - 140
4-Isopropyltoluene	5.00	6.38		ug/L		128	78 - 132
1,3-Dichlorobenzene	5.00	5.44		ug/L		109	80 - 130
1,4-Dichlorobenzene	5.00	5.24		ug/L		105	80 - 129
n-Butylbenzene	5.00	6.17		ug/L		123	73 - 135
1,2-Dichlorobenzene	5.00	5.63		ug/L		113	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.30		ug/L		106	69 - 130
1,2,4-Trichlorobenzene	5.00	5.60		ug/L		112	79 - 130
Hexachlorobutadiene	5.00	4.91		ug/L		98	72 - 138
Naphthalene	5.00	5.16		ug/L		103	64 - 132
1,2,3-Trichlorobenzene	5.00	5.11		ug/L		102	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329346/5
Matrix: Water
Analysis Batch: 329346

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	3.03	*1	ug/L		61	20 - 137	30	22
Chloromethane	5.00	5.51		ug/L		110	32 - 143	20	23
Vinyl chloride	5.00	5.27		ug/L		105	52 - 128	16	21
Bromomethane	5.00	5.06	*1	ug/L		101	68 - 120	24	18
Chloroethane	5.00	6.21		ug/L		124	49 - 135	16	27
Carbon disulfide	5.00	3.77		ug/L		75	65 - 128	21	23
Trichlorofluoromethane	5.00	4.50	*1	ug/L		90	60 - 132	28	20
1,1-Dichloroethene	5.00	4.78	*1	ug/L		96	71 - 126	28	17

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

Lab Sample ID: LCSD 580-329346/5
Matrix: Water
Analysis Batch: 329346

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	25.0	37.5		ug/L		150	49 - 150	18	24
Methylene Chloride	5.00	4.43	J *1	ug/L		89	75 - 134	20	18
Methyl tert-butyl ether	5.00	4.04		ug/L		81	60 - 150	23	25
2-Butanone (MEK)	25.0	17.3		ug/L		69	64 - 136	1	23
trans-1,2-Dichloroethene	5.00	4.27		ug/L		85	63 - 133	16	17
1,1-Dichloroethane	5.00	4.57		ug/L		91	74 - 135	17	20
2,2-Dichloropropane	5.00	4.02		ug/L		80	58 - 150	26	28
cis-1,2-Dichloroethene	5.00	4.51		ug/L		90	72 - 130	17	20
Chlorobromomethane	5.00	4.42		ug/L		88	79 - 131	14	20
Chloroform	5.00	4.44		ug/L		89	80 - 130	20	20
1,1,1-Trichloroethane	5.00	4.03	*1	ug/L		81	74 - 128	23	14
Carbon tetrachloride	5.00	3.95	*1	ug/L		79	71 - 132	26	15
1,1-Dichloropropene	5.00	4.08	*1	ug/L		82	72 - 132	27	13
Benzene	5.00	4.35		ug/L		87	73 - 133	20	20
1,2-Dichloroethane	5.00	4.11	*1	ug/L		82	74 - 130	22	15
1,2-Dichloropropane	5.00	4.46	*1	ug/L		89	80 - 130	23	14
4-Methyl-2-pentanone (MIBK)	25.0	22.8		ug/L		91	65 - 137	19	24
Dibromomethane	5.00	3.84		ug/L		77	65 - 141	18	20
Dichlorobromomethane	5.00	4.10	*1	ug/L		82	74 - 131	23	20
cis-1,3-Dichloropropene	5.00	4.36		ug/L		87	66 - 141	15	22
Toluene	5.00	4.75		ug/L		95	80 - 126	16	20
trans-1,3-Dichloropropene	5.00	3.87		ug/L		77	71 - 128	21	21
1,1,2-Trichloroethane	5.00	4.09		ug/L		82	80 - 127	17	19
Tetrachloroethene	5.00	4.21		ug/L		84	75 - 131	18	20
1,3-Dichloropropane	5.00	4.31		ug/L		86	80 - 130	18	19
Chlorodibromomethane	5.00	4.61		ug/L		92	76 - 131	16	20
Ethylene Dibromide	5.00	4.12		ug/L		82	80 - 126	20	20
Chlorobenzene	5.00	4.37	*1	ug/L		87	80 - 123	17	12
1,1,1,2-Tetrachloroethane	5.00	4.32		ug/L		86	79 - 127	18	20
Ethylbenzene	5.00	4.62		ug/L		92	80 - 130	20	20
m-Xylene & p-Xylene	5.00	4.58		ug/L		92	78 - 130	20	20
o-Xylene	5.00	4.72		ug/L		94	80 - 139	20	20
Styrene	5.00	4.60		ug/L		92	74 - 136	20	20
Bromoform	5.00	4.14		ug/L		83	69 - 137	13	20
Isopropylbenzene	5.00	4.84		ug/L		97	75 - 137	20	20
Bromobenzene	5.00	4.26		ug/L		85	80 - 130	15	20
1,1,2,2-Tetrachloroethane	5.00	4.32		ug/L		86	69 - 139	17	22
1,2,3-Trichloropropane	5.00	4.52		ug/L		90	80 - 127	14	20
N-Propylbenzene	5.00	4.86		ug/L		97	77 - 142	20	20
2-Chlorotoluene	5.00	4.77		ug/L		95	80 - 136	20	20
4-Chlorotoluene	5.00	4.90		ug/L		98	80 - 130	17	20
1,3,5-Trimethylbenzene	5.00	5.04		ug/L		101	80 - 139	17	20
tert-Butylbenzene	5.00	4.94		ug/L		99	77 - 140	18	20
1,2,4-Trimethylbenzene	5.00	5.19		ug/L		104	78 - 136	18	20
sec-Butylbenzene	5.00	5.04		ug/L		101	78 - 140	20	20
4-Isopropyltoluene	5.00	5.22	*1	ug/L		104	78 - 132	20	14
1,3-Dichlorobenzene	5.00	4.49	*1	ug/L		90	80 - 130	19	12
1,4-Dichlorobenzene	5.00	4.34	*1	ug/L		87	80 - 129	19	11
n-Butylbenzene	5.00	4.93	*1	ug/L		99	73 - 135	22	18

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

Lab Sample ID: LCSD 580-329346/5
Matrix: Water
Analysis Batch: 329346

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichlorobenzene			5.00	4.67	*1	ug/L		93	80 - 129	19	14
1,2-Dibromo-3-Chloropropane			5.00	4.76		ug/L		95	69 - 130	11	26
1,2,4-Trichlorobenzene			5.00	4.57		ug/L		91	79 - 130	20	20
Hexachlorobutadiene			5.00	4.11		ug/L		82	72 - 138	18	20
Naphthalene			5.00	4.26		ug/L		85	64 - 132	19	20
1,2,3-Trichlorobenzene			5.00	4.15	*1	ug/L		83	75 - 137	21	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 580-329674/7
Matrix: Water
Analysis Batch: 329674

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	6.61	J	10	3.1	ug/L			06/02/20 19:52	1
Trichloroethene	0.0959	J	0.20	0.066	ug/L			06/02/20 19:52	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 19:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/02/20 19:52*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/02/20 19:52*	*1*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*		*06/02/20 19:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*06/02/20 19:52*	*1*

Lab Sample ID: LCS 580-329674/4
Matrix: Water
Analysis Batch: 329674

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone			25.0	35.4		ug/L		142	49 - 150
Trichloroethene			5.00	4.25		ug/L		85	72 - 136
trans-1,3-Dichloropropene			5.00	3.73		ug/L		75	71 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

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

Lab Sample ID: LCSD 580-329674/5
Matrix: Water
Analysis Batch: 329674

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			25.0	35.2		ug/L		141	49 - 150	1	24
Trichloroethene			5.00	4.19		ug/L		84	72 - 136	1	14
trans-1,3-Dichloropropene			5.00	3.63		ug/L		73	71 - 128	3	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-610492/6
Matrix: Water
Analysis Batch: 610492

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/29/20 06:24	1

Lab Sample ID: LCS 440-610492/5
Matrix: Water
Analysis Batch: 610492

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	49.6		ug/L		99	90 - 110		

Lab Sample ID: MRL 440-610492/4
Matrix: Water
Analysis Batch: 610492

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			1.00	1.12		ug/L		112	50 - 150		

Lab Sample ID: 580-94822-2 MS
Matrix: Water
Analysis Batch: 610492

Client Sample ID: MWA-30-052020
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	5.4		50.0	55.4		ug/L		100	90 - 110		

Lab Sample ID: 580-94822-2 MSD
Matrix: Water
Analysis Batch: 610492

Client Sample ID: MWA-30-052020
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	5.4		50.0	52.3		ug/L		94	90 - 110	6	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610162/6
Matrix: Water
Analysis Batch: 610162

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/27/20 10:15	1

Lab Sample ID: LCS 440-610162/5
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.70		ug/L		97	85 - 115

Lab Sample ID: MRL 440-610162/4
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		93	75 - 125

Lab Sample ID: MRL 440-610162/8
Matrix: Water
Analysis Batch: 610162

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.33	J	ug/L		83	75 - 125

Lab Sample ID: MB 440-610910/6
Matrix: Water
Analysis Batch: 610910

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/02/20 11:13	1

Lab Sample ID: LCS 440-610910/5
Matrix: Water
Analysis Batch: 610910

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.1		ug/L		101	85 - 115

Lab Sample ID: MRL 440-610910/8
Matrix: Water
Analysis Batch: 610910

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.12		ug/L		103	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329073/22-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 16:37	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 16:37	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 16:37	5
Manganese	ND		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 16:37	5

Lab Sample ID: LCS 580-329073/23-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120
Chromium	1.00	1.03		mg/L		103	80 - 120
Iron	20.0	20.7		mg/L		103	80 - 120
Manganese	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: LCSD 580-329073/24-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.01		mg/L		101	80 - 120	0	20
Chromium	1.00	1.03		mg/L		103	80 - 120	0	20
Iron	20.0	20.6		mg/L		103	80 - 120	0	20
Manganese	1.00	1.04		mg/L		104	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329053/3
Matrix: Water
Analysis Batch: 329053

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			05/24/20 23:51	1

Lab Sample ID: LCS 580-329053/4
Matrix: Water
Analysis Batch: 329053

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-329053/5
Matrix: Water
Analysis Batch: 329053

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	51.6		mg/L		103	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94822-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052020
Lab Sample ID: 580-94822-1
Date Collected: 05/20/20 00:01
Matrix: Water
Date Received: 05/20/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329341	05/29/20 14:42	JSM	TAL SEA

Client Sample ID: MWA-30-052020
Lab Sample ID: 580-94822-2
Date Collected: 05/20/20 12:49
Matrix: Water
Date Received: 05/20/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329341	05/29/20 14:16	JSM	TAL SEA
Dissolved	Analysis	218.6		1	610492	05/29/20 06:57	MN	TAL IRV
Total/NA	Analysis	314.0		50	610910	06/02/20 18:47	OH1	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 18:03	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329053	05/25/20 05:19	ADB	TAL SEA

Client Sample ID: PA-13i-052020
Lab Sample ID: 580-94822-3
Date Collected: 05/20/20 12:40
Matrix: Water
Date Received: 05/20/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329346	05/29/20 16:17	T1W	TAL SEA
Total/NA	Analysis	8260D	RA	1	329674	06/02/20 21:38	TL1	TAL SEA
Dissolved	Analysis	218.6		20	610492	05/29/20 07:10	MN	TAL IRV
Total/NA	Analysis	314.0		100	610162	05/27/20 20:22	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 18:18	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329053	05/25/20 05:31	ADB	TAL SEA

Client Sample ID: PA-14i-052020
Lab Sample ID: 580-94822-4
Date Collected: 05/20/20 12:51
Matrix: Water
Date Received: 05/20/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329346	05/29/20 15:51	T1W	TAL SEA
Total/NA	Analysis	8260D	RA	1	329674	06/02/20 22:04	TL1	TAL SEA
Dissolved	Analysis	218.6		5	610492	05/29/20 07:23	MN	TAL IRV
Total/NA	Analysis	314.0		50	610162	05/27/20 20:58	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 18:15	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329053	05/25/20 05:42	ADB	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94822-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-47-052020
Lab Sample ID: 580-94822-5

Date Collected: 05/20/20 14:16
Matrix: Water
Date Received: 05/20/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	RA	1	329674	06/02/20 22:31	TL1	TAL SEA
Total/NA	Analysis	8260D		1	329341	05/29/20 12:56	JSM	TAL SEA
Dissolved	Analysis	218.6		5	610492	05/29/20 07:35	MN	TAL IRV
Total/NA	Analysis	314.0		50	610910	06/02/20 19:23	OH1	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 18:06	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329053	05/25/20 05:54	ADB	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94822-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94822-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94822-1	TB-052020	Water	05/20/20 00:01	05/20/20 15:30	
580-94822-2	MWA-30-052020	Water	05/20/20 12:49	05/20/20 15:30	
580-94822-3	PA-13i-052020	Water	05/20/20 12:40	05/20/20 15:30	
580-94822-4	PA-14i-052020	Water	05/20/20 12:51	05/20/20 15:30	
580-94822-5	MWA-47-052020	Water	05/20/20 14:16	05/20/20 15:30	

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

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST, DS, AS	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-052020	5/20/20		G	Water									X			3	
MWA-30-052020		1249		Water			X				X		X	X	X	7	
PA-13i-052020		1240		Water			X				X		X	X	X	7	
PA-14i-052020		1251		Water			X				X		X	X	X	7	
MWA-47-052020		1416		Water			X				X		X	X	X	7	
				Water													
				Water													
				Water													
				Water													
				Water													

580-94822 Chain of Custody

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

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

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/20/20	ERM		5/20/20 1530	TAPOR
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 4.5

Ver: 01/16/2019

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

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information
Client Contact: Avery Soplata and Erica Whiting
Company: ERM-West
Address: 1050 SW 6th Avenue Suite 1650
City: Portland
State, Zip: OR, 97204
Phone:
Email: avery.soplata@erm.com and Erica.whiting@erm.com
Project Name: Arkema - Q2 2020 Groundwater event
Site:

Sampler: ST, DS, AS
Phone:
Lab PM: Cruz, Sheri L
E-Mail: sheri.cruz@testamericainc.com
Carrier Tracking No(s):
COC No:
Page:
Job #:

Due Date Requested:
TAT Requested (days): 15BD
PO #: 0543821.107
WO #:
Project #: 58014456
SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-052020	5/20/20		G	Water									X			3	
MWA-30-052020		1249		Water			X				X		X	X	X	7	
PA-13-052020		1240		Water			X				X		X	X	X	7	
PA-14-052020		1251		Water			X				X		X	X	X	7	
MWA-47-052020		1416		Water			X				X		X	X	X	7	
				Water													
				Water													
				Water													
				Water													
				Water													

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

580-94822 Chain of Custody

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

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

Deliverable Requested: I, II, III, IV, Other (specify)
Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by: Date: Time:
Relinquished by: Date/Time: 5/20/20 Company: ERM Received by: Method of Shipment:
Relinquished by: Date/Time: 5/21/20 1200 Company: TAL SOR Received by: Date/Time: 5/20/20 1530 Company: TAL SOR
Relinquished by: Date/Time: Company: Received by: Date/Time: 5/22/20 0945 Company: EMS
Custody Seals Intact: ☐ Yes ☐ No Custody Seal No.: Cooler Temperature(s) °C and Other Remarks: 4.5

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): 1872 5088 3941	COC No: 580-76990 1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94822-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/9/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MWA-30-052020 (580-94822-2)	5/20/20	12:49 Pacific		Water			X	X	2	Sample should have been field filtered then preserved by Portland. Please confirm
PA-13i-052020 (580-94822-3)	5/20/20	12:40 Pacific		Water			X	X	2	Sample should have been field filtered then preserved by Portland. Please confirm
PA-14i-052020 (580-94822-4)	5/20/20	12:51 Pacific		Water			X	X	2	Sample should have been field filtered then preserved by Portland. Please confirm
MWA-47-052020 (580-94822-5)	5/20/20	14:16 Pacific		Water			X	X	2	Sample should have been field filtered then preserved by Portland. Please confirm

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

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

Empty Kit Relinquished by:	Date	Time:	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/21/20 1700	TAPOK		5/22/20 0930	EC TRV
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ☑ Yes △ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.6/2.8

Ver: 01/16/2019

12-94

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94822-1

Login Number: 94822
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

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

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94822-1

Login Number: 94822
List Number: 2
Creator: Bonta, Lucia F

List Source: Eurofins Irvine
List Creation: 05/22/20 12:45 PM

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

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94838-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event
Revision: 1

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
7/23/2020 10:43:01 AM

Sheri Cruz, Project Manager I
(253)922-2310
Sheri.Cruz@Eurofinset.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94838-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94838-1

Comments
7/23/2020 revised report for data recall. Method 8081A and 8081B had 4,4'-DDE and Endosulfan I peaks misidentified on the primary column of the two columns utilized for this analysis. This misidentification affected the confirmation and thus resulted in the incorrect reporting of detections for 4,4,'-DDE as non-detect in certain samples. See attached letter from QA and revised report attached.

Receipt
The samples were received on 5/21/2020 12:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3º C.

GC/MS VOA
Method 8260D: The CCV for analytical batch 580-329320 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane and Chloromethane. Dichlorodifluoromethane and Chloromethane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329320 recovered outside acceptance criteria, low biased, for cis-1,2-Dichloroethene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-329320 recovered outside control limits for the following analytes: cis-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329320 recovered outside control limits for the following analytes: cis-1,2-Dichloroethene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and Naphthalene.

Method 8260D: The CCV for analytical batch 580-329333 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane. Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The method blank for analytical batch 580-329532 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The CCV for analytical batch 580-329532 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329641 recovered outside acceptance criteria, low biased, for trans-1,3-Dichloropropene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329641 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-03-052120 (580-94838-10) and (CCVIS 580-329641/3).

Method 8260D: The method blank for analytical batch 580-329641 contained Methylene Chloride and Trichloroethene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: PA-22d-052020 (580-94838-2) and MWA-56d-052120 (580-94838-5). Elevated reporting limits (RLs) are provided.

Job ID: 580-94838-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

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

HPLC/IC
Method 218.6: The reference method requires samples to be preserved to a pH of 9.3 to 9.7. The following samples were received with insufficient preservation at a pH out of this range.MWA-46-052120 (580-94838-6) and PA-20d-052120 (580-94838-8). The sample(s) was preserved to the appropriate pH in the laboratory.

Method 218.6: The following sample was diluted to bring the concentration of target analytes within the calibration range: PA-07-052020 (580-94838-3). Elevated reporting limits (RLs) are provided.the following samples have brown color matrix.

Method 218.6: The following sample was diluted due to the nature of the sample matrix-brown color : PA-03-052120 (580-94838-10). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to the nature of the sample matrix (dark brown color): PA-07-052020 (580-94838-3) and PA-03-052120 (580-94838-10). Elevated reporting limits (RLs) are provided.

Method 314.0: The continuing calibration blank (CCB) for analytical batch 440-610392 contained Perchlorate above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

GC Semi VOA
Methods 8081A, 8081B: The following CCB and LCSD associated with analytical batch 580-329167 recovered outside acceptance criteria on the confirmation column internal standard 1-Bromo-2-nitrobenzene. The associated CCV and sample results met criteria and were reported. (CCB 580-329167/9)

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-329167 recovered outside acceptance criteria on the confirmation column for Chlordane (technical), DCB Decachlorobiphenyl, Tetrachloro-m-xylene, delta-BHC and Endosulfan I. The associated sample results for those analytes were reported from the primary column which met acceptance criteria. The following samples are impacted: MWA-46-052120 (580-94838-6), PA-20d-052120 (580-94838-8), (CCV 580-329167/4) and (CCVIS 580-329167/7)

Method 8081B: In analytical batch 580-329167, the %RPD between the primary and confirmation column exceeded 40% for 4,4'-DDD for the following sample: MWA-46-052120 (580-94838-6[1.0]). The lower value has been reported in accordance with the laboratory's SOP.

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

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

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

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: TB-052020-A
Lab Sample ID: 580-94838-1

Date Collected: 05/20/20 00:01
Matrix: Water

Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/28/20 19:54	1
Chloromethane	ND		0.50	0.068	ug/L			05/28/20 19:54	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/28/20 19:54	1
Bromomethane	ND		0.50	0.062	ug/L			05/28/20 19:54	1
Chloroethane	ND		0.50	0.096	ug/L			05/28/20 19:54	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/28/20 19:54	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/28/20 19:54	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/28/20 19:54	1
Acetone	ND		10	3.1	ug/L			05/28/20 19:54	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/28/20 19:54	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/28/20 19:54	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/28/20 19:54	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/28/20 19:54	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/28/20 19:54	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/28/20 19:54	1
cis-1,2-Dichloroethene	ND	* *1	0.20	0.055	ug/L			05/28/20 19:54	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/28/20 19:54	1
Chloroform	ND		0.20	0.030	ug/L			05/28/20 19:54	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/28/20 19:54	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/28/20 19:54	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/28/20 19:54	1
Benzene	ND		0.20	0.030	ug/L			05/28/20 19:54	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/28/20 19:54	1
Trichloroethene	ND		0.20	0.066	ug/L			05/28/20 19:54	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/28/20 19:54	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/28/20 19:54	1
Dibromomethane	ND		0.20	0.062	ug/L			05/28/20 19:54	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/28/20 19:54	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/28/20 19:54	1
Toluene	**0.057**	**J**	0.20	0.050	ug/L			05/28/20 19:54	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/28/20 19:54	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/28/20 19:54	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/28/20 19:54	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/28/20 19:54	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/28/20 19:54	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/28/20 19:54	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/28/20 19:54	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/28/20 19:54	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/28/20 19:54	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/28/20 19:54	1
o-Xylene	ND		0.50	0.15	ug/L			05/28/20 19:54	1
Styrene	ND		1.0	0.19	ug/L			05/28/20 19:54	1
Bromoform	ND		0.50	0.16	ug/L			05/28/20 19:54	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/28/20 19:54	1
Bromobenzene	ND		0.20	0.035	ug/L			05/28/20 19:54	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/28/20 19:54	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/28/20 19:54	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/28/20 19:54	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/28/20 19:54	1

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052020-A
Lab Sample ID: 580-94838-1
Date Collected: 05/20/20 00:01
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/28/20 19:54	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/28/20 19:54	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/28/20 19:54	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/28/20 19:54	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/28/20 19:54	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/28/20 19:54	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/28/20 19:54	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/28/20 19:54	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/28/20 19:54	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/28/20 19:54	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/28/20 19:54	1
1,2,4-Trichlorobenzene	ND	*1	0.50	0.17	ug/L			05/28/20 19:54	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/28/20 19:54	1
Naphthalene	ND	*1	1.0	0.22	ug/L			05/28/20 19:54	1
1,2,3-Trichlorobenzene	ND	*1	0.50	0.15	ug/L			05/28/20 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/28/20 19:54*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/28/20 19:54*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/28/20 19:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*05/28/20 19:54*	*1*

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-22d-052020
Lab Sample ID: 580-94838-2
Date Collected: 05/20/20 14:30
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/29/20 11:31	1
Chloromethane	ND		20	0.28	ug/L			05/29/20 11:31	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/29/20 11:31	1
Bromomethane	ND		6.0	0.21	ug/L			05/29/20 11:31	1
Chloroethane	ND		5.0	0.35	ug/L			05/29/20 11:31	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/29/20 11:31	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/29/20 11:31	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/29/20 11:31	1
Acetone	ND		50	3.2	ug/L			05/29/20 11:31	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/29/20 11:31	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/29/20 11:31	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/29/20 11:31	1
1,1-Dichloroethane	**0.26**	**J**	2.0	0.22	ug/L			05/29/20 11:31	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/29/20 11:31	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/29/20 11:31	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/29/20 11:31	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/29/20 11:31	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/29/20 11:31	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/29/20 11:31	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/29/20 11:31	1
Benzene	**0.26**	**J**	3.0	0.24	ug/L			05/29/20 11:31	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/29/20 11:31	1
Trichloroethene	ND		3.0	0.26	ug/L			05/29/20 11:31	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/29/20 11:31	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/29/20 11:31	1
Dibromomethane	ND		2.0	0.34	ug/L			05/29/20 11:31	1
Bromodichloromethane	**2.5**		2.0	0.29	ug/L			05/29/20 11:31	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/29/20 11:31	1
Toluene	ND		2.0	0.39	ug/L			05/29/20 11:31	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/29/20 11:31	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/29/20 11:31	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/29/20 11:31	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/29/20 11:31	1
Dibromochloromethane	**0.83**	**J**	2.0	0.43	ug/L			05/29/20 11:31	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/29/20 11:31	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/29/20 11:31	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/29/20 11:31	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/29/20 11:31	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/29/20 11:31	1
o-Xylene	ND		2.0	0.39	ug/L			05/29/20 11:31	1
Styrene	ND		5.0	1.0	ug/L			05/29/20 11:31	1
Bromoform	**1.0**	**J**	3.0	0.56	ug/L			05/29/20 11:31	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/29/20 11:31	1
Bromobenzene	ND		2.0	0.43	ug/L			05/29/20 11:31	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/29/20 11:31	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/29/20 11:31	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/29/20 11:31	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/29/20 11:31	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/29/20 11:31	1

Client Sample ID: PA-22d-052020
Lab Sample ID: 580-94838-2

Date Collected: 05/20/20 14:30
Matrix: Water

Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			05/29/20 11:31	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/29/20 11:31	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/29/20 11:31	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/29/20 11:31	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/29/20 11:31	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/29/20 11:31	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/29/20 11:31	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/29/20 11:31	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/29/20 11:31	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/29/20 11:31	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/29/20 11:31	1
Naphthalene	**2.9**	**J**	4.0	0.93	ug/L			05/29/20 11:31	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/29/20 11:31	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/29/20 11:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/29/20 11:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*05/29/20 11:31*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*05/29/20 11:31*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*05/29/20 11:31*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**160**		50	2.6	ug/L			06/03/20 02:14	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*06/03/20 02:14*	*10*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/03/20 02:14*	*10*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/03/20 02:14*	*10*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/03/20 02:14*	*10*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.0046**	**J**	0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 17:52	1
4,4'-DDE	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 17:52	1
4,4'-DDT	**0.039**		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 17:52	1
Aldrin	**0.0064**		0.0047	0.0014	ug/L		05/26/20 05:25	05/27/20 17:52	1
alpha-BHC	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 17:52	1
cis-Chlordane	ND		0.093	0.013	ug/L		05/26/20 05:25	05/27/20 17:52	1
beta-BHC	ND		0.0093	0.0037	ug/L		05/26/20 05:25	05/27/20 17:52	1
Chlordane (technical)	ND		0.093	0.075	ug/L		05/26/20 05:25	05/27/20 17:52	1
delta-BHC	ND		0.0047	0.0033	ug/L		05/26/20 05:25	05/27/20 17:52	1
Dieldrin	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 17:52	1
Endosulfan I	ND		0.0047	0.0028	ug/L		05/26/20 05:25	05/27/20 17:52	1
Endosulfan II	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 17:52	1
Endosulfan sulfate	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 17:52	1
Endrin	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 17:52	1
Endrin aldehyde	ND		0.0093	0.0019	ug/L		05/26/20 05:25	05/27/20 17:52	1
Endrin ketone	ND		0.0093	0.0065	ug/L		05/26/20 05:25	05/27/20 17:52	1
gamma-BHC (Lindane)	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 17:52	1

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-22d-052020
Lab Sample ID: 580-94838-2
Date Collected: 05/20/20 14:30
Matrix: Water
Date Received: 05/21/20 12:25

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.093	0.028	ug/L		05/26/20 05:25	05/27/20 17:52	1
Heptachlor	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 17:52	1
Heptachlor epoxide	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 17:52	1
Methoxychlor	ND		0.0047	0.0033	ug/L		05/26/20 05:25	05/27/20 17:52	1
Toxaphene	ND		0.47	0.23	ug/L		05/26/20 05:25	05/27/20 17:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*69*		*28 - 108*	*05/26/20 05:25*	*05/27/20 17:52*	*1*
Tetrachloro-m-xylene	*70*		*10 - 123*	*05/26/20 05:25*	*05/27/20 17:52*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**40000**		4000	950	ug/L			06/09/20 16:33	1000

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0095**		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 19:25	5
Chromium	**0.0016**	**J**	0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 19:25	5
Iron	ND		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 19:25	5
Manganese	**4.7**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 19:25	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0099**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 16:44	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 16:44	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 16:44	5
Manganese	**4.9**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 16:44	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9800**		90	14	mg/L			05/25/20 06:18	100

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-07-052020
Lab Sample ID: 580-94838-3
Date Collected: 05/20/20 15:20
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/01/20 21:01	1
Chloromethane	ND		0.50	0.068	ug/L			06/01/20 21:01	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/01/20 21:01	1
Bromomethane	ND		0.50	0.062	ug/L			06/01/20 21:01	1
Chloroethane	ND		0.50	0.096	ug/L			06/01/20 21:01	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/01/20 21:01	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/01/20 21:01	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/01/20 21:01	1
Acetone	ND		10	3.1	ug/L			06/01/20 21:01	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/01/20 21:01	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/01/20 21:01	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/01/20 21:01	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/01/20 21:01	1
1,1-Dichloroethane	**0.26**		0.20	0.025	ug/L			06/01/20 21:01	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/01/20 21:01	1
cis-1,2-Dichloroethene	**1.5**		0.20	0.055	ug/L			06/01/20 21:01	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/01/20 21:01	1
Chloroform	ND		0.20	0.030	ug/L			06/01/20 21:01	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/01/20 21:01	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/01/20 21:01	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/01/20 21:01	1
Benzene	ND		0.20	0.030	ug/L			06/01/20 21:01	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/01/20 21:01	1
Trichloroethene	**0.28**	**B**	0.20	0.066	ug/L			06/01/20 21:01	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/01/20 21:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/01/20 21:01	1
Dibromomethane	ND		0.20	0.062	ug/L			06/01/20 21:01	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/01/20 21:01	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/01/20 21:01	1
Toluene	ND		0.20	0.050	ug/L			06/01/20 21:01	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/01/20 21:01	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/01/20 21:01	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/01/20 21:01	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/01/20 21:01	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/01/20 21:01	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/01/20 21:01	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/01/20 21:01	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/01/20 21:01	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/01/20 21:01	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/01/20 21:01	1
o-Xylene	ND		0.50	0.15	ug/L			06/01/20 21:01	1
Styrene	ND		1.0	0.19	ug/L			06/01/20 21:01	1
Bromoform	ND		0.50	0.16	ug/L			06/01/20 21:01	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/01/20 21:01	1
Bromobenzene	ND		0.20	0.035	ug/L			06/01/20 21:01	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/01/20 21:01	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/01/20 21:01	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/01/20 21:01	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/01/20 21:01	1

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-07-052020
Lab Sample ID: 580-94838-3
Date Collected: 05/20/20 15:20
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/01/20 21:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/01/20 21:01	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/01/20 21:01	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/01/20 21:01	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/01/20 21:01	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/01/20 21:01	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 21:01	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 21:01	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/01/20 21:01	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/01/20 21:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/01/20 21:01	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/01/20 21:01	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/01/20 21:01	1
Naphthalene	ND		1.0	0.22	ug/L			06/01/20 21:01	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/01/20 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/01/20 21:01*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/01/20 21:01*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/20 21:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/01/20 21:01*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**5.4**	**J**	10	2.5	ug/L			05/29/20 08:47	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/28/20 22:00	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.018**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 18:09	5
Chromium	**0.14**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 18:09	5
Iron	**8.0**		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 18:09	5
Manganese	**0.23**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 18:09	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**330**		90	14	mg/L			05/27/20 13:27	100

Client Sample ID: MWA-18-052120
Lab Sample ID: 580-94838-4

Date Collected: 05/21/20 07:03
Matrix: Water

Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/29/20 11:58	1
Chloromethane	ND		20	0.28	ug/L			05/29/20 11:58	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/29/20 11:58	1
Bromomethane	ND		6.0	0.21	ug/L			05/29/20 11:58	1
Chloroethane	ND		5.0	0.35	ug/L			05/29/20 11:58	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/29/20 11:58	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/29/20 11:58	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/29/20 11:58	1
Acetone	ND		50	3.2	ug/L			05/29/20 11:58	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/29/20 11:58	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/29/20 11:58	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/29/20 11:58	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/29/20 11:58	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/29/20 11:58	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/29/20 11:58	1
cis-1,2-Dichloroethene	**1.9**	**J**	3.0	0.69	ug/L			05/29/20 11:58	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/29/20 11:58	1
Chloroform	**4.7**	**J**	5.0	0.26	ug/L			05/29/20 11:58	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/29/20 11:58	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/29/20 11:58	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/29/20 11:58	1
Benzene	ND		3.0	0.24	ug/L			05/29/20 11:58	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/29/20 11:58	1
Trichloroethene	**1.4**	**J**	3.0	0.26	ug/L			05/29/20 11:58	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/29/20 11:58	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/29/20 11:58	1
Dibromomethane	ND		2.0	0.34	ug/L			05/29/20 11:58	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/29/20 11:58	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/29/20 11:58	1
Toluene	ND		2.0	0.39	ug/L			05/29/20 11:58	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/29/20 11:58	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/29/20 11:58	1
Tetrachloroethene	**10**		3.0	0.41	ug/L			05/29/20 11:58	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/29/20 11:58	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/29/20 11:58	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/29/20 11:58	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/29/20 11:58	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/29/20 11:58	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/29/20 11:58	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/29/20 11:58	1
o-Xylene	ND		2.0	0.39	ug/L			05/29/20 11:58	1
Styrene	ND		5.0	1.0	ug/L			05/29/20 11:58	1
Bromoform	ND		3.0	0.56	ug/L			05/29/20 11:58	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/29/20 11:58	1
Bromobenzene	ND		2.0	0.43	ug/L			05/29/20 11:58	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/29/20 11:58	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/29/20 11:58	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/29/20 11:58	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/29/20 11:58	1

Client Sample ID: MWA-18-052120
Lab Sample ID: 580-94838-4

Date Collected: 05/21/20 07:03
Matrix: Water

Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/29/20 11:58	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/29/20 11:58	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/29/20 11:58	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/29/20 11:58	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/29/20 11:58	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/29/20 11:58	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/29/20 11:58	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/29/20 11:58	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/29/20 11:58	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/29/20 11:58	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/29/20 11:58	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/29/20 11:58	1
Naphthalene	ND		4.0	0.93	ug/L			05/29/20 11:58	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/29/20 11:58	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/29/20 11:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/29/20 11:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*05/29/20 11:58*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*05/29/20 11:58*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/29/20 11:58*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:07	1
4,4'-DDE	**0.0044**	**J**	0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:07	1
4,4'-DDT	**0.0069**		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:07	1
Aldrin	ND		0.0048	0.0014	ug/L		05/26/20 05:25	05/27/20 18:07	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:07	1
cis-Chlordane	ND		0.097	0.014	ug/L		05/26/20 05:25	05/27/20 18:07	1
beta-BHC	ND		0.0097	0.0039	ug/L		05/26/20 05:25	05/27/20 18:07	1
Chlordane (technical)	ND		0.097	0.077	ug/L		05/26/20 05:25	05/27/20 18:07	1
delta-BHC	ND		0.0048	0.0034	ug/L		05/26/20 05:25	05/27/20 18:07	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 18:07	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/26/20 05:25	05/27/20 18:07	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 18:07	1
Endosulfan sulfate	ND		0.0097	0.0029	ug/L		05/26/20 05:25	05/27/20 18:07	1
Endrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 18:07	1
Endrin aldehyde	ND		0.0097	0.0019	ug/L		05/26/20 05:25	05/27/20 18:07	1
Endrin ketone	ND		0.0097	0.0068	ug/L		05/26/20 05:25	05/27/20 18:07	1
gamma-BHC (Lindane)	**0.0084**	**J**	0.0097	0.0029	ug/L		05/26/20 05:25	05/27/20 18:07	1
trans-Chlordane	ND		0.097	0.029	ug/L		05/26/20 05:25	05/27/20 18:07	1
Heptachlor	ND		0.0097	0.0029	ug/L		05/26/20 05:25	05/27/20 18:07	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:07	1
Methoxychlor	ND		0.0048	0.0034	ug/L		05/26/20 05:25	05/27/20 18:07	1
Toxaphene	ND		0.48	0.24	ug/L		05/26/20 05:25	05/27/20 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*50*		*28 - 108*	*05/26/20 05:25*	*05/27/20 18:07*	*1*
Tetrachloro-m-xylene	*54*		*10 - 123*	*05/26/20 05:25*	*05/27/20 18:07*	*1*

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-18-052120
Lab Sample ID: 580-94838-4
Date Collected: 05/21/20 07:03
Matrix: Water
Date Received: 05/21/20 12:25

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**11**		1.0	0.25	ug/L			05/29/20 09:00	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/09/20 14:44	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 19:28	5
Chromium	**0.033**		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 19:28	5
Iron	**0.39**	**J**	1.0	0.18	mg/L		05/26/20 08:17	05/26/20 19:28	5
Manganese	**0.022**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 19:28	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 16:41	5
Chromium	**0.012**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 16:41	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 16:41	5
Manganese	**0.017**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 16:41	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29**		0.90	0.14	mg/L			05/27/20 13:39	1

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-56d-052120
Lab Sample ID: 580-94838-5
Date Collected: 05/21/20 08:18
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/29/20 12:25	1
Chloromethane	ND		20	0.28	ug/L			05/29/20 12:25	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/29/20 12:25	1
Bromomethane	ND		6.0	0.21	ug/L			05/29/20 12:25	1
Chloroethane	ND		5.0	0.35	ug/L			05/29/20 12:25	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/29/20 12:25	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/29/20 12:25	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/29/20 12:25	1
Acetone	ND		50	3.2	ug/L			05/29/20 12:25	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/29/20 12:25	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/29/20 12:25	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/29/20 12:25	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/29/20 12:25	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/29/20 12:25	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/29/20 12:25	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/29/20 12:25	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/29/20 12:25	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/29/20 12:25	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/29/20 12:25	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/29/20 12:25	1
Benzene	ND		3.0	0.24	ug/L			05/29/20 12:25	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/29/20 12:25	1
Trichloroethene	ND		3.0	0.26	ug/L			05/29/20 12:25	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/29/20 12:25	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/29/20 12:25	1
Dibromomethane	ND		2.0	0.34	ug/L			05/29/20 12:25	1
Bromodichloromethane	**0.68**	**J**	2.0	0.29	ug/L			05/29/20 12:25	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/29/20 12:25	1
Toluene	ND		2.0	0.39	ug/L			05/29/20 12:25	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/29/20 12:25	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/29/20 12:25	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/29/20 12:25	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/29/20 12:25	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/29/20 12:25	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/29/20 12:25	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/29/20 12:25	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/29/20 12:25	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/29/20 12:25	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/29/20 12:25	1
o-Xylene	ND		2.0	0.39	ug/L			05/29/20 12:25	1
Styrene	ND		5.0	1.0	ug/L			05/29/20 12:25	1
Bromoform	ND		3.0	0.56	ug/L			05/29/20 12:25	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/29/20 12:25	1
Bromobenzene	ND		2.0	0.43	ug/L			05/29/20 12:25	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/29/20 12:25	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/29/20 12:25	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/29/20 12:25	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/29/20 12:25	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/29/20 12:25	1

Client Sample ID: MWA-56d-052120
Lab Sample ID: 580-94838-5
Date Collected: 05/21/20 08:18
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			05/29/20 12:25	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/29/20 12:25	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/29/20 12:25	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/29/20 12:25	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/29/20 12:25	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/29/20 12:25	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/29/20 12:25	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/29/20 12:25	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/29/20 12:25	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/29/20 12:25	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/29/20 12:25	1
Naphthalene	ND		4.0	0.93	ug/L			05/29/20 12:25	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/29/20 12:25	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/29/20 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/29/20 12:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 126*		*05/29/20 12:25*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*05/29/20 12:25*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*05/29/20 12:25*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**170**		50	2.6	ug/L			06/03/20 02:41	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/03/20 02:41*	*10*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/03/20 02:41*	*10*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/03/20 02:41*	*10*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/03/20 02:41*	*10*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:22	1
4,4'-DDE	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:22	1
4,4'-DDT	**0.053**		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:22	1
Aldrin	ND		0.0047	0.0014	ug/L		05/26/20 05:25	05/27/20 18:22	1
alpha-BHC	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:22	1
cis-Chlordane	ND		0.093	0.013	ug/L		05/26/20 05:25	05/27/20 18:22	1
beta-BHC	ND		0.0093	0.0037	ug/L		05/26/20 05:25	05/27/20 18:22	1
Chlordane (technical)	ND		0.093	0.074	ug/L		05/26/20 05:25	05/27/20 18:22	1
delta-BHC	ND		0.0047	0.0033	ug/L		05/26/20 05:25	05/27/20 18:22	1
Dieldrin	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 18:22	1
Endosulfan I	ND		0.0047	0.0028	ug/L		05/26/20 05:25	05/27/20 18:22	1
Endosulfan II	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 18:22	1
Endosulfan sulfate	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 18:22	1
Endrin	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 18:22	1
Endrin aldehyde	ND		0.0093	0.0019	ug/L		05/26/20 05:25	05/27/20 18:22	1
Endrin ketone	ND		0.0093	0.0065	ug/L		05/26/20 05:25	05/27/20 18:22	1
gamma-BHC (Lindane)	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 18:22	1

Client Sample ID: MWA-56d-052120
Lab Sample ID: 580-94838-5
Date Collected: 05/21/20 08:18
Matrix: Water
Date Received: 05/21/20 12:25

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.093	0.028	ug/L		05/26/20 05:25	05/27/20 18:22	1
Heptachlor	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 18:22	1
Heptachlor epoxide	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:22	1
Methoxychlor	ND		0.0047	0.0033	ug/L		05/26/20 05:25	05/27/20 18:22	1
Toxaphene	ND		0.47	0.23	ug/L		05/26/20 05:25	05/27/20 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*56*		*28 - 108*	*05/26/20 05:25*	*05/27/20 18:22*	*1*
Tetrachloro-m-xylene	*58*		*10 - 123*	*05/26/20 05:25*	*05/27/20 18:22*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/02/20 07:22	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**5700**		400	95	ug/L			06/09/20 16:13	100

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0033**	**J**	0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 19:44	5
Chromium	**0.0089**		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 19:44	5
Iron	ND		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 19:44	5
Manganese	**52**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 19:44	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0047**	**J**	0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:22	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:22	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:22	5
Manganese	**44**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:22	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21000**		900	140	mg/L			05/29/20 01:49	1000

Client Sample ID: MWA-46-052120
Lab Sample ID: 580-94838-6

Date Collected: 05/21/20 08:51
Matrix: Water

Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/29/20 12:51	1
Chloromethane	ND		20	0.28	ug/L			05/29/20 12:51	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/29/20 12:51	1
Bromomethane	ND		6.0	0.21	ug/L			05/29/20 12:51	1
Chloroethane	ND		5.0	0.35	ug/L			05/29/20 12:51	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/29/20 12:51	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/29/20 12:51	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/29/20 12:51	1
Acetone	ND		50	3.2	ug/L			05/29/20 12:51	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/29/20 12:51	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/29/20 12:51	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/29/20 12:51	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/29/20 12:51	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/29/20 12:51	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/29/20 12:51	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/29/20 12:51	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/29/20 12:51	1
Chloroform	**0.65**	**J**	5.0	0.26	ug/L			05/29/20 12:51	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/29/20 12:51	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/29/20 12:51	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/29/20 12:51	1
Benzene	ND		3.0	0.24	ug/L			05/29/20 12:51	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/29/20 12:51	1
Trichloroethene	ND		3.0	0.26	ug/L			05/29/20 12:51	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/29/20 12:51	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/29/20 12:51	1
Dibromomethane	ND		2.0	0.34	ug/L			05/29/20 12:51	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/29/20 12:51	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/29/20 12:51	1
Toluene	ND		2.0	0.39	ug/L			05/29/20 12:51	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/29/20 12:51	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/29/20 12:51	1
Tetrachloroethene	**5.7**		3.0	0.41	ug/L			05/29/20 12:51	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/29/20 12:51	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/29/20 12:51	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/29/20 12:51	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/29/20 12:51	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/29/20 12:51	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/29/20 12:51	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/29/20 12:51	1
o-Xylene	ND		2.0	0.39	ug/L			05/29/20 12:51	1
Styrene	ND		5.0	1.0	ug/L			05/29/20 12:51	1
Bromoform	ND		3.0	0.56	ug/L			05/29/20 12:51	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/29/20 12:51	1
Bromobenzene	ND		2.0	0.43	ug/L			05/29/20 12:51	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/29/20 12:51	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/29/20 12:51	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/29/20 12:51	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/29/20 12:51	1

Client Sample ID: MWA-46-052120
Lab Sample ID: 580-94838-6

Date Collected: 05/21/20 08:51
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/29/20 12:51	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/29/20 12:51	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/29/20 12:51	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/29/20 12:51	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/29/20 12:51	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/29/20 12:51	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/29/20 12:51	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/29/20 12:51	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/29/20 12:51	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/29/20 12:51	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/29/20 12:51	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/29/20 12:51	1
Naphthalene	ND		4.0	0.93	ug/L			05/29/20 12:51	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/29/20 12:51	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/29/20 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/29/20 12:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*05/29/20 12:51*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/29/20 12:51*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*05/29/20 12:51*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	p	0.014	0.0057	ug/L		05/26/20 15:42	05/27/20 16:40	1
4,4'-DDE	**0.010**	**p**	0.0094	0.0028	ug/L		05/26/20 15:42	05/27/20 16:40	1
4,4'-DDT	**0.11**		0.019	0.0047	ug/L		05/26/20 15:42	05/27/20 16:40	1
Aldrin	ND		0.023	0.0066	ug/L		05/26/20 15:42	05/27/20 16:40	1
alpha-BHC	ND		0.017	0.0038	ug/L		05/26/20 15:42	05/27/20 16:40	1
cis-Chlordane	ND		0.026	0.0076	ug/L		05/26/20 15:42	05/27/20 16:40	1
beta-BHC	ND		0.020	0.0047	ug/L		05/26/20 15:42	05/27/20 16:40	1
Chlordane (technical)	ND		0.19	0.028	ug/L		05/26/20 15:42	05/27/20 16:40	1
delta-BHC	ND		0.014	0.0047	ug/L		05/26/20 15:42	05/27/20 16:40	1
Dieldrin	ND		0.017	0.0047	ug/L		05/26/20 15:42	05/27/20 16:40	1
Endosulfan I	ND		0.019	0.0028	ug/L		05/26/20 15:42	05/27/20 16:40	1
Endosulfan II	ND		0.023	0.0047	ug/L		05/26/20 15:42	05/27/20 16:40	1
Endosulfan sulfate	ND		0.019	0.0028	ug/L		05/26/20 15:42	05/27/20 16:40	1
Endrin	ND		0.011	0.0028	ug/L		05/26/20 15:42	05/27/20 16:40	1
Endrin aldehyde	ND		0.057	0.032	ug/L		05/26/20 15:42	05/27/20 16:40	1
Endrin ketone	ND		0.019	0.0019	ug/L		05/26/20 15:42	05/27/20 16:40	1
gamma-BHC (Lindane)	ND		0.019	0.0047	ug/L		05/26/20 15:42	05/27/20 16:40	1
trans-Chlordane	ND		0.019	0.0028	ug/L		05/26/20 15:42	05/27/20 16:40	1
Heptachlor	ND		0.014	0.0038	ug/L		05/26/20 15:42	05/27/20 16:40	1
Heptachlor epoxide	ND		0.019	0.0028	ug/L		05/26/20 15:42	05/27/20 16:40	1
Methoxychlor	ND		0.094	0.0047	ug/L		05/26/20 15:42	05/27/20 16:40	1
Toxaphene	ND		1.9	0.43	ug/L		05/26/20 15:42	05/27/20 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*86*		*45 - 127*	*05/26/20 15:42*	*05/27/20 16:40*	*1*
Tetrachloro-m-xylene	*60*		*33 - 120*	*05/26/20 15:42*	*05/27/20 16:40*	*1*

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-46-052120
Lab Sample ID: 580-94838-6
Date Collected: 05/21/20 08:51
Matrix: Water
Date Received: 05/21/20 12:25

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	9.8	H	1.0	0.25	ug/L			05/29/20 09:12	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	6.5		4.0	0.95	ug/L			06/09/20 14:16	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0044	J	0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 19:47	5
Chromium	0.0092		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 19:47	5
Iron	0.30	J	1.0	0.18	mg/L		05/26/20 08:17	05/26/20 19:47	5
Manganese	0.098		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 19:47	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0049	J	0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:25	5
Chromium	0.0090		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:25	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:25	5
Manganese	0.11		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:25	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		0.90	0.14	mg/L			05/27/20 14:02	1

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-19-052120
Lab Sample ID: 580-94838-7
Date Collected: 05/21/20 10:48
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/29/20 13:18	1
Chloromethane	ND		20	0.28	ug/L			05/29/20 13:18	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/29/20 13:18	1
Bromomethane	ND		6.0	0.21	ug/L			05/29/20 13:18	1
Chloroethane	ND		5.0	0.35	ug/L			05/29/20 13:18	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/29/20 13:18	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/29/20 13:18	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/29/20 13:18	1
Acetone	ND		50	3.2	ug/L			05/29/20 13:18	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/29/20 13:18	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/29/20 13:18	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/29/20 13:18	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/29/20 13:18	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/29/20 13:18	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/29/20 13:18	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/29/20 13:18	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/29/20 13:18	1
Chloroform	**3.2**	**J**	5.0	0.26	ug/L			05/29/20 13:18	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/29/20 13:18	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/29/20 13:18	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/29/20 13:18	1
Benzene	ND		3.0	0.24	ug/L			05/29/20 13:18	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/29/20 13:18	1
Trichloroethene	**9.1**		3.0	0.26	ug/L			05/29/20 13:18	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/29/20 13:18	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/29/20 13:18	1
Dibromomethane	ND		2.0	0.34	ug/L			05/29/20 13:18	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/29/20 13:18	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/29/20 13:18	1
Toluene	ND		2.0	0.39	ug/L			05/29/20 13:18	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/29/20 13:18	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/29/20 13:18	1
Tetrachloroethene	**100**		3.0	0.41	ug/L			05/29/20 13:18	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/29/20 13:18	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/29/20 13:18	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/29/20 13:18	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/29/20 13:18	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/29/20 13:18	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/29/20 13:18	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/29/20 13:18	1
o-Xylene	ND		2.0	0.39	ug/L			05/29/20 13:18	1
Styrene	ND		5.0	1.0	ug/L			05/29/20 13:18	1
Bromoform	ND		3.0	0.56	ug/L			05/29/20 13:18	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/29/20 13:18	1
Bromobenzene	ND		2.0	0.43	ug/L			05/29/20 13:18	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/29/20 13:18	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/29/20 13:18	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/29/20 13:18	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/29/20 13:18	1

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-19-052120
Lab Sample ID: 580-94838-7
Date Collected: 05/21/20 10:48
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/29/20 13:18	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/29/20 13:18	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/29/20 13:18	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/29/20 13:18	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/29/20 13:18	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/29/20 13:18	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/29/20 13:18	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/29/20 13:18	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/29/20 13:18	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/29/20 13:18	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/29/20 13:18	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/29/20 13:18	1
Naphthalene	ND		4.0	0.93	ug/L			05/29/20 13:18	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/29/20 13:18	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/29/20 13:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/29/20 13:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*05/29/20 13:18*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*05/29/20 13:18*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/29/20 13:18*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**4.1**		1.0	0.25	ug/L			05/29/20 09:25	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**5.2**		4.0	0.95	ug/L			06/09/20 18:54	1

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0019**	**J**	0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:28	5
Chromium	**0.0045**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:28	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:28	5
Manganese	**0.021**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:28	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**520**		90	14	mg/L			05/27/20 14:14	100

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-20d-052120
Lab Sample ID: 580-94838-8
Date Collected: 05/21/20 11:00
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/29/20 13:45	1
Chloromethane	ND		20	0.28	ug/L			05/29/20 13:45	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/29/20 13:45	1
Bromomethane	ND		6.0	0.21	ug/L			05/29/20 13:45	1
Chloroethane	ND		5.0	0.35	ug/L			05/29/20 13:45	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/29/20 13:45	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/29/20 13:45	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/29/20 13:45	1
Acetone	ND		50	3.2	ug/L			05/29/20 13:45	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/29/20 13:45	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/29/20 13:45	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/29/20 13:45	1
1,1-Dichloroethane	**0.39**	**J**	2.0	0.22	ug/L			05/29/20 13:45	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/29/20 13:45	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/29/20 13:45	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/29/20 13:45	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/29/20 13:45	1
Chloroform	ND		5.0	0.26	ug/L			05/29/20 13:45	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/29/20 13:45	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/29/20 13:45	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/29/20 13:45	1
Benzene	ND		3.0	0.24	ug/L			05/29/20 13:45	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/29/20 13:45	1
Trichloroethene	ND		3.0	0.26	ug/L			05/29/20 13:45	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/29/20 13:45	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/29/20 13:45	1
Dibromomethane	ND		2.0	0.34	ug/L			05/29/20 13:45	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/29/20 13:45	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/29/20 13:45	1
Toluene	ND		2.0	0.39	ug/L			05/29/20 13:45	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/29/20 13:45	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/29/20 13:45	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/29/20 13:45	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/29/20 13:45	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/29/20 13:45	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/29/20 13:45	1
Chlorobenzene	**40**		2.0	0.44	ug/L			05/29/20 13:45	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/29/20 13:45	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/29/20 13:45	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/29/20 13:45	1
o-Xylene	ND		2.0	0.39	ug/L			05/29/20 13:45	1
Styrene	ND		5.0	1.0	ug/L			05/29/20 13:45	1
Bromoform	ND		3.0	0.56	ug/L			05/29/20 13:45	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/29/20 13:45	1
Bromobenzene	ND		2.0	0.43	ug/L			05/29/20 13:45	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/29/20 13:45	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/29/20 13:45	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/29/20 13:45	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/29/20 13:45	1

Client Sample ID: PA-20d-052120
Lab Sample ID: 580-94838-8

Date Collected: 05/21/20 11:00
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/29/20 13:45	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/29/20 13:45	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/29/20 13:45	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/29/20 13:45	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/29/20 13:45	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/29/20 13:45	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/29/20 13:45	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/29/20 13:45	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/29/20 13:45	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/29/20 13:45	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/29/20 13:45	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/29/20 13:45	1
Naphthalene	ND		4.0	0.93	ug/L			05/29/20 13:45	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/29/20 13:45	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/29/20 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*05/29/20 13:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*05/29/20 13:45*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*05/29/20 13:45*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/29/20 13:45*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.16**		0.014	0.0055	ug/L		05/26/20 15:42	05/27/20 16:58	1
4,4'-DDE	**0.028**		0.0092	0.0028	ug/L		05/26/20 15:42	05/27/20 16:58	1
4,4'-DDT	ND		0.018	0.0046	ug/L		05/26/20 15:42	05/27/20 16:58	1
Aldrin	ND		0.022	0.0064	ug/L		05/26/20 15:42	05/27/20 16:58	1
alpha-BHC	ND		0.017	0.0037	ug/L		05/26/20 15:42	05/27/20 16:58	1
cis-Chlordane	ND		0.025	0.0073	ug/L		05/26/20 15:42	05/27/20 16:58	1
beta-BHC	ND		0.019	0.0046	ug/L		05/26/20 15:42	05/27/20 16:58	1
Chlordane (technical)	ND		0.18	0.028	ug/L		05/26/20 15:42	05/27/20 16:58	1
delta-BHC	ND		0.014	0.0046	ug/L		05/26/20 15:42	05/27/20 16:58	1
Dieldrin	ND		0.017	0.0046	ug/L		05/26/20 15:42	05/27/20 16:58	1
Endosulfan I	ND		0.018	0.0028	ug/L		05/26/20 15:42	05/27/20 16:58	1
Endosulfan II	ND		0.022	0.0046	ug/L		05/26/20 15:42	05/27/20 16:58	1
Endosulfan sulfate	ND		0.018	0.0028	ug/L		05/26/20 15:42	05/27/20 16:58	1
Endrin	ND		0.011	0.0028	ug/L		05/26/20 15:42	05/27/20 16:58	1
Endrin aldehyde	ND		0.055	0.031	ug/L		05/26/20 15:42	05/27/20 16:58	1
Endrin ketone	ND		0.018	0.0018	ug/L		05/26/20 15:42	05/27/20 16:58	1
gamma-BHC (Lindane)	ND		0.018	0.0046	ug/L		05/26/20 15:42	05/27/20 16:58	1
trans-Chlordane	ND		0.018	0.0028	ug/L		05/26/20 15:42	05/27/20 16:58	1
Heptachlor	ND		0.014	0.0037	ug/L		05/26/20 15:42	05/27/20 16:58	1
Heptachlor epoxide	ND		0.018	0.0028	ug/L		05/26/20 15:42	05/27/20 16:58	1
Methoxychlor	ND		0.092	0.0046	ug/L		05/26/20 15:42	05/27/20 16:58	1
Toxaphene	ND		1.8	0.42	ug/L		05/26/20 15:42	05/27/20 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*49*		*45 - 127*	*05/26/20 15:42*	*05/27/20 16:58*	*1*
Tetrachloro-m-xylene	*34*		*33 - 120*	*05/26/20 15:42*	*05/27/20 16:58*	*1*

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-20d-052120
Lab Sample ID: 580-94838-8
Date Collected: 05/21/20 11:00
Matrix: Water
Date Received: 05/21/20 12:25

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	1.0	0.25	ug/L			05/29/20 09:38	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**46**		40	9.5	ug/L			06/09/20 15:38	10

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0080**		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 19:50	5
Chromium	**0.0012**	**J**	0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 19:50	5
Iron	**7.1**		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 19:50	5
Manganese	**17**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 19:50	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0093**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:31	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:31	5
Iron	**7.6**		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:31	5
Manganese	**19**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:31	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**840**		90	14	mg/L			05/27/20 14:26	100

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: EB-02-052120
Lab Sample ID: 580-94838-9

Date Collected: 05/21/20 09:53
Matrix: Water
Date Received: 05/21/20 12:25

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/29/20 09:50	1

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:34	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:34	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:34	5
Manganese	**0.030**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:34	5

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-03-052120
Lab Sample ID: 580-94838-10
Date Collected: 05/21/20 10:43
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 17:12	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 17:12	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/02/20 17:12	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 17:12	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 17:12	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 17:12	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 17:12	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/02/20 17:12	1
Acetone	ND		10	3.1	ug/L			06/02/20 17:12	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/02/20 17:12	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 17:12	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 17:12	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 17:12	1
1,1-Dichloroethane	**0.19**	**J**	0.20	0.025	ug/L			06/02/20 17:12	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 17:12	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/02/20 17:12	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 17:12	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 17:12	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 17:12	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 17:12	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 17:12	1
Benzene	**0.060**	**J**	0.20	0.030	ug/L			06/02/20 17:12	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 17:12	1
Trichloroethene	**0.12**	**J B**	0.20	0.066	ug/L			06/02/20 17:12	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 17:12	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 17:12	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 17:12	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 17:12	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 17:12	1
Toluene	**0.21**		0.20	0.050	ug/L			06/02/20 17:12	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 17:12	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 17:12	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 17:12	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 17:12	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 17:12	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 17:12	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/02/20 17:12	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 17:12	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 17:12	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 17:12	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 17:12	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 17:12	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 17:12	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 17:12	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 17:12	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 17:12	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 17:12	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 17:12	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 17:12	1

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-03-052120
Lab Sample ID: 580-94838-10
Date Collected: 05/21/20 10:43
Matrix: Water
Date Received: 05/21/20 12:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 17:12	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 17:12	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 17:12	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 17:12	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 17:12	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 17:12	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 17:12	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 17:12	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 17:12	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 17:12	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 17:12	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 17:12	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 17:12	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 17:12	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/02/20 17:12*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/02/20 17:12*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/02/20 17:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/02/20 17:12*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			06/02/20 07:35	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/28/20 22:36	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.20**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:38	5
Chromium	**0.0030**	**J**	0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:38	5
Iron	**0.89**	**J**	1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:38	5
Manganese	**0.062**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:38	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.3**		0.90	0.14	mg/L			05/27/20 14:38	1

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

Lab Sample ID: MB 580-329320/7
Matrix: Water
Analysis Batch: 329320

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/28/20 16:47	1
Chloromethane	ND		0.50	0.068	ug/L			05/28/20 16:47	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/28/20 16:47	1
Bromomethane	ND		0.50	0.062	ug/L			05/28/20 16:47	1
Chloroethane	ND		0.50	0.096	ug/L			05/28/20 16:47	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/28/20 16:47	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/28/20 16:47	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/28/20 16:47	1
Acetone	ND		10	3.1	ug/L			05/28/20 16:47	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/28/20 16:47	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/28/20 16:47	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/28/20 16:47	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/28/20 16:47	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/28/20 16:47	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/28/20 16:47	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/28/20 16:47	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/28/20 16:47	1
Chloroform	ND		0.20	0.030	ug/L			05/28/20 16:47	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/28/20 16:47	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/28/20 16:47	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/28/20 16:47	1
Benzene	ND		0.20	0.030	ug/L			05/28/20 16:47	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/28/20 16:47	1
Trichloroethene	ND		0.20	0.066	ug/L			05/28/20 16:47	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/28/20 16:47	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/28/20 16:47	1
Dibromomethane	ND		0.20	0.062	ug/L			05/28/20 16:47	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/28/20 16:47	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/28/20 16:47	1
Toluene	ND		0.20	0.050	ug/L			05/28/20 16:47	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/28/20 16:47	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/28/20 16:47	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/28/20 16:47	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/28/20 16:47	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/28/20 16:47	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/28/20 16:47	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/28/20 16:47	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/28/20 16:47	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/28/20 16:47	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/28/20 16:47	1
o-Xylene	ND		0.50	0.15	ug/L			05/28/20 16:47	1
Styrene	ND		1.0	0.19	ug/L			05/28/20 16:47	1
Bromoform	ND		0.50	0.16	ug/L			05/28/20 16:47	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/28/20 16:47	1
Bromobenzene	ND		0.20	0.035	ug/L			05/28/20 16:47	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/28/20 16:47	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/28/20 16:47	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/28/20 16:47	1

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

Lab Sample ID: MB 580-329320/7
Matrix: Water
Analysis Batch: 329320

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/28/20 16:47	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/28/20 16:47	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/28/20 16:47	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/28/20 16:47	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/28/20 16:47	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/28/20 16:47	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/28/20 16:47	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/28/20 16:47	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/28/20 16:47	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/28/20 16:47	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/28/20 16:47	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/28/20 16:47	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/28/20 16:47	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/28/20 16:47	1
Naphthalene	ND		1.0	0.22	ug/L			05/28/20 16:47	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/28/20 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/28/20 16:47*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/28/20 16:47*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/28/20 16:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*05/28/20 16:47*	*1*

Lab Sample ID: LCS 580-329320/4
Matrix: Water
Analysis Batch: 329320

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.81		ug/L		48	20 - 137
Chloromethane	10.0	8.35		ug/L		84	32 - 143
Vinyl chloride	10.0	8.89		ug/L		89	52 - 128
Bromomethane	10.0	9.70		ug/L		97	68 - 120
Chloroethane	10.0	9.05		ug/L		90	49 - 135
Carbon disulfide	10.0	7.88		ug/L		79	65 - 128
Trichlorofluoromethane	10.0	9.73		ug/L		97	60 - 132
1,1-Dichloroethene	10.0	10.1		ug/L		101	71 - 126
Acetone	50.0	58.1		ug/L		116	49 - 150
Methylene Chloride	10.0	10.0		ug/L		100	75 - 134
Methyl tert-butyl ether	10.0	9.59		ug/L		96	60 - 150
2-Butanone (MEK)	50.0	48.0		ug/L		96	64 - 136
trans-1,2-Dichloroethene	10.0	9.89		ug/L		99	63 - 133
1,1-Dichloroethane	10.0	10.3		ug/L		103	74 - 135
2,2-Dichloropropane	10.0	9.33		ug/L		93	58 - 150
cis-1,2-Dichloroethene	10.0	16.0	*	ug/L		160	72 - 130
Chlorobromomethane	10.0	9.96		ug/L		100	79 - 131
Chloroform	10.0	10.4		ug/L		104	80 - 130
1,1,1-Trichloroethane	10.0	9.94		ug/L		99	74 - 128
Carbon tetrachloride	10.0	9.80		ug/L		98	71 - 132

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

Lab Sample ID: LCS 580-329320/4
Matrix: Water
Analysis Batch: 329320

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	10.0	9.62		ug/L		96	72 - 132
Benzene	10.0	9.78		ug/L		98	73 - 133
1,2-Dichloroethane	10.0	10.5		ug/L		105	74 - 130
Trichloroethene	10.0	9.88		ug/L		99	72 - 136
1,2-Dichloropropane	10.0	10.0		ug/L		100	80 - 130
4-Methyl-2-pentanone (MIBK)	50.0	47.5		ug/L		95	65 - 137
Dibromomethane	10.0	9.83		ug/L		98	65 - 141
Dichlorobromomethane	10.0	10.2		ug/L		102	74 - 131
cis-1,3-Dichloropropene	10.0	9.77		ug/L		98	66 - 141
Toluene	10.0	9.98		ug/L		100	80 - 126
trans-1,3-Dichloropropene	10.0	9.57		ug/L		96	71 - 128
1,1,2-Trichloroethane	10.0	9.67		ug/L		97	80 - 127
Tetrachloroethene	10.0	9.14		ug/L		91	75 - 131
1,3-Dichloropropane	10.0	9.84		ug/L		98	80 - 130
Chlorodibromomethane	10.0	9.09		ug/L		91	76 - 131
Ethylene Dibromide	10.0	9.53		ug/L		95	80 - 126
Chlorobenzene	10.0	9.65		ug/L		96	80 - 123
1,1,1,2-Tetrachloroethane	10.0	9.56		ug/L		96	79 - 127
Ethylbenzene	10.0	9.63		ug/L		96	80 - 130
m-Xylene & p-Xylene	10.0	9.86		ug/L		99	78 - 130
o-Xylene	10.0	9.63		ug/L		96	80 - 139
Styrene	10.0	9.28		ug/L		93	74 - 136
Bromoform	10.0	8.65		ug/L		86	69 - 137
Isopropylbenzene	10.0	9.85		ug/L		98	75 - 137
Bromobenzene	10.0	9.43		ug/L		94	80 - 130
1,1,2,2-Tetrachloroethane	10.0	9.77		ug/L		98	69 - 139
1,2,3-Trichloropropane	10.0	9.63		ug/L		96	80 - 127
N-Propylbenzene	10.0	9.53		ug/L		95	77 - 142
2-Chlorotoluene	10.0	9.56		ug/L		96	80 - 136
4-Chlorotoluene	10.0	9.62		ug/L		96	80 - 130
1,3,5-Trimethylbenzene	10.0	9.71		ug/L		97	80 - 139
tert-Butylbenzene	10.0	9.60		ug/L		96	77 - 140
1,2,4-Trimethylbenzene	10.0	9.73		ug/L		97	78 - 136
sec-Butylbenzene	10.0	9.73		ug/L		97	78 - 140
4-Isopropyltoluene	10.0	9.61		ug/L		96	78 - 132
1,3-Dichlorobenzene	10.0	9.27		ug/L		93	80 - 130
1,4-Dichlorobenzene	10.0	9.54		ug/L		95	80 - 129
n-Butylbenzene	10.0	9.88		ug/L		99	73 - 135
1,2-Dichlorobenzene	10.0	9.63		ug/L		96	80 - 129
1,2-Dibromo-3-Chloropropane	10.0	9.89		ug/L		99	69 - 130
1,2,4-Trichlorobenzene	10.0	9.87		ug/L		99	79 - 130
Hexachlorobutadiene	10.0	9.58		ug/L		96	72 - 138
Naphthalene	10.0	12.0		ug/L		120	64 - 132
1,2,3-Trichlorobenzene	10.0	11.1		ug/L		111	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

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

Lab Sample ID: LCS 580-329320/4
Matrix: Water
Analysis Batch: 329320

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

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

Lab Sample ID: LCSD 580-329320/5
Matrix: Water
Analysis Batch: 329320

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	4.90		ug/L		49	20 - 137	2	22
Chloromethane	10.0	8.01		ug/L		80	32 - 143	4	23
Vinyl chloride	10.0	8.58		ug/L		86	52 - 128	4	21
Bromomethane	10.0	9.02		ug/L		90	68 - 120	7	18
Chloroethane	10.0	8.70		ug/L		87	49 - 135	4	27
Carbon disulfide	10.0	7.28		ug/L		73	65 - 128	8	23
Trichlorofluoromethane	10.0	9.11		ug/L		91	60 - 132	7	20
1,1-Dichloroethene	10.0	9.38		ug/L		94	71 - 126	7	17
Acetone	50.0	50.4		ug/L		101	49 - 150	14	24
Methylene Chloride	10.0	9.69		ug/L		97	75 - 134	3	18
Methyl tert-butyl ether	10.0	9.80		ug/L		98	60 - 150	2	25
2-Butanone (MEK)	50.0	44.3		ug/L		89	64 - 136	8	23
trans-1,2-Dichloroethene	10.0	8.36		ug/L		84	63 - 133	17	17
1,1-Dichloroethane	10.0	9.52		ug/L		95	74 - 135	8	20
2,2-Dichloropropane	10.0	10.3		ug/L		103	58 - 150	10	28
cis-1,2-Dichloroethene	10.0	21.0	* *1	ug/L		210	72 - 130	27	20
Chlorobromomethane	10.0	9.41		ug/L		94	79 - 131	6	20
Chloroform	10.0	10.0		ug/L		100	80 - 130	4	20
1,1,1-Trichloroethane	10.0	9.76		ug/L		98	74 - 128	2	14
Carbon tetrachloride	10.0	9.42		ug/L		94	71 - 132	4	15
1,1-Dichloropropene	10.0	9.24		ug/L		92	72 - 132	4	13
Benzene	10.0	9.27		ug/L		93	73 - 133	5	20
1,2-Dichloroethane	10.0	9.97		ug/L		100	74 - 130	5	15
Trichloroethene	10.0	9.34		ug/L		93	72 - 136	6	14
1,2-Dichloropropane	10.0	9.42		ug/L		94	80 - 130	6	14
4-Methyl-2-pentanone (MIBK)	50.0	44.9		ug/L		90	65 - 137	6	24
Dibromomethane	10.0	9.50		ug/L		95	65 - 141	3	20
Dichlorobromomethane	10.0	9.26		ug/L		93	74 - 131	10	20
cis-1,3-Dichloropropene	10.0	9.44		ug/L		94	66 - 141	3	22
Toluene	10.0	9.56		ug/L		96	80 - 126	4	20
trans-1,3-Dichloropropene	10.0	8.98		ug/L		90	71 - 128	6	21
1,1,2-Trichloroethane	10.0	9.04		ug/L		90	80 - 127	7	19
Tetrachloroethene	10.0	8.71		ug/L		87	75 - 131	5	20
1,3-Dichloropropane	10.0	9.39		ug/L		94	80 - 130	5	19
Chlorodibromomethane	10.0	8.78		ug/L		88	76 - 131	4	20
Ethylene Dibromide	10.0	9.10		ug/L		91	80 - 126	5	20
Chlorobenzene	10.0	9.20		ug/L		92	80 - 123	5	12
1,1,1,2-Tetrachloroethane	10.0	9.09		ug/L		91	79 - 127	5	20
Ethylbenzene	10.0	9.23		ug/L		92	80 - 130	4	20
m-Xylene & p-Xylene	10.0	9.26		ug/L		93	78 - 130	6	20

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

Lab Sample ID: LCSD 580-329320/5
Matrix: Water
Analysis Batch: 329320

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	10.0	9.03		ug/L		90	80 - 139	6	20
Styrene	10.0	8.78		ug/L		88	74 - 136	6	20
Bromoform	10.0	8.05		ug/L		80	69 - 137	7	20
Isopropylbenzene	10.0	9.22		ug/L		92	75 - 137	7	20
Bromobenzene	10.0	9.17		ug/L		92	80 - 130	3	20
1,1,2,2-Tetrachloroethane	10.0	9.24		ug/L		92	69 - 139	6	22
1,2,3-Trichloropropane	10.0	9.32		ug/L		93	80 - 127	3	20
N-Propylbenzene	10.0	9.48		ug/L		95	77 - 142	1	20
2-Chlorotoluene	10.0	9.57		ug/L		96	80 - 136	0	20
4-Chlorotoluene	10.0	9.47		ug/L		95	80 - 130	2	20
1,3,5-Trimethylbenzene	10.0	9.48		ug/L		95	80 - 139	2	20
tert-Butylbenzene	10.0	9.28		ug/L		93	77 - 140	3	20
1,2,4-Trimethylbenzene	10.0	9.47		ug/L		95	78 - 136	3	20
sec-Butylbenzene	10.0	9.52		ug/L		95	78 - 140	2	20
4-Isopropyltoluene	10.0	9.31		ug/L		93	78 - 132	3	14
1,3-Dichlorobenzene	10.0	8.67		ug/L		87	80 - 130	7	12
1,4-Dichlorobenzene	10.0	9.07		ug/L		91	80 - 129	5	11
n-Butylbenzene	10.0	9.56		ug/L		96	73 - 135	3	18
1,2-Dichlorobenzene	10.0	9.05		ug/L		90	80 - 129	6	14
1,2-Dibromo-3-Chloropropane	10.0	8.82		ug/L		88	69 - 130	11	26
1,2,4-Trichlorobenzene	10.0	7.91	*1	ug/L		79	79 - 130	22	20
Hexachlorobutadiene	10.0	8.56		ug/L		86	72 - 138	11	20
Naphthalene	10.0	9.59	*1	ug/L		96	64 - 132	22	20
1,2,3-Trichlorobenzene	10.0	8.57	*1	ug/L		86	75 - 137	26	20

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

Lab Sample ID: MB 580-329333/9
Matrix: Water
Analysis Batch: 329333

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/29/20 06:10	1
Chloromethane	ND		20	0.28	ug/L			05/29/20 06:10	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/29/20 06:10	1
Bromomethane	ND		6.0	0.21	ug/L			05/29/20 06:10	1
Chloroethane	ND		5.0	0.35	ug/L			05/29/20 06:10	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/29/20 06:10	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/29/20 06:10	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/29/20 06:10	1
Acetone	ND		50	3.2	ug/L			05/29/20 06:10	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/29/20 06:10	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/29/20 06:10	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/29/20 06:10	1

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

Lab Sample ID: MB 580-329333/9
Matrix: Water
Analysis Batch: 329333

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/29/20 06:10	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/29/20 06:10	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/29/20 06:10	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/29/20 06:10	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/29/20 06:10	1
Chloroform	ND		5.0	0.26	ug/L			05/29/20 06:10	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/29/20 06:10	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/29/20 06:10	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/29/20 06:10	1
Benzene	ND		3.0	0.24	ug/L			05/29/20 06:10	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/29/20 06:10	1
Trichloroethene	ND		3.0	0.26	ug/L			05/29/20 06:10	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/29/20 06:10	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/29/20 06:10	1
Dibromomethane	ND		2.0	0.34	ug/L			05/29/20 06:10	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/29/20 06:10	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/29/20 06:10	1
Toluene	ND		2.0	0.39	ug/L			05/29/20 06:10	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/29/20 06:10	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/29/20 06:10	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/29/20 06:10	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/29/20 06:10	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/29/20 06:10	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/29/20 06:10	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/29/20 06:10	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/29/20 06:10	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/29/20 06:10	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/29/20 06:10	1
o-Xylene	ND		2.0	0.39	ug/L			05/29/20 06:10	1
Styrene	ND		5.0	1.0	ug/L			05/29/20 06:10	1
Bromoform	ND		3.0	0.56	ug/L			05/29/20 06:10	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/29/20 06:10	1
Bromobenzene	ND		2.0	0.43	ug/L			05/29/20 06:10	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/29/20 06:10	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/29/20 06:10	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/29/20 06:10	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/29/20 06:10	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/29/20 06:10	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/29/20 06:10	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/29/20 06:10	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/29/20 06:10	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/29/20 06:10	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/29/20 06:10	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/29/20 06:10	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/29/20 06:10	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/29/20 06:10	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/29/20 06:10	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/29/20 06:10	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/29/20 06:10	1

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

Lab Sample ID: MB 580-329333/9
Matrix: Water
Analysis Batch: 329333

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		4.0	0.93	ug/L			05/29/20 06:10	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/29/20 06:10	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/29/20 06:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/29/20 06:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*05/29/20 06:10*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/29/20 06:10*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*05/29/20 06:10*	*1*

Lab Sample ID: LCS 580-329333/6
Matrix: Water
Analysis Batch: 329333

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	5.17	J	ug/L		52	20 - 150
Chloromethane	10.0	8.47	J	ug/L		85	52 - 135
Vinyl chloride	10.0	9.21		ug/L		92	65 - 130
Bromomethane	10.0	9.35		ug/L		94	66 - 125
Chloroethane	10.0	8.95		ug/L		89	65 - 132
Trichlorofluoromethane	10.0	9.48		ug/L		95	64 - 136
Carbon disulfide	10.0	10.2		ug/L		102	69 - 122
1,1-Dichloroethene	10.0	10.2		ug/L		102	70 - 129
Acetone	50.0	57.8		ug/L		116	43 - 150
Methylene Chloride	10.0	9.61		ug/L		96	77 - 125
Methyl tert-butyl ether	10.0	10.3		ug/L		103	72 - 130
trans-1,2-Dichloroethene	10.0	8.35		ug/L		83	77 - 124
1,1-Dichloroethane	10.0	9.90		ug/L		99	70 - 129
2-Butanone (MEK)	50.0	50.0		ug/L		100	65 - 127
2,2-Dichloropropane	10.0	8.85		ug/L		89	62 - 140
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	76 - 129
Bromochloromethane	10.0	9.50		ug/L		95	78 - 120
Chloroform	10.0	10.2		ug/L		102	73 - 127
1,1,1-Trichloroethane	10.0	10.1		ug/L		101	74 - 130
Carbon tetrachloride	10.0	9.79		ug/L		98	72 - 129
1,1-Dichloropropene	10.0	9.69		ug/L		97	80 - 120
Benzene	10.0	9.84		ug/L		98	75 - 121
1,2-Dichloroethane	10.0	10.3		ug/L		103	76 - 131
Trichloroethene	10.0	9.60		ug/L		96	70 - 120
1,2-Dichloropropane	10.0	10.2		ug/L		102	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	48.2		ug/L		96	69 - 124
Dibromomethane	10.0	10.1		ug/L		101	80 - 120
Bromodichloromethane	10.0	10.3		ug/L		103	75 - 124
cis-1,3-Dichloropropene	10.0	10.4		ug/L		104	77 - 120
Toluene	10.0	10.2		ug/L		102	80 - 120
trans-1,3-Dichloropropene	10.0	9.59		ug/L		96	80 - 122
1,1,2-Trichloroethane	10.0	9.71		ug/L		97	80 - 121
Tetrachloroethene	10.0	9.16		ug/L		92	76 - 120

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

Lab Sample ID: LCS 580-329333/6
Matrix: Water
Analysis Batch: 329333

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	10.0	10.0		ug/L		100	79 - 120
Dibromochloromethane	10.0	9.19		ug/L		92	71 - 120
1,2-Dibromoethane	10.0	9.75		ug/L		98	79 - 120
Chlorobenzene	10.0	9.67		ug/L		97	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.23		ug/L		92	79 - 120
Ethylbenzene	10.0	9.53		ug/L		95	80 - 120
m-Xylene & p-Xylene	10.0	9.77		ug/L		98	80 - 120
o-Xylene	10.0	9.45		ug/L		95	80 - 120
Styrene	10.0	9.02		ug/L		90	76 - 121
Bromoform	10.0	8.47		ug/L		85	61 - 132
Isopropylbenzene	10.0	9.53		ug/L		95	75 - 120
Bromobenzene	10.0	9.65		ug/L		97	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.2		ug/L		102	74 - 124
1,2,3-Trichloropropane	10.0	9.84		ug/L		98	76 - 124
N-Propylbenzene	10.0	9.80		ug/L		98	80 - 120
2-Chlorotoluene	10.0	9.95		ug/L		99	80 - 120
4-Chlorotoluene	10.0	10.0		ug/L		100	80 - 120
t-Butylbenzene	10.0	9.90		ug/L		99	80 - 121
1,2,4-Trimethylbenzene	10.0	9.94		ug/L		99	80 - 120
sec-Butylbenzene	10.0	10.0		ug/L		100	78 - 120
4-Isopropyltoluene	10.0	9.73		ug/L		97	77 - 120
1,3-Dichlorobenzene	10.0	8.97		ug/L		90	80 - 120
1,4-Dichlorobenzene	10.0	9.62		ug/L		96	80 - 120
n-Butylbenzene	10.0	9.93		ug/L		99	78 - 120
1,2-Dichlorobenzene	10.0	9.64		ug/L		96	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.77	J	ug/L		98	65 - 125
1,2,4-Trichlorobenzene	10.0	9.43		ug/L		94	57 - 140
Hexachlorobutadiene	10.0	9.14		ug/L		91	74 - 125
Naphthalene	10.0	12.5		ug/L		125	44 - 144
1,2,3-Trichlorobenzene	10.0	11.6		ug/L		116	23 - 150
1,3,5-Trimethylbenzene	10.0	10.0		ug/L		100	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-329333/7
Matrix: Water
Analysis Batch: 329333

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	5.52	J	ug/L		55	20 - 150	6	35
Chloromethane	10.0	9.04	J	ug/L		90	52 - 135	7	23
Vinyl chloride	10.0	9.93		ug/L		99	65 - 130	7	28
Bromomethane	10.0	10.0		ug/L		100	66 - 125	7	27
Chloroethane	10.0	9.51		ug/L		95	65 - 132	6	35

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

Lab Sample ID: LCSD 580-329333/7
Matrix: Water
Analysis Batch: 329333

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	10.0	9.80		ug/L		98	64 - 136	3	27
Carbon disulfide	10.0	9.32		ug/L		93	69 - 122	9	20
1,1-Dichloroethene	10.0	10.1		ug/L		101	70 - 129	1	27
Acetone	50.0	59.7		ug/L		119	43 - 150	3	35
Methylene Chloride	10.0	10.1		ug/L		101	77 - 125	5	18
Methyl tert-butyl ether	10.0	10.2		ug/L		102	72 - 130	1	18
trans-1,2-Dichloroethene	10.0	9.25		ug/L		92	77 - 124	10	21
1,1-Dichloroethane	10.0	10.4		ug/L		104	70 - 129	5	26
2-Butanone (MEK)	50.0	46.8		ug/L		94	65 - 127	7	29
2,2-Dichloropropane	10.0	8.97		ug/L		90	62 - 140	1	23
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 129	1	15
Bromochloromethane	10.0	9.87		ug/L		99	78 - 120	4	20
Chloroform	10.0	10.7		ug/L		107	73 - 127	5	22
1,1,1-Trichloroethane	10.0	10.4		ug/L		104	74 - 130	3	18
Carbon tetrachloride	10.0	9.75		ug/L		98	72 - 129	0	19
1,1-Dichloropropene	10.0	9.82		ug/L		98	80 - 120	1	14
Benzene	10.0	10.1		ug/L		101	75 - 121	3	14
1,2-Dichloroethane	10.0	10.3		ug/L		103	76 - 131	0	18
Trichloroethene	10.0	10.2		ug/L		102	70 - 120	6	21
1,2-Dichloropropane	10.0	10.5		ug/L		105	72 - 126	4	26
4-Methyl-2-pentanone (MIBK)	50.0	47.2		ug/L		94	69 - 124	2	22
Dibromomethane	10.0	10.1		ug/L		101	80 - 120	0	22
Bromodichloromethane	10.0	10.0		ug/L		100	75 - 124	3	22
cis-1,3-Dichloropropene	10.0	9.99		ug/L		100	77 - 120	4	20
Toluene	10.0	10.2		ug/L		102	80 - 120	0	19
trans-1,3-Dichloropropene	10.0	9.58		ug/L		96	80 - 122	0	25
1,1,2-Trichloroethane	10.0	9.88		ug/L		99	80 - 121	2	21
Tetrachloroethene	10.0	8.64		ug/L		86	76 - 120	6	20
1,3-Dichloropropane	10.0	10.1		ug/L		101	79 - 120	1	26
Dibromochloromethane	10.0	9.22		ug/L		92	71 - 120	0	24
1,2-Dibromoethane	10.0	10.0		ug/L		100	79 - 120	3	20
Chlorobenzene	10.0	9.73		ug/L		97	80 - 120	1	15
1,1,1,2-Tetrachloroethane	10.0	9.66		ug/L		97	79 - 120	5	20
Ethylbenzene	10.0	9.87		ug/L		99	80 - 120	4	14
m-Xylene & p-Xylene	10.0	9.85		ug/L		98	80 - 120	1	14
o-Xylene	10.0	9.78		ug/L		98	80 - 120	3	16
Styrene	10.0	9.17		ug/L		92	76 - 121	2	16
Bromoform	10.0	8.59		ug/L		86	61 - 132	1	20
Isopropylbenzene	10.0	10.0		ug/L		100	75 - 120	5	20
Bromobenzene	10.0	9.45		ug/L		95	80 - 120	2	13
1,1,2,2-Tetrachloroethane	10.0	9.62		ug/L		96	74 - 124	5	18
1,2,3-Trichloropropane	10.0	9.50		ug/L		95	76 - 124	3	30
N-Propylbenzene	10.0	9.59		ug/L		96	80 - 120	2	13
2-Chlorotoluene	10.0	9.89		ug/L		99	80 - 120	1	15
4-Chlorotoluene	10.0	9.92		ug/L		99	80 - 120	1	14
t-Butylbenzene	10.0	9.88		ug/L		99	80 - 121	0	14
1,2,4-Trimethylbenzene	10.0	10.0		ug/L		100	80 - 120	1	16
sec-Butylbenzene	10.0	10.1		ug/L		101	78 - 120	1	15
4-Isopropyltoluene	10.0	9.87		ug/L		99	77 - 120	1	13

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

Lab Sample ID: LCSD 580-329333/7
Matrix: Water
Analysis Batch: 329333

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichlorobenzene			10.0	9.65		ug/L		96	80 - 120	7	14
1,4-Dichlorobenzene			10.0	9.78		ug/L		98	80 - 120	2	17
n-Butylbenzene			10.0	10.0		ug/L		100	78 - 120	1	14
1,2-Dichlorobenzene			10.0	9.89		ug/L		99	80 - 120	3	15
1,2-Dibromo-3-Chloropropane			10.0	9.81	J	ug/L		98	65 - 125	0	27
1,2,4-Trichlorobenzene			10.0	9.86		ug/L		99	57 - 140	4	27
Hexachlorobutadiene			10.0	9.53		ug/L		95	74 - 125	4	22
Naphthalene			10.0	12.2		ug/L		122	44 - 144	2	31
1,2,3-Trichlorobenzene			10.0	11.5		ug/L		115	23 - 150	1	35
1,3,5-Trimethylbenzene			10.0	10.1		ug/L		101	80 - 120	1	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/01/20 16:10	1
Chloromethane	ND		0.50	0.068	ug/L			06/01/20 16:10	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/01/20 16:10	1
Bromomethane	ND		0.50	0.062	ug/L			06/01/20 16:10	1
Chloroethane	ND		0.50	0.096	ug/L			06/01/20 16:10	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/01/20 16:10	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/01/20 16:10	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/01/20 16:10	1
Acetone	ND		10	3.1	ug/L			06/01/20 16:10	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/01/20 16:10	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/01/20 16:10	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/01/20 16:10	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/01/20 16:10	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/01/20 16:10	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/01/20 16:10	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Chloroform	ND		0.20	0.030	ug/L			06/01/20 16:10	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/01/20 16:10	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/01/20 16:10	1
Benzene	ND		0.20	0.030	ug/L			06/01/20 16:10	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/01/20 16:10	1
Trichloroethene	0.151	J	0.20	0.066	ug/L			06/01/20 16:10	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/01/20 16:10	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/01/20 16:10	1

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

Lab Sample ID: MB 580-329532/7
Matrix: Water
Analysis Batch: 329532

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		0.20	0.062	ug/L			06/01/20 16:10	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/01/20 16:10	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/01/20 16:10	1
Toluene	ND		0.20	0.050	ug/L			06/01/20 16:10	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/01/20 16:10	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/01/20 16:10	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/01/20 16:10	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/01/20 16:10	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/01/20 16:10	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/01/20 16:10	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/01/20 16:10	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/01/20 16:10	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/01/20 16:10	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/01/20 16:10	1
o-Xylene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
Styrene	ND		1.0	0.19	ug/L			06/01/20 16:10	1
Bromoform	ND		0.50	0.16	ug/L			06/01/20 16:10	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/01/20 16:10	1
Bromobenzene	ND		0.20	0.035	ug/L			06/01/20 16:10	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/01/20 16:10	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/01/20 16:10	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/01/20 16:10	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/01/20 16:10	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/01/20 16:10	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/01/20 16:10	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/01/20 16:10	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/01/20 16:10	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/01/20 16:10	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/01/20 16:10	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/01/20 16:10	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/01/20 16:10	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/01/20 16:10	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/01/20 16:10	1
Naphthalene	ND		1.0	0.22	ug/L			06/01/20 16:10	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/01/20 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/01/20 16:10*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/01/20 16:10*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/01/20 16:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*06/01/20 16:10*	*1*

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

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	6.35		ug/L		127	20 - 137
Chloromethane	5.00	5.43		ug/L		109	32 - 143
Vinyl chloride	5.00	4.77		ug/L		95	52 - 128
Bromomethane	5.00	5.02		ug/L		100	68 - 120
Chloroethane	5.00	4.99		ug/L		100	49 - 135
Carbon disulfide	5.00	4.27		ug/L		85	65 - 128
Trichlorofluoromethane	5.00	4.49		ug/L		90	60 - 132
1,1-Dichloroethene	5.00	4.71		ug/L		94	71 - 126
Acetone	25.0	25.2		ug/L		101	49 - 150
Methylene Chloride	5.00	4.34	J	ug/L		87	75 - 134
Methyl tert-butyl ether	5.00	4.54		ug/L		91	60 - 150
2-Butanone (MEK)	25.0	24.5		ug/L		98	64 - 136
trans-1,2-Dichloroethene	5.00	4.92		ug/L		98	63 - 133
1,1-Dichloroethane	5.00	4.60		ug/L		92	74 - 135
2,2-Dichloropropane	5.00	3.96		ug/L		79	58 - 150
cis-1,2-Dichloroethene	5.00	4.83		ug/L		97	72 - 130
Chlorobromomethane	5.00	5.15		ug/L		103	79 - 131
Chloroform	5.00	4.89		ug/L		98	80 - 130
1,1,1-Trichloroethane	5.00	4.29		ug/L		86	74 - 128
Carbon tetrachloride	5.00	4.14		ug/L		83	71 - 132
1,1-Dichloropropene	5.00	4.59		ug/L		92	72 - 132
Benzene	5.00	5.03		ug/L		101	73 - 133
1,2-Dichloroethane	5.00	5.18		ug/L		104	74 - 130
Trichloroethene	5.00	5.26		ug/L		105	72 - 136
1,2-Dichloropropane	5.00	5.10		ug/L		102	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.2		ug/L		97	65 - 137
Dibromomethane	5.00	5.15		ug/L		103	65 - 141
Dichlorobromomethane	5.00	4.98		ug/L		100	74 - 131
cis-1,3-Dichloropropene	5.00	4.71		ug/L		94	66 - 141
Toluene	5.00	4.62		ug/L		92	80 - 126
trans-1,3-Dichloropropene	5.00	4.57		ug/L		91	71 - 128
1,1,2-Trichloroethane	5.00	5.25		ug/L		105	80 - 127
Tetrachloroethene	5.00	4.64		ug/L		93	75 - 131
1,3-Dichloropropane	5.00	5.24		ug/L		105	80 - 130
Chlorodibromomethane	5.00	5.08		ug/L		102	76 - 131
Ethylene Dibromide	5.00	5.47		ug/L		109	80 - 126
Chlorobenzene	5.00	5.55		ug/L		111	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.59		ug/L		92	79 - 127
Ethylbenzene	5.00	4.52		ug/L		90	80 - 130
m-Xylene & p-Xylene	5.00	4.69		ug/L		94	78 - 130
o-Xylene	5.00	5.22		ug/L		104	80 - 139
Styrene	5.00	5.61		ug/L		112	74 - 136
Bromoform	5.00	4.27		ug/L		85	69 - 137
Isopropylbenzene	5.00	4.65		ug/L		93	75 - 137
Bromobenzene	5.00	5.05		ug/L		101	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.05		ug/L		101	69 - 139
1,2,3-Trichloropropane	5.00	4.91		ug/L		98	80 - 127
N-Propylbenzene	5.00	4.69		ug/L		94	77 - 142

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

Lab Sample ID: LCS 580-329532/4
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorotoluene	5.00	4.54		ug/L		91	80 - 136
4-Chlorotoluene	5.00	4.93		ug/L		99	80 - 130
1,3,5-Trimethylbenzene	5.00	4.89		ug/L		98	80 - 139
tert-Butylbenzene	5.00	4.81		ug/L		96	77 - 140
1,2,4-Trimethylbenzene	5.00	4.67		ug/L		93	78 - 136
sec-Butylbenzene	5.00	4.76		ug/L		95	78 - 140
4-Isopropyltoluene	5.00	4.74		ug/L		95	78 - 132
1,3-Dichlorobenzene	5.00	5.07		ug/L		101	80 - 130
1,4-Dichlorobenzene	5.00	5.01		ug/L		100	80 - 129
n-Butylbenzene	5.00	4.42		ug/L		88	73 - 135
1,2-Dichlorobenzene	5.00	4.96		ug/L		99	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.05		ug/L		81	69 - 130
1,2,4-Trichlorobenzene	5.00	4.53		ug/L		91	79 - 130
Hexachlorobutadiene	5.00	4.22		ug/L		84	72 - 138
Naphthalene	5.00	4.87		ug/L		97	64 - 132
1,2,3-Trichlorobenzene	5.00	4.59		ug/L		92	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	6.34		ug/L		127	20 - 137	0	22
Chloromethane	5.00	5.32		ug/L		106	32 - 143	2	23
Vinyl chloride	5.00	4.67		ug/L		93	52 - 128	2	21
Bromomethane	5.00	4.85		ug/L		97	68 - 120	4	18
Chloroethane	5.00	4.61		ug/L		92	49 - 135	8	27
Carbon disulfide	5.00	4.19		ug/L		84	65 - 128	2	23
Trichlorofluoromethane	5.00	4.37		ug/L		87	60 - 132	3	20
1,1-Dichloroethene	5.00	4.63		ug/L		93	71 - 126	2	17
Acetone	25.0	23.4		ug/L		94	49 - 150	7	24
Methylene Chloride	5.00	4.24	J	ug/L		85	75 - 134	2	18
Methyl tert-butyl ether	5.00	4.17		ug/L		83	60 - 150	9	25
2-Butanone (MEK)	25.0	22.4		ug/L		90	64 - 136	9	23
trans-1,2-Dichloroethene	5.00	4.88		ug/L		98	63 - 133	1	17
1,1-Dichloroethane	5.00	4.52		ug/L		90	74 - 135	2	20
2,2-Dichloropropane	5.00	3.90		ug/L		78	58 - 150	1	28
cis-1,2-Dichloroethene	5.00	4.76		ug/L		95	72 - 130	1	20
Chlorobromomethane	5.00	4.98		ug/L		100	79 - 131	3	20
Chloroform	5.00	4.80		ug/L		96	80 - 130	2	20
1,1,1-Trichloroethane	5.00	4.23		ug/L		85	74 - 128	1	14
Carbon tetrachloride	5.00	4.03		ug/L		81	71 - 132	3	15

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

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloropropene			5.00	4.51		ug/L		90	72 - 132	2	13
Benzene			5.00	4.88		ug/L		98	73 - 133	3	20
1,2-Dichloroethane			5.00	4.87		ug/L		97	74 - 130	6	15
Trichloroethene			5.00	5.21		ug/L		104	72 - 136	1	14
1,2-Dichloropropane			5.00	4.85		ug/L		97	80 - 130	5	14
4-Methyl-2-pentanone (MIBK)			25.0	24.0		ug/L		96	65 - 137	1	24
Dibromomethane			5.00	4.79		ug/L		96	65 - 141	7	20
Dichlorobromomethane			5.00	4.69		ug/L		94	74 - 131	6	20
cis-1,3-Dichloropropene			5.00	4.47		ug/L		89	66 - 141	5	22
Toluene			5.00	4.57		ug/L		91	80 - 126	1	20
trans-1,3-Dichloropropene			5.00	4.27		ug/L		85	71 - 128	7	21
1,1,2-Trichloroethane			5.00	4.91		ug/L		98	80 - 127	7	19
Tetrachloroethene			5.00	4.57		ug/L		91	75 - 131	1	20
1,3-Dichloropropane			5.00	4.88		ug/L		98	80 - 130	7	19
Chlorodibromomethane			5.00	4.81		ug/L		96	76 - 131	5	20
Ethylene Dibromide			5.00	5.22		ug/L		104	80 - 126	5	20
Chlorobenzene			5.00	5.40		ug/L		108	80 - 123	3	12
1,1,1,2-Tetrachloroethane			5.00	4.58		ug/L		92	79 - 127	0	20
Ethylbenzene			5.00	4.48		ug/L		90	80 - 130	1	20
m-Xylene & p-Xylene			5.00	4.65		ug/L		93	78 - 130	1	20
o-Xylene			5.00	5.27		ug/L		105	80 - 139	1	20
Styrene			5.00	5.60		ug/L		112	74 - 136	0	20
Bromoform			5.00	3.98		ug/L		80	69 - 137	7	20
Isopropylbenzene			5.00	4.73		ug/L		95	75 - 137	2	20
Bromobenzene			5.00	4.80		ug/L		96	80 - 130	5	20
1,1,2,2-Tetrachloroethane			5.00	4.61		ug/L		92	69 - 139	9	22
1,2,3-Trichloropropane			5.00	4.69		ug/L		94	80 - 127	5	20
N-Propylbenzene			5.00	4.65		ug/L		93	77 - 142	1	20
2-Chlorotoluene			5.00	4.45		ug/L		89	80 - 136	2	20
4-Chlorotoluene			5.00	4.89		ug/L		98	80 - 130	1	20
1,3,5-Trimethylbenzene			5.00	4.90		ug/L		98	80 - 139	0	20
tert-Butylbenzene			5.00	4.81		ug/L		96	77 - 140	0	20
1,2,4-Trimethylbenzene			5.00	4.71		ug/L		94	78 - 136	1	20
sec-Butylbenzene			5.00	4.76		ug/L		95	78 - 140	0	20
4-Isopropyltoluene			5.00	4.77		ug/L		95	78 - 132	1	14
1,3-Dichlorobenzene			5.00	4.96		ug/L		99	80 - 130	2	12
1,4-Dichlorobenzene			5.00	4.87		ug/L		97	80 - 129	3	11
n-Butylbenzene			5.00	4.51		ug/L		90	73 - 135	2	18
1,2-Dichlorobenzene			5.00	4.87		ug/L		97	80 - 129	2	14
1,2-Dibromo-3-Chloropropane			5.00	3.86		ug/L		77	69 - 130	5	26
1,2,4-Trichlorobenzene			5.00	4.46		ug/L		89	79 - 130	2	20
Hexachlorobutadiene			5.00	4.25		ug/L		85	72 - 138	1	20
Naphthalene			5.00	4.38		ug/L		88	64 - 132	11	20
1,2,3-Trichlorobenzene			5.00	4.49		ug/L		90	75 - 137	2	20

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

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

Lab Sample ID: LCSD 580-329532/5
Matrix: Water
Analysis Batch: 329532

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

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

Lab Sample ID: MB 580-329641/7
Matrix: Water
Analysis Batch: 329641

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 16:46	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 16:46	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/02/20 16:46	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 16:46	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 16:46	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 16:46	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 16:46	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/02/20 16:46	1
Acetone	ND		10	3.1	ug/L			06/02/20 16:46	1
Methylene Chloride	1.97	J	5.0	1.2	ug/L			06/02/20 16:46	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 16:46	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 16:46	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 16:46	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 16:46	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/02/20 16:46	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 16:46	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 16:46	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 16:46	1
Benzene	ND		0.20	0.030	ug/L			06/02/20 16:46	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 16:46	1
Trichloroethene	0.0958	J	0.20	0.066	ug/L			06/02/20 16:46	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 16:46	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 16:46	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 16:46	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 16:46	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 16:46	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 16:46	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 16:46	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 16:46	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 16:46	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 16:46	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 16:46	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/02/20 16:46	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 16:46	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 16:46	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 16:46	1

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

Lab Sample ID: MB 580-329641/7
Matrix: Water
Analysis Batch: 329641

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 16:46	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 16:46	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 16:46	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 16:46	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 16:46	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 16:46	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 16:46	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 16:46	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 16:46	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 16:46	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 16:46	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 16:46	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 16:46	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 16:46	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 16:46	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 16:46	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 16:46	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 16:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 16:46*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 16:46*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/20 16:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/02/20 16:46*	*1*

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	6.43		ug/L		129	20 - 137
Chloromethane	5.00	4.90		ug/L		98	32 - 143
Vinyl chloride	5.00	4.61		ug/L		92	52 - 128
Bromomethane	5.00	4.68		ug/L		94	68 - 120
Chloroethane	5.00	4.61		ug/L		92	49 - 135
Carbon disulfide	5.00	4.21		ug/L		84	65 - 128
Trichlorofluoromethane	5.00	4.76		ug/L		95	60 - 132
1,1-Dichloroethene	5.00	4.76		ug/L		95	71 - 126
Acetone	25.0	23.9		ug/L		96	49 - 150
Methylene Chloride	5.00	6.16		ug/L		123	75 - 134
Methyl tert-butyl ether	5.00	4.01		ug/L		80	60 - 150
2-Butanone (MEK)	25.0	21.0		ug/L		84	64 - 136

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

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	4.90		ug/L		98	63 - 133
1,1-Dichloroethane	5.00	4.55		ug/L		91	74 - 135
2,2-Dichloropropane	5.00	4.06		ug/L		81	58 - 150
cis-1,2-Dichloroethene	5.00	4.78		ug/L		96	72 - 130
Chlorobromomethane	5.00	4.92		ug/L		98	79 - 131
Chloroform	5.00	4.83		ug/L		97	80 - 130
1,1,1-Trichloroethane	5.00	4.44		ug/L		89	74 - 128
Carbon tetrachloride	5.00	4.33		ug/L		87	71 - 132
1,1-Dichloropropene	5.00	4.78		ug/L		96	72 - 132
Benzene	5.00	4.89		ug/L		98	73 - 133
1,2-Dichloroethane	5.00	4.78		ug/L		96	74 - 130
Trichloroethene	5.00	5.15		ug/L		103	72 - 136
1,2-Dichloropropane	5.00	4.83		ug/L		97	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	22.1		ug/L		88	65 - 137
Dibromomethane	5.00	4.65		ug/L		93	65 - 141
Dichlorobromomethane	5.00	4.71		ug/L		94	74 - 131
cis-1,3-Dichloropropene	5.00	4.52		ug/L		90	66 - 141
Toluene	5.00	4.67		ug/L		93	80 - 126
trans-1,3-Dichloropropene	5.00	4.17		ug/L		83	71 - 128
1,1,2-Trichloroethane	5.00	4.89		ug/L		98	80 - 127
Tetrachloroethene	5.00	4.87		ug/L		97	75 - 131
1,3-Dichloropropane	5.00	4.83		ug/L		97	80 - 130
Chlorodibromomethane	5.00	4.87		ug/L		97	76 - 131
Ethylene Dibromide	5.00	5.05		ug/L		101	80 - 126
Chlorobenzene	5.00	5.43		ug/L		109	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.62		ug/L		92	79 - 127
Ethylbenzene	5.00	4.54		ug/L		91	80 - 130
m-Xylene & p-Xylene	5.00	4.68		ug/L		94	78 - 130
o-Xylene	5.00	5.29		ug/L		106	80 - 139
Styrene	5.00	5.42		ug/L		108	74 - 136
Bromoform	5.00	3.94		ug/L		79	69 - 137
Isopropylbenzene	5.00	4.85		ug/L		97	75 - 137
Bromobenzene	5.00	4.97		ug/L		99	80 - 130
1,1,2,2-Tetrachloroethane	5.00	4.90		ug/L		98	69 - 139
1,2,3-Trichloropropane	5.00	4.71		ug/L		94	80 - 127
N-Propylbenzene	5.00	5.01		ug/L		100	77 - 142
2-Chlorotoluene	5.00	4.76		ug/L		95	80 - 136
4-Chlorotoluene	5.00	5.02		ug/L		100	80 - 130
1,3,5-Trimethylbenzene	5.00	5.22		ug/L		104	80 - 139
tert-Butylbenzene	5.00	5.18		ug/L		104	77 - 140
1,2,4-Trimethylbenzene	5.00	4.95		ug/L		99	78 - 136
sec-Butylbenzene	5.00	5.21		ug/L		104	78 - 140
4-Isopropyltoluene	5.00	5.14		ug/L		103	78 - 132
1,3-Dichlorobenzene	5.00	5.14		ug/L		103	80 - 130
1,4-Dichlorobenzene	5.00	5.03		ug/L		101	80 - 129
n-Butylbenzene	5.00	4.86		ug/L		97	73 - 135
1,2-Dichlorobenzene	5.00	5.06		ug/L		101	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.00		ug/L		80	69 - 130
1,2,4-Trichlorobenzene	5.00	4.76		ug/L		95	79 - 130

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

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexachlorobutadiene			5.00	4.74		ug/L		95	72 - 138		
Naphthalene			5.00	4.81		ug/L		96	64 - 132		
1,2,3-Trichlorobenzene			5.00	4.84		ug/L		97	75 - 137		

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

Lab Sample ID: LCSD 580-329641/5
Matrix: Water
Analysis Batch: 329641

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			5.00	6.00		ug/L		120	20 - 137	7	22
Chloromethane			5.00	4.45		ug/L		89	32 - 143	10	23
Vinyl chloride			5.00	4.23		ug/L		85	52 - 128	9	21
Bromomethane			5.00	4.48		ug/L		90	68 - 120	4	18
Chloroethane			5.00	4.40		ug/L		88	49 - 135	5	27
Carbon disulfide			5.00	3.91		ug/L		78	65 - 128	7	23
Trichlorofluoromethane			5.00	4.43		ug/L		89	60 - 132	7	20
1,1-Dichloroethene			5.00	4.45		ug/L		89	71 - 126	7	17
Acetone			25.0	24.6		ug/L		98	49 - 150	3	24
Methylene Chloride			5.00	6.00		ug/L		120	75 - 134	3	18
Methyl tert-butyl ether			5.00	4.19		ug/L		84	60 - 150	4	25
2-Butanone (MEK)			25.0	22.7		ug/L		91	64 - 136	8	23
trans-1,2-Dichloroethene			5.00	4.65		ug/L		93	63 - 133	5	17
1,1-Dichloroethane			5.00	4.34		ug/L		87	74 - 135	5	20
2,2-Dichloropropane			5.00	3.84		ug/L		77	58 - 150	6	28
cis-1,2-Dichloroethene			5.00	4.54		ug/L		91	72 - 130	5	20
Chlorobromomethane			5.00	4.85		ug/L		97	79 - 131	1	20
Chloroform			5.00	4.65		ug/L		93	80 - 130	4	20
1,1,1-Trichloroethane			5.00	4.17		ug/L		83	74 - 128	6	14
Carbon tetrachloride			5.00	4.07		ug/L		81	71 - 132	6	15
1,1-Dichloropropene			5.00	4.51		ug/L		90	72 - 132	6	13
Benzene			5.00	4.71		ug/L		94	73 - 133	4	20
1,2-Dichloroethane			5.00	4.86		ug/L		97	74 - 130	2	15
Trichloroethene			5.00	4.97		ug/L		99	72 - 136	3	14
1,2-Dichloropropane			5.00	4.75		ug/L		95	80 - 130	2	14
4-Methyl-2-pentanone (MIBK)			25.0	23.0		ug/L		92	65 - 137	4	24
Dibromomethane			5.00	4.77		ug/L		95	65 - 141	3	20
Dichlorobromomethane			5.00	4.67		ug/L		93	74 - 131	1	20
cis-1,3-Dichloropropene			5.00	4.49		ug/L		90	66 - 141	1	22
Toluene			5.00	4.40		ug/L		88	80 - 126	6	20
trans-1,3-Dichloropropene			5.00	4.32		ug/L		86	71 - 128	3	21
1,1,2-Trichloroethane			5.00	4.93		ug/L		99	80 - 127	1	19
Tetrachloroethene			5.00	4.52		ug/L		90	75 - 131	7	20

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

Lab Sample ID: LCSD 580-329641/5
Matrix: Water
Analysis Batch: 329641

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichloropropane	5.00	4.93		ug/L		99	80 - 130	2	19
Chlorodibromomethane	5.00	4.86		ug/L		97	76 - 131	0	20
Ethylene Dibromide	5.00	5.13		ug/L		103	80 - 126	2	20
Chlorobenzene	5.00	5.23		ug/L		105	80 - 123	4	12
1,1,1,2-Tetrachloroethane	5.00	4.44		ug/L		89	79 - 127	4	20
Ethylbenzene	5.00	4.27		ug/L		85	80 - 130	6	20
m-Xylene & p-Xylene	5.00	4.42		ug/L		88	78 - 130	6	20
o-Xylene	5.00	4.97		ug/L		99	80 - 139	6	20
Styrene	5.00	5.23		ug/L		105	74 - 136	4	20
Bromoform	5.00	4.04		ug/L		81	69 - 137	3	20
Isopropylbenzene	5.00	4.51		ug/L		90	75 - 137	7	20
Bromobenzene	5.00	4.82		ug/L		96	80 - 130	3	20
1,1,2,2-Tetrachloroethane	5.00	4.94		ug/L		99	69 - 139	1	22
1,2,3-Trichloropropane	5.00	4.83		ug/L		97	80 - 127	3	20
N-Propylbenzene	5.00	4.63		ug/L		93	77 - 142	8	20
2-Chlorotoluene	5.00	4.38		ug/L		88	80 - 136	8	20
4-Chlorotoluene	5.00	4.78		ug/L		96	80 - 130	5	20
1,3,5-Trimethylbenzene	5.00	4.80		ug/L		96	80 - 139	8	20
tert-Butylbenzene	5.00	4.75		ug/L		95	77 - 140	9	20
1,2,4-Trimethylbenzene	5.00	4.58		ug/L		92	78 - 136	8	20
sec-Butylbenzene	5.00	4.76		ug/L		95	78 - 140	9	20
4-Isopropyltoluene	5.00	4.71		ug/L		94	78 - 132	9	14
1,3-Dichlorobenzene	5.00	4.88		ug/L		98	80 - 130	5	12
1,4-Dichlorobenzene	5.00	4.82		ug/L		96	80 - 129	4	11
n-Butylbenzene	5.00	4.41		ug/L		88	73 - 135	10	18
1,2-Dichlorobenzene	5.00	4.86		ug/L		97	80 - 129	4	14
1,2-Dibromo-3-Chloropropane	5.00	4.01		ug/L		80	69 - 130	0	26
1,2,4-Trichlorobenzene	5.00	4.57		ug/L		91	79 - 130	4	20
Hexachlorobutadiene	5.00	4.27		ug/L		85	72 - 138	10	20
Naphthalene	5.00	4.62		ug/L		92	64 - 132	4	20
1,2,3-Trichlorobenzene	5.00	4.66		ug/L		93	75 - 137	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		5.0	0.26	ug/L			06/02/20 18:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*06/02/20 18:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/02/20 18:11*	*1*

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

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		80 - 120		06/02/20 18:11	1
Dibromofluoromethane (Surr)	98		80 - 120		06/02/20 18:11	1

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloroform			10.0	10.2		ug/L		102	73 - 127		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 120
1,2-Dichloroethane-d4 (Surr)	104		80 - 126
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform			10.0	10.3		ug/L		103	73 - 127	1	22

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 120
1,2-Dichloroethane-d4 (Surr)	104		80 - 126
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	102		80 - 120

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-329097/1-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.015	0.0060	ug/L		05/26/20 15:42	05/27/20 15:05	1
4,4'-DDE	ND		0.010	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
4,4'-DDT	ND		0.020	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Aldrin	ND		0.024	0.0070	ug/L		05/26/20 15:42	05/27/20 15:05	1
alpha-BHC	ND		0.018	0.0040	ug/L		05/26/20 15:42	05/27/20 15:05	1
cis-Chlordane	ND		0.027	0.0080	ug/L		05/26/20 15:42	05/27/20 15:05	1
beta-BHC	ND		0.021	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Chlordane (technical)	ND		0.20	0.030	ug/L		05/26/20 15:42	05/27/20 15:05	1
delta-BHC	ND		0.015	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Dieldrin	ND		0.018	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endosulfan I	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endosulfan II	ND		0.024	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 580-329097/1-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan sulfate	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin	ND		0.012	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin aldehyde	ND		0.060	0.034	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin ketone	ND		0.020	0.0020	ug/L		05/26/20 15:42	05/27/20 15:05	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Heptachlor	ND		0.015	0.0040	ug/L		05/26/20 15:42	05/27/20 15:05	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Methoxychlor	ND		0.10	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Toxaphene	ND		2.0	0.46	ug/L		05/26/20 15:42	05/27/20 15:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*67*		*45 - 127*	*05/26/20 15:42*	*05/27/20 15:05*	*1*
Tetrachloro-m-xylene	*86*		*33 - 120*	*05/26/20 15:42*	*05/27/20 15:05*	*1*

Lab Sample ID: LCS 580-329097/2-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.200	0.195		ug/L		98	53 - 139
4,4'-DDE	0.200	0.189		ug/L		94	47 - 126
4,4'-DDT	0.200	0.194		ug/L		97	38 - 150
Aldrin	0.200	0.170		ug/L		85	30 - 124
alpha-BHC	0.200	0.171		ug/L		85	53 - 120
cis-Chlordane	0.200	0.190		ug/L		95	56 - 120
beta-BHC	0.200	0.185		ug/L		92	63 - 120
delta-BHC	0.200	0.170		ug/L		85	44 - 120
Dieldrin	0.200	0.198		ug/L		99	61 - 122
Endosulfan I	0.200	0.190		ug/L		95	62 - 123
Endosulfan II	0.200	0.188		ug/L		94	52 - 121
Endosulfan sulfate	0.200	0.188		ug/L		94	60 - 120
Endrin	0.200	0.203		ug/L		102	45 - 140
Endrin aldehyde	0.200	0.181		ug/L		91	47 - 136
Endrin ketone	0.200	0.220		ug/L		110	60 - 137
gamma-BHC (Lindane)	0.200	0.180		ug/L		90	53 - 120
trans-Chlordane	0.200	0.189		ug/L		95	49 - 121
Heptachlor	0.200	0.184		ug/L		92	38 - 127
Heptachlor epoxide	0.200	0.191		ug/L		96	49 - 126
Methoxychlor	0.200	0.217		ug/L		108	35 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*98*		*45 - 127*
Tetrachloro-m-xylene	*85*		*33 - 120*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-329097/3-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329097

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD			0.200	0.179		ug/L		89	53 - 139	9	19
4,4'-DDE			0.200	0.175		ug/L		88	47 - 126	7	20
4,4'-DDT			0.200	0.179		ug/L		90	38 - 150	8	23
Aldrin			0.200	0.153		ug/L		76	30 - 124	10	27
alpha-BHC			0.200	0.156		ug/L		78	53 - 120	9	18
cis-Chlordane			0.200	0.177		ug/L		89	56 - 120	7	17
beta-BHC			0.200	0.161		ug/L		81	63 - 120	13	19
delta-BHC			0.200	0.160		ug/L		80	44 - 120	6	18
Dieldrin			0.200	0.184		ug/L		92	61 - 122	7	20
Endosulfan I			0.200	0.177		ug/L		88	62 - 123	7	18
Endosulfan II			0.200	0.175		ug/L		87	52 - 121	7	21
Endosulfan sulfate			0.200	0.175		ug/L		87	60 - 120	7	26
Endrin			0.200	0.188		ug/L		94	45 - 140	8	35
Endrin aldehyde			0.200	0.164		ug/L		82	47 - 136	10	25
Endrin ketone			0.200	0.206		ug/L		103	60 - 137	7	18
gamma-BHC (Lindane)			0.200	0.165		ug/L		83	53 - 120	9	21
trans-Chlordane			0.200	0.177		ug/L		89	49 - 121	7	18
Heptachlor			0.200	0.173		ug/L		87	38 - 127	6	26
Heptachlor epoxide			0.200	0.179		ug/L		89	49 - 126	7	18
Methoxychlor			0.200	0.199		ug/L		99	35 - 150	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*108*		*45 - 127*
Tetrachloro-m-xylene	*81*		*33 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609932/1-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
Aldrin	ND		0.0050	0.0015	ug/L		05/26/20 05:25	05/26/20 12:21	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/26/20 05:25	05/26/20 12:21	1
beta-BHC	ND		0.010	0.0040	ug/L		05/26/20 05:25	05/26/20 12:21	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/26/20 05:25	05/26/20 12:21	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/26/20 05:25	05/26/20 12:21	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan I	ND		0.0050	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/26/20 05:25	05/26/20 12:21	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-609932/1-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Heptachlor	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
Methoxychlor	ND		0.0050	0.0035	ug/L		05/26/20 05:25	05/26/20 12:21	1
Toxaphene	ND		0.50	0.25	ug/L		05/26/20 05:25	05/26/20 12:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*80*		*28 - 108*	*05/26/20 05:25*	*05/26/20 12:21*	*1*
Tetrachloro-m-xylene	*90*		*10 - 123*	*05/26/20 05:25*	*05/26/20 12:21*	*1*

Lab Sample ID: LCS 440-609932/2-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.408		ug/L		102	50 - 128
4,4'-DDE	0.400	0.410		ug/L		103	49 - 121
4,4'-DDT	0.400	0.394		ug/L		99	41 - 140
Aldrin	0.400	0.386		ug/L		96	37 - 115
alpha-BHC	0.400	0.399		ug/L		100	44 - 115
cis-Chlordane	0.400	0.387		ug/L		97	40 - 122
beta-BHC	0.400	0.383		ug/L		96	46 - 121
delta-BHC	0.400	0.385		ug/L		96	32 - 129
Dieldrin	0.400	0.397		ug/L		99	39 - 126
Endosulfan I	0.400	0.381		ug/L		95	47 - 115
Endosulfan II	0.400	0.377		ug/L		94	47 - 120
Endosulfan sulfate	0.400	0.369		ug/L		92	48 - 126
Endrin	0.400	0.367		ug/L		92	43 - 127
Endrin aldehyde	0.400	0.358		ug/L		90	43 - 120
Endrin ketone	0.400	0.386		ug/L		97	47 - 123
gamma-BHC (Lindane)	0.400	0.387		ug/L		97	45 - 116
trans-Chlordane	0.400	0.363		ug/L		91	37 - 129
Heptachlor	0.400	0.372		ug/L		93	37 - 115
Heptachlor epoxide	0.400	0.385		ug/L		96	41 - 129
Methoxychlor	0.400	0.454		ug/L		114	44 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*83*		*28 - 108*
Tetrachloro-m-xylene	*100*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-610492/6
Matrix: Water
Analysis Batch: 610492

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			05/29/20 06:24	1

Lab Sample ID: LCS 440-610492/5
Matrix: Water
Analysis Batch: 610492

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.6		ug/L		99	90 - 110

Lab Sample ID: MRL 440-610492/4
Matrix: Water
Analysis Batch: 610492

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	1.12		ug/L		112	50 - 150

Lab Sample ID: MB 440-610858/6
Matrix: Water
Analysis Batch: 610858

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/02/20 06:55	1

Lab Sample ID: LCS 440-610858/5
Matrix: Water
Analysis Batch: 610858

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.1		ug/L		96	90 - 110

Lab Sample ID: MRL 440-610858/4
Matrix: Water
Analysis Batch: 610858

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.930	J	ug/L		93	50 - 150

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610392/6
Matrix: Water
Analysis Batch: 610392

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/28/20 11:14	1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: LCS 440-610392/5
Matrix: Water
Analysis Batch: 610392

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.9		ug/L		109	85 - 115

Lab Sample ID: MRL 440-610392/4
Matrix: Water
Analysis Batch: 610392

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.09	J	ug/L		109	75 - 125

Lab Sample ID: MRL 440-610392/8
Matrix: Water
Analysis Batch: 610392

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.85	J	ug/L		96	75 - 125

Lab Sample ID: MB 440-611851/6
Matrix: Water
Analysis Batch: 611851

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/09/20 10:16	1

Lab Sample ID: LCS 440-611851/5
Matrix: Water
Analysis Batch: 611851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	23.4		ug/L		94	85 - 115

Lab Sample ID: MRL 440-611851/4
Matrix: Water
Analysis Batch: 611851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.14	J	ug/L		114	75 - 125

Lab Sample ID: MRL 440-611851/8
Matrix: Water
Analysis Batch: 611851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.80		ug/L		120	75 - 125

Lab Sample ID: MB 440-611852/6
Matrix: Water
Analysis Batch: 611852

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/09/20 10:12	1

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: LCS 440-611852/12
Matrix: Water
Analysis Batch: 611852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	23.5		ug/L		94	85 - 115

Lab Sample ID: MRL 440-611852/14
Matrix: Water
Analysis Batch: 611852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.60	J	ug/L		90	75 - 125

Lab Sample ID: MRL 440-611852/4
Matrix: Water
Analysis Batch: 611852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.00	J	ug/L		100	75 - 125

Lab Sample ID: 580-94838-6 MS
Matrix: Water
Analysis Batch: 611852

Client Sample ID: MWA-46-052120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	6.5		25.0	32.7		ug/L		105	80 - 120

Lab Sample ID: 580-94838-6 MSD
Matrix: Water
Analysis Batch: 611852

Client Sample ID: MWA-46-052120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	6.5		25.0	32.7		ug/L		105	80 - 120	0	15

Lab Sample ID: MB 440-611853/6
Matrix: Water
Analysis Batch: 611853

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/09/20 10:45	1

Lab Sample ID: LCS 440-611853/5
Matrix: Water
Analysis Batch: 611853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.88		ug/L		99	85 - 115

Lab Sample ID: MRL 440-611853/4
Matrix: Water
Analysis Batch: 611853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.17	J	ug/L		117	75 - 125

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MRL 440-611853/9
Matrix: Water
Analysis Batch: 611853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.45		ug/L		111	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329002/21-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 18:26	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 18:26	5
Iron	ND		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 18:26	5
Manganese	ND		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 18:26	5

Lab Sample ID: LCS 580-329002/22-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.975		mg/L		98	80 - 120
Chromium	1.00	0.971		mg/L		97	80 - 120
Iron	20.0	19.0		mg/L		95	80 - 120
Manganese	1.00	0.945		mg/L		94	80 - 120

Lab Sample ID: LCSD 580-329002/23-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.963		mg/L		96	80 - 120	1	20
Chromium	1.00	0.967		mg/L		97	80 - 120	0	20
Iron	20.0	18.8		mg/L		94	80 - 120	1	20
Manganese	1.00	0.950		mg/L		95	80 - 120	1	20

Lab Sample ID: MB 580-329073/22-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 16:37	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 16:37	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 16:37	5
Manganese	ND		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 16:37	5

Lab Sample ID: LCS 580-329073/23-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-329073/23-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	1.00	1.03		mg/L		103	80 - 120
Iron	20.0	20.7		mg/L		103	80 - 120
Manganese	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: LCSD 580-329073/24-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.01		mg/L		101	80 - 120	0	20
Chromium	1.00	1.03		mg/L		103	80 - 120	0	20
Iron	20.0	20.6		mg/L		103	80 - 120	0	20
Manganese	1.00	1.04		mg/L		104	80 - 120	1	20

Lab Sample ID: 580-94838-2 MS
Matrix: Water
Analysis Batch: 329247

Client Sample ID: PA-22d-052020
Prep Type: Dissolved
Prep Batch: 329073

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0099		1.00	0.901		mg/L		89	80 - 120
Chromium	ND		1.00	0.861		mg/L		86	80 - 120
Iron	ND		20.0	17.4		mg/L		87	80 - 120
Manganese	4.9		1.00	5.85	4	mg/L		92	80 - 120

Lab Sample ID: 580-94838-2 MSD
Matrix: Water
Analysis Batch: 329247

Client Sample ID: PA-22d-052020
Prep Type: Dissolved
Prep Batch: 329073

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0099		1.00	0.932		mg/L		92	80 - 120	3	20
Chromium	ND		1.00	0.882		mg/L		88	80 - 120	2	20
Iron	ND		20.0	17.8		mg/L		89	80 - 120	2	20
Manganese	4.9		1.00	6.02	4	mg/L		109	80 - 120	3	20

Lab Sample ID: 580-94838-2 DU
Matrix: Water
Analysis Batch: 329247

Client Sample ID: PA-22d-052020
Prep Type: Dissolved
Prep Batch: 329073

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.0099		0.0102		mg/L		3	20
Chromium	ND		ND		mg/L		NC	20
Iron	ND		ND		mg/L		NC	20
Manganese	4.9		4.92		mg/L		0.2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329053/3
Matrix: Water
Analysis Batch: 329053

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			05/24/20 23:51	1

Lab Sample ID: LCS 580-329053/4
Matrix: Water
Analysis Batch: 329053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-329053/5
Matrix: Water
Analysis Batch: 329053

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	51.6		mg/L		103	90 - 110	0	15

Lab Sample ID: MB 580-329316/3
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			05/27/20 12:52	1

Lab Sample ID: LCS 580-329316/4
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.4		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-329316/5
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	51.4		mg/L		103	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052020-A
Lab Sample ID: 580-94838-1
Date Collected: 05/20/20 00:01
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329320	05/28/20 19:54	W1T	TAL SEA

Client Sample ID: PA-22d-052020
Lab Sample ID: 580-94838-2
Date Collected: 05/20/20 14:30
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329333	05/29/20 11:31	JSM	TAL SEA
Total/NA	Analysis	8260D	DL	10	329648	06/03/20 02:14	T1W	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610192	05/27/20 17:52	D1D	TAL IRV
Total/NA	Analysis	314.0		1000	611851	06/09/20 16:33	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 16:44	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 19:25	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329053	05/25/20 06:18	ADB	TAL SEA

Client Sample ID: PA-07-052020
Lab Sample ID: 580-94838-3
Date Collected: 05/20/20 15:20
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329532	06/01/20 21:01	K1G	TAL SEA
Dissolved	Analysis	218.6		10	610492	05/29/20 08:47	MN	TAL IRV
Total/NA	Analysis	314.0		50	610392	05/28/20 22:00	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 18:09	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 13:27	RBL	TAL SEA

Client Sample ID: MWA-18-052120
Lab Sample ID: 580-94838-4
Date Collected: 05/21/20 07:03
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329333	05/29/20 11:58	JSM	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610192	05/27/20 18:07	D1D	TAL IRV
Dissolved	Analysis	218.6		1	610492	05/29/20 09:00	MN	TAL IRV
Total/NA	Analysis	314.0		1	611853	06/09/20 14:44	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 16:41	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 19:28	FCW	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-18-052120
Lab Sample ID: 580-94838-4
Date Collected: 05/21/20 07:03
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	329316	05/27/20 13:39	RBL	TAL SEA

Client Sample ID: MWA-56d-052120
Lab Sample ID: 580-94838-5
Date Collected: 05/21/20 08:18
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329333	05/29/20 12:25	JSM	TAL SEA
Total/NA	Analysis	8260D	DL	10	329648	06/03/20 02:41	T1W	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610192	05/27/20 18:22	D1D	TAL IRV
Dissolved	Analysis	218.6		1	610858	06/02/20 07:22	MN	TAL IRV
Total/NA	Analysis	314.0		100	611851	06/09/20 16:13	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:22	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 19:44	FCW	TAL SEA
Total/NA	Analysis	300.0		1000	329316	05/29/20 01:49	RBL	TAL SEA

Client Sample ID: MWA-46-052120
Lab Sample ID: 580-94838-6
Date Collected: 05/21/20 08:51
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329333	05/29/20 12:51	JSM	TAL SEA
Total/NA	Prep	3510C			329097	05/26/20 15:42	RJL	TAL SEA
Total/NA	Analysis	8081B		1	329167	05/27/20 16:40	T1W	TAL SEA
Dissolved	Analysis	218.6		1	610492	05/29/20 09:12	MN	TAL IRV
Total/NA	Analysis	314.0		1	611852	06/09/20 14:16	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:25	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 19:47	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329316	05/27/20 14:02	RBL	TAL SEA

Client Sample ID: MWA-19-052120
Lab Sample ID: 580-94838-7
Date Collected: 05/21/20 10:48
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329333	05/29/20 13:18	JSM	TAL SEA
Dissolved	Analysis	218.6		1	610492	05/29/20 09:25	MN	TAL IRV
Total/NA	Analysis	314.0		1	611853	06/09/20 18:54	PS	TAL IRV

Lab Chronicle

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-19-052120
Lab Sample ID: 580-94838-7
Date Collected: 05/21/20 10:48
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:28	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 14:14	RBL	TAL SEA

Client Sample ID: PA-20d-052120
Lab Sample ID: 580-94838-8
Date Collected: 05/21/20 11:00
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329333	05/29/20 13:45	JSM	TAL SEA
Total/NA	Prep	3510C			329097	05/26/20 15:42	RJL	TAL SEA
Total/NA	Analysis	8081B		1	329167	05/27/20 16:58	T1W	TAL SEA
Dissolved	Analysis	218.6		1	610492	05/29/20 09:38	MN	TAL IRV
Total/NA	Analysis	314.0		10	611853	06/09/20 15:38	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:31	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 19:50	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 14:26	RBL	TAL SEA

Client Sample ID: EB-02-052120
Lab Sample ID: 580-94838-9
Date Collected: 05/21/20 09:53
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	218.6		1	610492	05/29/20 09:50	MN	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:34	FCW	TAL SEA

Client Sample ID: PA-03-052120
Lab Sample ID: 580-94838-10
Date Collected: 05/21/20 10:43
Matrix: Water
Date Received: 05/21/20 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 17:12	CJ	TAL SEA
Dissolved	Analysis	218.6		5	610858	06/02/20 07:35	MN	TAL IRV
Total/NA	Analysis	314.0		50	610392	05/28/20 22:36	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:38	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329316	05/27/20 14:38	RBL	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94838-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94838-1	TB-052020-A	Water	05/20/20 00:01	05/21/20 12:25	
580-94838-2	PA-22d-052020	Water	05/20/20 14:30	05/21/20 12:25	
580-94838-3	PA-07-052020	Water	05/20/20 15:20	05/21/20 12:25	
580-94838-4	MWA-18-052120	Water	05/21/20 07:03	05/21/20 12:25	
580-94838-5	MWA-56d-052120	Water	05/21/20 08:18	05/21/20 12:25	
580-94838-6	MWA-46-052120	Water	05/21/20 08:51	05/21/20 12:25	
580-94838-7	MWA-19-052120	Water	05/21/20 10:48	05/21/20 12:25	
580-94838-8	PA-20d-052120	Water	05/21/20 11:00	05/21/20 12:25	
580-94838-9	EB-02-052120	Water	05/21/20 09:53	05/21/20 12:25	
580-94838-10	PA-03-052120	Water	05/21/20 10:43	05/21/20 12:25	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: DS, ST, ~~JA~~ AS	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-052020-A	5/20/20		G	Water									X			3	
PA-22d-052020	↓	1430	↓	Water			X	X		X	X	X		X	X	10	
PA-07-052020	↓	1520	↓	Water			X				X		X	X	X	7	
MWA-18-052120	5/21/20	0703	G	Water			X	X		X	X	X		X	X	10	
MWA-56d-052120		0818		Water			X	X		X	X	X		X	X	10	
MWA-46-052120		~~0851~~ 0846		Water			X		X	X	X	X		X	X	10	
MWA-19-052120		1038		Water			X				X	X		X	X		
PA-20d-052120		1100		Water			X		X	X	X	X		X	X		
FB-02-052120		0953		Water							X				X		
PA-03-052120	↓	1043	↓				X				X		X	X	X		

580-94838 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/21/20 1200	ERM	[signature]	5/21/20 1200	M. E.
2	[signature]	5/21/20 1225	M. E.	[signature]	5/21/20 1225	TAOR
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.3

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: DS, ST, ~~JA~~ AS	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
TB-052020-A	5/20/20		G	Water									X			3	
PA-22d-052020	↓	1430	↓	Water			X	X		X	X	X		X	X	10	
PA-07-052020	↓	1520	↓	Water			X				X		X	X	X	7	
MWA-1B-052120	5/21/20	0703	G	Water			X	X		X	X	X		X	X	10	
MWA-56d-052120	↓	0810	↓	Water			X	X		X	X	X		X	X	10	
MWA-46-052120	↓	0845 ~~0840~~	↓	Water			X		X	X	X	X		X	X	10	
MWA-19-052120	↓	1048 ~~1038~~	↓	Water			X				X	X		X	X	10	
PA-20d-052120	↓	1100	↓	Water			X		X	X	X	X		X	X	10	
EB-02-052120	↓	0953	↓	Water							X				X	3	
PA-03-052120	↓	1043	↓				X				X		X	X	X	7	

580-94838 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/21/20 1200	ERM	[signature]	5/21/20 1200	M.E.
2	[signature]	5/21/20 1225	M.E.	[signature]	5/21/20 1225	TAKR
3	[signature]	5/21/20 1700	TAKR	[signature]	5/22/20 0745	EDS

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.3 IR7 1.7/1.5

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone 253-922-2310 Fax 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): 1872 5088 3941	COC No: 580-76990 1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94838-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/10/2020	Analysis Requested		Preservation Codes:
City: Irvine	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B_LL/3510C Standard 8081ALL Pesticide list	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	Total Number of containers	Special Instructions/Note:
PA-22d-052020 (580-94838-2)	5/20/20	14:30 Pacific		Water				X	X		3	
PA-07-052020 (580-94838-3)	5/20/20	15:20 Pacific		Water					X	X	2	Sample should have been field filtered then preserved by Portland Please confirm via
MWA-18-052120 (580-94838-4)	5/21/20	07:03 Pacific		Water				X	X	X	4	Sample should have been field filtered then preserved by Portland Please confirm via
MWA-56d-052120 (580-94838-5)	5/21/20	08:18 Pacific		Water				X	X	X	4	Sample should have been field filtered then preserved by Portland Please confirm via
MWA-46-052120 (580-94838-6)	5/21/20	08:51 Pacific		Water					X	X	2	Sample should have been field filtered then preserved by Portland. Please confirm via
MWA-19-052120 (580-94838-7)	5/21/20	10:48 Pacific		Water					X	X	2	Sample should have been field filtered then preserved by Portland. Please confirm via
PA-20d-052120 (580-94838-8)	5/21/20	11:00 Pacific		Water					X	X	2	Sample should have been field filtered then preserved by Portland. Please confirm via
EB-02-052120 (580-94838-9)	5/21/20	09:53 Pacific		Water						X	1	Sample should have been field filtered then preserved by Portland. Please confirm via
PA-03-052120 (580-94838-10)	5/21/20	10:43 Pacific		Water					X	X	2	Sample should have been field filtered then preserved by Portland Please confirm via

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/21/20 1700	EAROK		5/22/20 0930	EC-IRV
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ☒ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.6/2.8 IR-94

Ver 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94838-1

Login Number: 94838
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94838-1

Login Number: 94838
List Number: 2
Creator: Bonta, Lucia F

List Source: Eurofins Irvine
List Creation: 05/22/20 01:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	Method requires headspace.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94838-1

Login Number: 94838
List Number: 3
Creator: Bonta, Lucia F

List Source: Eurofins Irvine
List Creation: 05/22/20 01:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	Method requires headspace.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94850-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/12/2020 2:45:56 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94850-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94850-1

Comments
No additional comments.

Receipt
The samples were received on 5/21/2020 3:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.8º C.

GC/MS VOA
Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-329468 recovered outside control limits for the following analytes: Naphthalene and cis-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329468 recovered outside control limits for the following analytes: n-Butylbenzene.

Method 8260D: The method blank for analytical batch 580-329648 contained Methylene Chloride above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method 8260D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329648 recovered outside control limits for the following analyte: Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8260D: The CCV for analytical batch 580-329648 recovered outside control limits for the following analyte: Dichlorodifluoromethane. This analyte has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: Surrogate recovery for the following sample was outside the upper control limit: PA-21d-052120 (580-94850-5). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-34i-052120 (580-94850-2), Dup-02-052120 (580-94850-3), MWA-58d-052120 (580-94850-4), PA-21d-052120 (580-94850-5) and PA-27d-052120 (580-94850-6). Elevated reporting limits (RLs) are provided.

Method 8260D: Recovery for Chlorobenzene is considered estimated, since it falls above this instrument's calibration range. There is no volume remaining to rerun; the data has been reported. PA-21d-052120 (580-94850-5). All vials used and sample was analyzed at 1X, 10X, 100X and 200X all were E flagged for chlorobenzene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following samples were diluted due to the nature of the sample matrix-brown color : MWA-34i-052120 (580-94850-2), Dup-02-052120 (580-94850-3) and PA-27d-052120 (580-94850-6). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to the nature of the sample matrix (dark brown color): MWA-34i-052120 (580-94850-2), Dup-02-052120 (580-94850-3) and PA-27d-052120 (580-94850-6). Elevated reporting limits (RLs) are provided.

Method 314.0: The continuing calibration blank (CCB) for analytical batch 440-610392 contained Perchlorate above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 580-94850-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

GC Semi VOA
Methods 8081A, 8081B: The following CCB and LCSD associated with analytical batch 580-329167 recovered outside acceptance criteria on the confirmation column internal standard 1-Bromo-2-nitrobenzene. The associated CCV and sample results met criteria and were reported. (CCB 580-329167/9)

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-329167 recovered outside acceptance criteria on the confirmation column for Chlordane (technical), DCB Decachlorobiphenyl, Tetrachloro-m-xylene, delta-BHC and Endosulfan I. The associated sample results for those analytes were reported from the primary column which met acceptance criteria. The following samples are impacted: MWA-34i-052120 (580-94850-2), Dup-02-052120 (580-94850-3), (CCV 580-329167/4) and (CCVIS 580-329167/7)

Method 8081B: In analytical batch 580-329167, the %RPD between the primary and confirmation column exceeded 40% for 4,4'-DDD for the following sample: MWA-34i-052120 (580-94850-2[1.0]) and Dup-02-052120 (580-94850-3[1.0]). The lower value has been reported in accordance with the laboratory's SOP.

Method 8081B: Internal standard (ISTD) response for the following samples exceeded the control limit on the confirmation column: MWA-34i-052120 (580-94850-2) and Dup-02-052120 (580-94850-3). As such, the sample results associated with this ISTD were reported from the other column, which met ISTD acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3510C: The following samples formed emulsions during the extraction procedure: MWA-34i-052120 (580-94850-2) and Dup-02-052120 (580-94850-3). The emulsions were broken up using sodium sulfate and rinsed with solvent.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052120
Lab Sample ID: 580-94850-1
Date Collected: 05/21/20 00:01
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/30/20 16:42	1
Chloromethane	ND		20	0.28	ug/L			05/30/20 16:42	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/30/20 16:42	1
Bromomethane	ND		6.0	0.21	ug/L			05/30/20 16:42	1
Chloroethane	ND		5.0	0.35	ug/L			05/30/20 16:42	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/30/20 16:42	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/30/20 16:42	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/30/20 16:42	1
Acetone	ND		50	3.2	ug/L			05/30/20 16:42	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/30/20 16:42	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/30/20 16:42	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/30/20 16:42	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/30/20 16:42	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/30/20 16:42	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/30/20 16:42	1
cis-1,2-Dichloroethene	ND	*	3.0	0.69	ug/L			05/30/20 16:42	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/30/20 16:42	1
Chloroform	ND		5.0	0.26	ug/L			05/30/20 16:42	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/30/20 16:42	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/30/20 16:42	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/30/20 16:42	1
Benzene	ND		3.0	0.24	ug/L			05/30/20 16:42	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/30/20 16:42	1
Trichloroethene	ND		3.0	0.26	ug/L			05/30/20 16:42	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/30/20 16:42	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/30/20 16:42	1
Dibromomethane	ND		2.0	0.34	ug/L			05/30/20 16:42	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/30/20 16:42	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/30/20 16:42	1
Toluene	ND		2.0	0.39	ug/L			05/30/20 16:42	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/30/20 16:42	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/30/20 16:42	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/30/20 16:42	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/30/20 16:42	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/30/20 16:42	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/30/20 16:42	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/30/20 16:42	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/30/20 16:42	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/30/20 16:42	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/30/20 16:42	1
o-Xylene	ND		2.0	0.39	ug/L			05/30/20 16:42	1
Styrene	ND		5.0	1.0	ug/L			05/30/20 16:42	1
Bromoform	ND		3.0	0.56	ug/L			05/30/20 16:42	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/30/20 16:42	1
Bromobenzene	ND		2.0	0.43	ug/L			05/30/20 16:42	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/30/20 16:42	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/30/20 16:42	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/30/20 16:42	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/30/20 16:42	1

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052120
Lab Sample ID: 580-94850-1
Date Collected: 05/21/20 00:01
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/30/20 16:42	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/30/20 16:42	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/30/20 16:42	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/30/20 16:42	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/30/20 16:42	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/30/20 16:42	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/30/20 16:42	1
n-Butylbenzene	ND	*1	3.0	0.44	ug/L			05/30/20 16:42	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/30/20 16:42	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/30/20 16:42	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/30/20 16:42	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/30/20 16:42	1
Naphthalene	ND		4.0	0.93	ug/L			05/30/20 16:42	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/30/20 16:42	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/30/20 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/30/20 16:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*05/30/20 16:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*05/30/20 16:42*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/30/20 16:42*	*1*

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-34i-052120
Lab Sample ID: 580-94850-2
Date Collected: 05/21/20 12:40
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		100	5.3	ug/L			05/30/20 22:58	10
Chloromethane	ND		200	2.8	ug/L			05/30/20 22:58	10
Vinyl chloride	ND		10	2.2	ug/L			05/30/20 22:58	10
Bromomethane	ND		60	2.1	ug/L			05/30/20 22:58	10
Chloroethane	ND		50	3.5	ug/L			05/30/20 22:58	10
Trichlorofluoromethane	ND		30	6.3	ug/L			05/30/20 22:58	10
Carbon disulfide	ND		30	5.3	ug/L			05/30/20 22:58	10
1,1-Dichloroethene	ND		40	2.8	ug/L			05/30/20 22:58	10
Acetone	ND		500	32	ug/L			05/30/20 22:58	10
Methylene Chloride	ND		50	14	ug/L			05/30/20 22:58	10
Methyl tert-butyl ether	ND		20	4.4	ug/L			05/30/20 22:58	10
trans-1,2-Dichloroethene	ND		30	3.9	ug/L			05/30/20 22:58	10
1,1-Dichloroethane	ND		20	2.2	ug/L			05/30/20 22:58	10
2-Butanone (MEK)	ND		200	47	ug/L			05/30/20 22:58	10
2,2-Dichloropropane	ND		30	3.2	ug/L			05/30/20 22:58	10
cis-1,2-Dichloroethene	ND	*	30	6.9	ug/L			05/30/20 22:58	10
Bromochloromethane	ND		20	2.9	ug/L			05/30/20 22:58	10
Chloroform	ND		50	2.6	ug/L			05/30/20 22:58	10
1,1,1-Trichloroethane	ND		30	3.9	ug/L			05/30/20 22:58	10
Carbon tetrachloride	ND		30	3.0	ug/L			05/30/20 22:58	10
1,1-Dichloropropene	ND		30	2.9	ug/L			05/30/20 22:58	10
Benzene	**5.3**	**J**	30	2.4	ug/L			05/30/20 22:58	10
1,2-Dichloroethane	ND		20	4.2	ug/L			05/30/20 22:58	10
Trichloroethene	ND		30	2.6	ug/L			05/30/20 22:58	10
1,2-Dichloropropane	ND		10	1.8	ug/L			05/30/20 22:58	10
4-Methyl-2-pentanone (MIBK)	ND		150	25	ug/L			05/30/20 22:58	10
Dibromomethane	ND		20	3.4	ug/L			05/30/20 22:58	10
Bromodichloromethane	ND		20	2.9	ug/L			05/30/20 22:58	10
cis-1,3-Dichloropropene	ND		10	2.0	ug/L			05/30/20 22:58	10
Toluene	ND		20	3.9	ug/L			05/30/20 22:58	10
trans-1,3-Dichloropropene	ND		10	1.6	ug/L			05/30/20 22:58	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			05/30/20 22:58	10
Tetrachloroethene	**4.4**	**J**	30	4.1	ug/L			05/30/20 22:58	10
1,3-Dichloropropane	ND		20	3.5	ug/L			05/30/20 22:58	10
Dibromochloromethane	ND		20	4.3	ug/L			05/30/20 22:58	10
1,2-Dibromoethane	ND		20	4.0	ug/L			05/30/20 22:58	10
Chlorobenzene	**290**		20	4.4	ug/L			05/30/20 22:58	10
1,1,1,2-Tetrachloroethane	ND		20	1.8	ug/L			05/30/20 22:58	10
Ethylbenzene	ND		30	5.0	ug/L			05/30/20 22:58	10
m-Xylene & p-Xylene	ND		30	7.5	ug/L			05/30/20 22:58	10
o-Xylene	ND		20	3.9	ug/L			05/30/20 22:58	10
Styrene	ND		50	10	ug/L			05/30/20 22:58	10
Bromoform	ND		30	5.6	ug/L			05/30/20 22:58	10
Isopropylbenzene	ND		20	4.4	ug/L			05/30/20 22:58	10
Bromobenzene	ND		20	4.3	ug/L			05/30/20 22:58	10
1,1,2,2-Tetrachloroethane	ND		30	5.2	ug/L			05/30/20 22:58	10
1,2,3-Trichloropropane	ND		20	4.1	ug/L			05/30/20 22:58	10
N-Propylbenzene	ND		30	5.0	ug/L			05/30/20 22:58	10
2-Chlorotoluene	ND		30	5.1	ug/L			05/30/20 22:58	10

Client Sample ID: MWA-34i-052120
Lab Sample ID: 580-94850-2

Date Collected: 05/21/20 12:40
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		20	3.8	ug/L			05/30/20 22:58	10
t-Butylbenzene	ND		30	5.8	ug/L			05/30/20 22:58	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			05/30/20 22:58	10
sec-Butylbenzene	ND		30	4.9	ug/L			05/30/20 22:58	10
4-Isopropyltoluene	ND		30	2.8	ug/L			05/30/20 22:58	10
1,3-Dichlorobenzene	ND		20	1.8	ug/L			05/30/20 22:58	10
1,4-Dichlorobenzene	ND		40	4.6	ug/L			05/30/20 22:58	10
n-Butylbenzene	ND	*1	30	4.4	ug/L			05/30/20 22:58	10
1,2-Dichlorobenzene	ND		20	4.6	ug/L			05/30/20 22:58	10
1,2-Dibromo-3-Chloropropane	ND		100	5.7	ug/L			05/30/20 22:58	10
1,2,4-Trichlorobenzene	ND		20	3.3	ug/L			05/30/20 22:58	10
Hexachlorobutadiene	ND		60	7.9	ug/L			05/30/20 22:58	10
Naphthalene	ND		40	9.3	ug/L			05/30/20 22:58	10
1,2,3-Trichlorobenzene	ND		50	4.3	ug/L			05/30/20 22:58	10
1,3,5-Trimethylbenzene	ND		30	5.5	ug/L			05/30/20 22:58	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/30/20 22:58*	*10*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*05/30/20 22:58*	*10*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*05/30/20 22:58*	*10*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*05/30/20 22:58*	*10*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.092**	**p**	0.015	0.0058	ug/L		05/26/20 15:42	05/27/20 17:17	1
4,4'-DDE	ND		0.0097	0.0029	ug/L		05/26/20 15:42	05/27/20 17:17	1
4,4'-DDT	**0.24**		0.019	0.0049	ug/L		05/26/20 15:42	05/27/20 17:17	1
Aldrin	ND		0.023	0.0068	ug/L		05/26/20 15:42	05/27/20 17:17	1
alpha-BHC	ND		0.017	0.0039	ug/L		05/26/20 15:42	05/27/20 17:17	1
cis-Chlordane	ND		0.026	0.0078	ug/L		05/26/20 15:42	05/27/20 17:17	1
beta-BHC	ND		0.020	0.0049	ug/L		05/26/20 15:42	05/27/20 17:17	1
Chlordane (technical)	ND		0.19	0.029	ug/L		05/26/20 15:42	05/27/20 17:17	1
delta-BHC	ND		0.015	0.0049	ug/L		05/26/20 15:42	05/27/20 17:17	1
Dieldrin	ND		0.017	0.0049	ug/L		05/26/20 15:42	05/27/20 17:17	1
Endosulfan I	ND		0.019	0.0029	ug/L		05/26/20 15:42	05/27/20 17:17	1
Endosulfan II	ND		0.023	0.0049	ug/L		05/26/20 15:42	05/27/20 17:17	1
Endosulfan sulfate	ND		0.019	0.0029	ug/L		05/26/20 15:42	05/27/20 17:17	1
Endrin	ND		0.012	0.0029	ug/L		05/26/20 15:42	05/27/20 17:17	1
Endrin aldehyde	ND		0.058	0.033	ug/L		05/26/20 15:42	05/27/20 17:17	1
Endrin ketone	ND		0.019	0.0019	ug/L		05/26/20 15:42	05/27/20 17:17	1
gamma-BHC (Lindane)	ND		0.019	0.0049	ug/L		05/26/20 15:42	05/27/20 17:17	1
trans-Chlordane	ND		0.019	0.0029	ug/L		05/26/20 15:42	05/27/20 17:17	1
Heptachlor	ND		0.015	0.0039	ug/L		05/26/20 15:42	05/27/20 17:17	1
Heptachlor epoxide	ND		0.019	0.0029	ug/L		05/26/20 15:42	05/27/20 17:17	1
Methoxychlor	ND		0.097	0.0049	ug/L		05/26/20 15:42	05/27/20 17:17	1
Toxaphene	ND		1.9	0.45	ug/L		05/26/20 15:42	05/27/20 17:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*45 - 127*	*05/26/20 15:42*	*05/27/20 17:17*	*1*
Tetrachloro-m-xylene	*59*		*33 - 120*	*05/26/20 15:42*	*05/27/20 17:17*	*1*

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-34i-052120
Lab Sample ID: 580-94850-2
Date Collected: 05/21/20 12:40
Matrix: Water
Date Received: 05/21/20 15:00

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			06/02/20 07:47	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/28/20 23:12	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.016**		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 20:03	5
Chromium	**0.15**		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 20:03	5
Iron	**3.2**		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 20:03	5
Manganese	**0.45**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 20:03	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.013**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:41	5
Chromium	**0.0070**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:41	5
Iron	**0.53**	**J**	1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:41	5
Manganese	**0.43**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:41	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**680**		90	14	mg/L			05/27/20 15:13	100

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: Dup-02-052120
Lab Sample ID: 580-94850-3
Date Collected: 05/21/20 12:41
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		100	5.3	ug/L			05/30/20 23:25	10
Chloromethane	ND		200	2.8	ug/L			05/30/20 23:25	10
Vinyl chloride	ND		10	2.2	ug/L			05/30/20 23:25	10
Bromomethane	ND		60	2.1	ug/L			05/30/20 23:25	10
Chloroethane	ND		50	3.5	ug/L			05/30/20 23:25	10
Trichlorofluoromethane	ND		30	6.3	ug/L			05/30/20 23:25	10
Carbon disulfide	ND		30	5.3	ug/L			05/30/20 23:25	10
1,1-Dichloroethene	ND		40	2.8	ug/L			05/30/20 23:25	10
Acetone	ND		500	32	ug/L			05/30/20 23:25	10
Methylene Chloride	ND		50	14	ug/L			05/30/20 23:25	10
Methyl tert-butyl ether	ND		20	4.4	ug/L			05/30/20 23:25	10
trans-1,2-Dichloroethene	ND		30	3.9	ug/L			05/30/20 23:25	10
1,1-Dichloroethane	ND		20	2.2	ug/L			05/30/20 23:25	10
2-Butanone (MEK)	ND		200	47	ug/L			05/30/20 23:25	10
2,2-Dichloropropane	ND		30	3.2	ug/L			05/30/20 23:25	10
cis-1,2-Dichloroethene	ND	*	30	6.9	ug/L			05/30/20 23:25	10
Bromochloromethane	ND		20	2.9	ug/L			05/30/20 23:25	10
Chloroform	ND		50	2.6	ug/L			05/30/20 23:25	10
1,1,1-Trichloroethane	ND		30	3.9	ug/L			05/30/20 23:25	10
Carbon tetrachloride	ND		30	3.0	ug/L			05/30/20 23:25	10
1,1-Dichloropropene	ND		30	2.9	ug/L			05/30/20 23:25	10
Benzene	**4.5**	**J**	30	2.4	ug/L			05/30/20 23:25	10
1,2-Dichloroethane	ND		20	4.2	ug/L			05/30/20 23:25	10
Trichloroethene	ND		30	2.6	ug/L			05/30/20 23:25	10
1,2-Dichloropropane	ND		10	1.8	ug/L			05/30/20 23:25	10
4-Methyl-2-pentanone (MIBK)	ND		150	25	ug/L			05/30/20 23:25	10
Dibromomethane	ND		20	3.4	ug/L			05/30/20 23:25	10
Bromodichloromethane	ND		20	2.9	ug/L			05/30/20 23:25	10
cis-1,3-Dichloropropene	ND		10	2.0	ug/L			05/30/20 23:25	10
Toluene	ND		20	3.9	ug/L			05/30/20 23:25	10
trans-1,3-Dichloropropene	ND		10	1.6	ug/L			05/30/20 23:25	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			05/30/20 23:25	10
Tetrachloroethene	ND		30	4.1	ug/L			05/30/20 23:25	10
1,3-Dichloropropane	ND		20	3.5	ug/L			05/30/20 23:25	10
Dibromochloromethane	ND		20	4.3	ug/L			05/30/20 23:25	10
1,2-Dibromoethane	ND		20	4.0	ug/L			05/30/20 23:25	10
Chlorobenzene	**230**		20	4.4	ug/L			05/30/20 23:25	10
1,1,1,2-Tetrachloroethane	ND		20	1.8	ug/L			05/30/20 23:25	10
Ethylbenzene	ND		30	5.0	ug/L			05/30/20 23:25	10
m-Xylene & p-Xylene	ND		30	7.5	ug/L			05/30/20 23:25	10
o-Xylene	ND		20	3.9	ug/L			05/30/20 23:25	10
Styrene	ND		50	10	ug/L			05/30/20 23:25	10
Bromoform	ND		30	5.6	ug/L			05/30/20 23:25	10
Isopropylbenzene	ND		20	4.4	ug/L			05/30/20 23:25	10
Bromobenzene	ND		20	4.3	ug/L			05/30/20 23:25	10
1,1,2,2-Tetrachloroethane	ND		30	5.2	ug/L			05/30/20 23:25	10
1,2,3-Trichloropropane	ND		20	4.1	ug/L			05/30/20 23:25	10
N-Propylbenzene	ND		30	5.0	ug/L			05/30/20 23:25	10
2-Chlorotoluene	ND		30	5.1	ug/L			05/30/20 23:25	10

Client Sample ID: Dup-02-052120
Lab Sample ID: 580-94850-3

Date Collected: 05/21/20 12:41
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		20	3.8	ug/L			05/30/20 23:25	10
t-Butylbenzene	ND		30	5.8	ug/L			05/30/20 23:25	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			05/30/20 23:25	10
sec-Butylbenzene	ND		30	4.9	ug/L			05/30/20 23:25	10
4-Isopropyltoluene	ND		30	2.8	ug/L			05/30/20 23:25	10
1,3-Dichlorobenzene	ND		20	1.8	ug/L			05/30/20 23:25	10
1,4-Dichlorobenzene	ND		40	4.6	ug/L			05/30/20 23:25	10
n-Butylbenzene	ND	*1	30	4.4	ug/L			05/30/20 23:25	10
1,2-Dichlorobenzene	ND		20	4.6	ug/L			05/30/20 23:25	10
1,2-Dibromo-3-Chloropropane	ND		100	5.7	ug/L			05/30/20 23:25	10
1,2,4-Trichlorobenzene	ND		20	3.3	ug/L			05/30/20 23:25	10
Hexachlorobutadiene	ND		60	7.9	ug/L			05/30/20 23:25	10
Naphthalene	ND		40	9.3	ug/L			05/30/20 23:25	10
1,2,3-Trichlorobenzene	ND		50	4.3	ug/L			05/30/20 23:25	10
1,3,5-Trimethylbenzene	ND		30	5.5	ug/L			05/30/20 23:25	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/30/20 23:25*	*10*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*05/30/20 23:25*	*10*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*05/30/20 23:25*	*10*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/30/20 23:25*	*10*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.091**	**p**	0.015	0.0058	ug/L		05/26/20 15:42	05/27/20 17:36	1
4,4'-DDE	ND		0.0097	0.0029	ug/L		05/26/20 15:42	05/27/20 17:36	1
4,4'-DDT	**0.18**		0.019	0.0048	ug/L		05/26/20 15:42	05/27/20 17:36	1
Aldrin	ND		0.023	0.0068	ug/L		05/26/20 15:42	05/27/20 17:36	1
alpha-BHC	ND		0.017	0.0039	ug/L		05/26/20 15:42	05/27/20 17:36	1
cis-Chlordane	ND		0.026	0.0077	ug/L		05/26/20 15:42	05/27/20 17:36	1
beta-BHC	ND		0.020	0.0048	ug/L		05/26/20 15:42	05/27/20 17:36	1
Chlordane (technical)	ND		0.19	0.029	ug/L		05/26/20 15:42	05/27/20 17:36	1
delta-BHC	ND		0.015	0.0048	ug/L		05/26/20 15:42	05/27/20 17:36	1
Dieldrin	ND		0.017	0.0048	ug/L		05/26/20 15:42	05/27/20 17:36	1
Endosulfan I	ND		0.019	0.0029	ug/L		05/26/20 15:42	05/27/20 17:36	1
Endosulfan II	ND		0.023	0.0048	ug/L		05/26/20 15:42	05/27/20 17:36	1
Endosulfan sulfate	ND		0.019	0.0029	ug/L		05/26/20 15:42	05/27/20 17:36	1
Endrin	ND		0.012	0.0029	ug/L		05/26/20 15:42	05/27/20 17:36	1
Endrin aldehyde	ND		0.058	0.033	ug/L		05/26/20 15:42	05/27/20 17:36	1
Endrin ketone	ND		0.019	0.0019	ug/L		05/26/20 15:42	05/27/20 17:36	1
gamma-BHC (Lindane)	ND		0.019	0.0048	ug/L		05/26/20 15:42	05/27/20 17:36	1
trans-Chlordane	ND		0.019	0.0029	ug/L		05/26/20 15:42	05/27/20 17:36	1
Heptachlor	ND		0.015	0.0039	ug/L		05/26/20 15:42	05/27/20 17:36	1
Heptachlor epoxide	ND		0.019	0.0029	ug/L		05/26/20 15:42	05/27/20 17:36	1
Methoxychlor	ND		0.097	0.0048	ug/L		05/26/20 15:42	05/27/20 17:36	1
Toxaphene	ND		1.9	0.45	ug/L		05/26/20 15:42	05/27/20 17:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*82*		*45 - 127*	*05/26/20 15:42*	*05/27/20 17:36*	*1*
Tetrachloro-m-xylene	*62*		*33 - 120*	*05/26/20 15:42*	*05/27/20 17:36*	*1*

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: Dup-02-052120
Lab Sample ID: 580-94850-3
Date Collected: 05/21/20 12:41
Matrix: Water
Date Received: 05/21/20 15:00

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10	2.5	ug/L			06/02/20 08:00	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/28/20 23:47	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.015**		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 20:00	5
Chromium	**0.14**		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 20:00	5
Iron	**2.9**		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 20:00	5
Manganese	**0.49**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 20:00	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.014**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:44	5
Chromium	**0.0082**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:44	5
Iron	**0.65**	**J**	1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:44	5
Manganese	**0.40**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:44	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**700**		90	14	mg/L			05/27/20 15:24	100

Client Sample ID: MWA-58d-052120
Lab Sample ID: 580-94850-4

Date Collected: 05/21/20 13:36
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/30/20 23:52	1
Chloromethane	ND		20	0.28	ug/L			05/30/20 23:52	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/30/20 23:52	1
Bromomethane	ND		6.0	0.21	ug/L			05/30/20 23:52	1
Chloroethane	ND		5.0	0.35	ug/L			05/30/20 23:52	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/30/20 23:52	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/30/20 23:52	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/30/20 23:52	1
Acetone	ND		50	3.2	ug/L			05/30/20 23:52	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/30/20 23:52	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/30/20 23:52	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/30/20 23:52	1
1,1-Dichloroethane	**0.24**	**J**	2.0	0.22	ug/L			05/30/20 23:52	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/30/20 23:52	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/30/20 23:52	1
cis-1,2-Dichloroethene	ND	*	3.0	0.69	ug/L			05/30/20 23:52	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/30/20 23:52	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/30/20 23:52	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/30/20 23:52	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/30/20 23:52	1
Benzene	**0.24**	**J**	3.0	0.24	ug/L			05/30/20 23:52	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/30/20 23:52	1
Trichloroethene	ND		3.0	0.26	ug/L			05/30/20 23:52	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/30/20 23:52	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/30/20 23:52	1
Dibromomethane	ND		2.0	0.34	ug/L			05/30/20 23:52	1
Bromodichloromethane	**2.4**		2.0	0.29	ug/L			05/30/20 23:52	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/30/20 23:52	1
Toluene	ND		2.0	0.39	ug/L			05/30/20 23:52	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/30/20 23:52	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/30/20 23:52	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/30/20 23:52	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/30/20 23:52	1
Dibromochloromethane	**0.46**	**J**	2.0	0.43	ug/L			05/30/20 23:52	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/30/20 23:52	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/30/20 23:52	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/30/20 23:52	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/30/20 23:52	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/30/20 23:52	1
o-Xylene	ND		2.0	0.39	ug/L			05/30/20 23:52	1
Styrene	ND		5.0	1.0	ug/L			05/30/20 23:52	1
Bromoform	ND		3.0	0.56	ug/L			05/30/20 23:52	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/30/20 23:52	1
Bromobenzene	ND		2.0	0.43	ug/L			05/30/20 23:52	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/30/20 23:52	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/30/20 23:52	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/30/20 23:52	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/30/20 23:52	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/30/20 23:52	1

Client Sample ID: MWA-58d-052120
Lab Sample ID: 580-94850-4
Date Collected: 05/21/20 13:36
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			05/30/20 23:52	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/30/20 23:52	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/30/20 23:52	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/30/20 23:52	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/30/20 23:52	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/30/20 23:52	1
n-Butylbenzene	ND	*1	3.0	0.44	ug/L			05/30/20 23:52	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/30/20 23:52	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/30/20 23:52	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/30/20 23:52	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/30/20 23:52	1
Naphthalene	ND		4.0	0.93	ug/L			05/30/20 23:52	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/30/20 23:52	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/30/20 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/30/20 23:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*05/30/20 23:52*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/30/20 23:52*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*05/30/20 23:52*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**240**		50	2.6	ug/L			06/03/20 01:47	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/03/20 01:47*	*10*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*06/03/20 01:47*	*10*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/03/20 01:47*	*10*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/03/20 01:47*	*10*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:37	1
4,4'-DDE	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:37	1
4,4'-DDT	**0.0045**	**J**	0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:37	1
Aldrin	**0.0022**	**J p**	0.0047	0.0014	ug/L		05/26/20 05:25	05/27/20 18:37	1
alpha-BHC	ND		0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:37	1
cis-Chlordane	ND		0.093	0.013	ug/L		05/26/20 05:25	05/27/20 18:37	1
beta-BHC	ND		0.0093	0.0037	ug/L		05/26/20 05:25	05/27/20 18:37	1
Chlordane (technical)	ND		0.093	0.075	ug/L		05/26/20 05:25	05/27/20 18:37	1
delta-BHC	ND		0.0047	0.0033	ug/L		05/26/20 05:25	05/27/20 18:37	1
Dieldrin	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 18:37	1
Endosulfan I	ND		0.0047	0.0028	ug/L		05/26/20 05:25	05/27/20 18:37	1
Endosulfan II	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 18:37	1
Endosulfan sulfate	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 18:37	1
Endrin	ND		0.0047	0.0019	ug/L		05/26/20 05:25	05/27/20 18:37	1
Endrin aldehyde	ND		0.0093	0.0019	ug/L		05/26/20 05:25	05/27/20 18:37	1
Endrin ketone	ND		0.0093	0.0065	ug/L		05/26/20 05:25	05/27/20 18:37	1
gamma-BHC (Lindane)	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 18:37	1

Client Sample ID: MWA-58d-052120
Lab Sample ID: 580-94850-4
Date Collected: 05/21/20 13:36
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.093	0.028	ug/L		05/26/20 05:25	05/27/20 18:37	1
Heptachlor	ND		0.0093	0.0028	ug/L		05/26/20 05:25	05/27/20 18:37	1
Heptachlor epoxide	**0.0046**	**J**	0.0047	0.0023	ug/L		05/26/20 05:25	05/27/20 18:37	1
Methoxychlor	ND		0.0047	0.0033	ug/L		05/26/20 05:25	05/27/20 18:37	1
Toxaphene	ND		0.47	0.23	ug/L		05/26/20 05:25	05/27/20 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*68*		*28 - 108*	*05/26/20 05:25*	*05/27/20 18:37*	*1*
Tetrachloro-m-xylene	*61*		*10 - 123*	*05/26/20 05:25*	*05/27/20 18:37*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/02/20 08:13	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**46000**		4000	950	ug/L			06/09/20 16:53	1000

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0037**	**J**	0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 19:53	5
Chromium	**0.11**		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 19:53	5
Iron	**0.35**	**J**	1.0	0.18	mg/L		05/26/20 08:17	05/26/20 19:53	5
Manganese	**25**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 19:53	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0043**	**J**	0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:19	5
Chromium	**0.0072**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:19	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:19	5
Manganese	**28**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:19	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19000**		900	140	mg/L			05/29/20 02:00	1000

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-21d-052120
Lab Sample ID: 580-94850-5
Date Collected: 05/21/20 13:30
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		100	5.3	ug/L			06/03/20 03:35	10
Chloromethane	ND		200	2.8	ug/L			06/03/20 03:35	10
Vinyl chloride	ND		10	2.2	ug/L			06/03/20 03:35	10
Bromomethane	ND		60	2.1	ug/L			06/03/20 03:35	10
Chloroethane	**7.5**	**J**	50	3.5	ug/L			06/03/20 03:35	10
Trichlorofluoromethane	ND		30	6.3	ug/L			06/03/20 03:35	10
Carbon disulfide	ND	*	30	5.3	ug/L			06/03/20 03:35	10
1,1-Dichloroethene	ND		40	2.8	ug/L			06/03/20 03:35	10
Acetone	ND		500	32	ug/L			06/03/20 03:35	10
Methylene Chloride	**24**	**J B**	50	14	ug/L			06/03/20 03:35	10
Methyl tert-butyl ether	ND		20	4.4	ug/L			06/03/20 03:35	10
trans-1,2-Dichloroethene	ND		30	3.9	ug/L			06/03/20 03:35	10
1,1-Dichloroethane	**7.1**	**J**	20	2.2	ug/L			06/03/20 03:35	10
2-Butanone (MEK)	ND		200	47	ug/L			06/03/20 03:35	10
2,2-Dichloropropane	ND		30	3.2	ug/L			06/03/20 03:35	10
cis-1,2-Dichloroethene	ND		30	6.9	ug/L			06/03/20 03:35	10
Bromochloromethane	ND		20	2.9	ug/L			06/03/20 03:35	10
Chloroform	**55**		50	2.6	ug/L			06/03/20 03:35	10
1,1,1-Trichloroethane	ND		30	3.9	ug/L			06/03/20 03:35	10
Carbon tetrachloride	ND		30	3.0	ug/L			06/03/20 03:35	10
1,1-Dichloropropene	ND		30	2.9	ug/L			06/03/20 03:35	10
Benzene	**3.2**	**J**	30	2.4	ug/L			06/03/20 03:35	10
1,2-Dichloroethane	ND		20	4.2	ug/L			06/03/20 03:35	10
Trichloroethene	ND		30	2.6	ug/L			06/03/20 03:35	10
1,2-Dichloropropane	ND		10	1.8	ug/L			06/03/20 03:35	10
4-Methyl-2-pentanone (MIBK)	ND		150	25	ug/L			06/03/20 03:35	10
Dibromomethane	ND		20	3.4	ug/L			06/03/20 03:35	10
Bromodichloromethane	ND		20	2.9	ug/L			06/03/20 03:35	10
cis-1,3-Dichloropropene	ND		10	2.0	ug/L			06/03/20 03:35	10
Toluene	ND		20	3.9	ug/L			06/03/20 03:35	10
trans-1,3-Dichloropropene	ND		10	1.6	ug/L			06/03/20 03:35	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			06/03/20 03:35	10
Tetrachloroethene	**9.2**	**J**	30	4.1	ug/L			06/03/20 03:35	10
1,3-Dichloropropane	ND		20	3.5	ug/L			06/03/20 03:35	10
Dibromochloromethane	ND		20	4.3	ug/L			06/03/20 03:35	10
1,2-Dibromoethane	ND		20	4.0	ug/L			06/03/20 03:35	10
1,1,1,2-Tetrachloroethane	ND		20	1.8	ug/L			06/03/20 03:35	10
Ethylbenzene	ND		30	5.0	ug/L			06/03/20 03:35	10
m-Xylene & p-Xylene	ND		30	7.5	ug/L			06/03/20 03:35	10
o-Xylene	ND		20	3.9	ug/L			06/03/20 03:35	10
Styrene	ND		50	10	ug/L			06/03/20 03:35	10
Bromoform	ND		30	5.6	ug/L			06/03/20 03:35	10
Isopropylbenzene	ND		20	4.4	ug/L			06/03/20 03:35	10
Bromobenzene	ND		20	4.3	ug/L			06/03/20 03:35	10
1,1,2,2-Tetrachloroethane	ND		30	5.2	ug/L			06/03/20 03:35	10
1,2,3-Trichloropropane	ND		20	4.1	ug/L			06/03/20 03:35	10
N-Propylbenzene	ND		30	5.0	ug/L			06/03/20 03:35	10
2-Chlorotoluene	ND		30	5.1	ug/L			06/03/20 03:35	10
4-Chlorotoluene	ND		20	3.8	ug/L			06/03/20 03:35	10

Client Sample ID: PA-21d-052120
Lab Sample ID: 580-94850-5

Date Collected: 05/21/20 13:30
Matrix: Water

Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		30	5.8	ug/L			06/03/20 03:35	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			06/03/20 03:35	10
sec-Butylbenzene	ND		30	4.9	ug/L			06/03/20 03:35	10
4-Isopropyltoluene	ND		30	2.8	ug/L			06/03/20 03:35	10
1,3-Dichlorobenzene	ND		20	1.8	ug/L			06/03/20 03:35	10
1,4-Dichlorobenzene	**8.0**	**J**	40	4.6	ug/L			06/03/20 03:35	10
n-Butylbenzene	ND		30	4.4	ug/L			06/03/20 03:35	10
1,2-Dichlorobenzene	ND		20	4.6	ug/L			06/03/20 03:35	10
1,2-Dibromo-3-Chloropropane	ND		100	5.7	ug/L			06/03/20 03:35	10
1,2,4-Trichlorobenzene	ND		20	3.3	ug/L			06/03/20 03:35	10
Hexachlorobutadiene	ND		60	7.9	ug/L			06/03/20 03:35	10
Naphthalene	ND		40	9.3	ug/L			06/03/20 03:35	10
1,2,3-Trichlorobenzene	ND		50	4.3	ug/L			06/03/20 03:35	10
1,3,5-Trimethylbenzene	ND		30	5.5	ug/L			06/03/20 03:35	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*06/03/20 03:35*	*10*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/03/20 03:35*	*10*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/03/20 03:35*	*10*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/03/20 03:35*	*10*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**49000**	**E**	400	88	ug/L			06/04/20 21:28	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/04/20 21:28*	*200*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/04/20 21:28*	*200*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*06/04/20 21:28*	*200*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/04/20 21:28*	*200*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/02/20 08:25	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**1200**		400	95	ug/L			06/09/20 19:30	100

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0098**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 17:59	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 17:59	5
Iron	**41**		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 17:59	5
Manganese	**7.0**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 17:59	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**420**		90	14	mg/L			05/27/20 15:48	100

Client Sample ID: PA-27d-052120
Lab Sample ID: 580-94850-6

Date Collected: 05/21/20 13:08
Matrix: Water

Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 20:25	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 20:25	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 20:25	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 20:25	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 20:25	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 20:25	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/02/20 20:25	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 20:25	1
Acetone	ND		50	3.2	ug/L			06/02/20 20:25	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/02/20 20:25	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 20:25	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 20:25	1
1,1-Dichloroethane	**0.55**	**J**	2.0	0.22	ug/L			06/02/20 20:25	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 20:25	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 20:25	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 20:25	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 20:25	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 20:25	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 20:25	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 20:25	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 20:25	1
Benzene	ND		3.0	0.24	ug/L			06/02/20 20:25	1
1,2-Dichloroethane	**0.53**	**J**	2.0	0.42	ug/L			06/02/20 20:25	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 20:25	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 20:25	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 20:25	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 20:25	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 20:25	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 20:25	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 20:25	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 20:25	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 20:25	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 20:25	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 20:25	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 20:25	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 20:25	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/02/20 20:25	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 20:25	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 20:25	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 20:25	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 20:25	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 20:25	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 20:25	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 20:25	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 20:25	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 20:25	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 20:25	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 20:25	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 20:25	1

Client Sample ID: PA-27d-052120
Lab Sample ID: 580-94850-6
Date Collected: 05/21/20 13:08
Matrix: Water
Date Received: 05/21/20 15:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 20:25	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 20:25	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 20:25	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 20:25	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 20:25	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 20:25	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 20:25	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 20:25	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 20:25	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 20:25	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 20:25	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 20:25	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 20:25	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 20:25	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 20:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/02/20 20:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/02/20 20:25*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/02/20 20:25*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/02/20 20:25*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			06/02/20 09:06	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/29/20 00:23	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.064**		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 18:12	5
Chromium	**0.0098**		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 18:12	5
Iron	**0.95**	**J**	1.0	0.18	mg/L		05/26/20 12:43	05/27/20 18:12	5
Manganese	**1.6**		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 18:12	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**870**		90	14	mg/L			05/27/20 16:00	100

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329468/7
Matrix: Water
Analysis Batch: 329468

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			05/30/20 15:48	1
Chloromethane	ND		20	0.28	ug/L			05/30/20 15:48	1
Vinyl chloride	ND		1.0	0.22	ug/L			05/30/20 15:48	1
Bromomethane	ND		6.0	0.21	ug/L			05/30/20 15:48	1
Chloroethane	ND		5.0	0.35	ug/L			05/30/20 15:48	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			05/30/20 15:48	1
Carbon disulfide	ND		3.0	0.53	ug/L			05/30/20 15:48	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			05/30/20 15:48	1
Acetone	ND		50	3.2	ug/L			05/30/20 15:48	1
Methylene Chloride	ND		5.0	1.4	ug/L			05/30/20 15:48	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			05/30/20 15:48	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			05/30/20 15:48	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			05/30/20 15:48	1
2-Butanone (MEK)	ND		20	4.7	ug/L			05/30/20 15:48	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			05/30/20 15:48	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			05/30/20 15:48	1
Bromochloromethane	ND		2.0	0.29	ug/L			05/30/20 15:48	1
Chloroform	ND		5.0	0.26	ug/L			05/30/20 15:48	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			05/30/20 15:48	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			05/30/20 15:48	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			05/30/20 15:48	1
Benzene	ND		3.0	0.24	ug/L			05/30/20 15:48	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			05/30/20 15:48	1
Trichloroethene	ND		3.0	0.26	ug/L			05/30/20 15:48	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			05/30/20 15:48	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			05/30/20 15:48	1
Dibromomethane	ND		2.0	0.34	ug/L			05/30/20 15:48	1
Bromodichloromethane	ND		2.0	0.29	ug/L			05/30/20 15:48	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			05/30/20 15:48	1
Toluene	ND		2.0	0.39	ug/L			05/30/20 15:48	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			05/30/20 15:48	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			05/30/20 15:48	1
Tetrachloroethene	ND		3.0	0.41	ug/L			05/30/20 15:48	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			05/30/20 15:48	1
Dibromochloromethane	ND		2.0	0.43	ug/L			05/30/20 15:48	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			05/30/20 15:48	1
Chlorobenzene	ND		2.0	0.44	ug/L			05/30/20 15:48	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			05/30/20 15:48	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/30/20 15:48	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/30/20 15:48	1
o-Xylene	ND		2.0	0.39	ug/L			05/30/20 15:48	1
Styrene	ND		5.0	1.0	ug/L			05/30/20 15:48	1
Bromoform	ND		3.0	0.56	ug/L			05/30/20 15:48	1
Isopropylbenzene	ND		2.0	0.44	ug/L			05/30/20 15:48	1
Bromobenzene	ND		2.0	0.43	ug/L			05/30/20 15:48	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			05/30/20 15:48	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			05/30/20 15:48	1
N-Propylbenzene	ND		3.0	0.50	ug/L			05/30/20 15:48	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329468/7
Matrix: Water
Analysis Batch: 329468

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		3.0	0.51	ug/L			05/30/20 15:48	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			05/30/20 15:48	1
t-Butylbenzene	ND		3.0	0.58	ug/L			05/30/20 15:48	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			05/30/20 15:48	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			05/30/20 15:48	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			05/30/20 15:48	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			05/30/20 15:48	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			05/30/20 15:48	1
n-Butylbenzene	ND		3.0	0.44	ug/L			05/30/20 15:48	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			05/30/20 15:48	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			05/30/20 15:48	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			05/30/20 15:48	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			05/30/20 15:48	1
Naphthalene	ND		4.0	0.93	ug/L			05/30/20 15:48	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			05/30/20 15:48	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			05/30/20 15:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/30/20 15:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*05/30/20 15:48*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*05/30/20 15:48*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*05/30/20 15:48*	*1*

Lab Sample ID: LCS 580-329468/4
Matrix: Water
Analysis Batch: 329468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	11.1		ug/L		111	20 - 150
Chloromethane	10.0	11.5	J	ug/L		115	52 - 135
Vinyl chloride	10.0	11.3		ug/L		113	65 - 130
Bromomethane	10.0	10.7		ug/L		107	66 - 125
Chloroethane	10.0	9.84		ug/L		98	65 - 132
Trichlorofluoromethane	10.0	9.96		ug/L		100	64 - 136
Carbon disulfide	10.0	8.01		ug/L		80	69 - 122
1,1-Dichloroethene	10.0	10.5		ug/L		105	70 - 129
Acetone	50.0	54.4		ug/L		109	43 - 150
Methylene Chloride	10.0	10.1		ug/L		101	77 - 125
Methyl tert-butyl ether	10.0	10.3		ug/L		103	72 - 130
trans-1,2-Dichloroethene	10.0	9.83		ug/L		98	77 - 124
1,1-Dichloroethane	10.0	11.0		ug/L		110	70 - 129
2-Butanone (MEK)	50.0	52.4		ug/L		105	65 - 127
2,2-Dichloropropane	10.0	10.9		ug/L		109	62 - 140
cis-1,2-Dichloroethene	10.0	16.1	*	ug/L		161	76 - 129
Bromochloromethane	10.0	9.55		ug/L		96	78 - 120
Chloroform	10.0	11.1		ug/L		111	73 - 127
1,1,1-Trichloroethane	10.0	10.3		ug/L		103	74 - 130
Carbon tetrachloride	10.0	9.76		ug/L		98	72 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329468/4
Matrix: Water
Analysis Batch: 329468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	10.0	9.93		ug/L		99	80 - 120
Benzene	10.0	10.8		ug/L		108	75 - 121
1,2-Dichloroethane	10.0	10.5		ug/L		105	76 - 131
Trichloroethene	10.0	10.1		ug/L		101	70 - 120
1,2-Dichloropropane	10.0	10.8		ug/L		108	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	49.9		ug/L		100	69 - 124
Dibromomethane	10.0	10.5		ug/L		105	80 - 120
Bromodichloromethane	10.0	11.0		ug/L		110	75 - 124
cis-1,3-Dichloropropene	10.0	11.4		ug/L		114	77 - 120
Toluene	10.0	10.7		ug/L		107	80 - 120
trans-1,3-Dichloropropene	10.0	10.7		ug/L		107	80 - 122
1,1,2-Trichloroethane	10.0	10.5		ug/L		105	80 - 121
Tetrachloroethene	10.0	9.19		ug/L		92	76 - 120
1,3-Dichloropropane	10.0	10.7		ug/L		107	79 - 120
Dibromochloromethane	10.0	9.90		ug/L		99	71 - 120
1,2-Dibromoethane	10.0	10.2		ug/L		102	79 - 120
Chlorobenzene	10.0	10.3		ug/L		103	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.75		ug/L		97	79 - 120
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120
m-Xylene & p-Xylene	10.0	10.4		ug/L		104	80 - 120
o-Xylene	10.0	10.1		ug/L		101	80 - 120
Styrene	10.0	9.68		ug/L		97	76 - 121
Bromoform	10.0	9.05		ug/L		90	61 - 132
Isopropylbenzene	10.0	10.3		ug/L		103	75 - 120
Bromobenzene	10.0	10.3		ug/L		103	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.8		ug/L		108	74 - 124
1,2,3-Trichloropropane	10.0	10.4		ug/L		104	76 - 124
N-Propylbenzene	10.0	10.5		ug/L		105	80 - 120
2-Chlorotoluene	10.0	10.7		ug/L		107	80 - 120
4-Chlorotoluene	10.0	10.8		ug/L		108	80 - 120
t-Butylbenzene	10.0	10.7		ug/L		107	80 - 121
1,2,4-Trimethylbenzene	10.0	10.8		ug/L		108	80 - 120
sec-Butylbenzene	10.0	10.8		ug/L		108	78 - 120
4-Isopropyltoluene	10.0	10.7		ug/L		107	77 - 120
1,3-Dichlorobenzene	10.0	9.21		ug/L		92	80 - 120
1,4-Dichlorobenzene	10.0	10.4		ug/L		104	80 - 120
n-Butylbenzene	10.0	11.3		ug/L		113	78 - 120
1,2-Dichlorobenzene	10.0	10.5		ug/L		105	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	10.3		ug/L		103	65 - 125
1,2,4-Trichlorobenzene	10.0	10.4		ug/L		104	57 - 140
Hexachlorobutadiene	10.0	10.9		ug/L		109	74 - 125
Naphthalene	10.0	13.7		ug/L		137	44 - 144
1,2,3-Trichlorobenzene	10.0	12.9		ug/L		129	23 - 150
1,3,5-Trimethylbenzene	10.0	10.9		ug/L		109	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329468/4
Matrix: Water
Analysis Batch: 329468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-329468/5
Matrix: Water
Analysis Batch: 329468

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	9.24	J	ug/L		92	20 - 150	19	35
Chloromethane	10.0	10.1	J	ug/L		101	52 - 135	12	23
Vinyl chloride	10.0	10.1		ug/L		101	65 - 130	11	28
Bromomethane	10.0	9.65		ug/L		96	66 - 125	11	27
Chloroethane	10.0	9.19		ug/L		92	65 - 132	7	35
Trichlorofluoromethane	10.0	8.91		ug/L		89	64 - 136	11	27
Carbon disulfide	10.0	6.97		ug/L		70	69 - 122	14	20
1,1-Dichloroethene	10.0	9.15		ug/L		91	70 - 129	13	27
Acetone	50.0	52.0		ug/L		104	43 - 150	5	35
Methylene Chloride	10.0	9.21		ug/L		92	77 - 125	9	18
Methyl tert-butyl ether	10.0	9.66		ug/L		97	72 - 130	6	18
trans-1,2-Dichloroethene	10.0	9.83		ug/L		98	77 - 124	0	21
1,1-Dichloroethane	10.0	9.83		ug/L		98	70 - 129	11	26
2-Butanone (MEK)	50.0	47.2		ug/L		94	65 - 127	10	29
2,2-Dichloropropane	10.0	10.0		ug/L		100	62 - 140	9	23
cis-1,2-Dichloroethene	10.0	18.6	*	ug/L		186	76 - 129	14	15
Bromochloromethane	10.0	8.93		ug/L		89	78 - 120	7	20
Chloroform	10.0	9.91		ug/L		99	73 - 127	11	22
1,1,1-Trichloroethane	10.0	9.68		ug/L		97	74 - 130	6	18
Carbon tetrachloride	10.0	9.01		ug/L		90	72 - 129	8	19
1,1-Dichloropropene	10.0	9.11		ug/L		91	80 - 120	9	14
Benzene	10.0	9.51		ug/L		95	75 - 121	13	14
1,2-Dichloroethane	10.0	9.99		ug/L		100	76 - 131	5	18
Trichloroethene	10.0	9.10		ug/L		91	70 - 120	11	21
1,2-Dichloropropane	10.0	10.0		ug/L		100	72 - 126	7	26
4-Methyl-2-pentanone (MIBK)	50.0	45.7		ug/L		91	69 - 124	9	22
Dibromomethane	10.0	9.59		ug/L		96	80 - 120	9	22
Bromodichloromethane	10.0	10.0		ug/L		100	75 - 124	9	22
cis-1,3-Dichloropropene	10.0	10.5		ug/L		105	77 - 120	8	20
Toluene	10.0	9.68		ug/L		97	80 - 120	10	19
trans-1,3-Dichloropropene	10.0	9.49		ug/L		95	80 - 122	12	25
1,1,2-Trichloroethane	10.0	9.45		ug/L		95	80 - 121	10	21
Tetrachloroethene	10.0	8.40		ug/L		84	76 - 120	9	20
1,3-Dichloropropane	10.0	9.59		ug/L		96	79 - 120	11	26
Dibromochloromethane	10.0	8.89		ug/L		89	71 - 120	11	24
1,2-Dibromoethane	10.0	9.49		ug/L		95	79 - 120	7	20
Chlorobenzene	10.0	9.05		ug/L		91	80 - 120	13	15
1,1,1,2-Tetrachloroethane	10.0	8.85		ug/L		89	79 - 120	10	20
Ethylbenzene	10.0	9.22		ug/L		92	80 - 120	10	14
m-Xylene & p-Xylene	10.0	9.20		ug/L		92	80 - 120	13	14

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329468/5
Matrix: Water
Analysis Batch: 329468

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	10.0	9.07		ug/L		91	80 - 120	10	16
Styrene	10.0	8.58		ug/L		86	76 - 121	12	16
Bromoform	10.0	8.17		ug/L		82	61 - 132	10	20
Isopropylbenzene	10.0	9.02		ug/L		90	75 - 120	13	20
Bromobenzene	10.0	9.12		ug/L		91	80 - 120	13	13
1,1,2,2-Tetrachloroethane	10.0	9.77		ug/L		98	74 - 124	10	18
1,2,3-Trichloropropane	10.0	9.72		ug/L		97	76 - 124	7	30
N-Propylbenzene	10.0	9.42		ug/L		94	80 - 120	11	13
2-Chlorotoluene	10.0	9.59		ug/L		96	80 - 120	10	15
4-Chlorotoluene	10.0	9.59		ug/L		96	80 - 120	12	14
t-Butylbenzene	10.0	9.38		ug/L		94	80 - 121	13	14
1,2,4-Trimethylbenzene	10.0	9.54		ug/L		95	80 - 120	12	16
sec-Butylbenzene	10.0	9.54		ug/L		95	78 - 120	13	15
4-Isopropyltoluene	10.0	9.32		ug/L		93	77 - 120	13	13
1,3-Dichlorobenzene	10.0	8.34		ug/L		83	80 - 120	10	14
1,4-Dichlorobenzene	10.0	9.19		ug/L		92	80 - 120	12	17
n-Butylbenzene	10.0	9.58	*1	ug/L		96	78 - 120	16	14
1,2-Dichlorobenzene	10.0	9.12		ug/L		91	80 - 120	14	15
1,2-Dibromo-3-Chloropropane	10.0	9.09	J	ug/L		91	65 - 125	12	27
1,2,4-Trichlorobenzene	10.0	8.70		ug/L		87	57 - 140	18	27
Hexachlorobutadiene	10.0	9.10		ug/L		91	74 - 125	18	22
Naphthalene	10.0	11.5		ug/L		115	44 - 144	18	31
1,2,3-Trichlorobenzene	10.0	10.8		ug/L		108	23 - 150	17	35
1,3,5-Trimethylbenzene	10.0	9.62		ug/L		96	80 - 120	12	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 18:11	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 18:11	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 18:11	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 18:11	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 18:11	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 18:11	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/02/20 18:11	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 18:11	1
Acetone	ND		50	3.2	ug/L			06/02/20 18:11	1
Methylene Chloride	1.59	J	5.0	1.4	ug/L			06/02/20 18:11	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 18:11	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 18:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/02/20 18:11	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 18:11	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 18:11	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 18:11	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 18:11	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 18:11	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 18:11	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 18:11	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 18:11	1
Benzene	ND		3.0	0.24	ug/L			06/02/20 18:11	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 18:11	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 18:11	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 18:11	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 18:11	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 18:11	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 18:11	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 18:11	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 18:11	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 18:11	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 18:11	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 18:11	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 18:11	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 18:11	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 18:11	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 18:11	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 18:11	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 18:11	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 18:11	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 18:11	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 18:11	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 18:11	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 18:11	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 18:11	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 18:11	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 18:11	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 18:11	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 18:11	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 18:11	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 18:11	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 18:11	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 18:11	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 18:11	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 18:11	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 18:11	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 18:11	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 18:11	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 18:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 18:11	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 18:11	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 18:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*06/02/20 18:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/02/20 18:11*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/02/20 18:11*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 18:11*	*1*

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.95	J	ug/L		49	20 - 150
Chloromethane	10.0	8.36	J	ug/L		84	52 - 135
Vinyl chloride	10.0	8.63		ug/L		86	65 - 130
Bromomethane	10.0	9.30		ug/L		93	66 - 125
Chloroethane	10.0	8.90		ug/L		89	65 - 132
Trichlorofluoromethane	10.0	8.92		ug/L		89	64 - 136
Carbon disulfide	10.0	6.40	*	ug/L		64	69 - 122
1,1-Dichloroethene	10.0	9.43		ug/L		94	70 - 129
Acetone	50.0	51.0		ug/L		102	43 - 150
Methylene Chloride	10.0	11.0		ug/L		110	77 - 125
Methyl tert-butyl ether	10.0	10.1		ug/L		101	72 - 130
trans-1,2-Dichloroethene	10.0	8.36		ug/L		84	77 - 124
1,1-Dichloroethane	10.0	9.76		ug/L		98	70 - 129
2-Butanone (MEK)	50.0	47.8		ug/L		96	65 - 127
2,2-Dichloropropane	10.0	9.76		ug/L		98	62 - 140
cis-1,2-Dichloroethene	10.0	9.41		ug/L		94	76 - 129
Bromochloromethane	10.0	8.93		ug/L		89	78 - 120
Chloroform	10.0	10.2		ug/L		102	73 - 127
1,1,1-Trichloroethane	10.0	9.85		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.29		ug/L		93	72 - 129
1,1-Dichloropropene	10.0	9.44		ug/L		94	80 - 120
Benzene	10.0	10.1		ug/L		101	75 - 121
1,2-Dichloroethane	10.0	10.2		ug/L		102	76 - 131
Trichloroethene	10.0	9.40		ug/L		94	70 - 120
1,2-Dichloropropane	10.0	10.0		ug/L		100	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	45.6		ug/L		91	69 - 124
Dibromomethane	10.0	10.0		ug/L		100	80 - 120
Bromodichloromethane	10.0	9.98		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	11.6		ug/L		116	77 - 120
Toluene	10.0	10.3		ug/L		103	80 - 120
trans-1,3-Dichloropropene	10.0	9.83		ug/L		98	80 - 122
1,1,2-Trichloroethane	10.0	9.83		ug/L		98	80 - 121
Tetrachloroethene	10.0	8.82		ug/L		88	76 - 120

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	10.0	10.1		ug/L		101	79 - 120
Dibromochloromethane	10.0	8.87		ug/L		89	71 - 120
1,2-Dibromoethane	10.0	9.73		ug/L		97	79 - 120
Chlorobenzene	10.0	9.56		ug/L		96	80 - 120
1,1,1,2-Tetrachloroethane	10.0	8.95		ug/L		89	79 - 120
Ethylbenzene	10.0	9.60		ug/L		96	80 - 120
m-Xylene & p-Xylene	10.0	9.61		ug/L		96	80 - 120
o-Xylene	10.0	9.04		ug/L		90	80 - 120
Styrene	10.0	8.79		ug/L		88	76 - 121
Bromoform	10.0	7.54		ug/L		75	61 - 132
Isopropylbenzene	10.0	9.32		ug/L		93	75 - 120
Bromobenzene	10.0	9.88		ug/L		99	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.2		ug/L		102	74 - 124
1,2,3-Trichloropropane	10.0	9.92		ug/L		99	76 - 124
N-Propylbenzene	10.0	10.2		ug/L		102	80 - 120
2-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120
4-Chlorotoluene	10.0	10.4		ug/L		104	80 - 120
t-Butylbenzene	10.0	10.1		ug/L		101	80 - 121
1,2,4-Trimethylbenzene	10.0	10.2		ug/L		102	80 - 120
sec-Butylbenzene	10.0	10.3		ug/L		103	78 - 120
4-Isopropyltoluene	10.0	10.1		ug/L		101	77 - 120
1,3-Dichlorobenzene	10.0	8.32		ug/L		83	80 - 120
1,4-Dichlorobenzene	10.0	9.73		ug/L		97	80 - 120
n-Butylbenzene	10.0	10.4		ug/L		104	78 - 120
1,2-Dichlorobenzene	10.0	9.69		ug/L		97	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.78	J	ug/L		98	65 - 125
1,2,4-Trichlorobenzene	10.0	8.90		ug/L		89	57 - 140
Hexachlorobutadiene	10.0	9.59		ug/L		96	74 - 125
Naphthalene	10.0	12.6		ug/L		126	44 - 144
1,2,3-Trichlorobenzene	10.0	12.0		ug/L		120	23 - 150
1,3,5-Trimethylbenzene	10.0	10.4		ug/L		104	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	4.91	J	ug/L		49	20 - 150	1	35
Chloromethane	10.0	8.24	J	ug/L		82	52 - 135	1	23
Vinyl chloride	10.0	8.93		ug/L		89	65 - 130	3	28
Bromomethane	10.0	9.20		ug/L		92	66 - 125	1	27
Chloroethane	10.0	8.93		ug/L		89	65 - 132	0	35

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	10.0	8.90		ug/L		89	64 - 136	0	27
Carbon disulfide	10.0	6.29	*	ug/L		63	69 - 122	2	20
1,1-Dichloroethene	10.0	9.20		ug/L		92	70 - 129	2	27
Acetone	50.0	49.2	J	ug/L		98	43 - 150	4	35
Methylene Chloride	10.0	11.1		ug/L		111	77 - 125	1	18
Methyl tert-butyl ether	10.0	10.1		ug/L		101	72 - 130	1	18
trans-1,2-Dichloroethene	10.0	8.94		ug/L		89	77 - 124	7	21
1,1-Dichloroethane	10.0	9.85		ug/L		98	70 - 129	1	26
2-Butanone (MEK)	50.0	46.1		ug/L		92	65 - 127	4	29
2,2-Dichloropropane	10.0	10.0		ug/L		100	62 - 140	3	23
cis-1,2-Dichloroethene	10.0	9.14		ug/L		91	76 - 129	3	15
Bromochloromethane	10.0	9.24		ug/L		92	78 - 120	3	20
Chloroform	10.0	10.3		ug/L		103	73 - 127	1	22
1,1,1-Trichloroethane	10.0	9.71		ug/L		97	74 - 130	1	18
Carbon tetrachloride	10.0	9.39		ug/L		94	72 - 129	1	19
1,1-Dichloropropene	10.0	9.26		ug/L		93	80 - 120	2	14
Benzene	10.0	9.76		ug/L		98	75 - 121	3	14
1,2-Dichloroethane	10.0	10.2		ug/L		102	76 - 131	0	18
Trichloroethene	10.0	9.29		ug/L		93	70 - 120	1	21
1,2-Dichloropropane	10.0	9.89		ug/L		99	72 - 126	1	26
4-Methyl-2-pentanone (MIBK)	50.0	44.3		ug/L		89	69 - 124	3	22
Dibromomethane	10.0	10.0		ug/L		100	80 - 120	0	22
Bromodichloromethane	10.0	9.70		ug/L		97	75 - 124	3	22
cis-1,3-Dichloropropene	10.0	9.69		ug/L		97	77 - 120	18	20
Toluene	10.0	9.78		ug/L		98	80 - 120	5	19
trans-1,3-Dichloropropene	10.0	9.38		ug/L		94	80 - 122	5	25
1,1,2-Trichloroethane	10.0	9.49		ug/L		95	80 - 121	4	21
Tetrachloroethene	10.0	8.52		ug/L		85	76 - 120	3	20
1,3-Dichloropropane	10.0	9.59		ug/L		96	79 - 120	5	26
Dibromochloromethane	10.0	8.73		ug/L		87	71 - 120	2	24
1,2-Dibromoethane	10.0	9.34		ug/L		93	79 - 120	4	20
Chlorobenzene	10.0	9.56		ug/L		96	80 - 120	0	15
1,1,1,2-Tetrachloroethane	10.0	9.08		ug/L		91	79 - 120	1	20
Ethylbenzene	10.0	9.39		ug/L		94	80 - 120	2	14
m-Xylene & p-Xylene	10.0	9.52		ug/L		95	80 - 120	1	14
o-Xylene	10.0	9.16		ug/L		92	80 - 120	1	16
Styrene	10.0	8.67		ug/L		87	76 - 121	1	16
Bromoform	10.0	7.72		ug/L		77	61 - 132	2	20
Isopropylbenzene	10.0	9.37		ug/L		94	75 - 120	1	20
Bromobenzene	10.0	8.99		ug/L		90	80 - 120	9	13
1,1,2,2-Tetrachloroethane	10.0	9.52		ug/L		95	74 - 124	7	18
1,2,3-Trichloropropane	10.0	9.41		ug/L		94	76 - 124	5	30
N-Propylbenzene	10.0	9.34		ug/L		93	80 - 120	8	13
2-Chlorotoluene	10.0	9.50		ug/L		95	80 - 120	6	15
4-Chlorotoluene	10.0	9.66		ug/L		97	80 - 120	7	14
t-Butylbenzene	10.0	9.40		ug/L		94	80 - 121	7	14
1,2,4-Trimethylbenzene	10.0	9.74		ug/L		97	80 - 120	5	16
sec-Butylbenzene	10.0	9.63		ug/L		96	78 - 120	7	15
4-Isopropyltoluene	10.0	9.45		ug/L		94	77 - 120	6	13

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichlorobenzene			10.0	8.92		ug/L		89	80 - 120	7	14
1,4-Dichlorobenzene			10.0	9.20		ug/L		92	80 - 120	6	17
n-Butylbenzene			10.0	9.99		ug/L		100	78 - 120	4	14
1,2-Dichlorobenzene			10.0	9.36		ug/L		94	80 - 120	3	15
1,2-Dibromo-3-Chloropropane			10.0	9.41	J	ug/L		94	65 - 125	4	27
1,2,4-Trichlorobenzene			10.0	9.35		ug/L		93	57 - 140	5	27
Hexachlorobutadiene			10.0	9.66		ug/L		97	74 - 125	1	22
Naphthalene			10.0	11.8		ug/L		118	44 - 144	6	31
1,2,3-Trichlorobenzene			10.0	11.2		ug/L		112	23 - 150	7	35
1,3,5-Trimethylbenzene			10.0	9.71		ug/L		97	80 - 120	7	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/04/20 19:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/04/20 19:14*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/04/20 19:14*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/04/20 19:14*	*1*

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene			10.0	9.35		ug/L		94	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			10.0	9.40		ug/L		94	80 - 120	0	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-329097/1-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.015	0.0060	ug/L		05/26/20 15:42	05/27/20 15:05	1
4,4'-DDE	ND		0.010	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
4,4'-DDT	ND		0.020	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Aldrin	ND		0.024	0.0070	ug/L		05/26/20 15:42	05/27/20 15:05	1
alpha-BHC	ND		0.018	0.0040	ug/L		05/26/20 15:42	05/27/20 15:05	1
cis-Chlordane	ND		0.027	0.0080	ug/L		05/26/20 15:42	05/27/20 15:05	1
beta-BHC	ND		0.021	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Chlordane (technical)	ND		0.20	0.030	ug/L		05/26/20 15:42	05/27/20 15:05	1
delta-BHC	ND		0.015	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Dieldrin	ND		0.018	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endosulfan I	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endosulfan II	ND		0.024	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin	ND		0.012	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin aldehyde	ND		0.060	0.034	ug/L		05/26/20 15:42	05/27/20 15:05	1
Endrin ketone	ND		0.020	0.0020	ug/L		05/26/20 15:42	05/27/20 15:05	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Heptachlor	ND		0.015	0.0040	ug/L		05/26/20 15:42	05/27/20 15:05	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		05/26/20 15:42	05/27/20 15:05	1
Methoxychlor	ND		0.10	0.0050	ug/L		05/26/20 15:42	05/27/20 15:05	1
Toxaphene	ND		2.0	0.46	ug/L		05/26/20 15:42	05/27/20 15:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*67*		*45 - 127*	*05/26/20 15:42*	*05/27/20 15:05*	*1*
Tetrachloro-m-xylene	*86*		*33 - 120*	*05/26/20 15:42*	*05/27/20 15:05*	*1*

Lab Sample ID: LCS 580-329097/2-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329097

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD			0.200	0.195		ug/L		98	53 - 139

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-329097/2-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329097

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDE			0.200	0.189		ug/L		94	47 - 126		
4,4'-DDT			0.200	0.194		ug/L		97	38 - 150		
Aldrin			0.200	0.170		ug/L		85	30 - 124		
alpha-BHC			0.200	0.171		ug/L		85	53 - 120		
cis-Chlordane			0.200	0.190		ug/L		95	56 - 120		
beta-BHC			0.200	0.185		ug/L		92	63 - 120		
delta-BHC			0.200	0.170		ug/L		85	44 - 120		
Dieldrin			0.200	0.198		ug/L		99	61 - 122		
Endosulfan I			0.200	0.190		ug/L		95	62 - 123		
Endosulfan II			0.200	0.188		ug/L		94	52 - 121		
Endosulfan sulfate			0.200	0.188		ug/L		94	60 - 120		
Endrin			0.200	0.203		ug/L		102	45 - 140		
Endrin aldehyde			0.200	0.181		ug/L		91	47 - 136		
Endrin ketone			0.200	0.220		ug/L		110	60 - 137		
gamma-BHC (Lindane)			0.200	0.180		ug/L		90	53 - 120		
trans-Chlordane			0.200	0.189		ug/L		95	49 - 121		
Heptachlor			0.200	0.184		ug/L		92	38 - 127		
Heptachlor epoxide			0.200	0.191		ug/L		96	49 - 126		
Methoxychlor			0.200	0.217		ug/L		108	35 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*98*		*45 - 127*
Tetrachloro-m-xylene	*85*		*33 - 120*

Lab Sample ID: LCSD 580-329097/3-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329097

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD			0.200	0.179		ug/L		89	53 - 139	9	19
4,4'-DDE			0.200	0.175		ug/L		88	47 - 126	7	20
4,4'-DDT			0.200	0.179		ug/L		90	38 - 150	8	23
Aldrin			0.200	0.153		ug/L		76	30 - 124	10	27
alpha-BHC			0.200	0.156		ug/L		78	53 - 120	9	18
cis-Chlordane			0.200	0.177		ug/L		89	56 - 120	7	17
beta-BHC			0.200	0.161		ug/L		81	63 - 120	13	19
delta-BHC			0.200	0.160		ug/L		80	44 - 120	6	18
Dieldrin			0.200	0.184		ug/L		92	61 - 122	7	20
Endosulfan I			0.200	0.177		ug/L		88	62 - 123	7	18
Endosulfan II			0.200	0.175		ug/L		87	52 - 121	7	21
Endosulfan sulfate			0.200	0.175		ug/L		87	60 - 120	7	26
Endrin			0.200	0.188		ug/L		94	45 - 140	8	35
Endrin aldehyde			0.200	0.164		ug/L		82	47 - 136	10	25
Endrin ketone			0.200	0.206		ug/L		103	60 - 137	7	18
gamma-BHC (Lindane)			0.200	0.165		ug/L		83	53 - 120	9	21
trans-Chlordane			0.200	0.177		ug/L		89	49 - 121	7	18
Heptachlor			0.200	0.173		ug/L		87	38 - 127	6	26
Heptachlor epoxide			0.200	0.179		ug/L		89	49 - 126	7	18

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-329097/3-A
Matrix: Water
Analysis Batch: 329167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329097

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methoxychlor			0.200	0.199		ug/L		99	35 - 150	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*108*		*45 - 127*
Tetrachloro-m-xylene	*81*		*33 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609932/1-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
Aldrin	ND		0.0050	0.0015	ug/L		05/26/20 05:25	05/26/20 12:21	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/26/20 05:25	05/26/20 12:21	1
beta-BHC	ND		0.010	0.0040	ug/L		05/26/20 05:25	05/26/20 12:21	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/26/20 05:25	05/26/20 12:21	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/26/20 05:25	05/26/20 12:21	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan I	ND		0.0050	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/26/20 05:25	05/26/20 12:21	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Heptachlor	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
Methoxychlor	ND		0.0050	0.0035	ug/L		05/26/20 05:25	05/26/20 12:21	1
Toxaphene	ND		0.50	0.25	ug/L		05/26/20 05:25	05/26/20 12:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*80*		*28 - 108*	*05/26/20 05:25*	*05/26/20 12:21*	*1*
Tetrachloro-m-xylene	*90*		*10 - 123*	*05/26/20 05:25*	*05/26/20 12:21*	*1*

Lab Sample ID: LCS 440-609932/2-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609932

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD			0.400	0.408		ug/L		102	50 - 128		
4,4'-DDE			0.400	0.410		ug/L		103	49 - 121		
4,4'-DDT			0.400	0.394		ug/L		99	41 - 140		

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-609932/2-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.400	0.386		ug/L		96	37 - 115
alpha-BHC	0.400	0.399		ug/L		100	44 - 115
cis-Chlordane	0.400	0.387		ug/L		97	40 - 122
beta-BHC	0.400	0.383		ug/L		96	46 - 121
delta-BHC	0.400	0.385		ug/L		96	32 - 129
Dieldrin	0.400	0.397		ug/L		99	39 - 126
Endosulfan I	0.400	0.381		ug/L		95	47 - 115
Endosulfan II	0.400	0.377		ug/L		94	47 - 120
Endosulfan sulfate	0.400	0.369		ug/L		92	48 - 126
Endrin	0.400	0.367		ug/L		92	43 - 127
Endrin aldehyde	0.400	0.358		ug/L		90	43 - 120
Endrin ketone	0.400	0.386		ug/L		97	47 - 123
gamma-BHC (Lindane)	0.400	0.387		ug/L		97	45 - 116
trans-Chlordane	0.400	0.363		ug/L		91	37 - 129
Heptachlor	0.400	0.372		ug/L		93	37 - 115
Heptachlor epoxide	0.400	0.385		ug/L		96	41 - 129
Methoxychlor	0.400	0.454		ug/L		114	44 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*83*		*28 - 108*
Tetrachloro-m-xylene	*100*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-610858/6
Matrix: Water
Analysis Batch: 610858

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/02/20 06:55	1

Lab Sample ID: LCS 440-610858/5
Matrix: Water
Analysis Batch: 610858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.1		ug/L		96	90 - 110

Lab Sample ID: MRL 440-610858/4
Matrix: Water
Analysis Batch: 610858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.930	J	ug/L		93	50 - 150

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610392/6
Matrix: Water
Analysis Batch: 610392

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/28/20 11:14	1

Lab Sample ID: LCS 440-610392/5
Matrix: Water
Analysis Batch: 610392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.9		ug/L		109	85 - 115

Lab Sample ID: MRL 440-610392/4
Matrix: Water
Analysis Batch: 610392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.09	J	ug/L		109	75 - 125

Lab Sample ID: MRL 440-610392/8
Matrix: Water
Analysis Batch: 610392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.85	J	ug/L		96	75 - 125

Lab Sample ID: MB 440-611851/6
Matrix: Water
Analysis Batch: 611851

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/09/20 10:16	1

Lab Sample ID: LCS 440-611851/5
Matrix: Water
Analysis Batch: 611851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	23.4		ug/L		94	85 - 115

Lab Sample ID: MRL 440-611851/4
Matrix: Water
Analysis Batch: 611851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.14	J	ug/L		114	75 - 125

Lab Sample ID: MRL 440-611851/8
Matrix: Water
Analysis Batch: 611851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.80		ug/L		120	75 - 125

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-611853/6
Matrix: Water
Analysis Batch: 611853

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/09/20 10:45	1

Lab Sample ID: LCS 440-611853/5
Matrix: Water
Analysis Batch: 611853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.88		ug/L		99	85 - 115

Lab Sample ID: MRL 440-611853/4
Matrix: Water
Analysis Batch: 611853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.17	J	ug/L		117	75 - 125

Lab Sample ID: MRL 440-611853/9
Matrix: Water
Analysis Batch: 611853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.45		ug/L		111	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329002/21-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 18:26	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 18:26	5
Iron	ND		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 18:26	5
Manganese	ND		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 18:26	5

Lab Sample ID: LCS 580-329002/22-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.975		mg/L		98	80 - 120
Chromium	1.00	0.971		mg/L		97	80 - 120
Iron	20.0	19.0		mg/L		95	80 - 120
Manganese	1.00	0.945		mg/L		94	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-329002/23-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.963		mg/L		96	80 - 120	1	20
Chromium	1.00	0.967		mg/L		97	80 - 120	0	20
Iron	20.0	18.8		mg/L		94	80 - 120	1	20
Manganese	1.00	0.950		mg/L		95	80 - 120	1	20

Lab Sample ID: MB 580-329073/22-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 12:43	05/27/20 16:37	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 12:43	05/27/20 16:37	5
Iron	ND		1.0	0.18	mg/L		05/26/20 12:43	05/27/20 16:37	5
Manganese	ND		0.010	0.0023	mg/L		05/26/20 12:43	05/27/20 16:37	5

Lab Sample ID: LCS 580-329073/23-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120
Chromium	1.00	1.03		mg/L		103	80 - 120
Iron	20.0	20.7		mg/L		103	80 - 120
Manganese	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: LCSD 580-329073/24-A
Matrix: Water
Analysis Batch: 329247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329073

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.01		mg/L		101	80 - 120	0	20
Chromium	1.00	1.03		mg/L		103	80 - 120	0	20
Iron	20.0	20.6		mg/L		103	80 - 120	0	20
Manganese	1.00	1.04		mg/L		104	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329316/3
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			05/27/20 12:52	1

Lab Sample ID: LCS 580-329316/4
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.4		mg/L		103	90 - 110

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 580-329316/5
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	51.4		mg/L		103	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052120
Lab Sample ID: 580-94850-1
Date Collected: 05/21/20 00:01
Matrix: Water
Date Received: 05/21/20 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329468	05/30/20 16:42	CJ	TAL SEA

Client Sample ID: MWA-34i-052120
Lab Sample ID: 580-94850-2
Date Collected: 05/21/20 12:40
Matrix: Water
Date Received: 05/21/20 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		10	329468	05/30/20 22:58	CJ	TAL SEA
Total/NA	Prep	3510C			329097	05/26/20 15:42	RJL	TAL SEA
Total/NA	Analysis	8081B		1	329167	05/27/20 17:17	T1W	TAL SEA
Dissolved	Analysis	218.6		5	610858	06/02/20 07:47	MN	TAL IRV
Total/NA	Analysis	314.0		50	610392	05/28/20 23:12	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:41	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 20:03	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 15:13	RBL	TAL SEA

Client Sample ID: Dup-02-052120
Lab Sample ID: 580-94850-3
Date Collected: 05/21/20 12:41
Matrix: Water
Date Received: 05/21/20 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		10	329468	05/30/20 23:25	CJ	TAL SEA
Total/NA	Prep	3510C			329097	05/26/20 15:42	RJL	TAL SEA
Total/NA	Analysis	8081B		1	329167	05/27/20 17:36	T1W	TAL SEA
Dissolved	Analysis	218.6		10	610858	06/02/20 08:00	MN	TAL IRV
Total/NA	Analysis	314.0		50	610392	05/28/20 23:47	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:44	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 20:00	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 15:24	RBL	TAL SEA

Client Sample ID: MWA-58d-052120
Lab Sample ID: 580-94850-4
Date Collected: 05/21/20 13:36
Matrix: Water
Date Received: 05/21/20 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329468	05/30/20 23:52	CJ	TAL SEA
Total/NA	Analysis	8260D	DL	10	329648	06/03/20 01:47	T1W	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610192	05/27/20 18:37	D1D	TAL IRV
Dissolved	Analysis	218.6		1	610858	06/02/20 08:13	MN	TAL IRV

Lab Chronicle

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-58d-052120
Lab Sample ID: 580-94850-4
Date Collected: 05/21/20 13:36
Matrix: Water
Date Received: 05/21/20 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	314.0		1000	611851	06/09/20 16:53	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:19	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 19:53	FCW	TAL SEA
Total/NA	Analysis	300.0		1000	329316	05/29/20 02:00	RBL	TAL SEA

Client Sample ID: PA-21d-052120
Lab Sample ID: 580-94850-5
Date Collected: 05/21/20 13:30
Matrix: Water
Date Received: 05/21/20 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		10	329648	06/03/20 03:35	T1W	TAL SEA
Total/NA	Analysis	8260D	DL	200	329883	06/04/20 21:28	W1T	TAL SEA
Dissolved	Analysis	218.6		1	610858	06/02/20 08:25	MN	TAL IRV
Total/NA	Analysis	314.0		100	611853	06/09/20 19:30	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 17:59	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 15:48	RBL	TAL SEA

Client Sample ID: PA-27d-052120
Lab Sample ID: 580-94850-6
Date Collected: 05/21/20 13:08
Matrix: Water
Date Received: 05/21/20 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329648	06/02/20 20:25	T1W	TAL SEA
Dissolved	Analysis	218.6		5	610858	06/02/20 09:06	MN	TAL IRV
Total/NA	Analysis	314.0		50	610392	05/29/20 00:23	PS	TAL IRV
Dissolved	Prep	3005A			329073	05/26/20 12:43	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329247	05/27/20 18:12	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 16:00	RBL	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94850-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94850-1	TB-052120	Water	05/21/20 00:01	05/21/20 15:00	
580-94850-2	MWA-34i-052120	Water	05/21/20 12:40	05/21/20 15:00	
580-94850-3	Dup-02-052120	Water	05/21/20 12:41	05/21/20 15:00	
580-94850-4	MWA-58d-052120	Water	05/21/20 13:36	05/21/20 15:00	
580-94850-5	PA-21d-052120	Water	05/21/20 13:30	05/21/20 15:00	
580-94850-6	PA-27d-052120	Water	05/21/20 13:08	05/21/20 15:00	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: AJ, DS, ST	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N	N	D	D	A	A	N			
TB-052120	5/20/21		G	Water								X				3	
MWA-34i-052120		1240		Water			X		X	X	X	X		X	X	10	
Dup-02-052120		1241		Water			X		X	X	X	X		X	X	10	
MWA-58d-052120		1336		Water			X	X		X	X	X		X	X	10	
PA-21d-052120		1330		Water			X				X	X		X	X	7	Dil VOC
PA-27d-052120		1308		Water			X				X	X		X	X	7	
				Water													
				Water													
				Water													

580-94850 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
SM	5/21/20	ERM		5/21/20 1500	DABOR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 5.8

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: AJ, DS, ST	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page:
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeDH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	N	N	N	D	D	A	A	N		X	
TB-052120	5/20/21		G	Water								X				3	
MWA-34i-052120	↓	1240	↓	Water			X		X	X	X	X		X	X	10	
Dup-02-052120	↓	1241	↓	Water			X		X	X	X	X		X	X	10	
MWA-58d-052120	↓	1336	↓	Water			X	X		X	X	X		X	X	10	
PA-21d-052120	↓	1330	↓	Water			X				X	X		X	X	7	Dil VOC
PA-27d-052120	↓	1308	↓	Water			X				X	X		X	X	7	
				Water													
				Water													
				Water													

580-94850 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5/21/20	ERM	[signature]	5/21/20 1500	TAPOR
[signature]	5/21/20 1700	TAPOR	[signature]	5/22/20 0945	ETASE

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 5.8

TR7 1.7 / 1.5

Ver: 01/16/2019 6/12/2020

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone 253-922-2310 Fax. 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): 1872 5080 3941	COC No: 580-76990 1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94850-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/10/2020	Analysis Requested		Preservation Codes:
City: Irvine	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: CA, 92614-5817	PO #			
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	WO #			Other:
Email				
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Prep_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MWA-34i-052120 (580-94850-2)	5/21/20	12:40 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland. Please confirm
Dup-02-052120 (580-94850-3)	5/21/20	12:41 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland Please confirm
MWA-58d-052120 (580-94850-4)	5/21/20	13:36 Pacific		Water			X	X	X	4	Sample should have been field filtered then preserved by Portland. Please confirm
PA-21d-052120 (580-94850-5)	5/21/20	13:30 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland Please confirm
PA-27d-052120 (580-94850-6)	5/21/20	13:08 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland Please confirm

Note Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date.	Time:	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	5/21/20 1700	TRUK		5/22/20 0930	EC-IRV
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ☒ Yes △ No	Custody Seal No :	Cooler Temperature(s) °C and Other Remarks: 0.8/1.0 IR-94

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94850-1

Login Number: 94850
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94850-1

Login Number: 94850
List Number: 2
Creator: Bonta, Lucia F

List Source: Eurofins Irvine
List Creation: 05/22/20 01:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	Method requires headspace.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94850-1

Login Number: 94850
List Number: 3
Creator: Bonta, Lucia F

List Source: Eurofins Irvine
List Creation: 05/22/20 01:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	Method requires headspace.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94887-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/15/2020 3:42:09 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

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Have a Question? Ask The Expert

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94887-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94887-1

Comments
No additional comments.

Receipt
The samples were received on 5/22/2020 12:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.6º C and 5.2º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved: PA-30d-052120 (580-94887-2), PA-22d-052120 (580-94887-3), PA-17iR-052120 (580-94887-4), RB-02-052220 (580-94887-5), PA-32i-052220 (580-94887-6), PA-32i-052220 (580-94887-6[MS]), PA-32i-052220 (580-94887-6[MSD]), Dup-03-052220 (580-94887-7), PA-04-052220 (580-94887-8) and PA-11i-052220 (580-94887-9). The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329641 recovered outside acceptance criteria, low biased, for trans-1,3-Dichloropropene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329641 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-052120-A (580-94887-1), PA-17iR-052120 (580-94887-4), RB-02-052220 (580-94887-5), PA-32i-052220 (580-94887-6), Dup-03-052220 (580-94887-7), PA-04-052220 (580-94887-8) and (CCVIS 580-329641/3).

Method 8260D: The method blank for analytical batch 580-329641 contained Methylene Chloride and Trichloroethene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-329641 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8260D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 580-329641 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8260D: The CCV for analytical batch 580-329648 recovered outside control limits for the following analyte: Dichlorodifluoromethane. This analyte has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The method blank for analytical batch 580-329648 contained Methylene Chloride above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method 8260D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329648 recovered outside control limits for the following analyte: Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8260D: The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329883 recovered outside control limits for Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Job ID: 580-94887-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method 8260D: The following analyte(s) recovered outside control limits for the LCSD associated with analytical batch 580-329883: trans-1,2-Dichloroethene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260D: The CCV for analytical batch 580-329883 recovered outside control limits for the following analyte(s): Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Chloromethane and 1,2-Dibromo-3-Chloropropane. Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Chloromethane and 1,2-Dibromo-3-Chloropropane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C, 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PA-30d-052120 (580-94887-2). Elevated reporting limits (RLs) are provided.

Methods 8260C, 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: PA-11i-052220 (580-94887-9). Elevated reporting limits (RLs) are provided.

Method 8260D: Reanalysis of the following sample was performed outside of the analytical holding time due to dilution needed : PA-11i-052220 (580-94887-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

Method 218.6: The following samples were diluted due to the nature of the sample matrix-brown color : PA-32i-052220 (580-94887-6), Dup-03-052220 (580-94887-7), PA-04-052220 (580-94887-8) and PA-11i-052220 (580-94887-9). Elevated reporting limits (RLs) are provided.

Method 218.6: The reference method requires samples to be preserved to a pH of 9.3 to 9.7 The following sample was received with insufficient preservation at a pH outside of this range: PA-17iR-052120 (580-94887-4). The sample(s) was preserved to the appropriate pH in the laboratory.

Method 218.6: The following samples were diluted due to the nature of the sample matrix: PA-30d-052120 (580-94887-2) and PA-17iR-052120 (580-94887-4). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to the nature of the sample matrix (dark brown color): PA-30d-052120 (580-94887-2), PA-17iR-052120 (580-94887-4), PA-32i-052220 (580-94887-6) and Dup-03-052220 (580-94887-7). Elevated reporting limits (RLs) are provided.

Method 314.0: The continuing calibration blank (CCB) for analytical batch 440-610392 contained Perchlorate above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 314.0: The following samples were diluted due to high conductivity background and intense dark black color of the sample matrix: PA-04-052220 (580-94887-8) and PA-11i-052220 (580-94887-9). Elevated reporting limits (RLs) are provided.

Method 314.0: The following sample was diluted due to the nature of the sample matrix: PA-32i-052220 (580-94887-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8081B_LL: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-609932 and analytical batch 440-609978 were outside control limits for trans-Chlordane. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 580-94887-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052120-A
Lab Sample ID: 580-94887-1
Date Collected: 05/21/20 00:01
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 17:39	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 17:39	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/02/20 17:39	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 17:39	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 17:39	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 17:39	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 17:39	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/02/20 17:39	1
Acetone	ND		10	3.1	ug/L			06/02/20 17:39	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/02/20 17:39	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 17:39	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 17:39	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 17:39	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/02/20 17:39	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 17:39	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/02/20 17:39	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 17:39	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 17:39	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 17:39	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 17:39	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 17:39	1
Benzene	ND		0.20	0.030	ug/L			06/02/20 17:39	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 17:39	1
Trichloroethene	**0.081**	**J B**	0.20	0.066	ug/L			06/02/20 17:39	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 17:39	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 17:39	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 17:39	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 17:39	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 17:39	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 17:39	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 17:39	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 17:39	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 17:39	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 17:39	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 17:39	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 17:39	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/02/20 17:39	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 17:39	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 17:39	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 17:39	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 17:39	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 17:39	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 17:39	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 17:39	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 17:39	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 17:39	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 17:39	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 17:39	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 17:39	1

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052120-A
Lab Sample ID: 580-94887-1
Date Collected: 05/21/20 00:01
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 17:39	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 17:39	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 17:39	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 17:39	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 17:39	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 17:39	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 17:39	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 17:39	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 17:39	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 17:39	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 17:39	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 17:39	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 17:39	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 17:39	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/02/20 17:39*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*06/02/20 17:39*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/02/20 17:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*06/02/20 17:39*	*1*

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-30d-052120
Lab Sample ID: 580-94887-2
Date Collected: 05/21/20 16:00
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1000	53	ug/L			06/04/20 21:01	100
Chloromethane	ND		2000	28	ug/L			06/04/20 21:01	100
Vinyl chloride	ND		100	22	ug/L			06/04/20 21:01	100
Bromomethane	ND		600	21	ug/L			06/04/20 21:01	100
Chloroethane	ND		500	35	ug/L			06/04/20 21:01	100
Trichlorofluoromethane	ND		300	63	ug/L			06/04/20 21:01	100
Carbon disulfide	ND	*	300	53	ug/L			06/04/20 21:01	100
1,1-Dichloroethene	ND		400	28	ug/L			06/04/20 21:01	100
Acetone	ND		5000	320	ug/L			06/04/20 21:01	100
Methylene Chloride	ND		500	140	ug/L			06/04/20 21:01	100
Methyl tert-butyl ether	ND		200	44	ug/L			06/04/20 21:01	100
trans-1,2-Dichloroethene	ND	*	300	39	ug/L			06/04/20 21:01	100
1,1-Dichloroethane	ND		200	22	ug/L			06/04/20 21:01	100
2-Butanone (MEK)	ND		2000	470	ug/L			06/04/20 21:01	100
2,2-Dichloropropane	ND		300	32	ug/L			06/04/20 21:01	100
cis-1,2-Dichloroethene	ND		300	69	ug/L			06/04/20 21:01	100
Bromochloromethane	ND		200	29	ug/L			06/04/20 21:01	100
Chloroform	ND		500	26	ug/L			06/04/20 21:01	100
1,1,1-Trichloroethane	ND		300	39	ug/L			06/04/20 21:01	100
Carbon tetrachloride	ND		300	30	ug/L			06/04/20 21:01	100
1,1-Dichloropropene	ND		300	29	ug/L			06/04/20 21:01	100
Benzene	ND		300	24	ug/L			06/04/20 21:01	100
1,2-Dichloroethane	ND		200	42	ug/L			06/04/20 21:01	100
Trichloroethene	ND		300	26	ug/L			06/04/20 21:01	100
1,2-Dichloropropane	ND		100	18	ug/L			06/04/20 21:01	100
4-Methyl-2-pentanone (MIBK)	ND		1500	250	ug/L			06/04/20 21:01	100
Dibromomethane	ND		200	34	ug/L			06/04/20 21:01	100
Bromodichloromethane	ND		200	29	ug/L			06/04/20 21:01	100
cis-1,3-Dichloropropene	ND		100	20	ug/L			06/04/20 21:01	100
Toluene	ND		200	39	ug/L			06/04/20 21:01	100
trans-1,3-Dichloropropene	ND		100	16	ug/L			06/04/20 21:01	100
1,1,2-Trichloroethane	ND		100	24	ug/L			06/04/20 21:01	100
Tetrachloroethene	ND		300	41	ug/L			06/04/20 21:01	100
1,3-Dichloropropane	ND		200	35	ug/L			06/04/20 21:01	100
Dibromochloromethane	ND		200	43	ug/L			06/04/20 21:01	100
1,2-Dibromoethane	ND		200	40	ug/L			06/04/20 21:01	100
Chlorobenzene	**5800**		200	44	ug/L			06/04/20 21:01	100
1,1,1,2-Tetrachloroethane	ND		200	18	ug/L			06/04/20 21:01	100
Ethylbenzene	ND		300	50	ug/L			06/04/20 21:01	100
m-Xylene & p-Xylene	ND		300	75	ug/L			06/04/20 21:01	100
o-Xylene	ND		200	39	ug/L			06/04/20 21:01	100
Styrene	ND		500	100	ug/L			06/04/20 21:01	100
Bromoform	ND		300	56	ug/L			06/04/20 21:01	100
Isopropylbenzene	ND		200	44	ug/L			06/04/20 21:01	100
Bromobenzene	ND		200	43	ug/L			06/04/20 21:01	100
1,1,2,2-Tetrachloroethane	ND		300	52	ug/L			06/04/20 21:01	100
1,2,3-Trichloropropane	ND		200	41	ug/L			06/04/20 21:01	100
N-Propylbenzene	ND		300	50	ug/L			06/04/20 21:01	100
2-Chlorotoluene	ND		300	51	ug/L			06/04/20 21:01	100

Client Sample ID: PA-30d-052120
Lab Sample ID: 580-94887-2
Date Collected: 05/21/20 16:00
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		200	38	ug/L			06/04/20 21:01	100
t-Butylbenzene	ND		300	58	ug/L			06/04/20 21:01	100
1,2,4-Trimethylbenzene	ND		300	61	ug/L			06/04/20 21:01	100
sec-Butylbenzene	ND		300	49	ug/L			06/04/20 21:01	100
4-Isopropyltoluene	ND		300	28	ug/L			06/04/20 21:01	100
1,3-Dichlorobenzene	ND		200	18	ug/L			06/04/20 21:01	100
1,4-Dichlorobenzene	ND		400	46	ug/L			06/04/20 21:01	100
n-Butylbenzene	ND		300	44	ug/L			06/04/20 21:01	100
1,2-Dichlorobenzene	ND		200	46	ug/L			06/04/20 21:01	100
1,2-Dibromo-3-Chloropropane	ND		1000	57	ug/L			06/04/20 21:01	100
1,2,4-Trichlorobenzene	ND		200	33	ug/L			06/04/20 21:01	100
Hexachlorobutadiene	ND		600	79	ug/L			06/04/20 21:01	100
Naphthalene	ND		400	93	ug/L			06/04/20 21:01	100
1,2,3-Trichlorobenzene	ND		500	43	ug/L			06/04/20 21:01	100
1,3,5-Trimethylbenzene	ND		300	55	ug/L			06/04/20 21:01	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/04/20 21:01*	*100*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/04/20 21:01*	*100*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/04/20 21:01*	*100*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/04/20 21:01*	*100*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		50	13	ug/L			06/03/20 10:06	50

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/28/20 18:26	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.15**		0.0050	0.0010	mg/L		05/27/20 11:48	05/28/20 18:22	5
Chromium	**0.012**		0.0040	0.00087	mg/L		05/27/20 11:48	05/28/20 18:22	5
Iron	**3.8**		1.0	0.18	mg/L		05/27/20 11:48	05/28/20 18:22	5
Manganese	**1.8**		0.010	0.0023	mg/L		05/27/20 11:48	05/28/20 18:22	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**280**		90	14	mg/L			05/27/20 16:11	100

Client Sample Results

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-22d-052120
Lab Sample ID: 580-94887-3
Date Collected: 05/21/20 14:30
Matrix: Water
Date Received: 05/22/20 12:30

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/02/20 10:22	1

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-17iR-052120
Lab Sample ID: 580-94887-4
Date Collected: 05/21/20 15:18
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 18:06	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 18:06	1
Vinyl chloride	**0.28**		0.020	0.013	ug/L			06/02/20 18:06	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 18:06	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 18:06	1
Carbon disulfide	**0.61**		0.30	0.083	ug/L			06/02/20 18:06	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 18:06	1
1,1-Dichloroethene	**0.28**		0.20	0.035	ug/L			06/02/20 18:06	1
Acetone	ND		10	3.1	ug/L			06/02/20 18:06	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/02/20 18:06	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 18:06	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 18:06	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 18:06	1
1,1-Dichloroethane	**0.21**		0.20	0.025	ug/L			06/02/20 18:06	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 18:06	1
cis-1,2-Dichloroethene	**0.12**	**J**	0.20	0.055	ug/L			06/02/20 18:06	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 18:06	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 18:06	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 18:06	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 18:06	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 18:06	1
Benzene	**0.094**	**J**	0.20	0.030	ug/L			06/02/20 18:06	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 18:06	1
Trichloroethene	**0.098**	**J B**	0.20	0.066	ug/L			06/02/20 18:06	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 18:06	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 18:06	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 18:06	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 18:06	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 18:06	1
Toluene	**0.063**	**J**	0.20	0.050	ug/L			06/02/20 18:06	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 18:06	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 18:06	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 18:06	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 18:06	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 18:06	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 18:06	1
Chlorobenzene	**0.16**	**J**	0.20	0.025	ug/L			06/02/20 18:06	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 18:06	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 18:06	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 18:06	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 18:06	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 18:06	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 18:06	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 18:06	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 18:06	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 18:06	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 18:06	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 18:06	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 18:06	1

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-17iR-052120
Lab Sample ID: 580-94887-4
Date Collected: 05/21/20 15:18
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 18:06	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 18:06	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 18:06	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 18:06	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 18:06	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 18:06	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 18:06	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 18:06	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 18:06	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 18:06	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 18:06	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 18:06	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 18:06	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 18:06	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 18:06*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 18:06*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/20 18:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/02/20 18:06*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	10	2.5	ug/L			06/03/20 10:19	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/28/20 19:01	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.044**		0.0050	0.0010	mg/L		05/27/20 11:48	05/28/20 18:25	5
Chromium	**0.0096**		0.0040	0.00087	mg/L		05/27/20 11:48	05/28/20 18:25	5
Iron	**1.1**		1.0	0.18	mg/L		05/27/20 11:48	05/28/20 18:25	5
Manganese	**0.066**		0.010	0.0023	mg/L		05/27/20 11:48	05/28/20 18:25	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**60**		9.0	1.4	mg/L			05/27/20 16:23	10

Client Sample ID: RB-02-052220
Lab Sample ID: 580-94887-5

Date Collected: 05/22/20 06:00
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 18:32	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 18:32	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/02/20 18:32	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 18:32	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 18:32	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 18:32	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 18:32	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/02/20 18:32	1
Acetone	ND		10	3.1	ug/L			06/02/20 18:32	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/02/20 18:32	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 18:32	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 18:32	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 18:32	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/02/20 18:32	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 18:32	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/02/20 18:32	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 18:32	1
Chloroform	**0.17**	**J**	0.20	0.030	ug/L			06/02/20 18:32	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 18:32	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 18:32	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 18:32	1
Benzene	ND		0.20	0.030	ug/L			06/02/20 18:32	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 18:32	1
Trichloroethene	**0.090**	**J B**	0.20	0.066	ug/L			06/02/20 18:32	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 18:32	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 18:32	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 18:32	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 18:32	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 18:32	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 18:32	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 18:32	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 18:32	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 18:32	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 18:32	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 18:32	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 18:32	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/02/20 18:32	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 18:32	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 18:32	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 18:32	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 18:32	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 18:32	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 18:32	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 18:32	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 18:32	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 18:32	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 18:32	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 18:32	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 18:32	1

Client Sample ID: RB-02-052220
Lab Sample ID: 580-94887-5

Date Collected: 05/22/20 06:00
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 18:32	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 18:32	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 18:32	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 18:32	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 18:32	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 18:32	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 18:32	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 18:32	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 18:32	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 18:32	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 18:32	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 18:32	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 18:32	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 18:32	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/02/20 18:32*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/02/20 18:32*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*06/02/20 18:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/02/20 18:32*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:52	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:52	1
4,4'-DDT	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:52	1
Aldrin	ND		0.0048	0.0014	ug/L		05/26/20 05:25	05/27/20 18:52	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:52	1
cis-Chlordane	ND		0.097	0.014	ug/L		05/26/20 05:25	05/27/20 18:52	1
beta-BHC	ND		0.0097	0.0039	ug/L		05/26/20 05:25	05/27/20 18:52	1
Chlordane (technical)	ND		0.097	0.077	ug/L		05/26/20 05:25	05/27/20 18:52	1
delta-BHC	ND		0.0048	0.0034	ug/L		05/26/20 05:25	05/27/20 18:52	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 18:52	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/26/20 05:25	05/27/20 18:52	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 18:52	1
Endosulfan sulfate	ND		0.0097	0.0029	ug/L		05/26/20 05:25	05/27/20 18:52	1
Endrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 18:52	1
Endrin aldehyde	ND		0.0097	0.0019	ug/L		05/26/20 05:25	05/27/20 18:52	1
Endrin ketone	ND		0.0097	0.0068	ug/L		05/26/20 05:25	05/27/20 18:52	1
gamma-BHC (Lindane)	ND		0.0097	0.0029	ug/L		05/26/20 05:25	05/27/20 18:52	1
trans-Chlordane	ND		0.097	0.029	ug/L		05/26/20 05:25	05/27/20 18:52	1
Heptachlor	ND		0.0097	0.0029	ug/L		05/26/20 05:25	05/27/20 18:52	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 18:52	1
Methoxychlor	ND		0.0048	0.0034	ug/L		05/26/20 05:25	05/27/20 18:52	1
Toxaphene	ND		0.48	0.24	ug/L		05/26/20 05:25	05/27/20 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*78*		*28 - 108*	*05/26/20 05:25*	*05/27/20 18:52*	*1*
Tetrachloro-m-xylene	*73*		*10 - 123*	*05/26/20 05:25*	*05/27/20 18:52*	*1*

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: RB-02-052220
Lab Sample ID: 580-94887-5
Date Collected: 05/22/20 06:00
Matrix: Water
Date Received: 05/22/20 12:30

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/02/20 10:35	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/01/20 17:14	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0031**	**J**	0.0050	0.0010	mg/L		05/27/20 11:22	05/28/20 11:57	5
Chromium	ND		0.0040	0.00087	mg/L		05/27/20 11:22	05/28/20 11:57	5
Iron	ND		1.0	0.18	mg/L		05/27/20 11:22	05/28/20 11:57	5
Manganese	ND		0.010	0.0023	mg/L		05/27/20 11:22	05/28/20 11:57	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:34	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:34	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:34	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:34	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**0.25**	**J**	0.90	0.14	mg/L			05/27/20 16:35	1

Client Sample ID: PA-32i-052220
Lab Sample ID: 580-94887-6

Date Collected: 05/22/20 07:21
Matrix: Water

Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	F2	0.40	0.13	ug/L			06/02/20 18:59	1
Chloromethane	ND	F2	0.50	0.068	ug/L			06/02/20 18:59	1
Vinyl chloride	**0.17**	**F2**	0.020	0.013	ug/L			06/02/20 18:59	1
Bromomethane	ND	F2	0.50	0.062	ug/L			06/02/20 18:59	1
Chloroethane	**0.26**	**J F2**	0.50	0.096	ug/L			06/02/20 18:59	1
Carbon disulfide	ND	F1 F2	0.30	0.083	ug/L			06/02/20 18:59	1
Trichlorofluoromethane	ND	F2	0.50	0.043	ug/L			06/02/20 18:59	1
1,1-Dichloroethene	**0.12**	**J F2**	0.20	0.035	ug/L			06/02/20 18:59	1
Acetone	ND		10	3.1	ug/L			06/02/20 18:59	1
Methylene Chloride	ND	F1 F2	5.0	1.2	ug/L			06/02/20 18:59	1
Methyl tert-butyl ether	ND	F2	0.30	0.070	ug/L			06/02/20 18:59	1
2-Butanone (MEK)	ND	F2	10	2.5	ug/L			06/02/20 18:59	1
trans-1,2-Dichloroethene	ND	F2	0.20	0.033	ug/L			06/02/20 18:59	1
1,1-Dichloroethane	ND	F1 F2	0.20	0.025	ug/L			06/02/20 18:59	1
2,2-Dichloropropane	ND	F1 F2	0.50	0.060	ug/L			06/02/20 18:59	1
cis-1,2-Dichloroethene	**0.080**	**J F2**	0.20	0.055	ug/L			06/02/20 18:59	1
Chlorobromomethane	ND	F1 F2	0.20	0.025	ug/L			06/02/20 18:59	1
Chloroform	ND	F1 F2	0.20	0.030	ug/L			06/02/20 18:59	1
1,1,1-Trichloroethane	ND	F1 F2	0.20	0.025	ug/L			06/02/20 18:59	1
Carbon tetrachloride	ND	F1 F2	0.20	0.025	ug/L			06/02/20 18:59	1
1,1-Dichloropropene	ND	F1 F2	0.20	0.036	ug/L			06/02/20 18:59	1
Benzene	ND	F2	0.20	0.030	ug/L			06/02/20 18:59	1
1,2-Dichloroethane	ND	F2	0.20	0.043	ug/L			06/02/20 18:59	1
Trichloroethene	**0.070**	**J F2 B**	0.20	0.066	ug/L			06/02/20 18:59	1
1,2-Dichloropropane	ND	F1 F2	0.20	0.060	ug/L			06/02/20 18:59	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 18:59	1
Dibromomethane	ND	F2	0.20	0.062	ug/L			06/02/20 18:59	1
Dichlorobromomethane	ND	F1 F2	0.20	0.060	ug/L			06/02/20 18:59	1
cis-1,3-Dichloropropene	ND	F1 F2	0.20	0.090	ug/L			06/02/20 18:59	1
Toluene	ND	F1 F2	0.20	0.050	ug/L			06/02/20 18:59	1
trans-1,3-Dichloropropene	ND	F1 F2	0.20	0.092	ug/L			06/02/20 18:59	1
1,1,2-Trichloroethane	ND	F1 F2	0.20	0.070	ug/L			06/02/20 18:59	1
Tetrachloroethene	ND	F1 F2	0.50	0.084	ug/L			06/02/20 18:59	1
1,3-Dichloropropane	ND	F1 F2	0.20	0.025	ug/L			06/02/20 18:59	1
Chlorodibromomethane	ND	F1 F2	0.20	0.055	ug/L			06/02/20 18:59	1
Ethylene Dibromide	ND	F1 F2	0.10	0.025	ug/L			06/02/20 18:59	1
Chlorobenzene	**0.28**	**F1 F2**	0.20	0.025	ug/L			06/02/20 18:59	1
1,1,1,2-Tetrachloroethane	ND	F1 F2	0.30	0.027	ug/L			06/02/20 18:59	1
Ethylbenzene	ND	F1 F2	0.20	0.030	ug/L			06/02/20 18:59	1
m-Xylene & p-Xylene	ND	F1 F2	0.50	0.12	ug/L			06/02/20 18:59	1
o-Xylene	ND	F1 F2	0.50	0.15	ug/L			06/02/20 18:59	1
Styrene	ND	F2	1.0	0.19	ug/L			06/02/20 18:59	1
Bromoform	ND	F1 F2	0.50	0.16	ug/L			06/02/20 18:59	1
Isopropylbenzene	ND	F1 F2	1.0	0.19	ug/L			06/02/20 18:59	1
Bromobenzene	ND	F1 F2	0.20	0.035	ug/L			06/02/20 18:59	1
1,1,2,2-Tetrachloroethane	ND	F2	0.20	0.056	ug/L			06/02/20 18:59	1
1,2,3-Trichloropropane	ND	F1 F2	0.20	0.050	ug/L			06/02/20 18:59	1
N-Propylbenzene	ND	F1 F2	0.30	0.091	ug/L			06/02/20 18:59	1
2-Chlorotoluene	ND	F1 F2	0.50	0.12	ug/L			06/02/20 18:59	1

Client Sample ID: PA-32i-052220
Lab Sample ID: 580-94887-6

Date Collected: 05/22/20 07:21
Matrix: Water

Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND	F1 F2	0.30	0.050	ug/L			06/02/20 18:59	1
1,3,5-Trimethylbenzene	ND	F1 F2	0.50	0.15	ug/L			06/02/20 18:59	1
tert-Butylbenzene	ND	F1 F2	0.50	0.26	ug/L			06/02/20 18:59	1
1,2,4-Trimethylbenzene	ND	F1 F2	0.30	0.072	ug/L			06/02/20 18:59	1
sec-Butylbenzene	ND	F1 F2	1.0	0.17	ug/L			06/02/20 18:59	1
4-Isopropyltoluene	ND	F1 F2	0.50	0.15	ug/L			06/02/20 18:59	1
1,3-Dichlorobenzene	ND	F1 F2	0.30	0.050	ug/L			06/02/20 18:59	1
1,4-Dichlorobenzene	ND	F1 F2	0.30	0.050	ug/L			06/02/20 18:59	1
n-Butylbenzene	ND	F1 F2	1.0	0.23	ug/L			06/02/20 18:59	1
1,2-Dichlorobenzene	**0.31**	**F1 F2**	0.30	0.024	ug/L			06/02/20 18:59	1
1,2-Dibromo-3-Chloropropane	ND	F1 F2	2.0	0.44	ug/L			06/02/20 18:59	1
1,2,4-Trichlorobenzene	ND	F1 F2	0.50	0.17	ug/L			06/02/20 18:59	1
Hexachlorobutadiene	ND	F1 F2	0.50	0.067	ug/L			06/02/20 18:59	1
Naphthalene	ND	F1 F2	1.0	0.22	ug/L			06/02/20 18:59	1
1,2,3-Trichlorobenzene	ND	F1 F2	0.50	0.15	ug/L			06/02/20 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/02/20 18:59*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/02/20 18:59*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/20 18:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*06/02/20 18:59*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 13:30	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 13:30	1
4,4'-DDT	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 13:30	1
Aldrin	ND		0.0048	0.0014	ug/L		05/26/20 05:25	05/26/20 13:30	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 13:30	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/26/20 05:25	05/26/20 13:30	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/26/20 05:25	05/26/20 13:30	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/26/20 05:25	05/26/20 13:30	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/26/20 05:25	05/26/20 13:30	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/26/20 13:30	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/26/20 05:25	05/26/20 13:30	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/26/20 13:30	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/26/20 13:30	1
Endrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/26/20 13:30	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/26/20 05:25	05/26/20 13:30	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/26/20 05:25	05/26/20 13:30	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/26/20 13:30	1
trans-Chlordane	ND	F1	0.096	0.029	ug/L		05/26/20 05:25	05/26/20 13:30	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/26/20 13:30	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/26/20 13:30	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/26/20 05:25	05/26/20 13:30	1
Toxaphene	ND		0.48	0.24	ug/L		05/26/20 05:25	05/26/20 13:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*34*		*28 - 108*	*05/26/20 05:25*	*05/26/20 13:30*	*1*
Tetrachloro-m-xylene	*40*		*10 - 123*	*05/26/20 05:25*	*05/26/20 13:30*	*1*

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-32i-052220
Lab Sample ID: 580-94887-6
Date Collected: 05/22/20 07:21
Matrix: Water
Date Received: 05/22/20 12:30

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		20	5.0	ug/L			06/02/20 11:18	20

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/02/20 12:15	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.017**		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 18:29	5
Chromium	**0.019**		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 18:29	5
Iron	**7.1**		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 18:29	5
Manganese	**1.5**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 18:29	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.010**		0.0050	0.0010	mg/L		05/27/20 11:48	05/28/20 17:48	5
Chromium	**0.011**		0.0040	0.00087	mg/L		05/27/20 11:48	05/28/20 17:48	5
Iron	**3.8**	**F1**	1.0	0.18	mg/L		05/27/20 11:48	05/28/20 17:48	5
Manganese	**1.3**	**F1**	0.010	0.0023	mg/L		05/27/20 11:48	05/28/20 17:48	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		90	14	mg/L			05/27/20 16:47	100

Client Sample ID: Dup-03-052220
Lab Sample ID: 580-94887-7
Date Collected: 05/22/20 07:22
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 20:18	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 20:18	1
Vinyl chloride	**0.17**		0.020	0.013	ug/L			06/02/20 20:18	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 20:18	1
Chloroethane	**0.32**	**J**	0.50	0.096	ug/L			06/02/20 20:18	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 20:18	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 20:18	1
1,1-Dichloroethene	**0.13**	**J**	0.20	0.035	ug/L			06/02/20 20:18	1
Acetone	ND		10	3.1	ug/L			06/02/20 20:18	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/02/20 20:18	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 20:18	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 20:18	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 20:18	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/02/20 20:18	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 20:18	1
cis-1,2-Dichloroethene	**0.094**	**J**	0.20	0.055	ug/L			06/02/20 20:18	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 20:18	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 20:18	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 20:18	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 20:18	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 20:18	1
Benzene	**0.031**	**J**	0.20	0.030	ug/L			06/02/20 20:18	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 20:18	1
Trichloroethene	**0.070**	**J B**	0.20	0.066	ug/L			06/02/20 20:18	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 20:18	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 20:18	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 20:18	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 20:18	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 20:18	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 20:18	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 20:18	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 20:18	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 20:18	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 20:18	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 20:18	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 20:18	1
Chlorobenzene	**0.28**		0.20	0.025	ug/L			06/02/20 20:18	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 20:18	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 20:18	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 20:18	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 20:18	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 20:18	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 20:18	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 20:18	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 20:18	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 20:18	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 20:18	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 20:18	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 20:18	1

Client Sample ID: Dup-03-052220
Lab Sample ID: 580-94887-7

Date Collected: 05/22/20 07:22
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 20:18	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 20:18	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 20:18	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 20:18	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 20:18	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 20:18	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 20:18	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 20:18	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 20:18	1
1,2-Dichlorobenzene	**0.29**	**J**	0.30	0.024	ug/L			06/02/20 20:18	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 20:18	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 20:18	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 20:18	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 20:18	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 20:18*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/02/20 20:18*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/20 20:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/02/20 20:18*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 19:08	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 19:08	1
4,4'-DDT	**0.0049**		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 19:08	1
Aldrin	ND		0.0048	0.0014	ug/L		05/26/20 05:25	05/27/20 19:08	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 19:08	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/26/20 05:25	05/27/20 19:08	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/26/20 05:25	05/27/20 19:08	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/26/20 05:25	05/27/20 19:08	1
delta-BHC	ND		0.0048	0.0034	ug/L		05/26/20 05:25	05/27/20 19:08	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 19:08	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/26/20 05:25	05/27/20 19:08	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 19:08	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/27/20 19:08	1
Endrin	ND		0.0048	0.0019	ug/L		05/26/20 05:25	05/27/20 19:08	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/26/20 05:25	05/27/20 19:08	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/26/20 05:25	05/27/20 19:08	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/27/20 19:08	1
trans-Chlordane	ND		0.096	0.029	ug/L		05/26/20 05:25	05/27/20 19:08	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/26/20 05:25	05/27/20 19:08	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/26/20 05:25	05/27/20 19:08	1
Methoxychlor	ND		0.0048	0.0034	ug/L		05/26/20 05:25	05/27/20 19:08	1
Toxaphene	ND		0.48	0.24	ug/L		05/26/20 05:25	05/27/20 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*41*		*28 - 108*	*05/26/20 05:25*	*05/27/20 19:08*	*1*
Tetrachloro-m-xylene	*45*		*10 - 123*	*05/26/20 05:25*	*05/27/20 19:08*	*1*

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: Dup-03-052220
Lab Sample ID: 580-94887-7
Date Collected: 05/22/20 07:22
Matrix: Water
Date Received: 05/22/20 12:30

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		20	5.0	ug/L			06/02/20 11:56	20

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			05/28/20 20:13	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.014**		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 19:57	5
Chromium	**0.013**		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 19:57	5
Iron	**6.9**		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 19:57	5
Manganese	**1.7**		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 19:57	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0085**		0.0050	0.0010	mg/L		05/27/20 11:48	05/28/20 18:28	5
Chromium	**0.0057**		0.0040	0.00087	mg/L		05/27/20 11:48	05/28/20 18:28	5
Iron	**4.5**		1.0	0.18	mg/L		05/27/20 11:48	05/28/20 18:28	5
Manganese	**1.4**		0.010	0.0023	mg/L		05/27/20 11:48	05/28/20 18:28	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		90	14	mg/L			05/27/20 17:45	100

Client Sample ID: PA-04-052220
Lab Sample ID: 580-94887-8

Date Collected: 05/22/20 09:46
Matrix: Water

Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 20:45	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 20:45	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/02/20 20:45	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 20:45	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 20:45	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 20:45	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 20:45	1
1,1-Dichloroethene	**0.20**		0.20	0.035	ug/L			06/02/20 20:45	1
Acetone	ND		10	3.1	ug/L			06/02/20 20:45	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/02/20 20:45	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 20:45	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 20:45	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 20:45	1
1,1-Dichloroethane	**0.18**	**J**	0.20	0.025	ug/L			06/02/20 20:45	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 20:45	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/02/20 20:45	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 20:45	1
Chloroform	**0.034**	**J**	0.20	0.030	ug/L			06/02/20 20:45	1
1,1,1-Trichloroethane	**0.029**	**J**	0.20	0.025	ug/L			06/02/20 20:45	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 20:45	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 20:45	1
Benzene	ND		0.20	0.030	ug/L			06/02/20 20:45	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 20:45	1
Trichloroethene	**0.17**	**J B**	0.20	0.066	ug/L			06/02/20 20:45	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 20:45	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 20:45	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 20:45	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 20:45	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 20:45	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 20:45	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 20:45	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 20:45	1
Tetrachloroethene	**0.21**	**J**	0.50	0.084	ug/L			06/02/20 20:45	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 20:45	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 20:45	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 20:45	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/02/20 20:45	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 20:45	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 20:45	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 20:45	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 20:45	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 20:45	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 20:45	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 20:45	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 20:45	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 20:45	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 20:45	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 20:45	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 20:45	1

Client Sample ID: PA-04-052220
Lab Sample ID: 580-94887-8

Date Collected: 05/22/20 09:46
Matrix: Water

Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 20:45	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 20:45	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 20:45	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 20:45	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 20:45	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 20:45	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 20:45	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 20:45	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 20:45	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 20:45	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 20:45	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 20:45	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 20:45	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 20:45	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/02/20 20:45*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/02/20 20:45*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/20 20:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/02/20 20:45*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		2.0	0.50	ug/L			06/02/20 12:08	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	4.8	ug/L			06/01/20 17:32	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.18**		0.0050	0.0010	mg/L		05/27/20 11:48	05/28/20 18:31	5
Chromium	**0.0036**	**J**	0.0040	0.00087	mg/L		05/27/20 11:48	05/28/20 18:31	5
Iron	**1.5**		1.0	0.18	mg/L		05/27/20 11:48	05/28/20 18:31	5
Manganese	**0.086**		0.010	0.0023	mg/L		05/27/20 11:48	05/28/20 18:31	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12**		9.0	1.4	mg/L			05/27/20 17:57	10

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-11i-052220
Lab Sample ID: 580-94887-9
Date Collected: 05/22/20 09:45
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 21:45	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 21:45	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 21:45	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 21:45	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 21:45	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 21:45	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/02/20 21:45	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 21:45	1
Acetone	ND		50	3.2	ug/L			06/02/20 21:45	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/02/20 21:45	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 21:45	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 21:45	1
1,1-Dichloroethane	**0.75**	**J**	2.0	0.22	ug/L			06/02/20 21:45	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 21:45	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 21:45	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 21:45	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 21:45	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 21:45	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 21:45	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 21:45	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 21:45	1
Benzene	**0.81**	**J**	3.0	0.24	ug/L			06/02/20 21:45	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 21:45	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 21:45	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 21:45	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 21:45	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 21:45	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 21:45	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 21:45	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 21:45	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 21:45	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 21:45	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 21:45	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 21:45	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 21:45	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 21:45	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 21:45	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 21:45	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 21:45	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 21:45	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 21:45	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 21:45	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 21:45	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 21:45	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 21:45	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 21:45	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 21:45	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 21:45	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 21:45	1

Client Sample ID: PA-11i-052220
Lab Sample ID: 580-94887-9

Date Collected: 05/22/20 09:45
Matrix: Water
Date Received: 05/22/20 12:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 21:45	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 21:45	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 21:45	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 21:45	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 21:45	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 21:45	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 21:45	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 21:45	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 21:45	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 21:45	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 21:45	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 21:45	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 21:45	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 21:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/02/20 21:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/02/20 21:45*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/02/20 21:45*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 21:45*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**580**	**H**	100	22	ug/L			06/11/20 05:30	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/11/20 05:30*	*50*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*06/11/20 05:30*	*50*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/11/20 05:30*	*50*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/11/20 05:30*	*50*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		2.0	0.50	ug/L			06/02/20 12:21	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**120**	**J**	200	48	ug/L			06/01/20 18:07	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.016**		0.0050	0.0010	mg/L		05/27/20 11:48	05/28/20 18:34	5
Chromium	**0.0047**		0.0040	0.00087	mg/L		05/27/20 11:48	05/28/20 18:34	5
Iron	**44**		1.0	0.18	mg/L		05/27/20 11:48	05/28/20 18:34	5
Manganese	**1.7**		0.010	0.0023	mg/L		05/27/20 11:48	05/28/20 18:34	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**230**		9.0	1.4	mg/L			05/27/20 18:08	10

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329641/7
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 16:46	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 16:46	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/02/20 16:46	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 16:46	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 16:46	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 16:46	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 16:46	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/02/20 16:46	1
Acetone	ND		10	3.1	ug/L			06/02/20 16:46	1
Methylene Chloride	1.97	J	5.0	1.2	ug/L			06/02/20 16:46	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 16:46	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 16:46	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 16:46	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 16:46	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/02/20 16:46	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 16:46	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 16:46	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 16:46	1
Benzene	ND		0.20	0.030	ug/L			06/02/20 16:46	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 16:46	1
Trichloroethene	0.0958	J	0.20	0.066	ug/L			06/02/20 16:46	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 16:46	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 16:46	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 16:46	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 16:46	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 16:46	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 16:46	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 16:46	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 16:46	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 16:46	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 16:46	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 16:46	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/02/20 16:46	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 16:46	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 16:46	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 16:46	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 16:46	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 16:46	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 16:46	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 16:46	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 16:46	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 16:46	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 16:46	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329641/7
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 16:46	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 16:46	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 16:46	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 16:46	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 16:46	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 16:46	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 16:46	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 16:46	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 16:46	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 16:46	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 16:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 16:46*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 16:46*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/20 16:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/02/20 16:46*	*1*

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	6.43		ug/L		129	20 - 137
Chloromethane	5.00	4.90		ug/L		98	32 - 143
Vinyl chloride	5.00	4.61		ug/L		92	52 - 128
Bromomethane	5.00	4.68		ug/L		94	68 - 120
Chloroethane	5.00	4.61		ug/L		92	49 - 135
Carbon disulfide	5.00	4.21		ug/L		84	65 - 128
Trichlorofluoromethane	5.00	4.76		ug/L		95	60 - 132
1,1-Dichloroethene	5.00	4.76		ug/L		95	71 - 126
Acetone	25.0	23.9		ug/L		96	49 - 150
Methylene Chloride	5.00	6.16		ug/L		123	75 - 134
Methyl tert-butyl ether	5.00	4.01		ug/L		80	60 - 150
2-Butanone (MEK)	25.0	21.0		ug/L		84	64 - 136
trans-1,2-Dichloroethene	5.00	4.90		ug/L		98	63 - 133
1,1-Dichloroethane	5.00	4.55		ug/L		91	74 - 135
2,2-Dichloropropane	5.00	4.06		ug/L		81	58 - 150
cis-1,2-Dichloroethene	5.00	4.78		ug/L		96	72 - 130
Chlorobromomethane	5.00	4.92		ug/L		98	79 - 131
Chloroform	5.00	4.83		ug/L		97	80 - 130
1,1,1-Trichloroethane	5.00	4.44		ug/L		89	74 - 128
Carbon tetrachloride	5.00	4.33		ug/L		87	71 - 132

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	5.00	4.78		ug/L		96	72 - 132
Benzene	5.00	4.89		ug/L		98	73 - 133
1,2-Dichloroethane	5.00	4.78		ug/L		96	74 - 130
Trichloroethene	5.00	5.15		ug/L		103	72 - 136
1,2-Dichloropropane	5.00	4.83		ug/L		97	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	22.1		ug/L		88	65 - 137
Dibromomethane	5.00	4.65		ug/L		93	65 - 141
Dichlorobromomethane	5.00	4.71		ug/L		94	74 - 131
cis-1,3-Dichloropropene	5.00	4.52		ug/L		90	66 - 141
Toluene	5.00	4.67		ug/L		93	80 - 126
trans-1,3-Dichloropropene	5.00	4.17		ug/L		83	71 - 128
1,1,2-Trichloroethane	5.00	4.89		ug/L		98	80 - 127
Tetrachloroethene	5.00	4.87		ug/L		97	75 - 131
1,3-Dichloropropane	5.00	4.83		ug/L		97	80 - 130
Chlorodibromomethane	5.00	4.87		ug/L		97	76 - 131
Ethylene Dibromide	5.00	5.05		ug/L		101	80 - 126
Chlorobenzene	5.00	5.43		ug/L		109	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.62		ug/L		92	79 - 127
Ethylbenzene	5.00	4.54		ug/L		91	80 - 130
m-Xylene & p-Xylene	5.00	4.68		ug/L		94	78 - 130
o-Xylene	5.00	5.29		ug/L		106	80 - 139
Styrene	5.00	5.42		ug/L		108	74 - 136
Bromoform	5.00	3.94		ug/L		79	69 - 137
Isopropylbenzene	5.00	4.85		ug/L		97	75 - 137
Bromobenzene	5.00	4.97		ug/L		99	80 - 130
1,1,2,2-Tetrachloroethane	5.00	4.90		ug/L		98	69 - 139
1,2,3-Trichloropropane	5.00	4.71		ug/L		94	80 - 127
N-Propylbenzene	5.00	5.01		ug/L		100	77 - 142
2-Chlorotoluene	5.00	4.76		ug/L		95	80 - 136
4-Chlorotoluene	5.00	5.02		ug/L		100	80 - 130
1,3,5-Trimethylbenzene	5.00	5.22		ug/L		104	80 - 139
tert-Butylbenzene	5.00	5.18		ug/L		104	77 - 140
1,2,4-Trimethylbenzene	5.00	4.95		ug/L		99	78 - 136
sec-Butylbenzene	5.00	5.21		ug/L		104	78 - 140
4-Isopropyltoluene	5.00	5.14		ug/L		103	78 - 132
1,3-Dichlorobenzene	5.00	5.14		ug/L		103	80 - 130
1,4-Dichlorobenzene	5.00	5.03		ug/L		101	80 - 129
n-Butylbenzene	5.00	4.86		ug/L		97	73 - 135
1,2-Dichlorobenzene	5.00	5.06		ug/L		101	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.00		ug/L		80	69 - 130
1,2,4-Trichlorobenzene	5.00	4.76		ug/L		95	79 - 130
Hexachlorobutadiene	5.00	4.74		ug/L		95	72 - 138
Naphthalene	5.00	4.81		ug/L		96	64 - 132
1,2,3-Trichlorobenzene	5.00	4.84		ug/L		97	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 580-329641/5
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	6.00		ug/L		120	20 - 137	7	22
Chloromethane	5.00	4.45		ug/L		89	32 - 143	10	23
Vinyl chloride	5.00	4.23		ug/L		85	52 - 128	9	21
Bromomethane	5.00	4.48		ug/L		90	68 - 120	4	18
Chloroethane	5.00	4.40		ug/L		88	49 - 135	5	27
Carbon disulfide	5.00	3.91		ug/L		78	65 - 128	7	23
Trichlorofluoromethane	5.00	4.43		ug/L		89	60 - 132	7	20
1,1-Dichloroethene	5.00	4.45		ug/L		89	71 - 126	7	17
Acetone	25.0	24.6		ug/L		98	49 - 150	3	24
Methylene Chloride	5.00	6.00		ug/L		120	75 - 134	3	18
Methyl tert-butyl ether	5.00	4.19		ug/L		84	60 - 150	4	25
2-Butanone (MEK)	25.0	22.7		ug/L		91	64 - 136	8	23
trans-1,2-Dichloroethene	5.00	4.65		ug/L		93	63 - 133	5	17
1,1-Dichloroethane	5.00	4.34		ug/L		87	74 - 135	5	20
2,2-Dichloropropane	5.00	3.84		ug/L		77	58 - 150	6	28
cis-1,2-Dichloroethene	5.00	4.54		ug/L		91	72 - 130	5	20
Chlorobromomethane	5.00	4.85		ug/L		97	79 - 131	1	20
Chloroform	5.00	4.65		ug/L		93	80 - 130	4	20
1,1,1-Trichloroethane	5.00	4.17		ug/L		83	74 - 128	6	14
Carbon tetrachloride	5.00	4.07		ug/L		81	71 - 132	6	15
1,1-Dichloropropene	5.00	4.51		ug/L		90	72 - 132	6	13
Benzene	5.00	4.71		ug/L		94	73 - 133	4	20
1,2-Dichloroethane	5.00	4.86		ug/L		97	74 - 130	2	15
Trichloroethene	5.00	4.97		ug/L		99	72 - 136	3	14
1,2-Dichloropropane	5.00	4.75		ug/L		95	80 - 130	2	14
4-Methyl-2-pentanone (MIBK)	25.0	23.0		ug/L		92	65 - 137	4	24
Dibromomethane	5.00	4.77		ug/L		95	65 - 141	3	20
Dichlorobromomethane	5.00	4.67		ug/L		93	74 - 131	1	20
cis-1,3-Dichloropropene	5.00	4.49		ug/L		90	66 - 141	1	22
Toluene	5.00	4.40		ug/L		88	80 - 126	6	20
trans-1,3-Dichloropropene	5.00	4.32		ug/L		86	71 - 128	3	21
1,1,2-Trichloroethane	5.00	4.93		ug/L		99	80 - 127	1	19
Tetrachloroethene	5.00	4.52		ug/L		90	75 - 131	7	20
1,3-Dichloropropane	5.00	4.93		ug/L		99	80 - 130	2	19
Chlorodibromomethane	5.00	4.86		ug/L		97	76 - 131	0	20
Ethylene Dibromide	5.00	5.13		ug/L		103	80 - 126	2	20
Chlorobenzene	5.00	5.23		ug/L		105	80 - 123	4	12
1,1,1,2-Tetrachloroethane	5.00	4.44		ug/L		89	79 - 127	4	20
Ethylbenzene	5.00	4.27		ug/L		85	80 - 130	6	20
m-Xylene & p-Xylene	5.00	4.42		ug/L		88	78 - 130	6	20

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329641/5
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene			5.00	4.97		ug/L		99	80 - 139	6	20
Styrene			5.00	5.23		ug/L		105	74 - 136	4	20
Bromoform			5.00	4.04		ug/L		81	69 - 137	3	20
Isopropylbenzene			5.00	4.51		ug/L		90	75 - 137	7	20
Bromobenzene			5.00	4.82		ug/L		96	80 - 130	3	20
1,1,2,2-Tetrachloroethane			5.00	4.94		ug/L		99	69 - 139	1	22
1,2,3-Trichloropropane			5.00	4.83		ug/L		97	80 - 127	3	20
N-Propylbenzene			5.00	4.63		ug/L		93	77 - 142	8	20
2-Chlorotoluene			5.00	4.38		ug/L		88	80 - 136	8	20
4-Chlorotoluene			5.00	4.78		ug/L		96	80 - 130	5	20
1,3,5-Trimethylbenzene			5.00	4.80		ug/L		96	80 - 139	8	20
tert-Butylbenzene			5.00	4.75		ug/L		95	77 - 140	9	20
1,2,4-Trimethylbenzene			5.00	4.58		ug/L		92	78 - 136	8	20
sec-Butylbenzene			5.00	4.76		ug/L		95	78 - 140	9	20
4-Isopropyltoluene			5.00	4.71		ug/L		94	78 - 132	9	14
1,3-Dichlorobenzene			5.00	4.88		ug/L		98	80 - 130	5	12
1,4-Dichlorobenzene			5.00	4.82		ug/L		96	80 - 129	4	11
n-Butylbenzene			5.00	4.41		ug/L		88	73 - 135	10	18
1,2-Dichlorobenzene			5.00	4.86		ug/L		97	80 - 129	4	14
1,2-Dibromo-3-Chloropropane			5.00	4.01		ug/L		80	69 - 130	0	26
1,2,4-Trichlorobenzene			5.00	4.57		ug/L		91	79 - 130	4	20
Hexachlorobutadiene			5.00	4.27		ug/L		85	72 - 138	10	20
Naphthalene			5.00	4.62		ug/L		92	64 - 132	4	20
1,2,3-Trichlorobenzene			5.00	4.66		ug/L		93	75 - 137	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 329641

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND	F2	5.00	4.36		ug/L		87	20 - 137
Chloromethane	ND	F2	5.00	3.97		ug/L		79	32 - 143
Vinyl chloride	0.17	F2	5.00	3.83		ug/L		73	52 - 128
Bromomethane	ND	F2	5.00	3.65		ug/L		73	68 - 120
Chloroethane	0.26	J F2	5.00	3.91		ug/L		73	49 - 135
Carbon disulfide	ND	F1 F2	5.00	3.20	F1	ug/L		64	65 - 128
Trichlorofluoromethane	ND	F2	5.00	3.46		ug/L		69	60 - 132
1,1-Dichloroethene	0.12	J F2	5.00	3.74		ug/L		72	71 - 126
Acetone	ND		25.0	21.3		ug/L		85	49 - 150
Methylene Chloride	ND	F1 F2	5.00	3.27	J F1	ug/L		65	75 - 134
Methyl tert-butyl ether	ND	F2	5.00	3.01		ug/L		60	60 - 150
2-Butanone (MEK)	ND	F2	25.0	17.1		ug/L		68	64 - 136

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 329641

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	ND	F2	5.00	3.72		ug/L		74	63 - 133
1,1-Dichloroethane	ND	F1 F2	5.00	3.46	F1	ug/L		69	74 - 135
2,2-Dichloropropane	ND	F1 F2	5.00	2.75	F1	ug/L		55	58 - 150
cis-1,2-Dichloroethene	0.080	J F2	5.00	3.68		ug/L		72	72 - 130
Chlorobromomethane	ND	F1 F2	5.00	3.80	F1	ug/L		76	79 - 131
Chloroform	ND	F1 F2	5.00	3.66	F1	ug/L		73	80 - 130
1,1,1-Trichloroethane	ND	F1 F2	5.00	3.24	F1	ug/L		65	74 - 128
Carbon tetrachloride	ND	F1 F2	5.00	3.11	F1	ug/L		62	71 - 132
1,1-Dichloropropene	ND	F1 F2	5.00	3.41	F1	ug/L		68	72 - 132
Benzene	ND	F2	5.00	3.76		ug/L		75	73 - 133
1,2-Dichloroethane	ND	F2	5.00	3.82		ug/L		76	74 - 130
Trichloroethene	0.070	J F2 B	5.00	3.70		ug/L		73	72 - 136
1,2-Dichloropropane	ND	F1 F2	5.00	3.65	F1	ug/L		73	80 - 130
4-Methyl-2-pentanone (MIBK)	ND		25.0	17.8		ug/L		71	65 - 137
Dibromomethane	ND	F2	5.00	3.67		ug/L		73	65 - 141
Dichlorobromomethane	ND	F1 F2	5.00	3.53	F1	ug/L		71	74 - 131
cis-1,3-Dichloropropene	ND	F1 F2	5.00	3.11	F1	ug/L		62	66 - 141
Toluene	ND	F1 F2	5.00	3.35	F1	ug/L		67	80 - 126
trans-1,3-Dichloropropene	ND	F1 F2	5.00	2.99	F1	ug/L		60	71 - 128
1,1,2-Trichloroethane	ND	F1 F2	5.00	3.67	F1	ug/L		73	80 - 127
Tetrachloroethene	ND	F1 F2	5.00	3.03	F1	ug/L		61	75 - 131
1,3-Dichloropropane	ND	F1 F2	5.00	3.65	F1	ug/L		73	80 - 130
Chlorodibromomethane	ND	F1 F2	5.00	3.45	F1	ug/L		69	76 - 131
Ethylene Dibromide	ND	F1 F2	5.00	3.84	F1	ug/L		77	80 - 126
Chlorobenzene	0.28	F1 F2	5.00	4.15	F1	ug/L		77	80 - 123
1,1,1,2-Tetrachloroethane	ND	F1 F2	5.00	3.24	F1	ug/L		65	79 - 127
Ethylbenzene	ND	F1 F2	5.00	3.07	F1	ug/L		61	80 - 130
m-Xylene & p-Xylene	ND	F1 F2	5.00	3.16	F1	ug/L		63	78 - 130
o-Xylene	ND	F1 F2	5.00	3.67	F1	ug/L		73	80 - 139
Styrene	ND	F2	5.00	3.92		ug/L		78	74 - 136
Bromoform	ND	F1 F2	5.00	2.78	F1	ug/L		56	69 - 137
Isopropylbenzene	ND	F1 F2	5.00	3.18	F1	ug/L		64	75 - 137
Bromobenzene	ND	F1 F2	5.00	3.31	F1	ug/L		66	80 - 130
1,1,2,2-Tetrachloroethane	ND	F2	5.00	3.47		ug/L		69	69 - 139
1,2,3-Trichloropropane	ND	F1 F2	5.00	3.42	F1	ug/L		68	80 - 127
N-Propylbenzene	ND	F1 F2	5.00	2.98	F1	ug/L		60	77 - 142
2-Chlorotoluene	ND	F1 F2	5.00	2.94	F1	ug/L		59	80 - 136
4-Chlorotoluene	ND	F1 F2	5.00	3.15	F1	ug/L		63	80 - 130
1,3,5-Trimethylbenzene	ND	F1 F2	5.00	3.12	F1	ug/L		62	80 - 139
tert-Butylbenzene	ND	F1 F2	5.00	3.13	F1	ug/L		63	77 - 140
1,2,4-Trimethylbenzene	ND	F1 F2	5.00	3.00	F1	ug/L		60	78 - 136
sec-Butylbenzene	ND	F1 F2	5.00	3.01	F1	ug/L		60	78 - 140
4-Isopropyltoluene	ND	F1 F2	5.00	2.88	F1	ug/L		58	78 - 132
1,3-Dichlorobenzene	ND	F1 F2	5.00	3.20	F1	ug/L		64	80 - 130
1,4-Dichlorobenzene	ND	F1 F2	5.00	3.20	F1	ug/L		64	80 - 129
n-Butylbenzene	ND	F1 F2	5.00	2.55	F1	ug/L		51	73 - 135
1,2-Dichlorobenzene	0.31	F1 F2	5.00	3.69	F1	ug/L		68	80 - 129
1,2-Dibromo-3-Chloropropane	ND	F1 F2	5.00	2.70	F1	ug/L		54	69 - 130
1,2,4-Trichlorobenzene	ND	F1 F2	5.00	2.62	F1	ug/L		52	79 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 329641

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	ND	F1 F2	5.00	2.28	F1	ug/L		46	72 - 138
Naphthalene	ND	F1 F2	5.00	2.95	F1	ug/L		59	64 - 132
1,2,3-Trichlorobenzene	ND	F1 F2	5.00	2.83	F1	ug/L		57	75 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*

Lab Sample ID: 580-94887-6 MSD
Matrix: Water
Analysis Batch: 329641

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND	F2	5.00	6.54	F2	ug/L		131	20 - 137	40	22
Chloromethane	ND	F2	5.00	5.52	F2	ug/L		110	32 - 143	33	23
Vinyl chloride	0.17	F2	5.00	5.28	F2	ug/L		102	52 - 128	32	21
Bromomethane	ND	F2	5.00	4.89	F2	ug/L		98	68 - 120	29	18
Chloroethane	0.26	J F2	5.00	5.41	F2	ug/L		103	49 - 135	32	27
Carbon disulfide	ND	F1 F2	5.00	4.41	F2	ug/L		88	65 - 128	32	23
Trichlorofluoromethane	ND	F2	5.00	4.96	F2	ug/L		99	60 - 132	36	20
1,1-Dichloroethene	0.12	J F2	5.00	5.18	F2	ug/L		101	71 - 126	32	17
Acetone	ND		25.0	26.6		ug/L		106	49 - 150	22	24
Methylene Chloride	ND	F1 F2	5.00	4.26	J F2	ug/L		85	75 - 134	26	18
Methyl tert-butyl ether	ND	F2	5.00	4.26	F2	ug/L		85	60 - 150	34	25
2-Butanone (MEK)	ND	F2	25.0	22.0	F2	ug/L		88	64 - 136	25	23
trans-1,2-Dichloroethene	ND	F2	5.00	5.08	F2	ug/L		102	63 - 133	31	17
1,1-Dichloroethane	ND	F1 F2	5.00	4.68	F2	ug/L		94	74 - 135	30	20
2,2-Dichloropropane	ND	F1 F2	5.00	4.06	F2	ug/L		81	58 - 150	38	28
cis-1,2-Dichloroethene	0.080	J F2	5.00	4.88	F2	ug/L		96	72 - 130	28	20
Chlorobromomethane	ND	F1 F2	5.00	5.01	F2	ug/L		100	79 - 131	27	20
Chloroform	ND	F1 F2	5.00	4.92	F2	ug/L		98	80 - 130	29	20
1,1,1-Trichloroethane	ND	F1 F2	5.00	4.59	F2	ug/L		92	74 - 128	35	14
Carbon tetrachloride	ND	F1 F2	5.00	4.53	F2	ug/L		91	71 - 132	37	15
1,1-Dichloropropene	ND	F1 F2	5.00	4.93	F2	ug/L		99	72 - 132	37	13
Benzene	ND	F2	5.00	5.05	F2	ug/L		101	73 - 133	29	20
1,2-Dichloroethane	ND	F2	5.00	4.96	F2	ug/L		99	74 - 130	26	15
Trichloroethene	0.070	J F2 B	5.00	5.19	F2	ug/L		102	72 - 136	33	14
1,2-Dichloropropane	ND	F1 F2	5.00	4.92	F2	ug/L		98	80 - 130	30	14
4-Methyl-2-pentanone (MIBK)	ND		25.0	22.7		ug/L		91	65 - 137	24	24
Dibromomethane	ND	F2	5.00	4.70	F2	ug/L		94	65 - 141	25	20
Dichlorobromomethane	ND	F1 F2	5.00	4.71	F2	ug/L		94	74 - 131	29	20
cis-1,3-Dichloropropene	ND	F1 F2	5.00	4.28	F2	ug/L		86	66 - 141	32	22
Toluene	ND	F1 F2	5.00	4.65	F2	ug/L		93	80 - 126	33	20
trans-1,3-Dichloropropene	ND	F1 F2	5.00	4.07	F2	ug/L		81	71 - 128	31	21
1,1,2-Trichloroethane	ND	F1 F2	5.00	4.87	F2	ug/L		97	80 - 127	28	19
Tetrachloroethene	ND	F1 F2	5.00	4.69	F2	ug/L		94	75 - 131	43	20

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94887-6 MSD
Matrix: Water
Analysis Batch: 329641

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichloropropane	ND	F1 F2	5.00	4.83	F2	ug/L		97	80 - 130	28	19
Chlorodibromomethane	ND	F1 F2	5.00	4.70	F2	ug/L		94	76 - 131	31	20
Ethylene Dibromide	ND	F1 F2	5.00	5.06	F2	ug/L		101	80 - 126	27	20
Chlorobenzene	0.28	F1 F2	5.00	5.60	F2	ug/L		106	80 - 123	30	12
1,1,1,2-Tetrachloroethane	ND	F1 F2	5.00	4.56	F2	ug/L		91	79 - 127	34	20
Ethylbenzene	ND	F1 F2	5.00	4.52	F2	ug/L		90	80 - 130	38	20
m-Xylene & p-Xylene	ND	F1 F2	5.00	4.63	F2	ug/L		93	78 - 130	38	20
o-Xylene	ND	F1 F2	5.00	5.27	F2	ug/L		105	80 - 139	36	20
Styrene	ND	F2	5.00	5.30	F2	ug/L		106	74 - 136	30	20
Bromoform	ND	F1 F2	5.00	3.85	F2	ug/L		77	69 - 137	32	20
Isopropylbenzene	ND	F1 F2	5.00	4.79	F2	ug/L		96	75 - 137	40	20
Bromobenzene	ND	F1 F2	5.00	4.72	F2	ug/L		94	80 - 130	35	20
1,1,2,2-Tetrachloroethane	ND	F2	5.00	4.74	F2	ug/L		95	69 - 139	31	22
1,2,3-Trichloropropane	ND	F1 F2	5.00	4.71	F2	ug/L		94	80 - 127	32	20
N-Propylbenzene	ND	F1 F2	5.00	4.68	F2	ug/L		94	77 - 142	45	20
2-Chlorotoluene	ND	F1 F2	5.00	4.42	F2	ug/L		88	80 - 136	40	20
4-Chlorotoluene	ND	F1 F2	5.00	4.67	F2	ug/L		93	80 - 130	39	20
1,3,5-Trimethylbenzene	ND	F1 F2	5.00	4.83	F2	ug/L		97	80 - 139	43	20
tert-Butylbenzene	ND	F1 F2	5.00	4.89	F2	ug/L		98	77 - 140	44	20
1,2,4-Trimethylbenzene	ND	F1 F2	5.00	4.59	F2	ug/L		92	78 - 136	42	20
sec-Butylbenzene	ND	F1 F2	5.00	4.84	F2	ug/L		97	78 - 140	46	20
4-Isopropyltoluene	ND	F1 F2	5.00	4.69	F2	ug/L		94	78 - 132	48	14
1,3-Dichlorobenzene	ND	F1 F2	5.00	4.77	F2	ug/L		95	80 - 130	39	12
1,4-Dichlorobenzene	ND	F1 F2	5.00	4.65	F2	ug/L		93	80 - 129	37	11
n-Butylbenzene	ND	F1 F2	5.00	4.26	F2	ug/L		85	73 - 135	50	18
1,2-Dichlorobenzene	0.31	F1 F2	5.00	5.12	F2	ug/L		96	80 - 129	33	14
1,2-Dibromo-3-Chloropropane	ND	F1 F2	5.00	3.82	F2	ug/L		76	69 - 130	34	26
1,2,4-Trichlorobenzene	ND	F1 F2	5.00	4.31	F2	ug/L		86	79 - 130	49	20
Hexachlorobutadiene	ND	F1 F2	5.00	3.98	F2	ug/L		80	72 - 138	54	20
Naphthalene	ND	F1 F2	5.00	4.51	F2	ug/L		90	64 - 132	42	20
1,2,3-Trichlorobenzene	ND	F1 F2	5.00	4.51	F2	ug/L		90	75 - 137	46	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 18:11	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 18:11	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 18:11	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 18:11	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 18:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 18:11	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/02/20 18:11	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 18:11	1
Acetone	ND		50	3.2	ug/L			06/02/20 18:11	1
Methylene Chloride	1.59	J	5.0	1.4	ug/L			06/02/20 18:11	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 18:11	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 18:11	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/02/20 18:11	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 18:11	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 18:11	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 18:11	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 18:11	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 18:11	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 18:11	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 18:11	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 18:11	1
Benzene	ND		3.0	0.24	ug/L			06/02/20 18:11	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 18:11	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 18:11	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 18:11	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 18:11	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 18:11	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 18:11	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 18:11	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 18:11	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 18:11	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 18:11	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 18:11	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 18:11	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 18:11	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 18:11	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 18:11	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 18:11	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 18:11	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 18:11	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 18:11	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 18:11	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 18:11	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 18:11	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 18:11	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 18:11	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 18:11	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 18:11	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 18:11	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 18:11	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 18:11	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 18:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 18:11	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 18:11	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 18:11	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 18:11	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 18:11	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 18:11	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 18:11	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 18:11	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 18:11	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 18:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*06/02/20 18:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/02/20 18:11*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/02/20 18:11*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 18:11*	*1*

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.95	J	ug/L		49	20 - 150
Chloromethane	10.0	8.36	J	ug/L		84	52 - 135
Vinyl chloride	10.0	8.63		ug/L		86	65 - 130
Bromomethane	10.0	9.30		ug/L		93	66 - 125
Chloroethane	10.0	8.90		ug/L		89	65 - 132
Trichlorofluoromethane	10.0	8.92		ug/L		89	64 - 136
Carbon disulfide	10.0	6.40	*	ug/L		64	69 - 122
1,1-Dichloroethene	10.0	9.43		ug/L		94	70 - 129
Acetone	50.0	51.0		ug/L		102	43 - 150
Methylene Chloride	10.0	11.0		ug/L		110	77 - 125
Methyl tert-butyl ether	10.0	10.1		ug/L		101	72 - 130
trans-1,2-Dichloroethene	10.0	8.36		ug/L		84	77 - 124
1,1-Dichloroethane	10.0	9.76		ug/L		98	70 - 129
2-Butanone (MEK)	50.0	47.8		ug/L		96	65 - 127
2,2-Dichloropropane	10.0	9.76		ug/L		98	62 - 140
cis-1,2-Dichloroethene	10.0	9.41		ug/L		94	76 - 129
Bromochloromethane	10.0	8.93		ug/L		89	78 - 120
Chloroform	10.0	10.2		ug/L		102	73 - 127
1,1,1-Trichloroethane	10.0	9.85		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.29		ug/L		93	72 - 129
1,1-Dichloropropene	10.0	9.44		ug/L		94	80 - 120
Benzene	10.0	10.1		ug/L		101	75 - 121
1,2-Dichloroethane	10.0	10.2		ug/L		102	76 - 131
Trichloroethene	10.0	9.40		ug/L		94	70 - 120
1,2-Dichloropropane	10.0	10.0		ug/L		100	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	45.6		ug/L		91	69 - 124

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	10.0	10.0		ug/L		100	80 - 120
Bromodichloromethane	10.0	9.98		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	11.6		ug/L		116	77 - 120
Toluene	10.0	10.3		ug/L		103	80 - 120
trans-1,3-Dichloropropene	10.0	9.83		ug/L		98	80 - 122
1,1,2-Trichloroethane	10.0	9.83		ug/L		98	80 - 121
Tetrachloroethene	10.0	8.82		ug/L		88	76 - 120
1,3-Dichloropropane	10.0	10.1		ug/L		101	79 - 120
Dibromochloromethane	10.0	8.87		ug/L		89	71 - 120
1,2-Dibromoethane	10.0	9.73		ug/L		97	79 - 120
Chlorobenzene	10.0	9.56		ug/L		96	80 - 120
1,1,1,2-Tetrachloroethane	10.0	8.95		ug/L		89	79 - 120
Ethylbenzene	10.0	9.60		ug/L		96	80 - 120
m-Xylene & p-Xylene	10.0	9.61		ug/L		96	80 - 120
o-Xylene	10.0	9.04		ug/L		90	80 - 120
Styrene	10.0	8.79		ug/L		88	76 - 121
Bromoform	10.0	7.54		ug/L		75	61 - 132
Isopropylbenzene	10.0	9.32		ug/L		93	75 - 120
Bromobenzene	10.0	9.88		ug/L		99	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.2		ug/L		102	74 - 124
1,2,3-Trichloropropane	10.0	9.92		ug/L		99	76 - 124
N-Propylbenzene	10.0	10.2		ug/L		102	80 - 120
2-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120
4-Chlorotoluene	10.0	10.4		ug/L		104	80 - 120
t-Butylbenzene	10.0	10.1		ug/L		101	80 - 121
1,2,4-Trimethylbenzene	10.0	10.2		ug/L		102	80 - 120
sec-Butylbenzene	10.0	10.3		ug/L		103	78 - 120
4-Isopropyltoluene	10.0	10.1		ug/L		101	77 - 120
1,3-Dichlorobenzene	10.0	8.32		ug/L		83	80 - 120
1,4-Dichlorobenzene	10.0	9.73		ug/L		97	80 - 120
n-Butylbenzene	10.0	10.4		ug/L		104	78 - 120
1,2-Dichlorobenzene	10.0	9.69		ug/L		97	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.78	J	ug/L		98	65 - 125
1,2,4-Trichlorobenzene	10.0	8.90		ug/L		89	57 - 140
Hexachlorobutadiene	10.0	9.59		ug/L		96	74 - 125
Naphthalene	10.0	12.6		ug/L		126	44 - 144
1,2,3-Trichlorobenzene	10.0	12.0		ug/L		120	23 - 150
1,3,5-Trimethylbenzene	10.0	10.4		ug/L		104	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	4.91	J	ug/L		49	20 - 150	1	35
Chloromethane	10.0	8.24	J	ug/L		82	52 - 135	1	23
Vinyl chloride	10.0	8.93		ug/L		89	65 - 130	3	28
Bromomethane	10.0	9.20		ug/L		92	66 - 125	1	27
Chloroethane	10.0	8.93		ug/L		89	65 - 132	0	35
Trichlorofluoromethane	10.0	8.90		ug/L		89	64 - 136	0	27
Carbon disulfide	10.0	6.29	*	ug/L		63	69 - 122	2	20
1,1-Dichloroethene	10.0	9.20		ug/L		92	70 - 129	2	27
Acetone	50.0	49.2	J	ug/L		98	43 - 150	4	35
Methylene Chloride	10.0	11.1		ug/L		111	77 - 125	1	18
Methyl tert-butyl ether	10.0	10.1		ug/L		101	72 - 130	1	18
trans-1,2-Dichloroethene	10.0	8.94		ug/L		89	77 - 124	7	21
1,1-Dichloroethane	10.0	9.85		ug/L		98	70 - 129	1	26
2-Butanone (MEK)	50.0	46.1		ug/L		92	65 - 127	4	29
2,2-Dichloropropane	10.0	10.0		ug/L		100	62 - 140	3	23
cis-1,2-Dichloroethene	10.0	9.14		ug/L		91	76 - 129	3	15
Bromochloromethane	10.0	9.24		ug/L		92	78 - 120	3	20
Chloroform	10.0	10.3		ug/L		103	73 - 127	1	22
1,1,1-Trichloroethane	10.0	9.71		ug/L		97	74 - 130	1	18
Carbon tetrachloride	10.0	9.39		ug/L		94	72 - 129	1	19
1,1-Dichloropropene	10.0	9.26		ug/L		93	80 - 120	2	14
Benzene	10.0	9.76		ug/L		98	75 - 121	3	14
1,2-Dichloroethane	10.0	10.2		ug/L		102	76 - 131	0	18
Trichloroethene	10.0	9.29		ug/L		93	70 - 120	1	21
1,2-Dichloropropane	10.0	9.89		ug/L		99	72 - 126	1	26
4-Methyl-2-pentanone (MIBK)	50.0	44.3		ug/L		89	69 - 124	3	22
Dibromomethane	10.0	10.0		ug/L		100	80 - 120	0	22
Bromodichloromethane	10.0	9.70		ug/L		97	75 - 124	3	22
cis-1,3-Dichloropropene	10.0	9.69		ug/L		97	77 - 120	18	20
Toluene	10.0	9.78		ug/L		98	80 - 120	5	19
trans-1,3-Dichloropropene	10.0	9.38		ug/L		94	80 - 122	5	25
1,1,2-Trichloroethane	10.0	9.49		ug/L		95	80 - 121	4	21
Tetrachloroethene	10.0	8.52		ug/L		85	76 - 120	3	20
1,3-Dichloropropane	10.0	9.59		ug/L		96	79 - 120	5	26
Dibromochloromethane	10.0	8.73		ug/L		87	71 - 120	2	24
1,2-Dibromoethane	10.0	9.34		ug/L		93	79 - 120	4	20
Chlorobenzene	10.0	9.56		ug/L		96	80 - 120	0	15
1,1,1,2-Tetrachloroethane	10.0	9.08		ug/L		91	79 - 120	1	20
Ethylbenzene	10.0	9.39		ug/L		94	80 - 120	2	14
m-Xylene & p-Xylene	10.0	9.52		ug/L		95	80 - 120	1	14
o-Xylene	10.0	9.16		ug/L		92	80 - 120	1	16
Styrene	10.0	8.67		ug/L		87	76 - 121	1	16
Bromoform	10.0	7.72		ug/L		77	61 - 132	2	20
Isopropylbenzene	10.0	9.37		ug/L		94	75 - 120	1	20
Bromobenzene	10.0	8.99		ug/L		90	80 - 120	9	13
1,1,2,2-Tetrachloroethane	10.0	9.52		ug/L		95	74 - 124	7	18
1,2,3-Trichloropropane	10.0	9.41		ug/L		94	76 - 124	5	30
N-Propylbenzene	10.0	9.34		ug/L		93	80 - 120	8	13

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chlorotoluene			10.0	9.50		ug/L		95	80 - 120	6	15
4-Chlorotoluene			10.0	9.66		ug/L		97	80 - 120	7	14
t-Butylbenzene			10.0	9.40		ug/L		94	80 - 121	7	14
1,2,4-Trimethylbenzene			10.0	9.74		ug/L		97	80 - 120	5	16
sec-Butylbenzene			10.0	9.63		ug/L		96	78 - 120	7	15
4-Isopropyltoluene			10.0	9.45		ug/L		94	77 - 120	6	13
1,3-Dichlorobenzene			10.0	8.92		ug/L		89	80 - 120	7	14
1,4-Dichlorobenzene			10.0	9.20		ug/L		92	80 - 120	6	17
n-Butylbenzene			10.0	9.99		ug/L		100	78 - 120	4	14
1,2-Dichlorobenzene			10.0	9.36		ug/L		94	80 - 120	3	15
1,2-Dibromo-3-Chloropropane			10.0	9.41	J	ug/L		94	65 - 125	4	27
1,2,4-Trichlorobenzene			10.0	9.35		ug/L		93	57 - 140	5	27
Hexachlorobutadiene			10.0	9.66		ug/L		97	74 - 125	1	22
Naphthalene			10.0	11.8		ug/L		118	44 - 144	6	31
1,2,3-Trichlorobenzene			10.0	11.2		ug/L		112	23 - 150	7	35
1,3,5-Trimethylbenzene			10.0	9.71		ug/L		97	80 - 120	7	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 19:14	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 19:14	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 19:14	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 19:14	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 19:14	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 19:14	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/04/20 19:14	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 19:14	1
Acetone	ND		50	3.2	ug/L			06/04/20 19:14	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 19:14	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 19:14	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/04/20 19:14	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/04/20 19:14	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 19:14	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 19:14	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 19:14	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 19:14	1
Chloroform	ND		5.0	0.26	ug/L			06/04/20 19:14	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 19:14	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 19:14	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 19:14	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 19:14	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 19:14	1
Trichloroethene	ND		3.0	0.26	ug/L			06/04/20 19:14	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 19:14	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 19:14	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 19:14	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 19:14	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 19:14	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 19:14	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 19:14	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 19:14	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 19:14	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 19:14	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 19:14	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 19:14	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 19:14	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:14	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 19:14	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 19:14	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 19:14	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 19:14	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 19:14	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 19:14	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 19:14	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:14	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 19:14	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 19:14	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 19:14	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 19:14	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 19:14	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 19:14	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 19:14	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 19:14	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 19:14	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 19:14	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 19:14	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 19:14	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 19:14	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 19:14	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 19:14	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 19:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/04/20 19:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/04/20 19:14*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/04/20 19:14*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/04/20 19:14*	*1*

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.46	J	ug/L		45	20 - 150
Chloromethane	10.0	7.64	J	ug/L		76	52 - 135
Vinyl chloride	10.0	7.63		ug/L		76	65 - 130
Bromomethane	10.0	8.39		ug/L		84	66 - 125
Chloroethane	10.0	8.03		ug/L		80	65 - 132
Trichlorofluoromethane	10.0	8.02		ug/L		80	64 - 136
Carbon disulfide	10.0	5.59	*	ug/L		56	69 - 122
1,1-Dichloroethene	10.0	8.27		ug/L		83	70 - 129
Acetone	50.0	49.0	J	ug/L		98	43 - 150
Methylene Chloride	10.0	9.42		ug/L		94	77 - 125
Methyl tert-butyl ether	10.0	9.93		ug/L		99	72 - 130
trans-1,2-Dichloroethene	10.0	7.68		ug/L		77	77 - 124
1,1-Dichloroethane	10.0	9.15		ug/L		92	70 - 129
2-Butanone (MEK)	50.0	43.1		ug/L		86	65 - 127
2,2-Dichloropropane	10.0	9.94		ug/L		99	62 - 140
cis-1,2-Dichloroethene	10.0	7.95		ug/L		80	76 - 129
Bromochloromethane	10.0	9.06		ug/L		91	78 - 120
Chloroform	10.0	9.82		ug/L		98	73 - 127
1,1,1-Trichloroethane	10.0	9.95		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.03		ug/L		90	72 - 129
1,1-Dichloropropene	10.0	8.99		ug/L		90	80 - 120
Benzene	10.0	9.50		ug/L		95	75 - 121
1,2-Dichloroethane	10.0	10.1		ug/L		101	76 - 131
Trichloroethene	10.0	9.00		ug/L		90	70 - 120
1,2-Dichloropropane	10.0	9.67		ug/L		97	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	41.5		ug/L		83	69 - 124
Dibromomethane	10.0	9.94		ug/L		99	80 - 120
Bromodichloromethane	10.0	10.0		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	10.7		ug/L		107	77 - 120
Toluene	10.0	9.72		ug/L		97	80 - 120
trans-1,3-Dichloropropene	10.0	9.50		ug/L		95	80 - 122
1,1,2-Trichloroethane	10.0	9.43		ug/L		94	80 - 121
Tetrachloroethene	10.0	8.59		ug/L		86	76 - 120
1,3-Dichloropropane	10.0	9.65		ug/L		96	79 - 120
Dibromochloromethane	10.0	9.03		ug/L		90	71 - 120
1,2-Dibromoethane	10.0	9.35		ug/L		93	79 - 120
Chlorobenzene	10.0	9.35		ug/L		94	80 - 120
1,1,1,2-Tetrachloroethane	10.0	8.75		ug/L		87	79 - 120
Ethylbenzene	10.0	9.09		ug/L		91	80 - 120
m-Xylene & p-Xylene	10.0	9.45		ug/L		95	80 - 120

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
o-Xylene	10.0	8.90		ug/L		89	80 - 120
Styrene	10.0	8.63		ug/L		86	76 - 121
Bromoform	10.0	7.92		ug/L		79	61 - 132
Isopropylbenzene	10.0	9.07		ug/L		91	75 - 120
Bromobenzene	10.0	9.41		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	10.0	9.50		ug/L		95	74 - 124
1,2,3-Trichloropropane	10.0	9.49		ug/L		95	76 - 124
N-Propylbenzene	10.0	9.52		ug/L		95	80 - 120
2-Chlorotoluene	10.0	9.62		ug/L		96	80 - 120
4-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120
t-Butylbenzene	10.0	9.62		ug/L		96	80 - 121
1,2,4-Trimethylbenzene	10.0	9.99		ug/L		100	80 - 120
sec-Butylbenzene	10.0	9.83		ug/L		98	78 - 120
4-Isopropyltoluene	10.0	9.69		ug/L		97	77 - 120
1,3-Dichlorobenzene	10.0	8.84		ug/L		88	80 - 120
1,4-Dichlorobenzene	10.0	9.52		ug/L		95	80 - 120
n-Butylbenzene	10.0	10.1		ug/L		101	78 - 120
1,2-Dichlorobenzene	10.0	9.39		ug/L		94	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.97	J	ug/L		90	65 - 125
1,2,4-Trichlorobenzene	10.0	8.54		ug/L		85	57 - 140
Hexachlorobutadiene	10.0	9.55		ug/L		96	74 - 125
Naphthalene	10.0	11.8		ug/L		118	44 - 144
1,2,3-Trichlorobenzene	10.0	11.0		ug/L		110	23 - 150
1,3,5-Trimethylbenzene	10.0	10.0		ug/L		100	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	4.88	J	ug/L		49	20 - 150	9	35
Chloromethane	10.0	7.67	J	ug/L		77	52 - 135	0	23
Vinyl chloride	10.0	7.92		ug/L		79	65 - 130	4	28
Bromomethane	10.0	8.66		ug/L		87	66 - 125	3	27
Chloroethane	10.0	8.00		ug/L		80	65 - 132	0	35
Trichlorofluoromethane	10.0	8.40		ug/L		84	64 - 136	5	27
Carbon disulfide	10.0	5.43	*	ug/L		54	69 - 122	3	20
1,1-Dichloroethene	10.0	8.51		ug/L		85	70 - 129	3	27
Acetone	50.0	49.5	J	ug/L		99	43 - 150	1	35
Methylene Chloride	10.0	9.65		ug/L		96	77 - 125	2	18
Methyl tert-butyl ether	10.0	9.84		ug/L		98	72 - 130	1	18
trans-1,2-Dichloroethene	10.0	6.79	*	ug/L		68	77 - 124	12	21

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	10.0	9.78		ug/L		98	70 - 129	7	26
2-Butanone (MEK)	50.0	48.6		ug/L		97	65 - 127	12	29
2,2-Dichloropropane	10.0	10.1		ug/L		101	62 - 140	2	23
cis-1,2-Dichloroethene	10.0	8.75		ug/L		87	76 - 129	10	15
Bromochloromethane	10.0	9.17		ug/L		92	78 - 120	1	20
Chloroform	10.0	10.4		ug/L		104	73 - 127	6	22
1,1,1-Trichloroethane	10.0	9.45		ug/L		94	74 - 130	5	18
Carbon tetrachloride	10.0	8.99		ug/L		90	72 - 129	0	19
1,1-Dichloropropene	10.0	8.89		ug/L		89	80 - 120	1	14
Benzene	10.0	9.55		ug/L		95	75 - 121	1	14
1,2-Dichloroethane	10.0	10.2		ug/L		102	76 - 131	2	18
Trichloroethene	10.0	9.01		ug/L		90	70 - 120	0	21
1,2-Dichloropropane	10.0	9.68		ug/L		97	72 - 126	0	26
4-Methyl-2-pentanone (MIBK)	50.0	45.5		ug/L		91	69 - 124	9	22
Dibromomethane	10.0	9.88		ug/L		99	80 - 120	1	22
Bromodichloromethane	10.0	10.1		ug/L		101	75 - 124	1	22
cis-1,3-Dichloropropene	10.0	9.80		ug/L		98	77 - 120	9	20
Toluene	10.0	9.49		ug/L		95	80 - 120	2	19
trans-1,3-Dichloropropene	10.0	9.51		ug/L		95	80 - 122	0	25
1,1,2-Trichloroethane	10.0	9.24		ug/L		92	80 - 121	2	21
Tetrachloroethene	10.0	8.14		ug/L		81	76 - 120	5	20
1,3-Dichloropropane	10.0	9.64		ug/L		96	79 - 120	0	26
Dibromochloromethane	10.0	9.08		ug/L		91	71 - 120	1	24
1,2-Dibromoethane	10.0	9.37		ug/L		94	79 - 120	0	20
Chlorobenzene	10.0	9.40		ug/L		94	80 - 120	0	15
1,1,1,2-Tetrachloroethane	10.0	9.09		ug/L		91	79 - 120	4	20
Ethylbenzene	10.0	9.06		ug/L		91	80 - 120	0	14
m-Xylene & p-Xylene	10.0	9.44		ug/L		94	80 - 120	0	14
o-Xylene	10.0	9.13		ug/L		91	80 - 120	3	16
Styrene	10.0	8.85		ug/L		89	76 - 121	3	16
Bromoform	10.0	8.74		ug/L		87	61 - 132	10	20
Isopropylbenzene	10.0	9.29		ug/L		93	75 - 120	2	20
Bromobenzene	10.0	9.10		ug/L		91	80 - 120	3	13
1,1,2,2-Tetrachloroethane	10.0	9.81		ug/L		98	74 - 124	3	18
1,2,3-Trichloropropane	10.0	9.58		ug/L		96	76 - 124	1	30
N-Propylbenzene	10.0	9.19		ug/L		92	80 - 120	4	13
2-Chlorotoluene	10.0	9.15		ug/L		92	80 - 120	5	15
4-Chlorotoluene	10.0	9.65		ug/L		96	80 - 120	5	14
t-Butylbenzene	10.0	9.12		ug/L		91	80 - 121	5	14
1,2,4-Trimethylbenzene	10.0	9.52		ug/L		95	80 - 120	5	16
sec-Butylbenzene	10.0	9.37		ug/L		94	78 - 120	5	15
4-Isopropyltoluene	10.0	9.18		ug/L		92	77 - 120	5	13
1,3-Dichlorobenzene	10.0	8.68		ug/L		87	80 - 120	2	14
1,4-Dichlorobenzene	10.0	9.15		ug/L		92	80 - 120	4	17
n-Butylbenzene	10.0	9.81		ug/L		98	78 - 120	3	14
1,2-Dichlorobenzene	10.0	9.16		ug/L		92	80 - 120	2	15
1,2-Dibromo-3-Chloropropane	10.0	8.99	J	ug/L		90	65 - 125	0	27
1,2,4-Trichlorobenzene	10.0	8.83		ug/L		88	57 - 140	3	27
Hexachlorobutadiene	10.0	8.88		ug/L		89	74 - 125	7	22

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			10.0	11.1		ug/L		111	44 - 144	6	31
1,2,3-Trichlorobenzene			10.0	10.4		ug/L		104	23 - 150	6	35
1,3,5-Trimethylbenzene			10.0	9.49		ug/L		95	80 - 120	5	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 580-330266/10
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/10/20 23:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/10/20 23:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/10/20 23:41*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/10/20 23:41*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/10/20 23:41*	*1*

Lab Sample ID: LCS 580-330266/6
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene			10.0	10.5		ug/L		105	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-330266/7
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			10.0	9.61		ug/L		96	80 - 120	9	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-330266/7
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-609932/1-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
Aldrin	ND		0.0050	0.0015	ug/L		05/26/20 05:25	05/26/20 12:21	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/26/20 05:25	05/26/20 12:21	1
beta-BHC	ND		0.010	0.0040	ug/L		05/26/20 05:25	05/26/20 12:21	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/26/20 05:25	05/26/20 12:21	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/26/20 05:25	05/26/20 12:21	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan I	ND		0.0050	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin	ND		0.0050	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/26/20 05:25	05/26/20 12:21	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/26/20 05:25	05/26/20 12:21	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Heptachlor	ND		0.010	0.0030	ug/L		05/26/20 05:25	05/26/20 12:21	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/26/20 05:25	05/26/20 12:21	1
Methoxychlor	ND		0.0050	0.0035	ug/L		05/26/20 05:25	05/26/20 12:21	1
Toxaphene	ND		0.50	0.25	ug/L		05/26/20 05:25	05/26/20 12:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	*80*		*28 - 108*	*05/26/20 05:25*	*05/26/20 12:21*	*1*
Tetrachloro-m-xylene	*90*		*10 - 123*	*05/26/20 05:25*	*05/26/20 12:21*	*1*

Lab Sample ID: LCS 440-609932/2-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.408		ug/L		102	50 - 128
4,4'-DDE	0.400	0.410		ug/L		103	49 - 121
4,4'-DDT	0.400	0.394		ug/L		99	41 - 140
Aldrin	0.400	0.386		ug/L		96	37 - 115
alpha-BHC	0.400	0.399		ug/L		100	44 - 115
cis-Chlordane	0.400	0.387		ug/L		97	40 - 122
beta-BHC	0.400	0.383		ug/L		96	46 - 121

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-609932/2-A
Matrix: Water
Analysis Batch: 609978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
delta-BHC	0.400	0.385		ug/L		96	32 - 129
Dieldrin	0.400	0.397		ug/L		99	39 - 126
Endosulfan I	0.400	0.381		ug/L		95	47 - 115
Endosulfan II	0.400	0.377		ug/L		94	47 - 120
Endosulfan sulfate	0.400	0.369		ug/L		92	48 - 126
Endrin	0.400	0.367		ug/L		92	43 - 127
Endrin aldehyde	0.400	0.358		ug/L		90	43 - 120
Endrin ketone	0.400	0.386		ug/L		97	47 - 123
gamma-BHC (Lindane)	0.400	0.387		ug/L		97	45 - 116
trans-Chlordane	0.400	0.363		ug/L		91	37 - 129
Heptachlor	0.400	0.372		ug/L		93	37 - 115
Heptachlor epoxide	0.400	0.385		ug/L		96	41 - 129
Methoxychlor	0.400	0.454		ug/L		114	44 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*83*		*28 - 108*
Tetrachloro-m-xylene	*100*		*10 - 123*

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 609978

Client Sample ID: PA-32i-052220
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	ND		0.383	0.367		ug/L		96	50 - 125
4,4'-DDE	ND		0.383	0.355		ug/L		93	45 - 125
4,4'-DDT	ND		0.383	0.385		ug/L		101	50 - 125
Aldrin	ND		0.383	0.387		ug/L		101	35 - 120
alpha-BHC	ND		0.383	0.377		ug/L		98	40 - 120
cis-Chlordane	ND		0.383	0.344		ug/L		90	50 - 115
beta-BHC	ND		0.383	0.334		ug/L		87	50 - 120
delta-BHC	ND		0.383	0.351		ug/L		92	50 - 120
Dieldrin	ND		0.383	0.366		ug/L		96	50 - 120
Endosulfan I	ND		0.383	0.352		ug/L		92	50 - 120
Endosulfan II	ND		0.383	0.349		ug/L		91	50 - 125
Endosulfan sulfate	ND		0.383	0.379		ug/L		99	55 - 125
Endrin	ND		0.383	0.375		ug/L		98	50 - 120
Endrin aldehyde	ND		0.383	0.343		ug/L		90	45 - 125
Endrin ketone	ND		0.383	0.406		ug/L		106	50 - 125
gamma-BHC (Lindane)	ND		0.383	0.367		ug/L		96	40 - 120
trans-Chlordane	ND	F1	0.383	0.176	p F1	ug/L		46	50 - 115
Heptachlor	ND		0.383	0.358		ug/L		93	40 - 120
Heptachlor epoxide	ND		0.383	0.396		ug/L		103	50 - 120
Methoxychlor	ND		0.383	0.477		ug/L		125	55 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*92*		*28 - 108*
Tetrachloro-m-xylene	*96*		*10 - 123*

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-94887-6 MSD
Matrix: Water
Analysis Batch: 609978

Client Sample ID: PA-32i-052220
Prep Type: Total/NA
Prep Batch: 609932

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		0.383	0.304		ug/L		79	50 - 125	19	30
4,4'-DDE	ND		0.383	0.299		ug/L		78	45 - 125	17	30
4,4'-DDT	ND		0.383	0.314		ug/L		82	50 - 125	20	30
Aldrin	ND		0.383	0.345		ug/L		90	35 - 120	11	30
alpha-BHC	ND		0.383	0.301		ug/L		79	40 - 120	22	30
cis-Chlordane	ND		0.383	0.293		ug/L		76	50 - 115	16	30
beta-BHC	ND		0.383	0.304		ug/L		79	50 - 120	9	30
delta-BHC	ND		0.383	0.309		ug/L		81	50 - 120	13	30
Dieldrin	ND		0.383	0.310		ug/L		81	50 - 120	17	30
Endosulfan I	ND		0.383	0.300		ug/L		78	50 - 120	16	30
Endosulfan II	ND		0.383	0.288		ug/L		75	50 - 125	19	30
Endosulfan sulfate	ND		0.383	0.305		ug/L		80	55 - 125	22	30
Endrin	ND		0.383	0.315		ug/L		82	50 - 120	17	30
Endrin aldehyde	ND		0.383	0.277		ug/L		72	45 - 125	21	30
Endrin ketone	ND		0.383	0.318		ug/L		83	50 - 125	24	30
gamma-BHC (Lindane)	ND		0.383	0.300		ug/L		78	40 - 120	20	30
trans-Chlordane	ND	F1	0.383	0.158	p F1	ug/L		41	50 - 115	11	30
Heptachlor	ND		0.383	0.326		ug/L		85	40 - 120	9	30
Heptachlor epoxide	ND		0.383	0.375		ug/L		98	50 - 120	5	30
Methoxychlor	ND		0.383	0.388		ug/L		101	55 - 125	21	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*73*		*28 - 108*
Tetrachloro-m-xylene	*77*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-610858/6
Matrix: Water
Analysis Batch: 610858

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/02/20 06:55	1

Lab Sample ID: LCS 440-610858/5
Matrix: Water
Analysis Batch: 610858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.1		ug/L		96	90 - 110

Lab Sample ID: MRL 440-610858/4
Matrix: Water
Analysis Batch: 610858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.930	J	ug/L		93	50 - 150

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: MB 440-611047/15
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/03/20 08:44	1

Lab Sample ID: LCS 440-611047/14
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.0		ug/L		98	90 - 110

Lab Sample ID: MRL 440-611047/13
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.976	J	ug/L		98	50 - 150

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 610858

Client Sample ID: PA-32i-052220
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		100	110		ug/L		110	90 - 110

Lab Sample ID: 580-94887-6 MSD
Matrix: Water
Analysis Batch: 610858

Client Sample ID: PA-32i-052220
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		100	109		ug/L		109	90 - 110	0	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610392/6
Matrix: Water
Analysis Batch: 610392

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			05/28/20 11:14	1

Lab Sample ID: LCS 440-610392/5
Matrix: Water
Analysis Batch: 610392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.9		ug/L		109	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-610392/4
Matrix: Water
Analysis Batch: 610392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.09	J	ug/L		109	75 - 125

Lab Sample ID: MRL 440-610392/8
Matrix: Water
Analysis Batch: 610392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.85	J	ug/L		96	75 - 125

Lab Sample ID: MB 440-610758/6
Matrix: Water
Analysis Batch: 610758

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/01/20 10:15	1

Lab Sample ID: LCS 440-610758/5
Matrix: Water
Analysis Batch: 610758

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.36		ug/L		94	85 - 115

Lab Sample ID: MRL 440-610758/4
Matrix: Water
Analysis Batch: 610758

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.01	J	ug/L		101	75 - 125

Lab Sample ID: MRL 440-610758/8
Matrix: Water
Analysis Batch: 610758

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.84	J	ug/L		96	75 - 125

Lab Sample ID: MB 440-610910/6
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/02/20 11:13	1

Lab Sample ID: LCS 440-610910/5
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.1		ug/L		101	85 - 115

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MRL 440-610910/8
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	4.12		ug/L		103	75 - 125		

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 610910

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	ND		500	506		ug/L		101	80 - 120		

Lab Sample ID: 580-94887-6 MSD
Matrix: Water
Analysis Batch: 610910

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		500	530		ug/L		106	80 - 120	5	15

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329002/21-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/26/20 08:17	05/26/20 18:26	5
Chromium	ND		0.0040	0.00087	mg/L		05/26/20 08:17	05/26/20 18:26	5
Iron	ND		1.0	0.18	mg/L		05/26/20 08:17	05/26/20 18:26	5
Manganese	ND		0.010	0.0023	mg/L		05/26/20 08:17	05/26/20 18:26	5

Lab Sample ID: LCS 580-329002/22-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			1.00	0.975		mg/L		98	80 - 120		
Chromium			1.00	0.971		mg/L		97	80 - 120		
Iron			20.0	19.0		mg/L		95	80 - 120		
Manganese			1.00	0.945		mg/L		94	80 - 120		

Lab Sample ID: LCSD 580-329002/23-A
Matrix: Water
Analysis Batch: 329129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			1.00	0.963		mg/L		96	80 - 120	1	20
Chromium			1.00	0.967		mg/L		97	80 - 120	0	20
Iron			20.0	18.8		mg/L		94	80 - 120	1	20
Manganese			1.00	0.950		mg/L		95	80 - 120	1	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 329129

Client Sample ID: PA-32i-052220
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.017		1.00	0.948		mg/L		93	80 - 120
Chromium	0.019		1.00	0.929		mg/L		91	80 - 120
Iron	7.1		20.0	25.3		mg/L		91	80 - 120
Manganese	1.5		1.00	2.56		mg/L		102	80 - 120

Lab Sample ID: 580-94887-6 MSD
Matrix: Water
Analysis Batch: 329129

Client Sample ID: PA-32i-052220
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.017		1.00	0.939		mg/L		92	80 - 120	1	20
Chromium	0.019		1.00	0.936		mg/L		92	80 - 120	1	20
Iron	7.1		20.0	25.4		mg/L		92	80 - 120	1	20
Manganese	1.5		1.00	2.57		mg/L		103	80 - 120	0	20

Lab Sample ID: 580-94887-6 DU
Matrix: Water
Analysis Batch: 329129

Client Sample ID: PA-32i-052220
Prep Type: Total Recoverable
Prep Batch: 329002

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.017		0.0179		mg/L		6	20
Chromium	0.019		0.0224		mg/L		16	20
Iron	7.1		7.17		mg/L		2	20
Manganese	1.5		1.56		mg/L		1	20

Lab Sample ID: MB 580-329156/13-A
Matrix: Water
Analysis Batch: 329289

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329156

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		05/27/20 11:22	05/28/20 11:04	1
Chromium	ND		0.00080	0.00017	mg/L		05/27/20 11:22	05/28/20 11:04	1
Iron	ND		0.20	0.036	mg/L		05/27/20 11:22	05/28/20 11:04	1
Manganese	ND		0.0020	0.00046	mg/L		05/27/20 11:22	05/28/20 11:04	1

Lab Sample ID: LCS 580-329156/14-A
Matrix: Water
Analysis Batch: 329289

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329156

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.979		mg/L		98	80 - 120
Chromium	1.00	0.987		mg/L		99	80 - 120
Iron	20.0	19.7		mg/L		99	80 - 120
Manganese	1.00	0.979		mg/L		98	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-329156/15-A
Matrix: Water
Analysis Batch: 329289

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329156

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			1.00	0.955		mg/L		96	80 - 120	2	20
Chromium			1.00	0.952		mg/L		95	80 - 120	4	20
Iron			20.0	19.6		mg/L		98	80 - 120	1	20
Manganese			1.00	1.10		mg/L		110	80 - 120	12	20

Lab Sample ID: MB 580-329162/20-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/27/20 11:49	05/28/20 17:44	5
Chromium	ND		0.0040	0.00087	mg/L		05/27/20 11:49	05/28/20 17:44	5
Iron	ND		1.0	0.18	mg/L		05/27/20 11:49	05/28/20 17:44	5
Manganese	ND		0.010	0.0023	mg/L		05/27/20 11:49	05/28/20 17:44	5

Lab Sample ID: LCS 580-329162/21-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic			1.00	0.976		mg/L		98	80 - 120
Chromium			1.00	0.999		mg/L		100	80 - 120
Iron			20.0	18.8		mg/L		94	80 - 120
Manganese			1.00	0.986		mg/L		99	80 - 120

Lab Sample ID: LCSD 580-329162/22-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			1.00	0.968		mg/L		97	80 - 120	1	20
Chromium			1.00	1.00		mg/L		100	80 - 120	0	20
Iron			20.0	18.8		mg/L		94	80 - 120	0	20
Manganese			1.00	0.988		mg/L		99	80 - 120	0	20

Lab Sample ID: MB 580-329327/11-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 10:15	5
Chromium	ND		0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 10:15	5
Iron	ND		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 10:15	5
Manganese	ND		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 10:15	5

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-329327/12-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120
Chromium	1.00	1.03		mg/L		103	80 - 120
Iron	20.0	20.6		mg/L		103	80 - 120
Manganese	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-329327/13-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.01		mg/L		101	80 - 120	0	20
Chromium	1.00	1.03		mg/L		103	80 - 120	0	20
Iron	20.0	20.7		mg/L		103	80 - 120	1	20
Manganese	1.00	1.02		mg/L		102	80 - 120	0	20

Lab Sample ID: MB 580-329564/20-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/02/20 23:31	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/02/20 23:31	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/02/20 23:31	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:56	06/02/20 23:31	5

Lab Sample ID: LCS 580-329564/21-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.04		mg/L		104	80 - 120
Chromium	1.00	1.10		mg/L		110	80 - 120
Iron	20.0	22.1		mg/L		110	80 - 120
Manganese	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: LCSD 580-329564/22-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.03		mg/L		103	80 - 120	1	20
Chromium	1.00	1.10		mg/L		110	80 - 120	0	20
Iron	20.0	22.4		mg/L		112	80 - 120	1	20
Manganese	1.00	1.09		mg/L		109	80 - 120	1	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 329363

Client Sample ID: PA-32i-052220
Prep Type: Dissolved
Prep Batch: 329162

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.010		1.00	0.898		mg/L		89	80 - 120
Chromium	0.011		1.00	0.909		mg/L		90	80 - 120
Iron	3.8	F1	20.0	22.4		mg/L		93	80 - 120
Manganese	1.3	F1	1.00	2.40		mg/L		109	80 - 120

Lab Sample ID: 580-94887-6 MSD
Matrix: Water
Analysis Batch: 329363

Client Sample ID: PA-32i-052220
Prep Type: Dissolved
Prep Batch: 329162

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.010		1.00	0.886		mg/L		88	80 - 120	1	20
Chromium	0.011		1.00	0.900		mg/L		89	80 - 120	1	20
Iron	3.8	F1	20.0	19.6	F1	mg/L		79	80 - 120	14	20
Manganese	1.3	F1	1.00	2.05	F1	mg/L		74	80 - 120	16	20

Lab Sample ID: 580-94887-6 DU
Matrix: Water
Analysis Batch: 329363

Client Sample ID: PA-32i-052220
Prep Type: Dissolved
Prep Batch: 329162

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.010		0.0108		mg/L		5	20
Chromium	0.011		0.0119		mg/L		6	20
Iron	3.8	F1	3.85		mg/L		2	20
Manganese	1.3	F1	1.32		mg/L		0.8	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329316/3
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			05/27/20 12:52	1

Lab Sample ID: LCS 580-329316/4
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.4		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-329316/5
Matrix: Water
Analysis Batch: 329316

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	51.4		mg/L		103	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 580-94887-6 MS
Matrix: Water
Analysis Batch: 329316

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	160		5000	5560		mg/L		108	90 - 110		

Lab Sample ID: 580-94887-6 MSD
Matrix: Water
Analysis Batch: 329316

Client Sample ID: PA-32i-052220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	160		5000	5560		mg/L		108	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-052120-A
Lab Sample ID: 580-94887-1
Date Collected: 05/21/20 00:01
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 17:39	CJ	TAL SEA

Client Sample ID: PA-30d-052120
Lab Sample ID: 580-94887-2
Date Collected: 05/21/20 16:00
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		100	329883	06/04/20 21:01	W1T	TAL SEA
Dissolved	Analysis	218.6		50	611047	06/03/20 10:06	MN	TAL IRV
Total/NA	Analysis	314.0		50	610392	05/28/20 18:26	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:48	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 18:22	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 16:11	RBL	TAL SEA

Client Sample ID: PA-22d-052120
Lab Sample ID: 580-94887-3
Date Collected: 05/21/20 14:30
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	218.6		1	610858	06/02/20 10:22	MN	TAL IRV

Client Sample ID: PA-17iR-052120
Lab Sample ID: 580-94887-4
Date Collected: 05/21/20 15:18
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 18:06	CJ	TAL SEA
Dissolved	Analysis	218.6		10	611047	06/03/20 10:19	MN	TAL IRV
Total/NA	Analysis	314.0		50	610392	05/28/20 19:01	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:48	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 18:25	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329316	05/27/20 16:23	RBL	TAL SEA

Client Sample ID: RB-02-052220
Lab Sample ID: 580-94887-5
Date Collected: 05/22/20 06:00
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 18:32	CJ	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610192	05/27/20 18:52	D1D	TAL IRV
Dissolved	Analysis	218.6		1	610858	06/02/20 10:35	MN	TAL IRV
Total/NA	Analysis	314.0		1	610758	06/01/20 17:14	OH1	TAL IRV

Client Sample ID: RB-02-052220
Lab Sample ID: 580-94887-5
Date Collected: 05/22/20 06:00
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:34	FCW	TAL SEA
Total Recoverable	Prep	3005A			329156	05/27/20 11:22	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329289	05/28/20 11:57	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329316	05/27/20 16:35	RBL	TAL SEA

Client Sample ID: PA-32i-052220
Lab Sample ID: 580-94887-6
Date Collected: 05/22/20 07:21
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 18:59	CJ	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	609978	05/26/20 13:30	JM	TAL IRV
Dissolved	Analysis	218.6		20	610858	06/02/20 11:18	MN	TAL IRV
Total/NA	Analysis	314.0		50	610910	06/02/20 12:15	OH1	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:48	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 17:48	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 18:29	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 16:47	RBL	TAL SEA

Client Sample ID: Dup-03-052220
Lab Sample ID: 580-94887-7
Date Collected: 05/22/20 07:22
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 20:18	CJ	TAL SEA
Total/NA	Prep	3510C			609932	05/26/20 05:25	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610192	05/27/20 19:08	D1D	TAL IRV
Dissolved	Analysis	218.6		20	610858	06/02/20 11:56	MN	TAL IRV
Total/NA	Analysis	314.0		50	610392	05/28/20 20:13	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:48	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 18:28	FCW	TAL SEA
Total Recoverable	Prep	3005A			329002	05/26/20 08:17	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329129	05/26/20 19:57	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329316	05/27/20 17:45	RBL	TAL SEA

Client Sample ID: PA-04-052220
Lab Sample ID: 580-94887-8
Date Collected: 05/22/20 09:46
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 20:45	CJ	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-04-052220
Lab Sample ID: 580-94887-8
Date Collected: 05/22/20 09:46
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	218.6		2	610858	06/02/20 12:08	MN	TAL IRV
Total/NA	Analysis	314.0		5	610758	06/01/20 17:32	OH1	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:48	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 18:31	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329316	05/27/20 17:57	RBL	TAL SEA

Client Sample ID: PA-11i-052220
Lab Sample ID: 580-94887-9
Date Collected: 05/22/20 09:45
Matrix: Water
Date Received: 05/22/20 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329648	06/02/20 21:45	T1W	TAL SEA
Total/NA	Analysis	8260D	DL	50	330266	06/11/20 05:30	CJB	TAL SEA
Dissolved	Analysis	218.6		2	610858	06/02/20 12:21	MN	TAL IRV
Total/NA	Analysis	314.0		50	610758	06/01/20 18:07	OH1	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:48	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 18:34	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329316	05/27/20 18:08	RBL	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94887-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94887-1	TB-052120-A	Water	05/21/20 00:01	05/22/20 12:30	
580-94887-2	PA-30d-052120	Water	05/21/20 16:00	05/22/20 12:30	
580-94887-3	PA-22d-052120	Water	05/21/20 14:30	05/22/20 12:30	
580-94887-4	PA-17iR-052120	Water	05/21/20 15:18	05/22/20 12:30	
580-94887-5	RB-02-052220	Water	05/22/20 06:00	05/22/20 12:30	
580-94887-6	PA-32i-052220	Water	05/22/20 07:21	05/22/20 12:30	
580-94887-7	Dup-03-052220	Water	05/22/20 07:22	05/22/20 12:30	
580-94887-8	PA-04-052220	Water	05/22/20 09:46	05/22/20 12:30	
580-94887-9	PA-11i-052220	Water	05/22/20 09:45	05/22/20 12:30	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

580-94887 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: DS, ST, AS	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page:
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: 0543821.107		
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:		
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456		
Site: Arkema	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine			MS/MSD	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N	N	D	D	A	A	N						
TB-052120-A	5/21/20		G	Water									X						2	23
PA-30d-052120		1600		Water			X				X	X		X	X				7	Dil VOC
PA-22d-052120		1430		Water											X				1	
PA-17ir-052120		1518		Water			X				X		X	X	X				7	
RB-02-052220	5/22/20	0600	G	Water			X	X		X	X		X	X	X				10	
PA-32r-052220		0721		Water			X	X		X	X		X	X	X			X	30	
Dup-03-052220		0722		Water			X	X		X	X		X	X	X				10	
PA-04-052220		0946		Water			X				X		X	X	X				7	
PA-11-052220		0945		Water			X				X	X		X	X				7	Dil VOC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by: Ryan Soto	Date/Time: 5/22/20 @ 1205	Company: ERM	Received by:	Date/Time: 5/22/20 1205	Company: M-E.	
Relinquished by:	Date/Time: 5/22/20 1230	Company: M.E.	Received by:	Date/Time: 5/22/20 1230	Company: TARK	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 4.6, 5.2			

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

580-94887 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: DS, ST, AS	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page:
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: 0543821.107		
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:		
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456		
Site: Arkema	SSOW#:		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine			MS/MSD			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N								
TB-052120-A	5/21/20		G	Water									X								3	
PA-30d-052120		1600		Water			X				X	X		X	X						7	Dil VOC
PA-22d-052120		1430		Water											X						1	
PA-17ir-052120		1518		Water			X				X		X	X	X						7	
RB-02-052220	5/22/20	0600	G	Water			X	X		X	X		X	X	X						10	
PA-32r-052220		0721		Water			X	X		X	X		X	X	X			X			30	
Dup-03-052220		0722		Water			X	X		X	X		X	X	X						10	
PA-04-052220		0946		Water			X				X		X	X	X						7	
PA-11-052220		0945		Water			X				X	X		X	X						7	Dil VOC

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/22/20 @ 1205	ERM	[signature]	5/22/20 1205	M-E.
2	[signature]	5/22/20 1230	M.E.	[signature]	5/22/20 1230	TAKL
3	[signature]	5/22/20 1700	TAKL	[signature]	5-23-20 930	TASeq

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 7=1.1 4.6, 5.2

Eurofins Calscience Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 440-156656.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94887-1
Address: 5755 8th Street East, ,	Due Date Requested: 6/10/2020			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel) 253-922-5047(Fax)	PO #:			
Email:	WO #:			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D_LL/5030B (MOD) Volatiles, standard list, low leve	300.0_28D/ (MOD) Local Method	6020B/FIELD_FLTRD (MOD) Template for building analyte list	6020B/3005A (MOD) Template for building analyte list	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
RB-02-052220 (580-94887-5)	5/22/20	06:00 Pacific		Water			X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	5/29/20 1700	EC-IRV		5-30-20 1111	TASEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: IR 1 = 1.3 / 0.9

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone 253-922-2310 Fax: 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No: 580-77026.1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94887-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/11/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #:			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
PA-30d-052120 (580-94887-2)	5/21/20	16:00 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland Please confirm
PA-22d-052120 (580-94887-3)	5/21/20	14 30 Pacific		Water				X		1	Sample should have been field filtered then preserved by Portland. Please confirm via
PA-17ir-052120 (580-94887-4)	5/21/20	15.18 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland Please confirm
RB-02-052220 (580-94887-5)	5/22/20	06 00 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm
PA-32i-052220 (580-94887-6)	5/22/20	07 21 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm
PA-32i-052220 (580-94887-6MS)	5/22/20	07:21 Pacific	MS	Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm
PA-32i-052220 (580-94887-6MSD)	5/22/20	07.21 Pacific	MSD	Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm
Dup-03-052220 (580-94887-7)	5/22/20	07:22 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland Please confirm
PA-04-052220 (580-94887-8)	5/22/20	09 46 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland Please confirm

Note Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	5/22/20 1705	DAFOR			
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
—					
Relinquished by	Date/Time	Company	Received by: JD	Date/Time: 5/23/20 1120	Company: EC-IRV

Custody Seals Intact.	Custody Seal No :	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No		2.6 / 2.6 / 12-89

Ver: 01/16/2019

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6/15/2020

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone. 253-922-2310 Fax 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No: 580-77026 2
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri cruz@testamericainc com	State of Origin: Oregon	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94887-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/11/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817	PO #			
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	WO #			
Email	Project #: 58014456			
Project Name: Arkema - Q2 2020 Groundwater Event	SSOW#			
Site				

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
PA-11-052220 (580-94887-9)	5/22/20	09 45 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by.	Date	Time.	Method of Shipment.

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/22/20 1700	TAL OK			
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time 5/23/20 1120	Company EC-112 V

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.. | Cooler Temperature(s) °C and Other Remarks: 2.6/2.6 IR-89

Ver: 01/16/2019

6/15/2020

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94887-1

Login Number: 94887
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94887-1

Login Number: 94887
List Number: 2
Creator: Dolidze, Lado

List Source: Eurofins Irvine
List Creation: 05/23/20 12:45 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94920-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/16/2020 2:18:40 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94920-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94920-1

Comments
No additional comments.

Receipt
The samples were received on 5/26/2020 12:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved PA-10i-052620 (580-94920-1), MWA-51i-052620 (580-94920-2) and MWA-54i-052620 (580-94920-3).. The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Method 8260D: The method blank for analytical batch 580-329641 contained Methylene Chloride and Trichloroethene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329641 recovered outside acceptance criteria, low biased, for trans-1,3-Dichloropropene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329641 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-10i-052620 (580-94920-1), TB-01-052620 (580-94920-4), (CCVIS 580-329641/3) and (580-94887-I-6).

Method 8260D: The CCV for analytical batch 580-329648 recovered outside control limits for the following analyte: Dichlorodifluoromethane. This analyte has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The method blank for analytical batch 580-329648 contained Methylene Chloride above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method 8260D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329648 recovered outside control limits for the following analyte: Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-51i-052620 (580-94920-2) and MWA-54i-052620 (580-94920-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following samples were diluted due to the nature of the sample matrix: MWA-51i-052620 (580-94920-2) and MWA-54i-052620 (580-94920-3). Elevated reporting limits (RLs) are provided.

Method 218.6: The following sample was diluted due to the nature of the sample matrix: PA-10i-052620 (580-94920-1). Elevated reporting limits (RLs) are provided. Sample was brown in color.

Method 314.0: The following samples were diluted due to intense dark black color of the sample matrix: PA-10i-052620 (580-94920-1), MWA-51i-052620 (580-94920-2) and MWA-54i-052620 (580-94920-3). Elevated reporting limits (RLs) are provided.

Job ID: 580-94920-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Job ID: 580-94920-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: PA-10i-052620
Lab Sample ID: 580-94920-1
Date Collected: 05/26/20 11:11
Matrix: Water
Date Received: 05/26/20 12:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 21:38	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 21:38	1
Vinyl chloride	**0.14**		0.020	0.013	ug/L			06/02/20 21:38	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 21:38	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 21:38	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 21:38	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 21:38	1
1,1-Dichloroethene	**0.12**	**J**	0.20	0.035	ug/L			06/02/20 21:38	1
Acetone	ND		10	3.1	ug/L			06/02/20 21:38	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/02/20 21:38	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 21:38	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 21:38	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 21:38	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/02/20 21:38	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 21:38	1
cis-1,2-Dichloroethene	**0.11**	**J**	0.20	0.055	ug/L			06/02/20 21:38	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 21:38	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 21:38	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 21:38	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 21:38	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 21:38	1
Benzene	ND		0.20	0.030	ug/L			06/02/20 21:38	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 21:38	1
Trichloroethene	ND		0.20	0.066	ug/L			06/02/20 21:38	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 21:38	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 21:38	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 21:38	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 21:38	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 21:38	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 21:38	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 21:38	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 21:38	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 21:38	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 21:38	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 21:38	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 21:38	1
Chlorobenzene	**0.51**		0.20	0.025	ug/L			06/02/20 21:38	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 21:38	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 21:38	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 21:38	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 21:38	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 21:38	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 21:38	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 21:38	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 21:38	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 21:38	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 21:38	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 21:38	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 21:38	1

Client Sample ID: PA-10i-052620
Lab Sample ID: 580-94920-1

Date Collected: 05/26/20 11:11
Matrix: Water

Date Received: 05/26/20 12:40

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 21:38	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 21:38	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 21:38	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 21:38	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 21:38	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 21:38	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 21:38	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 21:38	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 21:38	1
1,2-Dichlorobenzene	**0.24**	**J**	0.30	0.024	ug/L			06/02/20 21:38	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 21:38	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 21:38	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 21:38	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 21:38	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 21:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 21:38*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 21:38*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/20 21:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*06/02/20 21:38*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10	2.5	ug/L			06/12/20 08:46	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/15/20 21:42	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.026**		0.0050	0.0010	mg/L		05/27/20 11:49	05/28/20 19:09	5
Chromium	**0.0053**		0.0040	0.00087	mg/L		05/27/20 11:49	05/28/20 19:09	5
Iron	**1.1**		1.0	0.18	mg/L		05/27/20 11:49	05/28/20 19:09	5
Manganese	**0.21**		0.010	0.0023	mg/L		05/27/20 11:49	05/28/20 19:09	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**82**		9.0	1.4	mg/L			06/01/20 13:20	10

Client: ERM-West
Job ID: 580-94920-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-51i-052620
Lab Sample ID: 580-94920-2
Date Collected: 05/26/20 10:55
Matrix: Water
Date Received: 05/26/20 12:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 23:33	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 23:33	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 23:33	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 23:33	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 23:33	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 23:33	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/02/20 23:33	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 23:33	1
Acetone	ND		50	3.2	ug/L			06/02/20 23:33	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/02/20 23:33	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 23:33	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 23:33	1
1,1-Dichloroethane	**0.64**	**J**	2.0	0.22	ug/L			06/02/20 23:33	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 23:33	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 23:33	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 23:33	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 23:33	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 23:33	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 23:33	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 23:33	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 23:33	1
Benzene	**3.5**		3.0	0.24	ug/L			06/02/20 23:33	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 23:33	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 23:33	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 23:33	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 23:33	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 23:33	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 23:33	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 23:33	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 23:33	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 23:33	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 23:33	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 23:33	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 23:33	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 23:33	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 23:33	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 23:33	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 23:33	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 23:33	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 23:33	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 23:33	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 23:33	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 23:33	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 23:33	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 23:33	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 23:33	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 23:33	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 23:33	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 23:33	1

Client Sample ID: MWA-51i-052620
Lab Sample ID: 580-94920-2

Date Collected: 05/26/20 10:55
Matrix: Water

Date Received: 05/26/20 12:40

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 23:33	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 23:33	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 23:33	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 23:33	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 23:33	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 23:33	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 23:33	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 23:33	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 23:33	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 23:33	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 23:33	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 23:33	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 23:33	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/02/20 23:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/02/20 23:33*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/02/20 23:33*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 23:33*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**180**		20	4.4	ug/L			06/09/20 20:19	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/09/20 20:19*	*10*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/09/20 20:19*	*10*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/09/20 20:19*	*10*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/09/20 20:19*	*10*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		100	25	ug/L			06/03/20 11:57	100

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400	95	ug/L			06/15/20 22:17	100

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.094**		0.0050	0.0010	mg/L		05/27/20 11:49	05/28/20 19:15	5
Chromium	**0.23**		0.0040	0.00087	mg/L		05/27/20 11:49	05/28/20 19:15	5
Iron	**28**		1.0	0.18	mg/L		05/27/20 11:49	05/28/20 19:15	5
Manganese	**1.2**		0.010	0.0023	mg/L		05/27/20 11:49	05/28/20 19:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**880**		90	14	mg/L			06/01/20 13:55	100

Client Sample ID: MWA-54i-052620
Lab Sample ID: 580-94920-3
Date Collected: 05/26/20 11:15
Matrix: Water
Date Received: 05/26/20 12:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/03/20 00:00	1
Chloromethane	ND		20	0.28	ug/L			06/03/20 00:00	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/03/20 00:00	1
Bromomethane	ND		6.0	0.21	ug/L			06/03/20 00:00	1
Chloroethane	ND		5.0	0.35	ug/L			06/03/20 00:00	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/03/20 00:00	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/03/20 00:00	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/03/20 00:00	1
Acetone	ND		50	3.2	ug/L			06/03/20 00:00	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/03/20 00:00	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/03/20 00:00	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/03/20 00:00	1
1,1-Dichloroethane	**0.67**	**J**	2.0	0.22	ug/L			06/03/20 00:00	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/03/20 00:00	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/03/20 00:00	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/03/20 00:00	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/03/20 00:00	1
Chloroform	ND		5.0	0.26	ug/L			06/03/20 00:00	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/03/20 00:00	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/03/20 00:00	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/03/20 00:00	1
Benzene	**0.59**	**J**	3.0	0.24	ug/L			06/03/20 00:00	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/03/20 00:00	1
Trichloroethene	ND		3.0	0.26	ug/L			06/03/20 00:00	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/03/20 00:00	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/03/20 00:00	1
Dibromomethane	ND		2.0	0.34	ug/L			06/03/20 00:00	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/03/20 00:00	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/03/20 00:00	1
Toluene	ND		2.0	0.39	ug/L			06/03/20 00:00	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/03/20 00:00	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/03/20 00:00	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/03/20 00:00	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/03/20 00:00	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/03/20 00:00	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/03/20 00:00	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/03/20 00:00	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/03/20 00:00	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/03/20 00:00	1
o-Xylene	ND		2.0	0.39	ug/L			06/03/20 00:00	1
Styrene	ND		5.0	1.0	ug/L			06/03/20 00:00	1
Bromoform	ND		3.0	0.56	ug/L			06/03/20 00:00	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/03/20 00:00	1
Bromobenzene	ND		2.0	0.43	ug/L			06/03/20 00:00	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/03/20 00:00	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/03/20 00:00	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/03/20 00:00	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/03/20 00:00	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/03/20 00:00	1

Client Sample ID: MWA-54i-052620
Lab Sample ID: 580-94920-3

Date Collected: 05/26/20 11:15
Matrix: Water
Date Received: 05/26/20 12:40

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/03/20 00:00	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/03/20 00:00	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/03/20 00:00	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/03/20 00:00	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/03/20 00:00	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/03/20 00:00	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/03/20 00:00	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/03/20 00:00	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/03/20 00:00	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/03/20 00:00	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/03/20 00:00	1
Naphthalene	ND		4.0	0.93	ug/L			06/03/20 00:00	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/03/20 00:00	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/03/20 00:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/03/20 00:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/03/20 00:00*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/03/20 00:00*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/03/20 00:00*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**230**		20	4.4	ug/L			06/09/20 20:46	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/09/20 20:46*	*10*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/09/20 20:46*	*10*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/09/20 20:46*	*10*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/09/20 20:46*	*10*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		100	25	ug/L			06/03/20 12:10	100

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400	95	ug/L			06/15/20 22:53	100

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.058**		0.0050	0.0010	mg/L		05/27/20 11:49	05/28/20 19:18	5
Chromium	**0.47**		0.0040	0.00087	mg/L		05/27/20 11:49	05/28/20 19:18	5
Iron	**5.0**		1.0	0.18	mg/L		05/27/20 11:49	05/28/20 19:18	5
Manganese	**0.56**		0.010	0.0023	mg/L		05/27/20 11:49	05/28/20 19:18	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**730**		90	14	mg/L			06/01/20 14:07	100

Client: ERM-West
Job ID: 580-94920-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-01-052620
Lab Sample ID: 580-94920-4
Date Collected: 05/26/20 08:00
Matrix: Water
Date Received: 05/26/20 12:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 21:11	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 21:11	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/02/20 21:11	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 21:11	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 21:11	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 21:11	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 21:11	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/02/20 21:11	1
Acetone	ND		10	3.1	ug/L			06/02/20 21:11	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/02/20 21:11	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 21:11	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 21:11	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 21:11	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/02/20 21:11	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 21:11	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/02/20 21:11	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 21:11	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 21:11	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 21:11	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 21:11	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 21:11	1
Benzene	ND		0.20	0.030	ug/L			06/02/20 21:11	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 21:11	1
Trichloroethene	ND		0.20	0.066	ug/L			06/02/20 21:11	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 21:11	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 21:11	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 21:11	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 21:11	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 21:11	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 21:11	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 21:11	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 21:11	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 21:11	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 21:11	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 21:11	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 21:11	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/02/20 21:11	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 21:11	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 21:11	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 21:11	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 21:11	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 21:11	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 21:11	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 21:11	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 21:11	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 21:11	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 21:11	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 21:11	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 21:11	1

Client: ERM-West
Job ID: 580-94920-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-01-052620
Lab Sample ID: 580-94920-4
Date Collected: 05/26/20 08:00
Matrix: Water
Date Received: 05/26/20 12:40

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 21:11	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 21:11	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 21:11	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 21:11	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 21:11	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 21:11	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 21:11	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 21:11	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 21:11	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 21:11	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 21:11	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 21:11	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 21:11	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 21:11	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 21:11*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*06/02/20 21:11*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/02/20 21:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*06/02/20 21:11*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329641/7
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/02/20 16:46	1
Chloromethane	ND		0.50	0.068	ug/L			06/02/20 16:46	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/02/20 16:46	1
Bromomethane	ND		0.50	0.062	ug/L			06/02/20 16:46	1
Chloroethane	ND		0.50	0.096	ug/L			06/02/20 16:46	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/02/20 16:46	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/02/20 16:46	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/02/20 16:46	1
Acetone	ND		10	3.1	ug/L			06/02/20 16:46	1
Methylene Chloride	1.97	J	5.0	1.2	ug/L			06/02/20 16:46	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/02/20 16:46	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/02/20 16:46	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/02/20 16:46	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 16:46	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/02/20 16:46	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Chloroform	ND		0.20	0.030	ug/L			06/02/20 16:46	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/02/20 16:46	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/02/20 16:46	1
Benzene	ND		0.20	0.030	ug/L			06/02/20 16:46	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/02/20 16:46	1
Trichloroethene	0.0958	J	0.20	0.066	ug/L			06/02/20 16:46	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/02/20 16:46	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/02/20 16:46	1
Dibromomethane	ND		0.20	0.062	ug/L			06/02/20 16:46	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/02/20 16:46	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/02/20 16:46	1
Toluene	ND		0.20	0.050	ug/L			06/02/20 16:46	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/02/20 16:46	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/02/20 16:46	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/02/20 16:46	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/02/20 16:46	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/02/20 16:46	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/02/20 16:46	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/02/20 16:46	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/02/20 16:46	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/02/20 16:46	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/02/20 16:46	1
o-Xylene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
Styrene	ND		1.0	0.19	ug/L			06/02/20 16:46	1
Bromoform	ND		0.50	0.16	ug/L			06/02/20 16:46	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/02/20 16:46	1
Bromobenzene	ND		0.20	0.035	ug/L			06/02/20 16:46	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/02/20 16:46	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/02/20 16:46	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/02/20 16:46	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329641/7
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/02/20 16:46	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/02/20 16:46	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/02/20 16:46	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/02/20 16:46	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/02/20 16:46	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/02/20 16:46	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/02/20 16:46	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/02/20 16:46	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/02/20 16:46	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/02/20 16:46	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/02/20 16:46	1
Naphthalene	ND		1.0	0.22	ug/L			06/02/20 16:46	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/02/20 16:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/02/20 16:46*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 16:46*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/20 16:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*06/02/20 16:46*	*1*

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	6.43		ug/L		129	20 - 137
Chloromethane	5.00	4.90		ug/L		98	32 - 143
Vinyl chloride	5.00	4.61		ug/L		92	52 - 128
Bromomethane	5.00	4.68		ug/L		94	68 - 120
Chloroethane	5.00	4.61		ug/L		92	49 - 135
Carbon disulfide	5.00	4.21		ug/L		84	65 - 128
Trichlorofluoromethane	5.00	4.76		ug/L		95	60 - 132
1,1-Dichloroethene	5.00	4.76		ug/L		95	71 - 126
Acetone	25.0	23.9		ug/L		96	49 - 150
Methylene Chloride	5.00	6.16		ug/L		123	75 - 134
Methyl tert-butyl ether	5.00	4.01		ug/L		80	60 - 150
2-Butanone (MEK)	25.0	21.0		ug/L		84	64 - 136
trans-1,2-Dichloroethene	5.00	4.90		ug/L		98	63 - 133
1,1-Dichloroethane	5.00	4.55		ug/L		91	74 - 135
2,2-Dichloropropane	5.00	4.06		ug/L		81	58 - 150
cis-1,2-Dichloroethene	5.00	4.78		ug/L		96	72 - 130
Chlorobromomethane	5.00	4.92		ug/L		98	79 - 131
Chloroform	5.00	4.83		ug/L		97	80 - 130
1,1,1-Trichloroethane	5.00	4.44		ug/L		89	74 - 128
Carbon tetrachloride	5.00	4.33		ug/L		87	71 - 132

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	5.00	4.78		ug/L		96	72 - 132
Benzene	5.00	4.89		ug/L		98	73 - 133
1,2-Dichloroethane	5.00	4.78		ug/L		96	74 - 130
Trichloroethene	5.00	5.15		ug/L		103	72 - 136
1,2-Dichloropropane	5.00	4.83		ug/L		97	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	22.1		ug/L		88	65 - 137
Dibromomethane	5.00	4.65		ug/L		93	65 - 141
Dichlorobromomethane	5.00	4.71		ug/L		94	74 - 131
cis-1,3-Dichloropropene	5.00	4.52		ug/L		90	66 - 141
Toluene	5.00	4.67		ug/L		93	80 - 126
trans-1,3-Dichloropropene	5.00	4.17		ug/L		83	71 - 128
1,1,2-Trichloroethane	5.00	4.89		ug/L		98	80 - 127
Tetrachloroethene	5.00	4.87		ug/L		97	75 - 131
1,3-Dichloropropane	5.00	4.83		ug/L		97	80 - 130
Chlorodibromomethane	5.00	4.87		ug/L		97	76 - 131
Ethylene Dibromide	5.00	5.05		ug/L		101	80 - 126
Chlorobenzene	5.00	5.43		ug/L		109	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.62		ug/L		92	79 - 127
Ethylbenzene	5.00	4.54		ug/L		91	80 - 130
m-Xylene & p-Xylene	5.00	4.68		ug/L		94	78 - 130
o-Xylene	5.00	5.29		ug/L		106	80 - 139
Styrene	5.00	5.42		ug/L		108	74 - 136
Bromoform	5.00	3.94		ug/L		79	69 - 137
Isopropylbenzene	5.00	4.85		ug/L		97	75 - 137
Bromobenzene	5.00	4.97		ug/L		99	80 - 130
1,1,2,2-Tetrachloroethane	5.00	4.90		ug/L		98	69 - 139
1,2,3-Trichloropropane	5.00	4.71		ug/L		94	80 - 127
N-Propylbenzene	5.00	5.01		ug/L		100	77 - 142
2-Chlorotoluene	5.00	4.76		ug/L		95	80 - 136
4-Chlorotoluene	5.00	5.02		ug/L		100	80 - 130
1,3,5-Trimethylbenzene	5.00	5.22		ug/L		104	80 - 139
tert-Butylbenzene	5.00	5.18		ug/L		104	77 - 140
1,2,4-Trimethylbenzene	5.00	4.95		ug/L		99	78 - 136
sec-Butylbenzene	5.00	5.21		ug/L		104	78 - 140
4-Isopropyltoluene	5.00	5.14		ug/L		103	78 - 132
1,3-Dichlorobenzene	5.00	5.14		ug/L		103	80 - 130
1,4-Dichlorobenzene	5.00	5.03		ug/L		101	80 - 129
n-Butylbenzene	5.00	4.86		ug/L		97	73 - 135
1,2-Dichlorobenzene	5.00	5.06		ug/L		101	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.00		ug/L		80	69 - 130
1,2,4-Trichlorobenzene	5.00	4.76		ug/L		95	79 - 130
Hexachlorobutadiene	5.00	4.74		ug/L		95	72 - 138
Naphthalene	5.00	4.81		ug/L		96	64 - 132
1,2,3-Trichlorobenzene	5.00	4.84		ug/L		97	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329641/4
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 580-329641/5
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	6.00		ug/L		120	20 - 137	7	22
Chloromethane	5.00	4.45		ug/L		89	32 - 143	10	23
Vinyl chloride	5.00	4.23		ug/L		85	52 - 128	9	21
Bromomethane	5.00	4.48		ug/L		90	68 - 120	4	18
Chloroethane	5.00	4.40		ug/L		88	49 - 135	5	27
Carbon disulfide	5.00	3.91		ug/L		78	65 - 128	7	23
Trichlorofluoromethane	5.00	4.43		ug/L		89	60 - 132	7	20
1,1-Dichloroethene	5.00	4.45		ug/L		89	71 - 126	7	17
Acetone	25.0	24.6		ug/L		98	49 - 150	3	24
Methylene Chloride	5.00	6.00		ug/L		120	75 - 134	3	18
Methyl tert-butyl ether	5.00	4.19		ug/L		84	60 - 150	4	25
2-Butanone (MEK)	25.0	22.7		ug/L		91	64 - 136	8	23
trans-1,2-Dichloroethene	5.00	4.65		ug/L		93	63 - 133	5	17
1,1-Dichloroethane	5.00	4.34		ug/L		87	74 - 135	5	20
2,2-Dichloropropane	5.00	3.84		ug/L		77	58 - 150	6	28
cis-1,2-Dichloroethene	5.00	4.54		ug/L		91	72 - 130	5	20
Chlorobromomethane	5.00	4.85		ug/L		97	79 - 131	1	20
Chloroform	5.00	4.65		ug/L		93	80 - 130	4	20
1,1,1-Trichloroethane	5.00	4.17		ug/L		83	74 - 128	6	14
Carbon tetrachloride	5.00	4.07		ug/L		81	71 - 132	6	15
1,1-Dichloropropene	5.00	4.51		ug/L		90	72 - 132	6	13
Benzene	5.00	4.71		ug/L		94	73 - 133	4	20
1,2-Dichloroethane	5.00	4.86		ug/L		97	74 - 130	2	15
Trichloroethene	5.00	4.97		ug/L		99	72 - 136	3	14
1,2-Dichloropropane	5.00	4.75		ug/L		95	80 - 130	2	14
4-Methyl-2-pentanone (MIBK)	25.0	23.0		ug/L		92	65 - 137	4	24
Dibromomethane	5.00	4.77		ug/L		95	65 - 141	3	20
Dichlorobromomethane	5.00	4.67		ug/L		93	74 - 131	1	20
cis-1,3-Dichloropropene	5.00	4.49		ug/L		90	66 - 141	1	22
Toluene	5.00	4.40		ug/L		88	80 - 126	6	20
trans-1,3-Dichloropropene	5.00	4.32		ug/L		86	71 - 128	3	21
1,1,2-Trichloroethane	5.00	4.93		ug/L		99	80 - 127	1	19
Tetrachloroethene	5.00	4.52		ug/L		90	75 - 131	7	20
1,3-Dichloropropane	5.00	4.93		ug/L		99	80 - 130	2	19
Chlorodibromomethane	5.00	4.86		ug/L		97	76 - 131	0	20
Ethylene Dibromide	5.00	5.13		ug/L		103	80 - 126	2	20
Chlorobenzene	5.00	5.23		ug/L		105	80 - 123	4	12
1,1,1,2-Tetrachloroethane	5.00	4.44		ug/L		89	79 - 127	4	20
Ethylbenzene	5.00	4.27		ug/L		85	80 - 130	6	20
m-Xylene & p-Xylene	5.00	4.42		ug/L		88	78 - 130	6	20

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329641/5
Matrix: Water
Analysis Batch: 329641

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	5.00	4.97		ug/L		99	80 - 139	6	20
Styrene	5.00	5.23		ug/L		105	74 - 136	4	20
Bromoform	5.00	4.04		ug/L		81	69 - 137	3	20
Isopropylbenzene	5.00	4.51		ug/L		90	75 - 137	7	20
Bromobenzene	5.00	4.82		ug/L		96	80 - 130	3	20
1,1,2,2-Tetrachloroethane	5.00	4.94		ug/L		99	69 - 139	1	22
1,2,3-Trichloropropane	5.00	4.83		ug/L		97	80 - 127	3	20
N-Propylbenzene	5.00	4.63		ug/L		93	77 - 142	8	20
2-Chlorotoluene	5.00	4.38		ug/L		88	80 - 136	8	20
4-Chlorotoluene	5.00	4.78		ug/L		96	80 - 130	5	20
1,3,5-Trimethylbenzene	5.00	4.80		ug/L		96	80 - 139	8	20
tert-Butylbenzene	5.00	4.75		ug/L		95	77 - 140	9	20
1,2,4-Trimethylbenzene	5.00	4.58		ug/L		92	78 - 136	8	20
sec-Butylbenzene	5.00	4.76		ug/L		95	78 - 140	9	20
4-Isopropyltoluene	5.00	4.71		ug/L		94	78 - 132	9	14
1,3-Dichlorobenzene	5.00	4.88		ug/L		98	80 - 130	5	12
1,4-Dichlorobenzene	5.00	4.82		ug/L		96	80 - 129	4	11
n-Butylbenzene	5.00	4.41		ug/L		88	73 - 135	10	18
1,2-Dichlorobenzene	5.00	4.86		ug/L		97	80 - 129	4	14
1,2-Dibromo-3-Chloropropane	5.00	4.01		ug/L		80	69 - 130	0	26
1,2,4-Trichlorobenzene	5.00	4.57		ug/L		91	79 - 130	4	20
Hexachlorobutadiene	5.00	4.27		ug/L		85	72 - 138	10	20
Naphthalene	5.00	4.62		ug/L		92	64 - 132	4	20
1,2,3-Trichlorobenzene	5.00	4.66		ug/L		93	75 - 137	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 18:11	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 18:11	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 18:11	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 18:11	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 18:11	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 18:11	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/02/20 18:11	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 18:11	1
Acetone	ND		50	3.2	ug/L			06/02/20 18:11	1
Methylene Chloride	1.59	J	5.0	1.4	ug/L			06/02/20 18:11	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 18:11	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 18:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/02/20 18:11	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 18:11	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 18:11	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 18:11	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 18:11	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 18:11	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 18:11	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 18:11	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 18:11	1
Benzene	ND		3.0	0.24	ug/L			06/02/20 18:11	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 18:11	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 18:11	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 18:11	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 18:11	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 18:11	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 18:11	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 18:11	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 18:11	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 18:11	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 18:11	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 18:11	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 18:11	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 18:11	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 18:11	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 18:11	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 18:11	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 18:11	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 18:11	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 18:11	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 18:11	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 18:11	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 18:11	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 18:11	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 18:11	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 18:11	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 18:11	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 18:11	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 18:11	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 18:11	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 18:11	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 18:11	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 18:11	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 18:11	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 18:11	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 18:11	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 18:11	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 18:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 18:11	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 18:11	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 18:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*06/02/20 18:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/02/20 18:11*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/02/20 18:11*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 18:11*	*1*

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.95	J	ug/L		49	20 - 150
Chloromethane	10.0	8.36	J	ug/L		84	52 - 135
Vinyl chloride	10.0	8.63		ug/L		86	65 - 130
Bromomethane	10.0	9.30		ug/L		93	66 - 125
Chloroethane	10.0	8.90		ug/L		89	65 - 132
Trichlorofluoromethane	10.0	8.92		ug/L		89	64 - 136
Carbon disulfide	10.0	6.40	*	ug/L		64	69 - 122
1,1-Dichloroethene	10.0	9.43		ug/L		94	70 - 129
Acetone	50.0	51.0		ug/L		102	43 - 150
Methylene Chloride	10.0	11.0		ug/L		110	77 - 125
Methyl tert-butyl ether	10.0	10.1		ug/L		101	72 - 130
trans-1,2-Dichloroethene	10.0	8.36		ug/L		84	77 - 124
1,1-Dichloroethane	10.0	9.76		ug/L		98	70 - 129
2-Butanone (MEK)	50.0	47.8		ug/L		96	65 - 127
2,2-Dichloropropane	10.0	9.76		ug/L		98	62 - 140
cis-1,2-Dichloroethene	10.0	9.41		ug/L		94	76 - 129
Bromochloromethane	10.0	8.93		ug/L		89	78 - 120
Chloroform	10.0	10.2		ug/L		102	73 - 127
1,1,1-Trichloroethane	10.0	9.85		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.29		ug/L		93	72 - 129
1,1-Dichloropropene	10.0	9.44		ug/L		94	80 - 120
Benzene	10.0	10.1		ug/L		101	75 - 121
1,2-Dichloroethane	10.0	10.2		ug/L		102	76 - 131
Trichloroethene	10.0	9.40		ug/L		94	70 - 120
1,2-Dichloropropane	10.0	10.0		ug/L		100	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	45.6		ug/L		91	69 - 124
Dibromomethane	10.0	10.0		ug/L		100	80 - 120
Bromodichloromethane	10.0	9.98		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	11.6		ug/L		116	77 - 120
Toluene	10.0	10.3		ug/L		103	80 - 120
trans-1,3-Dichloropropene	10.0	9.83		ug/L		98	80 - 122
1,1,2-Trichloroethane	10.0	9.83		ug/L		98	80 - 121
Tetrachloroethene	10.0	8.82		ug/L		88	76 - 120

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	10.0	10.1		ug/L		101	79 - 120
Dibromochloromethane	10.0	8.87		ug/L		89	71 - 120
1,2-Dibromoethane	10.0	9.73		ug/L		97	79 - 120
Chlorobenzene	10.0	9.56		ug/L		96	80 - 120
1,1,1,2-Tetrachloroethane	10.0	8.95		ug/L		89	79 - 120
Ethylbenzene	10.0	9.60		ug/L		96	80 - 120
m-Xylene & p-Xylene	10.0	9.61		ug/L		96	80 - 120
o-Xylene	10.0	9.04		ug/L		90	80 - 120
Styrene	10.0	8.79		ug/L		88	76 - 121
Bromoform	10.0	7.54		ug/L		75	61 - 132
Isopropylbenzene	10.0	9.32		ug/L		93	75 - 120
Bromobenzene	10.0	9.88		ug/L		99	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.2		ug/L		102	74 - 124
1,2,3-Trichloropropane	10.0	9.92		ug/L		99	76 - 124
N-Propylbenzene	10.0	10.2		ug/L		102	80 - 120
2-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120
4-Chlorotoluene	10.0	10.4		ug/L		104	80 - 120
t-Butylbenzene	10.0	10.1		ug/L		101	80 - 121
1,2,4-Trimethylbenzene	10.0	10.2		ug/L		102	80 - 120
sec-Butylbenzene	10.0	10.3		ug/L		103	78 - 120
4-Isopropyltoluene	10.0	10.1		ug/L		101	77 - 120
1,3-Dichlorobenzene	10.0	8.32		ug/L		83	80 - 120
1,4-Dichlorobenzene	10.0	9.73		ug/L		97	80 - 120
n-Butylbenzene	10.0	10.4		ug/L		104	78 - 120
1,2-Dichlorobenzene	10.0	9.69		ug/L		97	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.78	J	ug/L		98	65 - 125
1,2,4-Trichlorobenzene	10.0	8.90		ug/L		89	57 - 140
Hexachlorobutadiene	10.0	9.59		ug/L		96	74 - 125
Naphthalene	10.0	12.6		ug/L		126	44 - 144
1,2,3-Trichlorobenzene	10.0	12.0		ug/L		120	23 - 150
1,3,5-Trimethylbenzene	10.0	10.4		ug/L		104	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	4.91	J	ug/L		49	20 - 150	1	35
Chloromethane	10.0	8.24	J	ug/L		82	52 - 135	1	23
Vinyl chloride	10.0	8.93		ug/L		89	65 - 130	3	28
Bromomethane	10.0	9.20		ug/L		92	66 - 125	1	27
Chloroethane	10.0	8.93		ug/L		89	65 - 132	0	35

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	10.0	8.90		ug/L		89	64 - 136	0	27
Carbon disulfide	10.0	6.29	*	ug/L		63	69 - 122	2	20
1,1-Dichloroethene	10.0	9.20		ug/L		92	70 - 129	2	27
Acetone	50.0	49.2	J	ug/L		98	43 - 150	4	35
Methylene Chloride	10.0	11.1		ug/L		111	77 - 125	1	18
Methyl tert-butyl ether	10.0	10.1		ug/L		101	72 - 130	1	18
trans-1,2-Dichloroethene	10.0	8.94		ug/L		89	77 - 124	7	21
1,1-Dichloroethane	10.0	9.85		ug/L		98	70 - 129	1	26
2-Butanone (MEK)	50.0	46.1		ug/L		92	65 - 127	4	29
2,2-Dichloropropane	10.0	10.0		ug/L		100	62 - 140	3	23
cis-1,2-Dichloroethene	10.0	9.14		ug/L		91	76 - 129	3	15
Bromochloromethane	10.0	9.24		ug/L		92	78 - 120	3	20
Chloroform	10.0	10.3		ug/L		103	73 - 127	1	22
1,1,1-Trichloroethane	10.0	9.71		ug/L		97	74 - 130	1	18
Carbon tetrachloride	10.0	9.39		ug/L		94	72 - 129	1	19
1,1-Dichloropropene	10.0	9.26		ug/L		93	80 - 120	2	14
Benzene	10.0	9.76		ug/L		98	75 - 121	3	14
1,2-Dichloroethane	10.0	10.2		ug/L		102	76 - 131	0	18
Trichloroethene	10.0	9.29		ug/L		93	70 - 120	1	21
1,2-Dichloropropane	10.0	9.89		ug/L		99	72 - 126	1	26
4-Methyl-2-pentanone (MIBK)	50.0	44.3		ug/L		89	69 - 124	3	22
Dibromomethane	10.0	10.0		ug/L		100	80 - 120	0	22
Bromodichloromethane	10.0	9.70		ug/L		97	75 - 124	3	22
cis-1,3-Dichloropropene	10.0	9.69		ug/L		97	77 - 120	18	20
Toluene	10.0	9.78		ug/L		98	80 - 120	5	19
trans-1,3-Dichloropropene	10.0	9.38		ug/L		94	80 - 122	5	25
1,1,2-Trichloroethane	10.0	9.49		ug/L		95	80 - 121	4	21
Tetrachloroethene	10.0	8.52		ug/L		85	76 - 120	3	20
1,3-Dichloropropane	10.0	9.59		ug/L		96	79 - 120	5	26
Dibromochloromethane	10.0	8.73		ug/L		87	71 - 120	2	24
1,2-Dibromoethane	10.0	9.34		ug/L		93	79 - 120	4	20
Chlorobenzene	10.0	9.56		ug/L		96	80 - 120	0	15
1,1,1,2-Tetrachloroethane	10.0	9.08		ug/L		91	79 - 120	1	20
Ethylbenzene	10.0	9.39		ug/L		94	80 - 120	2	14
m-Xylene & p-Xylene	10.0	9.52		ug/L		95	80 - 120	1	14
o-Xylene	10.0	9.16		ug/L		92	80 - 120	1	16
Styrene	10.0	8.67		ug/L		87	76 - 121	1	16
Bromoform	10.0	7.72		ug/L		77	61 - 132	2	20
Isopropylbenzene	10.0	9.37		ug/L		94	75 - 120	1	20
Bromobenzene	10.0	8.99		ug/L		90	80 - 120	9	13
1,1,2,2-Tetrachloroethane	10.0	9.52		ug/L		95	74 - 124	7	18
1,2,3-Trichloropropane	10.0	9.41		ug/L		94	76 - 124	5	30
N-Propylbenzene	10.0	9.34		ug/L		93	80 - 120	8	13
2-Chlorotoluene	10.0	9.50		ug/L		95	80 - 120	6	15
4-Chlorotoluene	10.0	9.66		ug/L		97	80 - 120	7	14
t-Butylbenzene	10.0	9.40		ug/L		94	80 - 121	7	14
1,2,4-Trimethylbenzene	10.0	9.74		ug/L		97	80 - 120	5	16
sec-Butylbenzene	10.0	9.63		ug/L		96	78 - 120	7	15
4-Isopropyltoluene	10.0	9.45		ug/L		94	77 - 120	6	13

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichlorobenzene	10.0	8.92		ug/L		89	80 - 120	7	14
1,4-Dichlorobenzene	10.0	9.20		ug/L		92	80 - 120	6	17
n-Butylbenzene	10.0	9.99		ug/L		100	78 - 120	4	14
1,2-Dichlorobenzene	10.0	9.36		ug/L		94	80 - 120	3	15
1,2-Dibromo-3-Chloropropane	10.0	9.41	J	ug/L		94	65 - 125	4	27
1,2,4-Trichlorobenzene	10.0	9.35		ug/L		93	57 - 140	5	27
Hexachlorobutadiene	10.0	9.66		ug/L		97	74 - 125	1	22
Naphthalene	10.0	11.8		ug/L		118	44 - 144	6	31
1,2,3-Trichlorobenzene	10.0	11.2		ug/L		112	23 - 150	7	35
1,3,5-Trimethylbenzene	10.0	9.71		ug/L		97	80 - 120	7	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 580-330219/7
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/09/20 17:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/09/20 17:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/09/20 17:38*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/09/20 17:38*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/09/20 17:38*	*1*

Lab Sample ID: LCS 580-330219/4
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	10.0	9.92		ug/L		99	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-330219/5
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			10.0	9.84		ug/L		98	80 - 120	1	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-611047/15
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/03/20 08:44	1

Lab Sample ID: LCS 440-611047/14
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent			50.0	49.0		ug/L		98	90 - 110

Lab Sample ID: MRL 440-611047/13
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent			1.00	0.976	J	ug/L		98	50 - 150

Lab Sample ID: MB 440-612396/6
Matrix: Water
Analysis Batch: 612396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/12/20 07:26	1

Lab Sample ID: LCS 440-612396/5
Matrix: Water
Analysis Batch: 612396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent			50.0	51.4		ug/L		103	90 - 110

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: MRL 440-612396/4
Matrix: Water
Analysis Batch: 612396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			1.00	1.09		ug/L		109	50 - 150		

Lab Sample ID: 580-94920-1 MS
Matrix: Water
Analysis Batch: 612396

Client Sample ID: PA-10i-052620
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		100	105		ug/L		105	90 - 110		

Lab Sample ID: 580-94920-1 MSD
Matrix: Water
Analysis Batch: 612396

Client Sample ID: PA-10i-052620
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		100	106		ug/L		106	90 - 110	1	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-612670/6
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/15/20 10:35	1

Lab Sample ID: LCS 440-612670/5
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			10.0	9.88		ug/L		99	85 - 115		

Lab Sample ID: MRL 440-612670/4
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			1.00	1.03	J	ug/L		103	75 - 125		

Lab Sample ID: MRL 440-612670/8
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.95	J	ug/L		99	75 - 125		

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329162/20-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/27/20 11:49	05/28/20 17:44	5
Chromium	ND		0.0040	0.00087	mg/L		05/27/20 11:49	05/28/20 17:44	5
Iron	ND		1.0	0.18	mg/L		05/27/20 11:49	05/28/20 17:44	5
Manganese	ND		0.010	0.0023	mg/L		05/27/20 11:49	05/28/20 17:44	5

Lab Sample ID: LCS 580-329162/21-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.976		mg/L		98	80 - 120
Chromium	1.00	0.999		mg/L		100	80 - 120
Iron	20.0	18.8		mg/L		94	80 - 120
Manganese	1.00	0.986		mg/L		99	80 - 120

Lab Sample ID: LCSD 580-329162/22-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.968		mg/L		97	80 - 120	1	20
Chromium	1.00	1.00		mg/L		100	80 - 120	0	20
Iron	20.0	18.8		mg/L		94	80 - 120	0	20
Manganese	1.00	0.988		mg/L		99	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329574/3
Matrix: Water
Analysis Batch: 329574

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			06/01/20 11:34	1

Lab Sample ID: LCS 580-329574/4
Matrix: Water
Analysis Batch: 329574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.0		mg/L		104	90 - 110

Lab Sample ID: LCSD 580-329574/5
Matrix: Water
Analysis Batch: 329574

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	52.1		mg/L		104	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94920-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-10i-052620
Lab Sample ID: 580-94920-1
Date Collected: 05/26/20 11:11
Matrix: Water
Date Received: 05/26/20 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 21:38	CJ	TAL SEA
Dissolved	Analysis	218.6		10	612396	06/12/20 08:46	MN	TAL IRV
Total/NA	Analysis	314.0		50	612670	06/15/20 21:42	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:49	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 19:09	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329574	06/01/20 13:20	AAC	TAL SEA

Client Sample ID: MWA-51i-052620
Lab Sample ID: 580-94920-2
Date Collected: 05/26/20 10:55
Matrix: Water
Date Received: 05/26/20 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329648	06/02/20 23:33	T1W	TAL SEA
Total/NA	Analysis	8260D	DL	10	330219	06/09/20 20:19	T1W	TAL SEA
Dissolved	Analysis	218.6		100	611047	06/03/20 11:57	MN	TAL IRV
Total/NA	Analysis	314.0		100	612670	06/15/20 22:17	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:49	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 19:15	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329574	06/01/20 13:55	AAC	TAL SEA

Client Sample ID: MWA-54i-052620
Lab Sample ID: 580-94920-3
Date Collected: 05/26/20 11:15
Matrix: Water
Date Received: 05/26/20 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329648	06/03/20 00:00	T1W	TAL SEA
Total/NA	Analysis	8260D	DL	10	330219	06/09/20 20:46	T1W	TAL SEA
Dissolved	Analysis	218.6		100	611047	06/03/20 12:10	MN	TAL IRV
Total/NA	Analysis	314.0		100	612670	06/15/20 22:53	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:49	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 19:18	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329574	06/01/20 14:07	AAC	TAL SEA

Client Sample ID: TB-01-052620
Lab Sample ID: 580-94920-4
Date Collected: 05/26/20 08:00
Matrix: Water
Date Received: 05/26/20 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329641	06/02/20 21:11	CJ	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94920-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94920-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94920-1	PA-10i-052620	Water	05/26/20 11:11	05/26/20 12:40	
580-94920-2	MWA-51i-052620	Water	05/26/20 10:55	05/26/20 12:40	
580-94920-3	MWA-54i-052620	Water	05/26/20 11:15	05/26/20 12:40	
580-94920-4	TB-01-052620	Water	05/26/20 08:00	05/26/20 12:40	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

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Client Information	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
PA-101-052620	5-26-20	1111	G	Water	Y		X				X		X	X	X		
MWA-51i-052620		1055	G	Water	Y		X				X	X		X	X		P,1 VOC
MWA-54i-052620		1115	G	Water	Y		X				X	X		X	X		P,1 VOC
~~TB01052620~~ TB01-052620	5-26-20	0800	G	Water									X				
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													

580-94920 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/26/20 1215			5/26/20 1215	M.E.
2		5/26/20 1240	M.E		5/26/20 1240	DAFOR
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 4.3

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6/16/2020

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	N	N	N	D	D	A	A	N			
PA-101-052620	5-26-20	1111	G	Water	Y		X				X		X	X	X		
MWA-5Si-052620		1055	G	Water	Y		X				X	X		X	X		Pb VOC
MWA-5Ri-052620		1115	G	Water	Y		X				X	X		X	X		Pb VOC
~~TB01-052620~~ TB01-052620	5-26-20	0800	G	Water									X				
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													

580-94920 Chain of Custody

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 5-26-20 1215	Company	Received by:	Date/Time: 5/26/20 1215	Company M.E.
Relinquished by:	Date/Time: 5/26/20 1240	Company M.E	Received by:	Date/Time: 5/26/20 1240	Company TAVOR
Relinquished by:	Date/Time: 5/26/20 1700	Company TAVOR	Received by: Tom Blanton	Date/Time: 5/27/20 0945	Company TA-Sea

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 4.3 IR7 4.1/3.9

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone 253-922-2310 Fax. 253-922-5047

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): 1872 5088 4227	COC No: 580-77140 1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94920-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/12/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email:	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
PA-10i-052620 (580-94920-1)	5/26/20	11:11 Pacific		Water			X	X	2	, Sample should have been field filtered then preserved by Portland. Please confirm
MWA-51i-052620 (580-94920-2)	5/26/20	10:55 Pacific		Water			X	X	2	, Sample should have been field filtered then preserved by Portland Please confirm
MWA-54i-052620 (580-94920-3)	5/26/20	11:15 Pacific		Water			X	X	2	, Sample should have been field filtered then preserved by Portland Please confirm

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/27/20 1700	TAL-SEA		5/28/20 0945	EC-IRV
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No..	Cooler Temperature(s) °C and Other Remarks: 4.4/4.6 IR-93

Ver 01/16/2019

6/16/2020

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94920-1

Login Number: 94920
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94920-1

Login Number: 94920
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Irvine
List Creation: 05/28/20 12:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94939-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/16/2020 3:07:50 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94939-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94939-1

Comments
No additional comments.

Receipt
The samples were received on 5/26/2020 3:51 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.1º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved MWA-20-052620 (580-94939-1), MWA-63-052620 (580-94939-2) and PA-12i-052620 (580-94939-3).. The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Method 8260D: The CCV for analytical batch 580-329648 recovered outside control limits for the following analyte: Dichlorodifluoromethane. This analyte has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The method blank for analytical batch 580-329648 contained Methylene Chloride above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method 8260D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329648 recovered outside control limits for the following analyte: Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-63-052620 (580-94939-2) and PA-12i-052620 (580-94939-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The reference method requires samples to be preserved to a pH of 9.3 to 9.7 The following sample was received with insufficient preservation at a pH out of this rangePA-12i-052620 (580-94939-3). The sample(s) was preserved to the appropriate pH in the laboratory.

Method 218.6: The following samples were diluted due to the nature of the sample matrix: MWA-20-052620 (580-94939-1). Elevated reporting limits (RLs) are provided. Samples were brown in color..

Method 314.0: The following sample was diluted due medium dark black color of the sample matrix: PA-12i-052620 (580-94939-3). Elevated reporting limits (RLs) are provided.

Method 314.0: The following sample was diluted due to intense dark black color of the sample matrix: MWA-20-052620 (580-94939-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Methods 8081A, 8081B_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-610497 and analytical batch 440-610567. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-610497/2-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 580-94939-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-610497. Method 8081-8082

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-20-052620
Lab Sample ID: 580-94939-1
Date Collected: 05/26/20 14:00
Matrix: Water
Date Received: 05/26/20 15:51

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 22:12	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 22:12	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 22:12	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 22:12	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 22:12	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 22:12	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/02/20 22:12	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 22:12	1
Acetone	ND		50	3.2	ug/L			06/02/20 22:12	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/02/20 22:12	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 22:12	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 22:12	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/02/20 22:12	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 22:12	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 22:12	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 22:12	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 22:12	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 22:12	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 22:12	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 22:12	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 22:12	1
Benzene	**0.57**	**J**	3.0	0.24	ug/L			06/02/20 22:12	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 22:12	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 22:12	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 22:12	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 22:12	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 22:12	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 22:12	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 22:12	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 22:12	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 22:12	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 22:12	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 22:12	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 22:12	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 22:12	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 22:12	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 22:12	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 22:12	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 22:12	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 22:12	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 22:12	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 22:12	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 22:12	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 22:12	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 22:12	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 22:12	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 22:12	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 22:12	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 22:12	1

Client Sample ID: MWA-20-052620
Lab Sample ID: 580-94939-1
Date Collected: 05/26/20 14:00
Matrix: Water
Date Received: 05/26/20 15:51

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 22:12	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 22:12	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 22:12	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 22:12	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 22:12	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 22:12	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 22:12	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 22:12	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 22:12	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 22:12	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 22:12	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 22:12	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 22:12	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/02/20 22:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*06/02/20 22:12*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/02/20 22:12*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/02/20 22:12*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**92**		2.0	0.44	ug/L			06/09/20 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/09/20 18:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/09/20 18:32*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/09/20 18:32*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/09/20 18:32*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10	2.5	ug/L			06/12/20 08:59	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/15/20 21:06	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.14**		0.0050	0.0010	mg/L		05/27/20 11:48	05/28/20 19:12	5
Chromium	**0.020**		0.0040	0.00087	mg/L		05/27/20 11:48	05/28/20 19:12	5
Iron	**3.9**		1.0	0.18	mg/L		05/27/20 11:48	05/28/20 19:12	5
Manganese	**0.28**		0.010	0.0023	mg/L		05/27/20 11:48	05/28/20 19:12	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**39**		9.0	1.4	mg/L			06/01/20 19:00	10

Client Sample ID: MWA-63-052620
Lab Sample ID: 580-94939-2

Date Collected: 05/26/20 13:40
Matrix: Water

Date Received: 05/26/20 15:51

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 22:39	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 22:39	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 22:39	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 22:39	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 22:39	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 22:39	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/02/20 22:39	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 22:39	1
Acetone	ND		50	3.2	ug/L			06/02/20 22:39	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/02/20 22:39	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 22:39	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 22:39	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/02/20 22:39	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 22:39	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 22:39	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 22:39	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 22:39	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 22:39	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 22:39	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 22:39	1
Benzene	ND		3.0	0.24	ug/L			06/02/20 22:39	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 22:39	1
Trichloroethene	**4.5**		3.0	0.26	ug/L			06/02/20 22:39	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 22:39	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 22:39	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 22:39	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 22:39	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 22:39	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 22:39	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 22:39	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 22:39	1
Tetrachloroethene	**23**		3.0	0.41	ug/L			06/02/20 22:39	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 22:39	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 22:39	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 22:39	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/02/20 22:39	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 22:39	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 22:39	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 22:39	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 22:39	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 22:39	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 22:39	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 22:39	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 22:39	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 22:39	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 22:39	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 22:39	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 22:39	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 22:39	1

Client Sample ID: MWA-63-052620
Lab Sample ID: 580-94939-2
Date Collected: 05/26/20 13:40
Matrix: Water
Date Received: 05/26/20 15:51

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 22:39	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 22:39	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 22:39	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 22:39	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 22:39	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 22:39	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 22:39	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 22:39	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 22:39	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 22:39	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 22:39	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 22:39	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 22:39	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*06/02/20 22:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/02/20 22:39*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/02/20 22:39*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/02/20 22:39*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**390**		50	2.6	ug/L			06/09/20 19:53	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/09/20 19:53*	*10*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*06/09/20 19:53*	*10*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/09/20 19:53*	*10*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/09/20 19:53*	*10*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		05/29/20 05:38	05/29/20 12:20	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		05/29/20 05:38	05/29/20 12:20	1
4,4'-DDT	**0.0056**		0.0048	0.0024	ug/L		05/29/20 05:38	05/29/20 12:20	1
Aldrin	ND		0.0048	0.0014	ug/L		05/29/20 05:38	05/29/20 12:20	1
alpha-BHC	ND		0.0048	0.0024	ug/L		05/29/20 05:38	05/29/20 12:20	1
cis-Chlordane	ND		0.096	0.013	ug/L		05/29/20 05:38	05/29/20 12:20	1
beta-BHC	ND		0.0096	0.0038	ug/L		05/29/20 05:38	05/29/20 12:20	1
Chlordane (technical)	ND		0.096	0.077	ug/L		05/29/20 05:38	05/29/20 12:20	1
delta-BHC	ND		0.0048	0.0033	ug/L		05/29/20 05:38	05/29/20 12:20	1
Dieldrin	ND		0.0048	0.0019	ug/L		05/29/20 05:38	05/29/20 12:20	1
Endosulfan I	ND		0.0048	0.0029	ug/L		05/29/20 05:38	05/29/20 12:20	1
Endosulfan II	ND		0.0048	0.0019	ug/L		05/29/20 05:38	05/29/20 12:20	1
Endosulfan sulfate	ND		0.0096	0.0029	ug/L		05/29/20 05:38	05/29/20 12:20	1
Endrin	ND		0.0048	0.0019	ug/L		05/29/20 05:38	05/29/20 12:20	1
Endrin aldehyde	ND		0.0096	0.0019	ug/L		05/29/20 05:38	05/29/20 12:20	1
Endrin ketone	ND		0.0096	0.0067	ug/L		05/29/20 05:38	05/29/20 12:20	1
gamma-BHC (Lindane)	ND		0.0096	0.0029	ug/L		05/29/20 05:38	05/29/20 12:20	1

Client Sample ID: MWA-63-052620
Lab Sample ID: 580-94939-2

Date Collected: 05/26/20 13:40
Matrix: Water
Date Received: 05/26/20 15:51

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.096	0.029	ug/L		05/29/20 05:38	05/29/20 12:20	1
Heptachlor	ND		0.0096	0.0029	ug/L		05/29/20 05:38	05/29/20 12:20	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		05/29/20 05:38	05/29/20 12:20	1
Methoxychlor	ND		0.0048	0.0033	ug/L		05/29/20 05:38	05/29/20 12:20	1
Toxaphene	ND		0.48	0.24	ug/L		05/29/20 05:38	05/29/20 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*65*		*28 - 108*	*05/29/20 05:38*	*05/29/20 12:20*	*1*
Tetrachloro-m-xylene	*71*		*10 - 123*	*05/29/20 05:38*	*05/29/20 12:20*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.44**	**J**	1.0	0.25	ug/L			06/03/20 10:32	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/15/20 15:45	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0055**		0.0050	0.0010	mg/L		05/27/20 11:22	05/28/20 12:00	5
Chromium	**0.0040**		0.0040	0.00087	mg/L		05/27/20 11:22	05/28/20 12:00	5
Iron	**1.1**		1.0	0.18	mg/L		05/27/20 11:22	05/28/20 12:00	5
Manganese	**0.72**		0.010	0.0023	mg/L		05/27/20 11:22	05/28/20 12:00	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/27/20 11:48	05/28/20 19:03	5
Chromium	**0.0011**	**J**	0.0040	0.00087	mg/L		05/27/20 11:48	05/28/20 19:03	5
Iron	ND		1.0	0.18	mg/L		05/27/20 11:48	05/28/20 19:03	5
Manganese	ND		0.010	0.0023	mg/L		05/27/20 11:48	05/28/20 19:03	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13**		0.90	0.14	mg/L			06/01/20 19:12	1

Client Sample ID: PA-12i-052620
Lab Sample ID: 580-94939-3

Date Collected: 05/26/20 14:32
Matrix: Water

Date Received: 05/26/20 15:51

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 23:06	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 23:06	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 23:06	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 23:06	1
Chloroethane	**14**		5.0	0.35	ug/L			06/02/20 23:06	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 23:06	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/02/20 23:06	1
1,1-Dichloroethene	**1.4**	**J**	4.0	0.28	ug/L			06/02/20 23:06	1
Acetone	ND		50	3.2	ug/L			06/02/20 23:06	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/02/20 23:06	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 23:06	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 23:06	1
1,1-Dichloroethane	**5.3**		2.0	0.22	ug/L			06/02/20 23:06	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 23:06	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 23:06	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 23:06	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 23:06	1
1,1,1-Trichloroethane	**6.4**		3.0	0.39	ug/L			06/02/20 23:06	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 23:06	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 23:06	1
Benzene	**0.63**	**J**	3.0	0.24	ug/L			06/02/20 23:06	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 23:06	1
Trichloroethene	**4.4**		3.0	0.26	ug/L			06/02/20 23:06	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 23:06	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 23:06	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 23:06	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 23:06	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 23:06	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 23:06	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 23:06	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 23:06	1
Tetrachloroethene	**27**		3.0	0.41	ug/L			06/02/20 23:06	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 23:06	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 23:06	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 23:06	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 23:06	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 23:06	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 23:06	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 23:06	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 23:06	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 23:06	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 23:06	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 23:06	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 23:06	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 23:06	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 23:06	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 23:06	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 23:06	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 23:06	1

Client Sample ID: PA-12i-052620
Lab Sample ID: 580-94939-3

Date Collected: 05/26/20 14:32
Matrix: Water

Date Received: 05/26/20 15:51

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 23:06	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 23:06	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 23:06	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 23:06	1
1,4-Dichlorobenzene	**2.2**	**J**	4.0	0.46	ug/L			06/02/20 23:06	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 23:06	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 23:06	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 23:06	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 23:06	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 23:06	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 23:06	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 23:06	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*116*		*80 - 120*		*06/02/20 23:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*06/02/20 23:06*	*1*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*		*06/02/20 23:06*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 23:06*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**7900**		200	44	ug/L			06/09/20 18:59	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/09/20 18:59*	*100*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*06/09/20 18:59*	*100*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/09/20 18:59*	*100*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/09/20 18:59*	*100*

Method: 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**19**		5.0	0.26	ug/L			06/09/20 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*116*		*80 - 120*		*06/09/20 21:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*06/09/20 21:40*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/09/20 21:40*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/09/20 21:40*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	1.0	0.25	ug/L			06/03/20 10:45	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	9.5	ug/L			06/15/20 17:32	10

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.037**		0.0050	0.0010	mg/L		05/27/20 11:49	05/28/20 19:06	5

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-12i-052620
Lab Sample ID: 580-94939-3
Date Collected: 05/26/20 14:32
Matrix: Water
Date Received: 05/26/20 15:51

Method: 6020B - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0016	J	0.0040	0.00087	mg/L		05/27/20 11:49	05/28/20 19:06	5
Iron	0.73	J	1.0	0.18	mg/L		05/27/20 11:49	05/28/20 19:06	5
Manganese	0.024		0.010	0.0023	mg/L		05/27/20 11:49	05/28/20 19:06	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	45		0.90	0.14	mg/L			06/01/20 19:23	1

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-02-052620
Lab Sample ID: 580-94939-4
Date Collected: 05/26/20 13:00
Matrix: Water
Date Received: 05/26/20 15:51

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 19:04	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 19:04	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 19:04	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 19:04	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 19:04	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 19:04	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/02/20 19:04	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 19:04	1
Acetone	ND		50	3.2	ug/L			06/02/20 19:04	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/02/20 19:04	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 19:04	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 19:04	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/02/20 19:04	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 19:04	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 19:04	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 19:04	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 19:04	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 19:04	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 19:04	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 19:04	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 19:04	1
Benzene	ND		3.0	0.24	ug/L			06/02/20 19:04	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 19:04	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 19:04	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 19:04	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 19:04	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 19:04	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 19:04	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 19:04	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 19:04	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 19:04	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 19:04	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 19:04	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 19:04	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 19:04	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 19:04	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/02/20 19:04	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 19:04	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 19:04	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 19:04	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 19:04	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 19:04	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 19:04	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 19:04	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 19:04	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 19:04	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 19:04	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 19:04	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 19:04	1

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-02-052620
Lab Sample ID: 580-94939-4
Date Collected: 05/26/20 13:00
Matrix: Water
Date Received: 05/26/20 15:51

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 19:04	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 19:04	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 19:04	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 19:04	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 19:04	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 19:04	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 19:04	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 19:04	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 19:04	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 19:04	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 19:04	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 19:04	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 19:04	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 19:04	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*06/02/20 19:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/02/20 19:04*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/02/20 19:04*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/02/20 19:04*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/02/20 18:11	1
Chloromethane	ND		20	0.28	ug/L			06/02/20 18:11	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/02/20 18:11	1
Bromomethane	ND		6.0	0.21	ug/L			06/02/20 18:11	1
Chloroethane	ND		5.0	0.35	ug/L			06/02/20 18:11	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/02/20 18:11	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/02/20 18:11	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/02/20 18:11	1
Acetone	ND		50	3.2	ug/L			06/02/20 18:11	1
Methylene Chloride	1.59	J	5.0	1.4	ug/L			06/02/20 18:11	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/02/20 18:11	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/02/20 18:11	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/02/20 18:11	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/02/20 18:11	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/02/20 18:11	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/02/20 18:11	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/02/20 18:11	1
Chloroform	ND		5.0	0.26	ug/L			06/02/20 18:11	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/02/20 18:11	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/02/20 18:11	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/02/20 18:11	1
Benzene	ND		3.0	0.24	ug/L			06/02/20 18:11	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/02/20 18:11	1
Trichloroethene	ND		3.0	0.26	ug/L			06/02/20 18:11	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/02/20 18:11	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/02/20 18:11	1
Dibromomethane	ND		2.0	0.34	ug/L			06/02/20 18:11	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/02/20 18:11	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/02/20 18:11	1
Toluene	ND		2.0	0.39	ug/L			06/02/20 18:11	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/02/20 18:11	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/02/20 18:11	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/02/20 18:11	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/02/20 18:11	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/02/20 18:11	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/02/20 18:11	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/02/20 18:11	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/02/20 18:11	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/02/20 18:11	1
o-Xylene	ND		2.0	0.39	ug/L			06/02/20 18:11	1
Styrene	ND		5.0	1.0	ug/L			06/02/20 18:11	1
Bromoform	ND		3.0	0.56	ug/L			06/02/20 18:11	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/02/20 18:11	1
Bromobenzene	ND		2.0	0.43	ug/L			06/02/20 18:11	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/02/20 18:11	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/02/20 18:11	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/02/20 18:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329648/7
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/02/20 18:11	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/02/20 18:11	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/02/20 18:11	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/02/20 18:11	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/02/20 18:11	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/02/20 18:11	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/02/20 18:11	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/02/20 18:11	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/02/20 18:11	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/02/20 18:11	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/02/20 18:11	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/02/20 18:11	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/02/20 18:11	1
Naphthalene	ND		4.0	0.93	ug/L			06/02/20 18:11	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/02/20 18:11	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/02/20 18:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*06/02/20 18:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/02/20 18:11*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/02/20 18:11*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/02/20 18:11*	*1*

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.95	J	ug/L		49	20 - 150
Chloromethane	10.0	8.36	J	ug/L		84	52 - 135
Vinyl chloride	10.0	8.63		ug/L		86	65 - 130
Bromomethane	10.0	9.30		ug/L		93	66 - 125
Chloroethane	10.0	8.90		ug/L		89	65 - 132
Trichlorofluoromethane	10.0	8.92		ug/L		89	64 - 136
Carbon disulfide	10.0	6.40	*	ug/L		64	69 - 122
1,1-Dichloroethene	10.0	9.43		ug/L		94	70 - 129
Acetone	50.0	51.0		ug/L		102	43 - 150
Methylene Chloride	10.0	11.0		ug/L		110	77 - 125
Methyl tert-butyl ether	10.0	10.1		ug/L		101	72 - 130
trans-1,2-Dichloroethene	10.0	8.36		ug/L		84	77 - 124
1,1-Dichloroethane	10.0	9.76		ug/L		98	70 - 129
2-Butanone (MEK)	50.0	47.8		ug/L		96	65 - 127
2,2-Dichloropropane	10.0	9.76		ug/L		98	62 - 140
cis-1,2-Dichloroethene	10.0	9.41		ug/L		94	76 - 129
Bromochloromethane	10.0	8.93		ug/L		89	78 - 120
Chloroform	10.0	10.2		ug/L		102	73 - 127
1,1,1-Trichloroethane	10.0	9.85		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.29		ug/L		93	72 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	10.0	9.44		ug/L		94	80 - 120
Benzene	10.0	10.1		ug/L		101	75 - 121
1,2-Dichloroethane	10.0	10.2		ug/L		102	76 - 131
Trichloroethene	10.0	9.40		ug/L		94	70 - 120
1,2-Dichloropropane	10.0	10.0		ug/L		100	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	45.6		ug/L		91	69 - 124
Dibromomethane	10.0	10.0		ug/L		100	80 - 120
Bromodichloromethane	10.0	9.98		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	11.6		ug/L		116	77 - 120
Toluene	10.0	10.3		ug/L		103	80 - 120
trans-1,3-Dichloropropene	10.0	9.83		ug/L		98	80 - 122
1,1,2-Trichloroethane	10.0	9.83		ug/L		98	80 - 121
Tetrachloroethene	10.0	8.82		ug/L		88	76 - 120
1,3-Dichloropropane	10.0	10.1		ug/L		101	79 - 120
Dibromochloromethane	10.0	8.87		ug/L		89	71 - 120
1,2-Dibromoethane	10.0	9.73		ug/L		97	79 - 120
Chlorobenzene	10.0	9.56		ug/L		96	80 - 120
1,1,1,2-Tetrachloroethane	10.0	8.95		ug/L		89	79 - 120
Ethylbenzene	10.0	9.60		ug/L		96	80 - 120
m-Xylene & p-Xylene	10.0	9.61		ug/L		96	80 - 120
o-Xylene	10.0	9.04		ug/L		90	80 - 120
Styrene	10.0	8.79		ug/L		88	76 - 121
Bromoform	10.0	7.54		ug/L		75	61 - 132
Isopropylbenzene	10.0	9.32		ug/L		93	75 - 120
Bromobenzene	10.0	9.88		ug/L		99	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.2		ug/L		102	74 - 124
1,2,3-Trichloropropane	10.0	9.92		ug/L		99	76 - 124
N-Propylbenzene	10.0	10.2		ug/L		102	80 - 120
2-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120
4-Chlorotoluene	10.0	10.4		ug/L		104	80 - 120
t-Butylbenzene	10.0	10.1		ug/L		101	80 - 121
1,2,4-Trimethylbenzene	10.0	10.2		ug/L		102	80 - 120
sec-Butylbenzene	10.0	10.3		ug/L		103	78 - 120
4-Isopropyltoluene	10.0	10.1		ug/L		101	77 - 120
1,3-Dichlorobenzene	10.0	8.32		ug/L		83	80 - 120
1,4-Dichlorobenzene	10.0	9.73		ug/L		97	80 - 120
n-Butylbenzene	10.0	10.4		ug/L		104	78 - 120
1,2-Dichlorobenzene	10.0	9.69		ug/L		97	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.78	J	ug/L		98	65 - 125
1,2,4-Trichlorobenzene	10.0	8.90		ug/L		89	57 - 140
Hexachlorobutadiene	10.0	9.59		ug/L		96	74 - 125
Naphthalene	10.0	12.6		ug/L		126	44 - 144
1,2,3-Trichlorobenzene	10.0	12.0		ug/L		120	23 - 150
1,3,5-Trimethylbenzene	10.0	10.4		ug/L		104	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329648/4
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	4.91	J	ug/L		49	20 - 150	1	35
Chloromethane			10.0	8.24	J	ug/L		82	52 - 135	1	23
Vinyl chloride			10.0	8.93		ug/L		89	65 - 130	3	28
Bromomethane			10.0	9.20		ug/L		92	66 - 125	1	27
Chloroethane			10.0	8.93		ug/L		89	65 - 132	0	35
Trichlorofluoromethane			10.0	8.90		ug/L		89	64 - 136	0	27
Carbon disulfide			10.0	6.29	*	ug/L		63	69 - 122	2	20
1,1-Dichloroethene			10.0	9.20		ug/L		92	70 - 129	2	27
Acetone			50.0	49.2	J	ug/L		98	43 - 150	4	35
Methylene Chloride			10.0	11.1		ug/L		111	77 - 125	1	18
Methyl tert-butyl ether			10.0	10.1		ug/L		101	72 - 130	1	18
trans-1,2-Dichloroethene			10.0	8.94		ug/L		89	77 - 124	7	21
1,1-Dichloroethane			10.0	9.85		ug/L		98	70 - 129	1	26
2-Butanone (MEK)			50.0	46.1		ug/L		92	65 - 127	4	29
2,2-Dichloropropane			10.0	10.0		ug/L		100	62 - 140	3	23
cis-1,2-Dichloroethene			10.0	9.14		ug/L		91	76 - 129	3	15
Bromochloromethane			10.0	9.24		ug/L		92	78 - 120	3	20
Chloroform			10.0	10.3		ug/L		103	73 - 127	1	22
1,1,1-Trichloroethane			10.0	9.71		ug/L		97	74 - 130	1	18
Carbon tetrachloride			10.0	9.39		ug/L		94	72 - 129	1	19
1,1-Dichloropropene			10.0	9.26		ug/L		93	80 - 120	2	14
Benzene			10.0	9.76		ug/L		98	75 - 121	3	14
1,2-Dichloroethane			10.0	10.2		ug/L		102	76 - 131	0	18
Trichloroethene			10.0	9.29		ug/L		93	70 - 120	1	21
1,2-Dichloropropane			10.0	9.89		ug/L		99	72 - 126	1	26
4-Methyl-2-pentanone (MIBK)			50.0	44.3		ug/L		89	69 - 124	3	22
Dibromomethane			10.0	10.0		ug/L		100	80 - 120	0	22
Bromodichloromethane			10.0	9.70		ug/L		97	75 - 124	3	22
cis-1,3-Dichloropropene			10.0	9.69		ug/L		97	77 - 120	18	20
Toluene			10.0	9.78		ug/L		98	80 - 120	5	19
trans-1,3-Dichloropropene			10.0	9.38		ug/L		94	80 - 122	5	25
1,1,2-Trichloroethane			10.0	9.49		ug/L		95	80 - 121	4	21
Tetrachloroethene			10.0	8.52		ug/L		85	76 - 120	3	20
1,3-Dichloropropane			10.0	9.59		ug/L		96	79 - 120	5	26
Dibromochloromethane			10.0	8.73		ug/L		87	71 - 120	2	24
1,2-Dibromoethane			10.0	9.34		ug/L		93	79 - 120	4	20
Chlorobenzene			10.0	9.56		ug/L		96	80 - 120	0	15
1,1,1,2-Tetrachloroethane			10.0	9.08		ug/L		91	79 - 120	1	20
Ethylbenzene			10.0	9.39		ug/L		94	80 - 120	2	14
m-Xylene & p-Xylene			10.0	9.52		ug/L		95	80 - 120	1	14

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329648/5
Matrix: Water
Analysis Batch: 329648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	10.0	9.16		ug/L		92	80 - 120	1	16
Styrene	10.0	8.67		ug/L		87	76 - 121	1	16
Bromoform	10.0	7.72		ug/L		77	61 - 132	2	20
Isopropylbenzene	10.0	9.37		ug/L		94	75 - 120	1	20
Bromobenzene	10.0	8.99		ug/L		90	80 - 120	9	13
1,1,2,2-Tetrachloroethane	10.0	9.52		ug/L		95	74 - 124	7	18
1,2,3-Trichloropropane	10.0	9.41		ug/L		94	76 - 124	5	30
N-Propylbenzene	10.0	9.34		ug/L		93	80 - 120	8	13
2-Chlorotoluene	10.0	9.50		ug/L		95	80 - 120	6	15
4-Chlorotoluene	10.0	9.66		ug/L		97	80 - 120	7	14
t-Butylbenzene	10.0	9.40		ug/L		94	80 - 121	7	14
1,2,4-Trimethylbenzene	10.0	9.74		ug/L		97	80 - 120	5	16
sec-Butylbenzene	10.0	9.63		ug/L		96	78 - 120	7	15
4-Isopropyltoluene	10.0	9.45		ug/L		94	77 - 120	6	13
1,3-Dichlorobenzene	10.0	8.92		ug/L		89	80 - 120	7	14
1,4-Dichlorobenzene	10.0	9.20		ug/L		92	80 - 120	6	17
n-Butylbenzene	10.0	9.99		ug/L		100	78 - 120	4	14
1,2-Dichlorobenzene	10.0	9.36		ug/L		94	80 - 120	3	15
1,2-Dibromo-3-Chloropropane	10.0	9.41	J	ug/L		94	65 - 125	4	27
1,2,4-Trichlorobenzene	10.0	9.35		ug/L		93	57 - 140	5	27
Hexachlorobutadiene	10.0	9.66		ug/L		97	74 - 125	1	22
Naphthalene	10.0	11.8		ug/L		118	44 - 144	6	31
1,2,3-Trichlorobenzene	10.0	11.2		ug/L		112	23 - 150	7	35
1,3,5-Trimethylbenzene	10.0	9.71		ug/L		97	80 - 120	7	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 580-330219/7
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		5.0	0.26	ug/L			06/09/20 17:38	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/09/20 17:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/09/20 17:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/09/20 17:38*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/09/20 17:38*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/09/20 17:38*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-330219/4
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloroform			10.0	10.3		ug/L		103	73 - 127		
Chlorobenzene			10.0	9.92		ug/L		99	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 580-330219/5
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform			10.0	9.97		ug/L		100	73 - 127	3	22
Chlorobenzene			10.0	9.84		ug/L		98	80 - 120	1	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-610497/1-A
Matrix: Water
Analysis Batch: 610567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610497

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		05/29/20 05:38	05/29/20 11:35	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		05/29/20 05:38	05/29/20 11:35	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		05/29/20 05:38	05/29/20 11:35	1
Aldrin	ND		0.0050	0.0015	ug/L		05/29/20 05:38	05/29/20 11:35	1
alpha-BHC	ND		0.0050	0.0025	ug/L		05/29/20 05:38	05/29/20 11:35	1
cis-Chlordane	ND		0.10	0.014	ug/L		05/29/20 05:38	05/29/20 11:35	1
beta-BHC	ND		0.010	0.0040	ug/L		05/29/20 05:38	05/29/20 11:35	1
Chlordane (technical)	ND		0.10	0.080	ug/L		05/29/20 05:38	05/29/20 11:35	1
delta-BHC	ND		0.0050	0.0035	ug/L		05/29/20 05:38	05/29/20 11:35	1
Dieldrin	ND		0.0050	0.0020	ug/L		05/29/20 05:38	05/29/20 11:35	1
Endosulfan I	ND		0.0050	0.0030	ug/L		05/29/20 05:38	05/29/20 11:35	1
Endosulfan II	ND		0.0050	0.0020	ug/L		05/29/20 05:38	05/29/20 11:35	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		05/29/20 05:38	05/29/20 11:35	1
Endrin	ND		0.0050	0.0020	ug/L		05/29/20 05:38	05/29/20 11:35	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		05/29/20 05:38	05/29/20 11:35	1
Endrin ketone	ND		0.010	0.0070	ug/L		05/29/20 05:38	05/29/20 11:35	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		05/29/20 05:38	05/29/20 11:35	1
trans-Chlordane	ND		0.10	0.030	ug/L		05/29/20 05:38	05/29/20 11:35	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-610497/1-A
Matrix: Water
Analysis Batch: 610567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610497

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	ND		0.010	0.0030	ug/L		05/29/20 05:38	05/29/20 11:35	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		05/29/20 05:38	05/29/20 11:35	1
Methoxychlor	ND		0.0050	0.0035	ug/L		05/29/20 05:38	05/29/20 11:35	1
Toxaphene	ND		0.50	0.25	ug/L		05/29/20 05:38	05/29/20 11:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*67*		*28 - 108*	*05/29/20 05:38*	*05/29/20 11:35*	*1*
Tetrachloro-m-xylene	*67*		*10 - 123*	*05/29/20 05:38*	*05/29/20 11:35*	*1*

Lab Sample ID: LCS 440-610497/2-A
Matrix: Water
Analysis Batch: 610567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.378		ug/L		95	50 - 128
4,4'-DDE	0.400	0.371		ug/L		93	49 - 121
4,4'-DDT	0.400	0.395		ug/L		99	41 - 140
Aldrin	0.400	0.340		ug/L		85	37 - 115
alpha-BHC	0.400	0.361		ug/L		90	44 - 115
cis-Chlordane	0.400	0.354		ug/L		89	40 - 122
beta-BHC	0.400	0.350		ug/L		88	46 - 121
delta-BHC	0.400	0.347		ug/L		87	32 - 129
Dieldrin	0.400	0.361		ug/L		90	39 - 126
Endosulfan I	0.400	0.330		ug/L		82	47 - 115
Endosulfan II	0.400	0.353		ug/L		88	47 - 120
Endosulfan sulfate	0.400	0.329		ug/L		82	48 - 126
Endrin	0.400	0.355		ug/L		89	43 - 127
Endrin aldehyde	0.400	0.342		ug/L		85	43 - 120
Endrin ketone	0.400	0.357		ug/L		89	47 - 123
gamma-BHC (Lindane)	0.400	0.346		ug/L		87	45 - 116
trans-Chlordane	0.400	0.335		ug/L		84	37 - 129
Heptachlor	0.400	0.335		ug/L		84	37 - 115
Heptachlor epoxide	0.400	0.344		ug/L		86	41 - 129
Methoxychlor	0.400	0.421		ug/L		105	44 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*80*		*28 - 108*
Tetrachloro-m-xylene	*85*		*10 - 123*

Lab Sample ID: LCSD 440-610497/3-A
Matrix: Water
Analysis Batch: 610567

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 610497

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.400	0.380		ug/L		95	50 - 128	0	26
4,4'-DDE	0.400	0.374		ug/L		94	49 - 121	1	22
4,4'-DDT	0.400	0.399		ug/L		100	41 - 140	1	20
Aldrin	0.400	0.341		ug/L		85	37 - 115	0	24

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 440-610497/3-A
Matrix: Water
Analysis Batch: 610567

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 610497

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
alpha-BHC			0.400	0.363		ug/L		91	44 - 115	1	26
cis-Chlordane			0.400	0.357		ug/L		89	40 - 122	1	35
beta-BHC			0.400	0.352		ug/L		88	46 - 121	0	27
delta-BHC			0.400	0.349		ug/L		87	32 - 129	1	35
Dieldrin			0.400	0.362		ug/L		90	39 - 126	0	35
Endosulfan I			0.400	0.330		ug/L		83	47 - 115	0	27
Endosulfan II			0.400	0.353		ug/L		88	47 - 120	0	29
Endosulfan sulfate			0.400	0.331		ug/L		83	48 - 126	1	26
Endrin			0.400	0.359		ug/L		90	43 - 127	1	35
Endrin aldehyde			0.400	0.340		ug/L		85	43 - 120	1	35
Endrin ketone			0.400	0.357		ug/L		89	47 - 123	0	27
gamma-BHC (Lindane)			0.400	0.348		ug/L		87	45 - 116	1	28
trans-Chlordane			0.400	0.335		ug/L		84	37 - 129	0	35
Heptachlor			0.400	0.339		ug/L		85	37 - 115	1	35
Heptachlor epoxide			0.400	0.345		ug/L		86	41 - 129	0	35
Methoxychlor			0.400	0.427		ug/L		107	44 - 141	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*80*		*28 - 108*
Tetrachloro-m-xylene	*86*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-611047/15
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/03/20 08:44	1

Lab Sample ID: LCS 440-611047/14
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	49.0		ug/L		98	90 - 110		

Lab Sample ID: MRL 440-611047/13
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			1.00	0.976	J	ug/L		98	50 - 150		

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: MB 440-612396/6
Matrix: Water
Analysis Batch: 612396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/12/20 07:26	1

Lab Sample ID: LCS 440-612396/5
Matrix: Water
Analysis Batch: 612396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	51.4		ug/L		103	90 - 110

Lab Sample ID: MRL 440-612396/4
Matrix: Water
Analysis Batch: 612396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	1.09		ug/L		109	50 - 150

Lab Sample ID: 580-94939-3 MS
Matrix: Water
Analysis Batch: 611047

Client Sample ID: PA-12i-052620
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND	H	50.0	47.5		ug/L		95	90 - 110

Lab Sample ID: 580-94939-3 MSD
Matrix: Water
Analysis Batch: 611047

Client Sample ID: PA-12i-052620
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND	H	50.0	47.4		ug/L		95	90 - 110	0	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-612670/6
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/15/20 10:35	1

Lab Sample ID: LCS 440-612670/5
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.88		ug/L		99	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-612670/4
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.03	J	ug/L		103	75 - 125

Lab Sample ID: MRL 440-612670/8
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.95	J	ug/L		99	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329156/13-A
Matrix: Water
Analysis Batch: 329289

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329156

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		05/27/20 11:22	05/28/20 11:04	1
Chromium	ND		0.00080	0.00017	mg/L		05/27/20 11:22	05/28/20 11:04	1
Iron	ND		0.20	0.036	mg/L		05/27/20 11:22	05/28/20 11:04	1
Manganese	ND		0.0020	0.00046	mg/L		05/27/20 11:22	05/28/20 11:04	1

Lab Sample ID: LCS 580-329156/14-A
Matrix: Water
Analysis Batch: 329289

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329156

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.979		mg/L		98	80 - 120
Chromium	1.00	0.987		mg/L		99	80 - 120
Iron	20.0	19.7		mg/L		99	80 - 120
Manganese	1.00	0.979		mg/L		98	80 - 120

Lab Sample ID: LCSD 580-329156/15-A
Matrix: Water
Analysis Batch: 329289

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329156

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.955		mg/L		96	80 - 120	2	20
Chromium	1.00	0.952		mg/L		95	80 - 120	4	20
Iron	20.0	19.6		mg/L		98	80 - 120	1	20
Manganese	1.00	1.10		mg/L		110	80 - 120	12	20

Lab Sample ID: MB 580-329162/20-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/27/20 11:49	05/28/20 17:44	5
Chromium	ND		0.0040	0.00087	mg/L		05/27/20 11:49	05/28/20 17:44	5
Iron	ND		1.0	0.18	mg/L		05/27/20 11:49	05/28/20 17:44	5
Manganese	ND		0.010	0.0023	mg/L		05/27/20 11:49	05/28/20 17:44	5

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: LCS 580-329162/21-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.976		mg/L		98	80 - 120
Chromium	1.00	0.999		mg/L		100	80 - 120
Iron	20.0	18.8		mg/L		94	80 - 120
Manganese	1.00	0.986		mg/L		99	80 - 120

Lab Sample ID: LCSD 580-329162/22-A
Matrix: Water
Analysis Batch: 329363

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329162

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.968		mg/L		97	80 - 120	1	20
Chromium	1.00	1.00		mg/L		100	80 - 120	0	20
Iron	20.0	18.8		mg/L		94	80 - 120	0	20
Manganese	1.00	0.988		mg/L		99	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329576/3
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			06/01/20 18:25	1

Lab Sample ID: LCS 580-329576/4
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.2		mg/L		104	90 - 110

Lab Sample ID: LCSD 580-329576/5
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	52.0		mg/L		104	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-20-052620
Lab Sample ID: 580-94939-1
Date Collected: 05/26/20 14:00
Matrix: Water
Date Received: 05/26/20 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329648	06/02/20 22:12	T1W	TAL SEA
Total/NA	Analysis	8260D	RA	1	330219	06/09/20 18:32	T1W	TAL SEA
Dissolved	Analysis	218.6		10	612396	06/12/20 08:59	MN	TAL IRV
Total/NA	Analysis	314.0		50	612670	06/15/20 21:06	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:48	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 19:12	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329576	06/01/20 19:00	AAC	TAL SEA

Client Sample ID: MWA-63-052620
Lab Sample ID: 580-94939-2
Date Collected: 05/26/20 13:40
Matrix: Water
Date Received: 05/26/20 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329648	06/02/20 22:39	T1W	TAL SEA
Total/NA	Analysis	8260D	DL	10	330219	06/09/20 19:53	T1W	TAL SEA
Total/NA	Prep	3510C			610497	05/29/20 05:38	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610567	05/29/20 12:20	D1D	TAL IRV
Dissolved	Analysis	218.6		1	611047	06/03/20 10:32	MN	TAL IRV
Total/NA	Analysis	314.0		1	612670	06/15/20 15:45	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:48	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 19:03	FCW	TAL SEA
Total Recoverable	Prep	3005A			329156	05/27/20 11:22	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	329289	05/28/20 12:00	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 19:12	AAC	TAL SEA

Client Sample ID: PA-12i-052620
Lab Sample ID: 580-94939-3
Date Collected: 05/26/20 14:32
Matrix: Water
Date Received: 05/26/20 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329648	06/02/20 23:06	T1W	TAL SEA
Total/NA	Analysis	8260D	DL	100	330219	06/09/20 18:59	T1W	TAL SEA
Total/NA	Analysis	8260D	RA	1	330219	06/09/20 21:40	T1W	TAL SEA
Dissolved	Analysis	218.6		1	611047	06/03/20 10:45	MN	TAL IRV
Total/NA	Analysis	314.0		10	612670	06/15/20 17:32	PS	TAL IRV
Dissolved	Prep	3005A			329162	05/27/20 11:49	A1B	TAL SEA
Dissolved	Analysis	6020B		5	329363	05/28/20 19:06	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 19:23	AAC	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-02-052620
Lab Sample ID: 580-94939-4

Date Collected: 05/26/20 13:00
Matrix: Water
Date Received: 05/26/20 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329648	06/02/20 19:04	T1W	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94939-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94939-1	MWA-20-052620	Water	05/26/20 14:00	05/26/20 15:51	
580-94939-2	MWA-63-052620	Water	05/26/20 13:40	05/26/20 15:51	
580-94939-3	PA-12i-052620	Water	05/26/20 14:32	05/26/20 15:51	
580-94939-4	TB-02-052620	Water	05/26/20 13:00	05/26/20 15:51	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	Cruz, Sheri L E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:

Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:	Analysis Requested
City: Portland	TAT Requested (days): 15BD	
State, Zip: OR, 97204		
Phone:	PO #: 0543821.107	
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:	
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456	
Site:	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine						Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N	N	D	D	A	A	N									
MWA-20-052620	5-26-20	1400	G	Water	Y		X				X	X		X	X								Dil VOCs
MWA-63-052620		1340		Water	Y		X	X		X	X	X		X	X								
PA-12i-052620		1432		Water	Y		X				X	X		X	X								Dil VOCs
TB-02-052620		1300	—	Water								X											
				Water																			
				Water																			
				Water																			
				Water																			
				Water																			
				Water																			

580-94939 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	5-26-20			5/26/20 1551	TAPOR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.1

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: P. Scott	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: Page 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
MWA-20-052620	5-26-20	1400	G	Water	Y		X				X	X		X	X		Dil VOCs
MWA-63-052620		1340		Water	Y		X	X		X	X	X		X	X		
PA-12i-052620		1432		Water	Y		X				X	X		X	X		Dil VOCs
TB-02-052620		1300	—	Water								X					
				Water													
				Water													
				Water													
				Water													
				Water													

580-94939 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5-26-20			5/26/20 1551	TAPOL
2		5/26/20 1700	TAPOL		5-27-20 0945	TASea
3						

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 5.1 6=1.4

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone 253-922-2310 Fax 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s): 1872 5088 4227	COC No: 580-77140 1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94939-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/12/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email:	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MWA-20-052620 (580-94939-1)	5/26/20	14:00 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland. Please confirm
MWA-63-052620 (580-94939-2)	5/26/20	13:40 Pacific		Water			X	X	X	4	, Sample should have been field filtered then preserved by Portland. Please confirm
PA-12i-052620 (580-94939-3)	5/26/20	14:32 Pacific		Water			X	X		2	, Sample should have been field filtered then preserved by Portland Please confirm

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/27/20 1700	TAL		5/28/20 0945	EC TRV
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		4.4/4.6 IR-93

Ver: 01/16/2019

6/16/2020

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94939-1

Login Number: 94939
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94939-1

Login Number: 94939
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Irvine
List Creation: 05/28/20 12:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94960-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/17/2020 9:32:29 AM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94960-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94960-1

Comments
No additional comments.

Receipt
The samples were received on 5/27/2020 12:50 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.6º C.

GC/MS VOA
Method 8260D: The CCV for analytical batch 580-329501 recovered outside control limits for the following analytes: Dichlorodifluoromethane. It has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C LL, 8260D: The continuing calibration verification (CCV) associated with batch 580-329501 recovered above the upper control limit for Chlorobenzene and Styrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-329501/3).

Methods 8260C LL, 8260D: The method blank for analytical batch 580-329501 contained Trichloroethene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329501 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Methods 8260C, 8260D: The CCV for analytical batch 580-329783 recovered outside control limits for the following analyte(s): Carbon disulfide and Dichlorodifluoromethane. disulfide and Dichlorodifluoromethane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329783 recovered outside control limits for Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C, 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329783 recovered outside control limits for the following analytes: trans-1,2-Dichloroethene.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PA-06-052620 (580-94960-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following samples were diluted due to the nature of the sample matrix: MWA-42-052620 (580-94960-1) and PA-31-052720 (580-94960-3). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due medium dark black color of the sample matrix: MWA-42-052620 (580-94960-1), PA-06-052620 (580-94960-2) and PA-31-052720 (580-94960-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 580-94960-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Job ID: 580-94960-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: ERM-West
Job ID: 580-94960-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-42-052620
Lab Sample ID: 580-94960-1
Date Collected: 05/26/20 16:20
Matrix: Water
Date Received: 05/27/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 00:37	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 00:37	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 00:37	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 00:37	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 00:37	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 00:37	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 00:37	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 00:37	1
Acetone	ND		50	3.2	ug/L			06/04/20 00:37	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 00:37	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 00:37	1
trans-1,2-Dichloroethene	ND	*1	3.0	0.39	ug/L			06/04/20 00:37	1
1,1-Dichloroethane	**0.51**	**J**	2.0	0.22	ug/L			06/04/20 00:37	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 00:37	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 00:37	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 00:37	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 00:37	1
Chloroform	**1.3**	**J**	5.0	0.26	ug/L			06/04/20 00:37	1
1,1,1-Trichloroethane	**2.3**	**J**	3.0	0.39	ug/L			06/04/20 00:37	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 00:37	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 00:37	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 00:37	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 00:37	1
Trichloroethene	**0.55**	**J**	3.0	0.26	ug/L			06/04/20 00:37	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 00:37	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 00:37	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 00:37	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 00:37	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 00:37	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 00:37	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 00:37	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 00:37	1
Tetrachloroethene	**21**		3.0	0.41	ug/L			06/04/20 00:37	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 00:37	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 00:37	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 00:37	1
Chlorobenzene	**110**		2.0	0.44	ug/L			06/04/20 00:37	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 00:37	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 00:37	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 00:37	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 00:37	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 00:37	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 00:37	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 00:37	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 00:37	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 00:37	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 00:37	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 00:37	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 00:37	1

Client: ERM-West
Job ID: 580-94960-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-42-052620
Lab Sample ID: 580-94960-1
Date Collected: 05/26/20 16:20
Matrix: Water
Date Received: 05/27/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 00:37	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 00:37	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 00:37	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 00:37	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 00:37	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 00:37	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 00:37	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 00:37	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 00:37	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 00:37	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 00:37	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 00:37	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 00:37	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 00:37	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/04/20 00:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/04/20 00:37*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/04/20 00:37*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/04/20 00:37*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		2.0	0.50	ug/L			06/03/20 12:23	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	9.5	ug/L			06/15/20 18:07	10

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0074**		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 11:25	5
Chromium	**0.0021**	**J**	0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 11:25	5
Iron	**0.63**	**J**	1.0	0.18	mg/L		05/28/20 16:01	05/29/20 11:25	5
Manganese	**0.15**		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 11:25	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26**		0.90	0.14	mg/L			06/01/20 19:35	1

Client Sample ID: PA-06-052620
Lab Sample ID: 580-94960-2

Date Collected: 05/26/20 16:44
Matrix: Water

Date Received: 05/27/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 01:04	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 01:04	1
Vinyl chloride	**0.69**	**J**	1.0	0.22	ug/L			06/04/20 01:04	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 01:04	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 01:04	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 01:04	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 01:04	1
Acetone	ND		50	3.2	ug/L			06/04/20 01:04	1
Methylene Chloride	**17**		5.0	1.4	ug/L			06/04/20 01:04	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 01:04	1
trans-1,2-Dichloroethene	ND	*1	3.0	0.39	ug/L			06/04/20 01:04	1
1,1-Dichloroethane	**0.75**	**J**	2.0	0.22	ug/L			06/04/20 01:04	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 01:04	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 01:04	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 01:04	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 01:04	1
Chloroform	**15**		5.0	0.26	ug/L			06/04/20 01:04	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 01:04	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 01:04	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 01:04	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 01:04	1
1,2-Dichloroethane	**2.3**		2.0	0.42	ug/L			06/04/20 01:04	1
Trichloroethene	**3.0**		3.0	0.26	ug/L			06/04/20 01:04	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 01:04	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 01:04	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 01:04	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 01:04	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 01:04	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 01:04	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 01:04	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 01:04	1
Tetrachloroethene	**9.5**		3.0	0.41	ug/L			06/04/20 01:04	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 01:04	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 01:04	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 01:04	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 01:04	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 01:04	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 01:04	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 01:04	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 01:04	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 01:04	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 01:04	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 01:04	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 01:04	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 01:04	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 01:04	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 01:04	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 01:04	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 01:04	1

Client Sample ID: PA-06-052620
Lab Sample ID: 580-94960-2

Date Collected: 05/26/20 16:44
Matrix: Water

Date Received: 05/27/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 01:04	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 01:04	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 01:04	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 01:04	1
1,4-Dichlorobenzene	**5.1**		4.0	0.46	ug/L			06/04/20 01:04	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 01:04	1
1,2-Dichlorobenzene	**0.70**	**J**	2.0	0.46	ug/L			06/04/20 01:04	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 01:04	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 01:04	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 01:04	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 01:04	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 01:04	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 01:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/04/20 01:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 126*		*06/04/20 01:04*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/04/20 01:04*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/04/20 01:04*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	**16**	**J**	100	7.0	ug/L			06/09/20 19:26	20
Chlorobenzene	**160**		40	8.8	ug/L			06/09/20 19:26	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/09/20 19:26*	*20*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/09/20 19:26*	*20*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*06/09/20 19:26*	*20*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/09/20 19:26*	*20*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/03/20 12:36	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	9.5	ug/L			06/15/20 18:43	10

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0080**		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 11:06	5
Chromium	ND		0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 11:06	5
Iron	**7.8**		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 11:06	5
Manganese	**0.36**		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 11:06	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**89**		0.90	0.14	mg/L			06/01/20 19:47	1

Client Sample ID: PA-31-052720
Lab Sample ID: 580-94960-3

Date Collected: 05/27/20 10:10
Matrix: Water

Date Received: 05/27/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*	0.40	0.13	ug/L			05/30/20 07:30	1
Chloromethane	ND		0.50	0.068	ug/L			05/30/20 07:30	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/30/20 07:30	1
Bromomethane	ND		0.50	0.062	ug/L			05/30/20 07:30	1
Chloroethane	ND		0.50	0.096	ug/L			05/30/20 07:30	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/30/20 07:30	1
Trichlorofluoromethane	**0.12**	**J**	0.50	0.043	ug/L			05/30/20 07:30	1
1,1-Dichloroethene	**0.68**		0.20	0.035	ug/L			05/30/20 07:30	1
Acetone	ND		10	3.1	ug/L			05/30/20 07:30	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/30/20 07:30	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/30/20 07:30	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/30/20 07:30	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/30/20 07:30	1
1,1-Dichloroethane	**0.20**		0.20	0.025	ug/L			05/30/20 07:30	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/30/20 07:30	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/30/20 07:30	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/30/20 07:30	1
Chloroform	ND		0.20	0.030	ug/L			05/30/20 07:30	1
1,1,1-Trichloroethane	**0.15**	**J**	0.20	0.025	ug/L			05/30/20 07:30	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/30/20 07:30	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/30/20 07:30	1
Benzene	ND		0.20	0.030	ug/L			05/30/20 07:30	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/30/20 07:30	1
Trichloroethene	**0.19**	**J B**	0.20	0.066	ug/L			05/30/20 07:30	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/30/20 07:30	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/30/20 07:30	1
Dibromomethane	ND		0.20	0.062	ug/L			05/30/20 07:30	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/30/20 07:30	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/30/20 07:30	1
Toluene	ND		0.20	0.050	ug/L			05/30/20 07:30	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/30/20 07:30	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/30/20 07:30	1
Tetrachloroethene	**0.21**	**J**	0.50	0.084	ug/L			05/30/20 07:30	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/30/20 07:30	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/30/20 07:30	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/30/20 07:30	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/30/20 07:30	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/30/20 07:30	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/30/20 07:30	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/30/20 07:30	1
o-Xylene	ND		0.50	0.15	ug/L			05/30/20 07:30	1
Styrene	ND		1.0	0.19	ug/L			05/30/20 07:30	1
Bromoform	ND		0.50	0.16	ug/L			05/30/20 07:30	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/30/20 07:30	1
Bromobenzene	ND		0.20	0.035	ug/L			05/30/20 07:30	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/30/20 07:30	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/30/20 07:30	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/30/20 07:30	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/30/20 07:30	1

Client Sample ID: PA-31-052720
Lab Sample ID: 580-94960-3

Date Collected: 05/27/20 10:10
Matrix: Water

Date Received: 05/27/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/30/20 07:30	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/30/20 07:30	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/30/20 07:30	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/30/20 07:30	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/30/20 07:30	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/30/20 07:30	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 07:30	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 07:30	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/30/20 07:30	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/30/20 07:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/30/20 07:30	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/30/20 07:30	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/30/20 07:30	1
Naphthalene	ND		1.0	0.22	ug/L			05/30/20 07:30	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/30/20 07:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/30/20 07:30*	*1*
Trifluorotoluene (Surr)					*05/30/20 07:30*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/30/20 07:30*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/30/20 07:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*05/30/20 07:30*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		2.0	0.50	ug/L			06/03/20 12:49	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	9.5	ug/L			06/15/20 19:19	10

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.16**		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 11:09	5
Chromium	**0.0019**	**J**	0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 11:09	5
Iron	**0.78**	**J**	1.0	0.18	mg/L		05/28/20 16:01	05/29/20 11:09	5
Manganese	**0.029**		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 11:09	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.5**		0.90	0.14	mg/L			06/01/20 19:58	1

Client Sample ID: TB-01-052720
Lab Sample ID: 580-94960-4

Date Collected: 05/27/20 00:01
Matrix: Water

Date Received: 05/27/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*	0.40	0.13	ug/L			05/30/20 01:19	1
Chloromethane	ND		0.50	0.068	ug/L			05/30/20 01:19	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/30/20 01:19	1
Bromomethane	ND		0.50	0.062	ug/L			05/30/20 01:19	1
Chloroethane	ND		0.50	0.096	ug/L			05/30/20 01:19	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/30/20 01:19	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/30/20 01:19	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/30/20 01:19	1
Acetone	ND		10	3.1	ug/L			05/30/20 01:19	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/30/20 01:19	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/30/20 01:19	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/30/20 01:19	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/30/20 01:19	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/30/20 01:19	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/30/20 01:19	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/30/20 01:19	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/30/20 01:19	1
Chloroform	ND		0.20	0.030	ug/L			05/30/20 01:19	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/30/20 01:19	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/30/20 01:19	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/30/20 01:19	1
Benzene	ND		0.20	0.030	ug/L			05/30/20 01:19	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/30/20 01:19	1
Trichloroethene	**0.11**	**J B**	0.20	0.066	ug/L			05/30/20 01:19	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/30/20 01:19	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/30/20 01:19	1
Dibromomethane	ND		0.20	0.062	ug/L			05/30/20 01:19	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/30/20 01:19	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/30/20 01:19	1
Toluene	ND		0.20	0.050	ug/L			05/30/20 01:19	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/30/20 01:19	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/30/20 01:19	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/30/20 01:19	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/30/20 01:19	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/30/20 01:19	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/30/20 01:19	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/30/20 01:19	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/30/20 01:19	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/30/20 01:19	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/30/20 01:19	1
o-Xylene	ND		0.50	0.15	ug/L			05/30/20 01:19	1
Styrene	ND		1.0	0.19	ug/L			05/30/20 01:19	1
Bromoform	ND		0.50	0.16	ug/L			05/30/20 01:19	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/30/20 01:19	1
Bromobenzene	ND		0.20	0.035	ug/L			05/30/20 01:19	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/30/20 01:19	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/30/20 01:19	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/30/20 01:19	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/30/20 01:19	1

Client: ERM-West
Job ID: 580-94960-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-01-052720
Lab Sample ID: 580-94960-4
Date Collected: 05/27/20 00:01
Matrix: Water
Date Received: 05/27/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/30/20 01:19	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/30/20 01:19	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/30/20 01:19	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/30/20 01:19	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/30/20 01:19	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/30/20 01:19	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 01:19	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 01:19	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/30/20 01:19	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/30/20 01:19	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/30/20 01:19	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/30/20 01:19	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/30/20 01:19	1
Naphthalene	ND		1.0	0.22	ug/L			05/30/20 01:19	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/30/20 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/30/20 01:19*	*1*
Trifluorotoluene (Surr)					*05/30/20 01:19*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*05/30/20 01:19*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/30/20 01:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*05/30/20 01:19*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329501/7
Matrix: Water
Analysis Batch: 329501

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			05/30/20 00:25	1
Chloromethane	ND		0.50	0.068	ug/L			05/30/20 00:25	1
Vinyl chloride	ND		0.020	0.013	ug/L			05/30/20 00:25	1
Bromomethane	ND		0.50	0.062	ug/L			05/30/20 00:25	1
Chloroethane	ND		0.50	0.096	ug/L			05/30/20 00:25	1
Carbon disulfide	ND		0.30	0.083	ug/L			05/30/20 00:25	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			05/30/20 00:25	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			05/30/20 00:25	1
Acetone	ND		10	3.1	ug/L			05/30/20 00:25	1
Methylene Chloride	ND		5.0	1.2	ug/L			05/30/20 00:25	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			05/30/20 00:25	1
2-Butanone (MEK)	ND		10	2.5	ug/L			05/30/20 00:25	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			05/30/20 00:25	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			05/30/20 00:25	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			05/30/20 00:25	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			05/30/20 00:25	1
Chlorobromomethane	ND		0.20	0.025	ug/L			05/30/20 00:25	1
Chloroform	ND		0.20	0.030	ug/L			05/30/20 00:25	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			05/30/20 00:25	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			05/30/20 00:25	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			05/30/20 00:25	1
Benzene	ND		0.20	0.030	ug/L			05/30/20 00:25	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			05/30/20 00:25	1
Trichloroethene	0.0983	J	0.20	0.066	ug/L			05/30/20 00:25	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			05/30/20 00:25	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			05/30/20 00:25	1
Dibromomethane	ND		0.20	0.062	ug/L			05/30/20 00:25	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			05/30/20 00:25	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			05/30/20 00:25	1
Toluene	ND		0.20	0.050	ug/L			05/30/20 00:25	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			05/30/20 00:25	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			05/30/20 00:25	1
Tetrachloroethene	ND		0.50	0.084	ug/L			05/30/20 00:25	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			05/30/20 00:25	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			05/30/20 00:25	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			05/30/20 00:25	1
Chlorobenzene	ND		0.20	0.025	ug/L			05/30/20 00:25	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			05/30/20 00:25	1
Ethylbenzene	ND		0.20	0.030	ug/L			05/30/20 00:25	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			05/30/20 00:25	1
o-Xylene	ND		0.50	0.15	ug/L			05/30/20 00:25	1
Styrene	ND		1.0	0.19	ug/L			05/30/20 00:25	1
Bromoform	ND		0.50	0.16	ug/L			05/30/20 00:25	1
Isopropylbenzene	ND		1.0	0.19	ug/L			05/30/20 00:25	1
Bromobenzene	ND		0.20	0.035	ug/L			05/30/20 00:25	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			05/30/20 00:25	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			05/30/20 00:25	1
N-Propylbenzene	ND		0.30	0.091	ug/L			05/30/20 00:25	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329501/7
Matrix: Water
Analysis Batch: 329501

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.50	0.12	ug/L			05/30/20 00:25	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			05/30/20 00:25	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			05/30/20 00:25	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			05/30/20 00:25	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			05/30/20 00:25	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			05/30/20 00:25	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			05/30/20 00:25	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 00:25	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			05/30/20 00:25	1
n-Butylbenzene	ND		1.0	0.23	ug/L			05/30/20 00:25	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			05/30/20 00:25	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			05/30/20 00:25	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			05/30/20 00:25	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			05/30/20 00:25	1
Naphthalene	ND		1.0	0.22	ug/L			05/30/20 00:25	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			05/30/20 00:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/30/20 00:25*	*1*
Trifluorotoluene (Surr)					*05/30/20 00:25*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*05/30/20 00:25*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/30/20 00:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*05/30/20 00:25*	*1*

Lab Sample ID: LCS 580-329501/4
Matrix: Water
Analysis Batch: 329501

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	7.66	*	ug/L		153	20 - 137
Chloromethane	5.00	5.66		ug/L		113	32 - 143
Vinyl chloride	5.00	5.23		ug/L		105	52 - 128
Bromomethane	5.00	5.25		ug/L		105	68 - 120
Chloroethane	5.00	5.17		ug/L		103	49 - 135
Carbon disulfide	5.00	4.72		ug/L		94	65 - 128
Trichlorofluoromethane	5.00	5.20		ug/L		104	60 - 132
1,1-Dichloroethene	5.00	5.33		ug/L		107	71 - 126
Acetone	25.0	24.4		ug/L		98	49 - 150
Methylene Chloride	5.00	4.55	J	ug/L		91	75 - 134
Methyl tert-butyl ether	5.00	4.50		ug/L		90	60 - 150
2-Butanone (MEK)	25.0	24.3		ug/L		97	64 - 136
trans-1,2-Dichloroethene	5.00	5.43		ug/L		109	63 - 133
1,1-Dichloroethane	5.00	4.92		ug/L		98	74 - 135
2,2-Dichloropropane	5.00	4.34		ug/L		87	58 - 150
cis-1,2-Dichloroethene	5.00	5.20		ug/L		104	72 - 130
Chlorobromomethane	5.00	5.36		ug/L		107	79 - 131
Chloroform	5.00	5.22		ug/L		104	80 - 130
1,1,1-Trichloroethane	5.00	4.76		ug/L		95	74 - 128

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329501/4
Matrix: Water
Analysis Batch: 329501

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	5.00	4.68		ug/L		94	71 - 132
1,1-Dichloropropene	5.00	5.19		ug/L		104	72 - 132
Benzene	5.00	5.34		ug/L		107	73 - 133
1,2-Dichloroethane	5.00	5.25		ug/L		105	74 - 130
Trichloroethene	5.00	5.68		ug/L		114	72 - 136
1,2-Dichloropropane	5.00	5.32		ug/L		106	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.6		ug/L		98	65 - 137
Dibromomethane	5.00	5.29		ug/L		106	65 - 141
Dichlorobromomethane	5.00	5.19		ug/L		104	74 - 131
cis-1,3-Dichloropropene	5.00	4.87		ug/L		97	66 - 141
Toluene	5.00	5.02		ug/L		100	80 - 126
trans-1,3-Dichloropropene	5.00	4.71		ug/L		94	71 - 128
1,1,2-Trichloroethane	5.00	5.48		ug/L		110	80 - 127
Tetrachloroethene	5.00	5.22		ug/L		104	75 - 131
1,3-Dichloropropane	5.00	5.44		ug/L		109	80 - 130
Chlorodibromomethane	5.00	5.45		ug/L		109	76 - 131
Ethylene Dibromide	5.00	5.67		ug/L		113	80 - 126
Chlorobenzene	5.00	6.05		ug/L		121	80 - 123
1,1,1,2-Tetrachloroethane	5.00	5.07		ug/L		101	79 - 127
Ethylbenzene	5.00	5.06		ug/L		101	80 - 130
m-Xylene & p-Xylene	5.00	5.23		ug/L		105	78 - 130
o-Xylene	5.00	5.88		ug/L		118	80 - 139
Styrene	5.00	6.22		ug/L		124	74 - 136
Bromoform	5.00	4.55		ug/L		91	69 - 137
Isopropylbenzene	5.00	5.34		ug/L		107	75 - 137
Bromobenzene	5.00	5.72		ug/L		114	80 - 130
1,1,2,2-Tetrachloroethane	5.00	5.38		ug/L		108	69 - 139
1,2,3-Trichloropropane	5.00	5.40		ug/L		108	80 - 127
N-Propylbenzene	5.00	5.48		ug/L		110	77 - 142
2-Chlorotoluene	5.00	5.27		ug/L		105	80 - 136
4-Chlorotoluene	5.00	5.68		ug/L		114	80 - 130
1,3,5-Trimethylbenzene	5.00	5.70		ug/L		114	80 - 139
tert-Butylbenzene	5.00	5.63		ug/L		113	77 - 140
1,2,4-Trimethylbenzene	5.00	5.41		ug/L		108	78 - 136
sec-Butylbenzene	5.00	5.60		ug/L		112	78 - 140
4-Isopropyltoluene	5.00	5.55		ug/L		111	78 - 132
1,3-Dichlorobenzene	5.00	5.77		ug/L		115	80 - 130
1,4-Dichlorobenzene	5.00	5.67		ug/L		113	80 - 129
n-Butylbenzene	5.00	5.19		ug/L		104	73 - 135
1,2-Dichlorobenzene	5.00	5.63		ug/L		113	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.47		ug/L		89	69 - 130
1,2,4-Trichlorobenzene	5.00	5.06		ug/L		101	79 - 130
Hexachlorobutadiene	5.00	5.02		ug/L		100	72 - 138
Naphthalene	5.00	5.02		ug/L		100	64 - 132
1,2,3-Trichlorobenzene	5.00	5.09		ug/L		102	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329501/4
Matrix: Water
Analysis Batch: 329501

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329501/5
Matrix: Water
Analysis Batch: 329501

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			5.00	7.64	*	ug/L		153	20 - 137	0	22
Chloromethane			5.00	5.34		ug/L		107	32 - 143	6	23
Vinyl chloride			5.00	4.90		ug/L		98	52 - 128	7	21
Bromomethane			5.00	5.05		ug/L		101	68 - 120	4	18
Chloroethane			5.00	4.80		ug/L		96	49 - 135	7	27
Carbon disulfide			5.00	4.68		ug/L		94	65 - 128	1	23
Trichlorofluoromethane			5.00	5.16		ug/L		103	60 - 132	1	20
1,1-Dichloroethene			5.00	5.27		ug/L		105	71 - 126	1	17
Acetone			25.0	25.2		ug/L		101	49 - 150	3	24
Methylene Chloride			5.00	4.60	J	ug/L		92	75 - 134	1	18
Methyl tert-butyl ether			5.00	4.58		ug/L		92	60 - 150	2	25
2-Butanone (MEK)			25.0	25.6		ug/L		102	64 - 136	5	23
trans-1,2-Dichloroethene			5.00	5.40		ug/L		108	63 - 133	0	17
1,1-Dichloroethane			5.00	4.93		ug/L		99	74 - 135	0	20
2,2-Dichloropropane			5.00	4.19		ug/L		84	58 - 150	3	28
cis-1,2-Dichloroethene			5.00	5.16		ug/L		103	72 - 130	1	20
Chlorobromomethane			5.00	5.51		ug/L		110	79 - 131	3	20
Chloroform			5.00	5.26		ug/L		105	80 - 130	1	20
1,1,1-Trichloroethane			5.00	4.75		ug/L		95	74 - 128	0	14
Carbon tetrachloride			5.00	4.62		ug/L		92	71 - 132	1	15
1,1-Dichloropropene			5.00	5.25		ug/L		105	72 - 132	1	13
Benzene			5.00	5.37		ug/L		107	73 - 133	1	20
1,2-Dichloroethane			5.00	5.27		ug/L		105	74 - 130	0	15
Trichloroethene			5.00	5.70		ug/L		114	72 - 136	0	14
1,2-Dichloropropane			5.00	5.31		ug/L		106	80 - 130	0	14
4-Methyl-2-pentanone (MIBK)			25.0	27.8		ug/L		111	65 - 137	12	24
Dibromomethane			5.00	5.39		ug/L		108	65 - 141	2	20
Dichlorobromomethane			5.00	5.20		ug/L		104	74 - 131	0	20
cis-1,3-Dichloropropene			5.00	5.03		ug/L		101	66 - 141	3	22
Toluene			5.00	5.02		ug/L		100	80 - 126	0	20
trans-1,3-Dichloropropene			5.00	4.82		ug/L		96	71 - 128	2	21
1,1,2-Trichloroethane			5.00	5.55		ug/L		111	80 - 127	1	19
Tetrachloroethene			5.00	5.29		ug/L		106	75 - 131	1	20
1,3-Dichloropropane			5.00	5.55		ug/L		111	80 - 130	2	19
Chlorodibromomethane			5.00	5.56		ug/L		111	76 - 131	2	20
Ethylene Dibromide			5.00	5.88		ug/L		118	80 - 126	4	20
Chlorobenzene			5.00	6.06		ug/L		121	80 - 123	0	12
1,1,1,2-Tetrachloroethane			5.00	5.17		ug/L		103	79 - 127	2	20
Ethylbenzene			5.00	5.00		ug/L		100	80 - 130	1	20

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329501/5
Matrix: Water
Analysis Batch: 329501

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
m-Xylene & p-Xylene	5.00	5.19		ug/L		104	78 - 130	1	20
o-Xylene	5.00	5.88		ug/L		118	80 - 139	0	20
Styrene	5.00	6.29		ug/L		126	74 - 136	1	20
Bromoform	5.00	4.68		ug/L		94	69 - 137	3	20
Isopropylbenzene	5.00	5.38		ug/L		108	75 - 137	1	20
Bromobenzene	5.00	5.67		ug/L		113	80 - 130	1	20
1,1,2,2-Tetrachloroethane	5.00	5.54		ug/L		111	69 - 139	3	22
1,2,3-Trichloropropane	5.00	5.51		ug/L		110	80 - 127	2	20
N-Propylbenzene	5.00	5.40		ug/L		108	77 - 142	1	20
2-Chlorotoluene	5.00	5.23		ug/L		105	80 - 136	1	20
4-Chlorotoluene	5.00	5.66		ug/L		113	80 - 130	0	20
1,3,5-Trimethylbenzene	5.00	5.70		ug/L		114	80 - 139	0	20
tert-Butylbenzene	5.00	5.66		ug/L		113	77 - 140	1	20
1,2,4-Trimethylbenzene	5.00	5.46		ug/L		109	78 - 136	1	20
sec-Butylbenzene	5.00	5.60		ug/L		112	78 - 140	0	20
4-Isopropyltoluene	5.00	5.57		ug/L		111	78 - 132	0	14
1,3-Dichlorobenzene	5.00	5.82		ug/L		116	80 - 130	1	12
1,4-Dichlorobenzene	5.00	5.74		ug/L		115	80 - 129	1	11
n-Butylbenzene	5.00	5.36		ug/L		107	73 - 135	3	18
1,2-Dichlorobenzene	5.00	5.73		ug/L		115	80 - 129	2	14
1,2-Dibromo-3-Chloropropane	5.00	4.70		ug/L		94	69 - 130	5	26
1,2,4-Trichlorobenzene	5.00	5.17		ug/L		103	79 - 130	2	20
Hexachlorobutadiene	5.00	5.04		ug/L		101	72 - 138	0	20
Naphthalene	5.00	5.22		ug/L		104	64 - 132	4	20
1,2,3-Trichlorobenzene	5.00	5.14		ug/L		103	75 - 137	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 580-329783/10
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/03/20 21:56	1
Chloromethane	ND		20	0.28	ug/L			06/03/20 21:56	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/03/20 21:56	1
Bromomethane	ND		6.0	0.21	ug/L			06/03/20 21:56	1
Chloroethane	ND		5.0	0.35	ug/L			06/03/20 21:56	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/03/20 21:56	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/03/20 21:56	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/03/20 21:56	1
Acetone	ND		50	3.2	ug/L			06/03/20 21:56	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/03/20 21:56	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/03/20 21:56	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329783/10
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/03/20 21:56	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/03/20 21:56	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/03/20 21:56	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/03/20 21:56	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/03/20 21:56	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/03/20 21:56	1
Chloroform	ND		5.0	0.26	ug/L			06/03/20 21:56	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/03/20 21:56	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/03/20 21:56	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/03/20 21:56	1
Benzene	ND		3.0	0.24	ug/L			06/03/20 21:56	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/03/20 21:56	1
Trichloroethene	ND		3.0	0.26	ug/L			06/03/20 21:56	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/03/20 21:56	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/03/20 21:56	1
Dibromomethane	ND		2.0	0.34	ug/L			06/03/20 21:56	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/03/20 21:56	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/03/20 21:56	1
Toluene	ND		2.0	0.39	ug/L			06/03/20 21:56	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/03/20 21:56	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/03/20 21:56	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/03/20 21:56	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/03/20 21:56	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/03/20 21:56	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/03/20 21:56	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/03/20 21:56	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/03/20 21:56	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/03/20 21:56	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/03/20 21:56	1
o-Xylene	ND		2.0	0.39	ug/L			06/03/20 21:56	1
Styrene	ND		5.0	1.0	ug/L			06/03/20 21:56	1
Bromoform	ND		3.0	0.56	ug/L			06/03/20 21:56	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/03/20 21:56	1
Bromobenzene	ND		2.0	0.43	ug/L			06/03/20 21:56	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/03/20 21:56	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/03/20 21:56	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/03/20 21:56	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/03/20 21:56	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/03/20 21:56	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/03/20 21:56	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/03/20 21:56	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/03/20 21:56	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/03/20 21:56	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/03/20 21:56	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/03/20 21:56	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/03/20 21:56	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/03/20 21:56	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/03/20 21:56	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/03/20 21:56	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329783/10
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/03/20 21:56	1
Naphthalene	ND		4.0	0.93	ug/L			06/03/20 21:56	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/03/20 21:56	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/03/20 21:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/03/20 21:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/03/20 21:56*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/03/20 21:56*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/03/20 21:56*	*1*

Lab Sample ID: LCS 580-329783/6
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	6.15	J	ug/L		61	20 - 150
Chloromethane	10.0	8.37	J	ug/L		84	52 - 135
Vinyl chloride	10.0	9.33		ug/L		93	65 - 130
Bromomethane	10.0	9.80		ug/L		98	66 - 125
Chloroethane	10.0	9.04		ug/L		90	65 - 132
Trichlorofluoromethane	10.0	10.1		ug/L		101	64 - 136
Carbon disulfide	10.0	6.39	*	ug/L		64	69 - 122
1,1-Dichloroethene	10.0	10.3		ug/L		103	70 - 129
Acetone	50.0	48.8	J	ug/L		98	43 - 150
Methylene Chloride	10.0	11.2		ug/L		112	77 - 125
Methyl tert-butyl ether	10.0	10.2		ug/L		102	72 - 130
trans-1,2-Dichloroethene	10.0	9.83		ug/L		98	77 - 124
1,1-Dichloroethane	10.0	10.8		ug/L		108	70 - 129
2-Butanone (MEK)	50.0	47.9		ug/L		96	65 - 127
2,2-Dichloropropane	10.0	10.3		ug/L		103	62 - 140
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 129
Bromochloromethane	10.0	9.72		ug/L		97	78 - 120
Chloroform	10.0	11.4		ug/L		114	73 - 127
1,1,1-Trichloroethane	10.0	10.3		ug/L		103	74 - 130
Carbon tetrachloride	10.0	9.79		ug/L		98	72 - 129
1,1-Dichloropropene	10.0	9.90		ug/L		99	80 - 120
Benzene	10.0	10.5		ug/L		105	75 - 121
1,2-Dichloroethane	10.0	10.8		ug/L		108	76 - 131
Trichloroethene	10.0	10.2		ug/L		102	70 - 120
1,2-Dichloropropane	10.0	10.6		ug/L		106	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	48.8		ug/L		98	69 - 124
Dibromomethane	10.0	10.6		ug/L		106	80 - 120
Bromodichloromethane	10.0	10.7		ug/L		107	75 - 124
cis-1,3-Dichloropropene	10.0	10.8		ug/L		108	77 - 120
Toluene	10.0	10.5		ug/L		105	80 - 120
trans-1,3-Dichloropropene	10.0	10.4		ug/L		104	80 - 122
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	80 - 121

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329783/6
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	10.0	8.77		ug/L		88	76 - 120
1,3-Dichloropropane	10.0	10.3		ug/L		103	79 - 120
Dibromochloromethane	10.0	9.72		ug/L		97	71 - 120
1,2-Dibromoethane	10.0	10.2		ug/L		102	79 - 120
Chlorobenzene	10.0	10.1		ug/L		101	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.71		ug/L		97	79 - 120
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
m-Xylene & p-Xylene	10.0	10.3		ug/L		103	80 - 120
o-Xylene	10.0	10.0		ug/L		100	80 - 120
Styrene	10.0	9.68		ug/L		97	76 - 121
Bromoform	10.0	9.02		ug/L		90	61 - 132
Isopropylbenzene	10.0	10.2		ug/L		102	75 - 120
Bromobenzene	10.0	9.77		ug/L		98	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.2		ug/L		102	74 - 124
1,2,3-Trichloropropane	10.0	10.3		ug/L		103	76 - 124
N-Propylbenzene	10.0	9.99		ug/L		100	80 - 120
2-Chlorotoluene	10.0	9.96		ug/L		100	80 - 120
4-Chlorotoluene	10.0	10.6		ug/L		106	80 - 120
t-Butylbenzene	10.0	10.2		ug/L		102	80 - 121
1,2,4-Trimethylbenzene	10.0	10.5		ug/L		105	80 - 120
sec-Butylbenzene	10.0	10.4		ug/L		104	78 - 120
4-Isopropyltoluene	10.0	10.3		ug/L		103	77 - 120
1,3-Dichlorobenzene	10.0	9.24		ug/L		92	80 - 120
1,4-Dichlorobenzene	10.0	9.97		ug/L		100	80 - 120
n-Butylbenzene	10.0	10.8		ug/L		108	78 - 120
1,2-Dichlorobenzene	10.0	10.1		ug/L		101	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.79	J	ug/L		98	65 - 125
1,2,4-Trichlorobenzene	10.0	10.0		ug/L		100	57 - 140
Hexachlorobutadiene	10.0	10.0		ug/L		100	74 - 125
Naphthalene	10.0	12.7		ug/L		127	44 - 144
1,2,3-Trichlorobenzene	10.0	11.8		ug/L		118	23 - 150
1,3,5-Trimethylbenzene	10.0	10.5		ug/L		105	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-329783/7
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	10.0	5.81	J	ug/L		58	20 - 150	6	35
Chloromethane	10.0	7.82	J	ug/L		78	52 - 135	7	23
Vinyl chloride	10.0	8.10		ug/L		81	65 - 130	14	28
Bromomethane	10.0	8.79		ug/L		88	66 - 125	11	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329783/7
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroethane	10.0	8.20		ug/L		82	65 - 132	10	35
Trichlorofluoromethane	10.0	8.67		ug/L		87	64 - 136	15	27
Carbon disulfide	10.0	5.52	*	ug/L		55	69 - 122	15	20
1,1-Dichloroethene	10.0	8.73		ug/L		87	70 - 129	17	27
Acetone	50.0	47.8	J	ug/L		96	43 - 150	2	35
Methylene Chloride	10.0	10.1		ug/L		101	77 - 125	10	18
Methyl tert-butyl ether	10.0	9.91		ug/L		99	72 - 130	3	18
trans-1,2-Dichloroethene	10.0	7.77	*1	ug/L		78	77 - 124	23	21
1,1-Dichloroethane	10.0	9.09		ug/L		91	70 - 129	17	26
2-Butanone (MEK)	50.0	48.1		ug/L		96	65 - 127	0	29
2,2-Dichloropropane	10.0	9.40		ug/L		94	62 - 140	9	23
cis-1,2-Dichloroethene	10.0	9.52		ug/L		95	76 - 129	5	15
Bromochloromethane	10.0	8.81		ug/L		88	78 - 120	10	20
Chloroform	10.0	9.79		ug/L		98	73 - 127	16	22
1,1,1-Trichloroethane	10.0	9.44		ug/L		94	74 - 130	8	18
Carbon tetrachloride	10.0	9.07		ug/L		91	72 - 129	8	19
1,1-Dichloropropene	10.0	8.86		ug/L		89	80 - 120	11	14
Benzene	10.0	9.09		ug/L		91	75 - 121	14	14
1,2-Dichloroethane	10.0	9.90		ug/L		99	76 - 131	9	18
Trichloroethene	10.0	9.04		ug/L		90	70 - 120	12	21
1,2-Dichloropropane	10.0	9.57		ug/L		96	72 - 126	10	26
4-Methyl-2-pentanone (MIBK)	50.0	45.8		ug/L		92	69 - 124	7	22
Dibromomethane	10.0	9.76		ug/L		98	80 - 120	8	22
Bromodichloromethane	10.0	9.78		ug/L		98	75 - 124	9	22
cis-1,3-Dichloropropene	10.0	10.2		ug/L		102	77 - 120	6	20
Toluene	10.0	9.60		ug/L		96	80 - 120	9	19
trans-1,3-Dichloropropene	10.0	9.78		ug/L		98	80 - 122	6	25
1,1,2-Trichloroethane	10.0	9.65		ug/L		97	80 - 121	6	21
Tetrachloroethene	10.0	8.36		ug/L		84	76 - 120	5	20
1,3-Dichloropropane	10.0	9.74		ug/L		97	79 - 120	5	26
Dibromochloromethane	10.0	9.01		ug/L		90	71 - 120	8	24
1,2-Dibromoethane	10.0	9.36		ug/L		94	79 - 120	8	20
Chlorobenzene	10.0	9.08		ug/L		91	80 - 120	11	15
1,1,1,2-Tetrachloroethane	10.0	8.82		ug/L		88	79 - 120	10	20
Ethylbenzene	10.0	8.93		ug/L		89	80 - 120	12	14
m-Xylene & p-Xylene	10.0	9.28		ug/L		93	80 - 120	11	14
o-Xylene	10.0	9.04		ug/L		90	80 - 120	11	16
Styrene	10.0	8.60		ug/L		86	76 - 121	12	16
Bromoform	10.0	8.28		ug/L		83	61 - 132	9	20
Isopropylbenzene	10.0	8.97		ug/L		90	75 - 120	13	20
Bromobenzene	10.0	8.71		ug/L		87	80 - 120	11	13
1,1,2,2-Tetrachloroethane	10.0	9.18		ug/L		92	74 - 124	11	18
1,2,3-Trichloropropane	10.0	9.31		ug/L		93	76 - 124	10	30
N-Propylbenzene	10.0	9.17		ug/L		92	80 - 120	9	13
2-Chlorotoluene	10.0	9.11		ug/L		91	80 - 120	9	15
4-Chlorotoluene	10.0	9.49		ug/L		95	80 - 120	11	14
t-Butylbenzene	10.0	9.01		ug/L		90	80 - 121	12	14
1,2,4-Trimethylbenzene	10.0	9.43		ug/L		94	80 - 120	11	16
sec-Butylbenzene	10.0	9.30		ug/L		93	78 - 120	11	15

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329783/7
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Isopropyltoluene	10.0	9.10		ug/L		91	77 - 120	12	13
1,3-Dichlorobenzene	10.0	8.36		ug/L		84	80 - 120	10	14
1,4-Dichlorobenzene	10.0	8.85		ug/L		89	80 - 120	12	17
n-Butylbenzene	10.0	9.42		ug/L		94	78 - 120	14	14
1,2-Dichlorobenzene	10.0	8.97		ug/L		90	80 - 120	12	15
1,2-Dibromo-3-Chloropropane	10.0	8.89	J	ug/L		89	65 - 125	10	27
1,2,4-Trichlorobenzene	10.0	8.85		ug/L		88	57 - 140	12	27
Hexachlorobutadiene	10.0	8.53		ug/L		85	74 - 125	16	22
Naphthalene	10.0	11.4		ug/L		114	44 - 144	11	31
1,2,3-Trichlorobenzene	10.0	10.7		ug/L		107	23 - 150	10	35
1,3,5-Trimethylbenzene	10.0	9.43		ug/L		94	80 - 120	11	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 580-330219/7
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		5.0	0.35	ug/L			06/09/20 17:38	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/09/20 17:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/09/20 17:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/09/20 17:38*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/09/20 17:38*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/09/20 17:38*	*1*

Lab Sample ID: LCS 580-330219/4
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	10.0	9.76		ug/L		98	65 - 132
Chlorobenzene	10.0	9.92		ug/L		99	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-330219/5
Matrix: Water
Analysis Batch: 330219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroethane			10.0	9.42		ug/L		94	65 - 132	4	35
Chlorobenzene			10.0	9.84		ug/L		98	80 - 120	1	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-611047/15
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/03/20 08:44	1

Lab Sample ID: LCS 440-611047/14
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent			50.0	49.0		ug/L		98	90 - 110

Lab Sample ID: MRL 440-611047/13
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent			1.00	0.976	J	ug/L		98	50 - 150

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-612670/6
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/15/20 10:35	1

Lab Sample ID: LCS 440-612670/5
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate			10.0	9.88		ug/L		99	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-612670/4
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.03	J	ug/L		103	75 - 125

Lab Sample ID: MRL 440-612670/8
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.95	J	ug/L		99	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329327/11-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 10:15	5
Chromium	ND		0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 10:15	5
Iron	ND		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 10:15	5
Manganese	ND		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 10:15	5

Lab Sample ID: LCS 580-329327/12-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120
Chromium	1.00	1.03		mg/L		103	80 - 120
Iron	20.0	20.6		mg/L		103	80 - 120
Manganese	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-329327/13-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.01		mg/L		101	80 - 120	0	20
Chromium	1.00	1.03		mg/L		103	80 - 120	0	20
Iron	20.0	20.7		mg/L		103	80 - 120	1	20
Manganese	1.00	1.02		mg/L		102	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329576/3
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			06/01/20 18:25	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 580-329576/4
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	52.2		mg/L		104	90 - 110		

Lab Sample ID: LCSD 580-329576/5
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			50.0	52.0		mg/L		104	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94960-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-42-052620
Lab Sample ID: 580-94960-1
Date Collected: 05/26/20 16:20
Matrix: Water
Date Received: 05/27/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329783	06/04/20 00:37	TL1	TAL SEA
Dissolved	Analysis	218.6		2	611047	06/03/20 12:23	MN	TAL IRV
Total/NA	Analysis	314.0		10	612670	06/15/20 18:07	PS	TAL IRV
Dissolved	Prep	3005A			329327	05/28/20 16:01	ART	TAL SEA
Dissolved	Analysis	6020B		5	329497	05/29/20 11:25	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 19:35	AAC	TAL SEA

Client Sample ID: PA-06-052620
Lab Sample ID: 580-94960-2
Date Collected: 05/26/20 16:44
Matrix: Water
Date Received: 05/27/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329783	06/04/20 01:04	TL1	TAL SEA
Total/NA	Analysis	8260D	DL	20	330219	06/09/20 19:26	T1W	TAL SEA
Dissolved	Analysis	218.6		1	611047	06/03/20 12:36	MN	TAL IRV
Total/NA	Analysis	314.0		10	612670	06/15/20 18:43	PS	TAL IRV
Dissolved	Prep	3005A			329327	05/28/20 16:01	ART	TAL SEA
Dissolved	Analysis	6020B		5	329497	05/29/20 11:06	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 19:47	AAC	TAL SEA

Client Sample ID: PA-31-052720
Lab Sample ID: 580-94960-3
Date Collected: 05/27/20 10:10
Matrix: Water
Date Received: 05/27/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329501	05/30/20 07:30	K1G	TAL SEA
Dissolved	Analysis	218.6		2	611047	06/03/20 12:49	MN	TAL IRV
Total/NA	Analysis	314.0		10	612670	06/15/20 19:19	PS	TAL IRV
Dissolved	Prep	3005A			329327	05/28/20 16:01	ART	TAL SEA
Dissolved	Analysis	6020B		5	329497	05/29/20 11:09	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 19:58	AAC	TAL SEA

Client Sample ID: TB-01-052720
Lab Sample ID: 580-94960-4
Date Collected: 05/27/20 00:01
Matrix: Water
Date Received: 05/27/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329501	05/30/20 01:19	K1G	TAL SEA

Laboratory References:
TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022
TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94960-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94960-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94960-1	MWA-42-052620	Water	05/26/20 16:20	05/27/20 12:50	
580-94960-2	PA-06-052620	Water	05/26/20 16:44	05/27/20 12:50	
580-94960-3	PA-31-052720	Water	05/27/20 10:10	05/27/20 12:50	
580-94960-4	TB-01-052720	Water	05/27/20 00:01	05/27/20 12:50	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site: Arkema	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B post standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
MWA-42-052620	5/26/20	1620	G	Water	Y		X				X	X		X	X		Nil VOCs
PA-06-052620	↓	1644	↓	Water	Y		X				X	X		X	X		Nil VOCs
PA-31-052720	5/27/20	1010	↓	Water	Y		X				X		X	X	X		
TB-01-052720	↓	—	—	Water									X				
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													

580-94960 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/27/20 1205	Eurofins		5/27/20 1205	M.E.
2		5/27/20 1250	M.E.		5/27/20 1250	TAPoR
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

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6/17/2020

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site: Arkema	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - Ab, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
MWA-42-052620	5/26/20	1620	G	Water	Y		X				X	X		X	X		Nil VOCs
PA-06-052620	↓	1644	↓	Water	Y		X				X	X		X	X		Nil VOCs
PA-31-052720	5/27/20	1010	↓	Water	Y		X				X		X	X	X		
TB-01-052720	↓	~	—	Water									X				
				Water													
				Water													
				Water													
				Water													
				Water													

580-94960 Chain of Custody

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/27/20 1205	Eurofins		5/27/20 1205	Eurofins
2		5/27/20 1250	Eurofins		5/27/20 1250	TAPoA
3		5/27/20 1700	TAPoA		5/28/20 1000	TA-Sea

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: IR6 3.4/3.0

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax. 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM	Carrier Tracking No(s)	COC No
		Cruz, Sheri L		580-77140 1
Client Contact	Phone	E-Mail	State of Origin	Page
Shipping/Receiving		sheri.cruz@testamericainc com	Oregon	Page 1 of 1
Company		Accreditations Required (See note)		Job #
Eurofins Calscience LLC		NELAP - Oregon		580-94960-1
Address	Due Date Requested:			
17461 Derian Ave, Suite 100,	6/15/2020			
City	TAT Requested (days):			
Irvine				
State, Zip				
CA, 92614-5817				
Phone	PO #			
949-261-1022(Tel) 949-260-3297(Fax)				
Email	WO #.			
Project Name	Project #			
Arkema - Q2 2020 Groundwater Event	58014456			
Site.	SSOW#			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Prep_ORGF/FIELD_FLTRD	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MWA-42-052620 (580-94960-1)	5/26/20	16:20 Pacific		Water			X	X	2	Sample should have been field filtered then preserved by Portland Please confirm
PA-06-052620 (580-94960-2)	5/26/20	16:44 Pacific		Water			X	X	2	Sample should have been field filtered then preserved by Portland Please confirm
PA-31-052720 (580-94960-3)	5/27/20	10.10 Pacific		Water			X	X	2	Sample should have been field filtered then preserved by Portland. Please confirm

Note Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	5/27/20 1700			5/29/20 0945	EC TEV
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No		4.4/4.6 IR-93

Ver: 01/16/2019

6/17/2020

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94960-1

Login Number: 94960
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94960-1

Login Number: 94960
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Irvine
List Creation: 05/28/20 12:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94964-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/17/2020 1:18:23 PM

Sheri Cruz, Project Manager I
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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94964-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94964-1

Comments
No additional comments.

Receipt
The samples were received on 5/27/2020 4:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved PA-05-052720 (580-94964-1), MWA-69-052720 (580-94964-2), MWA-61-052720 (580-94964-4), MWA-61-052720 (580-94964-4[MS]) and MWA-61-052720 (580-94964-4[MSD]). The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Methods 8260C, 8260D: The CCV for analytical batch 580-329783 recovered outside control limits for the following analyte(s): Carbon disulfide and Dichlorodifluoromethane. disulfide and Dichlorodifluoromethane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329783 recovered outside control limits for Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Methods 8260C, 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-329783 recovered outside control limits for the following analytes: trans-1,2-Dichloroethene.

Methods 8260C, 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-329783 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Methods 8260C, 8260D: Due to the high concentration of Vinyl chloride and Trichloroethene, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 580-329783 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 8260D: Reanalysis of the following sample was performed outside of the analytical holding time due to dilutions needed : MWA-61-052720 (580-94964-4).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: PA-05-052720 (580-94964-1), MWA-69-052720 (580-94964-2), MWA-61-052720 (580-94964-4), MWA-61-052720 (580-94964-4[MS]) and MWA-61-052720 (580-94964-4[MSD]). Elevated reporting limits (RLs) are provided.

Method 8260D: The following analytes have been identified, in the reference method and/or via historical data, to be poor and/or erratic performers: 1,2,3-Trichlorobenzene, Carbon disulfide, Dichlorodifluoromethane, Vinyl acetate and Naphthalene. These analytes may have a %D <55%.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following sample was diluted due to the nature of the sample matrix: MWA-69-052720 (580-94964-2). Elevated reporting limits (RLs) are provided. Sample was yellow in color.

Method 314.0: The following sample was diluted due medium dark black color of the sample matrix: MWA-69-052720 (580-94964-2). Elevated reporting limits (RLs) are provided.

Job ID: 580-94964-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8081B: Internal standard (ISTD) response for the following sample exceeded the control limit on the confirmation column: (CCB 580-329872/9). As such, the sample results associated with this ISTD were reported from the other column, which met ISTD acceptance criteria.

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-329872 recovered outside acceptance criteria on the confirmation column for Chlordane (technical). The associated sample results for those analytes were reported from the primary column which met acceptance criteria. The following samples are impacted: MWA-69-052720 (580-94964-2) and (CCV 580-329872/4)

Method 8081B: The continuing calibration verification (CCV) associated with batch 580-330667 recovered above the upper control limit for Endrin. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MWA-61-052720 (580-94964-4) and (CCVIS 580-330667/7).

Method 8081B: Continuing calibration verification (CCV) standard associated with batch 580-330667 recovered outside %Drift acceptance criteria for DCB Decachlorobiphenyl surrogate. The %Recovery is within acceptance criteria for the surrogate in the CCV and associated samples; therefore, the data are qualified and reported. (CCVIS 580-330667/7)

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-330667 recovered outside acceptance criteria on the confirmation column for Toxaphene and Endrin ketone. The associated sample results for those analytes were reported from the primary column which met acceptance criteria.

Method 8081B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 580-329617 and analytical batch 580-330667 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Methods 8081A, 8081B: The following continuing calibration verification (CCV) standard associated with batch 580-330757 recovered outside acceptance criteria for %D for surrogate DCB Decachlorobiphenyl on the confirmation column only. Since the %Rec is within the acceptance criteria for the surrogate in the CCV and associated samples, the data have been reported. The following sample is impacted: (CCVIS 580-330757/7)

Method 8081B: Surrogate recovery for the following samples were outside control limits: MWA-69-052720 (580-94964-2), MWA-61-052720 (580-94964-4), MWA-61-052720 (580-94964-4[MS]) and MWA-61-052720 (580-94964-4[MSD]). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8081B: The following sample was diluted to bring the concentration of target analytes within the calibration range: MWA-69-052720 (580-94964-2). Elevated reporting limits (RLs) are provided. Surrogate failures are attributed to the nature of the matrix.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Job ID: 580-94964-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: PA-05-052720
Lab Sample ID: 580-94964-1

Date Collected: 05/27/20 11:52
Matrix: Water

Date Received: 05/27/20 16:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 01:31	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 01:31	1
Vinyl chloride	**0.77**	**J**	1.0	0.22	ug/L			06/04/20 01:31	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 01:31	1
Chloroethane	**9.7**		5.0	0.35	ug/L			06/04/20 01:31	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 01:31	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 01:31	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 01:31	1
Acetone	ND		50	3.2	ug/L			06/04/20 01:31	1
Methylene Chloride	**4.0**	**J**	5.0	1.4	ug/L			06/04/20 01:31	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 01:31	1
trans-1,2-Dichloroethene	ND	*1	3.0	0.39	ug/L			06/04/20 01:31	1
1,1-Dichloroethane	**0.63**	**J**	2.0	0.22	ug/L			06/04/20 01:31	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 01:31	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 01:31	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 01:31	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 01:31	1
Chloroform	**38**		5.0	0.26	ug/L			06/04/20 01:31	1
1,1,1-Trichloroethane	**0.40**	**J**	3.0	0.39	ug/L			06/04/20 01:31	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 01:31	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 01:31	1
Benzene	**0.46**	**J**	3.0	0.24	ug/L			06/04/20 01:31	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 01:31	1
Trichloroethene	**3.3**		3.0	0.26	ug/L			06/04/20 01:31	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 01:31	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 01:31	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 01:31	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 01:31	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 01:31	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 01:31	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 01:31	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 01:31	1
Tetrachloroethene	**12**		3.0	0.41	ug/L			06/04/20 01:31	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 01:31	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 01:31	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 01:31	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 01:31	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 01:31	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 01:31	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 01:31	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 01:31	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 01:31	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 01:31	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 01:31	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 01:31	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 01:31	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 01:31	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 01:31	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 01:31	1

Client Sample ID: PA-05-052720
Lab Sample ID: 580-94964-1

Date Collected: 05/27/20 11:52
Matrix: Water

Date Received: 05/27/20 16:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 01:31	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 01:31	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 01:31	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 01:31	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 01:31	1
1,4-Dichlorobenzene	**4.7**		4.0	0.46	ug/L			06/04/20 01:31	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 01:31	1
1,2-Dichlorobenzene	**0.98**	**J**	2.0	0.46	ug/L			06/04/20 01:31	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 01:31	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 01:31	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 01:31	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 01:31	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 01:31	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 01:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*06/04/20 01:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/04/20 01:31*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/04/20 01:31*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/04/20 01:31*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**4700**		200	44	ug/L			06/10/20 13:24	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/10/20 13:24*	*100*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*06/10/20 13:24*	*100*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/10/20 13:24*	*100*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/10/20 13:24*	*100*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/03/20 13:02	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**260**		40	9.5	ug/L			06/16/20 13:31	10

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0063**		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 11:19	5
Chromium	**0.0058**		0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 11:19	5
Iron	**4.9**		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 11:19	5
Manganese	**0.38**		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 11:19	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**45**		9.0	1.4	mg/L			06/01/20 20:10	10

Client Sample ID: MWA-69-052720
Lab Sample ID: 580-94964-2

Date Collected: 05/27/20 13:30
Matrix: Water

Date Received: 05/27/20 16:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 01:57	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 01:57	1
Vinyl chloride	**3.0**		1.0	0.22	ug/L			06/04/20 01:57	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 01:57	1
Chloroethane	**27**		5.0	0.35	ug/L			06/04/20 01:57	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 01:57	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 01:57	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 01:57	1
Acetone	**4.7**	**J**	50	3.2	ug/L			06/04/20 01:57	1
Methylene Chloride	**1.4**	**J**	5.0	1.4	ug/L			06/04/20 01:57	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 01:57	1
trans-1,2-Dichloroethene	ND	*1	3.0	0.39	ug/L			06/04/20 01:57	1
1,1-Dichloroethane	**0.23**	**J**	2.0	0.22	ug/L			06/04/20 01:57	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 01:57	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 01:57	1
cis-1,2-Dichloroethene	**1.9**	**J**	3.0	0.69	ug/L			06/04/20 01:57	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 01:57	1
Chloroform	ND		5.0	0.26	ug/L			06/04/20 01:57	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 01:57	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 01:57	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 01:57	1
Benzene	**0.58**	**J**	3.0	0.24	ug/L			06/04/20 01:57	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 01:57	1
Trichloroethene	**0.26**	**J**	3.0	0.26	ug/L			06/04/20 01:57	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 01:57	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 01:57	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 01:57	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 01:57	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 01:57	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 01:57	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 01:57	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 01:57	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 01:57	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 01:57	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 01:57	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 01:57	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 01:57	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 01:57	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 01:57	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 01:57	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 01:57	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 01:57	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 01:57	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 01:57	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 01:57	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 01:57	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 01:57	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 01:57	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 01:57	1

Client Sample ID: MWA-69-052720
Lab Sample ID: 580-94964-2

Date Collected: 05/27/20 13:30
Matrix: Water

Date Received: 05/27/20 16:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 01:57	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 01:57	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 01:57	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 01:57	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 01:57	1
1,4-Dichlorobenzene	**0.72**	**J**	4.0	0.46	ug/L			06/04/20 01:57	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 01:57	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 01:57	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 01:57	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 01:57	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 01:57	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 01:57	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 01:57	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 01:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/04/20 01:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/04/20 01:57*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/04/20 01:57*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/04/20 01:57*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**220**		20	4.4	ug/L			06/10/20 14:17	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/10/20 14:17*	*10*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 126*		*06/10/20 14:17*	*10*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/10/20 14:17*	*10*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/10/20 14:17*	*10*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.0099	0.0030	ug/L		06/02/20 12:07	06/04/20 21:51	1
4,4'-DDT	ND		0.020	0.0049	ug/L		06/02/20 12:07	06/04/20 21:51	1
Aldrin	ND		0.024	0.0069	ug/L		06/02/20 12:07	06/04/20 21:51	1
alpha-BHC	ND		0.018	0.0039	ug/L		06/02/20 12:07	06/04/20 21:51	1
cis-Chlordane	ND		0.027	0.0079	ug/L		06/02/20 12:07	06/04/20 21:51	1
beta-BHC	ND		0.021	0.0049	ug/L		06/02/20 12:07	06/04/20 21:51	1
Chlordane (technical)	ND		0.20	0.030	ug/L		06/02/20 12:07	06/04/20 21:51	1
delta-BHC	**0.016**		0.015	0.0049	ug/L		06/02/20 12:07	06/04/20 21:51	1
Dieldrin	ND		0.018	0.0049	ug/L		06/02/20 12:07	06/04/20 21:51	1
Endosulfan I	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 21:51	1
Endosulfan II	ND		0.024	0.0049	ug/L		06/02/20 12:07	06/04/20 21:51	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 21:51	1
Endrin	ND		0.012	0.0030	ug/L		06/02/20 12:07	06/04/20 21:51	1
Endrin aldehyde	ND		0.059	0.034	ug/L		06/02/20 12:07	06/04/20 21:51	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/04/20 21:51	1
gamma-BHC (Lindane)	ND		0.020	0.0049	ug/L		06/02/20 12:07	06/04/20 21:51	1
trans-Chlordane	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 21:51	1

Client Sample ID: MWA-69-052720
Lab Sample ID: 580-94964-2

Date Collected: 05/27/20 13:30
Matrix: Water
Date Received: 05/27/20 16:00

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	ND		0.015	0.0039	ug/L		06/02/20 12:07	06/04/20 21:51	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 21:51	1
Methoxychlor	ND		0.099	0.0049	ug/L		06/02/20 12:07	06/04/20 21:51	1
Toxaphene	ND		2.0	0.45	ug/L		06/02/20 12:07	06/04/20 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*63*		*45 - 127*	*06/02/20 12:07*	*06/04/20 21:51*	*1*
Tetrachloro-m-xylene	*145*	*X*	*33 - 120*	*06/02/20 12:07*	*06/04/20 21:51*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**7.0**		0.15	0.059	ug/L		06/02/20 12:07	06/16/20 17:41	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*61*		*45 - 127*	*06/02/20 12:07*	*06/16/20 17:41*	*10*
Tetrachloro-m-xylene	*225*	*X*	*33 - 120*	*06/02/20 12:07*	*06/16/20 17:41*	*10*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		2.0	0.50	ug/L			06/04/20 10:49	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	9.5	ug/L			06/15/20 19:54	10

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0037**	**J**	0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 11:15	5
Chromium	**0.0022**	**J**	0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 11:15	5
Iron	**34**		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 11:15	5
Manganese	**14**		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 11:15	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0033**	**J**	0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 11:22	5
Chromium	**0.0017**	**J**	0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 11:22	5
Iron	**37**		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 11:22	5
Manganese	**15**		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 11:22	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1400**		90	14	mg/L			06/01/20 20:45	100

Client: ERM-West
Job ID: 580-94964-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-01-052720
Lab Sample ID: 580-94964-3
Date Collected: 05/27/20 00:01
Matrix: Water
Date Received: 05/27/20 16:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/03/20 23:44	1
Chloromethane	ND		20	0.28	ug/L			06/03/20 23:44	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/03/20 23:44	1
Bromomethane	ND		6.0	0.21	ug/L			06/03/20 23:44	1
Chloroethane	ND		5.0	0.35	ug/L			06/03/20 23:44	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/03/20 23:44	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/03/20 23:44	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/03/20 23:44	1
Acetone	ND		50	3.2	ug/L			06/03/20 23:44	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/03/20 23:44	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/03/20 23:44	1
trans-1,2-Dichloroethene	ND	*1	3.0	0.39	ug/L			06/03/20 23:44	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/03/20 23:44	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/03/20 23:44	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/03/20 23:44	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/03/20 23:44	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/03/20 23:44	1
Chloroform	ND		5.0	0.26	ug/L			06/03/20 23:44	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/03/20 23:44	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/03/20 23:44	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/03/20 23:44	1
Benzene	ND		3.0	0.24	ug/L			06/03/20 23:44	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/03/20 23:44	1
Trichloroethene	ND		3.0	0.26	ug/L			06/03/20 23:44	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/03/20 23:44	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/03/20 23:44	1
Dibromomethane	ND		2.0	0.34	ug/L			06/03/20 23:44	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/03/20 23:44	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/03/20 23:44	1
Toluene	ND		2.0	0.39	ug/L			06/03/20 23:44	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/03/20 23:44	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/03/20 23:44	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/03/20 23:44	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/03/20 23:44	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/03/20 23:44	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/03/20 23:44	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/03/20 23:44	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/03/20 23:44	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/03/20 23:44	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/03/20 23:44	1
o-Xylene	ND		2.0	0.39	ug/L			06/03/20 23:44	1
Styrene	ND		5.0	1.0	ug/L			06/03/20 23:44	1
Bromoform	ND		3.0	0.56	ug/L			06/03/20 23:44	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/03/20 23:44	1
Bromobenzene	ND		2.0	0.43	ug/L			06/03/20 23:44	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/03/20 23:44	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/03/20 23:44	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/03/20 23:44	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/03/20 23:44	1

Client: ERM-West
Job ID: 580-94964-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-01-052720
Lab Sample ID: 580-94964-3
Date Collected: 05/27/20 00:01
Matrix: Water
Date Received: 05/27/20 16:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/03/20 23:44	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/03/20 23:44	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/03/20 23:44	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/03/20 23:44	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/03/20 23:44	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/03/20 23:44	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/03/20 23:44	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/03/20 23:44	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/03/20 23:44	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/03/20 23:44	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/03/20 23:44	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/03/20 23:44	1
Naphthalene	ND		4.0	0.93	ug/L			06/03/20 23:44	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/03/20 23:44	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/03/20 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/03/20 23:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/03/20 23:44*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/03/20 23:44*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*06/03/20 23:44*	*1*

Client Sample ID: MWA-61-052720
Lab Sample ID: 580-94964-4

Date Collected: 05/27/20 14:26
Matrix: Water
Date Received: 05/27/20 16:00

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 02:24	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 02:24	1
Vinyl chloride	**110**		1.0	0.22	ug/L			06/04/20 02:24	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 02:24	1
Chloroethane	**2.9**	**J**	5.0	0.35	ug/L			06/04/20 02:24	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 02:24	1
Carbon disulfide	ND	F1 *	3.0	0.53	ug/L			06/04/20 02:24	1
1,1-Dichloroethene	**6.0**		4.0	0.28	ug/L			06/04/20 02:24	1
Acetone	ND		50	3.2	ug/L			06/04/20 02:24	1
Methylene Chloride	**1.7**	**J**	5.0	1.4	ug/L			06/04/20 02:24	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 02:24	1
trans-1,2-Dichloroethene	**4.1**	***1**	3.0	0.39	ug/L			06/04/20 02:24	1
1,1-Dichloroethane	**5.7**		2.0	0.22	ug/L			06/04/20 02:24	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 02:24	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 02:24	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 02:24	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 02:24	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 02:24	1
1,1-Dichloropropene	**0.86**	**J**	3.0	0.29	ug/L			06/04/20 02:24	1
Benzene	**0.27**	**J**	3.0	0.24	ug/L			06/04/20 02:24	1
1,2-Dichloroethane	**1.0**	**J**	2.0	0.42	ug/L			06/04/20 02:24	1
Trichloroethene	**120**		3.0	0.26	ug/L			06/04/20 02:24	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 02:24	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 02:24	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 02:24	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 02:24	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 02:24	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 02:24	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 02:24	1
1,1,2-Trichloroethane	**0.54**	**J**	1.0	0.24	ug/L			06/04/20 02:24	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 02:24	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 02:24	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 02:24	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 02:24	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 02:24	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 02:24	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 02:24	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 02:24	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 02:24	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 02:24	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 02:24	1
1,1,2,2-Tetrachloroethane	**3.6**		3.0	0.52	ug/L			06/04/20 02:24	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 02:24	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 02:24	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 02:24	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 02:24	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 02:24	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 02:24	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 02:24	1

Client Sample ID: MWA-61-052720
Lab Sample ID: 580-94964-4
Date Collected: 05/27/20 14:26
Matrix: Water
Date Received: 05/27/20 16:00

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 02:24	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 02:24	1
1,4-Dichlorobenzene	**0.51**	**J**	4.0	0.46	ug/L			06/04/20 02:24	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 02:24	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 02:24	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 02:24	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 02:24	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 02:24	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 02:24	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 02:24	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 02:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/04/20 02:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*06/04/20 02:24*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/04/20 02:24*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/04/20 02:24*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**420**	**H F1 F2**	60	14	ug/L			06/13/20 05:55	20
Chloroform	**380**		100	5.2	ug/L			06/10/20 14:44	20
Tetrachloroethene	**220**	**H F1 F2**	60	8.2	ug/L			06/13/20 05:55	20
Chlorobenzene	**790**		40	8.8	ug/L			06/10/20 14:44	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/10/20 14:44*	*20*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/13/20 05:55*	*20*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/10/20 14:44*	*20*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*		*06/13/20 05:55*	*20*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/10/20 14:44*	*20*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/13/20 05:55*	*20*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/10/20 14:44*	*20*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/13/20 05:55*	*20*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	F1	0.015	0.0061	ug/L		06/02/20 12:07	06/15/20 15:12	1
4,4'-DDE	ND		0.010	0.0031	ug/L		06/02/20 12:07	06/15/20 15:12	1
4,4'-DDT	ND		0.020	0.0051	ug/L		06/02/20 12:07	06/15/20 15:12	1
Aldrin	ND		0.024	0.0071	ug/L		06/02/20 12:07	06/15/20 15:12	1
alpha-BHC	ND		0.018	0.0041	ug/L		06/02/20 12:07	06/15/20 15:12	1
cis-Chlordane	ND	F1	0.027	0.0081	ug/L		06/02/20 12:07	06/15/20 15:12	1
beta-BHC	ND	F1	0.021	0.0051	ug/L		06/02/20 12:07	06/15/20 15:12	1
Chlordane (technical)	ND		0.20	0.031	ug/L		06/02/20 12:07	06/15/20 15:12	1
delta-BHC	**0.12**		0.015	0.0051	ug/L		06/02/20 12:07	06/15/20 15:12	1
Dieldrin	ND	F1	0.018	0.0051	ug/L		06/02/20 12:07	06/15/20 15:12	1
Endosulfan I	ND	F1	0.020	0.0031	ug/L		06/02/20 12:07	06/15/20 15:12	1
Endosulfan II	ND		0.024	0.0051	ug/L		06/02/20 12:07	06/15/20 15:12	1
Endosulfan sulfate	ND	F1	0.020	0.0031	ug/L		06/02/20 12:07	06/15/20 15:12	1

Client Sample ID: MWA-61-052720
Lab Sample ID: 580-94964-4

Date Collected: 05/27/20 14:26
Matrix: Water
Date Received: 05/27/20 16:00

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		0.012	0.0031	ug/L		06/02/20 12:07	06/15/20 15:12	1
Endrin aldehyde	ND	F1	0.061	0.035	ug/L		06/02/20 12:07	06/15/20 15:12	1
Endrin ketone	ND	F1	0.020	0.0020	ug/L		06/02/20 12:07	06/15/20 15:12	1
gamma-BHC (Lindane)	ND		0.020	0.0051	ug/L		06/02/20 12:07	06/15/20 15:12	1
trans-Chlordane	ND		0.020	0.0031	ug/L		06/02/20 12:07	06/15/20 15:12	1
Heptachlor	ND		0.015	0.0041	ug/L		06/02/20 12:07	06/15/20 15:12	1
Heptachlor epoxide	ND		0.020	0.0031	ug/L		06/02/20 12:07	06/15/20 15:12	1
Methoxychlor	ND		0.10	0.0051	ug/L		06/02/20 12:07	06/15/20 15:12	1
Toxaphene	ND		2.0	0.47	ug/L		06/02/20 12:07	06/15/20 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*52*		*45 - 127*	*06/02/20 12:07*	*06/15/20 15:12*	*1*
Tetrachloro-m-xylene	*492*	*X*	*33 - 120*	*06/02/20 12:07*	*06/15/20 15:12*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 11:02	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/16/20 13:12	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 10:56	5
Chromium	ND		0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 10:56	5
Iron	**1.9**		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 10:56	5
Manganese	**2.9**		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 10:56	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 10:22	5
Chromium	ND		0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 10:22	5
Iron	**1.8**		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 10:22	5
Manganese	**2.9**		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 10:22	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**270**		9.0	1.4	mg/L			06/01/20 20:57	10

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329783/10
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/03/20 21:56	1
Chloromethane	ND		20	0.28	ug/L			06/03/20 21:56	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/03/20 21:56	1
Bromomethane	ND		6.0	0.21	ug/L			06/03/20 21:56	1
Chloroethane	ND		5.0	0.35	ug/L			06/03/20 21:56	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/03/20 21:56	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/03/20 21:56	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/03/20 21:56	1
Acetone	ND		50	3.2	ug/L			06/03/20 21:56	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/03/20 21:56	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/03/20 21:56	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/03/20 21:56	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/03/20 21:56	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/03/20 21:56	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/03/20 21:56	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/03/20 21:56	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/03/20 21:56	1
Chloroform	ND		5.0	0.26	ug/L			06/03/20 21:56	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/03/20 21:56	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/03/20 21:56	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/03/20 21:56	1
Benzene	ND		3.0	0.24	ug/L			06/03/20 21:56	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/03/20 21:56	1
Trichloroethene	ND		3.0	0.26	ug/L			06/03/20 21:56	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/03/20 21:56	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/03/20 21:56	1
Dibromomethane	ND		2.0	0.34	ug/L			06/03/20 21:56	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/03/20 21:56	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/03/20 21:56	1
Toluene	ND		2.0	0.39	ug/L			06/03/20 21:56	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/03/20 21:56	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/03/20 21:56	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/03/20 21:56	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/03/20 21:56	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/03/20 21:56	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/03/20 21:56	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/03/20 21:56	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/03/20 21:56	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/03/20 21:56	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/03/20 21:56	1
o-Xylene	ND		2.0	0.39	ug/L			06/03/20 21:56	1
Styrene	ND		5.0	1.0	ug/L			06/03/20 21:56	1
Bromoform	ND		3.0	0.56	ug/L			06/03/20 21:56	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/03/20 21:56	1
Bromobenzene	ND		2.0	0.43	ug/L			06/03/20 21:56	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/03/20 21:56	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/03/20 21:56	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/03/20 21:56	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329783/10
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/03/20 21:56	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/03/20 21:56	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/03/20 21:56	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/03/20 21:56	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/03/20 21:56	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/03/20 21:56	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/03/20 21:56	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/03/20 21:56	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/03/20 21:56	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/03/20 21:56	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/03/20 21:56	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/03/20 21:56	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/03/20 21:56	1
Naphthalene	ND		4.0	0.93	ug/L			06/03/20 21:56	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/03/20 21:56	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/03/20 21:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/03/20 21:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/03/20 21:56*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/03/20 21:56*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/03/20 21:56*	*1*

Lab Sample ID: LCS 580-329783/6
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	6.15	J	ug/L		61	20 - 150
Chloromethane	10.0	8.37	J	ug/L		84	52 - 135
Vinyl chloride	10.0	9.33		ug/L		93	65 - 130
Bromomethane	10.0	9.80		ug/L		98	66 - 125
Chloroethane	10.0	9.04		ug/L		90	65 - 132
Trichlorofluoromethane	10.0	10.1		ug/L		101	64 - 136
Carbon disulfide	10.0	6.39	*	ug/L		64	69 - 122
1,1-Dichloroethene	10.0	10.3		ug/L		103	70 - 129
Acetone	50.0	48.8	J	ug/L		98	43 - 150
Methylene Chloride	10.0	11.2		ug/L		112	77 - 125
Methyl tert-butyl ether	10.0	10.2		ug/L		102	72 - 130
trans-1,2-Dichloroethene	10.0	9.83		ug/L		98	77 - 124
1,1-Dichloroethane	10.0	10.8		ug/L		108	70 - 129
2-Butanone (MEK)	50.0	47.9		ug/L		96	65 - 127
2,2-Dichloropropane	10.0	10.3		ug/L		103	62 - 140
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 129
Bromochloromethane	10.0	9.72		ug/L		97	78 - 120
Chloroform	10.0	11.4		ug/L		114	73 - 127
1,1,1-Trichloroethane	10.0	10.3		ug/L		103	74 - 130
Carbon tetrachloride	10.0	9.79		ug/L		98	72 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329783/6
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	10.0	9.90		ug/L		99	80 - 120
Benzene	10.0	10.5		ug/L		105	75 - 121
1,2-Dichloroethane	10.0	10.8		ug/L		108	76 - 131
Trichloroethene	10.0	10.2		ug/L		102	70 - 120
1,2-Dichloropropane	10.0	10.6		ug/L		106	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	48.8		ug/L		98	69 - 124
Dibromomethane	10.0	10.6		ug/L		106	80 - 120
Bromodichloromethane	10.0	10.7		ug/L		107	75 - 124
cis-1,3-Dichloropropene	10.0	10.8		ug/L		108	77 - 120
Toluene	10.0	10.5		ug/L		105	80 - 120
trans-1,3-Dichloropropene	10.0	10.4		ug/L		104	80 - 122
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	80 - 121
Tetrachloroethene	10.0	8.77		ug/L		88	76 - 120
1,3-Dichloropropane	10.0	10.3		ug/L		103	79 - 120
Dibromochloromethane	10.0	9.72		ug/L		97	71 - 120
1,2-Dibromoethane	10.0	10.2		ug/L		102	79 - 120
Chlorobenzene	10.0	10.1		ug/L		101	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.71		ug/L		97	79 - 120
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
m-Xylene & p-Xylene	10.0	10.3		ug/L		103	80 - 120
o-Xylene	10.0	10.0		ug/L		100	80 - 120
Styrene	10.0	9.68		ug/L		97	76 - 121
Bromoform	10.0	9.02		ug/L		90	61 - 132
Isopropylbenzene	10.0	10.2		ug/L		102	75 - 120
Bromobenzene	10.0	9.77		ug/L		98	80 - 120
1,1,2,2-Tetrachloroethane	10.0	10.2		ug/L		102	74 - 124
1,2,3-Trichloropropane	10.0	10.3		ug/L		103	76 - 124
N-Propylbenzene	10.0	9.99		ug/L		100	80 - 120
2-Chlorotoluene	10.0	9.96		ug/L		100	80 - 120
4-Chlorotoluene	10.0	10.6		ug/L		106	80 - 120
t-Butylbenzene	10.0	10.2		ug/L		102	80 - 121
1,2,4-Trimethylbenzene	10.0	10.5		ug/L		105	80 - 120
sec-Butylbenzene	10.0	10.4		ug/L		104	78 - 120
4-Isopropyltoluene	10.0	10.3		ug/L		103	77 - 120
1,3-Dichlorobenzene	10.0	9.24		ug/L		92	80 - 120
1,4-Dichlorobenzene	10.0	9.97		ug/L		100	80 - 120
n-Butylbenzene	10.0	10.8		ug/L		108	78 - 120
1,2-Dichlorobenzene	10.0	10.1		ug/L		101	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.79	J	ug/L		98	65 - 125
1,2,4-Trichlorobenzene	10.0	10.0		ug/L		100	57 - 140
Hexachlorobutadiene	10.0	10.0		ug/L		100	74 - 125
Naphthalene	10.0	12.7		ug/L		127	44 - 144
1,2,3-Trichlorobenzene	10.0	11.8		ug/L		118	23 - 150
1,3,5-Trimethylbenzene	10.0	10.5		ug/L		105	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329783/6
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-329783/7
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	5.81	J	ug/L		58	20 - 150	6	35
Chloromethane			10.0	7.82	J	ug/L		78	52 - 135	7	23
Vinyl chloride			10.0	8.10		ug/L		81	65 - 130	14	28
Bromomethane			10.0	8.79		ug/L		88	66 - 125	11	27
Chloroethane			10.0	8.20		ug/L		82	65 - 132	10	35
Trichlorofluoromethane			10.0	8.67		ug/L		87	64 - 136	15	27
Carbon disulfide			10.0	5.52	*	ug/L		55	69 - 122	15	20
1,1-Dichloroethene			10.0	8.73		ug/L		87	70 - 129	17	27
Acetone			50.0	47.8	J	ug/L		96	43 - 150	2	35
Methylene Chloride			10.0	10.1		ug/L		101	77 - 125	10	18
Methyl tert-butyl ether			10.0	9.91		ug/L		99	72 - 130	3	18
trans-1,2-Dichloroethene			10.0	7.77	*1	ug/L		78	77 - 124	23	21
1,1-Dichloroethane			10.0	9.09		ug/L		91	70 - 129	17	26
2-Butanone (MEK)			50.0	48.1		ug/L		96	65 - 127	0	29
2,2-Dichloropropane			10.0	9.40		ug/L		94	62 - 140	9	23
cis-1,2-Dichloroethene			10.0	9.52		ug/L		95	76 - 129	5	15
Bromochloromethane			10.0	8.81		ug/L		88	78 - 120	10	20
Chloroform			10.0	9.79		ug/L		98	73 - 127	16	22
1,1,1-Trichloroethane			10.0	9.44		ug/L		94	74 - 130	8	18
Carbon tetrachloride			10.0	9.07		ug/L		91	72 - 129	8	19
1,1-Dichloropropene			10.0	8.86		ug/L		89	80 - 120	11	14
Benzene			10.0	9.09		ug/L		91	75 - 121	14	14
1,2-Dichloroethane			10.0	9.90		ug/L		99	76 - 131	9	18
Trichloroethene			10.0	9.04		ug/L		90	70 - 120	12	21
1,2-Dichloropropane			10.0	9.57		ug/L		96	72 - 126	10	26
4-Methyl-2-pentanone (MIBK)			50.0	45.8		ug/L		92	69 - 124	7	22
Dibromomethane			10.0	9.76		ug/L		98	80 - 120	8	22
Bromodichloromethane			10.0	9.78		ug/L		98	75 - 124	9	22
cis-1,3-Dichloropropene			10.0	10.2		ug/L		102	77 - 120	6	20
Toluene			10.0	9.60		ug/L		96	80 - 120	9	19
trans-1,3-Dichloropropene			10.0	9.78		ug/L		98	80 - 122	6	25
1,1,2-Trichloroethane			10.0	9.65		ug/L		97	80 - 121	6	21
Tetrachloroethene			10.0	8.36		ug/L		84	76 - 120	5	20
1,3-Dichloropropane			10.0	9.74		ug/L		97	79 - 120	5	26
Dibromochloromethane			10.0	9.01		ug/L		90	71 - 120	8	24
1,2-Dibromoethane			10.0	9.36		ug/L		94	79 - 120	8	20
Chlorobenzene			10.0	9.08		ug/L		91	80 - 120	11	15
1,1,1,2-Tetrachloroethane			10.0	8.82		ug/L		88	79 - 120	10	20
Ethylbenzene			10.0	8.93		ug/L		89	80 - 120	12	14
m-Xylene & p-Xylene			10.0	9.28		ug/L		93	80 - 120	11	14

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329783/7
Matrix: Water
Analysis Batch: 329783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene			10.0	9.04		ug/L		90	80 - 120	11	16
Styrene			10.0	8.60		ug/L		86	76 - 121	12	16
Bromoform			10.0	8.28		ug/L		83	61 - 132	9	20
Isopropylbenzene			10.0	8.97		ug/L		90	75 - 120	13	20
Bromobenzene			10.0	8.71		ug/L		87	80 - 120	11	13
1,1,2,2-Tetrachloroethane			10.0	9.18		ug/L		92	74 - 124	11	18
1,2,3-Trichloropropane			10.0	9.31		ug/L		93	76 - 124	10	30
N-Propylbenzene			10.0	9.17		ug/L		92	80 - 120	9	13
2-Chlorotoluene			10.0	9.11		ug/L		91	80 - 120	9	15
4-Chlorotoluene			10.0	9.49		ug/L		95	80 - 120	11	14
t-Butylbenzene			10.0	9.01		ug/L		90	80 - 121	12	14
1,2,4-Trimethylbenzene			10.0	9.43		ug/L		94	80 - 120	11	16
sec-Butylbenzene			10.0	9.30		ug/L		93	78 - 120	11	15
4-Isopropyltoluene			10.0	9.10		ug/L		91	77 - 120	12	13
1,3-Dichlorobenzene			10.0	8.36		ug/L		84	80 - 120	10	14
1,4-Dichlorobenzene			10.0	8.85		ug/L		89	80 - 120	12	17
n-Butylbenzene			10.0	9.42		ug/L		94	78 - 120	14	14
1,2-Dichlorobenzene			10.0	8.97		ug/L		90	80 - 120	12	15
1,2-Dibromo-3-Chloropropane			10.0	8.89	J	ug/L		89	65 - 125	10	27
1,2,4-Trichlorobenzene			10.0	8.85		ug/L		88	57 - 140	12	27
Hexachlorobutadiene			10.0	8.53		ug/L		85	74 - 125	16	22
Naphthalene			10.0	11.4		ug/L		114	44 - 144	11	31
1,2,3-Trichlorobenzene			10.0	10.7		ug/L		107	23 - 150	10	35
1,3,5-Trimethylbenzene			10.0	9.43		ug/L		94	80 - 120	11	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 329783

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND		10.0	6.75	J	ug/L		67	20 - 150
Chloromethane	ND		10.0	8.60	J	ug/L		86	52 - 135
Vinyl chloride	110		10.0	113	4	ug/L		10	65 - 130
Bromomethane	ND		10.0	8.99		ug/L		90	66 - 125
Chloroethane	2.9	J	10.0	11.3		ug/L		83	65 - 132
Trichlorofluoromethane	ND		10.0	9.99		ug/L		100	64 - 136
Carbon disulfide	ND	F1 *	10.0	6.58	F1	ug/L		66	69 - 122
1,1-Dichloroethene	6.0		10.0	15.0		ug/L		90	70 - 129
Acetone	ND		50.0	36.0	J	ug/L		72	43 - 150
Methylene Chloride	1.7	J	10.0	10.8		ug/L		91	77 - 125
Methyl tert-butyl ether	ND		10.0	9.56		ug/L		96	72 - 130
trans-1,2-Dichloroethene	4.1	*1	10.0	14.0		ug/L		99	77 - 124

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 329783

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	5.7		10.0	14.8		ug/L		92	70 - 129
2-Butanone (MEK)	ND		50.0	40.9		ug/L		82	65 - 127
2,2-Dichloropropane	ND		10.0	9.63		ug/L		96	62 - 140
Bromochloromethane	ND		10.0	9.31		ug/L		93	78 - 120
1,1,1-Trichloroethane	ND		10.0	10.8		ug/L		108	74 - 130
Carbon tetrachloride	ND		10.0	10.3		ug/L		103	72 - 129
1,1-Dichloropropene	0.86	J	10.0	10.8		ug/L		99	80 - 120
Benzene	0.27	J	10.0	10.1		ug/L		99	75 - 121
1,2-Dichloroethane	1.0	J	10.0	11.5		ug/L		105	76 - 131
Trichloroethene	120		10.0	121	4	ug/L		44	70 - 120
1,2-Dichloropropane	ND		10.0	12.2		ug/L		122	72 - 126
4-Methyl-2-pentanone (MIBK)	ND		50.0	44.8		ug/L		90	69 - 124
Dibromomethane	ND		10.0	9.79		ug/L		98	80 - 120
Bromodichloromethane	ND		10.0	11.5		ug/L		115	75 - 124
cis-1,3-Dichloropropene	ND		10.0	10.5		ug/L		105	77 - 120
Toluene	ND		10.0	10.5		ug/L		105	80 - 120
trans-1,3-Dichloropropene	ND		10.0	9.46		ug/L		95	80 - 122
1,1,2-Trichloroethane	0.54	J	10.0	10.9		ug/L		104	80 - 121
1,3-Dichloropropane	ND		10.0	9.67		ug/L		97	79 - 120
Dibromochloromethane	ND		10.0	8.99		ug/L		90	71 - 120
1,2-Dibromoethane	ND		10.0	9.37		ug/L		94	79 - 120
1,1,1,2-Tetrachloroethane	ND		10.0	9.43		ug/L		94	79 - 120
Ethylbenzene	ND		10.0	9.96		ug/L		100	80 - 120
m-Xylene & p-Xylene	ND		10.0	9.96		ug/L		100	80 - 120
o-Xylene	ND		10.0	9.52		ug/L		95	80 - 120
Styrene	ND		10.0	9.06		ug/L		91	76 - 121
Bromoform	ND		10.0	7.96		ug/L		80	61 - 132
Isopropylbenzene	ND		10.0	9.74		ug/L		97	75 - 120
Bromobenzene	ND		10.0	9.71		ug/L		97	80 - 120
1,1,2,2-Tetrachloroethane	3.6		10.0	14.6		ug/L		110	74 - 124
1,2,3-Trichloropropane	ND		10.0	11.0		ug/L		110	76 - 124
N-Propylbenzene	ND		10.0	10.4		ug/L		104	80 - 120
2-Chlorotoluene	ND		10.0	9.92		ug/L		99	80 - 120
4-Chlorotoluene	ND		10.0	10.4		ug/L		104	80 - 120
t-Butylbenzene	ND		10.0	10.2		ug/L		102	80 - 121
1,2,4-Trimethylbenzene	ND		10.0	10.2		ug/L		102	80 - 120
sec-Butylbenzene	ND		10.0	10.6		ug/L		106	78 - 120
4-Isopropyltoluene	ND		10.0	10.0		ug/L		100	77 - 120
1,3-Dichlorobenzene	ND		10.0	8.64		ug/L		86	80 - 120
1,4-Dichlorobenzene	0.51	J	10.0	10.9		ug/L		104	80 - 120
n-Butylbenzene	ND		10.0	10.6		ug/L		106	78 - 120
1,2-Dichlorobenzene	ND		10.0	9.69		ug/L		97	80 - 120
1,2-Dibromo-3-Chloropropane	ND		10.0	8.02	J	ug/L		80	65 - 125
1,2,4-Trichlorobenzene	ND		10.0	7.77		ug/L		78	57 - 140
Hexachlorobutadiene	ND		10.0	8.63		ug/L		86	74 - 125
Naphthalene	ND		10.0	9.25		ug/L		92	44 - 144
1,2,3-Trichlorobenzene	ND		10.0	9.09		ug/L		91	23 - 150
1,3,5-Trimethylbenzene	ND		10.0	10.3		ug/L		103	80 - 120

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 329783

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 329783

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		10.0	6.28	J	ug/L		63	20 - 150	7	35
Chloromethane	ND		10.0	8.19	J	ug/L		82	52 - 135	5	23
Vinyl chloride	110		10.0	112	4	ug/L		-4	65 - 130	1	28
Bromomethane	ND		10.0	8.66		ug/L		87	66 - 125	4	27
Chloroethane	2.9	J	10.0	11.2		ug/L		83	65 - 132	1	35
Trichlorofluoromethane	ND		10.0	9.67		ug/L		97	64 - 136	3	27
Carbon disulfide	ND	F1 *	10.0	6.57	F1	ug/L		66	69 - 122	0	20
1,1-Dichloroethene	6.0		10.0	14.7		ug/L		87	70 - 129	2	27
Acetone	ND		50.0	38.7	J	ug/L		77	43 - 150	7	35
Methylene Chloride	1.7	J	10.0	10.6		ug/L		89	77 - 125	1	18
Methyl tert-butyl ether	ND		10.0	9.85		ug/L		99	72 - 130	3	18
trans-1,2-Dichloroethene	4.1	*1	10.0	14.6		ug/L		105	77 - 124	4	21
1,1-Dichloroethane	5.7		10.0	14.4		ug/L		87	70 - 129	3	26
2-Butanone (MEK)	ND		50.0	41.5		ug/L		83	65 - 127	2	29
2,2-Dichloropropane	ND		10.0	8.94		ug/L		89	62 - 140	7	23
Bromochloromethane	ND		10.0	8.70		ug/L		87	78 - 120	7	20
1,1,1-Trichloroethane	ND		10.0	10.5		ug/L		105	74 - 130	3	18
Carbon tetrachloride	ND		10.0	10.0		ug/L		100	72 - 129	2	19
1,1-Dichloropropene	0.86	J	10.0	10.6		ug/L		97	80 - 120	2	14
Benzene	0.27	J	10.0	9.65		ug/L		94	75 - 121	5	14
1,2-Dichloroethane	1.0	J	10.0	11.3		ug/L		103	76 - 131	2	18
Trichloroethene	120		10.0	119	4	ug/L		27	70 - 120	1	21
1,2-Dichloropropane	ND		10.0	11.5		ug/L		115	72 - 126	6	26
4-Methyl-2-pentanone (MIBK)	ND		50.0	42.7		ug/L		85	69 - 124	5	22
Dibromomethane	ND		10.0	9.77		ug/L		98	80 - 120	0	22
Bromodichloromethane	ND		10.0	9.82		ug/L		98	75 - 124	16	22
cis-1,3-Dichloropropene	ND		10.0	10.3		ug/L		103	77 - 120	2	20
Toluene	ND		10.0	9.91		ug/L		99	80 - 120	6	19
trans-1,3-Dichloropropene	ND		10.0	9.07		ug/L		91	80 - 122	4	25
1,1,2-Trichloroethane	0.54	J	10.0	10.4		ug/L		98	80 - 121	5	21
1,3-Dichloropropane	ND		10.0	9.48		ug/L		95	79 - 120	2	26
Dibromochloromethane	ND		10.0	8.57		ug/L		86	71 - 120	5	24
1,2-Dibromoethane	ND		10.0	8.98		ug/L		90	79 - 120	4	20
1,1,1,2-Tetrachloroethane	ND		10.0	8.90		ug/L		89	79 - 120	6	20
Ethylbenzene	ND		10.0	9.43		ug/L		94	80 - 120	5	14
m-Xylene & p-Xylene	ND		10.0	9.56		ug/L		96	80 - 120	4	14
o-Xylene	ND		10.0	8.93		ug/L		89	80 - 120	6	16
Styrene	ND		10.0	8.43		ug/L		84	76 - 121	7	16

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 329783

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromoform	ND		10.0	7.54		ug/L		75	61 - 132	5	20
Isopropylbenzene	ND		10.0	9.21		ug/L		92	75 - 120	6	20
Bromobenzene	ND		10.0	9.15		ug/L		92	80 - 120	6	13
1,1,2,2-Tetrachloroethane	3.6		10.0	14.1		ug/L		106	74 - 124	3	18
1,2,3-Trichloropropane	ND		10.0	10.2		ug/L		102	76 - 124	8	30
N-Propylbenzene	ND		10.0	9.78		ug/L		98	80 - 120	6	13
2-Chlorotoluene	ND		10.0	9.46		ug/L		95	80 - 120	5	15
4-Chlorotoluene	ND		10.0	9.87		ug/L		99	80 - 120	5	14
t-Butylbenzene	ND		10.0	9.73		ug/L		97	80 - 121	5	14
1,2,4-Trimethylbenzene	ND		10.0	9.77		ug/L		98	80 - 120	4	16
sec-Butylbenzene	ND		10.0	10.1		ug/L		101	78 - 120	5	15
4-Isopropyltoluene	ND		10.0	9.58		ug/L		96	77 - 120	4	13
1,3-Dichlorobenzene	ND		10.0	8.40		ug/L		84	80 - 120	3	14
1,4-Dichlorobenzene	0.51	J	10.0	10.1		ug/L		96	80 - 120	8	17
n-Butylbenzene	ND		10.0	10.1		ug/L		101	78 - 120	5	14
1,2-Dichlorobenzene	ND		10.0	9.21		ug/L		92	80 - 120	5	15
1,2-Dibromo-3-Chloropropane	ND		10.0	8.05	J	ug/L		81	65 - 125	0	27
1,2,4-Trichlorobenzene	ND		10.0	7.70		ug/L		77	57 - 140	1	27
Hexachlorobutadiene	ND		10.0	9.00		ug/L		90	74 - 125	4	22
Naphthalene	ND		10.0	10.1		ug/L		101	44 - 144	8	31
1,2,3-Trichlorobenzene	ND		10.0	9.65		ug/L		96	23 - 150	6	35
1,3,5-Trimethylbenzene	ND		10.0	9.83		ug/L		98	80 - 120	5	14

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 580-330260/7
Matrix: Water
Analysis Batch: 330260

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/10/20 12:03	1
Chloroform	ND		5.0	0.26	ug/L			06/10/20 12:03	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/10/20 12:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/10/20 12:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 126*		*06/10/20 12:03*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/10/20 12:03*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/10/20 12:03*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-330260/4
Matrix: Water
Analysis Batch: 330260

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloroform			5.00	5.78		ug/L		116	73 - 127		
Chlorobenzene			5.00	5.30		ug/L		106	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-330260/5
Matrix: Water
Analysis Batch: 330260

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform			5.00	5.30		ug/L		106	73 - 127	9	22
Chlorobenzene			5.00	4.90		ug/L		98	80 - 120	8	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 330260

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloroform	380		200	584		ug/L		104	73 - 127		
Chlorobenzene	790		200	1000		ug/L		110	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 330260

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	380		200	601		ug/L		113	73 - 127	3	22
Chlorobenzene	790		200	1010		ug/L		111	80 - 120	0	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 330260

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 580-330613/7
Matrix: Water
Analysis Batch: 330613

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/13/20 04:07	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/13/20 04:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*06/13/20 04:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/13/20 04:07*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/13/20 04:07*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/13/20 04:07*	*1*

Lab Sample ID: LCS 580-330613/4
Matrix: Water
Analysis Batch: 330613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
cis-1,2-Dichloroethene			10.0	9.53		ug/L		95	76 - 129		
Tetrachloroethene			10.0	8.40		ug/L		84	76 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 580-330613/5
Matrix: Water
Analysis Batch: 330613

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene			10.0	8.93		ug/L		89	76 - 129	7	15
Tetrachloroethene			10.0	8.54		ug/L		85	76 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 330613

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
cis-1,2-Dichloroethene - DL	420	H F1 F2	200	539	H F1	ug/L		61	76 - 129		
Tetrachloroethene - DL	220	H F1 F2	200	313	H F1	ug/L		49	76 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr) - DL	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr) - DL	*104*		*80 - 126*
4-Bromofluorobenzene (Surr) - DL	*97*		*80 - 120*
Dibromofluoromethane (Surr) - DL	*100*		*80 - 120*

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 330613

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene - DL	420	H F1 F2	200	675	H F2	ug/L		128	76 - 129	22	15
Tetrachloroethene - DL	220	H F1 F2	200	391	H F2	ug/L		88	76 - 120	22	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr) - DL	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr) - DL	*104*		*80 - 126*
4-Bromofluorobenzene (Surr) - DL	*96*		*80 - 120*
Dibromofluoromethane (Surr) - DL	*101*		*80 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-329617/1-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329617

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.015	0.0060	ug/L		06/02/20 12:07	06/04/20 20:13	1
4,4'-DDE	ND		0.010	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
4,4'-DDT	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Aldrin	ND		0.024	0.0070	ug/L		06/02/20 12:07	06/04/20 20:13	1
alpha-BHC	ND		0.018	0.0040	ug/L		06/02/20 12:07	06/04/20 20:13	1
cis-Chlordane	ND		0.027	0.0080	ug/L		06/02/20 12:07	06/04/20 20:13	1
beta-BHC	ND		0.021	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Chlordane (technical)	ND		0.20	0.030	ug/L		06/02/20 12:07	06/04/20 20:13	1
delta-BHC	ND		0.015	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Dieldrin	ND		0.018	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan I	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan II	ND		0.024	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin	ND		0.012	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 580-329617/1-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329617

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin aldehyde	ND		0.060	0.034	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/04/20 20:13	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
trans-Chlordane	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Heptachlor	ND		0.015	0.0040	ug/L		06/02/20 12:07	06/04/20 20:13	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Methoxychlor	ND		0.10	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Toxaphene	ND		2.0	0.46	ug/L		06/02/20 12:07	06/04/20 20:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*45 - 127*	*06/02/20 12:07*	*06/04/20 20:13*	*1*
Tetrachloro-m-xylene	*66*		*33 - 120*	*06/02/20 12:07*	*06/04/20 20:13*	*1*

Lab Sample ID: LCS 580-329617/2-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.200	0.180		ug/L		90	53 - 139
4,4'-DDE	0.200	0.171		ug/L		85	47 - 126
4,4'-DDT	0.200	0.184		ug/L		92	38 - 150
Aldrin	0.200	0.118		ug/L		59	30 - 124
alpha-BHC	0.200	0.164		ug/L		82	53 - 120
cis-Chlordane	0.200	0.166		ug/L		83	56 - 120
beta-BHC	0.200	0.162		ug/L		81	63 - 120
delta-BHC	0.200	0.172		ug/L		86	44 - 120
Dieldrin	0.200	0.176		ug/L		88	61 - 122
Endosulfan I	0.200	0.165		ug/L		83	62 - 123
Endosulfan II	0.200	0.158		ug/L		79	52 - 121
Endosulfan sulfate	0.200	0.166		ug/L		83	60 - 120
Endrin	0.200	0.202		ug/L		101	45 - 140
Endrin aldehyde	0.200	0.152		ug/L		76	47 - 136
Endrin ketone	0.200	0.163		ug/L		81	60 - 137
gamma-BHC (Lindane)	0.200	0.159		ug/L		79	53 - 120
trans-Chlordane	0.200	0.162		ug/L		81	49 - 121
Heptachlor	0.200	0.143		ug/L		71	38 - 127
Heptachlor epoxide	0.200	0.175		ug/L		87	49 - 126
Methoxychlor	0.200	0.204		ug/L		102	35 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*76*		*45 - 127*
Tetrachloro-m-xylene	*67*		*33 - 120*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-329617/3-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329617

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toxaphene			4.00	3.51		ug/L		88	57 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*76*		*45 - 127*
Tetrachloro-m-xylene	*62*		*33 - 120*

Lab Sample ID: LCSD 580-329617/4-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329617

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toxaphene			4.00	3.72		ug/L		93	57 - 120	6	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*80*		*45 - 127*
Tetrachloro-m-xylene	*67*		*33 - 120*

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 330667

Client Sample ID: MWA-61-052720
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	ND	F1	0.216	0.580	F1	ug/L		269	53 - 139
4,4'-DDE	ND		0.216	0.109		ug/L		51	47 - 126
4,4'-DDT	ND		0.216	0.181		ug/L		84	38 - 150
Aldrin	ND		0.216	0.0812		ug/L		38	30 - 124
alpha-BHC	ND		0.216	0.128		ug/L		59	53 - 120
cis-Chlordane	ND	F1	0.216	0.110	F1	ug/L		51	56 - 120
beta-BHC	ND	F1	0.216	0.244		ug/L		113	63 - 120
delta-BHC	0.12		0.216	0.230		ug/L		50	44 - 120
Dieldrin	ND	F1	0.216	0.106	F1	ug/L		49	61 - 122
Endosulfan I	ND	F1	0.216	0.115	F1	ug/L		53	62 - 123
Endosulfan II	ND		0.216	0.141		ug/L		65	52 - 121
Endosulfan sulfate	ND	F1	0.216	0.740	F1	ug/L		343	60 - 120
Endrin	ND		0.216	0.168		ug/L		78	45 - 140
Endrin aldehyde	ND	F1	0.216	0.565	F1	ug/L		262	47 - 136
Endrin ketone	ND	F1	0.216	0.131		ug/L		61	60 - 137
gamma-BHC (Lindane)	ND		0.216	0.171		ug/L		80	53 - 120
trans-Chlordane	ND		0.216	0.125		ug/L		58	49 - 121
Heptachlor	ND		0.216	0.0835		ug/L		39	38 - 127
Heptachlor epoxide	ND		0.216	0.125		ug/L		58	49 - 126
Methoxychlor	ND		0.216	0.169		ug/L		78	35 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*50*		*45 - 127*
Tetrachloro-m-xylene	*470*	*X*	*33 - 120*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 330667

Client Sample ID: MWA-61-052720
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND	F1	0.203	0.596	F1	ug/L		293	53 - 139	3	19
4,4'-DDE	ND		0.203	0.107		ug/L		53	47 - 126	2	20
4,4'-DDT	ND		0.203	0.187		ug/L		92	38 - 150	3	23
Aldrin	ND		0.203	0.0748		ug/L		37	30 - 124	8	27
alpha-BHC	ND		0.203	0.146		ug/L		72	53 - 120	13	18
cis-Chlordane	ND	F1	0.203	0.109	F1	ug/L		54	56 - 120	0	17
beta-BHC	ND	F1	0.203	0.272	F1	ug/L		134	63 - 120	11	19
delta-BHC	0.12		0.203	0.226		ug/L		51	44 - 120	1	18
Dieldrin	ND	F1	0.203	0.0968	F1	ug/L		48	61 - 122	9	20
Endosulfan I	ND	F1	0.203	0.115	F1	ug/L		57	62 - 123	0	18
Endosulfan II	ND		0.203	0.144		ug/L		71	52 - 121	3	21
Endosulfan sulfate	ND	F1	0.203	0.766	F1	ug/L		377	60 - 120	3	26
Endrin	ND		0.203	0.158		ug/L		78	45 - 140	7	35
Endrin aldehyde	ND	F1	0.203	0.596	F1	ug/L		293	47 - 136	5	25
Endrin ketone	ND	F1	0.203	0.113	F1	ug/L		56	60 - 137	14	18
gamma-BHC (Lindane)	ND		0.203	0.174		ug/L		86	53 - 120	2	21
trans-Chlordane	ND		0.203	0.127		ug/L		62	49 - 121	1	18
Heptachlor	ND		0.203	0.0879		ug/L		43	38 - 127	5	26
Heptachlor epoxide	ND		0.203	0.126		ug/L		62	49 - 126	1	18
Methoxychlor	ND		0.203	0.163		ug/L		80	35 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*47*		*45 - 127*
Tetrachloro-m-xylene	*476*	*X*	*33 - 120*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-611047/15
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/03/20 08:44	1

Lab Sample ID: LCS 440-611047/14
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.0		ug/L		98	90 - 110

Lab Sample ID: MRL 440-611047/13
Matrix: Water
Analysis Batch: 611047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.976	J	ug/L		98	50 - 150

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: MB 440-611271/6
Matrix: Water
Analysis Batch: 611271

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 07:21	1

Lab Sample ID: LCS 440-611271/5
Matrix: Water
Analysis Batch: 611271

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.5		ug/L		97	90 - 110

Lab Sample ID: MRL 440-611271/4
Matrix: Water
Analysis Batch: 611271

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	1.02		ug/L		102	50 - 150

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 611271

Client Sample ID: MWA-61-052720
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	48.3		ug/L		97	90 - 110

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 611271

Client Sample ID: MWA-61-052720
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	48.0		ug/L		96	90 - 110	1	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-612670/6
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/15/20 10:35	1

Lab Sample ID: LCS 440-612670/5
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.88		ug/L		99	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-612670/4
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.03	J	ug/L		103	75 - 125

Lab Sample ID: MRL 440-612670/8
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.95	J	ug/L		99	75 - 125

Lab Sample ID: MB 440-612899/6
Matrix: Water
Analysis Batch: 612899

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/16/20 11:31	1

Lab Sample ID: LCS 440-612899/5
Matrix: Water
Analysis Batch: 612899

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.3		ug/L		97	85 - 115

Lab Sample ID: MRL 440-612899/4
Matrix: Water
Analysis Batch: 612899

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		87	75 - 125

Lab Sample ID: MRL 440-612899/8
Matrix: Water
Analysis Batch: 612899

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.29		ug/L		107	75 - 125

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 612899

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		25.0	22.5		ug/L		90	80 - 120

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 612899

Client Sample ID: MWA-61-052720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		25.0	22.9		ug/L		91	80 - 120	2	15

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329327/11-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		05/28/20 16:01	05/29/20 10:15	5
Chromium	ND		0.0040	0.00087	mg/L		05/28/20 16:01	05/29/20 10:15	5
Iron	ND		1.0	0.18	mg/L		05/28/20 16:01	05/29/20 10:15	5
Manganese	ND		0.010	0.0023	mg/L		05/28/20 16:01	05/29/20 10:15	5

Lab Sample ID: LCS 580-329327/12-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120
Chromium	1.00	1.03		mg/L		103	80 - 120
Iron	20.0	20.6		mg/L		103	80 - 120
Manganese	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-329327/13-A
Matrix: Water
Analysis Batch: 329497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.01		mg/L		101	80 - 120	0	20
Chromium	1.00	1.03		mg/L		103	80 - 120	0	20
Iron	20.0	20.7		mg/L		103	80 - 120	1	20
Manganese	1.00	1.02		mg/L		102	80 - 120	0	20

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 329497

Client Sample ID: MWA-61-052720
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		1.00	0.923		mg/L		92	80 - 120
Chromium	ND		1.00	0.938		mg/L		94	80 - 120
Iron	1.9		20.0	21.3		mg/L		97	80 - 120
Manganese	2.9		1.00	3.92		mg/L		105	80 - 120

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 329497

Client Sample ID: MWA-61-052720
Prep Type: Total Recoverable
Prep Batch: 329327

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		1.00	0.940		mg/L		94	80 - 120	2	20
Chromium	ND		1.00	0.937		mg/L		94	80 - 120	0	20
Iron	1.9		20.0	21.3		mg/L		97	80 - 120	0	20
Manganese	2.9		1.00	3.86		mg/L		99	80 - 120	1	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-94964-4 MS
Matrix: Water
Analysis Batch: 329497

Client Sample ID: MWA-61-052720
Prep Type: Dissolved
Prep Batch: 329327

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		1.00	0.913		mg/L		91	80 - 120
Chromium	ND		1.00	0.925		mg/L		92	80 - 120
Iron	1.8		20.0	20.7		mg/L		95	80 - 120
Manganese	2.9		1.00	3.82		mg/L		90	80 - 120

Lab Sample ID: 580-94964-4 MSD
Matrix: Water
Analysis Batch: 329497

Client Sample ID: MWA-61-052720
Prep Type: Dissolved
Prep Batch: 329327

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		1.00	0.995		mg/L		100	80 - 120	9	20
Chromium	ND		1.00	0.987		mg/L		99	80 - 120	7	20
Iron	1.8		20.0	21.7		mg/L		100	80 - 120	5	20
Manganese	2.9		1.00	4.12		mg/L		120	80 - 120	8	20

Lab Sample ID: 580-94964-4 DU
Matrix: Water
Analysis Batch: 329497

Client Sample ID: MWA-61-052720
Prep Type: Dissolved
Prep Batch: 329327

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	ND		ND		mg/L		NC	20
Chromium	ND		ND		mg/L		NC	20
Iron	1.8		1.75		mg/L		0.5	20
Manganese	2.9		2.89		mg/L		1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329576/3
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			06/01/20 18:25	1

Lab Sample ID: LCS 580-329576/4
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.2		mg/L		104	90 - 110

Lab Sample ID: LCSD 580-329576/5
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	52.0		mg/L		104	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 580-94964-4 MS
Client Sample ID: MWA-61-052720
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 329576

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	270		500	806		mg/L		107	90 - 110		

Lab Sample ID: 580-94964-4 MSD
Client Sample ID: MWA-61-052720
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 329576

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	270		500	807		mg/L		107	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94964-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-05-052720
Lab Sample ID: 580-94964-1
Date Collected: 05/27/20 11:52
Matrix: Water
Date Received: 05/27/20 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329783	06/04/20 01:31	TL1	TAL SEA
Total/NA	Analysis	8260D	DL	100	330260	06/10/20 13:24	CJB	TAL SEA
Dissolved	Analysis	218.6		1	611047	06/03/20 13:02	MN	TAL IRV
Total/NA	Analysis	314.0		10	612899	06/16/20 13:31	PS	TAL IRV
Dissolved	Prep	3005A			329327	05/28/20 16:01	ART	TAL SEA
Dissolved	Analysis	6020B		5	329497	05/29/20 11:19	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329576	06/01/20 20:10	AAC	TAL SEA

Client Sample ID: MWA-69-052720
Lab Sample ID: 580-94964-2
Date Collected: 05/27/20 13:30
Matrix: Water
Date Received: 05/27/20 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329783	06/04/20 01:57	TL1	TAL SEA
Total/NA	Analysis	8260D	DL	10	330260	06/10/20 14:17	CJB	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		1	329872	06/04/20 21:51	T1W	TAL SEA
Total/NA	Prep	3510C	DL		329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B	DL	10	330757	06/16/20 17:41	TL1	TAL SEA
Dissolved	Analysis	218.6		2	611271	06/04/20 10:49	MN	TAL IRV
Total/NA	Analysis	314.0		10	612670	06/15/20 19:54	PS	TAL IRV
Dissolved	Prep	3005A			329327	05/28/20 16:01	ART	TAL SEA
Dissolved	Analysis	6020B		5	329497	05/29/20 11:22	FCW	TAL SEA
Total Recoverable	Prep	3005A			329327	05/28/20 16:01	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329497	05/29/20 11:15	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329576	06/01/20 20:45	AAC	TAL SEA

Client Sample ID: TB-01-052720
Lab Sample ID: 580-94964-3
Date Collected: 05/27/20 00:01
Matrix: Water
Date Received: 05/27/20 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329783	06/03/20 23:44	TL1	TAL SEA

Client Sample ID: MWA-61-052720
Lab Sample ID: 580-94964-4
Date Collected: 05/27/20 14:26
Matrix: Water
Date Received: 05/27/20 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329783	06/04/20 02:24	TL1	TAL SEA
Total/NA	Analysis	8260D	DL	20	330260	06/10/20 14:44	CJB	TAL SEA
Total/NA	Analysis	8260D	DL	20	330613	06/13/20 05:55	CJB	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		1	330667	06/15/20 15:12	RSB	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-94964-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-61-052720
Lab Sample ID: 580-94964-4

Date Collected: 05/27/20 14:26
Matrix: Water

Date Received: 05/27/20 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	218.6		1	611271	06/04/20 11:02	MN	TAL IRV
Total/NA	Analysis	314.0		1	612899	06/16/20 13:12	PS	TAL IRV
Dissolved	Prep	3005A			329327	05/28/20 16:01	ART	TAL SEA
Dissolved	Analysis	6020B		5	329497	05/29/20 10:22	FCW	TAL SEA
Total Recoverable	Prep	3005A			329327	05/28/20 16:01	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329497	05/29/20 10:56	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329576	06/01/20 20:57	AAC	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94964-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94964-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94964-1	PA-05-052720	Water	05/27/20 11:52	05/27/20 16:00	
580-94964-2	MWA-69-052720	Water	05/27/20 13:30	05/27/20 16:00	
580-94964-3	TB-01-052720	Water	05/27/20 00:01	05/27/20 16:00	
580-94964-4	MWA-61-052720	Water	05/27/20 14:26	05/27/20 16:00	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: D. Suto Arian J.	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
PA-05-052720	5/27/2020	1152	G	Water	Y		X				X	X		X	X	7	Dil VOCs
MWA-69-052720	↓	1330	G	Water	Y		X		X	X	X	X		X	X	10	Dil VOCs + Pests
TB-01-052720-B		—	—	Water								X				3	
MWA-61-052720	↓	1426	G	Water	Y	Y	X		X	X	X	X		X	X	30	Dil VOCs
				Water													
				Water													
				Water													
				Water													
				Water													

580-94964 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/27/2020 1600	ERM		5/27/20 1600	TAR
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1-3

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: D. Soto Arian J.	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (spacify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine						Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N								
PA-05-052720	5/27/2020	1152	G	Water	Y		X				X	X		X	X							7	Dil VOCs
MWA-69-052720		1330	G	Water	Y		X		X	X	X	X		X	X							10	Dil VOCs + Pests
TB-01-052720-B		—	—	Water								X										3	
MWA-61-052720		1426	G	Water	Y	Y	X		X	X	X	X		X	X							30	Dil VOCs
				Water																			
				Water																			
				Water																			
				Water																			
				Water																			
				Water																			

580-94964 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/27/2020 1600	ERM		5/27/20 1600	CAROR
2		5/27/20 1700	TAKR	Tom Blanton	5/28/20 1000	TA-Sea
3		Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	IR6 2.2/1.8
		1-3	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone 253-922-2310 Fax: 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 580-77182.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94964-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/15/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X			X	
PA-05-052720 (580-94964-1)	5/27/20	11:52 Pacific		Water			X	X	2	, Sample should have been field filtered then preserved by Portland Please confirm
MWA-69-052720 (580-94964-2)	5/27/20	13 30 Pacific		Water			X	X	2	, Sample should have been field filtered then preserved by Portland Please confirm
MWA-61-052720 (580-94964-4)	5/27/20	14.26 Pacific		Water			X	X	2	, Sample should have been field filtered then preserved by Portland. Please confirm
MWA-61-052720 (580-94964-4MS)	5/27/20	14.26 Pacific	MS	Water			X	X	2	, Sample should have been field filtered then preserved by Portland. Please confirm
MWA-61-052720 (580-94964-4MSD)	5/27/20	14:26 Pacific	MSD	Water			X	X	2	, Sample should have been field filtered then preserved by Portland. Please confirm

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	5/28/20 1700	TAFCR	[signature]		
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
			[signature]	5/29/20 0945	EC/DN

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1R93 3.8/4.0

Ver: 01/16/2019

6/17/2020

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94964-1

Login Number: 94964
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94964-1

Login Number: 94964
List Number: 2
Creator: Dolidze, Lado

List Source: Eurofins Irvine
List Creation: 05/29/20 01:17 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94982-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/17/2020 1:49:45 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

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Have a Question? Ask The Expert

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94982-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94982-1

Comments
No additional comments.

Receipt
The samples were received on 5/28/2020 12:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.5º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved MWA-64i-052720 (580-94982-1), EB-03-052720 (580-94982-2), MWA-66i-052820 (580-94982-3), RB-03-052820 (580-94982-4), RB-04-052820 (580-94982-5) and EB-04-052820 (580-94982-6). The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Method 8260D: The CCV for analytical batch 580-329883 recovered outside control limits for the following analyte(s): Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Chloromethane and 1,2-Dibromo-3-Chloropropane. Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Chloromethane and 1,2-Dibromo-3-Chloropropane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329883 recovered outside control limits for Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The following analyte(s) recovered outside control limits for the LCSD associated with analytical batch 580-329883: trans-1,2-Dichloroethene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260D: Surrogate recovery for the following samples were outside control limits: MWA-64i-052720 (580-94982-1) and MWA-66i-052820 (580-94982-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-64i-052720 (580-94982-1). Elevated reporting limits (RLs) are provided.

Methods 8260C, 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-66i-052820 (580-94982-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The reference method requires samples to be preserved to a pH of 9.3 to 9.7. The following sample was received with insufficient preservation at a pH out of this range.EB-04-052820 (580-94982-6). The sample(s) was preserved to the appropriate pH in the laboratory.

Method 218.6: The following sample was diluted due to the nature of the sample matrix: MWA-64i-052720 (580-94982-1). Elevated reporting limits (RLs) are provided.the sample has brown color matrix.

Method 314.0: The following sample was diluted due to the nature of the sample matrix: MWA-64i-052720 (580-94982-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Job ID: 580-94982-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-329872 recovered outside acceptance criteria on the confirmation column for Chlordane (technical). The associated sample results for those analytes were reported from the primary column which met acceptance criteria. The following sample is impacted: (CCV 580-329872/4)

Method 8081B: Internal standard (ISTD) response for the following sample exceeded the control limit on the confirmation column: (CCB 580-329872/9). As such, the sample results associated with this ISTD were reported from the other column, which met ISTD acceptance criteria.

Method 8081B: Continuing calibration verification (CCV) standard associated with batch 580-330667 recovered outside %Drift acceptance criteria for DCB Decachlorobiphenyl surrogate. The %Recovery is within acceptance criteria for the surrogate in the CCV and associated samples; therefore, the data are qualified and reported. (CCVIS 580-330667/7)

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-330667 recovered outside acceptance criteria on the confirmation column for Toxaphene and Endrin ketone. The associated sample results for those analytes were reported from the primary column which met acceptance criteria. The following samples are impacted: RB-04-052820 (580-94982-5), (CCV 580-330667/5) and (CCVIS 580-330667/7).

Method 8081B: The continuing calibration verification (CCV) associated with batch 580-330667 recovered above the upper control limit for Endrin. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: RB-04-052820 (580-94982-5) and (CCVIS 580-330667/7).

Methods 8081A, 8081B_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-610717 and analytical batch 440-610792. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-610717/2-A).

Method 8081B: Surrogate recovery for the following samples were outside control limits: RB-04-052820 (580-94982-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 440-610717.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MWA-64i-052720
Lab Sample ID: 580-94982-1

Date Collected: 05/27/20 16:10
Matrix: Water

Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 21:55	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 21:55	1
Vinyl chloride	**140**		1.0	0.22	ug/L			06/04/20 21:55	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 21:55	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 21:55	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 21:55	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 21:55	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 21:55	1
Acetone	ND		50	3.2	ug/L			06/04/20 21:55	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 21:55	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 21:55	1
trans-1,2-Dichloroethene	**23**	*	3.0	0.39	ug/L			06/04/20 21:55	1
1,1-Dichloroethane	**1.8**	J	2.0	0.22	ug/L			06/04/20 21:55	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 21:55	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 21:55	1
cis-1,2-Dichloroethene	**58**		3.0	0.69	ug/L			06/04/20 21:55	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 21:55	1
Chloroform	**1.3**	J	5.0	0.26	ug/L			06/04/20 21:55	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 21:55	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 21:55	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 21:55	1
Benzene	**3.9**		3.0	0.24	ug/L			06/04/20 21:55	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 21:55	1
Trichloroethene	**1.6**	J	3.0	0.26	ug/L			06/04/20 21:55	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 21:55	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 21:55	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 21:55	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 21:55	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 21:55	1
Toluene	**2.1**		2.0	0.39	ug/L			06/04/20 21:55	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 21:55	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 21:55	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 21:55	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 21:55	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 21:55	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 21:55	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 21:55	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 21:55	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 21:55	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 21:55	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 21:55	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 21:55	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 21:55	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 21:55	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 21:55	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 21:55	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 21:55	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 21:55	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 21:55	1

Client Sample ID: MWA-64i-052720
Lab Sample ID: 580-94982-1

Date Collected: 05/27/20 16:10
Matrix: Water

Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 21:55	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 21:55	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 21:55	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 21:55	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 21:55	1
1,4-Dichlorobenzene	**7.7**		4.0	0.46	ug/L			06/04/20 21:55	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 21:55	1
1,2-Dichlorobenzene	**2.1**		2.0	0.46	ug/L			06/04/20 21:55	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 21:55	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 21:55	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 21:55	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 21:55	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 21:55	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*202*	*X*	*80 - 120*		*06/04/20 21:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/04/20 21:55*	*1*
4-Bromofluorobenzene (Surr)	*178*	*X*	*80 - 120*		*06/04/20 21:55*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/04/20 21:55*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**24000**		1000	220	ug/L			06/10/20 12:30	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/10/20 12:30*	*500*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/10/20 12:30*	*500*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/10/20 12:30*	*500*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/10/20 12:30*	*500*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**1.3**	**J**	5.0	1.3	ug/L			06/05/20 07:44	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/02/20 22:57	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.019**		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 01:03	5
Chromium	**0.011**		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 01:03	5
Iron	**0.80**	**J**	1.0	0.18	mg/L		06/01/20 16:56	06/03/20 01:03	5
Manganese	**0.13**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 01:03	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		9.0	1.4	mg/L			06/01/20 21:32	10

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: EB-03-052720
Lab Sample ID: 580-94982-2
Date Collected: 05/27/20 16:05
Matrix: Water
Date Received: 05/28/20 14:26

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/05/20 07:56	1

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:50	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:50	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:50	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:50	5

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-66i-052820
Lab Sample ID: 580-94982-3
Date Collected: 05/28/20 10:30
Matrix: Water
Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 22:22	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 22:22	1
Vinyl chloride	**1.7**		1.0	0.22	ug/L			06/04/20 22:22	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 22:22	1
Chloroethane	**1.2**	**J**	5.0	0.35	ug/L			06/04/20 22:22	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 22:22	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 22:22	1
1,1-Dichloroethene	**3.3**	**J**	4.0	0.28	ug/L			06/04/20 22:22	1
Acetone	ND		50	3.2	ug/L			06/04/20 22:22	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 22:22	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 22:22	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/04/20 22:22	1
1,1-Dichloroethane	**13**		2.0	0.22	ug/L			06/04/20 22:22	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 22:22	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 22:22	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 22:22	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 22:22	1
Chloroform	**15**		5.0	0.26	ug/L			06/04/20 22:22	1
1,1,1-Trichloroethane	**0.42**	**J**	3.0	0.39	ug/L			06/04/20 22:22	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 22:22	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 22:22	1
Benzene	**12**		3.0	0.24	ug/L			06/04/20 22:22	1
1,2-Dichloroethane	**0.96**	**J**	2.0	0.42	ug/L			06/04/20 22:22	1
Trichloroethene	**4.7**		3.0	0.26	ug/L			06/04/20 22:22	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 22:22	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 22:22	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 22:22	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 22:22	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 22:22	1
Toluene	**4.3**		2.0	0.39	ug/L			06/04/20 22:22	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 22:22	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 22:22	1
Tetrachloroethene	**5.9**		3.0	0.41	ug/L			06/04/20 22:22	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 22:22	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 22:22	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 22:22	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 22:22	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 22:22	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 22:22	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 22:22	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 22:22	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 22:22	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 22:22	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 22:22	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 22:22	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 22:22	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 22:22	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 22:22	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 22:22	1

Client Sample ID: MWA-66i-052820
Lab Sample ID: 580-94982-3

Date Collected: 05/28/20 10:30
Matrix: Water

Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 22:22	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 22:22	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 22:22	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 22:22	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 22:22	1
1,4-Dichlorobenzene	**12**		4.0	0.46	ug/L			06/04/20 22:22	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 22:22	1
1,2-Dichlorobenzene	**4.5**		2.0	0.46	ug/L			06/04/20 22:22	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 22:22	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 22:22	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 22:22	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 22:22	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 22:22	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 22:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*281*	*X*	*80 - 120*		*06/04/20 22:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/04/20 22:22*	*1*
4-Bromofluorobenzene (Surr)	*237*	*X*	*80 - 120*		*06/04/20 22:22*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/04/20 22:22*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**37000**		1000	220	ug/L			06/11/20 02:22	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/11/20 02:22*	*500*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*06/11/20 02:22*	*500*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/11/20 02:22*	*500*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/11/20 02:22*	*500*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.029**		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 15:26	1
4,4'-DDE	**0.0037**	**J p**	0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 15:26	1
4,4'-DDT	**0.0093**		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 15:26	1
Aldrin	ND		0.0050	0.0015	ug/L		06/01/20 05:29	06/01/20 15:26	1
alpha-BHC	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 15:26	1
cis-Chlordane	ND		0.10	0.014	ug/L		06/01/20 05:29	06/01/20 15:26	1
beta-BHC	ND		0.010	0.0040	ug/L		06/01/20 05:29	06/01/20 15:26	1
Chlordane (technical)	ND		0.10	0.080	ug/L		06/01/20 05:29	06/01/20 15:26	1
delta-BHC	ND		0.0050	0.0035	ug/L		06/01/20 05:29	06/01/20 15:26	1
Dieldrin	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 15:26	1
Endosulfan I	ND		0.0050	0.0030	ug/L		06/01/20 05:29	06/01/20 15:26	1
Endosulfan II	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 15:26	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 15:26	1
Endrin	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 15:26	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		06/01/20 05:29	06/01/20 15:26	1
Endrin ketone	ND		0.010	0.0070	ug/L		06/01/20 05:29	06/01/20 15:26	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 15:26	1

Client Sample ID: MWA-66i-052820
Lab Sample ID: 580-94982-3

Date Collected: 05/28/20 10:30
Matrix: Water

Date Received: 05/28/20 14:26

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.10	0.030	ug/L		06/01/20 05:29	06/01/20 15:26	1
Heptachlor	**0.0040**	**J p**	0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 15:26	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 15:26	1
Methoxychlor	ND		0.0050	0.0035	ug/L		06/01/20 05:29	06/01/20 15:26	1
Toxaphene	ND		0.50	0.25	ug/L		06/01/20 05:29	06/01/20 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*28 - 108*	*06/01/20 05:29*	*06/01/20 15:26*	*1*
Tetrachloro-m-xylene	*56*		*10 - 123*	*06/01/20 05:29*	*06/01/20 15:26*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/05/20 08:39	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**400**		40	9.5	ug/L			06/16/20 13:49	10

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0017**	**J**	0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 02:16	5
Chromium	**0.025**		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 02:16	5
Iron	**1.7**		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 02:16	5
Manganese	**2.4**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 02:16	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0014**	**J**	0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:53	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:53	5
Iron	**0.47**	**J**	1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:53	5
Manganese	**2.4**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:53	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**710**		90	14	mg/L			06/01/20 21:44	100

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: RB-03-052820
Lab Sample ID: 580-94982-4
Date Collected: 05/28/20 09:00
Matrix: Water
Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 22:48	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 22:48	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 22:48	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 22:48	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 22:48	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 22:48	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 22:48	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 22:48	1
Acetone	ND		50	3.2	ug/L			06/04/20 22:48	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 22:48	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 22:48	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/04/20 22:48	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/04/20 22:48	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 22:48	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 22:48	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 22:48	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 22:48	1
Chloroform	**20**		5.0	0.26	ug/L			06/04/20 22:48	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 22:48	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 22:48	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 22:48	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 22:48	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 22:48	1
Trichloroethene	ND		3.0	0.26	ug/L			06/04/20 22:48	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 22:48	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 22:48	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 22:48	1
Bromodichloromethane	**1.4**	**J**	2.0	0.29	ug/L			06/04/20 22:48	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 22:48	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 22:48	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 22:48	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 22:48	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 22:48	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 22:48	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 22:48	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 22:48	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/11/20 00:34	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 22:48	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 22:48	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 22:48	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 22:48	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 22:48	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 22:48	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 22:48	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 22:48	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 22:48	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 22:48	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 22:48	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 22:48	1

Client Sample ID: RB-03-052820
Lab Sample ID: 580-94982-4
Date Collected: 05/28/20 09:00
Matrix: Water
Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 22:48	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 22:48	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 22:48	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 22:48	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 22:48	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 22:48	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 22:48	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 22:48	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 22:48	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 22:48	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 22:48	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 22:48	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 22:48	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 22:48	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 22:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/04/20 22:48*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/11/20 00:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/04/20 22:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*06/11/20 00:34*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/04/20 22:48*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/11/20 00:34*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/04/20 22:48*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/11/20 00:34*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0048	0.0024	ug/L		06/01/20 05:29	06/01/20 15:41	1
4,4'-DDE	ND		0.0048	0.0024	ug/L		06/01/20 05:29	06/01/20 15:41	1
4,4'-DDT	ND		0.0048	0.0024	ug/L		06/01/20 05:29	06/01/20 15:41	1
Aldrin	ND		0.0048	0.0014	ug/L		06/01/20 05:29	06/01/20 15:41	1
alpha-BHC	ND		0.0048	0.0024	ug/L		06/01/20 05:29	06/01/20 15:41	1
cis-Chlordane	ND		0.097	0.014	ug/L		06/01/20 05:29	06/01/20 15:41	1
beta-BHC	ND		0.0097	0.0039	ug/L		06/01/20 05:29	06/01/20 15:41	1
Chlordane (technical)	ND		0.097	0.077	ug/L		06/01/20 05:29	06/01/20 15:41	1
delta-BHC	ND		0.0048	0.0034	ug/L		06/01/20 05:29	06/01/20 15:41	1
Dieldrin	ND		0.0048	0.0019	ug/L		06/01/20 05:29	06/01/20 15:41	1
Endosulfan I	ND		0.0048	0.0029	ug/L		06/01/20 05:29	06/01/20 15:41	1
Endosulfan II	ND		0.0048	0.0019	ug/L		06/01/20 05:29	06/01/20 15:41	1
Endosulfan sulfate	ND		0.0097	0.0029	ug/L		06/01/20 05:29	06/01/20 15:41	1
Endrin	ND		0.0048	0.0019	ug/L		06/01/20 05:29	06/01/20 15:41	1
Endrin aldehyde	ND		0.0097	0.0019	ug/L		06/01/20 05:29	06/01/20 15:41	1
Endrin ketone	ND		0.0097	0.0068	ug/L		06/01/20 05:29	06/01/20 15:41	1
gamma-BHC (Lindane)	ND		0.0097	0.0029	ug/L		06/01/20 05:29	06/01/20 15:41	1
trans-Chlordane	ND		0.097	0.029	ug/L		06/01/20 05:29	06/01/20 15:41	1
Heptachlor	ND		0.0097	0.0029	ug/L		06/01/20 05:29	06/01/20 15:41	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		06/01/20 05:29	06/01/20 15:41	1
Methoxychlor	ND		0.0048	0.0034	ug/L		06/01/20 05:29	06/01/20 15:41	1
Toxaphene	ND		0.48	0.24	ug/L		06/01/20 05:29	06/01/20 15:41	1

Client Sample ID: RB-03-052820
Lab Sample ID: 580-94982-4

Date Collected: 05/28/20 09:00
Matrix: Water

Date Received: 05/28/20 14:26

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*74*		*28 - 108*	*06/01/20 05:29*	*06/01/20 15:41*	*1*
Tetrachloro-m-xylene	*67*		*10 - 123*	*06/01/20 05:29*	*06/01/20 15:41*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 14:09	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/15/20 15:09	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 01:28	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 01:28	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 01:28	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 01:28	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:28	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:28	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:28	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:28	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**0.20**	**J**	0.90	0.14	mg/L			06/01/20 21:56	1

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: RB-04-052820
Lab Sample ID: 580-94982-5
Date Collected: 05/28/20 09:45
Matrix: Water
Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 23:15	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 23:15	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 23:15	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 23:15	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 23:15	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 23:15	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 23:15	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 23:15	1
Acetone	ND		50	3.2	ug/L			06/04/20 23:15	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 23:15	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 23:15	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/04/20 23:15	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/04/20 23:15	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 23:15	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 23:15	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 23:15	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 23:15	1
Chloroform	**9.2**		5.0	0.26	ug/L			06/04/20 23:15	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 23:15	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 23:15	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 23:15	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 23:15	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 23:15	1
Trichloroethene	ND		3.0	0.26	ug/L			06/04/20 23:15	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 23:15	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 23:15	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 23:15	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 23:15	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 23:15	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 23:15	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 23:15	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 23:15	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 23:15	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 23:15	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 23:15	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 23:15	1
Chlorobenzene	**13**		2.0	0.44	ug/L			06/04/20 23:15	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 23:15	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 23:15	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 23:15	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 23:15	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 23:15	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 23:15	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 23:15	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 23:15	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 23:15	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 23:15	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 23:15	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 23:15	1

Client Sample ID: RB-04-052820
Lab Sample ID: 580-94982-5

Date Collected: 05/28/20 09:45
Matrix: Water

Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 23:15	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 23:15	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 23:15	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 23:15	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 23:15	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 23:15	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 23:15	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 23:15	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 23:15	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 23:15	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 23:15	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 23:15	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 23:15	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 23:15	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/04/20 23:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/04/20 23:15*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/04/20 23:15*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/04/20 23:15*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.015	0.0059	ug/L		06/02/20 12:07	06/15/20 16:11	1
4,4'-DDE	ND		0.0099	0.0030	ug/L		06/02/20 12:07	06/15/20 16:11	1
4,4'-DDT	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/15/20 16:11	1
Aldrin	ND		0.024	0.0069	ug/L		06/02/20 12:07	06/15/20 16:11	1
alpha-BHC	ND		0.018	0.0040	ug/L		06/02/20 12:07	06/15/20 16:11	1
cis-Chlordane	ND		0.027	0.0079	ug/L		06/02/20 12:07	06/15/20 16:11	1
beta-BHC	ND		0.021	0.0050	ug/L		06/02/20 12:07	06/15/20 16:11	1
Chlordane (technical)	ND		0.20	0.030	ug/L		06/02/20 12:07	06/15/20 16:11	1
delta-BHC	ND		0.015	0.0050	ug/L		06/02/20 12:07	06/15/20 16:11	1
Dieldrin	ND		0.018	0.0050	ug/L		06/02/20 12:07	06/15/20 16:11	1
Endosulfan I	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/15/20 16:11	1
Endosulfan II	ND		0.024	0.0050	ug/L		06/02/20 12:07	06/15/20 16:11	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/15/20 16:11	1
Endrin	ND		0.012	0.0030	ug/L		06/02/20 12:07	06/15/20 16:11	1
Endrin aldehyde	ND		0.059	0.034	ug/L		06/02/20 12:07	06/15/20 16:11	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/15/20 16:11	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/15/20 16:11	1
trans-Chlordane	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/15/20 16:11	1
Heptachlor	ND		0.015	0.0040	ug/L		06/02/20 12:07	06/15/20 16:11	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/15/20 16:11	1
Methoxychlor	ND		0.099	0.0050	ug/L		06/02/20 12:07	06/15/20 16:11	1
Toxaphene	ND		2.0	0.46	ug/L		06/02/20 12:07	06/15/20 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*34*	*X*	*45 - 127*	*06/02/20 12:07*	*06/15/20 16:11*	*1*
Tetrachloro-m-xylene	*47*		*33 - 120*	*06/02/20 12:07*	*06/15/20 16:11*	*1*

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: RB-04-052820
Lab Sample ID: 580-94982-5
Date Collected: 05/28/20 09:45
Matrix: Water
Date Received: 05/28/20 14:26

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 14:22	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**3.0**	**J**	4.0	0.95	ug/L			06/15/20 14:51	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 02:12	5
Chromium	**0.0016**	**J**	0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 02:12	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 02:12	5
Manganese	**0.034**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 02:12	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:09	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:09	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:09	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:09	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**0.29**	**J**	0.90	0.14	mg/L			06/01/20 22:07	1

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: EB-04-052820
Lab Sample ID: 580-94982-6
Date Collected: 05/28/20 09:32
Matrix: Water
Date Received: 05/28/20 14:26

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	1.0	0.25	ug/L			06/04/20 14:35	1

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:19	5
Chromium	**0.017**		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:19	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:19	5
Manganese	**0.029**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:19	5

Client Sample ID: TB-01-052820
Lab Sample ID: 580-94982-7
Date Collected: 05/28/20 08:00
Matrix: Water
Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 23:42	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 23:42	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 23:42	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 23:42	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 23:42	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 23:42	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 23:42	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 23:42	1
Acetone	ND		50	3.2	ug/L			06/04/20 23:42	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 23:42	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 23:42	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/04/20 23:42	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/04/20 23:42	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 23:42	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 23:42	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 23:42	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 23:42	1
Chloroform	ND		5.0	0.26	ug/L			06/04/20 23:42	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 23:42	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 23:42	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 23:42	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 23:42	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 23:42	1
Trichloroethene	ND		3.0	0.26	ug/L			06/04/20 23:42	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 23:42	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 23:42	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 23:42	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 23:42	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 23:42	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 23:42	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 23:42	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 23:42	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 23:42	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 23:42	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 23:42	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 23:42	1
Chlorobenzene	**6.2**		2.0	0.44	ug/L			06/04/20 23:42	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 23:42	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 23:42	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 23:42	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 23:42	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 23:42	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 23:42	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 23:42	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 23:42	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 23:42	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 23:42	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 23:42	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 23:42	1

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: TB-01-052820
Lab Sample ID: 580-94982-7
Date Collected: 05/28/20 08:00
Matrix: Water
Date Received: 05/28/20 14:26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 23:42	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 23:42	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 23:42	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 23:42	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 23:42	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 23:42	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 23:42	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 23:42	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 23:42	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 23:42	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 23:42	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 23:42	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 23:42	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 23:42	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 23:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/04/20 23:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/04/20 23:42*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/04/20 23:42*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/04/20 23:42*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 19:14	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 19:14	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 19:14	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 19:14	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 19:14	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 19:14	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/04/20 19:14	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 19:14	1
Acetone	ND		50	3.2	ug/L			06/04/20 19:14	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 19:14	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 19:14	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/04/20 19:14	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/04/20 19:14	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 19:14	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 19:14	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 19:14	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 19:14	1
Chloroform	ND		5.0	0.26	ug/L			06/04/20 19:14	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 19:14	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 19:14	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 19:14	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 19:14	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 19:14	1
Trichloroethene	ND		3.0	0.26	ug/L			06/04/20 19:14	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 19:14	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 19:14	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 19:14	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 19:14	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 19:14	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 19:14	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 19:14	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 19:14	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 19:14	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 19:14	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 19:14	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 19:14	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 19:14	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:14	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 19:14	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 19:14	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 19:14	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 19:14	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 19:14	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 19:14	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 19:14	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:14	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 19:14	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 19:14	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 19:14	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 19:14	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 19:14	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 19:14	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 19:14	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 19:14	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 19:14	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 19:14	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 19:14	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 19:14	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 19:14	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 19:14	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 19:14	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 19:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/04/20 19:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/04/20 19:14*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/04/20 19:14*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/04/20 19:14*	*1*

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.46	J	ug/L		45	20 - 150
Chloromethane	10.0	7.64	J	ug/L		76	52 - 135
Vinyl chloride	10.0	7.63		ug/L		76	65 - 130
Bromomethane	10.0	8.39		ug/L		84	66 - 125
Chloroethane	10.0	8.03		ug/L		80	65 - 132
Trichlorofluoromethane	10.0	8.02		ug/L		80	64 - 136
Carbon disulfide	10.0	5.59	*	ug/L		56	69 - 122
1,1-Dichloroethene	10.0	8.27		ug/L		83	70 - 129
Acetone	50.0	49.0	J	ug/L		98	43 - 150
Methylene Chloride	10.0	9.42		ug/L		94	77 - 125
Methyl tert-butyl ether	10.0	9.93		ug/L		99	72 - 130
trans-1,2-Dichloroethene	10.0	7.68		ug/L		77	77 - 124
1,1-Dichloroethane	10.0	9.15		ug/L		92	70 - 129
2-Butanone (MEK)	50.0	43.1		ug/L		86	65 - 127
2,2-Dichloropropane	10.0	9.94		ug/L		99	62 - 140
cis-1,2-Dichloroethene	10.0	7.95		ug/L		80	76 - 129
Bromochloromethane	10.0	9.06		ug/L		91	78 - 120
Chloroform	10.0	9.82		ug/L		98	73 - 127
1,1,1-Trichloroethane	10.0	9.95		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.03		ug/L		90	72 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	10.0	8.99		ug/L		90	80 - 120
Benzene	10.0	9.50		ug/L		95	75 - 121
1,2-Dichloroethane	10.0	10.1		ug/L		101	76 - 131
Trichloroethene	10.0	9.00		ug/L		90	70 - 120
1,2-Dichloropropane	10.0	9.67		ug/L		97	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	41.5		ug/L		83	69 - 124
Dibromomethane	10.0	9.94		ug/L		99	80 - 120
Bromodichloromethane	10.0	10.0		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	10.7		ug/L		107	77 - 120
Toluene	10.0	9.72		ug/L		97	80 - 120
trans-1,3-Dichloropropene	10.0	9.50		ug/L		95	80 - 122
1,1,2-Trichloroethane	10.0	9.43		ug/L		94	80 - 121
Tetrachloroethene	10.0	8.59		ug/L		86	76 - 120
1,3-Dichloropropane	10.0	9.65		ug/L		96	79 - 120
Dibromochloromethane	10.0	9.03		ug/L		90	71 - 120
1,2-Dibromoethane	10.0	9.35		ug/L		93	79 - 120
Chlorobenzene	10.0	9.35		ug/L		94	80 - 120
1,1,1,2-Tetrachloroethane	10.0	8.75		ug/L		87	79 - 120
Ethylbenzene	10.0	9.09		ug/L		91	80 - 120
m-Xylene & p-Xylene	10.0	9.45		ug/L		95	80 - 120
o-Xylene	10.0	8.90		ug/L		89	80 - 120
Styrene	10.0	8.63		ug/L		86	76 - 121
Bromoform	10.0	7.92		ug/L		79	61 - 132
Isopropylbenzene	10.0	9.07		ug/L		91	75 - 120
Bromobenzene	10.0	9.41		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	10.0	9.50		ug/L		95	74 - 124
1,2,3-Trichloropropane	10.0	9.49		ug/L		95	76 - 124
N-Propylbenzene	10.0	9.52		ug/L		95	80 - 120
2-Chlorotoluene	10.0	9.62		ug/L		96	80 - 120
4-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120
t-Butylbenzene	10.0	9.62		ug/L		96	80 - 121
1,2,4-Trimethylbenzene	10.0	9.99		ug/L		100	80 - 120
sec-Butylbenzene	10.0	9.83		ug/L		98	78 - 120
4-Isopropyltoluene	10.0	9.69		ug/L		97	77 - 120
1,3-Dichlorobenzene	10.0	8.84		ug/L		88	80 - 120
1,4-Dichlorobenzene	10.0	9.52		ug/L		95	80 - 120
n-Butylbenzene	10.0	10.1		ug/L		101	78 - 120
1,2-Dichlorobenzene	10.0	9.39		ug/L		94	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.97	J	ug/L		90	65 - 125
1,2,4-Trichlorobenzene	10.0	8.54		ug/L		85	57 - 140
Hexachlorobutadiene	10.0	9.55		ug/L		96	74 - 125
Naphthalene	10.0	11.8		ug/L		118	44 - 144
1,2,3-Trichlorobenzene	10.0	11.0		ug/L		110	23 - 150
1,3,5-Trimethylbenzene	10.0	10.0		ug/L		100	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	4.88	J	ug/L		49	20 - 150	9	35
Chloromethane			10.0	7.67	J	ug/L		77	52 - 135	0	23
Vinyl chloride			10.0	7.92		ug/L		79	65 - 130	4	28
Bromomethane			10.0	8.66		ug/L		87	66 - 125	3	27
Chloroethane			10.0	8.00		ug/L		80	65 - 132	0	35
Trichlorofluoromethane			10.0	8.40		ug/L		84	64 - 136	5	27
Carbon disulfide			10.0	5.43	*	ug/L		54	69 - 122	3	20
1,1-Dichloroethene			10.0	8.51		ug/L		85	70 - 129	3	27
Acetone			50.0	49.5	J	ug/L		99	43 - 150	1	35
Methylene Chloride			10.0	9.65		ug/L		96	77 - 125	2	18
Methyl tert-butyl ether			10.0	9.84		ug/L		98	72 - 130	1	18
trans-1,2-Dichloroethene			10.0	6.79	*	ug/L		68	77 - 124	12	21
1,1-Dichloroethane			10.0	9.78		ug/L		98	70 - 129	7	26
2-Butanone (MEK)			50.0	48.6		ug/L		97	65 - 127	12	29
2,2-Dichloropropane			10.0	10.1		ug/L		101	62 - 140	2	23
cis-1,2-Dichloroethene			10.0	8.75		ug/L		87	76 - 129	10	15
Bromochloromethane			10.0	9.17		ug/L		92	78 - 120	1	20
Chloroform			10.0	10.4		ug/L		104	73 - 127	6	22
1,1,1-Trichloroethane			10.0	9.45		ug/L		94	74 - 130	5	18
Carbon tetrachloride			10.0	8.99		ug/L		90	72 - 129	0	19
1,1-Dichloropropene			10.0	8.89		ug/L		89	80 - 120	1	14
Benzene			10.0	9.55		ug/L		95	75 - 121	1	14
1,2-Dichloroethane			10.0	10.2		ug/L		102	76 - 131	2	18
Trichloroethene			10.0	9.01		ug/L		90	70 - 120	0	21
1,2-Dichloropropane			10.0	9.68		ug/L		97	72 - 126	0	26
4-Methyl-2-pentanone (MIBK)			50.0	45.5		ug/L		91	69 - 124	9	22
Dibromomethane			10.0	9.88		ug/L		99	80 - 120	1	22
Bromodichloromethane			10.0	10.1		ug/L		101	75 - 124	1	22
cis-1,3-Dichloropropene			10.0	9.80		ug/L		98	77 - 120	9	20
Toluene			10.0	9.49		ug/L		95	80 - 120	2	19
trans-1,3-Dichloropropene			10.0	9.51		ug/L		95	80 - 122	0	25
1,1,2-Trichloroethane			10.0	9.24		ug/L		92	80 - 121	2	21
Tetrachloroethene			10.0	8.14		ug/L		81	76 - 120	5	20
1,3-Dichloropropane			10.0	9.64		ug/L		96	79 - 120	0	26
Dibromochloromethane			10.0	9.08		ug/L		91	71 - 120	1	24
1,2-Dibromoethane			10.0	9.37		ug/L		94	79 - 120	0	20
Chlorobenzene			10.0	9.40		ug/L		94	80 - 120	0	15
1,1,1,2-Tetrachloroethane			10.0	9.09		ug/L		91	79 - 120	4	20
Ethylbenzene			10.0	9.06		ug/L		91	80 - 120	0	14
m-Xylene & p-Xylene			10.0	9.44		ug/L		94	80 - 120	0	14

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	10.0	9.13		ug/L		91	80 - 120	3	16
Styrene	10.0	8.85		ug/L		89	76 - 121	3	16
Bromoform	10.0	8.74		ug/L		87	61 - 132	10	20
Isopropylbenzene	10.0	9.29		ug/L		93	75 - 120	2	20
Bromobenzene	10.0	9.10		ug/L		91	80 - 120	3	13
1,1,2,2-Tetrachloroethane	10.0	9.81		ug/L		98	74 - 124	3	18
1,2,3-Trichloropropane	10.0	9.58		ug/L		96	76 - 124	1	30
N-Propylbenzene	10.0	9.19		ug/L		92	80 - 120	4	13
2-Chlorotoluene	10.0	9.15		ug/L		92	80 - 120	5	15
4-Chlorotoluene	10.0	9.65		ug/L		96	80 - 120	5	14
t-Butylbenzene	10.0	9.12		ug/L		91	80 - 121	5	14
1,2,4-Trimethylbenzene	10.0	9.52		ug/L		95	80 - 120	5	16
sec-Butylbenzene	10.0	9.37		ug/L		94	78 - 120	5	15
4-Isopropyltoluene	10.0	9.18		ug/L		92	77 - 120	5	13
1,3-Dichlorobenzene	10.0	8.68		ug/L		87	80 - 120	2	14
1,4-Dichlorobenzene	10.0	9.15		ug/L		92	80 - 120	4	17
n-Butylbenzene	10.0	9.81		ug/L		98	78 - 120	3	14
1,2-Dichlorobenzene	10.0	9.16		ug/L		92	80 - 120	2	15
1,2-Dibromo-3-Chloropropane	10.0	8.99	J	ug/L		90	65 - 125	0	27
1,2,4-Trichlorobenzene	10.0	8.83		ug/L		88	57 - 140	3	27
Hexachlorobutadiene	10.0	8.88		ug/L		89	74 - 125	7	22
Naphthalene	10.0	11.1		ug/L		111	44 - 144	6	31
1,2,3-Trichlorobenzene	10.0	10.4		ug/L		104	23 - 150	6	35
1,3,5-Trimethylbenzene	10.0	9.49		ug/L		95	80 - 120	5	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 580-330260/7
Matrix: Water
Analysis Batch: 330260

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/10/20 12:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/10/20 12:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 126*		*06/10/20 12:03*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/10/20 12:03*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/10/20 12:03*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-330260/4
Matrix: Water
Analysis Batch: 330260

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene			5.00	5.30		ug/L		106	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-330260/5
Matrix: Water
Analysis Batch: 330260

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			5.00	4.90		ug/L		98	80 - 120	8	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 580-329771/1-A
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		200	44	ug/L			06/10/20 23:14	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/10/20 23:14*	*100*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*06/10/20 23:14*	*100*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/10/20 23:14*	*100*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/10/20 23:14*	*100*

Lab Sample ID: MB 580-330266/10
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/10/20 23:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/10/20 23:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/10/20 23:41*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/10/20 23:41*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/10/20 23:41*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-330266/6
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene			10.0	10.5		ug/L		105	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-330266/7
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			10.0	9.61		ug/L		96	80 - 120	9	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-329617/1-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329617

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.015	0.0060	ug/L		06/02/20 12:07	06/04/20 20:13	1
4,4'-DDE	ND		0.010	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
4,4'-DDT	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Aldrin	ND		0.024	0.0070	ug/L		06/02/20 12:07	06/04/20 20:13	1
alpha-BHC	ND		0.018	0.0040	ug/L		06/02/20 12:07	06/04/20 20:13	1
cis-Chlordane	ND		0.027	0.0080	ug/L		06/02/20 12:07	06/04/20 20:13	1
beta-BHC	ND		0.021	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Chlordane (technical)	ND		0.20	0.030	ug/L		06/02/20 12:07	06/04/20 20:13	1
delta-BHC	ND		0.015	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Dieldrin	ND		0.018	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan I	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan II	ND		0.024	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin	ND		0.012	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin aldehyde	ND		0.060	0.034	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/04/20 20:13	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
trans-Chlordane	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Heptachlor	ND		0.015	0.0040	ug/L		06/02/20 12:07	06/04/20 20:13	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 580-329617/1-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329617

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND		0.10	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Toxaphene	ND		2.0	0.46	ug/L		06/02/20 12:07	06/04/20 20:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*45 - 127*	*06/02/20 12:07*	*06/04/20 20:13*	*1*
Tetrachloro-m-xylene	*66*		*33 - 120*	*06/02/20 12:07*	*06/04/20 20:13*	*1*

Lab Sample ID: LCS 580-329617/2-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.200	0.180		ug/L		90	53 - 139
4,4'-DDE	0.200	0.171		ug/L		85	47 - 126
4,4'-DDT	0.200	0.184		ug/L		92	38 - 150
Aldrin	0.200	0.118		ug/L		59	30 - 124
alpha-BHC	0.200	0.164		ug/L		82	53 - 120
cis-Chlordane	0.200	0.166		ug/L		83	56 - 120
beta-BHC	0.200	0.162		ug/L		81	63 - 120
delta-BHC	0.200	0.172		ug/L		86	44 - 120
Dieldrin	0.200	0.176		ug/L		88	61 - 122
Endosulfan I	0.200	0.165		ug/L		83	62 - 123
Endosulfan II	0.200	0.158		ug/L		79	52 - 121
Endosulfan sulfate	0.200	0.166		ug/L		83	60 - 120
Endrin	0.200	0.202		ug/L		101	45 - 140
Endrin aldehyde	0.200	0.152		ug/L		76	47 - 136
Endrin ketone	0.200	0.163		ug/L		81	60 - 137
gamma-BHC (Lindane)	0.200	0.159		ug/L		79	53 - 120
trans-Chlordane	0.200	0.162		ug/L		81	49 - 121
Heptachlor	0.200	0.143		ug/L		71	38 - 127
Heptachlor epoxide	0.200	0.175		ug/L		87	49 - 126
Methoxychlor	0.200	0.204		ug/L		102	35 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*76*		*45 - 127*
Tetrachloro-m-xylene	*67*		*33 - 120*

Lab Sample ID: LCSD 580-329617/4-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toxaphene	4.00	3.72		ug/L		93	57 - 120	6	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*80*		*45 - 127*
Tetrachloro-m-xylene	*67*		*33 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-610717/1-A
Matrix: Water
Analysis Batch: 610792

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610717

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
Aldrin	ND		0.0050	0.0015	ug/L		06/01/20 05:29	06/01/20 12:55	1
alpha-BHC	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
cis-Chlordane	ND		0.10	0.014	ug/L		06/01/20 05:29	06/01/20 12:55	1
beta-BHC	ND		0.010	0.0040	ug/L		06/01/20 05:29	06/01/20 12:55	1
Chlordane (technical)	ND		0.10	0.080	ug/L		06/01/20 05:29	06/01/20 12:55	1
delta-BHC	ND		0.0050	0.0035	ug/L		06/01/20 05:29	06/01/20 12:55	1
Dieldrin	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endosulfan I	ND		0.0050	0.0030	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endosulfan II	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endrin	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endrin ketone	ND		0.010	0.0070	ug/L		06/01/20 05:29	06/01/20 12:55	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 12:55	1
trans-Chlordane	ND		0.10	0.030	ug/L		06/01/20 05:29	06/01/20 12:55	1
Heptachlor	ND		0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 12:55	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
Methoxychlor	ND		0.0050	0.0035	ug/L		06/01/20 05:29	06/01/20 12:55	1
Toxaphene	ND		0.50	0.25	ug/L		06/01/20 05:29	06/01/20 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*77*		*28 - 108*	*06/01/20 05:29*	*06/01/20 12:55*	*1*
Tetrachloro-m-xylene	*70*		*10 - 123*	*06/01/20 05:29*	*06/01/20 12:55*	*1*

Lab Sample ID: LCS 440-610717/2-A
Matrix: Water
Analysis Batch: 610792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.372		ug/L		93	50 - 128
4,4'-DDE	0.400	0.368		ug/L		92	49 - 121
4,4'-DDT	0.400	0.367		ug/L		92	41 - 140
Aldrin	0.400	0.324		ug/L		81	37 - 115
alpha-BHC	0.400	0.357		ug/L		89	44 - 115
cis-Chlordane	0.400	0.351		ug/L		88	40 - 122
beta-BHC	0.400	0.346		ug/L		87	46 - 121
delta-BHC	0.400	0.345		ug/L		86	32 - 129
Dieldrin	0.400	0.355		ug/L		89	39 - 126
Endosulfan I	0.400	0.332		ug/L		83	47 - 115
Endosulfan II	0.400	0.347		ug/L		87	47 - 120
Endosulfan sulfate	0.400	0.323		ug/L		81	48 - 126
Endrin	0.400	0.348		ug/L		87	43 - 127
Endrin aldehyde	0.400	0.334		ug/L		83	43 - 120
Endrin ketone	0.400	0.355		ug/L		89	47 - 123
gamma-BHC (Lindane)	0.400	0.337		ug/L		84	45 - 116

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-610717/2-A
Matrix: Water
Analysis Batch: 610792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-Chlordane	0.400	0.335		ug/L		84	37 - 129
Heptachlor	0.400	0.327		ug/L		82	37 - 115
Heptachlor epoxide	0.400	0.337		ug/L		84	41 - 129
Methoxychlor	0.400	0.398		ug/L		99	44 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*82*		*28 - 108*
Tetrachloro-m-xylene	*85*		*10 - 123*

Lab Sample ID: LCSD 440-610717/3-A
Matrix: Water
Analysis Batch: 610792

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 610717

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.400	0.381		ug/L		95	50 - 128	2	26
4,4'-DDE	0.400	0.378		ug/L		94	49 - 121	3	22
4,4'-DDT	0.400	0.380		ug/L		95	41 - 140	3	20
Aldrin	0.400	0.334		ug/L		83	37 - 115	3	24
alpha-BHC	0.400	0.368		ug/L		92	44 - 115	3	26
cis-Chlordane	0.400	0.359		ug/L		90	40 - 122	2	35
beta-BHC	0.400	0.355		ug/L		89	46 - 121	2	27
delta-BHC	0.400	0.356		ug/L		89	32 - 129	3	35
Dieldrin	0.400	0.366		ug/L		91	39 - 126	3	35
Endosulfan I	0.400	0.338		ug/L		85	47 - 115	2	27
Endosulfan II	0.400	0.359		ug/L		90	47 - 120	3	29
Endosulfan sulfate	0.400	0.334		ug/L		84	48 - 126	3	26
Endrin	0.400	0.357		ug/L		89	43 - 127	2	35
Endrin aldehyde	0.400	0.345		ug/L		86	43 - 120	3	35
Endrin ketone	0.400	0.367		ug/L		92	47 - 123	3	27
gamma-BHC (Lindane)	0.400	0.348		ug/L		87	45 - 116	3	28
trans-Chlordane	0.400	0.343		ug/L		86	37 - 129	3	35
Heptachlor	0.400	0.335		ug/L		84	37 - 115	2	35
Heptachlor epoxide	0.400	0.345		ug/L		86	41 - 129	2	35
Methoxychlor	0.400	0.411		ug/L		103	44 - 141	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*83*		*28 - 108*
Tetrachloro-m-xylene	*85*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-611271/6
Matrix: Water
Analysis Batch: 611271

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 07:21	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 440-611271/5
Matrix: Water
Analysis Batch: 611271

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.5		ug/L		97	90 - 110

Lab Sample ID: MRL 440-611271/4
Matrix: Water
Analysis Batch: 611271

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	1.02		ug/L		102	50 - 150

Lab Sample ID: MB 440-611418/6
Matrix: Water
Analysis Batch: 611418

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/05/20 06:28	1

Lab Sample ID: LCS 440-611418/5
Matrix: Water
Analysis Batch: 611418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	52.0		ug/L		104	90 - 110

Lab Sample ID: MRL 440-611418/4
Matrix: Water
Analysis Batch: 611418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	1.10		ug/L		110	50 - 150

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610910/6
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/02/20 11:13	1

Lab Sample ID: LCS 440-610910/5
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.1		ug/L		101	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-610910/8
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.12		ug/L		103	75 - 125

Lab Sample ID: MB 440-612670/6
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/15/20 10:35	1

Lab Sample ID: LCS 440-612670/5
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.88		ug/L		99	85 - 115

Lab Sample ID: MRL 440-612670/4
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.03	J	ug/L		103	75 - 125

Lab Sample ID: MRL 440-612670/8
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.95	J	ug/L		99	75 - 125

Lab Sample ID: MB 440-612899/6
Matrix: Water
Analysis Batch: 612899

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/16/20 11:31	1

Lab Sample ID: LCS 440-612899/5
Matrix: Water
Analysis Batch: 612899

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.3		ug/L		97	85 - 115

Lab Sample ID: MRL 440-612899/4
Matrix: Water
Analysis Batch: 612899

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		87	75 - 125

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MRL 440-612899/8
Matrix: Water
Analysis Batch: 612899

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.29		ug/L		107	75 - 125

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329562/15-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 01:25	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 01:25	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 01:25	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 01:25	5

Lab Sample ID: LCS 580-329562/16-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.947		mg/L		95	80 - 120
Chromium	1.00	1.02		mg/L		102	80 - 120
Iron	20.0	20.8		mg/L		104	80 - 120
Manganese	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-329562/17-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.949		mg/L		95	80 - 120	0	20
Chromium	1.00	1.02		mg/L		102	80 - 120	0	20
Iron	20.0	20.6		mg/L		103	80 - 120	1	20
Manganese	1.00	1.01		mg/L		101	80 - 120	1	20

Lab Sample ID: MB 580-329564/20-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/02/20 23:31	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/02/20 23:31	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/02/20 23:31	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:56	06/02/20 23:31	5

Lab Sample ID: LCS 580-329564/21-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.04		mg/L		104	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-329564/21-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	1.00	1.10		mg/L		110	80 - 120
Iron	20.0	22.1		mg/L		110	80 - 120
Manganese	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: LCSD 580-329564/22-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.03		mg/L		103	80 - 120	1	20
Chromium	1.00	1.10		mg/L		110	80 - 120	0	20
Iron	20.0	22.4		mg/L		112	80 - 120	1	20
Manganese	1.00	1.09		mg/L		109	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329576/3
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			06/01/20 18:25	1

Lab Sample ID: LCS 580-329576/4
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.2		mg/L		104	90 - 110

Lab Sample ID: LCSD 580-329576/5
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	52.0		mg/L		104	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-64i-052720
Lab Sample ID: 580-94982-1
Date Collected: 05/27/20 16:10
Matrix: Water
Date Received: 05/28/20 14:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/04/20 21:55	W1T	TAL SEA
Total/NA	Analysis	8260D	DL	500	330260	06/10/20 12:30	CJB	TAL SEA
Dissolved	Analysis	218.6		5	611418	06/05/20 07:44	MN	TAL IRV
Total/NA	Analysis	314.0		50	610910	06/02/20 22:57	OH1	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 01:03	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329576	06/01/20 21:32	AAC	TAL SEA

Client Sample ID: EB-03-052720
Lab Sample ID: 580-94982-2
Date Collected: 05/27/20 16:05
Matrix: Water
Date Received: 05/28/20 14:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	218.6		1	611418	06/05/20 07:56	MN	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:50	FCW	TAL SEA

Client Sample ID: MWA-66i-052820
Lab Sample ID: 580-94982-3
Date Collected: 05/28/20 10:30
Matrix: Water
Date Received: 05/28/20 14:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/04/20 22:22	W1T	TAL SEA
Total/NA	Analysis	8260D	DL	500	330266	06/11/20 02:22	CJB	TAL SEA
Total/NA	Prep	3510C			610717	06/01/20 05:29	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610792	06/01/20 15:26	D1D	TAL IRV
Dissolved	Analysis	218.6		1	611418	06/05/20 08:39	MN	TAL IRV
Total/NA	Analysis	314.0		10	612899	06/16/20 13:49	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:53	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 02:16	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329576	06/01/20 21:44	AAC	TAL SEA

Client Sample ID: RB-03-052820
Lab Sample ID: 580-94982-4
Date Collected: 05/28/20 09:00
Matrix: Water
Date Received: 05/28/20 14:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/04/20 22:48	W1T	TAL SEA
Total/NA	Analysis	8260D		1	330266	06/11/20 00:34	CJB	TAL SEA
Total/NA	Prep	3510C			610717	06/01/20 05:29	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610792	06/01/20 15:41	D1D	TAL IRV
Dissolved	Analysis	218.6		1	611271	06/04/20 14:09	MN	TAL IRV

Lab Chronicle

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: RB-03-052820
Lab Sample ID: 580-94982-4
Date Collected: 05/28/20 09:00
Matrix: Water
Date Received: 05/28/20 14:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	314.0		1	612670	06/15/20 15:09	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:28	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 01:28	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 21:56	AAC	TAL SEA

Client Sample ID: RB-04-052820
Lab Sample ID: 580-94982-5
Date Collected: 05/28/20 09:45
Matrix: Water
Date Received: 05/28/20 14:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/04/20 23:15	W1T	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		1	330667	06/15/20 16:11	RSB	TAL SEA
Dissolved	Analysis	218.6		1	611271	06/04/20 14:22	MN	TAL IRV
Total/NA	Analysis	314.0		1	612670	06/15/20 14:51	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:09	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 02:12	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 22:07	AAC	TAL SEA

Client Sample ID: EB-04-052820
Lab Sample ID: 580-94982-6
Date Collected: 05/28/20 09:32
Matrix: Water
Date Received: 05/28/20 14:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	218.6		1	611271	06/04/20 14:35	MN	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:19	FCW	TAL SEA

Client Sample ID: TB-01-052820
Lab Sample ID: 580-94982-7
Date Collected: 05/28/20 08:00
Matrix: Water
Date Received: 05/28/20 14:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/04/20 23:42	W1T	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94982-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94982-1	MWA-64i-052720	Water	05/27/20 16:10	05/28/20 14:26	
580-94982-2	EB-03-052720	Water	05/27/20 16:05	05/28/20 14:26	
580-94982-3	MWA-66i-052820	Water	05/28/20 10:30	05/28/20 14:26	
580-94982-4	RB-03-052820	Water	05/28/20 09:00	05/28/20 14:26	
580-94982-5	RB-04-052820	Water	05/28/20 09:45	05/28/20 14:26	
580-94982-6	EB-04-052820	Water	05/28/20 09:32	05/28/20 14:26	
580-94982-7	TB-01-052820	Water	05/28/20 08:00	05/28/20 14:26	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site: Arkema	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
MWA-64i-052720	5-27-20	1610	G	Water	Y		X				X	X		X	X		DI VOCs
EB-03-052720	↓	1605	|	Water	Y						X				X		
MWA-66i-052820	5-28-20	1030	|	Water	Y		X	X		X	X	X		X	X		DI VOCs
RB-03-052820	|	0900	|	Water	Y		X	X		X	X	X		X	X		DI VOCs
RB-04-052820	|	0945	|	Water	Y		X		X	X	X	X		X	X		
EB-04-052820	|	0932	↓	Water	Y						X				X		
TB-01-052820	5/28/20 ~~0800~~	0800	—	Water								X					
				Water													
				Water													

580-94982 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/28/20 @ 1205	ERM		5/28/20 1205	M-E
2		5/28/20 1245	M-E		5/28/20 1245	TAFOK
3		Date/Time:	Company		Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: >5

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site: Arkema	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B post standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
MWA-64i-052720	5-27-20	1610	G	Water	Y		X				X	X		X	X		DI VOCs
EB-03-052720	↓	1605	|	Water	Y						X				X		
MWA-66i-052820	5-28-20	1030	|	Water	Y		X	X		X	X	X		X	X		DI VOCs
RB-03-052820	|	0900	|	Water	Y		X	X		X	X	X		X	X		DI VOCs
RB-04-052820	|	0945	|	Water	Y		X		X	X	X	X		X	X		
EB-04-052820	↓	0932	↓	Water	Y						X				X		
TB-01-052820	~~5/28/20~~ 5/29/20	0800	—	Water								X					
				Water													
				Water													

580-94982 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 5/28/20 @ 1205	Company: ERM	Received by:	Date/Time: 5/28/20 1205	Company: M-E		
Relinquished by:	Date/Time: 5/28/20 1245	Company: M-E	Received by:	Date/Time: 5/28/20 1245	Company: TAFOK		
Relinquished by:	Date/Time: 5/29/20 1700	Company: TAFOK	Received by: Tom Blanchard	Date/Time: 5/29/20 0945	Company: TA-Sea		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: IR7 3.4/3.2 5.5

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No: 580-77182.1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94982-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/16/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817	PO #			
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	WO #			
Email	Project #: 58014456			
Project Name: Arkema - Q2 2020 Groundwater Event	SSOW#			
Site				

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	218.6_Pres_ORGF/FIELD_FLTRD	314.0/ Perchlorate	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MWA-64i-052720 (580-94982-1)	5/27/20	16:10 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland Please confirm via
EB-03-052720 (580-94982-2)	5/27/20	16:05 Pacific		Water			X			1	Sample should have been field filtered then preserved by Portland Please confirm via
MWA-66i-052820 (580-94982-3)	5/28/20	10:30 Pacific		Water			X	X	X	4	Sample should have been field filtered then preserved by Portland. Please confirm via
RB-03-052820 (580-94982-4)	5/28/20	09:00 Pacific		Water			X	X	X	4	Sample should have been field filtered then preserved by Portland Please confirm via
RB-04-052820 (580-94982-5)	5/28/20	09:45 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland Please confirm via
EB-04-052820 (580-94982-6)	5/28/20	09:32 Pacific		Water			X			1	Sample should have been field filtered then preserved by Portland Please confirm via

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) / Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		5/28/20 1700	TAL-R			
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	5/29/20 0645	EC IRV

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1123 3.9/4.1

Ver: 01/16/2019

6/17/2020

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94982-1

Login Number: 94982
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94982-1

Login Number: 94982
List Number: 2
Creator: Dolidze, Lado

List Source: Eurofins Irvine
List Creation: 05/29/20 01:17 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94989-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
6/17/2020 2:01:52 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

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Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-94989-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-94989-1

Comments
No additional comments.

Receipt
The samples were received on 5/28/2020 4:30 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.1º C.

GC/MS VOA
Method 8260D: The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329883 recovered outside control limits for Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The following analyte(s) recovered outside control limits for the LCSD associated with analytical batch 580-329883: trans-1,2-Dichloroethene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260D: The CCV for analytical batch 580-329883 recovered outside control limits for the following analyte(s): Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Chloromethane and 1,2-Dibromo-3-Chloropropane. Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Chloromethane and 1,2-Dibromo-3-Chloropropane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-329883 were outside control limits.

Methods 8260C, 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-8i-052820 (580-94989-1), MWA-8i-052820 (580-94989-1[MS]), MWA-8i-052820 (580-94989-1[MSD]) and DUP-04-052820 (580-94989-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following sample was diluted due to the nature of the sample matrix: MWA-8i-052820 (580-94989-1). Elevated reporting limits (RLs) are provided.

Method 218.6: The following sample was diluted due to the nature of the sample matrix: DUP-04-052820 (580-94989-2). Elevated reporting limits (RLs) are provided. The sample is brown in color matrix.

Method 314.0: The following sample was diluted due to the nature of the sample matrix: DUP-04-052820 (580-94989-2). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to intense dark black color of the sample matrix: MWA-8i-052820 (580-94989-1), MWA-8i-052820 (580-94989-1[MS]) and MWA-8i-052820 (580-94989-1[MSD]). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8081B: Internal standard (ISTD) response for the following sample exceeded the control limit on the confirmation column: (CCB 580-329872/9). As such, the sample results associated with this ISTD were reported from the other column, which met ISTD acceptance criteria.

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-329872 recovered outside acceptance criteria on the confirmation column for Chlordane (technical). The associated sample results for those analytes were reported from the primary column which met acceptance criteria.The following sample is impacted: (CCV 580-329872/4)

Job ID: 580-94989-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method 8081B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 580-329617 and analytical batch 580-330667 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8081B: Continuing calibration verification (CCV) standard associated with batch 580-330667 recovered outside %Drift acceptance criteria for DCB Decachlorobiphenyl surrogate. The %Recovery is within acceptance criteria for the surrogate in the CCV and associated samples; therefore, the data are qualified and reported. (CCVIS 580-330667/7)

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-330667 recovered outside acceptance criteria on the confirmation column for Toxaphene and Endrin ketone. The associated sample results for those analytes were reported from the primary column which met acceptance criteria.he following samples are impacted: MWA-8i-052820 (580-94989-1), DUP-04-052820 (580-94989-2), (CCV 580-330667/5) and (CCVIS 580-330667/7)

Method 8081B: The continuing calibration verification (CCV) associated with batch 580-330667 recovered above the upper control limit for Endrin. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MWA-8i-052820 (580-94989-1), DUP-04-052820 (580-94989-2) and (CCVIS 580-330667/7).

Method 8081B: Surrogate recovery for the following samples were outside control limits: MWA-8i-052820 (580-94989-1), MWA-8i-052820 (580-94989-1[MS]), MWA-8i-052820 (580-94989-1[MSD]) and DUP-04-052820 (580-94989-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3510C: The following samples formed emulsions during the extraction procedure: MWA-8i-052820 (580-94989-1), MWA-8i-052820 (580-94989-1[MS]), MWA-8i-052820 (580-94989-1[MSD]) and DUP-04-052820 (580-94989-2). The emulsions were broken up using extra sulfate and solvent rinses.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Job ID: 580-94989-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MWA-8i-052820
Lab Sample ID: 580-94989-1

Date Collected: 05/28/20 13:43
Matrix: Water

Date Received: 05/28/20 16:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/05/20 00:09	1
Chloromethane	ND		20	0.28	ug/L			06/05/20 00:09	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/05/20 00:09	1
Bromomethane	ND		6.0	0.21	ug/L			06/05/20 00:09	1
Chloroethane	ND		5.0	0.35	ug/L			06/05/20 00:09	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/05/20 00:09	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/05/20 00:09	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/05/20 00:09	1
Acetone	ND		50	3.2	ug/L			06/05/20 00:09	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/05/20 00:09	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/05/20 00:09	1
trans-1,2-Dichloroethene	**3.0**	*****	3.0	0.39	ug/L			06/05/20 00:09	1
1,1-Dichloroethane	**0.27**	**J**	2.0	0.22	ug/L			06/05/20 00:09	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/05/20 00:09	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/05/20 00:09	1
cis-1,2-Dichloroethene	**5.6**	**F1**	3.0	0.69	ug/L			06/05/20 00:09	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/05/20 00:09	1
Chloroform	ND		5.0	0.26	ug/L			06/05/20 00:09	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/05/20 00:09	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/05/20 00:09	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/05/20 00:09	1
Benzene	**0.52**	**J**	3.0	0.24	ug/L			06/05/20 00:09	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/05/20 00:09	1
Trichloroethene	**15**		3.0	0.26	ug/L			06/05/20 00:09	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/05/20 00:09	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/05/20 00:09	1
Dibromomethane	ND		2.0	0.34	ug/L			06/05/20 00:09	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/05/20 00:09	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/05/20 00:09	1
Toluene	ND		2.0	0.39	ug/L			06/05/20 00:09	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/05/20 00:09	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/05/20 00:09	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/05/20 00:09	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/05/20 00:09	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/05/20 00:09	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/05/20 00:09	1
Chlorobenzene	**1100**		200	44	ug/L			06/11/20 02:49	100
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/05/20 00:09	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/05/20 00:09	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/05/20 00:09	1
o-Xylene	ND		2.0	0.39	ug/L			06/05/20 00:09	1
Styrene	ND		5.0	1.0	ug/L			06/05/20 00:09	1
Bromoform	ND		3.0	0.56	ug/L			06/05/20 00:09	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/05/20 00:09	1
Bromobenzene	ND		2.0	0.43	ug/L			06/05/20 00:09	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/05/20 00:09	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/05/20 00:09	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/05/20 00:09	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/05/20 00:09	1

Client Sample ID: MWA-8i-052820
Lab Sample ID: 580-94989-1

Date Collected: 05/28/20 13:43
Matrix: Water

Date Received: 05/28/20 16:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/05/20 00:09	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/05/20 00:09	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/05/20 00:09	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/05/20 00:09	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/05/20 00:09	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/05/20 00:09	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/05/20 00:09	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/05/20 00:09	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/05/20 00:09	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/05/20 00:09	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/05/20 00:09	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/05/20 00:09	1
Naphthalene	ND		4.0	0.93	ug/L			06/05/20 00:09	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/05/20 00:09	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/05/20 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/05/20 00:09*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/11/20 02:49*	*100*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/05/20 00:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*06/11/20 02:49*	*100*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/05/20 00:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/11/20 02:49*	*100*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/05/20 00:09*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/11/20 02:49*	*100*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.059**	**F1**	0.016	0.0065	ug/L		06/02/20 12:07	06/15/20 16:31	1
4,4'-DDE	ND	F1	0.011	0.0033	ug/L		06/02/20 12:07	06/15/20 16:31	1
4,4'-DDT	**0.033**		0.022	0.0054	ug/L		06/02/20 12:07	06/15/20 16:31	1
Aldrin	ND	F2 F1	0.026	0.0076	ug/L		06/02/20 12:07	06/15/20 16:31	1
alpha-BHC	ND	F2 F1	0.020	0.0043	ug/L		06/02/20 12:07	06/15/20 16:31	1
cis-Chlordane	ND	F2 F1	0.029	0.0087	ug/L		06/02/20 12:07	06/15/20 16:31	1
beta-BHC	ND	F1	0.023	0.0054	ug/L		06/02/20 12:07	06/15/20 16:31	1
Chlordane (technical)	ND		0.22	0.033	ug/L		06/02/20 12:07	06/15/20 16:31	1
delta-BHC	ND		0.016	0.0054	ug/L		06/02/20 12:07	06/15/20 16:31	1
Dieldrin	ND	F2 F1	0.020	0.0054	ug/L		06/02/20 12:07	06/15/20 16:31	1
Endosulfan I	ND	F2 F1	0.022	0.0033	ug/L		06/02/20 12:07	06/15/20 16:31	1
Endosulfan II	ND	F1	0.026	0.0054	ug/L		06/02/20 12:07	06/15/20 16:31	1
Endosulfan sulfate	ND	F1	0.022	0.0033	ug/L		06/02/20 12:07	06/15/20 16:31	1
Endrin	ND		0.013	0.0033	ug/L		06/02/20 12:07	06/15/20 16:31	1
Endrin aldehyde	ND		0.065	0.037	ug/L		06/02/20 12:07	06/15/20 16:31	1
Endrin ketone	ND	F1	0.022	0.0022	ug/L		06/02/20 12:07	06/15/20 16:31	1
gamma-BHC (Lindane)	ND	F1	0.022	0.0054	ug/L		06/02/20 12:07	06/15/20 16:31	1
trans-Chlordane	ND	F2 F1	0.022	0.0033	ug/L		06/02/20 12:07	06/15/20 16:31	1
Heptachlor	ND	F2 F1	0.016	0.0043	ug/L		06/02/20 12:07	06/15/20 16:31	1
Heptachlor epoxide	ND	F1	0.022	0.0033	ug/L		06/02/20 12:07	06/15/20 16:31	1
Methoxychlor	ND		0.11	0.0054	ug/L		06/02/20 12:07	06/15/20 16:31	1
Toxaphene	ND		2.2	0.50	ug/L		06/02/20 12:07	06/15/20 16:31	1

Client: ERM-West
Job ID: 580-94989-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-8i-052820
Lab Sample ID: 580-94989-1
Date Collected: 05/28/20 13:43
Matrix: Water
Date Received: 05/28/20 16:30

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*44*	*X*	*45 - 127*	*06/02/20 12:07*	*06/15/20 16:31*	*1*
Tetrachloro-m-xylene	*50*		*33 - 120*	*06/02/20 12:07*	*06/15/20 16:31*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			06/04/20 14:07	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/16/20 00:04	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.024**		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 01:31	5
Chromium	**0.010**		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 01:31	5
Iron	**1.1**		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 01:31	5
Manganese	**0.14**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 01:31	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.022**		0.0050	0.0010	mg/L		06/01/20 16:56	06/02/20 23:34	5
Chromium	**0.0032**	**J**	0.0040	0.00087	mg/L		06/01/20 16:56	06/02/20 23:34	5
Iron	**0.28**	**J**	1.0	0.18	mg/L		06/01/20 16:56	06/02/20 23:34	5
Manganese	**0.057**		0.010	0.0023	mg/L		06/01/20 16:56	06/02/20 23:34	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**460**		9.0	1.4	mg/L			06/02/20 19:27	10

Client: ERM-West
Job ID: 580-94989-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: DUP-04-052820
Lab Sample ID: 580-94989-2
Date Collected: 05/28/20 13:43
Matrix: Water
Date Received: 05/28/20 16:30

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/05/20 01:29	1
Chloromethane	ND		20	0.28	ug/L			06/05/20 01:29	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/05/20 01:29	1
Bromomethane	ND		6.0	0.21	ug/L			06/05/20 01:29	1
Chloroethane	ND		5.0	0.35	ug/L			06/05/20 01:29	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/05/20 01:29	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/05/20 01:29	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/05/20 01:29	1
Acetone	ND		50	3.2	ug/L			06/05/20 01:29	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/05/20 01:29	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/05/20 01:29	1
trans-1,2-Dichloroethene	**4.6**	*	3.0	0.39	ug/L			06/05/20 01:29	1
1,1-Dichloroethane	**0.30**	J	2.0	0.22	ug/L			06/05/20 01:29	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/05/20 01:29	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/05/20 01:29	1
cis-1,2-Dichloroethene	**4.8**		3.0	0.69	ug/L			06/05/20 01:29	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/05/20 01:29	1
Chloroform	ND		5.0	0.26	ug/L			06/05/20 01:29	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/05/20 01:29	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/05/20 01:29	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/05/20 01:29	1
Benzene	**0.58**	J	3.0	0.24	ug/L			06/05/20 01:29	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/05/20 01:29	1
Trichloroethene	**13**		3.0	0.26	ug/L			06/05/20 01:29	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/05/20 01:29	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/05/20 01:29	1
Dibromomethane	ND		2.0	0.34	ug/L			06/05/20 01:29	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/05/20 01:29	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/05/20 01:29	1
Toluene	ND		2.0	0.39	ug/L			06/05/20 01:29	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/05/20 01:29	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/05/20 01:29	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/05/20 01:29	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/05/20 01:29	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/05/20 01:29	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/05/20 01:29	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/05/20 01:29	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/05/20 01:29	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/05/20 01:29	1
o-Xylene	ND		2.0	0.39	ug/L			06/05/20 01:29	1
Styrene	ND		5.0	1.0	ug/L			06/05/20 01:29	1
Bromoform	ND		3.0	0.56	ug/L			06/05/20 01:29	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/05/20 01:29	1
Bromobenzene	ND		2.0	0.43	ug/L			06/05/20 01:29	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/05/20 01:29	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/05/20 01:29	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/05/20 01:29	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/05/20 01:29	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/05/20 01:29	1

Client Sample ID: DUP-04-052820
Lab Sample ID: 580-94989-2

Date Collected: 05/28/20 13:43
Matrix: Water

Date Received: 05/28/20 16:30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/05/20 01:29	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/05/20 01:29	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/05/20 01:29	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/05/20 01:29	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/05/20 01:29	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/05/20 01:29	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/05/20 01:29	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/05/20 01:29	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/05/20 01:29	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/05/20 01:29	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/05/20 01:29	1
Naphthalene	ND		4.0	0.93	ug/L			06/05/20 01:29	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/05/20 01:29	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/05/20 01:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/05/20 01:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/05/20 01:29*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/05/20 01:29*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/05/20 01:29*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**1000**		200	44	ug/L			06/11/20 04:36	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/11/20 04:36*	*100*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/11/20 04:36*	*100*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/11/20 04:36*	*100*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/11/20 04:36*	*100*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.057**		0.015	0.0059	ug/L		06/02/20 12:07	06/15/20 18:09	1
4,4'-DDE	ND		0.0098	0.0029	ug/L		06/02/20 12:07	06/15/20 18:09	1
4,4'-DDT	ND		0.020	0.0049	ug/L		06/02/20 12:07	06/15/20 18:09	1
Aldrin	ND		0.024	0.0069	ug/L		06/02/20 12:07	06/15/20 18:09	1
alpha-BHC	ND		0.018	0.0039	ug/L		06/02/20 12:07	06/15/20 18:09	1
cis-Chlordane	ND		0.027	0.0079	ug/L		06/02/20 12:07	06/15/20 18:09	1
beta-BHC	ND		0.021	0.0049	ug/L		06/02/20 12:07	06/15/20 18:09	1
Chlordane (technical)	ND		0.20	0.029	ug/L		06/02/20 12:07	06/15/20 18:09	1
delta-BHC	ND		0.015	0.0049	ug/L		06/02/20 12:07	06/15/20 18:09	1
Dieldrin	ND		0.018	0.0049	ug/L		06/02/20 12:07	06/15/20 18:09	1
Endosulfan I	ND		0.020	0.0029	ug/L		06/02/20 12:07	06/15/20 18:09	1
Endosulfan II	ND		0.024	0.0049	ug/L		06/02/20 12:07	06/15/20 18:09	1
Endosulfan sulfate	ND		0.020	0.0029	ug/L		06/02/20 12:07	06/15/20 18:09	1
Endrin	ND		0.012	0.0029	ug/L		06/02/20 12:07	06/15/20 18:09	1
Endrin aldehyde	ND		0.059	0.033	ug/L		06/02/20 12:07	06/15/20 18:09	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/15/20 18:09	1
gamma-BHC (Lindane)	ND		0.020	0.0049	ug/L		06/02/20 12:07	06/15/20 18:09	1

Client Sample ID: DUP-04-052820
Lab Sample ID: 580-94989-2
Date Collected: 05/28/20 13:43
Matrix: Water
Date Received: 05/28/20 16:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.020	0.0029	ug/L		06/02/20 12:07	06/15/20 18:09	1
Heptachlor	ND		0.015	0.0039	ug/L		06/02/20 12:07	06/15/20 18:09	1
Heptachlor epoxide	ND		0.020	0.0029	ug/L		06/02/20 12:07	06/15/20 18:09	1
Methoxychlor	ND		0.098	0.0049	ug/L		06/02/20 12:07	06/15/20 18:09	1
Toxaphene	ND		2.0	0.45	ug/L		06/02/20 12:07	06/15/20 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*41*	*X*	*45 - 127*	*06/02/20 12:07*	*06/15/20 18:09*	*1*
Tetrachloro-m-xylene	*39*		*33 - 120*	*06/02/20 12:07*	*06/15/20 18:09*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		5.0	1.3	ug/L			06/04/20 14:45	5

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/03/20 00:08	50

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.024**		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 02:25	5
Chromium	**0.0096**		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 02:25	5
Iron	**1.0**		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 02:25	5
Manganese	**0.12**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 02:25	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.021**		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 01:00	5
Chromium	**0.0036**	**J**	0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 01:00	5
Iron	**0.34**	**J**	1.0	0.18	mg/L		06/01/20 16:56	06/03/20 01:00	5
Manganese	**0.14**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 01:00	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**470**		9.0	1.4	mg/L			06/02/20 20:26	10

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 19:14	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 19:14	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 19:14	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 19:14	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 19:14	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 19:14	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/04/20 19:14	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 19:14	1
Acetone	ND		50	3.2	ug/L			06/04/20 19:14	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 19:14	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 19:14	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/04/20 19:14	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/04/20 19:14	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 19:14	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 19:14	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 19:14	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 19:14	1
Chloroform	ND		5.0	0.26	ug/L			06/04/20 19:14	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 19:14	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 19:14	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 19:14	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 19:14	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 19:14	1
Trichloroethene	ND		3.0	0.26	ug/L			06/04/20 19:14	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 19:14	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 19:14	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 19:14	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 19:14	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 19:14	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 19:14	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 19:14	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 19:14	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 19:14	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 19:14	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 19:14	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 19:14	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 19:14	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:14	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 19:14	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 19:14	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 19:14	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 19:14	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 19:14	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 19:14	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 19:14	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:14	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 19:14	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 19:14	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 19:14	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 19:14	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 19:14	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 19:14	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 19:14	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 19:14	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 19:14	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 19:14	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 19:14	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 19:14	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 19:14	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 19:14	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 19:14	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 19:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/04/20 19:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/04/20 19:14*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/04/20 19:14*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/04/20 19:14*	*1*

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.46	J	ug/L		45	20 - 150
Chloromethane	10.0	7.64	J	ug/L		76	52 - 135
Vinyl chloride	10.0	7.63		ug/L		76	65 - 130
Bromomethane	10.0	8.39		ug/L		84	66 - 125
Chloroethane	10.0	8.03		ug/L		80	65 - 132
Trichlorofluoromethane	10.0	8.02		ug/L		80	64 - 136
Carbon disulfide	10.0	5.59	*	ug/L		56	69 - 122
1,1-Dichloroethene	10.0	8.27		ug/L		83	70 - 129
Acetone	50.0	49.0	J	ug/L		98	43 - 150
Methylene Chloride	10.0	9.42		ug/L		94	77 - 125
Methyl tert-butyl ether	10.0	9.93		ug/L		99	72 - 130
trans-1,2-Dichloroethene	10.0	7.68		ug/L		77	77 - 124
1,1-Dichloroethane	10.0	9.15		ug/L		92	70 - 129
2-Butanone (MEK)	50.0	43.1		ug/L		86	65 - 127
2,2-Dichloropropane	10.0	9.94		ug/L		99	62 - 140
cis-1,2-Dichloroethene	10.0	7.95		ug/L		80	76 - 129
Bromochloromethane	10.0	9.06		ug/L		91	78 - 120
Chloroform	10.0	9.82		ug/L		98	73 - 127
1,1,1-Trichloroethane	10.0	9.95		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.03		ug/L		90	72 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	10.0	8.99		ug/L		90	80 - 120
Benzene	10.0	9.50		ug/L		95	75 - 121
1,2-Dichloroethane	10.0	10.1		ug/L		101	76 - 131
Trichloroethene	10.0	9.00		ug/L		90	70 - 120
1,2-Dichloropropane	10.0	9.67		ug/L		97	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	41.5		ug/L		83	69 - 124
Dibromomethane	10.0	9.94		ug/L		99	80 - 120
Bromodichloromethane	10.0	10.0		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	10.7		ug/L		107	77 - 120
Toluene	10.0	9.72		ug/L		97	80 - 120
trans-1,3-Dichloropropene	10.0	9.50		ug/L		95	80 - 122
1,1,2-Trichloroethane	10.0	9.43		ug/L		94	80 - 121
Tetrachloroethene	10.0	8.59		ug/L		86	76 - 120
1,3-Dichloropropane	10.0	9.65		ug/L		96	79 - 120
Dibromochloromethane	10.0	9.03		ug/L		90	71 - 120
1,2-Dibromoethane	10.0	9.35		ug/L		93	79 - 120
Chlorobenzene	10.0	9.35		ug/L		94	80 - 120
1,1,1,2-Tetrachloroethane	10.0	8.75		ug/L		87	79 - 120
Ethylbenzene	10.0	9.09		ug/L		91	80 - 120
m-Xylene & p-Xylene	10.0	9.45		ug/L		95	80 - 120
o-Xylene	10.0	8.90		ug/L		89	80 - 120
Styrene	10.0	8.63		ug/L		86	76 - 121
Bromoform	10.0	7.92		ug/L		79	61 - 132
Isopropylbenzene	10.0	9.07		ug/L		91	75 - 120
Bromobenzene	10.0	9.41		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	10.0	9.50		ug/L		95	74 - 124
1,2,3-Trichloropropane	10.0	9.49		ug/L		95	76 - 124
N-Propylbenzene	10.0	9.52		ug/L		95	80 - 120
2-Chlorotoluene	10.0	9.62		ug/L		96	80 - 120
4-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120
t-Butylbenzene	10.0	9.62		ug/L		96	80 - 121
1,2,4-Trimethylbenzene	10.0	9.99		ug/L		100	80 - 120
sec-Butylbenzene	10.0	9.83		ug/L		98	78 - 120
4-Isopropyltoluene	10.0	9.69		ug/L		97	77 - 120
1,3-Dichlorobenzene	10.0	8.84		ug/L		88	80 - 120
1,4-Dichlorobenzene	10.0	9.52		ug/L		95	80 - 120
n-Butylbenzene	10.0	10.1		ug/L		101	78 - 120
1,2-Dichlorobenzene	10.0	9.39		ug/L		94	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.97	J	ug/L		90	65 - 125
1,2,4-Trichlorobenzene	10.0	8.54		ug/L		85	57 - 140
Hexachlorobutadiene	10.0	9.55		ug/L		96	74 - 125
Naphthalene	10.0	11.8		ug/L		118	44 - 144
1,2,3-Trichlorobenzene	10.0	11.0		ug/L		110	23 - 150
1,3,5-Trimethylbenzene	10.0	10.0		ug/L		100	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	4.88	J	ug/L		49	20 - 150	9	35
Chloromethane			10.0	7.67	J	ug/L		77	52 - 135	0	23
Vinyl chloride			10.0	7.92		ug/L		79	65 - 130	4	28
Bromomethane			10.0	8.66		ug/L		87	66 - 125	3	27
Chloroethane			10.0	8.00		ug/L		80	65 - 132	0	35
Trichlorofluoromethane			10.0	8.40		ug/L		84	64 - 136	5	27
Carbon disulfide			10.0	5.43	*	ug/L		54	69 - 122	3	20
1,1-Dichloroethene			10.0	8.51		ug/L		85	70 - 129	3	27
Acetone			50.0	49.5	J	ug/L		99	43 - 150	1	35
Methylene Chloride			10.0	9.65		ug/L		96	77 - 125	2	18
Methyl tert-butyl ether			10.0	9.84		ug/L		98	72 - 130	1	18
trans-1,2-Dichloroethene			10.0	6.79	*	ug/L		68	77 - 124	12	21
1,1-Dichloroethane			10.0	9.78		ug/L		98	70 - 129	7	26
2-Butanone (MEK)			50.0	48.6		ug/L		97	65 - 127	12	29
2,2-Dichloropropane			10.0	10.1		ug/L		101	62 - 140	2	23
cis-1,2-Dichloroethene			10.0	8.75		ug/L		87	76 - 129	10	15
Bromochloromethane			10.0	9.17		ug/L		92	78 - 120	1	20
Chloroform			10.0	10.4		ug/L		104	73 - 127	6	22
1,1,1-Trichloroethane			10.0	9.45		ug/L		94	74 - 130	5	18
Carbon tetrachloride			10.0	8.99		ug/L		90	72 - 129	0	19
1,1-Dichloropropene			10.0	8.89		ug/L		89	80 - 120	1	14
Benzene			10.0	9.55		ug/L		95	75 - 121	1	14
1,2-Dichloroethane			10.0	10.2		ug/L		102	76 - 131	2	18
Trichloroethene			10.0	9.01		ug/L		90	70 - 120	0	21
1,2-Dichloropropane			10.0	9.68		ug/L		97	72 - 126	0	26
4-Methyl-2-pentanone (MIBK)			50.0	45.5		ug/L		91	69 - 124	9	22
Dibromomethane			10.0	9.88		ug/L		99	80 - 120	1	22
Bromodichloromethane			10.0	10.1		ug/L		101	75 - 124	1	22
cis-1,3-Dichloropropene			10.0	9.80		ug/L		98	77 - 120	9	20
Toluene			10.0	9.49		ug/L		95	80 - 120	2	19
trans-1,3-Dichloropropene			10.0	9.51		ug/L		95	80 - 122	0	25
1,1,2-Trichloroethane			10.0	9.24		ug/L		92	80 - 121	2	21
Tetrachloroethene			10.0	8.14		ug/L		81	76 - 120	5	20
1,3-Dichloropropane			10.0	9.64		ug/L		96	79 - 120	0	26
Dibromochloromethane			10.0	9.08		ug/L		91	71 - 120	1	24
1,2-Dibromoethane			10.0	9.37		ug/L		94	79 - 120	0	20
Chlorobenzene			10.0	9.40		ug/L		94	80 - 120	0	15
1,1,1,2-Tetrachloroethane			10.0	9.09		ug/L		91	79 - 120	4	20
Ethylbenzene			10.0	9.06		ug/L		91	80 - 120	0	14
m-Xylene & p-Xylene			10.0	9.44		ug/L		94	80 - 120	0	14

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene			10.0	9.13		ug/L		91	80 - 120	3	16
Styrene			10.0	8.85		ug/L		89	76 - 121	3	16
Bromoform			10.0	8.74		ug/L		87	61 - 132	10	20
Isopropylbenzene			10.0	9.29		ug/L		93	75 - 120	2	20
Bromobenzene			10.0	9.10		ug/L		91	80 - 120	3	13
1,1,2,2-Tetrachloroethane			10.0	9.81		ug/L		98	74 - 124	3	18
1,2,3-Trichloropropane			10.0	9.58		ug/L		96	76 - 124	1	30
N-Propylbenzene			10.0	9.19		ug/L		92	80 - 120	4	13
2-Chlorotoluene			10.0	9.15		ug/L		92	80 - 120	5	15
4-Chlorotoluene			10.0	9.65		ug/L		96	80 - 120	5	14
t-Butylbenzene			10.0	9.12		ug/L		91	80 - 121	5	14
1,2,4-Trimethylbenzene			10.0	9.52		ug/L		95	80 - 120	5	16
sec-Butylbenzene			10.0	9.37		ug/L		94	78 - 120	5	15
4-Isopropyltoluene			10.0	9.18		ug/L		92	77 - 120	5	13
1,3-Dichlorobenzene			10.0	8.68		ug/L		87	80 - 120	2	14
1,4-Dichlorobenzene			10.0	9.15		ug/L		92	80 - 120	4	17
n-Butylbenzene			10.0	9.81		ug/L		98	78 - 120	3	14
1,2-Dichlorobenzene			10.0	9.16		ug/L		92	80 - 120	2	15
1,2-Dibromo-3-Chloropropane			10.0	8.99	J	ug/L		90	65 - 125	0	27
1,2,4-Trichlorobenzene			10.0	8.83		ug/L		88	57 - 140	3	27
Hexachlorobutadiene			10.0	8.88		ug/L		89	74 - 125	7	22
Naphthalene			10.0	11.1		ug/L		111	44 - 144	6	31
1,2,3-Trichlorobenzene			10.0	10.4		ug/L		104	23 - 150	6	35
1,3,5-Trimethylbenzene			10.0	9.49		ug/L		95	80 - 120	5	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 329883

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND		10.0	6.16	J	ug/L		62	20 - 150
Chloromethane	ND		10.0	8.57	J	ug/L		86	52 - 135
Vinyl chloride	ND		10.0	9.75		ug/L		97	65 - 130
Bromomethane	ND		10.0	8.97		ug/L		90	66 - 125
Chloroethane	ND		10.0	9.42		ug/L		94	65 - 132
Trichlorofluoromethane	ND		10.0	10.4		ug/L		104	64 - 136
Carbon disulfide	ND	*	10.0	7.44		ug/L		74	69 - 122
1,1-Dichloroethene	ND		10.0	10.1		ug/L		101	70 - 129
Acetone	ND		50.0	42.1	J	ug/L		84	43 - 150
Methylene Chloride	ND		10.0	9.78		ug/L		98	77 - 125
Methyl tert-butyl ether	ND		10.0	10.2		ug/L		102	72 - 130
trans-1,2-Dichloroethene	3.0	*	10.0	12.9		ug/L		99	77 - 124

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 329883

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	0.27	J	10.0	10.3		ug/L		100	70 - 129
2-Butanone (MEK)	ND		50.0	44.9		ug/L		90	65 - 127
2,2-Dichloropropane	ND		10.0	10.2		ug/L		102	62 - 140
cis-1,2-Dichloroethene	5.6	F1	10.0	25.3	F1	ug/L		197	76 - 129
Bromochloromethane	ND		10.0	9.40		ug/L		94	78 - 120
Chloroform	ND		10.0	10.7		ug/L		107	73 - 127
1,1,1-Trichloroethane	ND		10.0	11.2		ug/L		112	74 - 130
Carbon tetrachloride	ND		10.0	10.8		ug/L		108	72 - 129
1,1-Dichloropropene	ND		10.0	10.7		ug/L		107	80 - 120
Benzene	0.52	J	10.0	10.7		ug/L		101	75 - 121
1,2-Dichloroethane	ND		10.0	10.8		ug/L		108	76 - 131
Trichloroethene	15		10.0	24.0		ug/L		88	70 - 120
1,2-Dichloropropane	ND		10.0	10.4		ug/L		104	72 - 126
4-Methyl-2-pentanone (MIBK)	ND		50.0	45.8		ug/L		92	69 - 124
Dibromomethane	ND		10.0	10.3		ug/L		103	80 - 120
Bromodichloromethane	ND		10.0	10.5		ug/L		105	75 - 124
cis-1,3-Dichloropropene	ND		10.0	11.5		ug/L		115	77 - 120
Toluene	ND		10.0	10.7		ug/L		107	80 - 120
trans-1,3-Dichloropropene	ND		10.0	9.86		ug/L		99	80 - 122
1,1,2-Trichloroethane	ND		10.0	9.93		ug/L		99	80 - 121
Tetrachloroethene	ND		10.0	9.76		ug/L		98	76 - 120
1,3-Dichloropropane	ND		10.0	9.99		ug/L		100	79 - 120
Dibromochloromethane	ND		10.0	9.31		ug/L		93	71 - 120
1,2-Dibromoethane	ND		10.0	9.78		ug/L		98	79 - 120
1,1,1,2-Tetrachloroethane	ND		10.0	9.43		ug/L		94	79 - 120
Ethylbenzene	ND		10.0	10.5		ug/L		105	80 - 120
m-Xylene & p-Xylene	ND		10.0	10.4		ug/L		104	80 - 120
o-Xylene	ND		10.0	9.68		ug/L		97	80 - 120
Styrene	ND		10.0	9.15		ug/L		92	76 - 121
Bromoform	ND		10.0	8.39		ug/L		84	61 - 132
Isopropylbenzene	ND		10.0	10.1		ug/L		101	75 - 120
Bromobenzene	ND		10.0	10.4		ug/L		104	80 - 120
1,1,2,2-Tetrachloroethane	ND		10.0	10.9		ug/L		109	74 - 124
1,2,3-Trichloropropane	ND		10.0	10.4		ug/L		104	76 - 124
N-Propylbenzene	ND		10.0	10.9		ug/L		109	80 - 120
2-Chlorotoluene	ND		10.0	10.5		ug/L		105	80 - 120
4-Chlorotoluene	ND		10.0	11.0		ug/L		110	80 - 120
t-Butylbenzene	ND		10.0	10.9		ug/L		109	80 - 121
1,2,4-Trimethylbenzene	ND		10.0	10.8		ug/L		108	80 - 120
sec-Butylbenzene	ND		10.0	11.1		ug/L		111	78 - 120
4-Isopropyltoluene	ND		10.0	10.7		ug/L		107	77 - 120
1,3-Dichlorobenzene	ND		10.0	8.83		ug/L		88	80 - 120
1,4-Dichlorobenzene	ND		10.0	10.5		ug/L		105	80 - 120
n-Butylbenzene	ND		10.0	10.9		ug/L		109	78 - 120
1,2-Dichlorobenzene	ND		10.0	10.0		ug/L		100	80 - 120
1,2-Dibromo-3-Chloropropane	ND		10.0	8.18	J	ug/L		82	65 - 125
1,2,4-Trichlorobenzene	ND		10.0	6.87		ug/L		69	57 - 140
Hexachlorobutadiene	ND		10.0	8.05		ug/L		81	74 - 125
Naphthalene	ND		10.0	9.00		ug/L		90	44 - 144

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 329883

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichlorobenzene	ND		10.0	8.58		ug/L		86	23 - 150
1,3,5-Trimethylbenzene	ND		10.0	10.9		ug/L		109	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: 580-94989-1 MSD
Matrix: Water
Analysis Batch: 329883

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		10.0	5.91	J	ug/L		59	20 - 150	4	35
Chloromethane	ND		10.0	8.48	J	ug/L		85	52 - 135	1	23
Vinyl chloride	ND		10.0	9.68		ug/L		97	65 - 130	1	28
Bromomethane	ND		10.0	9.35		ug/L		93	66 - 125	4	27
Chloroethane	ND		10.0	9.32		ug/L		93	65 - 132	1	35
Trichlorofluoromethane	ND		10.0	10.6		ug/L		106	64 - 136	2	27
Carbon disulfide	ND	*	10.0	6.94		ug/L		69	69 - 122	7	20
1,1-Dichloroethene	ND		10.0	10.2		ug/L		102	70 - 129	1	27
Acetone	ND		50.0	44.2	J	ug/L		88	43 - 150	5	35
Methylene Chloride	ND		10.0	9.96		ug/L		100	77 - 125	2	18
Methyl tert-butyl ether	ND		10.0	10.3		ug/L		103	72 - 130	0	18
trans-1,2-Dichloroethene	3.0	*	10.0	14.0		ug/L		109	77 - 124	8	21
1,1-Dichloroethane	0.27	J	10.0	10.5		ug/L		102	70 - 129	2	26
2-Butanone (MEK)	ND		50.0	48.8		ug/L		98	65 - 127	8	29
2,2-Dichloropropane	ND		10.0	10.1		ug/L		101	62 - 140	2	23
cis-1,2-Dichloroethene	5.6	F1	10.0	24.3	F1	ug/L		186	76 - 129	4	15
Bromochloromethane	ND		10.0	9.54		ug/L		95	78 - 120	1	20
Chloroform	ND		10.0	10.8		ug/L		108	73 - 127	1	22
1,1,1-Trichloroethane	ND		10.0	11.0		ug/L		110	74 - 130	2	18
Carbon tetrachloride	ND		10.0	10.8		ug/L		108	72 - 129	0	19
1,1-Dichloropropene	ND		10.0	10.4		ug/L		104	80 - 120	3	14
Benzene	0.52	J	10.0	10.8		ug/L		103	75 - 121	1	14
1,2-Dichloroethane	ND		10.0	10.5		ug/L		105	76 - 131	3	18
Trichloroethene	15		10.0	23.5		ug/L		84	70 - 120	2	21
1,2-Dichloropropane	ND		10.0	10.4		ug/L		104	72 - 126	0	26
4-Methyl-2-pentanone (MIBK)	ND		50.0	47.9		ug/L		96	69 - 124	4	22
Dibromomethane	ND		10.0	10.4		ug/L		104	80 - 120	0	22
Bromodichloromethane	ND		10.0	10.1		ug/L		101	75 - 124	4	22
cis-1,3-Dichloropropene	ND		10.0	11.3		ug/L		113	77 - 120	2	20
Toluene	ND		10.0	10.6		ug/L		106	80 - 120	1	19
trans-1,3-Dichloropropene	ND		10.0	9.87		ug/L		99	80 - 122	0	25
1,1,2-Trichloroethane	ND		10.0	9.90		ug/L		99	80 - 121	0	21
Tetrachloroethene	ND		10.0	9.56		ug/L		96	76 - 120	2	20
1,3-Dichloropropane	ND		10.0	10.3		ug/L		103	79 - 120	3	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94989-1 MSD
Matrix: Water
Analysis Batch: 329883

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromochloromethane	ND		10.0	9.41		ug/L		94	71 - 120	1	24
1,2-Dibromoethane	ND		10.0	9.91		ug/L		99	79 - 120	1	20
1,1,1,2-Tetrachloroethane	ND		10.0	9.48		ug/L		95	79 - 120	1	20
Ethylbenzene	ND		10.0	10.4		ug/L		104	80 - 120	1	14
m-Xylene & p-Xylene	ND		10.0	10.4		ug/L		104	80 - 120	0	14
o-Xylene	ND		10.0	9.73		ug/L		97	80 - 120	0	16
Styrene	ND		10.0	9.39		ug/L		94	76 - 121	3	16
Bromoform	ND		10.0	8.54		ug/L		85	61 - 132	2	20
Isopropylbenzene	ND		10.0	10.2		ug/L		102	75 - 120	1	20
Bromobenzene	ND		10.0	10.2		ug/L		102	80 - 120	2	13
1,1,2,2-Tetrachloroethane	ND		10.0	10.7		ug/L		107	74 - 124	1	18
1,2,3-Trichloropropane	ND		10.0	10.6		ug/L		106	76 - 124	1	30
N-Propylbenzene	ND		10.0	10.6		ug/L		106	80 - 120	3	13
2-Chlorotoluene	ND		10.0	10.5		ug/L		105	80 - 120	0	15
4-Chlorotoluene	ND		10.0	10.9		ug/L		109	80 - 120	1	14
t-Butylbenzene	ND		10.0	10.6		ug/L		106	80 - 121	2	14
1,2,4-Trimethylbenzene	ND		10.0	10.7		ug/L		107	80 - 120	1	16
sec-Butylbenzene	ND		10.0	10.9		ug/L		109	78 - 120	2	15
4-Isopropyltoluene	ND		10.0	10.4		ug/L		104	77 - 120	2	13
1,3-Dichlorobenzene	ND		10.0	8.78		ug/L		88	80 - 120	1	14
1,4-Dichlorobenzene	ND		10.0	10.5		ug/L		105	80 - 120	0	17
n-Butylbenzene	ND		10.0	10.9		ug/L		109	78 - 120	1	14
1,2-Dichlorobenzene	ND		10.0	9.92		ug/L		99	80 - 120	1	15
1,2-Dibromo-3-Chloropropane	ND		10.0	8.91	J	ug/L		89	65 - 125	9	27
1,2,4-Trichlorobenzene	ND		10.0	7.70		ug/L		77	57 - 140	11	27
Hexachlorobutadiene	ND		10.0	8.16		ug/L		82	74 - 125	1	22
Naphthalene	ND		10.0	10.2		ug/L		102	44 - 144	12	31
1,2,3-Trichlorobenzene	ND		10.0	9.09		ug/L		91	23 - 150	6	35
1,3,5-Trimethylbenzene	ND		10.0	10.7		ug/L		107	80 - 120	2	14

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 580-329771/1-A
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		200	44	ug/L			06/10/20 23:14	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/10/20 23:14*	*100*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*06/10/20 23:14*	*100*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/10/20 23:14*	*100*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/10/20 23:14*	*100*

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-330266/10
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/10/20 23:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/10/20 23:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/10/20 23:41*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/10/20 23:41*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/10/20 23:41*	*1*

Lab Sample ID: LCS 580-330266/6
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene			10.0	10.5		ug/L		105	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-330266/7
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			10.0	9.61		ug/L		96	80 - 120	9	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 330266

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene	1100		1000	2130		ug/L		100	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-94989-1 MSD
Matrix: Water
Analysis Batch: 330266

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene	1100		1000	2140		ug/L		100	80 - 120	0	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 126*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-329617/1-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329617

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.015	0.0060	ug/L		06/02/20 12:07	06/04/20 20:13	1
4,4'-DDE	ND		0.010	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
4,4'-DDT	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Aldrin	ND		0.024	0.0070	ug/L		06/02/20 12:07	06/04/20 20:13	1
alpha-BHC	ND		0.018	0.0040	ug/L		06/02/20 12:07	06/04/20 20:13	1
cis-Chlordane	ND		0.027	0.0080	ug/L		06/02/20 12:07	06/04/20 20:13	1
beta-BHC	ND		0.021	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Chlordane (technical)	ND		0.20	0.030	ug/L		06/02/20 12:07	06/04/20 20:13	1
delta-BHC	ND		0.015	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Dieldrin	ND		0.018	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan I	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan II	ND		0.024	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin	ND		0.012	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin aldehyde	ND		0.060	0.034	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/04/20 20:13	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
trans-Chlordane	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Heptachlor	ND		0.015	0.0040	ug/L		06/02/20 12:07	06/04/20 20:13	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Methoxychlor	ND		0.10	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Toxaphene	ND		2.0	0.46	ug/L		06/02/20 12:07	06/04/20 20:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*45 - 127*	*06/02/20 12:07*	*06/04/20 20:13*	*1*
Tetrachloro-m-xylene	*66*		*33 - 120*	*06/02/20 12:07*	*06/04/20 20:13*	*1*

Lab Sample ID: LCS 580-329617/2-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.200	0.180		ug/L		90	53 - 139

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-329617/2-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329617

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDE			0.200	0.171		ug/L		85	47 - 126		
4,4'-DDT			0.200	0.184		ug/L		92	38 - 150		
Aldrin			0.200	0.118		ug/L		59	30 - 124		
alpha-BHC			0.200	0.164		ug/L		82	53 - 120		
cis-Chlordane			0.200	0.166		ug/L		83	56 - 120		
beta-BHC			0.200	0.162		ug/L		81	63 - 120		
delta-BHC			0.200	0.172		ug/L		86	44 - 120		
Dieldrin			0.200	0.176		ug/L		88	61 - 122		
Endosulfan I			0.200	0.165		ug/L		83	62 - 123		
Endosulfan II			0.200	0.158		ug/L		79	52 - 121		
Endosulfan sulfate			0.200	0.166		ug/L		83	60 - 120		
Endrin			0.200	0.202		ug/L		101	45 - 140		
Endrin aldehyde			0.200	0.152		ug/L		76	47 - 136		
Endrin ketone			0.200	0.163		ug/L		81	60 - 137		
gamma-BHC (Lindane)			0.200	0.159		ug/L		79	53 - 120		
trans-Chlordane			0.200	0.162		ug/L		81	49 - 121		
Heptachlor			0.200	0.143		ug/L		71	38 - 127		
Heptachlor epoxide			0.200	0.175		ug/L		87	49 - 126		
Methoxychlor			0.200	0.204		ug/L		102	35 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*76*		*45 - 127*
Tetrachloro-m-xylene	*67*		*33 - 120*

Lab Sample ID: LCSD 580-329617/4-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329617

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toxaphene			4.00	3.72		ug/L		93	57 - 120	6	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*80*		*45 - 127*
Tetrachloro-m-xylene	*67*		*33 - 120*

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 330667

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD	0.059	F1	0.204	0.158	F1	ug/L		48	53 - 139		
4,4'-DDE	ND	F1	0.204	0.0898	F1	ug/L		44	47 - 126		
4,4'-DDT	0.033		0.204	0.111		ug/L		38	38 - 150		
Aldrin	ND	F2 F1	0.204	0.0502	F1	ug/L		25	30 - 124		
alpha-BHC	ND	F2 F1	0.204	0.0850	F1	ug/L		42	53 - 120		
cis-Chlordane	ND	F2 F1	0.204	0.0895	F1	ug/L		44	56 - 120		
beta-BHC	ND	F1	0.204	0.0940	F1	ug/L		46	63 - 120		
delta-BHC	ND		0.204	0.0939		ug/L		46	44 - 120		

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 330667

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dieldrin	ND	F2 F1	0.204	0.0501	F1	ug/L		25	61 - 122
Endosulfan I	ND	F2 F1	0.204	0.107	F1	ug/L		52	62 - 123
Endosulfan II	ND	F1	0.204	0.0888	F1	ug/L		44	52 - 121
Endosulfan sulfate	ND	F1	0.204	0.114	F1	ug/L		56	60 - 120
Endrin	ND		0.204	0.137		ug/L		67	45 - 140
Endrin aldehyde	ND		0.204	0.174		ug/L		85	47 - 136
Endrin ketone	ND	F1	0.204	0.0922	F1	ug/L		45	60 - 137
gamma-BHC (Lindane)	ND	F1	0.204	0.0910	F1	ug/L		45	53 - 120
trans-Chlordane	ND	F2 F1	0.204	0.0877	F1	ug/L		43	49 - 121
Heptachlor	ND	F2 F1	0.204	0.0621	F1	ug/L		30	38 - 127
Heptachlor epoxide	ND	F1	0.204	0.0958	F1	ug/L		47	49 - 126
Methoxychlor	ND		0.204	0.120		ug/L		59	35 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*38*	*X*	*45 - 127*
Tetrachloro-m-xylene	*41*		*33 - 120*

Lab Sample ID: 580-94989-1 MSD
Matrix: Water
Analysis Batch: 330667

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA
Prep Batch: 329617

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.059	F1	0.209	0.186		ug/L		61	53 - 139	16	19
4,4'-DDE	ND	F1	0.209	0.110		ug/L		53	47 - 126	20	20
4,4'-DDT	0.033		0.209	0.130		ug/L		46	38 - 150	16	23
Aldrin	ND	F2 F1	0.209	0.0692	F2	ug/L		33	30 - 124	32	27
alpha-BHC	ND	F2 F1	0.209	0.104	F2 F1	ug/L		50	53 - 120	20	18
cis-Chlordane	ND	F2 F1	0.209	0.110	F2 F1	ug/L		53	56 - 120	20	17
beta-BHC	ND	F1	0.209	0.104	F1	ug/L		50	63 - 120	11	19
delta-BHC	ND		0.209	0.108		ug/L		52	44 - 120	14	18
Dieldrin	ND	F2 F1	0.209	0.116	F2 F1	ug/L		56	61 - 122	79	20
Endosulfan I	ND	F2 F1	0.209	0.129	F2	ug/L		62	62 - 123	19	18
Endosulfan II	ND	F1	0.209	0.104	F1	ug/L		50	52 - 121	16	21
Endosulfan sulfate	ND	F1	0.209	0.129		ug/L		62	60 - 120	13	26
Endrin	ND		0.209	0.159		ug/L		76	45 - 140	15	35
Endrin aldehyde	ND		0.209	0.199		ug/L		95	47 - 136	14	25
Endrin ketone	ND	F1	0.209	0.108	F1	ug/L		52	60 - 137	15	18
gamma-BHC (Lindane)	ND	F1	0.209	0.104	F1	ug/L		50	53 - 120	13	21
trans-Chlordane	ND	F2 F1	0.209	0.108	F2	ug/L		52	49 - 121	20	18
Heptachlor	ND	F2 F1	0.209	0.0887	F2	ug/L		42	38 - 127	35	26
Heptachlor epoxide	ND	F1	0.209	0.115		ug/L		55	49 - 126	18	18
Methoxychlor	ND		0.209	0.163		ug/L		78	35 - 150	30	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*43*	*X*	*45 - 127*
Tetrachloro-m-xylene	*41*		*33 - 120*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-611270/6
Matrix: Water
Analysis Batch: 611270

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 07:06	1

Lab Sample ID: LCS 440-611270/5
Matrix: Water
Analysis Batch: 611270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.7		ug/L		99	90 - 110

Lab Sample ID: MRL 440-611270/4
Matrix: Water
Analysis Batch: 611270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.995	J	ug/L		100	50 - 150

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 611270

Client Sample ID: MWA-8i-052820
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	51.4		ug/L		103	90 - 110

Lab Sample ID: 580-94989-1 MSD
Matrix: Water
Analysis Batch: 611270

Client Sample ID: MWA-8i-052820
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		50.0	52.3		ug/L		105	90 - 110	2	10

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610910/6
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/02/20 11:13	1

Lab Sample ID: LCS 440-610910/5
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.1		ug/L		101	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-610910/8
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.12		ug/L		103	75 - 125

Lab Sample ID: MB 440-612670/6
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/15/20 10:35	1

Lab Sample ID: LCS 440-612670/5
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.88		ug/L		99	85 - 115

Lab Sample ID: MRL 440-612670/4
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.03	J	ug/L		103	75 - 125

Lab Sample ID: MRL 440-612670/8
Matrix: Water
Analysis Batch: 612670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.95	J	ug/L		99	75 - 125

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 612670

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		500	508		ug/L		102	80 - 120

Lab Sample ID: 580-94989-1 MSD
Matrix: Water
Analysis Batch: 612670

Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		500	507		ug/L		101	80 - 120	0	15

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329562/15-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 01:25	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 01:25	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 01:25	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 01:25	5

Lab Sample ID: LCS 580-329562/16-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.947		mg/L		95	80 - 120
Chromium	1.00	1.02		mg/L		102	80 - 120
Iron	20.0	20.8		mg/L		104	80 - 120
Manganese	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-329562/17-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	0.949		mg/L		95	80 - 120	0	20
Chromium	1.00	1.02		mg/L		102	80 - 120	0	20
Iron	20.0	20.6		mg/L		103	80 - 120	1	20
Manganese	1.00	1.01		mg/L		101	80 - 120	1	20

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 329715

Client Sample ID: MWA-8i-052820
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.024		1.00	0.933		mg/L		91	80 - 120
Chromium	0.010		1.00	0.975		mg/L		96	80 - 120
Iron	1.1		20.0	21.2		mg/L		101	80 - 120
Manganese	0.14		1.00	1.07		mg/L		93	80 - 120

Lab Sample ID: 580-94989-1 MSD
Matrix: Water
Analysis Batch: 329715

Client Sample ID: MWA-8i-052820
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.024		1.00	0.909		mg/L		89	80 - 120	3	20
Chromium	0.010		1.00	0.949		mg/L		94	80 - 120	3	20
Iron	1.1		20.0	20.6		mg/L		98	80 - 120	3	20
Manganese	0.14		1.00	1.05		mg/L		90	80 - 120	3	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-94989-1 DU
Matrix: Water
Analysis Batch: 329715

Client Sample ID: MWA-8i-052820
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.024		0.0233		mg/L		2	20
Chromium	0.010		0.0107		mg/L		4	20
Iron	1.1		1.09		mg/L		0.3	20
Manganese	0.14		0.142		mg/L		0.2	20

Lab Sample ID: MB 580-329564/20-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/02/20 23:31	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/02/20 23:31	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/02/20 23:31	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:56	06/02/20 23:31	5

Lab Sample ID: LCS 580-329564/21-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.04		mg/L		104	80 - 120
Chromium	1.00	1.10		mg/L		110	80 - 120
Iron	20.0	22.1		mg/L		110	80 - 120
Manganese	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: LCSD 580-329564/22-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.03		mg/L		103	80 - 120	1	20
Chromium	1.00	1.10		mg/L		110	80 - 120	0	20
Iron	20.0	22.4		mg/L		112	80 - 120	1	20
Manganese	1.00	1.09		mg/L		109	80 - 120	1	20

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 329715

Client Sample ID: MWA-8i-052820
Prep Type: Dissolved
Prep Batch: 329564

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.022		1.00	0.959		mg/L		94	80 - 120
Chromium	0.0032	J	1.00	0.997		mg/L		99	80 - 120
Iron	0.28	J	20.0	20.7		mg/L		102	80 - 120
Manganese	0.057		1.00	1.05		mg/L		99	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-94989-1 MSD
Matrix: Water
Analysis Batch: 329715
Client Sample ID: MWA-8i-052820
Prep Type: Dissolved
Prep Batch: 329564

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.022		1.00	0.990		mg/L		97	80 - 120	3	20
Chromium	0.0032	J	1.00	1.03		mg/L		102	80 - 120	3	20
Iron	0.28	J	20.0	21.3		mg/L		105	80 - 120	3	20
Manganese	0.057		1.00	1.11		mg/L		105	80 - 120	5	20

Lab Sample ID: 580-94989-1 DU
Matrix: Water
Analysis Batch: 329715
Client Sample ID: MWA-8i-052820
Prep Type: Dissolved
Prep Batch: 329564

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.022		0.0224		mg/L		2	20
Chromium	0.0032	J	0.00350	J	mg/L		9	20
Iron	0.28	J	0.290	J	mg/L		3	20
Manganese	0.057		0.0587		mg/L		3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329693/3
Matrix: Water
Analysis Batch: 329693
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			06/02/20 14:35	1

Lab Sample ID: LCS 580-329693/4
Matrix: Water
Analysis Batch: 329693
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.0		mg/L		104	90 - 110

Lab Sample ID: LCSD 580-329693/5
Matrix: Water
Analysis Batch: 329693
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	52.0		mg/L		104	90 - 110	0	15

Lab Sample ID: 580-94989-1 MS
Matrix: Water
Analysis Batch: 329693
Client Sample ID: MWA-8i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	460		500	939		mg/L		95	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 580-94989-1 MSD
Client Sample ID: MWA-8i-052820
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 329693

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	460		500	939		mg/L		95	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-94989-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-8i-052820
Lab Sample ID: 580-94989-1
Date Collected: 05/28/20 13:43
Matrix: Water
Date Received: 05/28/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/05/20 00:09	W1T	TAL SEA
Total/NA	Analysis	8260D		100	330266	06/11/20 02:49	CJB	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		1	330667	06/15/20 16:31	RSB	TAL SEA
Dissolved	Analysis	218.6		5	611270	06/04/20 14:07	RW	TAL IRV
Total/NA	Analysis	314.0		50	612670	06/16/20 00:04	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/02/20 23:34	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 01:31	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329693	06/02/20 19:27	AAC	TAL SEA

Client Sample ID: DUP-04-052820
Lab Sample ID: 580-94989-2
Date Collected: 05/28/20 13:43
Matrix: Water
Date Received: 05/28/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/05/20 01:29	W1T	TAL SEA
Total/NA	Analysis	8260D	DL	100	330266	06/11/20 04:36	CJB	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		1	330667	06/15/20 18:09	RSB	TAL SEA
Dissolved	Analysis	218.6		5	611270	06/04/20 14:45	RW	TAL IRV
Total/NA	Analysis	314.0		50	610910	06/03/20 00:08	OH1	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 01:00	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 02:25	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329693	06/02/20 20:26	AAC	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-94989-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-94989-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94989-1	MWA-8i-052820	Water	05/28/20 13:43	05/28/20 16:30	
580-94989-2	DUP-04-052820	Water	05/28/20 13:43	05/28/20 16:30	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: D.Suto A.Johnson	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
MWA-8i-052820	5/28/20	1343	G	Water	Y	Y	X		X	X	X	X		X	X	3	Dil. VOC
DUP-04-052820	5/28/20	1343	G	Water	Y	N	X		X	X	X	X		X	X	1	Dil. VOC
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													

580-94989 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/28/20	ERM		5/28/20 1630	TAPOR
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.1

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: D.Suto A.Johnson	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 1
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: 0543821.107			
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:			
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
MW-8i-052820	5/28/20	1343	G	Water	Y	Y	X		X	X	X	X		X	X	30	Dil. VOC
DUP-04-052820	5/28/20	1343	G	Water	Y	N	X		X	X	X	X		X	X	10	Dil. VOC
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													
				Water													

580-94989 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 5/28/20	Company: ERM	Received by:	Date/Time: 5/28/20 1630	Company: TAPOR
Relinquished by:	Date/Time: 5/75/20 1700	Company: TAPOR	Received by: Tom Blank	Date/Time: 5/29/20 0945	Company: TA-Sea
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.1 IR7 3A/3.2

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone. 253-922-2310 Fax 253-922-5047

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No: 580-77236 1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-94989-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/16/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	218.6_Pres_ORGF/FIELD_FLTRD	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MWA-8i-052820 (580-94989-1)	5/28/20	13:43 Pacific		Water			X	X	2	, Sample should have been field filtered then preserved by Portland Please confirm
MWA-8i-052820 (580-94989-1MS)	5/28/20	13:43 Pacific	MS	Water			X	X	2	, Sample should have been field filtered then preserved by Portland. Please confirm
MWA-8i-052820 (580-94989-1MSD)	5/28/20	13:43 Pacific	MSD	Water			X	X	2	, Sample should have been field filtered then preserved by Portland Please confirm
DUP-04-052820 (580-94989-2)	5/28/20	13:43 Pacific		Water			X	X	2	, Sample should have been field filtered then preserved by Portland Please confirm

Note Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date.	Time:	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	5/29/20 1700	TA FOR			
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
			SO	5/30/20 1040	EC-IRV

Custody Seals Intact	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		4.0/4.C IR-89

Ver: 01/16/2019

6/17/2020

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94989-1

Login Number: 94989
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-94989-1

Login Number: 94989
List Number: 2
Creator: Dolidze, Lado

List Source: Eurofins Irvine
List Creation: 05/30/20 12:05 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-95012-1
Client Project/Site: Arkema - Q2 2020 Groundwater Event
Revision: 1

For:
ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Erica Whiting

Authorized for release by:
7/8/2020 3:56:05 PM

Sheri Cruz, Project Manager I
(253)922-2310
sheri.cruz@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-95012-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-95012-1

Comments
Revised report for narrative comments on 7/8/2020. Methods 5030B, 8260D: Insufficient sample remained for the following sample for 8260D analysis. Autosampler punctured the vial but no data was collected. There are no more vials to analyze, therefore 8260D analysis was cancelled: TB-01-052920 (580-95012-9).

Receipt
The samples were received on 5/29/2020 12:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8º C.

Receipt Exceptions
The reference method requires samples to be preserved to a pH of 9.3 to 9.7 within 24 hours. The following samples were received unpreserved PA-36-052820 (580-95012-1), PA-37i-052820 (580-95012-2), MWA-22-052820 (580-95012-3), PA-19d-052920 (580-95012-4), MWA-02-052920 (580-95012-5), MWA-11i(d)-052920 (580-95012-6), MWA-15r-052920 (580-95012-7) and EB-03-052920 (580-95012-8).. The samples were preserved to the appropriate pH at the service center.

GC/MS VOA
Methods 5030B, 8260D: Insufficient sample remained for the following sample for 8260D analysis. Autosampler punctured the vial but no data was collected. There are no more vials to analyze, therefore 8260D analysis was cancelled: TB-01-052920 (580-95012-9).

Method 8260D: The CCV for analytical batch 580-329883 recovered outside control limits for the following analyte(s): Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Chloromethane and 1,2-Dibromo-3-Chloropropane. Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Chloromethane and 1,2-Dibromo-3-Chloropropane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) for analytical batch 580-329883 recovered outside control limits for Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The following analyte(s) recovered outside control limits for the LCSD associated with analytical batch 580-329883: trans-1,2-Dichloroethene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260D: The method blank for analytical batch 580-329979 contained Naphthalene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-analysis of samples was not performed.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-329979 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane, Dibromomethane, Methyl tert-butyl ether, 2,2-Dichloropropane, 1,2,3-Trichloropropane and Hexachlorobutadiene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: The following analyte(s) recovered outside control limits for the LCSD associated with analytical batch 580-329979: Tetrachloroethene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260D: The following analytes have been identified, in the reference method and/or via historical data, to be poor and/or erratic performers: 1,2,3-Trichlorobenzene, Carbon disulfide, Dichlorodifluoromethane, Vinyl acetate and Naphthalene. These analytes may have a %D <55%.

Method 8260D: Reanalysis of the following sample was performed outside of the analytical holding time due to dilutions needed : PA-37i-052820 (580-95012-2).

Method 8260D: Surrogate recovery for the following sample was outside control limits: PA-37i-052820 (580-95012-2). Evidence of matrix

Job ID: 580-95012-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

interference is present; therefore, re-extraction and/or re-analysis was not performed.

Methods 8260C, 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: PA-37i-052820 (580-95012-2), PA-19d-052920 (580-95012-4), MWA-02-052920 (580-95012-5), and MWA-15r-052920 (580-95012-7). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

Method 218.6: The following samples were diluted due to the nature of the sample matrix: MWA-22-052820 (580-95012-3) and PA-19d-052920 (580-95012-4). Elevated reporting limits (RLs) are provided.

Method 218.6: The following sample was diluted due to the nature of the sample matrix: PA-36-052820 (580-95012-1). Elevated reporting limits (RLs) are provided. The sample has yellow color matrix.

Method 314.0: The following samples were diluted due to the nature of the sample matrix: PA-36-052820 (580-95012-1), MWA-22-052820 (580-95012-3) and PA-19d-052920 (580-95012-4). Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples were diluted due to medium black color of the sample matrix: PA-36-052820 (580-95012-1) and MWA-11i(d)-052920 (580-95012-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8081B: Internal standard (ISTD) response for the following sample exceeded the control limit on the confirmation column: (CCB 580-329872/9). As such, the sample results associated with this ISTD were reported from the other column, which met ISTD acceptance criteria.

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-329872 recovered outside acceptance criteria on the confirmation column for Chlordane (technical). The associated sample results for those analytes were reported from the primary column which met acceptance criteria. The following sample is impacted: (CCV 580-329872/4)

Method 8081B: Continuing calibration verification (CCV) standard associated with batch 580-330667 recovered outside %Drift acceptance criteria for DCB Decachlorobiphenyl surrogate. The %Recovery is within acceptance criteria for the surrogate in the CCV and associated samples; therefore, the data are qualified and reported. (CCVIS 580-330667/7)

Method 8081B: The following continuing calibration verification (CCV) associated with analytical batch 580-330667 recovered outside acceptance criteria on the confirmation column for Toxaphene and Endrin ketone. The associated sample results for those analytes were reported from the primary column which met acceptance criteria. The following samples are impacted: MWA-02-052920 (580-95012-5), MWA-11i(d)-052920 (580-95012-6), (CCV 580-330667/5), and (CCVIS 580-330667/7).

Method 8081B: The continuing calibration verification (CCV) associated with batch 580-330667 recovered above the upper control limit for Endrin. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MWA-02-052920 (580-95012-5), MWA-11i(d)-052920 (580-95012-6), and (CCVIS 580-330667/7).

Method 8081B: The continuing calibration verification (CCV) associated with 580-330926 recovered low and outside the control limits for Chlordane (technical) on one column. Results are confirmed on both columns and reported from the passing column. The associated sample is: (CCV 580-330926/4).

Method 8081B: The following continuing calibration verification (CCV) standard associated with batch 580-330926 recovered outside acceptance criteria for %D for surrogate DCB Decachlorobiphenyl. Since the %Rec is within the acceptance criteria for the surrogate in the CCV and associated samples, the data have been reported.(CCVIS 580-330926/7)

Methods 8081A, 8081B_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-610717 and analytical batch 440-610792. The laboratory control sample (LCS) was performed in

Job ID: 580-95012-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

duplicate to provide precision data for this batch: (LCS 440-610717/2-A).

Method 8081B: The continuing calibration verification (CCV) associated with 580-331028 recovered high and outside the control limits for Endrin on one column. Results are confirmed on both columns and reported from the passing column. The associated samples are: MWA-15r-052920 (580-95012-7) and (CCVIS 580-331028/7).

Method 8081B: Surrogate recovery for the following samples were outside control limits:MWA-22-052820 (580-95012-3) and MWA-02-052920 (580-95012-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8081B: The following sample was diluted to bring the concentration of target analytes within the calibration range: MWA-15r-052920 (580-95012-7). Elevated reporting limits (RLs) are provided.

Method 8081B: Internal standard (ISTD) response for the following sample exceeded the control limit on Column ZB-CLPesticides-1 and ZB-CLPesticides-2: MWA-15r-052920 (580-95012-7). As such, the sample results associated with this ISTD were reported from the other column, which met ISTD acceptance criteria.

Method 8081B: In analytical batch 580-331028, the %RPD between the primary and confirmation column exceeded 40% for 4,4'-DDD for the following sample(s): MWA-15r-052920 (580-95012-7[10.0]). The higher value(s) has been reported in accordance with the laboratory's SOP.

Method 8081B: The following sample required a dilution due to the nature of the sample matrix: MWA-15r-052920 (580-95012-7). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3510C: The following sample formed emulsions during the extraction procedure: MWA-22-052820 (580-95012-3). The emulsions were broken up using extra sulfate and solvent rinses.

Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 440-610717.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
P	The %RPD between the primary and confirmation column/detector is >40%. The higher value has been reported
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-36-052820
Lab Sample ID: 580-95012-1
Date Collected: 05/28/20 16:00
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/05/20 01:56	1
Chloromethane	ND		20	0.28	ug/L			06/05/20 01:56	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/05/20 01:56	1
Bromomethane	ND		6.0	0.21	ug/L			06/05/20 01:56	1
Chloroethane	ND		5.0	0.35	ug/L			06/05/20 01:56	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/05/20 01:56	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/05/20 01:56	1
1,1-Dichloroethene	**0.81**	**J**	4.0	0.28	ug/L			06/05/20 01:56	1
Acetone	ND		50	3.2	ug/L			06/05/20 01:56	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/05/20 01:56	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/05/20 01:56	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/05/20 01:56	1
1,1-Dichloroethane	**0.79**	**J**	2.0	0.22	ug/L			06/05/20 01:56	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/05/20 01:56	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/05/20 01:56	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/05/20 01:56	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/05/20 01:56	1
Chloroform	ND		5.0	0.26	ug/L			06/05/20 01:56	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/05/20 01:56	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/05/20 01:56	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/05/20 01:56	1
Benzene	ND		3.0	0.24	ug/L			06/05/20 01:56	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/05/20 01:56	1
Trichloroethene	ND		3.0	0.26	ug/L			06/05/20 01:56	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/05/20 01:56	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/05/20 01:56	1
Dibromomethane	ND		2.0	0.34	ug/L			06/05/20 01:56	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/05/20 01:56	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/05/20 01:56	1
Toluene	ND		2.0	0.39	ug/L			06/05/20 01:56	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/05/20 01:56	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/05/20 01:56	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/05/20 01:56	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/05/20 01:56	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/05/20 01:56	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/05/20 01:56	1
Chlorobenzene	**0.84**	**J**	2.0	0.44	ug/L			06/11/20 01:01	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/05/20 01:56	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/05/20 01:56	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/05/20 01:56	1
o-Xylene	ND		2.0	0.39	ug/L			06/05/20 01:56	1
Styrene	ND		5.0	1.0	ug/L			06/05/20 01:56	1
Bromoform	ND		3.0	0.56	ug/L			06/05/20 01:56	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/05/20 01:56	1
Bromobenzene	ND		2.0	0.43	ug/L			06/05/20 01:56	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/05/20 01:56	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/05/20 01:56	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/05/20 01:56	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/05/20 01:56	1

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-36-052820
Lab Sample ID: 580-95012-1
Date Collected: 05/28/20 16:00
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/05/20 01:56	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/05/20 01:56	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/05/20 01:56	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/05/20 01:56	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/05/20 01:56	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/05/20 01:56	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/05/20 01:56	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/05/20 01:56	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/05/20 01:56	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/05/20 01:56	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/05/20 01:56	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/05/20 01:56	1
Naphthalene	ND		4.0	0.93	ug/L			06/05/20 01:56	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/05/20 01:56	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/05/20 01:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/05/20 01:56*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/11/20 01:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/05/20 01:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*06/11/20 01:01*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*06/05/20 01:56*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/11/20 01:01*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/05/20 01:56*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/11/20 01:01*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		2.0	0.50	ug/L			06/05/20 13:46	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	9.5	ug/L			06/16/20 16:14	10

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0060**		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:12	5
Chromium	**0.0023**	**J**	0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:12	5
Iron	**0.32**	**J**	1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:12	5
Manganese	**0.20**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:12	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**23**		9.0	1.4	mg/L			06/01/20 22:19	10

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-37i-052820
Lab Sample ID: 580-95012-2
Date Collected: 05/28/20 16:50
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/05/20 02:23	1
Chloromethane	ND		20	0.28	ug/L			06/05/20 02:23	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/05/20 02:23	1
Bromomethane	ND		6.0	0.21	ug/L			06/05/20 02:23	1
Chloroethane	**2.1**	**J**	5.0	0.35	ug/L			06/05/20 02:23	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/05/20 02:23	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/05/20 02:23	1
1,1-Dichloroethene	**1.3**	**J**	4.0	0.28	ug/L			06/05/20 02:23	1
Acetone	ND		50	3.2	ug/L			06/05/20 02:23	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/05/20 02:23	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/05/20 02:23	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/05/20 02:23	1
1,1-Dichloroethane	**5.6**		2.0	0.22	ug/L			06/05/20 02:23	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/05/20 02:23	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/05/20 02:23	1
cis-1,2-Dichloroethene	**4.2**		3.0	0.69	ug/L			06/05/20 02:23	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/05/20 02:23	1
Chloroform	**32**		5.0	0.26	ug/L			06/05/20 02:23	1
1,1,1-Trichloroethane	**1.0**	**J**	3.0	0.39	ug/L			06/05/20 02:23	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/05/20 02:23	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/05/20 02:23	1
Benzene	**14**		3.0	0.24	ug/L			06/05/20 02:23	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/05/20 02:23	1
Trichloroethene	**4.5**		3.0	0.26	ug/L			06/05/20 02:23	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/05/20 02:23	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/05/20 02:23	1
Dibromomethane	ND		2.0	0.34	ug/L			06/05/20 02:23	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/05/20 02:23	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/05/20 02:23	1
Toluene	**3.5**		2.0	0.39	ug/L			06/05/20 02:23	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/05/20 02:23	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/05/20 02:23	1
Tetrachloroethene	**8.2**		3.0	0.41	ug/L			06/05/20 02:23	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/05/20 02:23	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/05/20 02:23	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/05/20 02:23	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/05/20 02:23	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/05/20 02:23	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/05/20 02:23	1
o-Xylene	ND		2.0	0.39	ug/L			06/05/20 02:23	1
Styrene	ND		5.0	1.0	ug/L			06/05/20 02:23	1
Bromoform	ND		3.0	0.56	ug/L			06/05/20 02:23	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/05/20 02:23	1
Bromobenzene	ND		2.0	0.43	ug/L			06/05/20 02:23	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/05/20 02:23	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/05/20 02:23	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/05/20 02:23	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/05/20 02:23	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/05/20 02:23	1

Client Sample ID: PA-37i-052820
Lab Sample ID: 580-95012-2
Date Collected: 05/28/20 16:50
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/05/20 02:23	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/05/20 02:23	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/05/20 02:23	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/05/20 02:23	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/05/20 02:23	1
1,4-Dichlorobenzene	**4.2**		4.0	0.46	ug/L			06/05/20 02:23	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/05/20 02:23	1
1,2-Dichlorobenzene	**0.65**	**J**	2.0	0.46	ug/L			06/05/20 02:23	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/05/20 02:23	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/05/20 02:23	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/05/20 02:23	1
Naphthalene	ND		4.0	0.93	ug/L			06/05/20 02:23	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/05/20 02:23	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/05/20 02:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*178*	*X*	*80 - 120*		*06/05/20 02:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/05/20 02:23*	*1*
4-Bromofluorobenzene (Surr)	*160*	*X*	*80 - 120*		*06/05/20 02:23*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/05/20 02:23*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**19000**	**H**	2000	440	ug/L			06/13/20 10:51	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/13/20 10:51*	*1000*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/13/20 10:51*	*1000*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/13/20 10:51*	*1000*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/13/20 10:51*	*1000*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0049	0.0025	ug/L		06/01/20 05:34	06/01/20 15:11	1
4,4'-DDE	ND		0.0049	0.0025	ug/L		06/01/20 05:34	06/01/20 15:11	1
4,4'-DDT	ND		0.0049	0.0025	ug/L		06/01/20 05:34	06/01/20 15:11	1
Aldrin	ND		0.0049	0.0015	ug/L		06/01/20 05:34	06/01/20 15:11	1
alpha-BHC	ND		0.0049	0.0025	ug/L		06/01/20 05:34	06/01/20 15:11	1
cis-Chlordane	ND		0.099	0.014	ug/L		06/01/20 05:34	06/01/20 15:11	1
beta-BHC	ND		0.0099	0.0039	ug/L		06/01/20 05:34	06/01/20 15:11	1
Chlordane (technical)	ND		0.099	0.079	ug/L		06/01/20 05:34	06/01/20 15:11	1
delta-BHC	**0.021**	**p**	0.0049	0.0034	ug/L		06/01/20 05:34	06/01/20 15:11	1
Dieldrin	ND		0.0049	0.0020	ug/L		06/01/20 05:34	06/01/20 15:11	1
Endosulfan I	ND		0.0049	0.0030	ug/L		06/01/20 05:34	06/01/20 15:11	1
Endosulfan II	ND		0.0049	0.0020	ug/L		06/01/20 05:34	06/01/20 15:11	1
Endosulfan sulfate	**0.024**	**p**	0.0099	0.0030	ug/L		06/01/20 05:34	06/01/20 15:11	1
Endrin	ND		0.0049	0.0020	ug/L		06/01/20 05:34	06/01/20 15:11	1
Endrin aldehyde	ND		0.0099	0.0020	ug/L		06/01/20 05:34	06/01/20 15:11	1
Endrin ketone	ND		0.0099	0.0069	ug/L		06/01/20 05:34	06/01/20 15:11	1
gamma-BHC (Lindane)	ND		0.0099	0.0030	ug/L		06/01/20 05:34	06/01/20 15:11	1

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-37i-052820
Lab Sample ID: 580-95012-2
Date Collected: 05/28/20 16:50
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.099	0.030	ug/L		06/01/20 05:34	06/01/20 15:11	1
Heptachlor	ND		0.0099	0.0030	ug/L		06/01/20 05:34	06/01/20 15:11	1
Heptachlor epoxide	ND		0.0049	0.0025	ug/L		06/01/20 05:34	06/01/20 15:11	1
Methoxychlor	ND		0.0049	0.0034	ug/L		06/01/20 05:34	06/01/20 15:11	1
Toxaphene	ND		0.49	0.25	ug/L		06/01/20 05:34	06/01/20 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*58*		*28 - 108*	*06/01/20 05:34*	*06/01/20 15:11*	*1*
Tetrachloro-m-xylene	*42*		*10 - 123*	*06/01/20 05:34*	*06/01/20 15:11*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 15:48	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**270**		40	9.5	ug/L			06/17/20 11:19	10

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0062**		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 02:19	5
Chromium	**0.0032**	**J**	0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 02:19	5
Iron	**6.3**		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 02:19	5
Manganese	**1.0**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 02:19	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0040**	**J**	0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:15	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:15	5
Iron	**7.3**		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:15	5
Manganese	**1.0**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**140**		9.0	1.4	mg/L			06/01/20 22:31	10

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-22-052820
Lab Sample ID: 580-95012-3
Date Collected: 05/28/20 17:40
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/05/20 02:50	1
Chloromethane	ND		20	0.28	ug/L			06/05/20 02:50	1
Vinyl chloride	**5.4**		1.0	0.22	ug/L			06/05/20 02:50	1
Bromomethane	ND		6.0	0.21	ug/L			06/05/20 02:50	1
Chloroethane	ND		5.0	0.35	ug/L			06/05/20 02:50	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/05/20 02:50	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/05/20 02:50	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/05/20 02:50	1
Acetone	ND		50	3.2	ug/L			06/05/20 02:50	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/05/20 02:50	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/05/20 02:50	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/05/20 02:50	1
1,1-Dichloroethane	**1.2**	**J**	2.0	0.22	ug/L			06/05/20 02:50	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/05/20 02:50	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/05/20 02:50	1
cis-1,2-Dichloroethene	**31**		3.0	0.69	ug/L			06/05/20 02:50	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/05/20 02:50	1
Chloroform	ND		5.0	0.26	ug/L			06/05/20 02:50	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/05/20 02:50	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/05/20 02:50	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/05/20 02:50	1
Benzene	**1.0**	**J**	3.0	0.24	ug/L			06/05/20 02:50	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/05/20 02:50	1
Trichloroethene	ND		3.0	0.26	ug/L			06/05/20 02:50	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/05/20 02:50	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/05/20 02:50	1
Dibromomethane	ND		2.0	0.34	ug/L			06/05/20 02:50	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/05/20 02:50	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/05/20 02:50	1
Toluene	**1.2**	**J**	2.0	0.39	ug/L			06/05/20 02:50	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/05/20 02:50	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/05/20 02:50	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/05/20 02:50	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/05/20 02:50	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/05/20 02:50	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/05/20 02:50	1
Chlorobenzene	**72**		2.0	0.44	ug/L			06/11/20 01:28	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/05/20 02:50	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/05/20 02:50	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/05/20 02:50	1
o-Xylene	ND		2.0	0.39	ug/L			06/05/20 02:50	1
Styrene	ND		5.0	1.0	ug/L			06/05/20 02:50	1
Bromoform	ND		3.0	0.56	ug/L			06/05/20 02:50	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/05/20 02:50	1
Bromobenzene	ND		2.0	0.43	ug/L			06/05/20 02:50	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/05/20 02:50	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/05/20 02:50	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/05/20 02:50	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/05/20 02:50	1

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-22-052820
Lab Sample ID: 580-95012-3
Date Collected: 05/28/20 17:40
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/05/20 02:50	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/05/20 02:50	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/05/20 02:50	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/05/20 02:50	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/05/20 02:50	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/05/20 02:50	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/05/20 02:50	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/05/20 02:50	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/05/20 02:50	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/05/20 02:50	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/05/20 02:50	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/05/20 02:50	1
Naphthalene	ND		4.0	0.93	ug/L			06/05/20 02:50	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/05/20 02:50	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/05/20 02:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/05/20 02:50*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/11/20 01:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/05/20 02:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*06/11/20 01:28*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/05/20 02:50*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/11/20 01:28*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/05/20 02:50*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/11/20 01:28*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.014	0.0055	ug/L		06/02/20 12:07	06/17/20 22:16	1
4,4'-DDE	ND		0.0092	0.0027	ug/L		06/02/20 12:07	06/17/20 22:16	1
4,4'-DDT	ND		0.018	0.0046	ug/L		06/02/20 12:07	06/17/20 22:16	1
Aldrin	ND		0.022	0.0064	ug/L		06/02/20 12:07	06/17/20 22:16	1
alpha-BHC	ND		0.016	0.0037	ug/L		06/02/20 12:07	06/17/20 22:16	1
cis-Chlordane	ND		0.025	0.0073	ug/L		06/02/20 12:07	06/17/20 22:16	1
beta-BHC	ND		0.019	0.0046	ug/L		06/02/20 12:07	06/17/20 22:16	1
Chlordane (technical)	ND		0.18	0.027	ug/L		06/02/20 12:07	06/17/20 22:16	1
delta-BHC	ND		0.014	0.0046	ug/L		06/02/20 12:07	06/17/20 22:16	1
Dieldrin	ND		0.016	0.0046	ug/L		06/02/20 12:07	06/17/20 22:16	1
Endosulfan I	ND		0.018	0.0027	ug/L		06/02/20 12:07	06/17/20 22:16	1
Endosulfan II	ND		0.022	0.0046	ug/L		06/02/20 12:07	06/17/20 22:16	1
Endosulfan sulfate	ND		0.018	0.0027	ug/L		06/02/20 12:07	06/17/20 22:16	1
Endrin	ND		0.011	0.0027	ug/L		06/02/20 12:07	06/17/20 22:16	1
Endrin aldehyde	ND		0.055	0.031	ug/L		06/02/20 12:07	06/17/20 22:16	1
Endrin ketone	ND		0.018	0.0018	ug/L		06/02/20 12:07	06/17/20 22:16	1
gamma-BHC (Lindane)	ND		0.018	0.0046	ug/L		06/02/20 12:07	06/17/20 22:16	1
trans-Chlordane	ND		0.018	0.0027	ug/L		06/02/20 12:07	06/17/20 22:16	1
Heptachlor	ND		0.014	0.0037	ug/L		06/02/20 12:07	06/17/20 22:16	1
Heptachlor epoxide	ND		0.018	0.0027	ug/L		06/02/20 12:07	06/17/20 22:16	1
Methoxychlor	ND		0.092	0.0046	ug/L		06/02/20 12:07	06/17/20 22:16	1
Toxaphene	ND		1.8	0.42	ug/L		06/02/20 12:07	06/17/20 22:16	1

Client Sample ID: MWA-22-052820
Lab Sample ID: 580-95012-3

Date Collected: 05/28/20 17:40
Matrix: Water

Date Received: 05/29/20 12:50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*27*	*X*	*45 - 127*	*06/02/20 12:07*	*06/17/20 22:16*	*1*
Tetrachloro-m-xylene	*36*		*33 - 120*	*06/02/20 12:07*	*06/17/20 22:16*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		50	13	ug/L			06/04/20 16:01	50

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400	95	ug/L			06/03/20 01:20	100

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.37**		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 02:28	5
Chromium	**0.14**		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 02:28	5
Iron	**16**		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 02:28	5
Manganese	**0.69**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 02:28	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.37**		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 01:06	5
Chromium	**0.13**		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 01:06	5
Iron	**14**		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 01:06	5
Manganese	**0.58**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 01:06	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**220**		90	14	mg/L			06/01/20 23:06	100

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-19d-052920
Lab Sample ID: 580-95012-4
Date Collected: 05/29/20 09:00
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/05/20 03:17	1
Chloromethane	ND		20	0.28	ug/L			06/05/20 03:17	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/05/20 03:17	1
Bromomethane	ND		6.0	0.21	ug/L			06/05/20 03:17	1
Chloroethane	ND		5.0	0.35	ug/L			06/05/20 03:17	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/05/20 03:17	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/05/20 03:17	1
1,1-Dichloroethene	**0.81**	**J**	4.0	0.28	ug/L			06/05/20 03:17	1
Acetone	ND		50	3.2	ug/L			06/05/20 03:17	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/05/20 03:17	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/05/20 03:17	1
trans-1,2-Dichloroethene	**1.1**	**J ***	3.0	0.39	ug/L			06/05/20 03:17	1
1,1-Dichloroethane	**0.63**	**J**	2.0	0.22	ug/L			06/05/20 03:17	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/05/20 03:17	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/05/20 03:17	1
cis-1,2-Dichloroethene	**73**		3.0	0.69	ug/L			06/05/20 03:17	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/05/20 03:17	1
Chloroform	**0.49**	**J**	5.0	0.26	ug/L			06/05/20 03:17	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/05/20 03:17	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/05/20 03:17	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/05/20 03:17	1
Benzene	**2.6**	**J**	3.0	0.24	ug/L			06/05/20 03:17	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/05/20 03:17	1
Trichloroethene	**61**		3.0	0.26	ug/L			06/05/20 03:17	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/05/20 03:17	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/05/20 03:17	1
Dibromomethane	ND		2.0	0.34	ug/L			06/05/20 03:17	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/05/20 03:17	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/05/20 03:17	1
Toluene	ND		2.0	0.39	ug/L			06/05/20 03:17	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/05/20 03:17	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/05/20 03:17	1
Tetrachloroethene	**21**		3.0	0.41	ug/L			06/05/20 03:17	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/05/20 03:17	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/05/20 03:17	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/05/20 03:17	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/05/20 03:17	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/05/20 03:17	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/05/20 03:17	1
o-Xylene	ND		2.0	0.39	ug/L			06/05/20 03:17	1
Styrene	ND		5.0	1.0	ug/L			06/05/20 03:17	1
Bromoform	ND		3.0	0.56	ug/L			06/05/20 03:17	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/05/20 03:17	1
Bromobenzene	ND		2.0	0.43	ug/L			06/05/20 03:17	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/05/20 03:17	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/05/20 03:17	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/05/20 03:17	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/05/20 03:17	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/05/20 03:17	1

Client Sample ID: PA-19d-052920
Date Collected: 05/29/20 09:00
Date Received: 05/29/20 12:50

Lab Sample ID: 580-95012-4
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/05/20 03:17	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/05/20 03:17	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/05/20 03:17	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/05/20 03:17	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/05/20 03:17	1
1,4-Dichlorobenzene	**2.8**	**J**	4.0	0.46	ug/L			06/05/20 03:17	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/05/20 03:17	1
1,2-Dichlorobenzene	**0.51**	**J**	2.0	0.46	ug/L			06/05/20 03:17	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/05/20 03:17	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/05/20 03:17	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/05/20 03:17	1
Naphthalene	ND		4.0	0.93	ug/L			06/05/20 03:17	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/05/20 03:17	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/05/20 03:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*117*		*80 - 120*		*06/05/20 03:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*		*06/05/20 03:17*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/05/20 03:17*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/05/20 03:17*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**8200**		200	44	ug/L			06/11/20 04:09	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/11/20 04:09*	*100*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*06/11/20 04:09*	*100*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/11/20 04:09*	*100*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/11/20 04:09*	*100*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10	2.5	ug/L			06/04/20 16:13	10

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200	48	ug/L			06/03/20 01:56	50

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.019**		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:22	5
Chromium	**0.0037**	**J**	0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:22	5
Iron	**0.36**	**J**	1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:22	5
Manganese	**1.7**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:22	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**140**		9.0	1.4	mg/L			06/01/20 23:18	10

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-02-052920
Lab Sample ID: 580-95012-5
Date Collected: 05/29/20 09:55
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/05/20 03:44	1
Chloromethane	ND		20	0.28	ug/L			06/05/20 03:44	1
Vinyl chloride	**0.38**	**J**	1.0	0.22	ug/L			06/05/20 03:44	1
Bromomethane	ND		6.0	0.21	ug/L			06/05/20 03:44	1
Chloroethane	ND		5.0	0.35	ug/L			06/05/20 03:44	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/05/20 03:44	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/05/20 03:44	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/05/20 03:44	1
Acetone	ND		50	3.2	ug/L			06/05/20 03:44	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/05/20 03:44	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/05/20 03:44	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/05/20 03:44	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/05/20 03:44	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/05/20 03:44	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/05/20 03:44	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/05/20 03:44	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/05/20 03:44	1
Chloroform	**23**		5.0	0.26	ug/L			06/05/20 03:44	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/05/20 03:44	1
Carbon tetrachloride	**1.2**	**J**	3.0	0.30	ug/L			06/05/20 03:44	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/05/20 03:44	1
Benzene	ND		3.0	0.24	ug/L			06/05/20 03:44	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/05/20 03:44	1
Trichloroethene	**5.5**		3.0	0.26	ug/L			06/05/20 03:44	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/05/20 03:44	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/05/20 03:44	1
Dibromomethane	ND		2.0	0.34	ug/L			06/05/20 03:44	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/05/20 03:44	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/05/20 03:44	1
Toluene	ND		2.0	0.39	ug/L			06/05/20 03:44	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/05/20 03:44	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/05/20 03:44	1
Tetrachloroethene	**19**		3.0	0.41	ug/L			06/05/20 03:44	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/05/20 03:44	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/05/20 03:44	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/05/20 03:44	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/05/20 03:44	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/05/20 03:44	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/05/20 03:44	1
o-Xylene	ND		2.0	0.39	ug/L			06/05/20 03:44	1
Styrene	ND		5.0	1.0	ug/L			06/05/20 03:44	1
Bromoform	ND		3.0	0.56	ug/L			06/05/20 03:44	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/05/20 03:44	1
Bromobenzene	ND		2.0	0.43	ug/L			06/05/20 03:44	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/05/20 03:44	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/05/20 03:44	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/05/20 03:44	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/05/20 03:44	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/05/20 03:44	1

Client Sample ID: MWA-02-052920
Lab Sample ID: 580-95012-5

Date Collected: 05/29/20 09:55
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/05/20 03:44	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/05/20 03:44	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/05/20 03:44	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/05/20 03:44	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/05/20 03:44	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/05/20 03:44	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/05/20 03:44	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/05/20 03:44	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/05/20 03:44	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/05/20 03:44	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/05/20 03:44	1
Naphthalene	ND		4.0	0.93	ug/L			06/05/20 03:44	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/05/20 03:44	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/05/20 03:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/05/20 03:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*06/05/20 03:44*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*06/05/20 03:44*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/05/20 03:44*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**340**		20	4.4	ug/L			06/11/20 06:24	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/11/20 06:24*	*10*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*06/11/20 06:24*	*10*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/11/20 06:24*	*10*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/11/20 06:24*	*10*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.012**	**J**	0.015	0.0059	ug/L		06/02/20 12:07	06/15/20 18:49	1
4,4'-DDE	ND		0.0098	0.0029	ug/L		06/02/20 12:07	06/15/20 18:49	1
4,4'-DDT	**0.046**		0.020	0.0049	ug/L		06/02/20 12:07	06/15/20 18:49	1
Aldrin	ND		0.024	0.0069	ug/L		06/02/20 12:07	06/15/20 18:49	1
alpha-BHC	ND		0.018	0.0039	ug/L		06/02/20 12:07	06/15/20 18:49	1
cis-Chlordane	ND		0.026	0.0078	ug/L		06/02/20 12:07	06/15/20 18:49	1
beta-BHC	ND		0.021	0.0049	ug/L		06/02/20 12:07	06/15/20 18:49	1
Chlordane (technical)	ND		0.20	0.029	ug/L		06/02/20 12:07	06/15/20 18:49	1
delta-BHC	ND		0.015	0.0049	ug/L		06/02/20 12:07	06/15/20 18:49	1
Dieldrin	ND		0.018	0.0049	ug/L		06/02/20 12:07	06/15/20 18:49	1
Endosulfan I	ND		0.020	0.0029	ug/L		06/02/20 12:07	06/15/20 18:49	1
Endosulfan II	ND		0.024	0.0049	ug/L		06/02/20 12:07	06/15/20 18:49	1
Endosulfan sulfate	ND		0.020	0.0029	ug/L		06/02/20 12:07	06/15/20 18:49	1
Endrin	ND		0.012	0.0029	ug/L		06/02/20 12:07	06/15/20 18:49	1
Endrin aldehyde	ND		0.059	0.033	ug/L		06/02/20 12:07	06/15/20 18:49	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/15/20 18:49	1
gamma-BHC (Lindane)	**0.017**	**J**	0.020	0.0049	ug/L		06/02/20 12:07	06/15/20 18:49	1

Client Sample ID: MWA-02-052920
Lab Sample ID: 580-95012-5

Date Collected: 05/29/20 09:55
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Chlordane	ND		0.020	0.0029	ug/L		06/02/20 12:07	06/15/20 18:49	1
Heptachlor	ND		0.015	0.0039	ug/L		06/02/20 12:07	06/15/20 18:49	1
Heptachlor epoxide	ND		0.020	0.0029	ug/L		06/02/20 12:07	06/15/20 18:49	1
Methoxychlor	ND		0.098	0.0049	ug/L		06/02/20 12:07	06/15/20 18:49	1
Toxaphene	ND		2.0	0.45	ug/L		06/02/20 12:07	06/15/20 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*50*		*45 - 127*	*06/02/20 12:07*	*06/15/20 18:49*	*1*
Tetrachloro-m-xylene	*180*	*X*	*33 - 120*	*06/02/20 12:07*	*06/15/20 18:49*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 16:26	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/16/20 15:39	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 02:22	5
Chromium	**0.0037**	**J**	0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 02:22	5
Iron	**0.44**	**J**	1.0	0.18	mg/L		06/01/20 16:52	06/03/20 02:22	5
Manganese	**0.037**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 02:22	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:25	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:25	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:25	5
Manganese	**0.033**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:25	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**		0.90	0.14	mg/L			06/01/20 23:29	1

Client Sample ID: MWA-11i(d)-052920
Lab Sample ID: 580-95012-6

Date Collected: 05/29/20 10:20
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/06/20 06:08	1
Chloromethane	ND		0.50	0.068	ug/L			06/06/20 06:08	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/06/20 06:08	1
Bromomethane	ND		0.50	0.062	ug/L			06/06/20 06:08	1
Chloroethane	ND		0.50	0.096	ug/L			06/06/20 06:08	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/06/20 06:08	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/06/20 06:08	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/06/20 06:08	1
Acetone	ND		10	3.1	ug/L			06/06/20 06:08	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/06/20 06:08	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/06/20 06:08	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/06/20 06:08	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/06/20 06:08	1
1,1-Dichloroethane	**0.055**	**J**	0.20	0.025	ug/L			06/06/20 06:08	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/06/20 06:08	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/06/20 06:08	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/06/20 06:08	1
Chloroform	ND		0.20	0.030	ug/L			06/06/20 06:08	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/06/20 06:08	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/06/20 06:08	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/06/20 06:08	1
Benzene	ND		0.20	0.030	ug/L			06/06/20 06:08	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/06/20 06:08	1
Trichloroethene	**0.069**	**J**	0.20	0.066	ug/L			06/06/20 06:08	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/06/20 06:08	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/06/20 06:08	1
Dibromomethane	ND		0.20	0.062	ug/L			06/06/20 06:08	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/06/20 06:08	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/06/20 06:08	1
Toluene	ND		0.20	0.050	ug/L			06/06/20 06:08	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/06/20 06:08	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/06/20 06:08	1
Tetrachloroethene	ND	*	0.50	0.084	ug/L			06/06/20 06:08	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/06/20 06:08	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/06/20 06:08	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/06/20 06:08	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/06/20 06:08	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/06/20 06:08	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/06/20 06:08	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/06/20 06:08	1
o-Xylene	ND		0.50	0.15	ug/L			06/06/20 06:08	1
Styrene	ND		1.0	0.19	ug/L			06/06/20 06:08	1
Bromoform	ND		0.50	0.16	ug/L			06/06/20 06:08	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/06/20 06:08	1
Bromobenzene	ND		0.20	0.035	ug/L			06/06/20 06:08	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/06/20 06:08	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/06/20 06:08	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/06/20 06:08	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/06/20 06:08	1

Client Sample ID: MWA-11i(d)-052920
Lab Sample ID: 580-95012-6

Date Collected: 05/29/20 10:20
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/06/20 06:08	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/06/20 06:08	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/06/20 06:08	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/06/20 06:08	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/06/20 06:08	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/06/20 06:08	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/06/20 06:08	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/06/20 06:08	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/06/20 06:08	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/06/20 06:08	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/06/20 06:08	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/06/20 06:08	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/06/20 06:08	1
Naphthalene	ND		1.0	0.22	ug/L			06/06/20 06:08	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/06/20 06:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/06/20 06:08*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/06/20 06:08*	*1*
4-Bromofluorobenzene (Surr)	*80*		*80 - 120*		*06/06/20 06:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*06/06/20 06:08*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.085**		0.015	0.0060	ug/L		06/02/20 12:07	06/15/20 19:08	1
4,4'-DDE	ND		0.010	0.0030	ug/L		06/02/20 12:07	06/15/20 19:08	1
4,4'-DDT	**0.012**	**J**	0.020	0.0050	ug/L		06/02/20 12:07	06/15/20 19:08	1
Aldrin	ND		0.024	0.0070	ug/L		06/02/20 12:07	06/15/20 19:08	1
alpha-BHC	ND		0.018	0.0040	ug/L		06/02/20 12:07	06/15/20 19:08	1
cis-Chlordane	ND		0.027	0.0080	ug/L		06/02/20 12:07	06/15/20 19:08	1
beta-BHC	ND		0.021	0.0050	ug/L		06/02/20 12:07	06/15/20 19:08	1
Chlordane (technical)	ND		0.20	0.030	ug/L		06/02/20 12:07	06/15/20 19:08	1
delta-BHC	ND		0.015	0.0050	ug/L		06/02/20 12:07	06/15/20 19:08	1
Dieldrin	ND		0.018	0.0050	ug/L		06/02/20 12:07	06/15/20 19:08	1
Endosulfan I	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/15/20 19:08	1
Endosulfan II	ND		0.024	0.0050	ug/L		06/02/20 12:07	06/15/20 19:08	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/15/20 19:08	1
Endrin	ND		0.012	0.0030	ug/L		06/02/20 12:07	06/15/20 19:08	1
Endrin aldehyde	ND		0.060	0.034	ug/L		06/02/20 12:07	06/15/20 19:08	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/15/20 19:08	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/15/20 19:08	1
trans-Chlordane	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/15/20 19:08	1
Heptachlor	ND		0.015	0.0040	ug/L		06/02/20 12:07	06/15/20 19:08	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/15/20 19:08	1
Methoxychlor	ND		0.10	0.0050	ug/L		06/02/20 12:07	06/15/20 19:08	1
Toxaphene	ND		2.0	0.46	ug/L		06/02/20 12:07	06/15/20 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*61*		*45 - 127*	*06/02/20 12:07*	*06/15/20 19:08*	*1*
Tetrachloro-m-xylene	*52*		*33 - 120*	*06/02/20 12:07*	*06/15/20 19:08*	*1*

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-11i(d)-052920
Lab Sample ID: 580-95012-6

Date Collected: 05/29/20 10:20
Matrix: Water
Date Received: 05/29/20 12:50

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/05/20 13:58	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	9.5	ug/L			06/16/20 16:50	10

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.37**		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 02:06	5
Chromium	**0.0085**		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 02:06	5
Iron	**42**		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 02:06	5
Manganese	**92**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 02:06	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.37**		0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:57	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:57	5
Iron	**43**		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:57	5
Manganese	**93**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:57	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1600**		90	14	mg/L			06/01/20 23:41	100

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-15r-052920
Lab Sample ID: 580-95012-7
Date Collected: 05/29/20 10:50
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 19:40	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 19:40	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 19:40	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 19:40	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 19:40	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 19:40	1
Carbon disulfide	ND	*	3.0	0.53	ug/L			06/04/20 19:40	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 19:40	1
Acetone	ND		50	3.2	ug/L			06/04/20 19:40	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 19:40	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 19:40	1
trans-1,2-Dichloroethene	ND	*	3.0	0.39	ug/L			06/04/20 19:40	1
1,1-Dichloroethane	**0.29**	**J**	2.0	0.22	ug/L			06/04/20 19:40	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 19:40	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 19:40	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 19:40	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 19:40	1
Chloroform	**23**		5.0	0.26	ug/L			06/04/20 19:40	1
1,1,1-Trichloroethane	**20**		3.0	0.39	ug/L			06/04/20 19:40	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 19:40	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 19:40	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 19:40	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 19:40	1
Trichloroethene	ND		3.0	0.26	ug/L			06/04/20 19:40	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 19:40	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 19:40	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 19:40	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 19:40	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 19:40	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 19:40	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 19:40	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 19:40	1
Tetrachloroethene	**2.7**	**J**	3.0	0.41	ug/L			06/04/20 19:40	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 19:40	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 19:40	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 19:40	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 19:40	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:40	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 19:40	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 19:40	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 19:40	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 19:40	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 19:40	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 19:40	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 19:40	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 19:40	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:40	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 19:40	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 19:40	1

Client Sample ID: MWA-15r-052920
Lab Sample ID: 580-95012-7
Date Collected: 05/29/20 10:50
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 19:40	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 19:40	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 19:40	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 19:40	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 19:40	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 19:40	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 19:40	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 19:40	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 19:40	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 19:40	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 19:40	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 19:40	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 19:40	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 19:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/04/20 19:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/04/20 19:40*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*06/04/20 19:40*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*06/04/20 19:40*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**380**		20	4.4	ug/L			06/11/20 06:50	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/11/20 06:50*	*10*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 126*		*06/11/20 06:50*	*10*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/11/20 06:50*	*10*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/11/20 06:50*	*10*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**22**	**P**	0.14	0.055	ug/L		06/02/20 12:07	06/18/20 16:38	10
4,4'-DDE	ND		0.092	0.028	ug/L		06/02/20 12:07	06/18/20 16:38	10
Aldrin	ND		0.22	0.065	ug/L		06/02/20 12:07	06/18/20 16:38	10
alpha-BHC	ND		0.17	0.037	ug/L		06/02/20 12:07	06/18/20 16:38	10
cis-Chlordane	ND		0.25	0.074	ug/L		06/02/20 12:07	06/18/20 16:38	10
beta-BHC	ND		0.19	0.046	ug/L		06/02/20 12:07	06/18/20 16:38	10
Chlordane (technical)	ND		1.8	0.28	ug/L		06/02/20 12:07	06/18/20 16:38	10
delta-BHC	ND		0.14	0.046	ug/L		06/02/20 12:07	06/18/20 16:38	10
Dieldrin	ND		0.17	0.046	ug/L		06/02/20 12:07	06/18/20 16:38	10
Endosulfan I	ND		0.18	0.028	ug/L		06/02/20 12:07	06/18/20 16:38	10
Endosulfan II	ND		0.22	0.046	ug/L		06/02/20 12:07	06/18/20 16:38	10
Endosulfan sulfate	ND		0.18	0.028	ug/L		06/02/20 12:07	06/18/20 16:38	10
Endrin	ND		0.11	0.028	ug/L		06/02/20 12:07	06/18/20 16:38	10
Endrin aldehyde	ND		0.55	0.31	ug/L		06/02/20 12:07	06/18/20 16:38	10
Endrin ketone	ND		0.18	0.018	ug/L		06/02/20 12:07	06/18/20 16:38	10
gamma-BHC (Lindane)	**0.053**	**J**	0.18	0.046	ug/L		06/02/20 12:07	06/18/20 16:38	10
trans-Chlordane	ND		0.18	0.028	ug/L		06/02/20 12:07	06/18/20 16:38	10

Client Sample ID: MWA-15r-052920
Lab Sample ID: 580-95012-7

Date Collected: 05/29/20 10:50
Matrix: Water
Date Received: 05/29/20 12:50

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	ND		0.14	0.037	ug/L		06/02/20 12:07	06/18/20 16:38	10
Heptachlor epoxide	ND		0.18	0.028	ug/L		06/02/20 12:07	06/18/20 16:38	10
Methoxychlor	**0.056**	**J**	0.92	0.046	ug/L		06/02/20 12:07	06/18/20 16:38	10
Toxaphene	ND		18	4.2	ug/L		06/02/20 12:07	06/18/20 16:38	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*56*		*45 - 127*	*06/02/20 12:07*	*06/18/20 16:38*	*10*
Tetrachloro-m-xylene	*64*		*33 - 120*	*06/02/20 12:07*	*06/18/20 16:38*	*10*

Method: 8081B - Organochlorine Pesticides (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	**71**		0.92	0.23	ug/L		06/02/20 12:07	06/18/20 17:18	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*0*	*X*	*45 - 127*	*06/02/20 12:07*	*06/18/20 17:18*	*50*
Tetrachloro-m-xylene	*26*	*X*	*33 - 120*	*06/02/20 12:07*	*06/18/20 17:18*	*50*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 16:39	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**440**		40	9.5	ug/L			06/17/20 11:37	10

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0021**	**J**	0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 02:09	5
Chromium	**0.021**		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 02:09	5
Iron	**0.39**	**J**	1.0	0.18	mg/L		06/01/20 16:52	06/03/20 02:09	5
Manganese	**0.070**		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 02:09	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0016**	**J**	0.0050	0.0010	mg/L		06/01/20 16:56	06/03/20 00:31	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/03/20 00:31	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/03/20 00:31	5
Manganese	**0.044**		0.010	0.0023	mg/L		06/01/20 16:56	06/03/20 00:31	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20**		0.90	0.14	mg/L			06/01/20 23:53	1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	0.53	ug/L			06/04/20 19:14	1
Chloromethane	ND		20	0.28	ug/L			06/04/20 19:14	1
Vinyl chloride	ND		1.0	0.22	ug/L			06/04/20 19:14	1
Bromomethane	ND		6.0	0.21	ug/L			06/04/20 19:14	1
Chloroethane	ND		5.0	0.35	ug/L			06/04/20 19:14	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			06/04/20 19:14	1
Carbon disulfide	ND		3.0	0.53	ug/L			06/04/20 19:14	1
1,1-Dichloroethene	ND		4.0	0.28	ug/L			06/04/20 19:14	1
Acetone	ND		50	3.2	ug/L			06/04/20 19:14	1
Methylene Chloride	ND		5.0	1.4	ug/L			06/04/20 19:14	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			06/04/20 19:14	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			06/04/20 19:14	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			06/04/20 19:14	1
2-Butanone (MEK)	ND		20	4.7	ug/L			06/04/20 19:14	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			06/04/20 19:14	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			06/04/20 19:14	1
Bromochloromethane	ND		2.0	0.29	ug/L			06/04/20 19:14	1
Chloroform	ND		5.0	0.26	ug/L			06/04/20 19:14	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			06/04/20 19:14	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			06/04/20 19:14	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			06/04/20 19:14	1
Benzene	ND		3.0	0.24	ug/L			06/04/20 19:14	1
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/04/20 19:14	1
Trichloroethene	ND		3.0	0.26	ug/L			06/04/20 19:14	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			06/04/20 19:14	1
4-Methyl-2-pentanone (MIBK)	ND		15	2.5	ug/L			06/04/20 19:14	1
Dibromomethane	ND		2.0	0.34	ug/L			06/04/20 19:14	1
Bromodichloromethane	ND		2.0	0.29	ug/L			06/04/20 19:14	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			06/04/20 19:14	1
Toluene	ND		2.0	0.39	ug/L			06/04/20 19:14	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			06/04/20 19:14	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			06/04/20 19:14	1
Tetrachloroethene	ND		3.0	0.41	ug/L			06/04/20 19:14	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			06/04/20 19:14	1
Dibromochloromethane	ND		2.0	0.43	ug/L			06/04/20 19:14	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			06/04/20 19:14	1
Chlorobenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			06/04/20 19:14	1
Ethylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:14	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			06/04/20 19:14	1
o-Xylene	ND		2.0	0.39	ug/L			06/04/20 19:14	1
Styrene	ND		5.0	1.0	ug/L			06/04/20 19:14	1
Bromoform	ND		3.0	0.56	ug/L			06/04/20 19:14	1
Isopropylbenzene	ND		2.0	0.44	ug/L			06/04/20 19:14	1
Bromobenzene	ND		2.0	0.43	ug/L			06/04/20 19:14	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			06/04/20 19:14	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			06/04/20 19:14	1
N-Propylbenzene	ND		3.0	0.50	ug/L			06/04/20 19:14	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329883/7
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		3.0	0.51	ug/L			06/04/20 19:14	1
4-Chlorotoluene	ND		2.0	0.38	ug/L			06/04/20 19:14	1
t-Butylbenzene	ND		3.0	0.58	ug/L			06/04/20 19:14	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			06/04/20 19:14	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			06/04/20 19:14	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			06/04/20 19:14	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			06/04/20 19:14	1
1,4-Dichlorobenzene	ND		4.0	0.46	ug/L			06/04/20 19:14	1
n-Butylbenzene	ND		3.0	0.44	ug/L			06/04/20 19:14	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			06/04/20 19:14	1
1,2-Dibromo-3-Chloropropane	ND		10	0.57	ug/L			06/04/20 19:14	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			06/04/20 19:14	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			06/04/20 19:14	1
Naphthalene	ND		4.0	0.93	ug/L			06/04/20 19:14	1
1,2,3-Trichlorobenzene	ND		5.0	0.43	ug/L			06/04/20 19:14	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			06/04/20 19:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/04/20 19:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 126*		*06/04/20 19:14*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/04/20 19:14*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*06/04/20 19:14*	*1*

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	4.46	J	ug/L		45	20 - 150
Chloromethane	10.0	7.64	J	ug/L		76	52 - 135
Vinyl chloride	10.0	7.63		ug/L		76	65 - 130
Bromomethane	10.0	8.39		ug/L		84	66 - 125
Chloroethane	10.0	8.03		ug/L		80	65 - 132
Trichlorofluoromethane	10.0	8.02		ug/L		80	64 - 136
Carbon disulfide	10.0	5.59	*	ug/L		56	69 - 122
1,1-Dichloroethene	10.0	8.27		ug/L		83	70 - 129
Acetone	50.0	49.0	J	ug/L		98	43 - 150
Methylene Chloride	10.0	9.42		ug/L		94	77 - 125
Methyl tert-butyl ether	10.0	9.93		ug/L		99	72 - 130
trans-1,2-Dichloroethene	10.0	7.68		ug/L		77	77 - 124
1,1-Dichloroethane	10.0	9.15		ug/L		92	70 - 129
2-Butanone (MEK)	50.0	43.1		ug/L		86	65 - 127
2,2-Dichloropropane	10.0	9.94		ug/L		99	62 - 140
cis-1,2-Dichloroethene	10.0	7.95		ug/L		80	76 - 129
Bromochloromethane	10.0	9.06		ug/L		91	78 - 120
Chloroform	10.0	9.82		ug/L		98	73 - 127
1,1,1-Trichloroethane	10.0	9.95		ug/L		99	74 - 130
Carbon tetrachloride	10.0	9.03		ug/L		90	72 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	10.0	8.99		ug/L		90	80 - 120
Benzene	10.0	9.50		ug/L		95	75 - 121
1,2-Dichloroethane	10.0	10.1		ug/L		101	76 - 131
Trichloroethene	10.0	9.00		ug/L		90	70 - 120
1,2-Dichloropropane	10.0	9.67		ug/L		97	72 - 126
4-Methyl-2-pentanone (MIBK)	50.0	41.5		ug/L		83	69 - 124
Dibromomethane	10.0	9.94		ug/L		99	80 - 120
Bromodichloromethane	10.0	10.0		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	10.7		ug/L		107	77 - 120
Toluene	10.0	9.72		ug/L		97	80 - 120
trans-1,3-Dichloropropene	10.0	9.50		ug/L		95	80 - 122
1,1,2-Trichloroethane	10.0	9.43		ug/L		94	80 - 121
Tetrachloroethene	10.0	8.59		ug/L		86	76 - 120
1,3-Dichloropropane	10.0	9.65		ug/L		96	79 - 120
Dibromochloromethane	10.0	9.03		ug/L		90	71 - 120
1,2-Dibromoethane	10.0	9.35		ug/L		93	79 - 120
Chlorobenzene	10.0	9.35		ug/L		94	80 - 120
1,1,1,2-Tetrachloroethane	10.0	8.75		ug/L		87	79 - 120
Ethylbenzene	10.0	9.09		ug/L		91	80 - 120
m-Xylene & p-Xylene	10.0	9.45		ug/L		95	80 - 120
o-Xylene	10.0	8.90		ug/L		89	80 - 120
Styrene	10.0	8.63		ug/L		86	76 - 121
Bromoform	10.0	7.92		ug/L		79	61 - 132
Isopropylbenzene	10.0	9.07		ug/L		91	75 - 120
Bromobenzene	10.0	9.41		ug/L		94	80 - 120
1,1,2,2-Tetrachloroethane	10.0	9.50		ug/L		95	74 - 124
1,2,3-Trichloropropane	10.0	9.49		ug/L		95	76 - 124
N-Propylbenzene	10.0	9.52		ug/L		95	80 - 120
2-Chlorotoluene	10.0	9.62		ug/L		96	80 - 120
4-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120
t-Butylbenzene	10.0	9.62		ug/L		96	80 - 121
1,2,4-Trimethylbenzene	10.0	9.99		ug/L		100	80 - 120
sec-Butylbenzene	10.0	9.83		ug/L		98	78 - 120
4-Isopropyltoluene	10.0	9.69		ug/L		97	77 - 120
1,3-Dichlorobenzene	10.0	8.84		ug/L		88	80 - 120
1,4-Dichlorobenzene	10.0	9.52		ug/L		95	80 - 120
n-Butylbenzene	10.0	10.1		ug/L		101	78 - 120
1,2-Dichlorobenzene	10.0	9.39		ug/L		94	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.97	J	ug/L		90	65 - 125
1,2,4-Trichlorobenzene	10.0	8.54		ug/L		85	57 - 140
Hexachlorobutadiene	10.0	9.55		ug/L		96	74 - 125
Naphthalene	10.0	11.8		ug/L		118	44 - 144
1,2,3-Trichlorobenzene	10.0	11.0		ug/L		110	23 - 150
1,3,5-Trimethylbenzene	10.0	10.0		ug/L		100	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329883/4
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	4.88	J	ug/L		49	20 - 150	9	35
Chloromethane			10.0	7.67	J	ug/L		77	52 - 135	0	23
Vinyl chloride			10.0	7.92		ug/L		79	65 - 130	4	28
Bromomethane			10.0	8.66		ug/L		87	66 - 125	3	27
Chloroethane			10.0	8.00		ug/L		80	65 - 132	0	35
Trichlorofluoromethane			10.0	8.40		ug/L		84	64 - 136	5	27
Carbon disulfide			10.0	5.43	*	ug/L		54	69 - 122	3	20
1,1-Dichloroethene			10.0	8.51		ug/L		85	70 - 129	3	27
Acetone			50.0	49.5	J	ug/L		99	43 - 150	1	35
Methylene Chloride			10.0	9.65		ug/L		96	77 - 125	2	18
Methyl tert-butyl ether			10.0	9.84		ug/L		98	72 - 130	1	18
trans-1,2-Dichloroethene			10.0	6.79	*	ug/L		68	77 - 124	12	21
1,1-Dichloroethane			10.0	9.78		ug/L		98	70 - 129	7	26
2-Butanone (MEK)			50.0	48.6		ug/L		97	65 - 127	12	29
2,2-Dichloropropane			10.0	10.1		ug/L		101	62 - 140	2	23
cis-1,2-Dichloroethene			10.0	8.75		ug/L		87	76 - 129	10	15
Bromochloromethane			10.0	9.17		ug/L		92	78 - 120	1	20
Chloroform			10.0	10.4		ug/L		104	73 - 127	6	22
1,1,1-Trichloroethane			10.0	9.45		ug/L		94	74 - 130	5	18
Carbon tetrachloride			10.0	8.99		ug/L		90	72 - 129	0	19
1,1-Dichloropropene			10.0	8.89		ug/L		89	80 - 120	1	14
Benzene			10.0	9.55		ug/L		95	75 - 121	1	14
1,2-Dichloroethane			10.0	10.2		ug/L		102	76 - 131	2	18
Trichloroethene			10.0	9.01		ug/L		90	70 - 120	0	21
1,2-Dichloropropane			10.0	9.68		ug/L		97	72 - 126	0	26
4-Methyl-2-pentanone (MIBK)			50.0	45.5		ug/L		91	69 - 124	9	22
Dibromomethane			10.0	9.88		ug/L		99	80 - 120	1	22
Bromodichloromethane			10.0	10.1		ug/L		101	75 - 124	1	22
cis-1,3-Dichloropropene			10.0	9.80		ug/L		98	77 - 120	9	20
Toluene			10.0	9.49		ug/L		95	80 - 120	2	19
trans-1,3-Dichloropropene			10.0	9.51		ug/L		95	80 - 122	0	25
1,1,2-Trichloroethane			10.0	9.24		ug/L		92	80 - 121	2	21
Tetrachloroethene			10.0	8.14		ug/L		81	76 - 120	5	20
1,3-Dichloropropane			10.0	9.64		ug/L		96	79 - 120	0	26
Dibromochloromethane			10.0	9.08		ug/L		91	71 - 120	1	24
1,2-Dibromoethane			10.0	9.37		ug/L		94	79 - 120	0	20
Chlorobenzene			10.0	9.40		ug/L		94	80 - 120	0	15
1,1,1,2-Tetrachloroethane			10.0	9.09		ug/L		91	79 - 120	4	20
Ethylbenzene			10.0	9.06		ug/L		91	80 - 120	0	14
m-Xylene & p-Xylene			10.0	9.44		ug/L		94	80 - 120	0	14

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329883/5
Matrix: Water
Analysis Batch: 329883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene			10.0	9.13		ug/L		91	80 - 120	3	16
Styrene			10.0	8.85		ug/L		89	76 - 121	3	16
Bromoform			10.0	8.74		ug/L		87	61 - 132	10	20
Isopropylbenzene			10.0	9.29		ug/L		93	75 - 120	2	20
Bromobenzene			10.0	9.10		ug/L		91	80 - 120	3	13
1,1,2,2-Tetrachloroethane			10.0	9.81		ug/L		98	74 - 124	3	18
1,2,3-Trichloropropane			10.0	9.58		ug/L		96	76 - 124	1	30
N-Propylbenzene			10.0	9.19		ug/L		92	80 - 120	4	13
2-Chlorotoluene			10.0	9.15		ug/L		92	80 - 120	5	15
4-Chlorotoluene			10.0	9.65		ug/L		96	80 - 120	5	14
t-Butylbenzene			10.0	9.12		ug/L		91	80 - 121	5	14
1,2,4-Trimethylbenzene			10.0	9.52		ug/L		95	80 - 120	5	16
sec-Butylbenzene			10.0	9.37		ug/L		94	78 - 120	5	15
4-Isopropyltoluene			10.0	9.18		ug/L		92	77 - 120	5	13
1,3-Dichlorobenzene			10.0	8.68		ug/L		87	80 - 120	2	14
1,4-Dichlorobenzene			10.0	9.15		ug/L		92	80 - 120	4	17
n-Butylbenzene			10.0	9.81		ug/L		98	78 - 120	3	14
1,2-Dichlorobenzene			10.0	9.16		ug/L		92	80 - 120	2	15
1,2-Dibromo-3-Chloropropane			10.0	8.99	J	ug/L		90	65 - 125	0	27
1,2,4-Trichlorobenzene			10.0	8.83		ug/L		88	57 - 140	3	27
Hexachlorobutadiene			10.0	8.88		ug/L		89	74 - 125	7	22
Naphthalene			10.0	11.1		ug/L		111	44 - 144	6	31
1,2,3-Trichlorobenzene			10.0	10.4		ug/L		104	23 - 150	6	35
1,3,5-Trimethylbenzene			10.0	9.49		ug/L		95	80 - 120	5	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 580-329979/7
Matrix: Water
Analysis Batch: 329979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			06/06/20 00:22	1
Chloromethane	ND		0.50	0.068	ug/L			06/06/20 00:22	1
Vinyl chloride	ND		0.020	0.013	ug/L			06/06/20 00:22	1
Bromomethane	ND		0.50	0.062	ug/L			06/06/20 00:22	1
Chloroethane	ND		0.50	0.096	ug/L			06/06/20 00:22	1
Carbon disulfide	ND		0.30	0.083	ug/L			06/06/20 00:22	1
Trichlorofluoromethane	ND		0.50	0.043	ug/L			06/06/20 00:22	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			06/06/20 00:22	1
Acetone	ND		10	3.1	ug/L			06/06/20 00:22	1
Methylene Chloride	ND		5.0	1.2	ug/L			06/06/20 00:22	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			06/06/20 00:22	1
2-Butanone (MEK)	ND		10	2.5	ug/L			06/06/20 00:22	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329979/7
Matrix: Water
Analysis Batch: 329979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			06/06/20 00:22	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			06/06/20 00:22	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			06/06/20 00:22	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			06/06/20 00:22	1
Chlorobromomethane	ND		0.20	0.025	ug/L			06/06/20 00:22	1
Chloroform	ND		0.20	0.030	ug/L			06/06/20 00:22	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			06/06/20 00:22	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			06/06/20 00:22	1
1,1-Dichloropropene	ND		0.20	0.036	ug/L			06/06/20 00:22	1
Benzene	ND		0.20	0.030	ug/L			06/06/20 00:22	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			06/06/20 00:22	1
Trichloroethene	ND		0.20	0.066	ug/L			06/06/20 00:22	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			06/06/20 00:22	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			06/06/20 00:22	1
Dibromomethane	ND		0.20	0.062	ug/L			06/06/20 00:22	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			06/06/20 00:22	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			06/06/20 00:22	1
Toluene	ND		0.20	0.050	ug/L			06/06/20 00:22	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			06/06/20 00:22	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			06/06/20 00:22	1
Tetrachloroethene	ND		0.50	0.084	ug/L			06/06/20 00:22	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			06/06/20 00:22	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			06/06/20 00:22	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			06/06/20 00:22	1
Chlorobenzene	ND		0.20	0.025	ug/L			06/06/20 00:22	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.027	ug/L			06/06/20 00:22	1
Ethylbenzene	ND		0.20	0.030	ug/L			06/06/20 00:22	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			06/06/20 00:22	1
o-Xylene	ND		0.50	0.15	ug/L			06/06/20 00:22	1
Styrene	ND		1.0	0.19	ug/L			06/06/20 00:22	1
Bromoform	ND		0.50	0.16	ug/L			06/06/20 00:22	1
Isopropylbenzene	ND		1.0	0.19	ug/L			06/06/20 00:22	1
Bromobenzene	ND		0.20	0.035	ug/L			06/06/20 00:22	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			06/06/20 00:22	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			06/06/20 00:22	1
N-Propylbenzene	ND		0.30	0.091	ug/L			06/06/20 00:22	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			06/06/20 00:22	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			06/06/20 00:22	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			06/06/20 00:22	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			06/06/20 00:22	1
1,2,4-Trimethylbenzene	ND		0.30	0.072	ug/L			06/06/20 00:22	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			06/06/20 00:22	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			06/06/20 00:22	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			06/06/20 00:22	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			06/06/20 00:22	1
n-Butylbenzene	ND		1.0	0.23	ug/L			06/06/20 00:22	1
1,2-Dichlorobenzene	ND		0.30	0.024	ug/L			06/06/20 00:22	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			06/06/20 00:22	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			06/06/20 00:22	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-329979/7
Matrix: Water
Analysis Batch: 329979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		0.50	0.067	ug/L			06/06/20 00:22	1
Naphthalene	0.306	J	1.0	0.22	ug/L			06/06/20 00:22	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			06/06/20 00:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/06/20 00:22*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/06/20 00:22*	*1*
4-Bromofluorobenzene (Surr)	*80*		*80 - 120*		*06/06/20 00:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*06/06/20 00:22*	*1*

Lab Sample ID: LCS 580-329979/4
Matrix: Water
Analysis Batch: 329979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	5.00	2.41		ug/L		48	20 - 137
Chloromethane	5.00	5.10		ug/L		102	32 - 143
Vinyl chloride	5.00	4.68		ug/L		94	52 - 128
Bromomethane	5.00	4.84		ug/L		97	68 - 120
Chloroethane	5.00	5.76		ug/L		115	49 - 135
Carbon disulfide	5.00	3.78		ug/L		76	65 - 128
Trichlorofluoromethane	5.00	4.86		ug/L		97	60 - 132
1,1-Dichloroethene	5.00	4.84		ug/L		97	71 - 126
Acetone	25.0	34.6		ug/L		139	49 - 150
Methylene Chloride	5.00	4.49	J	ug/L		90	75 - 134
Methyl tert-butyl ether	5.00	3.89		ug/L		78	60 - 150
2-Butanone (MEK)	25.0	24.2		ug/L		97	64 - 136
trans-1,2-Dichloroethene	5.00	4.12		ug/L		82	63 - 133
1,1-Dichloroethane	5.00	4.67		ug/L		93	74 - 135
2,2-Dichloropropane	5.00	3.81		ug/L		76	58 - 150
cis-1,2-Dichloroethene	5.00	4.27		ug/L		85	72 - 130
Chlorobromomethane	5.00	4.08		ug/L		82	79 - 131
Chloroform	5.00	4.57		ug/L		91	80 - 130
1,1,1-Trichloroethane	5.00	4.26		ug/L		85	74 - 128
Carbon tetrachloride	5.00	4.22		ug/L		84	71 - 132
1,1-Dichloropropene	5.00	4.34		ug/L		87	72 - 132
Benzene	5.00	4.45		ug/L		89	73 - 133
1,2-Dichloroethane	5.00	4.33		ug/L		87	74 - 130
Trichloroethene	5.00	4.46		ug/L		89	72 - 136
1,2-Dichloropropane	5.00	4.79		ug/L		96	80 - 130
4-Methyl-2-pentanone (MIBK)	25.0	23.4		ug/L		94	65 - 137
Dibromomethane	5.00	3.66		ug/L		73	65 - 141
Dichlorobromomethane	5.00	4.36		ug/L		87	74 - 131
cis-1,3-Dichloropropene	5.00	3.99		ug/L		80	66 - 141
Toluene	5.00	4.61		ug/L		92	80 - 126
trans-1,3-Dichloropropene	5.00	3.65		ug/L		73	71 - 128
1,1,2-Trichloroethane	5.00	4.02		ug/L		80	80 - 127
Tetrachloroethene	5.00	4.00		ug/L		80	75 - 131

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-329979/4
Matrix: Water
Analysis Batch: 329979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	5.00	4.34		ug/L		87	80 - 130
Chlorodibromomethane	5.00	4.47		ug/L		89	76 - 131
Ethylene Dibromide	5.00	4.23		ug/L		85	80 - 126
Chlorobenzene	5.00	4.47		ug/L		89	80 - 123
1,1,1,2-Tetrachloroethane	5.00	4.30		ug/L		86	79 - 127
Ethylbenzene	5.00	4.71		ug/L		94	80 - 130
m-Xylene & p-Xylene	5.00	4.67		ug/L		93	78 - 130
o-Xylene	5.00	4.68		ug/L		94	80 - 139
Styrene	5.00	4.71		ug/L		94	74 - 136
Bromoform	5.00	3.99		ug/L		80	69 - 137
Isopropylbenzene	5.00	4.78		ug/L		96	75 - 137
Bromobenzene	5.00	4.40		ug/L		88	80 - 130
1,1,2,2-Tetrachloroethane	5.00	4.62		ug/L		92	69 - 139
1,2,3-Trichloropropane	5.00	4.68		ug/L		94	80 - 127
N-Propylbenzene	5.00	5.37		ug/L		107	77 - 142
2-Chlorotoluene	5.00	5.11		ug/L		102	80 - 136
4-Chlorotoluene	5.00	5.25		ug/L		105	80 - 130
1,3,5-Trimethylbenzene	5.00	5.39		ug/L		108	80 - 139
tert-Butylbenzene	5.00	5.09		ug/L		102	77 - 140
1,2,4-Trimethylbenzene	5.00	5.58		ug/L		112	78 - 136
sec-Butylbenzene	5.00	5.47		ug/L		109	78 - 140
4-Isopropyltoluene	5.00	5.66		ug/L		113	78 - 132
1,3-Dichlorobenzene	5.00	4.70		ug/L		94	80 - 130
1,4-Dichlorobenzene	5.00	4.58		ug/L		92	80 - 129
n-Butylbenzene	5.00	5.34		ug/L		107	73 - 135
1,2-Dichlorobenzene	5.00	4.87		ug/L		97	80 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.65		ug/L		93	69 - 130
1,2,4-Trichlorobenzene	5.00	4.46		ug/L		89	79 - 130
Hexachlorobutadiene	5.00	4.06		ug/L		81	72 - 138
Naphthalene	5.00	4.29		ug/L		86	64 - 132
1,2,3-Trichlorobenzene	5.00	4.25		ug/L		85	75 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-329979/5
Matrix: Water
Analysis Batch: 329979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	5.00	2.22		ug/L		44	20 - 137	8	22
Chloromethane	5.00	4.67		ug/L		93	32 - 143	9	23
Vinyl chloride	5.00	4.68		ug/L		94	52 - 128	0	21
Bromomethane	5.00	4.44		ug/L		89	68 - 120	9	18
Chloroethane	5.00	5.73		ug/L		115	49 - 135	1	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329979/5
Matrix: Water
Analysis Batch: 329979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon disulfide	5.00	3.49		ug/L		70	65 - 128	8	23
Trichlorofluoromethane	5.00	4.35		ug/L		87	60 - 132	11	20
1,1-Dichloroethene	5.00	4.45		ug/L		89	71 - 126	8	17
Acetone	25.0	31.0		ug/L		124	49 - 150	11	24
Methylene Chloride	5.00	4.25	J	ug/L		85	75 - 134	5	18
Methyl tert-butyl ether	5.00	3.95		ug/L		79	60 - 150	2	25
2-Butanone (MEK)	25.0	22.9		ug/L		91	64 - 136	6	23
trans-1,2-Dichloroethene	5.00	3.62		ug/L		72	63 - 133	13	17
1,1-Dichloroethane	5.00	4.43		ug/L		89	74 - 135	5	20
2,2-Dichloropropane	5.00	3.60		ug/L		72	58 - 150	6	28
cis-1,2-Dichloroethene	5.00	4.14		ug/L		83	72 - 130	3	20
Chlorobromomethane	5.00	3.97		ug/L		79	79 - 131	3	20
Chloroform	5.00	4.25		ug/L		85	80 - 130	7	20
1,1,1-Trichloroethane	5.00	3.98		ug/L		80	74 - 128	7	14
Carbon tetrachloride	5.00	3.90		ug/L		78	71 - 132	8	15
1,1-Dichloropropene	5.00	4.03		ug/L		81	72 - 132	8	13
Benzene	5.00	4.18		ug/L		84	73 - 133	6	20
1,2-Dichloroethane	5.00	4.08		ug/L		82	74 - 130	6	15
Trichloroethene	5.00	4.17		ug/L		83	72 - 136	7	14
1,2-Dichloropropane	5.00	4.44		ug/L		89	80 - 130	7	14
4-Methyl-2-pentanone (MIBK)	25.0	23.1		ug/L		92	65 - 137	1	24
Dibromomethane	5.00	3.36		ug/L		67	65 - 141	9	20
Dichlorobromomethane	5.00	4.15		ug/L		83	74 - 131	5	20
cis-1,3-Dichloropropene	5.00	3.99		ug/L		80	66 - 141	0	22
Toluene	5.00	4.45		ug/L		89	80 - 126	4	20
trans-1,3-Dichloropropene	5.00	3.74		ug/L		75	71 - 128	2	21
1,1,2-Trichloroethane	5.00	4.01		ug/L		80	80 - 127	0	19
Tetrachloroethene	5.00	3.72	*	ug/L		74	75 - 131	7	20
1,3-Dichloropropane	5.00	4.32		ug/L		86	80 - 130	0	19
Chlorodibromomethane	5.00	4.53		ug/L		91	76 - 131	2	20
Ethylene Dibromide	5.00	4.09		ug/L		82	80 - 126	3	20
Chlorobenzene	5.00	4.29		ug/L		86	80 - 123	4	12
1,1,1,2-Tetrachloroethane	5.00	4.09		ug/L		82	79 - 127	5	20
Ethylbenzene	5.00	4.50		ug/L		90	80 - 130	5	20
m-Xylene & p-Xylene	5.00	4.50		ug/L		90	78 - 130	4	20
o-Xylene	5.00	4.44		ug/L		89	80 - 139	5	20
Styrene	5.00	4.60		ug/L		92	74 - 136	2	20
Bromoform	5.00	3.99		ug/L		80	69 - 137	0	20
Isopropylbenzene	5.00	4.52		ug/L		90	75 - 137	5	20
Bromobenzene	5.00	4.29		ug/L		86	80 - 130	3	20
1,1,2,2-Tetrachloroethane	5.00	4.62		ug/L		92	69 - 139	0	22
1,2,3-Trichloropropane	5.00	5.03		ug/L		101	80 - 127	7	20
N-Propylbenzene	5.00	5.10		ug/L		102	77 - 142	5	20
2-Chlorotoluene	5.00	4.98		ug/L		100	80 - 136	3	20
4-Chlorotoluene	5.00	4.98		ug/L		100	80 - 130	5	20
1,3,5-Trimethylbenzene	5.00	5.14		ug/L		103	80 - 139	5	20
tert-Butylbenzene	5.00	4.92		ug/L		98	77 - 140	3	20
1,2,4-Trimethylbenzene	5.00	5.35		ug/L		107	78 - 136	4	20
sec-Butylbenzene	5.00	5.19		ug/L		104	78 - 140	5	20

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-329979/5
Matrix: Water
Analysis Batch: 329979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Isopropyltoluene			5.00	5.39		ug/L		108	78 - 132	5	14
1,3-Dichlorobenzene			5.00	4.59		ug/L		92	80 - 130	2	12
1,4-Dichlorobenzene			5.00	4.38		ug/L		88	80 - 129	5	11
n-Butylbenzene			5.00	4.98		ug/L		100	73 - 135	7	18
1,2-Dichlorobenzene			5.00	4.83		ug/L		97	80 - 129	1	14
1,2-Dibromo-3-Chloropropane			5.00	4.58		ug/L		92	69 - 130	2	26
1,2,4-Trichlorobenzene			5.00	4.32		ug/L		86	79 - 130	3	20
Hexachlorobutadiene			5.00	3.84		ug/L		77	72 - 138	5	20
Naphthalene			5.00	4.22		ug/L		84	64 - 132	2	20
1,2,3-Trichlorobenzene			5.00	4.08		ug/L		82	75 - 137	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 580-329771/1-A
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		200	44	ug/L			06/10/20 23:14	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/10/20 23:14*	*100*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 126*		*06/10/20 23:14*	*100*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/10/20 23:14*	*100*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/10/20 23:14*	*100*

Lab Sample ID: MB 580-330266/10
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/10/20 23:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/10/20 23:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*06/10/20 23:41*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/10/20 23:41*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/10/20 23:41*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-330266/6
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene			10.0	10.5		ug/L		105	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-330266/7
Matrix: Water
Analysis Batch: 330266

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			10.0	9.61		ug/L		96	80 - 120	9	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 580-330613/7
Matrix: Water
Analysis Batch: 330613

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.0	0.44	ug/L			06/13/20 04:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*06/13/20 04:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*06/13/20 04:07*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/13/20 04:07*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*06/13/20 04:07*	*1*

Lab Sample ID: LCS 580-330613/4
Matrix: Water
Analysis Batch: 330613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene			10.0	9.46		ug/L		95	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-330613/5
Matrix: Water
Analysis Batch: 330613

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene			10.0	9.85		ug/L		98	80 - 120	4	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 126*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-329617/1-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329617

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.015	0.0060	ug/L		06/02/20 12:07	06/04/20 20:13	1
4,4'-DDE	ND		0.010	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
4,4'-DDT	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Aldrin	ND		0.024	0.0070	ug/L		06/02/20 12:07	06/04/20 20:13	1
alpha-BHC	ND		0.018	0.0040	ug/L		06/02/20 12:07	06/04/20 20:13	1
cis-Chlordane	ND		0.027	0.0080	ug/L		06/02/20 12:07	06/04/20 20:13	1
beta-BHC	ND		0.021	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Chlordane (technical)	ND		0.20	0.030	ug/L		06/02/20 12:07	06/04/20 20:13	1
delta-BHC	ND		0.015	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Dieldrin	ND		0.018	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan I	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan II	ND		0.024	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endosulfan sulfate	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin	ND		0.012	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin aldehyde	ND		0.060	0.034	ug/L		06/02/20 12:07	06/04/20 20:13	1
Endrin ketone	ND		0.020	0.0020	ug/L		06/02/20 12:07	06/04/20 20:13	1
gamma-BHC (Lindane)	ND		0.020	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
trans-Chlordane	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Heptachlor	ND		0.015	0.0040	ug/L		06/02/20 12:07	06/04/20 20:13	1
Heptachlor epoxide	ND		0.020	0.0030	ug/L		06/02/20 12:07	06/04/20 20:13	1
Methoxychlor	ND		0.10	0.0050	ug/L		06/02/20 12:07	06/04/20 20:13	1
Toxaphene	ND		2.0	0.46	ug/L		06/02/20 12:07	06/04/20 20:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*45 - 127*	*06/02/20 12:07*	*06/04/20 20:13*	*1*
Tetrachloro-m-xylene	*66*		*33 - 120*	*06/02/20 12:07*	*06/04/20 20:13*	*1*

Lab Sample ID: LCS 580-329617/2-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329617

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD			0.200	0.180		ug/L		90	53 - 139

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-329617/2-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329617

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDE			0.200	0.171		ug/L		85	47 - 126		
4,4'-DDT			0.200	0.184		ug/L		92	38 - 150		
Aldrin			0.200	0.118		ug/L		59	30 - 124		
alpha-BHC			0.200	0.164		ug/L		82	53 - 120		
cis-Chlordane			0.200	0.166		ug/L		83	56 - 120		
beta-BHC			0.200	0.162		ug/L		81	63 - 120		
delta-BHC			0.200	0.172		ug/L		86	44 - 120		
Dieldrin			0.200	0.176		ug/L		88	61 - 122		
Endosulfan I			0.200	0.165		ug/L		83	62 - 123		
Endosulfan II			0.200	0.158		ug/L		79	52 - 121		
Endosulfan sulfate			0.200	0.166		ug/L		83	60 - 120		
Endrin			0.200	0.202		ug/L		101	45 - 140		
Endrin aldehyde			0.200	0.152		ug/L		76	47 - 136		
Endrin ketone			0.200	0.163		ug/L		81	60 - 137		
gamma-BHC (Lindane)			0.200	0.159		ug/L		79	53 - 120		
trans-Chlordane			0.200	0.162		ug/L		81	49 - 121		
Heptachlor			0.200	0.143		ug/L		71	38 - 127		
Heptachlor epoxide			0.200	0.175		ug/L		87	49 - 126		
Methoxychlor			0.200	0.204		ug/L		102	35 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*76*		*45 - 127*
Tetrachloro-m-xylene	*67*		*33 - 120*

Lab Sample ID: LCS 580-329617/3-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329617

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toxaphene			4.00	3.51		ug/L		88	57 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*76*		*45 - 127*
Tetrachloro-m-xylene	*62*		*33 - 120*

Lab Sample ID: LCSD 580-329617/4-A
Matrix: Water
Analysis Batch: 329872

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 329617

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toxaphene			4.00	3.72		ug/L		93	57 - 120	6	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*80*		*45 - 127*
Tetrachloro-m-xylene	*67*		*33 - 120*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-610717/1-A
Matrix: Water
Analysis Batch: 610792

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610717

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
4,4'-DDE	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
4,4'-DDT	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
Aldrin	ND		0.0050	0.0015	ug/L		06/01/20 05:29	06/01/20 12:55	1
alpha-BHC	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
cis-Chlordane	ND		0.10	0.014	ug/L		06/01/20 05:29	06/01/20 12:55	1
beta-BHC	ND		0.010	0.0040	ug/L		06/01/20 05:29	06/01/20 12:55	1
Chlordane (technical)	ND		0.10	0.080	ug/L		06/01/20 05:29	06/01/20 12:55	1
delta-BHC	ND		0.0050	0.0035	ug/L		06/01/20 05:29	06/01/20 12:55	1
Dieldrin	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endosulfan I	ND		0.0050	0.0030	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endosulfan II	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endrin	ND		0.0050	0.0020	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		06/01/20 05:29	06/01/20 12:55	1
Endrin ketone	ND		0.010	0.0070	ug/L		06/01/20 05:29	06/01/20 12:55	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 12:55	1
trans-Chlordane	ND		0.10	0.030	ug/L		06/01/20 05:29	06/01/20 12:55	1
Heptachlor	ND		0.010	0.0030	ug/L		06/01/20 05:29	06/01/20 12:55	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		06/01/20 05:29	06/01/20 12:55	1
Methoxychlor	ND		0.0050	0.0035	ug/L		06/01/20 05:29	06/01/20 12:55	1
Toxaphene	ND		0.50	0.25	ug/L		06/01/20 05:29	06/01/20 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*77*		*28 - 108*	*06/01/20 05:29*	*06/01/20 12:55*	*1*
Tetrachloro-m-xylene	*70*		*10 - 123*	*06/01/20 05:29*	*06/01/20 12:55*	*1*

Lab Sample ID: LCS 440-610717/2-A
Matrix: Water
Analysis Batch: 610792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.372		ug/L		93	50 - 128
4,4'-DDE	0.400	0.368		ug/L		92	49 - 121
4,4'-DDT	0.400	0.367		ug/L		92	41 - 140
Aldrin	0.400	0.324		ug/L		81	37 - 115
alpha-BHC	0.400	0.357		ug/L		89	44 - 115
cis-Chlordane	0.400	0.351		ug/L		88	40 - 122
beta-BHC	0.400	0.346		ug/L		87	46 - 121
delta-BHC	0.400	0.345		ug/L		86	32 - 129
Dieldrin	0.400	0.355		ug/L		89	39 - 126
Endosulfan I	0.400	0.332		ug/L		83	47 - 115
Endosulfan II	0.400	0.347		ug/L		87	47 - 120
Endosulfan sulfate	0.400	0.323		ug/L		81	48 - 126
Endrin	0.400	0.348		ug/L		87	43 - 127
Endrin aldehyde	0.400	0.334		ug/L		83	43 - 120
Endrin ketone	0.400	0.355		ug/L		89	47 - 123
gamma-BHC (Lindane)	0.400	0.337		ug/L		84	45 - 116

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-610717/2-A
Matrix: Water
Analysis Batch: 610792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610717

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
trans-Chlordane			0.400	0.335		ug/L		84	37 - 129		
Heptachlor			0.400	0.327		ug/L		82	37 - 115		
Heptachlor epoxide			0.400	0.337		ug/L		84	41 - 129		
Methoxychlor			0.400	0.398		ug/L		99	44 - 141		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*82*		*28 - 108*
Tetrachloro-m-xylene	*85*		*10 - 123*

Lab Sample ID: LCSD 440-610717/3-A
Matrix: Water
Analysis Batch: 610792

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 610717

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD			0.400	0.381		ug/L		95	50 - 128	2	26
4,4'-DDE			0.400	0.378		ug/L		94	49 - 121	3	22
4,4'-DDT			0.400	0.380		ug/L		95	41 - 140	3	20
Aldrin			0.400	0.334		ug/L		83	37 - 115	3	24
alpha-BHC			0.400	0.368		ug/L		92	44 - 115	3	26
cis-Chlordane			0.400	0.359		ug/L		90	40 - 122	2	35
beta-BHC			0.400	0.355		ug/L		89	46 - 121	2	27
delta-BHC			0.400	0.356		ug/L		89	32 - 129	3	35
Dieldrin			0.400	0.366		ug/L		91	39 - 126	3	35
Endosulfan I			0.400	0.338		ug/L		85	47 - 115	2	27
Endosulfan II			0.400	0.359		ug/L		90	47 - 120	3	29
Endosulfan sulfate			0.400	0.334		ug/L		84	48 - 126	3	26
Endrin			0.400	0.357		ug/L		89	43 - 127	2	35
Endrin aldehyde			0.400	0.345		ug/L		86	43 - 120	3	35
Endrin ketone			0.400	0.367		ug/L		92	47 - 123	3	27
gamma-BHC (Lindane)			0.400	0.348		ug/L		87	45 - 116	3	28
trans-Chlordane			0.400	0.343		ug/L		86	37 - 129	3	35
Heptachlor			0.400	0.335		ug/L		84	37 - 115	2	35
Heptachlor epoxide			0.400	0.345		ug/L		86	41 - 129	2	35
Methoxychlor			0.400	0.411		ug/L		103	44 - 141	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*83*		*28 - 108*
Tetrachloro-m-xylene	*85*		*10 - 123*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-611270/6
Matrix: Water
Analysis Batch: 611270

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/04/20 07:06	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 440-611270/5
Matrix: Water
Analysis Batch: 611270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.7		ug/L		99	90 - 110

Lab Sample ID: MRL 440-611270/4
Matrix: Water
Analysis Batch: 611270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	0.995	J	ug/L		100	50 - 150

Lab Sample ID: MB 440-611418/6
Matrix: Water
Analysis Batch: 611418

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			06/05/20 06:28	1

Lab Sample ID: LCS 440-611418/5
Matrix: Water
Analysis Batch: 611418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	52.0		ug/L		104	90 - 110

Lab Sample ID: MRL 440-611418/4
Matrix: Water
Analysis Batch: 611418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	1.00	1.10		ug/L		110	50 - 150

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-610910/6
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/02/20 11:13	1

Lab Sample ID: LCS 440-610910/5
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	10.1		ug/L		101	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-610910/8
Matrix: Water
Analysis Batch: 610910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.12		ug/L		103	75 - 125

Lab Sample ID: MB 440-612900/6
Matrix: Water
Analysis Batch: 612900

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/16/20 11:25	1

Lab Sample ID: LCS 440-612900/5
Matrix: Water
Analysis Batch: 612900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.88		ug/L		99	85 - 115

Lab Sample ID: MRL 440-612900/4
Matrix: Water
Analysis Batch: 612900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	1.11	J	ug/L		111	75 - 125

Lab Sample ID: MRL 440-612900/8
Matrix: Water
Analysis Batch: 612900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	3.98	J	ug/L		99	75 - 125

Lab Sample ID: MB 440-613122/6
Matrix: Water
Analysis Batch: 613122

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			06/17/20 10:15	1

Lab Sample ID: LCS 440-613122/5
Matrix: Water
Analysis Batch: 613122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	26.6		ug/L		106	85 - 115

Lab Sample ID: MRL 440-613122/4
Matrix: Water
Analysis Batch: 613122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		88	75 - 125

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MRL 440-613122/8
Matrix: Water
Analysis Batch: 613122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.90	J	ug/L		97	75 - 125		

Lab Sample ID: 580-95012-2 MS
Matrix: Water
Analysis Batch: 613122

Client Sample ID: PA-37i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	270		250	501		ug/L		93	80 - 120		

Lab Sample ID: 580-95012-2 MSD
Matrix: Water
Analysis Batch: 613122

Client Sample ID: PA-37i-052820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	270		250	495		ug/L		91	80 - 120	1	15

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-329562/15-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:52	06/03/20 01:25	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:52	06/03/20 01:25	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:52	06/03/20 01:25	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:52	06/03/20 01:25	5

Lab Sample ID: LCS 580-329562/16-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			1.00	0.947		mg/L		95	80 - 120		
Chromium			1.00	1.02		mg/L		102	80 - 120		
Iron			20.0	20.8		mg/L		104	80 - 120		
Manganese			1.00	1.02		mg/L		102	80 - 120		

Lab Sample ID: LCSD 580-329562/17-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			1.00	0.949		mg/L		95	80 - 120	0	20
Chromium			1.00	1.02		mg/L		102	80 - 120	0	20
Iron			20.0	20.6		mg/L		103	80 - 120	1	20
Manganese			1.00	1.01		mg/L		101	80 - 120	1	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-329564/20-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0010	mg/L		06/01/20 16:56	06/02/20 23:31	5
Chromium	ND		0.0040	0.00087	mg/L		06/01/20 16:56	06/02/20 23:31	5
Iron	ND		1.0	0.18	mg/L		06/01/20 16:56	06/02/20 23:31	5
Manganese	ND		0.010	0.0023	mg/L		06/01/20 16:56	06/02/20 23:31	5

Lab Sample ID: LCS 580-329564/21-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.04		mg/L		104	80 - 120
Chromium	1.00	1.10		mg/L		110	80 - 120
Iron	20.0	22.1		mg/L		110	80 - 120
Manganese	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: LCSD 580-329564/22-A
Matrix: Water
Analysis Batch: 329715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 329564

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.03		mg/L		103	80 - 120	1	20
Chromium	1.00	1.10		mg/L		110	80 - 120	0	20
Iron	20.0	22.4		mg/L		112	80 - 120	1	20
Manganese	1.00	1.09		mg/L		109	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-329576/3
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.14	mg/L			06/01/20 18:25	1

Lab Sample ID: LCS 580-329576/4
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.2		mg/L		104	90 - 110

Lab Sample ID: LCSD 580-329576/5
Matrix: Water
Analysis Batch: 329576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	52.0		mg/L		104	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-36-052820
Lab Sample ID: 580-95012-1
Date Collected: 05/28/20 16:00
Matrix: Water
Date Received: 05/29/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/05/20 01:56	W1T	TAL SEA
Total/NA	Analysis	8260D		1	330266	06/11/20 01:01	CJB	TAL SEA
Dissolved	Analysis	218.6		2	611418	06/05/20 13:46	MN	TAL IRV
Total/NA	Analysis	314.0		10	612900	06/16/20 16:14	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:12	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329576	06/01/20 22:19	AAC	TAL SEA

Client Sample ID: PA-37i-052820
Lab Sample ID: 580-95012-2
Date Collected: 05/28/20 16:50
Matrix: Water
Date Received: 05/29/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/05/20 02:23	W1T	TAL SEA
Total/NA	Analysis	8260D	DL	1000	330613	06/13/20 10:51	CJB	TAL SEA
Total/NA	Prep	3510C			610717	06/01/20 05:34	L1H	TAL IRV
Total/NA	Analysis	8081B_LL		1	610792	06/01/20 15:11	D1D	TAL IRV
Dissolved	Analysis	218.6		1	611270	06/04/20 15:48	RW	TAL IRV
Total/NA	Analysis	314.0		10	613122	06/17/20 11:19	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:15	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 02:19	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329576	06/01/20 22:31	AAC	TAL SEA

Client Sample ID: MWA-22-052820
Lab Sample ID: 580-95012-3
Date Collected: 05/28/20 17:40
Matrix: Water
Date Received: 05/29/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/05/20 02:50	W1T	TAL SEA
Total/NA	Analysis	8260D		1	330266	06/11/20 01:28	CJB	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		1	330926	06/17/20 22:16	TL1	TAL SEA
Dissolved	Analysis	218.6		50	611270	06/04/20 16:01	RW	TAL IRV
Total/NA	Analysis	314.0		100	610910	06/03/20 01:20	OH1	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 01:06	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 02:28	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329576	06/01/20 23:06	AAC	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: PA-19d-052920
Lab Sample ID: 580-95012-4
Date Collected: 05/29/20 09:00
Matrix: Water
Date Received: 05/29/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/05/20 03:17	W1T	TAL SEA
Total/NA	Analysis	8260D	DL	100	330266	06/11/20 04:09	CJB	TAL SEA
Dissolved	Analysis	218.6		10	611270	06/04/20 16:13	RW	TAL IRV
Total/NA	Analysis	314.0		50	610910	06/03/20 01:56	OH1	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:22	FCW	TAL SEA
Total/NA	Analysis	300.0		10	329576	06/01/20 23:18	AAC	TAL SEA

Client Sample ID: MWA-02-052920
Lab Sample ID: 580-95012-5
Date Collected: 05/29/20 09:55
Matrix: Water
Date Received: 05/29/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/05/20 03:44	W1T	TAL SEA
Total/NA	Analysis	8260D	DL	10	330266	06/11/20 06:24	CJB	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		1	330667	06/15/20 18:49	RSB	TAL SEA
Dissolved	Analysis	218.6		1	611270	06/04/20 16:26	RW	TAL IRV
Total/NA	Analysis	314.0		1	612900	06/16/20 15:39	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:25	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 02:22	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 23:29	AAC	TAL SEA

Client Sample ID: MWA-11i(d)-052920
Lab Sample ID: 580-95012-6
Date Collected: 05/29/20 10:20
Matrix: Water
Date Received: 05/29/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329979	06/06/20 06:08	JSM	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		1	330667	06/15/20 19:08	RSB	TAL SEA
Dissolved	Analysis	218.6		1	611418	06/05/20 13:58	MN	TAL IRV
Total/NA	Analysis	314.0		10	612900	06/16/20 16:50	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:57	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 02:06	FCW	TAL SEA
Total/NA	Analysis	300.0		100	329576	06/01/20 23:41	AAC	TAL SEA

Lab Chronicle

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Client Sample ID: MWA-15r-052920
Lab Sample ID: 580-95012-7
Date Collected: 05/29/20 10:50
Matrix: Water
Date Received: 05/29/20 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	329883	06/04/20 19:40	W1T	TAL SEA
Total/NA	Analysis	8260D	DL	10	330266	06/11/20 06:50	CJB	TAL SEA
Total/NA	Prep	3510C			329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B		10	331028	06/18/20 16:38	TL1	TAL SEA
Total/NA	Prep	3510C	DL		329617	06/02/20 12:07	APR	TAL SEA
Total/NA	Analysis	8081B	DL	50	331028	06/18/20 17:18	TL1	TAL SEA
Dissolved	Analysis	218.6		1	611270	06/04/20 16:39	RW	TAL IRV
Total/NA	Analysis	314.0		10	613122	06/17/20 11:37	PS	TAL IRV
Dissolved	Prep	3005A			329564	06/01/20 16:56	ART	TAL SEA
Dissolved	Analysis	6020B		5	329715	06/03/20 00:31	FCW	TAL SEA
Total Recoverable	Prep	3005A			329562	06/01/20 16:52	ART	TAL SEA
Total Recoverable	Analysis	6020B		5	329715	06/03/20 02:09	FCW	TAL SEA
Total/NA	Analysis	300.0		1	329576	06/01/20 23:53	AAC	TAL SEA

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-06-20

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4028 - 008	01-29-21

Sample Summary

Client: ERM-West
Job ID: 580-95012-1
Project/Site: Arkema - Q2 2020 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-95012-1	PA-36-052820	Water	05/28/20 16:00	05/29/20 12:50	
580-95012-2	PA-37i-052820	Water	05/28/20 16:50	05/29/20 12:50	
580-95012-3	MWA-22-052820	Water	05/28/20 17:40	05/29/20 12:50	
580-95012-4	PA-19d-052920	Water	05/29/20 09:00	05/29/20 12:50	
580-95012-5	MWA-02-052920	Water	05/29/20 09:55	05/29/20 12:50	
580-95012-6	MWA-11i(d)-052920	Water	05/29/20 10:20	05/29/20 12:50	
580-95012-7	MWA-15r-052920	Water	05/29/20 10:50	05/29/20 12:50	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

580-95012 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 1
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: 0543821.107		
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:		
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456		
Site: Arkema	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N	N	D	D	A	A	N			
PA-36-052820	5-28-20	1600	G	Water	Y		X				X	X		X	X		
PA-37i-052820		1650		Water	Y		X	X		X	X	X		X	X		Dil VOCs
MWA-22-052820		1740		Water	Y		X		X	X	X	X		X	X		Dil VOCs
PA-19d-052920	5/29/20	0900		Water	Y		X				X	X		X	X		Dil VOCs
MWA-02-052920		0955		Water	Y		X		X	X	X	X		X	X		Dil VOCs
MWA-11i(d)-052920		1020		Water	Y		X		X	X	X		X	X	X		
MWA-15r-052920		1050		Water	Y		X		X	X	X	X		X	X		Dil VOCs and Pesticides
EB-03-052920		0837		Water	Y						X				X		
TB-01-052920	5/29/20	—	—	Water									X				

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/29/20 @ 1220	ERM		5/29/20 1220	M.E.
2		5/29/20 1250	M.E.		5/29/20 1250	TAL
3		Date/Time:	Company		Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 2-8

Ver: 01/16/2019

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Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

580-95012 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Erica Whiting	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 1
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: 0543821.107		
Email: avery.soplata@erm.com and Erica.whiting@erm.com	WO #:		
Project Name: Arkema - Q2 2020 Groundwater event	Project #: 58014456		
Site: Arkema	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0 - Perchlorate-Irvine	8081B_LL - Standard 8081ALL Pesticide list-Irvine	8081B pest standard list-Seattle	Total 6020A - As, Fe, Mn, Cr-Seattle	Diss 6020A - As, Fe, Mn, Cr-Seattle	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	FF 218.6 Hexavalent Chromium-Irvine	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	D	D	A	A	N			
PA-36-052820	5-28-20	1600	G	Water	Y		X				X	X		X	X		
PA-37i-052820		1650		Water	Y		X	X		X	X	X		X	X		Dil VOCs
MWA-22-052820		1740		Water	Y		X		X	X	X	X		X	X		Dil VOCs
PA-19d-052920	5/29/20	0900		Water	Y		X				X	X		X	X		Dil VOCs
MWA-02-052920		0955		Water	Y		X		X	X	X	X		X	X		Dil VOCs
MWA-11d-052920		1020		Water	Y		X		X	X	X		X	X	X		
MWA-15r-052920		1050		Water	Y		X		X	X	X	X		X	X		Dil VOCs and Pesticides
EB-03-052920		0837		Water	Y						X				X		
TB-01-052920	5/29/20	—	—	Water									X				

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 5/29/20 @ 1220	Company: ERM	Received by:	Date/Time: 5/29/20 1220	Company: M-E-
Relinquished by:	Date/Time: 5/29/20 1250	Company: M.E.	Received by:	Date/Time: 5/29/20 1250	Company: TAL
Relinquished by:	Date/Time: 5/29/20 1700	Company: TASON	Received by:	Date/Time: 5/30/20 1111	Company: TASON

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.8

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax 253-922-5047

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Cruz, Sheri L	Carrier Tracking No(s)	COC No: 580-77236.1
Client Contact: Shipping/Receiving	Phone	E-Mail: sheri.cruz@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): NELAP - Oregon		Job #: 580-95012-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 6/17/2020			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #			
Project Name: Arkema - Q2 2020 Groundwater Event	Project #: 58014456			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	218.6_Pres_ORGF/FIELD_FLTRD	314.0/ Perchlorate	8081B_LL/3510C Standard 8081ALL Pesticide list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
PA-36-052820 (580-95012-1)	5/28/20	16.00 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland. Please confirm via
PA-37i-052820 (580-95012-2)	5/28/20	16 50 Pacific		Water			X	X	X	4	Sample should have been field filtered then preserved by Portland Please confirm via
MWA-22-052820 (580-95012-3)	5/28/20	17 40 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland Please confirm via
PA-19d-052920 (580-95012-4)	5/29/20	09.00 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland. Please confirm via
MWA-02-052820 (580-95012-5)	5/29/20	09:55 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland. Please confirm via
MWA-11i(d)-052920 (580-95012-6)	5/29/20	10:20 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland. Please confirm via
MWA-15r-052920 (580-95012-7)	5/29/20	10:50 Pacific		Water			X	X		2	Sample should have been field filtered then preserved by Portland Please confirm via
EB-03-052920 (580-95012-8)	5/29/20	08:37 Pacific		Water			X			1	Sample should have been field filtered then preserved by Portland. Please confirm via

Note Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	5/29/20 1700	TAP			
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
			[signature]	5/30/20 1040	EC-IRV

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No		4.0/4.0 IR-89

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-95012-1

Login Number: 95012
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-95012-1

Login Number: 95012
List Number: 2
Creator: Dolidze, Lado

List Source: Eurofins Irvine
List Creation: 05/30/20 12:05 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX C DATA VALIDATION MEMOS

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Memorandum

To	Erica Whiting
From	Jack James
Date	24 July 2020
Reference	0543821
Subject	Data Review of Arkema Second Quarter Groundwater Samples Week 1: May 18-22, 2020 Eurofins TestAmerica Data Packages 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1 Rev(1), 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1.

The quality of the data was assessed and any necessary qualifiers were applied following the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review,* January 2017 and the *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review,* January 2017. Additional assessment of hexavalent chromium holding time was obtained from *Federal Register/Vol. 72, No. 47/Monday, March 12, 2007/Rules and Regulations,* Table II.--Required Containers, Preservation Techniques, and Holding Times.

REVISION

This memorandum was updated to include the revised Eurofins TestAmerica Laboratories data package 580-94838-1 Rev(1). The data package was revised to correct 4,4'-DDE results for samples MWA-46-052120 and PA-20d-052120 which were misidentified in the original data package.

CASE NARRATIVE COMMENTS

The laboratory case narrative for report 580-94786-1 indicated sample PA-24d-051920 for Method 8081A needed copper clean-up to reduce matrix interferences caused by sulfur. The associated batch quality control samples were also processed with the copper clean-up procedure and no evidence of interference from the clean-up procedure was observed. No qualifications were necessary.

The laboratory case narrative for report 580-94850-1 indicated a surrogate recovery for Method 8260D was outside the upper control limit for sample PA-21d-052120; however, the recoveries were within laboratory control limits. Additionally, the case narrative indicated naphthalene was outside control limits for the laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for analytical batch 580-329468. However, naphthalene recoveries were within laboratory control limits. No qualifications were necessary.

HOLDING TIME AND PRESERVATION EVALUATION

The sample shipments were received at the laboratory within the method-prescribed temperature preservation requirements of less than 6°C.

The samples were prepared and analyzed within the method-prescribed time period from the date of collection with several exceptions. Sample MWA-40-051820 was collected in a properly

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preserved vial for volatile organic compound (VOC) analysis; however, the pH was outside the method required criteria of less than 2 when measured at the laboratory. The sample was analyzed 5 days past the 7 day holding time for unpreserved samples. With exception of acetone and chlorobenzene, all analytes detected in this sample in October 2019 and February 2020 were also detected during this sampling event. Since the results were comparable, detected results were qualified as estimates with a low bias (J-) and the non-detected results were qualified as estimates (UJ). The non-detected results for acetone and chlorobenzene were rejected (R). Additionally, the detected result for carbon disulfide was qualified as estimated (J) with no bias due to additional blank contamination. Also, the non-detect acetone result for sample PA-24d-051920 was rejected due to being analyzed eight days past the 14 day recommended hold time.

Samples MWA-24-051820, MWA-40-051820, MWA-46-052120, PA-20d-052120, and PA-17iR-052120 arrived at the laboratory at a pH outside the Method 218.6 requirement of 9.3 - 9.7. The laboratory preserved the samples upon receipt. Since the samples arrived unpreserved, the shortened holding time of 24 hours for unpreserved samples was applied. This holding time was exceeded by more than 24 hours. Since an attempt was made to preserve the samples, the non-detected hexavalent chromium results in samples MWA-24-051820, MWA-40-051820, PA-20d-052120, and PA-17iR-052120 were qualified as estimated non-detects (UJ) and the detected hexavalent chromium result in sample MWA-46-052120 was qualified as estimated with a low bias (J-).

Samples MWA-29-051820, MWA-82-051920, PA-44i-051920, PA-29i-051920, PA-42-051920, PA-16i-051920PA-38-051920, PA-39i-051920, PA-08-051920, PA-24d-051920, MWA-49i-051920, RB-01-051920, EB-01-051920, MWA-53i-052020, Dup-01-052020, MWA-32i-052020, MWA-31i(d)-052020, PA-28-052020, PA-23d-052020, MWA-30-052020, PA-13i-052020, PA-14i-052020, MWA-47-052020, PA-30d-052120, PA-22d-052120, RB-02-052220, PA-32i-052220, Dup-03-052220, PA-04-052220, and PA-11i-052220 arrived at the laboratory at a pH outside the Method 218.6 requirement of 9.3 - 9.7. The laboratory preserved the samples upon receipt at the service center within the shortened holding time of 24 hours. No qualifications were necessary in these instances.

The qualified results for exceeded holding times are presented in Table 1.

Sample MWA-24-051820 was collected in a properly preserved vial for volatile organic compound (VOC) analysis; however, the pH was outside the method required criteria of less than 2 when measured at the laboratory. The sample was analyzed within the 7 day holding time for unpreserved samples. No qualifications were required.

Sample EB-01-051920 was collected in the improper container without preservative for metals analysis. The laboratory transferred the sample to a properly preserved container with nitric acid. No qualifications were necessary as the sample was preserved by the laboratory.

The samples with exceeded preservation requirements are summarized in Table 2.

BLANK EVALUATION

The equipment, method, rinse and trip blank sample results were non-detected for each of the target analytes, with the exceptions noted in Table 3. Target analyte detections in equipment, rinse, and trip blank samples that were associated with method blank contamination were qualified accordingly and no further action was taken. If the sample result was reported at a dilution, the reported value was divided by the dilution factor and the adjusted result used for

method blank comparison purposes. Sample results within five times the blank concentration and less than the reporting limit were qualified as non-detect (U) at the MRL. Sample results less than the blank concentration (when the blank concentration was greater than the MRL) were qualified as non-detect (U) at the sample concentration. Sample results within five times the blank concentration (or ten times for inorganics) and greater than the reporting limit were qualified as estimated with a high bias (J+). The carbon disulfide result for sample MWA-40-051820 was qualified as estimated (J) with no bias due to the additional hold time exceedance. The blank detections and associated data are presented in Table 3.

The continuing calibration blank (CCB) associated with batch 440-610392 found in reports 580-94838-1, 580-94850-1, and 580-94887-1 contained perchlorate above the reporting limit. All reported samples associated with this CCB were non-detect for perchlorate and the results were not qualified.

The following table presents the Rinse and Equipment blank associations.

Sample ID	Sample Date	Associated Wells
RB-01-051920	5/19/2020	MWA-49i, PA-13i, PA-22d
EB-01-051920	5/19/2020	PA-16i, PA-08
EB-02-052120	5/21/2020	PA-03, PA-27d, PA-17iR

CONTINUING CALIBRATION VERIFICATION

The continuing calibration verification (CCV) recoveries and RFs were within the laboratory's limits of acceptance, with several exceptions. No qualifications were applied for non-detected results associated with high CCV recoveries, if the analyte was not reported for the project samples, or if the samples were reported from a different column. The acetone result for sample PA-13i-052020 was qualified as non-detect (U) at the reporting limit; therefore, the result was not qualified for the high CCV recovery. Remaining non-detected results associated with low CCV recoveries were qualified as estimates (UJ). Also, non-detected results were conservatively qualified as estimates (UJ) when a bias in the recovery was not specified. Additionally, non-detected results associated with low average response factors were qualified as estimates (UJ) and detected results as estimated with no bias (J). The data associated with CCV recoveries and response factors that did not meet control limits are presented in Table 4.

BLANK SPIKE EVALUATION

The LCS and LCSD recoveries and relative percent differences (RPDs) were within the laboratory's limits of acceptance, with the exceptions noted in Table 5. No data were qualified if an outlier could be verified by another in-control recovery. Additionally, no data were qualified based on RPDs if both the LCS and LCSD recoveries were within laboratory limits. Non-detected results were qualified as estimated (UJ) for low LCS/LCSD recoveries.

MATRIX SPIKE EVALUATION

The matrix spike (MS) and matrix spike duplicate (MSD) recoveries and RPDs were within laboratory limits of acceptance with several exceptions. No data were qualified if the outlier can be verified by an in-control result. Remaining non-detect sample results associated with low MS/MSD recoveries were qualified as estimated (UJ). For inorganics, qualifications were applied to all samples of similar matrix and from the same analytical batch. The outliers and associated qualifications can be found in Table 5.

The objective of the MS/MSD analysis is to evaluate the effect of each sample matrix on the sample preparation procedures and the measurement methodology. Therefore, National Functional Guidelines stipulate that field blank samples cannot be used for spike sample analysis. The laboratory used rinse blank sample RB-01-051920 in report 580-94806-1 as the parent sample for the perchlorate MS/MSD. Consequently, potential matrix interference could not be assessed for this analytical batch as the rinse blank is not a representative matrix for the field samples. No data were qualified as a result of the laboratory using a field blank sample as the parent sample for an MS/MSD.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits, with several exceptions. Method blank samples were not qualified based on surrogate recoveries but were instead assessed on the recoveries of target analytes. One sample result was qualified as estimated with a high bias (J+). The outliers and qualified data can be found in Table 6.

CALIBRATION RANGE EXCEEDANCES

The chlorobenzene result for sample PA-21d-052120 exceeded the instrument's calibration range as noted in Table 7. This result was qualified as estimated (J) due to the uncertainty beyond the instrument's calibrated range**.**

INTERNAL STANDARD EVALUATION

The internal standard (ISTD) recoveries were within acceptable limits, with exceptions noted in Table 8. The ISTD recoveries for the continuing calibration blank and the LCS from batch 580-329167 for 1-bromo-2-nitrobenzene in method 8081B was recovered outside of acceptance limits. Project sample results were not qualified based on internal standard recoveries in laboratory quality control samples. The ISTD recoveries for samples MWA-34i-052120 and Dup-02-052120 on the confirmation column exceeded laboratory control limits. Associated sample results were reported from the primary column with passing ISTD recoveries. Qualifications were not necessary.

COLUMN AGREEMENT

The laboratory noted that the agreement of results between the primary and confirmation columns exceeded 40 percent for several organochlorine pesticides. In these instances, the laboratory reported the lower of the two values. One sample result was qualified as estimated with a bias (J+) due to an additional high surrogate recovery. The remaining affected results were qualified as estimates (J/UJ). The results and qualifications are presented in Table 9.

LABORATORY DUPLICATE EVALUATION

The laboratory prepared several project samples as laboratory duplicates. The RPDs between the primary sample and the duplicate sample results were within laboratory control limits. The acceptable RPDs indicate acceptable laboratory precision.

FIELD DUPLICATE EVALUATION

Three samples were collected and submitted in duplicate. ERM calculated the RPDs between the detected results of the primary and duplicate samples. National Functional Guidelines has not established control criteria for field duplicate samples; therefore, sample data are not qualified on the basis of field duplicate imprecision. A list of the field duplicate detections and the calculated RPDs are provided in Table 10.

OVERALL ASSESSMENT

The non-detected acetone and chlorobenzene results for sample MWA-40-051820 and acetone for sample PA-24d-051920 were rejected due to the analyses conducted out-of-hold. With exception of the rejected results, all of the data can be used for decision-making purposes. The quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents.

Table 1
Samples with Exceeded Holding Times
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Extraction Holding Time	Time Exceeded	Analysis Holding Time	Time Exceeded	Analyte	ERM Qualifier
580-94768-1 Rev(1)	MWA-40-051820	8260D	--	--	7 days (unpreserved)	5 days	Carbon disulfide	J[1]
							Trichloroethene	U[2]
							Acetone Chlorobenzene	R
							Remaining VOCs	J-/UJ
	MWA-24-051820	218.6	--	--	24 hours (unpreserved)	45 hours	Hexavalent chromium	UJ
	MWA-40-051820				24 hours (unpreserved)	44 hours	Hexavalent chromium	UJ
580-94780-1 Rev(1)	MWA-29-051820	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	MWA-82-051920						Hexavalent chromium	--
	PA-44i-051920						Hexavalent chromium	--
	PA-29i-051920						Hexavalent chromium	--
	PA-42-051920						Hexavalent chromium	--
	PA-16i-051920						Hexavalent chromium	--
580-94786-1	PA-38-051920	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	PA-39i-051920						Hexavalent chromium	--
	PA-08-051920						Hexavalent chromium	--
	PA-24d-051920						Hexavalent chromium	--
	PA-24d-051920	8260D	--	--	14 days	8 days	Acetone	R
580-94806-1	MWA-49i-051920	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	RB-01-051920						Hexavalent chromium	--
	EB-01-051920						Hexavalent chromium	--
	MWA-53i-052020						Hexavalent chromium	--
	Dup-01-052020						Hexavalent chromium	--
	MWA-32i-052020						Hexavalent chromium	--
	MWA-31i(d)-052020						Hexavalent chromium	--
	PA-28-052020						Hexavalent chromium	--
	PA-23d-052020						Hexavalent chromium	--

Table 1
Samples with Exceeded Holding Times
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Extraction Holding Time	Time Exceeded	Analysis Holding Time	Time Exceeded	Analyte	ERM Qualifier
580-94822-1 Rev(1)	MWA-30-052020	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	PA-13i-052020						Hexavalent chromium	--
	PA-14i-052020						Hexavalent chromium	--
	MWA-47-052020						Hexavalent chromium	--
580-94838-1 Rev(1)	MWA-46-052120	218.6	--	--	24 hours (unpreserved)	168 hours	Hexavalent chromium	J-
	PA-20d-052120				24 hours (unpreserved)	167 hours	Hexavalent chromium	UJ
580-94887-1	PA-30d-052120	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	PA-22d-052120						Hexavalent chromium	--
	RB-02-052220						Hexavalent chromium	--
	PA-32i-052220						Hexavalent chromium	--
	Dup-03-052220						Hexavalent chromium	--
	PA-04-052220						Hexavalent chromium	--
	PA-11i-052220						Hexavalent chromium	--
	PA-17iR-052120	218.6	--	--	24 hours (unpreserved)	283 hours	Hexavalent chromium	UJ

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:

1 = Result qualified J due to additional blank contamination

2 = Result qualified U due to additional blank contamination

J = Detected results are estimated with no bias

J- = Detected results are estimated with a low bias

J-/UJ = Detected results are estimated with low bias; nondetected results are estimated at the report limit

R = Result is rejected

UJ = Non-detected, estimated report limit

Table 2
Samples with Exceeded Preservation Requirements
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Affected Analyte	Preservation Condition	Limits	ERM Qualifier
580-94768-1 Rev(1)	MWA-24-051820	8260D	None for qualificaiton	pH > 2	pH < 2	--
580-94806-1	EB-01-051920	SW6020B	None for qualificaiton	Non-preserved	HNO_3 preserved	--

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Table 3
Blank and Associated Suspect Sample Detections
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-94756-1 Rev(1)	MB 580-328821/7	MWA-70i-051820	1,2,4-Trimethylbenzene	0.115	0.30	0.13	0.30	µg/L	0.30 U
		TB-051820				0.10	0.30	µg/L	0.30 U
		MWA-70i-051820	1,4-Dichlorobenzene	0.053	0.30	0.20	0.30	µg/L	0.30 U
		None for qualification	1,2-Dichlorobenzene	0.0426	0.30	--	--	µg/L	--
			Hexachlorobutadiene	0.109	0.50	--	--	µg/L	--
		MWA-70i-051820	Naphthalene	0.470	1.0	0.77	1.0	µg/L	1.0 U
		PA-15i-051820				0.38	1.0	µg/L	1.0 U
		TB-051820				0.40	1.0	µg/L	1.0 U
	MB 580-329020/3	None for qualification	Chloride	0.142	0.90	--	--	mg/L	--
	TB-051820	TB Qualified above	Naphthalene	0.40	1.0	--	--	µg/L	--
			1,2,4-Trimethylbenzene	0.10	0.30	--	--	µg/L	--
580-94768-1 Rev(1)	MB 580-328821/7	MWA-24-051820	1,2,4-Trimethylbenzene	0.115	0.30	0.21	0.30	µg/L	0.30 U
		TB-051820-A				0.10	0.30	µg/L	0.30 U
		None for qualification	1,4-Dichlorobenzene	0.053	0.30	--	--	µg/L	--
			1,2-Dichlorobenzene	0.0426	0.30	--	--	µg/L	--
			Hexachlorobutadiene	0.109	0.50	--	--	µg/L	--
		MWA-24-051820	Naphthalene	0.470	1.0	0.87	1.0	µg/L	1.0 U
		TB-051820-A				0.41	1.0	µg/L	1.0 U
	MB 580-328859/7	PA-09-051820	1,2,4-Trimethylbenzene	0.100	0.30	0.10	0.30	µg/L	0.30 U
		PA-26d-051820				0.10	0.30	µg/L	0.30 U
		PA-09-051820	Naphthalene	0.405	1.0	0.40	1.0	µg/L	1.0 U
		PA-25d-051820				0.38	1.0	µg/L	1.0 U
		PA-26d-051820				0.42	1.0	µg/L	1.0 U
	MB 580-329263/7	None for qualification	Acetone	7.26	10	--	--	µg/L	--
	MB 580-329501/7	MWA-40-051820	Trichloroethene	0.0983	0.20	0.11	0.20	µg/L	0.20 U
		MWA-41-051820				0.11	0.20	µg/L	0.20 U
		MWA-81I-051820				0.10	0.20	µg/L	0.20 U

Table 3
Blank and Associated Suspect Sample Detections
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-94768-1 Rev(1)	MB 580-329532/7	None for qualification	Trichloroethene	0.151	0.20	--	--	µg/L	--
	MB 580-329020/3	None for qualification	Chloride	0.142	0.90	--	--	mg/L	--
	TB-051820-A	MWA-24-051820	Carbon disulfide	0.084	0.30	0.75	0.30	µg/L	J+
		MWA-40-051820				0.53	0.30	µg/L	J[1]
		TB Qualified above	1,2,4-Trimethylbenzene	0.10	0.30	--	--	µg/L	--
			Naphthalene	0.41	1.0	--	--	µg/L	--
580-94780-1 Rev(1)	MB 580-328926/7	None for qualification	cis-1,2-Dichloroethene	0.110	0.20	--	--	µg/L	--
			Methylene chloride	2.56	5.0	--	--	µg/L	--
	MB 580-329346/7	None for qualification	1,2-Dichloroethane	0.0441	0.20	--	--	µg/L	--
			Acetone	7.28	10	--	--	µg/L	--
		MWA-82-051920	Trichloroethene	0.238	0.20	0.59	0.20	µg/L	J+
		PA-29i-051920				0.22	0.20	µg/L	0.22 U
		PA-44i-051920				0.20	0.20	µg/L	0.20 U
		None for qualification	Naphthalene	0.296	1.0	--	--	µg/L	--
	MB 580-329674/7	PA-42-051920	Trichloroethene	0.0959	0.20	0.30	0.20	µg/L	J+
	TB-051820-B	TB Qualified below	Naphthalene	0.39	1.0	--	--	µg/L	--
			1,2,4-Trimethylbenzene	0.097	0.30	--	--	µg/L	--
	MB 580-328859/7	MWA-29-051820	1,2,4-Trimethylbenzene	0.100	0.30	0.098	0.30	µg/L	0.30 U
		TB-051820-B			0.30	0.097	0.30	µg/L	0.30 U
		MWA-29-051820	Naphthalene	0.405	1.0	0.38	1.0	µg/L	1.0 U
		TB-051820-B			1.0	0.39	1.0	µg/L	1.0 U
	MB 580-329532/7	PA-16i-051920	Trichloroethene	0.151	0.20	0.12	0.20	µg/L	0.20 U
580-94786-1	TB-051920	TB Qualified below	Trichloroethene	0.077	0.20	--	--	µg/L	--
	MB 580-329346/7	None for qualification	Acetone	7.28	10	--	--	µg/L	--
	MB 580-329532/7	PA-38-051920	Trichloroethene	0.151	0.20	0.68	0.20	µg/L	J+
	MB 580-329674/7	TB-051920	Trichloroethene	0.0959	0.20	0.077	0.20	µg/L	0.20 U
	MB 580-329020/3	None for qualification	Chloride	0.142	0.90	--	--	mg/L	--

Table 3
Blank and Associated Suspect Sample Detections
Second Quarter 2020 Groundwater Samples
Arkema Portland
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Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-94806-1	MB 580-329050/7	MWA-49i-051920	cis-1,2-Dichloroethene	0.103	0.20	0.25	0.20	µg/L	J+
		MWA-53i-052020				0.15	0.20	µg/L	0.20 U
		RB-01-051920				0.091	0.20	µg/L	0.20 U
		DUP-01-052020				0.15	0.20	µg/L	0.20 U
		TB-051920-A				0.095	0.20	µg/L	0.20 U
	MB 580-329341/7	MWA-32i-052020	Trichloroethene	0.163	0.20	0.23	0.20	µg/L	J+
		MWA-49i-051920				0.11	0.20	µg/L	0.20 U
		MWA-53i-052020				0.15	0.20	µg/L	0.20 U
		RB-01-051920				0.10	0.20	µg/L	0.20 U
		DUP-01-052020				0.16	0.20	µg/L	0.20 U
		TB-051920-A				0.097	0.20	µg/L	0.20 U
	MB 580-329648/7	None for qualification	Methylene chloride	1.59	5.0	--	--	µg/L	--
	RB-01-051920	None for qualification	Chloride	0.22	0.90	--	--	mg/L	--
	RB-01-051920	None for qualification	Manganese, dissolved	0.0048	0.010	--	--	mg/L	--
	RB-01-051920	MWA-49i-051920	Chlorobenzene	0.027	0.20	0.025	0.20	µg/L	0.20 U
	RB-01-051920	RB Qualified above	cis-1,2-Dichloroethene	0.091	0.20	--	--	µg/L	--
	RB-01-051920	MWA-49i-051920	Chloroform	13	0.20	0.59	0.20	µg/L	0.59 U
	RB-01-051920	None for qualification	Bromodichloromethane	0.56	0.20	--	--	µg/L	--
	RB-01-051920	RB Qualified above	Trichloroethene	0.10	0.20	--	--	µg/L	--
	TB-051920-A	TB Qualified above	cis-1,2-Dichloroethene	0.095	0.20	--	--	µg/L	--
	TB-051920-A	TB Qualified above	Trichloroethene	0.097	0.20	--	--	µg/L	--
580-94822-1 Rev(1)	RB-01-051920	None for qualification	Chloride	0.22	0.90	--	--	mg/L	--
	RB-01-051920	None for qualification	Manganese, dissolved	0.0048	0.010	--	--	mg/L	--
	RB-01-051920	None for qualification	Chlorobenzene	0.027	0.20	--	--	µg/L	--
	RB-01-051920	RB Qualified above	cis-1,2-Dichloroethene	0.091	0.20	--	--	µg/L	--
	RB-01-051920	PA-13i-052020	Chloroform	13	0.20	0.057	0.20	µg/L	0.20 U
	RB-01-051920	None for qualification	Bromodichloromethane	0.56	0.20	--	--	µg/L	--

Table 3
Blank and Associated Suspect Sample Detections
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-94822-1 Rev(1)	MB 580-329341/7	MWA-30-052020	Trichloroethene	0.163	0.20	0.14	0.20	µg/L	0.20 U
		MWA-47-052020				0.16	0.20	µg/L	0.20 U
		TB-052020				0.13	0.20	µg/L	0.20 U
	MB 580-329346/7	None for qualification	Acetone	7.28	10	--	--	µg/L	--
		None for qualification	1,2-Dichloroethane	0.0441	0.20	--	--	µg/L	--
		PA-13i-052020	Naphthalene	0.296	1.0	0.29	1.0	µg/L	1.0 U
		PA-14i-052020				0.29	1.0	µg/L	1.0 U
	MB 580-329674/7	PA-13i-052020	Acetone	6.61	10	4.2	10	µg/L	10 U
		PA-13i-052020	Trichloroethene	0.0959	0.20	0.10	0.20	µg/L	0.20 U
	TB-052020	TB Qualified above	Trichloroethene	0.13	0.20	--	--	µg/L	--
580-94838-1 Rev(1)	RB-01-051920	None for qualification	Chloride	0.22	0.90	--	--	mg/L	--
	RB-01-051920	None for qualification	Manganese, dissolved	0.0048	0.010	--	--	mg/L	--
	RB-01-051920	None for qualification	Chlorobenzene	0.027	0.20	--	--	µg/L	--
	RB-01-051920	RB Qualified above	cis-1,2-Dichloroethene	0.091	0.20	--	--	µg/L	--
	RB-01-051920	None for qualification	Chloroform	13	0.20	--	--	µg/L	--
	RB-01-051920	PA-22D-052020	Bromodichloromethane	0.56	0.20	2.5	2.0	µg/L	J+
	EB-02-052120	PA-03-052120	Manganese, dissolved	0.030	0.010	0.062	0.010	mg/L	J+
	MB 580-329641/7	None for qualification	Methylene chloride	1.97	5.0	--	--	µg/L	--
		PA-03-052120	Trichloroethene	0.0958	0.20	0.12	0.20	µg/L	0.20 U
	TB-052020-A	PA-03-052120	Toluene	0.057	0.20	0.21	0.20	µg/L	J+
	MB 580-329532/7	PA-07-052020	Trichloroethene	0.151	0.20	0.28	0.20	µg/L	J+
	CCB in batch 440-610392	None for qualification samples ND	Perchlorate	>10X RL	NR	--	--	µg/L	--
580-94850-1	MB 580-329648/7	None for qualification	Methylene Chloride	1.59	5.0	--	--	µg/L	--
	CCB in batch 440-610392	None for qualification samples ND	Perchlorate	>10X RL	NR	--	--	µg/L	--
	EB-02-052120	None for qualification	Manganese, dissolved	0.030	0.010	--	--	mg/L	--

Table 3
Blank and Associated Suspect Sample Detections
Second Quarter 2020 Groundwater Samples
Arkema Portland
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Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-94887-1	TB-052120-A	TB Qualified below	Trichloroethene	0.081	0.20	--	--	µg/L	--
	MB 580-329641/7	None for qualification	Methylene Chloride	1.97	5.0	--	--	µg/L	--
		PA-17iR-052120	Trichloroethene	0.0958	0.20	0.098	0.20	µg/L	0.20 U
		PA-32i-052220				0.070	0.20	µg/L	0.20 U
		RB-02-052220				0.090	0.20	µg/L	0.20 U
		TB-052120-A				0.081	0.20	µg/L	0.20 U
		DUP-03-052220				0.070	0.20	µg/L	0.20 U
	MB 580-329648/7	None for qualification	Methylene Chloride	1.59	5.0	--	--	µg/L	--
	CCB in batch 440-610392	None for qualification samples ND	Perchlorate	>10X RL	NR	--	--	µg/L	--
	RB-02-052220	None for qualification	Chloride	0.14	0.90	--	--	mg/L	--
		None for qualification	Arsenic, total	0.0010	0.0050	--	--	mg/L	--
		None for qualification	Chloroform	0.030	0.20	--	--	µg/L	--
		None for qualification	Trichloroethene	0.066	0.20	--	--	µg/L	--
	EB-02-052120	None for qualification	Manganese, dissolved	0.030	0.010	--	--	mg/L	--

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:

1. Result qualified J due to additional analysis out of hold

MB = Method blank

mg/L = Milligrams per liter

J+ = Detected results are estimated with a high bias

RB = Rinse blank

TB = Trip blank

U = Nondetected

µg/L = Micrograms per liter

Table 4
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94756-1 Rev(1)	CCV in batch 580-328821	4-Chlorotoluene	Low	NR	MWA-70i-051820	ND	µg/L	UJ
					PA-15i-051820	ND	µg/L	UJ
					TB-051820	ND	µg/L	UJ
	CCV in batch 580-328821	Acetone	Out	NR	MWA-70i-051820	ND	µg/L	UJ
					PA-15i-051820	ND	µg/L	UJ
					TB-051820	ND	µg/L	UJ
		4-Methyl-2-pentanone	Out	NR	MWA-70i-051820	ND	µg/L	UJ
					PA-15i-051820	ND	µg/L	UJ
					TB-051820	ND	µg/L	UJ
	CCV in batch 580-328821	Chloroethane	Minimum RF out	NR	MWA-70i-051820	ND	µg/L	UJ
					PA-15i-051820	ND	µg/L	UJ
					TB-051820	ND	µg/L	UJ
		2-Hexanone		NR	None for qualification	--	µg/L	--
		4-Methyl-2-pentanone		NR	Qualified above	--	µg/L	--
		2-Butanone		NR	MWA-70i-051820	ND	µg/L	UJ
					PA-15i-051820	ND	µg/L	UJ
					TB-051820	ND	µg/L	UJ
	CCV in batch 580-329468	1,3-Dichlorobenzene	Minimum RF out	NR	MWA-33-051820	ND	µg/L	UJ
		Tetrachloroethene		NR	MWA-33-051820	ND	µg/L	UJ
580-94768-1 Rev(1)	CCV in batch 580-328821	4-Chlorotoluene	Low	NR	MWA-24-051820	ND	µg/L	UJ
					TB-051820-A	ND	µg/L	UJ
	CCV in batch 580-328821	Acetone	Out	NR	MWA-24-051820	ND	µg/L	UJ
					TB-051820-A	ND	µg/L	UJ
		4-Methyl-2-pentanone	Out	NR	MWA-24-051820	ND	µg/L	UJ
					TB-051820-A	ND	µg/L	UJ

Table 4
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94768-1 Rev(1)	CCV in batch 580-328821	Chloroethane	Minimum RF out	NR	MWA-24-051820	ND	µg/L	UJ
					TB-051820-A	ND	µg/L	UJ
		2-Hexanone		NR	None for qualification	--	µg/L	--
		4-Methyl-2-pentanone		NR	Qualified above	--	µg/L	--
		2-Butanone		NR	MWA-24-051820	ND	µg/L	UJ
					TB-051820-A	ND	µg/L	UJ
	CCV in batch 580-328859	Vinyl chloride	Low	NR	PA-09-051820	ND	µg/L	UJ
					PA-25d-051820	ND	µg/L	UJ
					PA-26d-051820	ND	µg/L	UJ
		2,2-Dichloropropane	Low	NR	PA-09-051820	ND	µg/L	UJ
					PA-25d-051820	ND	µg/L	UJ
					PA-26d-051820	ND	µg/L	UJ
	CCVIS in batch 580-328859	Acetone	Out	NR	None for qualification	--	µg/L	--
		2-Butanone	Out	NR	PA-09-051820	ND	µg/L	UJ
					PA-25d-051820	ND	µg/L	UJ
					PA-26d-051820	ND	µg/L	UJ
		4-Methyl-2-pentanone	Out	NR	PA-09-051820	ND	µg/L	UJ
					PA-25d-051820	ND	µg/L	UJ
					PA-26d-051820	ND	µg/L	UJ
	CCV in batch 580-328859	Chloroethane	Minimum RF out	NR	PA-09-051820	ND	µg/L	UJ
					PA-25d-051820	ND	µg/L	UJ
					PA-26d-051820	ND	µg/L	UJ
	CCV in batch 580-329501	Dichlorodifluoromethane	Out	NR	MWA-40-051820	ND	µg/L	UJ
					MWA-41-051820	ND	µg/L	UJ
					MWA-81i-051820	ND	µg/L	UJ
	CCV in batch 580-329501	Chlorobenzene	High	NR	None for qualification	ND	µg/L	--
		Styrene	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-329501	Acetone	Minimum RF out	NR	MWA-40-051820	ND	µg/L	R[1]
					MWA-41-051820	ND	µg/L	UJ
					MWA-81i-051820	3.1	µg/L	J
		2-Butanone	Minimum RF out	NR	MWA-40-051820	ND	µg/L	UJ
					MWA-41-051820	ND	µg/L	UJ
					MWA-81i-051820	ND	µg/L	UJ
		4-Methyl-2-pentanone	Minimum RF out	NR	MWA-40-051820	ND	µg/L	UJ
					MWA-41-051820	ND	µg/L	UJ
					MWA-81i-051820	ND	µg/L	UJ

Table 4
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94768-1 Rev(1)	CCV in batch 580-329532	Dichlorodifluoromethane	Out	NR	None for qualification	--	µg/L	--
		Chloroethane	Minimum RF out	NR	None for qualification	--	µg/L	--
		Acetone	Minimum RF out	NR	None for qualification	--	µg/L	--
		2-Butanone	Minimum RF out	NR	None for qualification	--	µg/L	--
		4-Methyl-2-pentanone	Minimum RF out	NR	None for qualification	--	µg/L	--
	CCV in batch 580-329263	Acetone	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-329210	Acetone	High	NR	None for qualification	ND	µg/L	--
580-94780-1 Rev(1)	CCV in batch 580-328859	Vinyl chloride	Low	NR	MWA-29-051820	ND	µg/L	UJ
					TB-051820-B	ND	µg/L	UJ
		2,2-Dichloropropane	Low	NR	MWA-29-051820	ND	µg/L	UJ
					TB-051820-B	ND	µg/L	UJ
	CCVIS in batch 580-328859	Acetone	Out	NR	None for qualification	--	µg/L	--
		2-Butanone	Out	NR	MWA-29-051820	ND	µg/L	UJ
					TB-051820-B	ND	µg/L	UJ
		4-Methyl-2-pentanone	Out	NR	MWA-29-051820	ND	µg/L	UJ
					TB-051820-B	ND	µg/L	UJ
	CCV in batch 580-328926	Carbon disulfide	Low	NR	MWA-82-051920	ND	µg/L	UJ
					PA-29i-051920	ND	µg/L	UJ
					PA-44i-051920	ND	µg/L	UJ
		Dichlorodifluoromethane	Low	NR	MWA-82-051920	ND	µg/L	UJ
					PA-29i-051920	ND	µg/L	UJ
					PA-44i-051920	ND	µg/L	UJ
	CCV in batch 580-329022	Chlorobenzene	High	NR	None for qualification	ND	µg/L	--
		Chlorodibromomethane	High	NR	None for qualification	ND	µg/L	--
		o-Xylene	High	NR	None for qualification	ND	µg/L	--
		Styrene	High	NR	None for qualification	ND	µg/L	--
		Trichloroethene	High	NR	None for qualification	ND	µg/L	--

Table 4
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
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Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94780-1 Rev(1)	CCV in batch 580-329022	Vinyl chloride	Low	NR	MWA-82-051920	ND	µg/L	UJ
					PA-16i-051920	ND	µg/L	UJ
					PA-29i-051920	ND	µg/L	UJ
					PA-42-051920	ND	µg/L	UJ
					PA-44i-051920	ND	µg/L	UJ
		Chloromethane	Low	NR	PA-16i-051920	ND	µg/L	UJ
					PA-42-051920	ND	µg/L	UJ
	CCV in batch 580-329022	Dichlorodifluoromethane	Out	NR	PA-16i-051920	ND	µg/L	UJ
					PA-42-051920	ND	µg/L	UJ
	CCV in batch 580-329263	Acetone	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-329532	Dichlorodifluoromethane	Out	NR	None for qualification	--	µg/L	--
580-94786-1	CCV in batch 580-328859	Vinyl chloride	Low	NR	PA-08-051920	ND	µg/L	UJ
					PA-24d-051920	ND	µg/L	UJ
					PA-39i-051920	ND	µg/L	UJ
		2,2-Dichloropropane	Low	NR	PA-08-051920	ND	µg/L	UJ
					PA-24d-051920	ND	µg/L	UJ
					PA-39i-051920	ND	µg/L	UJ
	CCVIS in batch 580-328859	Acetone	Out	NR	PA-08-051920	ND	µg/L	UJ
					PA-24d-051920	ND	µg/L	R[1]
					PA-39i-051920	ND	µg/L	UJ
		2-Butanone	Out	NR	PA-08-051920	ND	µg/L	UJ
					PA-24d-051920	ND	µg/L	UJ
					PA-39i-051920	ND	µg/L	UJ
		4-Methyl-2-pentanone	Out	NR	PA-08-051920	ND	µg/L	UJ
					PA-24d-051920	ND	µg/L	UJ
					PA-39i-051920	ND	µg/L	UJ
	CCV in batch 580-329022	Chlorobenzene	High	NR	None for qualification	ND	µg/L	--
		Chlorodibromomethane	High	NR	None for qualification	ND	µg/L	--
		o-Xylene	High	NR	None for qualification	ND	µg/L	--
		Styrene	High	NR	None for qualification	ND	µg/L	--
		Trichloroethene	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-329022	Vinyl chloride	Low	NR	TB-051920	ND	µg/L	UJ
		Chloromethane	Low	NR	TB-051920	ND	µg/L	UJ

Table 4
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94786-1	CCV in batch 580-329022	Dichlorodifluoromethane	Out	NR	TB-051920	ND	µg/L	UJ
	CCV in batch 580-329346	Acetone	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-329532	Dichlorodifluoromethane	Out	NR	PA-38-051920	ND	µg/L	UJ
580-94806-1	CCVIS in batch 580-329050	Dichlorodifluoromethane	Out	NR	MWA-49i-051920	ND	µg/L	UJ
					MWA-53i-052020	ND	µg/L	UJ
					RB-01-051920	ND	µg/L	UJ
					TB-051920-A	ND	µg/L	UJ
					DUP-01-052020	ND	µg/L	UJ
	CCV in batch 580-329050	Chloromethane	Low	NR	MWA-49i-051920	ND	µg/L	UJ
					MWA-53i-052020	ND	µg/L	UJ
					RB-01-051920	ND	µg/L	UJ
					TB-051920-A	ND	µg/L	UJ
					DUP-01-052020	ND	µg/L	UJ
		Vinyl chloride	Low	NR	MWA-49i-051920	ND	µg/L	UJ
					MWA-53i-052020	ND	µg/L	UJ
					RB-01-051920	ND	µg/L	UJ
					TB-051920-A	ND	µg/L	UJ
					DUP-01-052020	ND	µg/L	UJ
		Trichlorofluoromethane	Low	NR	MWA-49i-051920	ND	µg/L	UJ
					MWA-53i-052020	ND	µg/L	UJ
					RB-01-051920	ND	µg/L	UJ
					TB-051920-A	ND	µg/L	UJ
					DUP-01-052020	ND	µg/L	UJ
		Carbon disulfide	Low	NR	MWA-49i-051920	ND	µg/L	UJ
					MWA-53i-052020	ND	µg/L	UJ
					RB-01-051920	ND	µg/L	UJ
					TB-051920-A	ND	µg/L	UJ
					DUP-01-052020	ND	µg/L	UJ
		Chloroethane	Low	NR	MWA-49i-051920	ND	µg/L	UJ
					MWA-53i-052020	ND	µg/L	UJ
					RB-01-051920	ND	µg/L	UJ
					TB-051920-A	ND	µg/L	UJ
					DUP-01-052020	ND	µg/L	UJ

Table 4
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94806-1	CCV in batch 580-329050	Bromomethane	Low	NR	MWA-49i-051920	ND	µg/L	UJ
					MWA-53i-052020	ND	µg/L	UJ
					RB-01-051920	ND	µg/L	UJ
					TB-051920-A	ND	µg/L	UJ
					DUP-01-052020	ND	µg/L	UJ
	CCV in batch 580-329320	Dichlorodifluoromethane	Out	NR	MWA-31i(d)-052020	ND	µg/L	UJ
					PA-23d-052020	ND	µg/L	UJ
					PA-28-052020	ND	µg/L	UJ
		Chloromethane	Out	NR	MWA-31i(d)-052020	ND	µg/L	UJ
					PA-23d-052020	ND	µg/L	UJ
					PA-28-052020	ND	µg/L	UJ
	CCV in batch 580-329320	cis-1,2-Dichloroethene	Low	NR	MWA-31i(d)-052020	ND	µg/L	UJ
					PA-23d-052020	ND	µg/L	UJ
					PA-28-052020	ND	µg/L	UJ
	CCV in batch 580-329341	Trichlorofluoromethane	Low	NR	MWA-32i-052020	ND	µg/L	UJ
	CCV in batch 580-329167 from confirmation column	Chlordane	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
		DCB Decachlorobiphenyl	Out	NR		--	µg/L	--
		Tetrachloro-m-xylene	Out	NR		--	µg/L	--
		delta-BHC	Out	NR		--	µg/L	--
		Endosulfan I	Out	NR		--	µg/L	--
580-94822-1 Rev(1)	CCV in batch 580-329341	Trichlorofluoromethane	Low	NR	MWA-30-052020	ND	µg/L	UJ
					MWA-47-052020	ND	µg/L	UJ
	CCV in batch 580-329341	Acetone	Minimum RF out	NR	MWA-30-052020	ND	µg/L	UJ
					MWA-47-052020	ND	µg/L	UJ
		Chloroethane	Minimum RF out	NR	MWA-30-052020	ND	µg/L	UJ
					MWA-47-052020	ND	µg/L	UJ
		2-Butanone	Minimum RF out	NR	MWA-30-052020	ND	µg/L	UJ
					MWA-47-052020	ND	µg/L	UJ
	CCV in batch 580-329346	1,2,4-Trimethylbenzene	High	NR	None for qualification	ND	µg/L	--
		1,3,5-Trimethylbenzene	High	NR	None for qualification	ND	µg/L	--
		4-Isopropyltoluene	High	NR	None for qualification	ND	µg/L	--
		Acetone	High	NR	None for qualification	ND	µg/L	--
		Chloroethane	High	NR	None for qualification	ND	µg/L	--
		n-Butylbenzene	High	NR	None for qualification	ND	µg/L	--
		N-Propylbenzene	High	NR	None for qualification	ND	µg/L	--
		sec-Butylbenzene	High	NR	None for qualification	ND	µg/L	--
		tert-Butylbenzene	High	NR	None for qualification	ND	µg/L	--

Table 4
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
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Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94822-1 Rev(1)	CCV in batch 580-329346	Dichlorodifluoromethane	Low	NR	PA-13i-052020	ND	µg/L	UJ
					PA-14i-052020	ND	µg/L	UJ
	CCV in batch 580-329346	Chloroethane	Minimum RF out	NR	PA-13i-052020	ND	µg/L	UJ
					PA-14i-052020	ND	µg/L	UJ
		2-Butanone	Minimum RF out	NR	PA-13i-052020	ND	µg/L	UJ
					PA-14i-052020	ND	µg/L	UJ
		4-Methyl-2-pentanone	Minimum RF out	NR	PA-13i-052020	ND	µg/L	UJ
					PA-14i-052020	ND	µg/L	UJ
	CCV in batch 580-329674	Acetone	High	NR	PA-13i-052020	ND[1]	µg/L	10 U[2]
580-94838-1 Rev(1)	CCV in batch 580-329320	Dichlorodifluoromethane	Out	NR	TB-052020-A	ND	µg/L	UJ
		Chloromethane	Out	NR	TB-052020-A	ND	µg/L	UJ
	CCV in batch 580-329320	cis-1,2-Dichloroethene	Low	NR	TB-052020-A	ND	µg/L	UJ
	CCV in batch 580-329333	Dichlorodifluoromethane	Out	NR	MWA-18-052120	ND	µg/L	UJ
					MWA-19-052120	ND	µg/L	UJ
					MWA-46-052120	ND	µg/L	UJ
					MWA-56D-052120	ND	µg/L	UJ
					PA-20D-052120	ND	µg/L	UJ
					PA-22D-052020	ND	µg/L	UJ
	CCV in batch 580-329532	Dichlorodifluoromethane	Out	NR	PA-07-052020	ND	µg/L	UJ
	CCV in batch 580-329641	trans-1,3-Dichloropropene	Low	NR	PA-03-052120	ND	µg/L	UJ
	CCV in batch 580-329641	Dichlorodifluoromethane	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-329167 from confirmation column	Chlordane	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
		DCB Decachlorobiphenyl	Out	NR		--	µg/L	--
		Tetrachloro-m-xylene	Out	NR		--	µg/L	--
		delta-BHC	Out	NR		--	µg/L	--
		Endosulfan I	Out	NR		--	µg/L	--
580-94850-1	CCV in batch 580-329648	Dichlorodifluoromethane	Out	NR	TB-052120	ND	µg/L	UJ
					MWA-34i-052120	ND	µg/L	UJ
					MWA-58d-052120	ND	µg/L	UJ
					PA-21d-052120	ND	µg/L	UJ
					PA-27d-052120	ND	µg/L	UJ
					DUP-02-052120	ND	µg/L	UJ

Table 4
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94850-1	CCV in batch 580-329167 from confirmation column	Chlordane	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
		DCB Decachlorobiphenyl	Out	NR		--	µg/L	--
		Tetrachloro-m-xylene	Out	NR		--	µg/L	--
		delta-BHC	Out	NR		--	µg/L	--
		Endosulfan I	Out	NR		--	µg/L	--
580-94887-1	CCV in batch 580-329641	trans-1,3-Dichloropropene	Low	NR	PA-04-052220	ND	µg/L	UJ
					PA-17iR-052120	ND	µg/L	UJ
					PA-32i-052220	ND	µg/L	UJ
					RB-02-052220	ND	µg/L	UJ
					TB-052120-A	ND	µg/L	UJ
					Dup-03-052220	ND	µg/L	UJ
	CCV in batch 580-329641	Dichlorodifluoromethane	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-329648	Dichlorodifluoromethane	Out	NR	PA-11I-052220	ND	µg/L	UJ
	CCV in batch 580-329883	Carbon disulfide	Out	NR	PA-30D-052120	ND	µg/L	UJ
		Chloroethane	Out	NR	PA-30D-052120	ND	µg/L	UJ
		Dichlorodifluoromethane	Out	NR	PA-30D-052120	ND	µg/L	UJ
		Chloromethane	Out	NR	PA-30D-052120	ND	µg/L	UJ
		1,2-Dibromo-3-Chloropropane.	Out	NR	PA-30D-052120	ND	µg/L	UJ

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:
1 = Result rejected due to hold time exceedance
2 = Result qualified non-detect at the report limit due to method blank contamination
CCV = Continuing calibration verification
High = Recovery above maximum acceptable limit
ICV = Initial calibration verification
Low = Recovery below minimum acceptable limit
ND = Not detected
NR = Not reported
Out = Recovery outside acceptable limits (high/low unspecified)
RF = Response factor
µg/L = Micrograms per liter
U = Nondetected
UJ = Non-detected, estimated report limit

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
LCS/LCSD										
580-94756-1 Rev(1)	LCS 580-328821/4 LCSD 580-328821/5	MWA-70i-051820	Acetone	18/16	49-150	13	24	ND	µg/L	UJ
		PA-15i-051820						ND	µg/L	UJ
		TB-051820						ND	µg/L	UJ
	LCS 580-329468/4 LCSD 580-329468/5	MWA-33-051820	cis-1,2-Dichloroethene	161/186	76-129	14	15	ND	µg/L	UJ
		None for qualification	n-Butylbenzene	113/96	78-120	16	14	--	µg/L	--
580-94768-1 Rev(1)	LCS 580-328821/4 LCSD 580-328821/5	MWA-24-051820	Acetone	18/16	49-150	13	24	ND	µg/L	UJ
		TB-051820-A						ND	µg/L	UJ
	LCS 580-328859/4 LCSD 580-328859/5	None for qualification	2-Butanone	108/82	64-136	27	23	--	µg/L	--
	LCS 580-329263/4 LCSD 580-329263/5	None for qualification	Acetone	171/183	49-150	7	24	ND	µg/L	--
	LCS 580-329501/4	None for qualification	Dichlorodifluoromethane	153/153	20-137	0	22	ND	µg/L	--
580-94780-1 Rev(1)	LCS 580-328859/4 LCSD 580-328859/5	None for qualification	2-Butanone	108/82	64-136	27	23	--	µg/L	--
	LCS 580-329346/4 LCSD 580-329346/5	None for qualification	Trichloroethene	112/90	72-136	21	14	--	µg/L	--
			Chlorobenzene	103/87	80-123	17	12	--	µg/L	--
	LCS 580-329263/4 LCSD 580-329263/5	None for qualification	Acetone	171/183	49-150	7	24	ND	µg/L	--
580-94786-1	LCS 580-329263/4 LCSD 580-329263/5	None for qualification	Acetone	171/183	49-150	7	24	ND	µg/L	--

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
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Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94806-1	LCS 580-329050/4 LCSD 580-329050/5	None for qualification	Bromomethane	74/66	68-120	12	18	--	µg/L	--
	LCS 580-329320/4 LCSD 580-329320/5	None for qualification	cis-1,2-Dichloroethene	160/210	76-129	27	15	ND	µg/L	--
580-94806-1 580-94822-1 Rev(1)	LCS 580-329341/28 LCSD 580-329341/5	None for qualification	Dichlorodifluoromethane	173/129	20-137	29	22	--	µg/L	--
			Trichlorofluoromethane	116/89	60-132	27	20	--	µg/L	--
			1,1-Dichloroethene	119/97	71-126	21	17	--	µg/L	--
			2-Butanone	99/76	64-136	26	23	--	µg/L	--
			2,2-Dichloropropane	96/61	58-150	44	28	--	µg/L	--
			1,1,1-Trichloroethane	104/88	74-128	17	14	--	µg/L	--
			Carbon tetrachloride	102/83	71-132	21	15	--	µg/L	--
			1,1-Dichloropropene	110/85	72-132	26	13	--	µg/L	--
			1,2-Dichloroethane	107/87	74-130	23	15	--	µg/L	--
			Trichloroethene	117/98	72-136	18	14	--	µg/L	--
			1,2-Dichloropropane	107/87	80-130	21	14	--	µg/L	--
			Dibromomethane	110/88	65-141	22	20	--	µg/L	--
			Dichlorobromomethane	104/83	74-131	22	20	--	µg/L	--
			cis-1,3-Dichloropropene	97/71	66-141	31	22	--	µg/L	--
			trans-1,3-Dichloropropene	91/64	71-128	35	21	--	µg/L	--
			1,1,2-Trichloroethane	110/86	80-127	24	19	--	µg/L	--
			Tetrachloroethene	110/85	75-131	26	20	--	µg/L	--
			1,3-Dichloropropane	107/83	80-130	25	19	--	µg/L	--
			Chlorodibromomethane	110/88	76-131	22	20	--	µg/L	--
			Ethylene Dibromide	114/91	80-126	23	20	--	µg/L	--
			Chlorobenzene	122/100	80-123	20	12	--	µg/L	--

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94806-1 580-94822-1 Rev(1)	LCS 580-329341/28 LCSD 580-329341/5	None for qualification	Bromobenzene	113/89	80-130	24	20	--	µg/L	--
			1,1,2,2-Tetrachloroethane	115/83	69-139	32	22	--	µg/L	--
			1,2,3-Trichloropropane	110/84	80-127	27	20	--	µg/L	--
			N-Propylbenzene	113/86	77-142	27	20	--	µg/L	--
			2-Chlorotoluene	108/86	80-136	23	20	--	µg/L	--
			4-Chlorotoluene	113/88	80-130	24	20	--	µg/L	--
			1,3,5-Trimethylbenzene	117/91	80-139	25	20	--	µg/L	--
			tert-Butylbenzene	113/82	77-140	31	20	--	µg/L	--
			1,2,4-Trimethylbenzene	111/88	78-136	23	20	--	µg/L	--
			sec-Butylbenzene	116/87	78-140	29	20	--	µg/L	--
			4-Isopropyltoluene	116/87	78-132	28	14	--	µg/L	--
			1,3-Dichlorobenzene	117/93	80-130	23	12	--	µg/L	--
			1,4-Dichlorobenzene	114/90	80-129	24	11	--	µg/L	--
			n-Butylbenzene	110/82	73-135	29	18	--	µg/L	--
			1,2-Dichlorobenzene	117/95	80-129	21	14	--	µg/L	--
			1,2,4-Trichlorobenzene	112/91	79-130	21	20	--	µg/L	--
			Hexachlorobutadiene	107/79	72-138	31	20	--	µg/L	--
580-94822-1 Rev(1)	LCS 580-329346/4 LCSD 580-329346/5	None for qualification	Dichlorodifluoromethane	82/61	20-137	30	22	--	µg/L	--
			Bromomethane	129/101	68-120	24	18	--	µg/L	--
			Chloroethane	145/124	49-135	16	27	--	µg/L	--
			Trichlorofluoromethane	120/90	60-132	28	20	--	µg/L	--
			1,1-Dichloroethene	127/96	71-126	28	17	--	µg/L	--
			Methylene Chloride	108/89	75-134	20	18	--	µg/L	--
			Acetone	179/150	49-150	18	24	--	µg/L	--
			1,1,1-Trichloroethane	102/81	74-128	23	14	--	µg/L	--

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
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Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94822-1 Rev(1)	LCS 580-329346/4 LCSD 580-329346/5	None for qualification	Carbon tetrachloride	102/79	71-132	26	15	--	µg/L	--
			1,1-Dichloropropene	107/82	72-132	27	13	--	µg/L	--
			1,2-Dichloroethane	103/82	74-130	22	15	--	µg/L	--
			1,2-Dichloropropane	113/89	80-130	23	14	--	µg/L	--
			Dichlorobromomethane	104/82	74-131	23	20	--	µg/L	--
			Chlorobenzene	103/87	80-123	17	12	--	µg/L	--
			4-Isopropyltoluene	128/104	78-132	20	14	--	µg/L	--
			1,3-Dichlorobenzene	109/90	80-130	19	12	--	µg/L	--
			1,4-Dichlorobenzene	105/87	80-129	19	11	--	µg/L	--
			n-Butylbenzene	123/99	73-135	22	18	--	µg/L	--
			1,2-Dichlorobenzene	113/93	80-129	19	14	--	µg/L	--
			1,2,3-Trichlorobenzene	102/83	75-137	21	20	--	µg/L	--
580-94838-1 Rev(1)	LCS 580-329320/4 LCSD 580-329320/5	None for qualification	cis-1,2-Dichloroethene	160/210	72-130	27	20	ND	µg/L	--
			1,2,4-Trichlorobenzene	99/79	79-130	22	20	--	µg/L	--
			Naphthalene	120/96	64-132	22	20	--	µg/L	--
			1,2,3-Trichlorobenzene	111/86	75-137	26	20	--	µg/L	--
580-94850-1	LCS 580-329468/4 LCSD 580-329468/5	None for qualification	cis-1,2-Dichloroethene	161/186	76-129	14	15	ND	µg/L	--
			n-Butylbenzene	113/96	78-120	16	14	--	µg/L	--
	LCS 580-329648/4 LCSD 580-329648/5	None for qualification	Carbon disulfide	64/63	69-122	2	20	--	µg/L	--
580-94887-1	LCS 580-329648/4 LCSD 580-329648/5	PA-11I-052220	Carbon disulfide	64/63	69-122	2	20	ND	µg/L	UJ
	LCS 580-329883/4 LCSD 580-329883/5	PA-30D-052120	Carbon disulfide	56/54	69-122	3	20	ND	µg/L	UJ
		None for qualification	trans-1,2-Dichloroethene	77/68	77-124	12	21	--	µg/L	--

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
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Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
MS/MSD										
580-94786-1	PA-24d-051920 MS/MSD	PA-24d-051920	Iron, total	138/141	80-120	2	20	4X	mg/L	--
			Manganese, total	243/307	80-120	2	20	4X	mg/L	--
580-94806-1	MWA-32i-052020 MS/MSD	MWA-32i-052020	Methylene Chloride	69/76	75-134	9	18	ND	µg/L	--
			2,2-Dichloropropane	46/49	58-150	6	28	ND	µg/L	UJ
			Toluene	77/82	80-126	6	20	ND	µg/L	--
			trans-1,3-Dichloropropene	63/67	71-128	6	21	ND	µg/L	UJ
			1,1,1,2-Tetrachloroethane	73/80	79-127	9	20	ND	µg/L	--
			Ethylbenzene	75/78	80-130	4	20	ND	µg/L	UJ
			m-Xylene & p-Xylene	77/80	78-130	4	20	ND	µg/L	--
			Bromoform	64/69	69-137	8	20	ND	µg/L	--
			1,2,3-Trichloropropane	75/81	80-127	8	20	ND	µg/L	--
			2-Chlorotoluene	73/77	80-136	5	20	ND	µg/L	UJ
			1,3,5-Trimethylbenzene	79/81	80-139	2	20	ND	µg/L	--
			1,2,4-Trimethylbenzene	75/77	78-136	3	20	ND	µg/L	UJ
			4-Isopropyltoluene	76/77	78-132	0	14	ND	µg/L	UJ
			1,4-Dichlorobenzene	79/80	80-129	1	11	ND	µg/L	--
			n-Butylbenzene	69/67	73-135	2	18	ND	µg/L	UJ
			1,2-Dichlorobenzene	79/83	80-129	6	14	0.039	µg/L	--
			1,2-Dibromo-3-Chloropropane	62/68	69-130	9	26	ND	µg/L	UJ
			1,2,4-Trichlorobenzene	69/73	79-130	4	20	ND	µg/L	UJ
			Hexachlorobutadiene	65/61	72-138	5	20	ND	µg/L	UJ
			1,2,3-Trichlorobenzene	72/78	75-137	8	20	ND	µg/L	--

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
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Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94806-1	MWA-32i-052020 MS/MSD	MWA-32i-052020	Chromium, hexavalent	88/88	90-110	0	10	ND	µg/L	UJ
		EB-01-051920						ND	µg/L	UJ
		MWA-31i(d)-052020						ND	µg/L	UJ
		MWA-49i-051920						ND	µg/L	UJ
		MWA-53i-052020						ND	µg/L	UJ
		PA-23d-052020						ND	µg/L	UJ
		PA-28-052020						ND	µg/L	UJ
		RB-01-051920						ND	µg/L	UJ
		DUP-01-052020						ND	µg/L	UJ
580-94887-1	PA-32i-052220 MS/MSD	PA-32i-052220	Dichlorodifluoromethane	87/131	20-137	40	22	ND	µg/L	--
			Chloromethane	79/131	32-143	33	33	ND	µg/L	--
			Vinyl chloride	73/102	52-128	32	21	ND	µg/L	--
			Bromomethane	73/98	68-120	29	18	ND	µg/L	--
			Chloroethane	73/103	49-135	32	27	0.26	µg/L	--
			Carbon disulfide	64/88	65-128	32	23	ND	µg/L	--
			Trichlorofluoromethane	69/99	60-132	36	20	ND	µg/L	--
			1,1-Dichloroethene	72/101	71-126	32	17	0.12	µg/L	--
			Methylene Chloride	65/85	75-134	26	18	ND	µg/L	--
			Methyl tert-butyl ether	60/85	60-150	34	25	ND	µg/L	--
			2-Butanone	68/88	64-136	25	23	ND	µg/L	--
			trans-1,2-Dichloroethene	74/102	63-133	31	17	ND	µg/L	--
			1,1-Dichloroethane	69/94	74-135	30	20	ND	µg/L	--
			2,2-Dichloropropane	55/81	58-150	38	28	ND	µg/L	--
			cis-1,2-Dichloroethene	72/96	72-130	28	20	0.80	µg/L	--
			Chlorobromomethane	76/100	79-131	27	20	ND	µg/L	--
			Chloroform	73/98	80-130	29	20	ND	µg/L	--

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
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Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94887-1	PA-32i-052220 MS/MSD	PA-32i-052220	1,1,1-Trichloroethane	65/92	74-128	35	14	ND	µg/L	--
			Carbon tetrachloride	62/91	71-132	37	15	ND	µg/L	--
			1,1-Dichloropropene	68/99	72-132	37	13	ND	µg/L	--
			Benzene	75/101	73-133	29	20	ND	µg/L	--
			1,2-Dichloroethane	76/99	74-130	26	15	ND	µg/L	--
			Trichloroethene	73/102	72-136	33	14	0.070	µg/L	--
			1,2-Dichloropropane	73/98	80-130	30	14	ND	µg/L	--
			Dibromomethane	73/94	65-141	25	20	ND	µg/L	--
			Dichlorobromomethane	71/94	74-131	29	20	ND	µg/L	--
			cis-1,3-Dichloropropene	62/86	66-141	32	22	ND	µg/L	--
			Toluene	67/93	80-126	33	20	ND	µg/L	--
			trans-1,3-Dichloropropene	60/81	71-128	31	21	ND	µg/L	--
			1,1,2-Trichloroethane	73/97	80-127	28	19	ND	µg/L	--
			Tetrachloroethene	61/94	75-131	43	20	ND	µg/L	--
			1,3-Dichloropropane	73/97	80-130	28	19	ND	µg/L	--
			Chlorodibromomethane	69/94	76-131	31	20	ND	µg/L	--
			Ethylene Dibromide	77/101	80-126	27	20	ND	µg/L	--
			Chlorobenzene	77/106	80-123	30	12	0.28	µg/L	--
			1,1,1,2-Tetrachloroethane	65/91	79-127	34	20	ND	µg/L	--
			Ethylbenzene	61/90	80-130	38	20	ND	µg/L	--
			m-Xylene & p-Xylene	63/93	78-130	38	20	ND	µg/L	--
			o-Xylene	73/105	80-139	36	20	ND	µg/L	--
			Styrene	78/106	74-136	30	20	ND	µg/L	--
			Bromoform	56/77	65-137	32	20	ND	µg/L	--
			Isopropylbenzene	64/96	75-137	40	20	ND	µg/L	--

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94887-1	PA-32i-052220 MS/MSD	PA-32i-052220	Bromobenzene	66/94	80-130	35	20	ND	µg/L	--
			1,1,2,2-Tetrachloroethane	69/95	69-139	31	22	ND	µg/L	--
			1,2,3-Trichloropropane	68/94	80-127	32	20	ND	µg/L	--
			N-Propylbenzene	60/94	77-142	45	20	ND	µg/L	--
			2-Chlorotoluene	59/88	80-136	40	20	ND	µg/L	--
			4-Chlorotoluene	63/93	80-130	39	20	ND	µg/L	--
			1,3,5-Trimethylbenzene	62/97	80-139	43	20	ND	µg/L	--
			tert-Butylbenzene	63/98	77-140	44	20	ND	µg/L	--
			1,2,4-Trimethylbenzene	60/92	78-136	42	20	ND	µg/L	--
			sec-Butylbenzene	60/97	78-140	46	20	ND	µg/L	--
			4-Isopropyltoluene	58/94	78-132	48	14	ND	µg/L	--
			1,3-Dichlorobenzene	64/95	80-130	39	12	ND	µg/L	--
			1,4-Dichlorobenzene	64/93	80-129	37	11	ND	µg/L	--
			n-Butylbenzene	51/85	73-135	50	18	ND	µg/L	--
			1,2-Dichlorobenzene	68/96	80-129	33	14	0.31	µg/L	--
			1,2-Dibromo-3-Chloropropane	54/76	69-130	34	26	ND	µg/L	--
			1,2,4-Trichlorobenzene	52/86	79-130	49	20	ND	µg/L	--
			Hexachlorobutadiene	46/80	72-138	54	20	ND	µg/L	--
			Naphthalene	59/90	64-132	42	20	ND	µg/L	--
			1,2,3-Trichlorobenzene	57/90	75-137	46	20	ND	µg/L	--
			trans-Chlordane	46/41	50-115	11	30	ND	µg/L	UJ

Table 5
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94887-1	PA-32i-052220 MS/MSD	PA-32i-052220	Iron, dissolved	93/79	80-120	14	20	3.8	µg/L	--
			Manganese, dissolved	109/74	80-120	16	20	1.3	µg/L	--

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:

LCS/LCSD = Laboratory control sample/laboratory control sample duplicate

MS/MSD - Matrix spike/matrix spike duplicate

µg/L = Micrograms per liter

mg/L = Milligrams per liter

UJ = Non-detected, estimated report limit

ND = Not detected

RPD = Relative percent difference

Table 6
Surrogate Recovery Results out of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	Affected Analyte	Dilution Factor	ERM Qualifier
580-94768-1 Rev(1)	MB 580-329263/7	8260D	4-Bromofluorobenzene	77	80-120	--	1	--
	PA-09-051820	8260D	4-Bromofluorobenzene	73	80-120	None for qualification	1	--
580-94780-1 Rev(1)	MB 580-329263/7	8260D	4-Bromofluorobenzene	77	80-120	--	1	--
	TB-051820-B	8260D	4-Bromofluorobenzene	72	80-120	--	1	--
	MWA-29-051820	8260D	4-Bromofluorobenzene	72	80-120	--	1	--
580-94786-1	PA-24d-051920	8260D	1,2-Dichloroethane-d4	131	80-126	None for qualification, results ND	1	--
580-94806-1	MWA-32i-052020	8081B	Tetrachloro-m-xylene	407	10-123	4,4'-DDD delta-BHC Heptachlor	1	J+

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:

J+ = Detected results are estimated with a high bias

MB = Method blank

Table 7
Calibration Range Exceedances
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Analyte	Reported Concentration	Units	ERM Qualifier
580-94850-1	PA-21d-052120	Chlorobenzene	49000	µg/L	J

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:

J = Sample result qualified as estimated

µg/L = Micrograms per liter

Table 8
Internal Standard Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Internal Standard	Response	Limit (%)	Affected Analyte	ERM Qualifier
580-94806-1 580-94838-1 Rev(1) 580-94850-1	CCB in batch 580-329167	8081B	1-Bromo-2-nitrobenzene	Out	NR	None for qualification	--
	LCS in batch 580-329167					None for qualification	--
580-94850-1	MWA-34i-052120	8081B	NR Confirmation column	Out	NR	None for qualification, samples reported from primary column	--
	Dup-02-052120	8081B	NR Confirmation column	Out	NR		--

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:

CCB = Continuing calibration blank

LCS = Laboratory control sample

NR = Not reported

Out = Recovery outside acceptable limits (high/low unspecified)

Table 9
Column Agreement
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Analyte	Result	Units	ERM Qualifier
580-94756-1 Rev(1)	MWA-70i-051820	8081B	4,4'-DDT	0.011	µg/L	J
580-94768-1 Rev(1)	MWA-24-051820	8081B	beta-BHC	0.0044	µg/L	J
			4,4'-DDT	0.15	µg/L	J
			gamma-BHC (Lindane)	0.0033	µg/L	J
			Dieldrin	0.0033	µg/L	J
			Endrin	0.0036	µg/L	J
			4,4'-DDD	0.036	µg/L	J
	MWA-81i-051820	8081B	4,4'-DDT	0.0063	µg/L	J
	PA-26d-051820	8081B	4,4'-DDT	0.0038	µg/L	J
580-94806-1	MWA-31I(d)-052020	8081B	cis-Heptachlor epoxide	0.0046	µg/L	J
			gamma-BHC/HCH (Lindane)	0.013	µg/L	J
	MWA-32i-052020	8081B	delta-BHC/HCH	0.0045	µg/L	J+[1]
	MWA-53i-052020	8081B	gamma-BHC/HCH (Lindane)	0.0033	µg/L	J

Table 9
Column Agreement
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Analyte	Result	Units	ERM Qualifier
580-94838-1 Rev(1)	MWA-46-052120	8081B	4,4'-DDD	ND	µg/L	UJ
580-94850-1	MWA-34I-052120	8081B	4,4'-DDD	0.092	µg/L	J
	MWA-58D-052120	8081B	Aldrin	0.0022	µg/L	J
	Dup-02-052120	8081B	4,4'-DDD	0.091	µg/L	J

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:

1 = Qualified as estimate with high bias due to additional high surrogate recovery

J = Estimated

J+ = Detected results are estimated with a high bias

µg/L = Micrograms per liter

UJ = Non-detected, estimated report limit

Table 10
Field Duplicate Results and Calculated Relative Percent Differences
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Primary/Duplicate Sample ID	Analyte	Concentration		Report Limit		Units	RPD
			Sample	Duplicate	Sample	Duplicate		
580-94806-1	MWA-53i-052020 DUP-01-052020	gamma-BHC/HCH (Lindane)	0.0033	ND	0.0096	0.0096	µg/L	NC
		Chloride	380	380	9.0	9.0	mg/L	0.0
		Iron, total	3.3	4.6	1.0	1.0	mg/L	33
		Manganese, total	0.056	0.060	0.010	0.010	mg/L	6.9
		Arsenic, total	0.0033	0.0040	0.0050	0.0050	mg/L	19
		Chromium, total	0.069	0.11	0.0040	0.0040	mg/L	46
		Iron, dissolved	1.5	1.9	1.0	1.0	mg/L	24
		Manganese, dissolved	0.044	0.043	0.010	0.010	mg/L	2.3
		Arsenic, dissolved	0.0024	0.0027	0.0050	0.0050	mg/L	12
		Chromium, dissolved	0.088	0.12	0.0040	0.0040	mg/L	31
		cis-1,2-Dichloroethene	0.15	0.15	0.20	0.20	µg/L	0.0
		1,1-Dichloroethane	0.22	0.22	0.20	0.20	µg/L	0.0
		Trichloroethene	0.15	0.16	0.20	0.20	µg/L	6.5
580-94850-1	MWA-34i-052120 Dup-02-052120	Chloride	680	700	90	90	mg/L	2.9
		Iron, total	3.2	2.9	1.0	1.0	mg/L	9.8
		Manganese, total	0.45	0.49	0.010	0.010	mg/L	8.5
		Arsenic, total	0.016	0.015	0.0050	0.0050	mg/L	6.5
		Chromium, total	0.15	0.14	0.0040	0.0040	mg/L	6.9
		Iron, dissolved	0.53	0.65	1.0	1.0	mg/L	20
		Manganese, dissolved	0.43	0.40	0.010	0.010	mg/L	7.2
		Arsenic, dissolved	0.013	0.014	0.0050	0.0050	mg/L	7.4
		Chromium, dissolved	0.0070	0.0082	0.0040	0.0040	mg/L	16
		4,4'-DDT	0.24	0.18	0.019	0.019	µg/L	29
		4,4'-DDD	0.092	0.091	0.015	0.015	µg/L	1.1
		Chlorobenzene	290	230	20	20	µg/L	23
		Tetrachloroethene	4.4	ND	30	30	µg/L	NC
		Benzene	5.3	4.5	30	30	µg/L	16.3

Table 10
Field Duplicate Results and Calculated Relative Percent Differences
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Primary/Duplicate Sample ID	Analyte	Concentration		Report Limit		Units	RPD
			Sample	Duplicate	Sample	Duplicate		
580-94887-1	PA-32i-052220 Dup-03-052220	4,4'-DDT	ND	0.0049	0.0048	0.0048	µg/L	NC
		Chloride	160	160	90	90	mg/L	0.0
		Iron, total	7.1	6.9	1.0	1.0	mg/L	2.9
		Manganese, total	1.5	1.7	0.010	0.010	mg/L	13
		Arsenic, total	0.017	0.014	0.0050	0.0050	mg/L	19
		Chromium, total	0.019	0.013	0.0040	0.0040	mg/L	38
		Iron, dissolved	3.8	4.5	1.0	1.0	mg/L	17
		Manganese, dissolved	1.3	1.4	0.010	0.010	mg/L	7.4
		Arsenic, dissolved	0.010	0.0085	0.0050	0.0050	mg/L	16
		Chromium, dissolved	0.011	0.0057	0.0040	0.0040	mg/L	63
		Chlorobenzene	0.28	0.28	0.20	0.20	µg/L	0.0
		cis-1,2-Dichloroethene	0.080	0.094	0.20	0.20	µg/L	16.1
		Benzene	ND	0.031	0.20	0.20	µg/L	NC
		Chloroethane	0.26	0.32	0.50	0.50	µg/L	21
		Vinyl chloride	0.17	0.17	0.020	0.020	µg/L	0.0
		1,1-Dichloroethene	0.12	0.13	0.20	0.20	µg/L	8.0
		Trichloroethene	0.070	0.070	0.20	0.20	µg/L	0.0
		1,2-Dichlorobenzene	0.31	0.29	0.30	0.30	µg/L	6.7

Lab packages reviewed: 580-94756-1 Rev(1), 580-94768-1 Rev(1), 580-94780-1 Rev(1), 580-94786-1, 580-94806-1, 580-94822-1 Rev(1), 580-94838-1 Rev(1), 580-94850-1, and 580-94887-1

Notes:
mg/L = Milligrams per liter
ND = Not detected
NC = Not calculated, one result not detected
RPD = Relative percent difference
µg/L = Micrograms per liter

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Memorandum

To	Erica Whiting
From	Jack James
Date	13 July 2020
Reference	0543821
Subject	Data Review of Arkema Second Quarter Groundwater Samples Week 2: May 25-29, 2020 Eurofins TestAmerica Data Packages 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1 Rev(1).

The quality of the data was assessed and any necessary qualifiers were applied following the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review,* January 2017 and the *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review,* January 2017. Additional assessment of hexavalent chromium holding time was obtained from *Federal Register/Vol. 72, No. 47/Monday, March 12, 2007/Rules and Regulations,* Table II.--Required Containers, Preservation Techniques, and Holding Times.

CASE NARRATIVE COMMENTS

The laboratory indicated the autosampler punctured the vial for sample TB-01-052920 but no data were collected. There were no more vials available to analyze; therefore, the laboratory cancelled the analysis for the sample. Consequently, the volatile organic compounds results for the samples in report 580-95012-1 Rev(1) are not associated with any trip blank results.

HOLDING TIME AND PRESERVATION EVALUATION

The sample shipments were received at the laboratory within the method-prescribed temperature preservation requirements of less than 6°C.

The samples were prepared and analyzed within the method-prescribed time period from the date of collection with several exceptions. Samples MWA-61-052720 and PA-37i-052820 were reanalyzed for volatile organic compound (VOC) analysis outside of the recommended 14 day holding time for select analytes. Consequently, the detected results for tetrachloroethene and cis-1,2-dichloroethene for sample MWA-61-052720 and chlorobenzene for sample PA-37i-052820 were qualified estimated with a low bias (J-).

Samples PA-12i-052620 and EB-04-052820 arrived at the laboratory at a pH outside the Method 218.6 requirement of 9.3 - 9.7. The laboratory preserved the samples upon receipt. Since the samples arrived unpreserved, the shortened holding time of 24 hours for unpreserved samples was applied. This holding time was exceeded by more than 24 hours. Since an attempt was made to preserve the samples, the non-detected hexavalent chromium results in samples PA-12i-052620 and EB-04-052820 were qualified as estimated non-detects (UJ).

Samples PA-10i-052620, MWA-51i-052620, MWA-54i-052620, MWA-20-052620, MWA-63-052620, MWA-61-052720, MWA-69-052720, PA-05-052720, MWA-64i-052720, EB-03-052720,

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MWA-66i-052820, RB-03-052820, and RB-04-052820 arrived at the laboratory service center at a pH outside the Method 218.6 requirement of 9.3 - 9.7. The laboratory preserved the samples upon receipt at the service center within the shortened holding time of 24 hours. No qualifications were necessary in these instances.

The qualified results for exceeded holding times are presented in Table 1.

BLANK EVALUATION

The equipment method, rinse and trip blank sample results were non-detected for each of the target analytes, with the exceptions noted in Table 2. Target analyte detections in trip blank samples that were associated with method blank contamination were qualified accordingly and no further action was taken. Sample results within five times the blank concentration and less than the reporting limit were qualified as non-detect (U) at the MRL. One sample results less than the blank concentration (when the blank concentration was greater than the MRL) was qualified as non-detect (U) at the sample concentration. Sample results within five times the blank concentration (or ten times for inorganics) and greater than the reporting limit were qualified as estimated with a high bias (J+). The blank detections and associated data are presented in Table 2.

A trip blank sample was not included with the samples in report 580-94989-1 collected on 5/28/20. Additionally, the trip blank from report and 580-95012-1 collected 5/28 and 5/29/20 was not analyzed due to a laboratory equipment malfunction. It is not possible to assess whether volatile organic compound detections in these samples were potentially influenced by cross-contamination during shipment, handling, and storage for these samples.

The following table presents the Rinse and Equipment blank associations.

Blank Sample Identification	Sample Date	Associated Wells
RB-03-052820	5/28/2020	MWA-66i, PA-36, PA-37, MWA-22
RB-04-052820	5/28/2020	MWA-8i
EB-03-052720	5/27/2020	MWA-64i
EB-04-052820	5/28/2020	MWA-8i

CONTINUING CALIBRATION VERIFICATION

The continuing calibration verification (CCV) recoveries were within the laboratory's limits of acceptance, with several exceptions. No qualifications were applied for non-detected results associated with high CCV recoveries, if the analyte was not reported for the project samples, or if the samples were reported from a different column. Non-detected results associated with low CCV recoveries, or recoveries reported as "out", were qualified as estimates (UJ). Also, non-detected results were conservatively qualified as estimates (UJ) when a bias in the recovery was not specified. Additionally, detected results were qualified as estimated with no bias (J) due to a CCV recoveries reported as "out". The data associated with CCV recoveries that did not meet control limits are presented in Table 3.

BLANK SPIKE EVALUATION

The LCS and LCSD recoveries and relative percent differences (RPDs) were within the laboratory's limits of acceptance, with the exceptions noted in Table 4. No data were qualified if an outlier could be verified by another in-control recovery. Additionally, no data were qualified based on RPDs if both the LCS and LCSD recoveries were within laboratory limits. Non-detected results were qualified as estimated (UJ) for low LCS/LCSD recoveries.

MATRIX SPIKE EVALUATION

The matrix spike (MS) and matrix spike duplicate (MSD) recoveries and RPDs were within laboratory limits of acceptance, with several exceptions. No data were qualified if the outlier can be verified by an in-control result or if the sample concentration was greater than four times that of the spike. Additionally, non-detect results were not qualified for high MS/MSD recoveries. Remaining non-detect sample results associated with low MS/MSD recoveries were qualified as estimated (UJ). Two results were qualified as estimated with a bias (J+) due to high MS/MSD recoveries and two results as estimated with no bias (J) due to additional low surrogate recoveries. The outliers and associated qualifications can be found in Table 4.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits, with several exceptions. Matrix spike and CCV samples were not qualified based on surrogate recoveries but were instead assessed on the recoveries of target analytes. Sample results were not qualified if the dilution factor was ten times or greater. Additionally, non-detect results were not qualified based on high surrogate recoveries. Remaining non-detect sample results associated with low MS/MSD recoveries were qualified as estimated (UJ) and detected results as estimated with a low bias (J-). Detected sample results associated with high surrogate recoveries were qualified as estimated with a high bias (J+). The outliers and qualified data can be found in Table 5.

INTERNAL STANDARD EVALUATION

The internal standard (ISTD) responses were within acceptable limits, with exceptions noted in Table 8. The ISTD response for the continuing calibration blank in method 8081B was recovered outside of acceptance limits. Project sample results were not qualified based on internal standard recoveries in laboratory quality control samples. The ISTD responses for sample MWA-15r-052920 on one of two the columns exceeded laboratory control limits. Associated sample results were reported from the column with passing ISTD responses. Qualifications were not necessary.

COLUMN AGREEMENT

The laboratory noted that the agreement of results between the primary and confirmation columns exceeded 40 percent for several organochlorine pesticides. The remaining affected results were qualified as estimates (J/UJ). The results and qualifications are presented in Table 7.

LABORATORY DUPLICATE EVALUATION

The laboratory prepared two project samples as laboratory duplicates. The RPDs between the primary sample and the duplicate sample results were within laboratory control limits. The acceptable RPDs indicate acceptable laboratory precision.

FIELD DUPLICATE EVALUATION

One sample was collected and submitted in duplicate. ERM calculated the RPDs between the detected results of the primary and duplicate samples. National Functional Guidelines has not established control criteria for field duplicate samples; therefore, sample data are not qualified on the basis of field duplicate imprecision. A list of the field duplicate detections and the calculated RPDs are provided in Table 8.

OVERALL ASSESSMENT

None of the data required rejection. All of the data, including qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents.

Table 1
Samples with Exceeded Holding Times
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Extraction Holding Time	Time Exceeded	Analysis Holding Time	Time Exceeded	Analyte	ERM Qualifier
580-94920-1	PA-10i-052620	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	MWA-51i-052620						Hexavalent chromium	--
	MWA-54i-052620						Hexavalent chromium	--
580-94939-1	MWA-20-052620	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	MWA-63-052620						Hexavalent chromium	--
	PA-12i-052620	218.6	--	--	24 hours (unpreserved)	164 hours	Hexavalent chromium	UJ
580-94964-1	MWA-61-052720	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	MWA-69-052720						Hexavalent chromium	--
	PA-05-052720						Hexavalent chromium	--
	MWA-61-052720	8260D	--	--	14 days	--	Tetrachloroethene	J-
			--	--		--	cis-1,2-Dichloroethene	J-
580-94982-1	MWA-64i-052720	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	EB-03-052720						Hexavalent chromium	--
	MWA-66i-052820						Hexavalent chromium	--
	RB-03-052820						Hexavalent chromium	--
	RB-04-052820						Hexavalent chromium	--
	EB-04-052820	218.6	--	--	24 hours (unpreserved)	149 hours	Hexavalent chromium	UJ
580-95012-1	PA-37i-052820	8260D	--	--	14 days	2 days	Chlorobenzene	J-
	PA-36-052820	218.6	--	--	24 hours (unpreserved)	Preserved within 24 hours	Hexavalent chromium	--
	PA-37i-052820						Hexavalent chromium	--
	MWA-22-052820						Hexavalent chromium	--
	PA-19d-052920						Hexavalent chromium	--
	MWA-02-052920						Hexavalent chromium	--
	MWA-11i(d)-052920						Hexavalent chromium	--
	MWA-15r-052920						Hexavalent chromium	--
	EB-03-052920						Hexavalent chromium	--

Lab packages reviewed: 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1

Notes:

J- = Detected results are estimated with a low bias

UJ = Non-detected, estimated report limit

Table 2
Blank and Associated Suspect Sample Detections
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-94920-1	MB 580-329641/7	None for qualification	Methylene Chloride	1.97	5.0	--	--	µg/L	--
			Trichloroethene	0.0958	0.20	--	--	µg/L	--
	MB 580-329648/7	None for qualification	Methylene Chloride	1.59	5.0	--	--	µg/L	--
580-94939-1	MB 580-329648/7	None for qualification	Methylene Chloride	1.59	5.0	--	--	µg/L	--
								µg/L	
580-94960-1	MB 580-329501/7	PA-31-052720	Trichloroethene	0.0983	0.20	0.19	0.20	µg/L	0.20 U
		TB-01-052720		0.0983	0.20	0.11	0.20	µg/L	0.20 U
580-94982-1	TB-01-052820	RB-04-052820	Chlorobenzene	6.2	2.0	13	2.0	µg/L	J+
	RB-04-052820	None for qualification	Chlorobenzene	13	2.0	--	--	µg/L	--
		None for qualification	Chloroform	9.2	5.0	--	--	µg/L	--
		None for qualification	Perchlorate	3.0	4.0	--	--	µg/L	--
		None for qualification	Chloride	0.29	0.90	--	--	mg/L	--
		None for qualification	Manganese, total	0.034	0.010	--	--	mg/L	--
		None for qualification	Chromium, total	0.0016	0.0040	--	--	mg/L	--
	RB-03-052820	MWA-66I-052820	Chloroform	20	5.0	15	5.0	µg/L	15 U
		None for qualification	Bromodichloromethane	1.4	2.0	--	--	µg/L	--
		None for qualification	Chloride	0.20	0.90	--	--	mg/L	--
	EB-04-052820	None for qualification	Manganese, dissolved	0.029	0.010	--	--	mg/L	--
		None for qualification	Chromium, dissolved	0.017	0.0040	--	--	mg/L	--

Table 2
Blank and Associated Suspect Sample Detections
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-94989-1	RB-04-052820	None for qualification	Chloroform	9.2	5.0	--	--	mg/L	--
		None for qualification	Perchlorate	3.0	4.0	--	--	mg/L	--
		None for qualification	Chloride	0.29	0.90	--	--	mg/L	--
		MWA-8i-052820	Manganese, total	0.034	0.010	0.14	0.010	mg/L	J+
		DUP-04-WG-052820				0.12	0.010	mg/L	J+
		MWA-8i-052820	Chromium, total	0.0016	0.0040	0.010	0.0040	mg/L	J+
		DUP-04-WG-052820				0.0096	0.0040	mg/L	J+
	EB-04-052820	MWA-8i-052820	Manganese, dissolved	0.029	0.010	0.057	0.010	mg/L	J+
		DUP-04-WG-052820		0.029	0.010	0.14	0.010	mg/L	J+
		MWA-8i-052820	Chromium, dissolved	0.017	0.0040	0.0032	0.0040	mg/L	0.0040 U
		DUP-04-WG-052820		0.017	0.0040	0.0036	0.0040	mg/L	0.0040 U
580-95012-1	MB 580-329979/7	None for qualification	Naphthalene	0.31	1.0	--	--	µg/L	--
	RB-03-052820	PA-37I-052820	Chloroform	20	5.0	32	5.0	µg/L	J+
		None for qualification	Bromodichloromethane	1.4	2.0	--	--	µg/L	--
		None for qualification	Chloride	0.20	0.90	--	--	mg/L	--

Lab packages reviewed: 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1

Notes:
EB = Equipment blank
MB = Method blank
mg/L = Milligrams per liter
J+ = Detected results are estimated with a high bias
RB = Rinse blank
TB = Trip blank
U = Nondetected
µg/L = Micrograms per liter

Table 3
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94920-1	CCV in batch 580-329641	trans-1,3-Dichloropropene	Low	NR	PA-10i-052620	ND	µg/L	UJ
					TB-01-052620	ND	µg/L	UJ
	CCV in batch 580-329641	Dichlorodifluoromethane	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-329648	Dichlorodifluoromethane	Out	NR	MWA-51i-052620	ND	µg/L	UJ
					MWA-54i-052620	ND	µg/L	UJ
580-94939-1	CCV in batch 580-329648	Dichlorodifluoromethane	Out	NR	MWA-20-052620	ND	µg/L	UJ
					MWA-63-052620	ND	µg/L	UJ
					PA-12i-052620	ND	µg/L	UJ
					TB-02-052620	ND	µg/L	UJ
580-94960-1	CCV in batch 580-329501	Dichlorodifluoromethane	Out	NR	PA-31-052720	ND	µg/L	UJ
					TB-01-052720	ND	µg/L	UJ
	CCV in batch 580-329501	Chlorobenzene	High	NR	None for qualification	ND	µg/L	--
		Styrene	High	NR		ND	µg/L	--
	CCV in batch 580-329783	Carbon disulfide	Out	NR	MWA-42-052620	ND	µg/L	UJ
					PA-06-052620	ND	µg/L	UJ
		Dichlorodifluoromethane	Out	NR	MWA-42-052620	ND	µg/L	UJ
					PA-06-052620	ND	µg/L	UJ
580-94964-1	CCV in batch 580-329783	Carbon disulfide	Out	NR	MWA-61-052720	ND	µg/L	UJ
					MWA-69-052720	ND	µg/L	UJ
					PA-05-052720	ND	µg/L	UJ
					TB-02-052720	ND	µg/L	UJ

Table 3
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94964-1	CCV in batch 580-329783	Dichlorodifluoromethane	Out	NR	MWA-61-052720	ND	µg/L	UJ
					MWA-69-052720	ND	µg/L	UJ
					PA-05-052720	ND	µg/L	UJ
					TB-02-052720	ND	µg/L	UJ
	CCV in batch 580-329872 from confirmation column	Chlordane (technical)	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
	CCV in batch 580-330667	Endrin	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-330667 from confirmation column	Toxaphene	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
		Endrin ketone	Out	NR		--	µg/L	--
580-94982-1	CCV in batch 580-329883	Carbon disulfide	Out	NR	MWA-64i-052720	ND	µg/L	UJ
					MWA-66i-052820	ND	µg/L	UJ
					RB-03-052820	ND	µg/L	UJ
					RB-04-052820	ND	µg/L	UJ
					TB-01-052820	ND	µg/L	UJ
		Chloroethane	Out	NR	MWA-64i-052720	ND	µg/L	UJ
					MWA-66i-052820	1.2	µg/L	J
					RB-03-052820	ND	µg/L	UJ
					RB-04-052820	ND	µg/L	UJ
					TB-01-052820	ND	µg/L	UJ
		Dichlorodifluoromethane	Out	NR	MWA-64I-052720	ND	µg/L	UJ
					MWA-66I-052820	ND	µg/L	UJ
					RB-03-052820	ND	µg/L	UJ
					RB-04-052820	ND	µg/L	UJ
					TB-01-052820	ND	µg/L	UJ

Table 3
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94982-1	CCV in batch 580-329883	Chloromethane	Out	NR	MWA-64i-052720	ND	µg/L	UJ
					MWA-66i-052820	ND	µg/L	UJ
					RB-03-052820	ND	µg/L	UJ
					RB-04-052820	ND	µg/L	UJ
					TB-01-052820	ND	µg/L	UJ
		1,2-Dibromo-3-Chloropropane	Out	NR	MWA-64i-052720	ND	µg/L	UJ
					MWA-66i-052820	ND	µg/L	UJ
					RB-03-052820	ND	µg/L	UJ
					RB-04-052820	ND	µg/L	UJ
					TB-01-052820	ND	µg/L	UJ
	CCV in batch 580-329872 from confirmation column	Chlordane (technical)	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
	CCV in batch 580-330667 from confirmation column	Toxaphene	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
		Endrin ketone	Out	NR		--	µg/L	--
	CCV in batch 580-330667	Endrin	High	NR	None for qualification	ND	µg/L	--
580-94989-1	CCV in batch 580-329883	Carbon disulfide	Out	NR	MWA-8i-052820	ND	µg/L	UJ
					DUP-04-WG-052820	ND	µg/L	UJ
		Chloroethane	Out	NR	MWA-8i-052820	ND	µg/L	UJ
					DUP-04-WG-052820	ND	µg/L	UJ
		Dichlorodifluoromethane	Out	NR	MWA-8i-052820	ND	µg/L	UJ
					DUP-04-WG-052820	ND	µg/L	UJ

Table 3
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-94989-1	CCV in batch 580-329883	Chloromethane	Out	NR	MWA-8i-052820	ND	µg/L	UJ
					DUP-04-WG-052820	ND	µg/L	UJ
		1,2-Dibromo-3-Chloropropane	Out	NR	MWA-8i-052820	ND	µg/L	UJ
					DUP-04-WG-052820	ND	µg/L	UJ
	CCV in batch 580-329872 from confirmation column	Chlordane (technical)	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
	CCV in batch 580-330667 from confirmation column	Toxaphene	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
		Endrin ketone	Out	NR		--	µg/L	--
	CCV in batch 580-330667	Endrin	High	NR	None for qualification	ND	µg/L	--
580-95012-1	CCV in batch 580-329883	Carbon disulfide	Out	NR	MWA-02-052920	ND	µg/L	UJ
					MWA-15r-052920	ND	µg/L	UJ
					MWA-22-052820	ND	µg/L	UJ
					PA-19d-052920	ND	µg/L	UJ
					PA-36-052820	ND	µg/L	UJ
					PA-37i-052820	ND	µg/L	UJ
		Chloroethane	Out	NR	MWA-02-052920	ND	µg/L	UJ
					MWA-15r-052920	ND	µg/L	UJ
					MWA-22-052820	ND	µg/L	UJ
					PA-19d-052920	ND	µg/L	UJ
					PA-36-052820	ND	µg/L	UJ
					PA-37i-052820	2.1	µg/L	J

Table 3
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-95012-1	CCV in batch 580-329883	Dichlorodifluoromethane	Out	NR	MWA-02-052920	ND	µg/L	UJ
					MWA-15r-052920	ND	µg/L	UJ
					MWA-22-052820	ND	µg/L	UJ
					PA-19d-052920	ND	µg/L	UJ
	CCV in batch 580-329883				PA-36-052820	ND	µg/L	UJ
					PA-37i-052820	ND	µg/L	UJ
		Chloromethane	Out	NR	MWA-02-052920	ND	µg/L	UJ
					MWA-15r-052920	ND	µg/L	UJ
					MWA-22-052820	ND	µg/L	UJ
					PA-19d-052920	ND	µg/L	UJ
					PA-36-052820	ND	µg/L	UJ
					PA-37i-052820	ND	µg/L	UJ
		1,2-Dibromo-3-Chloropropane	Out	NR	MWA-02-052920	ND	µg/L	UJ
					MWA-15r-052920	ND	µg/L	UJ
					MWA-22-052820	ND	µg/L	UJ
					PA-19d-052920	ND	µg/L	UJ
					PA-36-052820	ND	µg/L	UJ
					PA-37i-052820	ND	µg/L	UJ
	CCV in batch 580-329979	Dichlorodifluoromethane	Low	NR	MWA-11i(d)-052920	ND	µg/L	UJ
		Dibromomethane	Low	NR	MWA-11i(d)-052920	ND	µg/L	UJ
		Methyl tert-butyl ether	Low	NR	MWA-11i(d)-052920	ND	µg/L	UJ
		2,2-Dichloropropane	Low	NR	MWA-11i(d)-052920	ND	µg/L	UJ
		1,2,3-Trichloropropane	Low	NR	MWA-11i(d)-052920	ND	µg/L	UJ
		Hexachlorobutadiene	Low	NR	MWA-11i(d)-052920	ND	µg/L	UJ
	CCV in batch 580-329872 from confirmation column	Chlordane (technical)	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
	CCV in batch 580-330667 from	Toxaphene	Out	NR	None for qualification, samples reported from primary column	--	µg/L	--
		Endrin ketone	Out	NR		--	µg/L	--

Table 3
Calibration Verification Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery (%)	CCV Limits (%)	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-95012-1	CCV in batch 580-330667	Endrin	High	NR	None for qualification	ND	µg/L	--
	CCV in batch 580-330926	Chlordane (technical)	Low	NR	None for qualification, samples reported from column with passing recovery	--	µg/L	--
	CCV in batch 580-331028	Endrin	High	NR	None for qualification, samples reported from column with passing recovery	--	µg/L	--

Lab packages reviewed: 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1

Notes:
CCV = Continuing calibration verification
J = Detected results are estimated
High = Recovery above maximum acceptable limit
ICV = Initial calibration verification
Low = Recovery below minimum acceptable limit
ND = Not detected
NR = Not reported
Out = Recovery outside acceptable limits (high/low unspecified)
µg/L = Micrograms per liter
UJ = Non-detected, estimated report limit

Table 4
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
LCS/LCSD										
580-94920-1	LCS 580-329648/4 LCSD 580-329648/5	MWA-51i-052620	Carbon disulfide	64/63	69-122	2	20	ND	µg/L	UJ
		MWA-54i-052620						ND	µg/L	UJ
580-94939-1	LCS 580-329648/4 LCSD 580-329648/5	MWA-20-052620	Carbon disulfide	64/63	69-122	2	20	ND	µg/L	UJ
		MWA-63-052620						ND	µg/L	UJ
		PA-12i-052620						ND	µg/L	UJ
		TB-02-052620						ND	µg/L	UJ
580-94960-1	LCS 580-329501/4 LCSD 580-329501/5	PA-31-052720	Dichlorodifluoromethane	153/153	20-137	0	22	ND	µg/L	UJ
		TB-01-052720						ND	µg/L	UJ
	LCS 580-329783/6 LCSD 580-329783/7	MWA-42-052620	Carbon disulfide	64/55	69-122	15	20	ND	µg/L	UJ
		PA-06-052620						ND	µg/L	UJ
		None for qualification	trans-1,2-Dichloroethene	98/78	77-124	23	21	--	µg/L	--
580-94964-1	LCS 580-329783/6 LCSD 580-329783/7	MWA-61-052720	Carbon disulfide	64/55	69-122	15	20	ND	µg/L	UJ
		MWA-69-052720						ND	µg/L	UJ
		PA-05-052720						ND	µg/L	UJ
		TB-02-052720						ND	µg/L	UJ
		None for qualification	trans-1,2-Dichloroethene	98/78	77-124	23	21	--	µg/L	--
										--

Table 4
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94982-1	LCS 580-329883/4 LCSD 580-329883/5	MWA-64i-052720	Carbon disulfide	56/54	69-122	3	20	ND	µg/L	UJ
		MWA-66i-052820						ND	µg/L	UJ
		RB-03-052820						ND	µg/L	UJ
		RB-04-052820						ND	µg/L	UJ
		TB-01-052820						ND	µg/L	UJ
		None for qualification	trans-1,2-Dichloroethene	77/68	77-124	12	21	--	µg/L	--
580-94989-1	LCS 580-329883/4 LCSD 580-329883/5	MWA-8i-052820	Carbon disulfide	56/54	69-122	3	20	ND	µg/L	UJ
		DUP-04-WG-052820						ND	µg/L	UJ
		None for qualification	trans-1,2-Dichloroethene	77/68	77-124	12	21	--	µg/L	--
580-95012-1	LCS 580-329883/4 LCSD 580-329883/5	MWA-02-052920	Carbon disulfide	56/54	69-122	3	20	ND	µg/L	UJ
		MWA-15r-052920						ND	µg/L	UJ
		MWA-22-052820						ND	µg/L	UJ
		PA-19d-052920						ND	µg/L	UJ
		PA-36-052820						ND	µg/L	UJ
		PA-37i-052820						ND	µg/L	UJ
		None for qualification	trans-1,2-Dichloroethene	77/68	77-124	12	21	--	µg/L	--
	LCS 580-329979/4 LCSD 580-329979/5	None for qualification	Tetrachloroethene	80/74	75-131	7	20	--	µg/L	--

Table 4
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
MS/MSD										
580-94964-1	MWA-61-052720 MS/MSD	MWA-61-052720	Vinyl chloride	10/-4	65-130	1	28	4X	µg/L	--
			Carbon disulfide	66/66	69-122	0	20	ND	µg/L	UJ
			Trichloroethene	44/27	70-120	1	21	4X	µg/L	--
			cis-1,2-Dichloroethene	61/128	76-129	22	15	420	µg/L	J-[1]
			Tetrachloroethene	49/88	76-120	22	20	220	µg/L	J-[1]
			4,4'-DDD	296/293	53-139	3	19	ND	µg/L	--
			cis-Chlordane	51/54	56-120	0	17	ND	µg/L	UJ
			beta-BHC	63/134	63-120	11	19	ND	µg/L	--
			Dieldrin	49/48	61-122	9	20	ND	µg/L	UJ
			Endosulfan I	53/57	62-123	0	18	ND	µg/L	UJ
			Endosulfan sulfate	343/377	60-120	3	26	ND	µg/L	--
			Endrin aldehyde	262/293	47-136	5	25	ND	µg/L	--
			Endrin ketone	61/56	60-137	14	18	ND	µg/L	UJ
580-94989-1	MWA-8i-052820 MS/MSD	MWA-8i-052820	cis-1,2-Dichloroethene	197/186	76-129	4	15	5.6	µg/L	J+
			4,4'-DDD	48/61	53-139	16	19	0.059	µg/L	J-[2]
			4,4'-DDE	44/53	47-126	20	20	ND	µg/L	UJ[2]
			Aldrin	25/33	30-124	32	27	ND	µg/L	UJ[2]
			alpha-BHC	42/50	53-120	20	18	ND	µg/L	UJ[2]
			cis-Chlordane	44/53	56-120	20	17	ND	µg/L	UJ
			beta-BHC	46/50	63-120	11	19	ND	µg/L	UJ
			Dieldrin	25/56	61-122	79	20	ND	µg/L	UJ
			Endosulfan I	52/62	62-123	19	18	ND	µg/L	UJ[2]
			Endosulfan II	44/50	52-121	16	21	ND	µg/L	UJ

Table 4
Spike Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-94989-1	MWA-8i-052820 MS/MSD	MWA-8i-052820	Endosulfan sulfate	56/62	60-120	13	26	ND	µg/L	UJ[2]
			Endrin ketone	45/52	60-137	15	18	ND	µg/L	UJ
			gamma-BHC (Lindane)	45/50	53-120	13	21	ND	µg/L	UJ
			trans-Chlordane	43/52	49-121	20	18	ND	µg/L	UJ[2]
			Heptachlor	30/42	38-127	35	26	ND	µg/L	UJ[2]
			Heptachlor epoxide	47/55	49-126	18	18	ND	µg/L	UJ[2]
		DUP-04-052820	cis-1,2-Dichloroethene	197/186	76-129	4	15	4.8	µg/L	J+
			4,4'-DDD	48/61	53-139	16	19	0.057	µg/L	J-[2]
			4,4'-DDE	44/53	47-126	20	20	ND	µg/L	UJ[2]
			Aldrin	25/33	30-124	32	27	ND	µg/L	UJ[2]
			alpha-BHC	42/50	53-120	20	18	ND	µg/L	UJ[2]
			cis-Chlordane	44/53	56-120	20	17	ND	µg/L	UJ
			beta-BHC	46/50	63-120	11	19	ND	µg/L	UJ
			Dieldrin	25/56	61-122	79	20	ND	µg/L	UJ
			Endosulfan I	52/62	62-123	19	18	ND	µg/L	UJ[2]
			Endosulfan II	44/50	52-121	16	21	ND	µg/L	UJ
			Endosulfan sulfate	56/62	60-120	13	26	ND	µg/L	UJ[2]
			Endrin ketone	45/52	60-137	15	18	ND	µg/L	UJ
			gamma-BHC (Lindane)	45/50	53-120	13	21	ND	µg/L	UJ
			trans-Chlordane	43/52	49-121	20	18	ND	µg/L	UJ[2]
			Heptachlor	30/42	38-127	35	26	ND	µg/L	UJ[2]
			Heptachlor epoxide	47/55	49-126	18	18	ND	µg/L	UJ[2]

Lab packages reviewed: 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1

Notes:
1 = Qualifed for additional hold time exceedance
2 = Qualified for additional low surrogate recovery
J+ = Detected results are estimated with a high bias
J- = Detected results are estimated with a low bias
LCS/LCSD = Laboratory control sample/laboratory control sample duplicate
MS/MSD = Matrix spike/matrix spike duplicate
µg/L = Micrograms per liter
mg/L = Milligrams per liter
UJ = Non-detected, estimated report limit
ND = Not detected
RPD = Relative percent difference

Table 5
Surrogate Recovery Results out of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	Affected Analyte	Dilution Factor	ERM Qualifier
580-94964-1	MWA-61-052720 MS/MSD	8081B	Tetrachloro-m-xylene	470/476	33-120	--	--	--
	MWA-69-052720	8081B	Tetrachloro-m-xylene	145	33-120	None for qualification, results ND	1	--
			Tetrachloro-m-xylene	225	33-120	None for qualification	10	--
	MWA-61-052720	8081B	Tetrachloro-m-xylene	492	33-120	delta-BHC	1	J+
	CCV in batch 580-330667	8081B	Decachlorobiphenyl	%D Out	45-127	--	--	--
	CCV in batch 580-330757	8081B	Decachlorobiphenyl	%D Out	45-127	--	--	--
580-94982-1	MWA-64i-052720	8260D	Toluene-d8	202	80-120	Benzene Toluene 1,2-Dichlorobenzene 1,4-Dichlorobenzene	1	J+
			4-Bromofluorobenzene	178	80-120			
	MWA-66i-052820	8260D	Toluene-d8	281	80-120	Benzene Toluene 1,2-Dichlorobenzene 1,4-Dichlorobenzene	1	J+
			4-Bromofluorobenzene	237	80-120			
	RB-04-052820	8081B	Decachlorobiphenyl	34	45-127	All Pesticides	1	UJ
	CCV in batch 580-330667	8081B	Decachlorobiphenyl	%D Out	45-127	--	--	--
580-94989-1	MWA-8i-052820 MS/MSD	8081B	Decachlorobiphenyl	38/43	45-127	--	--	--

Table 5
Surrogate Recovery Results out of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	Affected Analyte	Dilution Factor	ERM Qualifier
580-94989-1	MWA-8i-052820	8081B	Decachlorobiphenyl	44	45-127	All Pesticides	1	J- detects UJ Non-detects
	DUP-04-052820	8081B	Decachlorobiphenyl	41	45-127	All Pesticides	1	J- detects UJ Non-detects
	CCV in batch 580-330667	8081B	Decachlorobiphenyl	%D Out	45-127	--	--	--
580-95012-1	PA-37i-052820	8260D	Toluene-d8	178	80-120	Benzene Toluene 1,2-Dichlorobenzene 1,4-Dichlorobenzene	1	J+
			4-Bromofluorobenzene	160	80-120			
	MWA-22-052820	8081B	Decachlorobiphenyl	27	45-127	All Pesticides	1	UJ
	MWA-02-052920	8081B	Tetrachloro-m-xylene	180	33-120	None for qualification, results ND	1	--
	MWA-15r-052920	8081B	Decachlorobiphenyl	0	45-127	None for qualification	50	--
			Tetrachloro-m-xylene	26	33-120			
	CCV in batch 580-330667	8081B	Decachlorobiphenyl	%D Out	45-127	--	--	--
	CCV in batch 580-330926	8081B	Decachlorobiphenyl	%D Out	45-127	--	--	--

Lab packages reviewed: 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1

Notes:

CCV = Continuing calibration verification

J+ = Detected results are estimated with a high bias

J = Detected results are estimated

MS/MSD = Matrix spike/matrix spike duplicate

Out = Recovery outside acceptable limits (high/low unspecified)

UJ = Non-detected, estimated report limit

Table 6
Internal Standard Recoveries Outside of Acceptable Limits
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Internal Standard	Response	Limit (%)	Affected Analyte	ERM Qualifier
580-94964-1 580-94982-1 580-94989-1 580-95012-1	CCB 580-329872/9	8081B	NR	Out	NR	None for qualification	--
580-95012	MWA-15r-052920	8081B	NR	Out	NR	None for qualification, samples reported from column with passing responses	--

Lab packages reviewed: 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1

Notes:

CCB = Continuing calibration blank

NR = Not Reported

Out = Recovery outside acceptable limits (high/low unspecified)

Table 7
Column Agreement
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Sample ID	Method	Analyte	Result	Units	ERM Qualifier
580-94982-1	MWA-66i-052820	8081B	4,4'-DDE	0.0037	µg/L	J
			Heptachlor	0.0040	µg/L	J
580-95012-1	MWA-15r-052920	8081B	4,4'-DDD	22	µg/L	J
	PA-37i-052820		Endosulfan sulfate	0.024	µg/L	J
			delta-BHC/HCH	0.021	µg/L	J

Lab packages reviewed: 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1

Notes:

J = Estimated

µg/L = Micrograms per liter

Table 8
Field Duplicate Results and Calculated Relative Percent Differences
Second Quarter 2020 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Primary/Duplicate Sample ID	Analyte	Concentration		Report Limit		Units	RPD
			Sample	Duplicate	Sample	Duplicate		
580-94989-1	MWA-8i-052820 DUP-04-WG-052820	Chloride	460	470	9.0	9.0	mg/L	2.2
		Iron, dissolved	0.28	0.34	1.0	1.0	mg/L	19
		Manganese, dissolved	0.057	0.14	0.010	0.010	mg/L	84
		Arsenic, dissolved	0.022	0.021	0.0050	0.0050	mg/L	4.7
		Chromium, dissolved	0.0032	0.0036	0.0040	0.0040	mg/L	12
		Iron, total	1.1	1.0	1.0	1.0	mg/L	9.5
		Manganese, total	0.14	0.12	0.010	0.010	mg/L	15
		Arsenic, total	0.024	0.024	0.0050	0.0050	mg/L	0.0
		Chromium, total	0.010	0.0096	0.0040	0.0040	mg/L	4.1
		4,4'-DDT	0.033	ND	0.022	0.020	µg/L	NC
		4,4'-DDD	0.059	0.057	0.016	0.015	µg/L	3.4
		cis-1,2-Dichloroethene	5.6	4.8	3.0	3.0	µg/L	15
		trans-1,2-Dichloroethene	3.0	4.6	3.0	3.0	µg/L	42
		Benzene	0.52	0.58	3.0	3.0	µg/L	11
		1,1-Dichloroethane	0.27	0.30	2.0	2.0	µg/L	11
		Trichloroethene	15	13	3.0	3.0	µg/L	14
		Chlorobenzene	1100	1000	200	200	µg/L	9.5

Lab packages reviewed: 580-94920-1, 580-94939-1, 580-94960-1, 580-94964-1, 580-94982-1, 580-94989-1, and 580-95012-1

Notes:
mg/L = Milligrams per liter
ND = Not detected
NC = Not calculated, one result not detected
RPD = Relative percent difference
µg/L = Micrograms per liter

APPENDIX D HISTORICAL DATA TABLES AND GRAPHS

Appendix D
Historical Data Tables
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD µg/L	4,4'-DDD µg/L	2,4'-DDE µg/L	4,4'-DDE µg/L	2,4'-DDT µg/L	4,4'-DDT µg/L	Total of 2,4' and 4,4'-DDD, -DDE, -DDT µg/L	Chloride µg/L	Chlorobenzene µg/L	Chromium (VI) µg/L	Perchlorate µg/L
Shallow	MWA-2	GAMWA210297	1/2/1997		< 0.1 U		< 0.1 U		**0.12**	**0.12 T**		< 5 U		
Shallow	MWA-2	GAMWA210397	3/12/1997		< 0.1 UJ		< 0.1 UJ		< 0.1 UJ	< 0.1 UJT		**7**		
Shallow	MWA-2	GAMWA210697	6/24/1997		< 0.1 UJ		< 0.1 UJ		< 0.1 UJ	< 0.1 UJT		**6000**		
Shallow	MWA-2	GAMWA210997	9/30/1997		**0.17 J**		< 0.1 UJ		< 0.1 UJ	**0.17 JT**		**9000**		
Shallow	MWA-2	GW059801	5/28/1998		**0.25 J**		< 0.04 U		**0.33 J**	**0.58 JT**	**10400**	**4.4**		
Shallow	MWA-2	GW019907	1/27/1999		**0.32**		**0.04**		**0.18**	**0.54 T**	**41100 T**	**94**		
Shallow	MWA-2	GW029906	4/27/1999		**0.8**		< 0.04 U		**0.6**	**1.4 T**	**16800**	**970 J**		
Shallow	MWA-2	GW039907	8/24/1999		**0.7**		< 0.4 UJ		< 0.4 UJ	**0.7 T**	**33800**	**4400**		
Shallow	MWA-2	GW049905	11/16/1999		**0.39 J**		< 0.04 UJ		< 0.24 U	**0.39 JT**	**41700**	**2100**		
Shallow	MWA-2	GW010111	3/29/2001		**0.57**		< 0.1 U		< 0.1 U	**0.57 T**	**158000 J**	**4300**		
Shallow	MWA-2	GW020106	6/12/2001		**0.4**		**0.055**		< 0.05 UJ	**0.455 T**	**384000**	**4600**		
Shallow	MWA-2	GW04100205	4/10/2002		**0.41**		< 0.099 U		< 0.099 U	**0.41 T**	**1400000**	**27000**		
Shallow	MWA-2	GW-060903-01	6/9/2003		< 1.70 U		< 1.70 U		< 2.80 U	< 2.8 UT	**981000**	**13700**		**1400**
Shallow	MWA-2	MWA-2-111004	11/10/2004		< 0.500 UJ		< 0.500 UJ		< 0.500 UJ	< 0.5 UJT		**30200**		
Shallow	MWA-2	MWA-2-031005	3/10/2005		< 2.50 UJ		< 2.50 UJ		< 2.50 UJ	< 2.5 UJT		**15400**		
Shallow	MWA-2	MWA-2-062205	6/22/2005		**3.35**		< 0.500 UJ		< 0.500 UJ	**3.35 T**		**12200**		
Shallow	MWA-2	MWA-2-091505	9/15/2005		**0.543 J**		< 0.184 U		**0.0789 J**	**0.8089 JT**		**21900**		
Shallow	MWA-2	MWA-2-102705	10/27/2005		**0.477**		**0.0965**		< 0.236 UJ	**0.5735 T**		**23500**		
Shallow	MWA-2	MWA-2-122005	12/20/2005		**0.312**		< 0.239 UJ		< 0.239 UJ	**0.312 T**		**16200**		
Shallow	MWA-2	MWA-2-011306	1/13/2006		**0.510**		< 0.0971 UJ		< 0.0971 UJ	**0.51 T**		**4.04**		
Shallow	MWA-2	MWA-2-032906	3/29/2006		**0.240**		< 0.0952 UJ		**0.190**	**0.43 T**		**4050**		
Shallow	MWA-2	MWA-2-040407	4/4/2007		**0.292**		< 0.287 U		< 0.191 U	**0.292 A**	**376000**	**2570**		**73.8**
Shallow	MWA-2	MWA-2-080609	8/6/2009		< 0.286 U		< 0.286 U		**0.191**	**0.191 A**	**340000**	**18200**		**3.9**
Shallow	MWA-2	MWA-02-110519	11/5/2019		**0.037 J-**		**0.0061 J-**		**0.050 J-**	**0.0931**	**68700**	**360**	< 0.25 UJ	**3.6 j**
Shallow	MWA-2	MWA-02-021920	2/19/2020		< 0.020 U		< 0.015 U		**0.037 j**	**0.037**	**5900**	**1.9 j**	< 0.25 U	< 0.95 U
Shallow	MWA-2	MWA-02-052920	5/29/2020		**0.012 j**		< 0.0029 U		**0.046**	**0.058**	**17000**	**340**	< 0.25 U	< 0.95 U
Shallow	MWA-15R	GW010117	3/30/2001		**37**		< 10 U		**450**	**487 T**	**1960000 J**	**260000**		
Shallow	MWA-15R	GW020121	6/15/2001		**7.4**		< 0.96 U		**73 J**	**80.4 JT**	**1560000**	**210000**		
Shallow	MWA-15R	GW04160201	4/16/2002		**25**		**4.2 J**		**75 J**	**104 JT**	**407000**	**48000**		
Shallow	MWA-15R	GW-061003-04	6/10/2003		**28.4 J**		< 3.40 U		**113**	**141 JT**	**388000**	**13300**		**350**
Shallow	MWA-15R	MWA-15R-100203	10/2/2003									**27200**		
Shallow	MWA-15R	MWA-15R-111403	11/14/2003									**163000**		
Shallow	MWA-15R	MWA-15R-011304	1/13/2004									**64400**		
Shallow	MWA-15R	MWA-15R-013004	1/30/2004									**24600**		
Shallow	MWA-15R	MWA-15R-030204	3/2/2004									**2450**		
Shallow	MWA-15R	MWA-15R-111004	11/10/2004		**27.7**		< 5.00 UJ		**86.2**	**113 T**		**154000**		
Shallow	MWA-15R	MWA-15R-031005	3/10/2005		**79.7**		< 25.0 UJ		**534**	**613.7 T**		**97000**		
Shallow	MWA-15R	MWA-15R-062205	6/22/2005		**40.9**		**9.88**		**193**	**243.78 T**		**87700**		
Shallow	MWA-15R	MWA-15R-091605	9/16/2005		**73.2**		**11.2 J**		**619 J**	**703 JT**		**240000**		
Shallow	MWA-15R	MWA-15R-122105	12/21/2005		**10.1**		**1.53**		**86.5**	**98.13 T**		**217000**		
Shallow	MWA-15R	MWA-15R-033006	3/30/2006		**124**		**24**		**458**	**606 T**		**72900**		
Shallow	MWA-15R	MWA-15R-041707	4/17/2007		**48.3 J**		**7.71**		**207**	**263 JA**	**129000**	**33.7**		
Shallow	MWA-15R	MWA-15R-081909	8/19/2009		**111**		**21.9**		**702**	**835 A**	**156000**	**23500**	< 25 UJ	
Shallow	MWA-15R	MWA-15R-090309	9/3/2009		**377**		**52.1**		**5210**	**5640 A**				
Shallow	MWA-15R	MWA-15r-110619	11/6/2019		**18 J-**		**4.0 J-**		**59 J-**	**81**	**83700**	**1300**	< 0.25 UJ	**2500**
Shallow	MWA-15R	MWA-15r-022620	2/26/2020		**16**		**2.3 J+**		**31**	**49.3**	**7200**	**5000**	< 0.25 U	**8.1**
Shallow	MWA-15R	MWA-15r-052920	5/29/2020		**22 J**		< 0.028 U		**71**	**93**	**20000**	**380**	< 0.25 U	**440**
Shallow	MWA-18	GW010105	3/27/2001						**0.046 J**	**0.046 JT**	**1200000**	**41**		
Shallow	MWA-18	GW020110	6/13/2001		**0.015 J**		< 0.0094 U		< 0.026 U	**0.015 JT**	**894000 J**	**34**	< 50 UJ	
Shallow	MWA-18	GW04040203	4/4/2002		< 0.0096 U		< 0.0096 U		< 0.019 U	< 0.019 UT	**2210000**	**8.4**		
Shallow	MWA-18	GW-060603-03	6/6/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**1410000**	< 3.06 U		< 25 U
Shallow	MWA-18	MWA-18-050505	5/5/2005								**612000**		**833**	

Appendix D
Historical Data Tables
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
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Aquifer	Well ID	Sample ID	Date	2,4'-DDD µg/L	4,4'-DDD µg/L	2,4'-DDE µg/L	4,4'-DDE µg/L	2,4'-DDT µg/L	4,4'-DDT µg/L	Total of 2,4' and 4,4'-DDD, -DDE, -DDT µg/L	Chloride µg/L	Chlorobenzene µg/L	Chromium (VI) µg/L	Perchlorate µg/L
Shallow	MWA-18	MWA-18-071405	7/14/2005										**676**	
Shallow	MWA-18	MWA-18	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**0.580**		
Shallow	MWA-18	MWA-18-081605	8/16/2005										**248**	
Shallow	MWA-18	MWA-18-091205	9/12/2005								**410000**		**1180**	**3.4**
Shallow	MWA-18	MWA-18-120805	12/8/2005										**5.90 J**	
Shallow	MWA-18	MWA-18-011006	1/10/2006										**30.0**	
Shallow	MWA-18	MWA-18-021306	2/13/2006										< 4.55 U	
Shallow	MWA-18	MWA-18-072606	7/26/2006										**3.4**	
Shallow	MWA-18	MWA-18-041107	4/11/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**233000**	**1.33**	**2.2 J**	< 8.0 U
Shallow	MWA-18	MWA-18-081009	8/10/2009		**0.0155**		**0.00671 J**		**0.00789 J**	**0.0301 JA**	**270000**	**0.930 J**	**340 J**	< 4 U
Shallow	MWA-18	MWA-18-021720	2/17/2020		< 0.0039 U		**0.0061**		**0.0092**	**0.0153**	**9500**	**0.50**	**3.8**	**1.3**
Shallow	MWA-18	MWA-18-052120	5/21/2020		< 0.0024 U		**0.0044 j**		**0.0069**	**0.0113**	**29000**	< 0.44 U	**11**	< 0.95 U
Shallow	MWA-19	GW010104	3/27/2001		< 0.02 UJ		< 0.02 UJ		**0.095 J**	**0.095 JT**	**5540000**	< 0.5 U		
Shallow	MWA-19	GW020112	6/13/2001		< 0.0099 U		< 0.0099 U		< 0.016 U	< 0.016 UT	**12700000 J**	< 0.5 U	< 50 UJ	
Shallow	MWA-19	GW04040204	4/4/2002		< 0.0097 U		< 0.0097 U		**0.1**	**0.1 T**	**13100000**	< 0.5 U		
Shallow	MWA-19	GW-060603-04	6/6/2003		**0.0935**		< 0.0170 U		**0.23**	**0.324 T**	**5180000**	< 0.64 U		< 82 U
Shallow	MWA-19	MWA-19-050605	5/6/2005								**2100000**		**2680**	
Shallow	MWA-19	MWA-19-071305	7/13/2005										**159**	
Shallow	MWA-19	MWA-19	8/3/2005		**0.114**		< 0.0500 U		**0.576**	**0.69 T**		**3.14**		
Shallow	MWA-19	MWA-19-081705	8/17/2005										**407**	
Shallow	MWA-19	MWA-19-091305	9/13/2005								**1240000**		**824**	< 1 U
Shallow	MWA-19	MWA-19-120805	12/8/2005										**101**	
Shallow	MWA-19	MWA-19-010906	1/9/2006										**33.2**	
Shallow	MWA-19	MWA-19-021006	2/10/2006										**12.1**	
Shallow	MWA-19	MWA-19-072606	7/26/2006										**56.8**	
Shallow	MWA-19	MWA-19-040907	4/9/2007		**0.0743 J**		< 0.0966 U		**0.242**	**0.316 JA**	**737000**	**1.79**	**11.3**	< 80.0 U
Shallow	MWA-19	MWA-19-081009	8/10/2009		**0.183 J**		**0.175 J**		**1.14**	**1.5 JA**	**406000**	**0.390 J**	**500 J**	< 40 U
Shallow	MWA-19	MWA-19-021420	2/14/2020		< 0.019 U		< 0.014 U		**0.050**	**0.05**	**875000**	< 2.0 U	< 0.25 U	**9.4**
Shallow	MWA-19	MWA-19-052120	5/21/2020								**520000**	< 0.44 U	**4.1**	**5.2**
Shallow	MWA-20	GW010103	3/27/2001						**0.088 J**	**0.088 JT**	**2810000 T**	**2700**		
Shallow	MWA-20	GW020114	6/13/2001						**0.052 J**	**0.052 JT**	**1780000 J**	**1100**	**59.5**	
Shallow	MWA-20	GW04090204	4/9/2002								**1135000 T**	**1900**		
Shallow	MWA-20	GW-060503-03	6/5/2003		**0.0688 J**				**0.213 J**	**0.282 JT**	**1500000**	**215**		
Shallow	MWA-20	MWA-20-050905	5/9/2005										**436**	
Shallow	MWA-20	MWA-20-071305	7/13/2005										**74.1**	
Shallow	MWA-20	MWA-20	8/4/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1540**		
Shallow	MWA-20	MWA-20-081505	8/15/2005										**676**	
Shallow	MWA-20	MWA-20-090705	9/7/2005										**573**	
Shallow	MWA-20	MWA-20-121205	12/12/2005										**9.67 J**	
Shallow	MWA-20	MWA-20-011006	1/10/2006										**52.5**	
Shallow	MWA-20	MWA-20-020906	2/9/2006										**43.8**	
Shallow	MWA-20	MWA-20-072506	7/25/2006										**14.36 J**	
Shallow	MWA-20	MWA-20-041107	4/11/2007		< 0.0485 U		< 0.0485 U		**0.0692 J**	**0.0692 J**	**583000**	**1500 J**	**8.6**	< 33.9 U
Shallow	MWA-20	MWA-20-081709	8/17/2009		< 0.00952 U		< 0.00952 U		**0.00836 J**	**0.00836 JA**	**164000**	**1780**	**67 J**	< 40 U
Shallow	MWA-20	MWA-20-102819	10/28/2019								**55900**	**85**	< 1.3 UJ	< 48 U
Shallow	MWA-20	MWA-20-021420	2/14/2020								**42400**	**470**	< 5.0 U	< 48 U
Shallow	MWA-20	MWA-20-052620	5/26/2020								**39000**	**92**	< 2.5 U	< 48 U
Shallow	MWA-22	GW020122	6/15/2001		**0.83**		< 0.096 U		**0.15**	**0.98 T**	**4870000**	**38**		
Shallow	MWA-22	GW04110203	4/11/2002		< 0.099 U		< 0.099 U		< 0.099 U	< 0.099 UT	**5430000**	**310**		
Shallow	MWA-22	GW-061003-02	6/10/2003		< 0.13 U		< 0.0170 UJ		< 0.348 U	< 0.348 UT	**6210000**	**128**		
Shallow	MWA-22	MWA-22	8/1/2005		**0.115**		< 0.0500 U		**1.29**	**1.405 T**		**6460**		
Shallow	MWA-22	MWA-22-041607	4/16/2007		**0.133**		< 0.0976 U		< 0.0976 U	**0.133 A**	**4200000**	**538**	**103**	

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Aquifer	Well ID	Sample ID	Date	2,4'-DDD µg/L	4,4'-DDD µg/L	2,4'-DDE µg/L	4,4'-DDE µg/L	2,4'-DDT µg/L	4,4'-DDT µg/L	Total of 2,4' and 4,4'-DDD, -DDE, -DDT µg/L	Chloride µg/L	Chlorobenzene µg/L	Chromium (VI) µg/L	Perchlorate µg/L
Shallow	MWA-22	MWA-22-081909	8/19/2009		< 0.144 U		< 0.0962 U		< 0.0962 U	< 0.144 UA	**2870000**	**123**	**48 J**	< 40 U
Shallow	MWA-22	MWA-22-022119	2/21/2019	< 0.10 UJ	**0.026 J-**	< 0.10 UJ	**0.0060 J-**	< 0.10 UJ	< 0.010 UJ	**0.032**		**3400**	< 13 UJ	< 48
Shallow	MWA-22	MWA-22-110519	11/5/2019								**273000**	**170**	< 13 UJ	< 48 U
Shallow	MWA-22	MWA-22-022020	2/20/2020		**0.040 J**		< 0.014 U		< 0.019 U	**0.04**	**209000**	**42 J-**	< 13 U	< 190 U
Shallow	MWA-22	MWA-22-052820	5/28/2020		< 0.0055 UJ		< 0.0027 UJ		< 0.0046 UJ	< 0.0055	**220000**	**72**	< 13 U	< 95 U
Shallow	MWA-24	GW11150102	11/15/2001									< 2.5 U		
Shallow	MWA-24	GW04080201	4/8/2002								**408000**			
Shallow	MWA-24	GW-060503-04	6/5/2003		< 0.232 U		< 0.0340 U		< 0.0560 U	< 0.232 UT	**583000**			
Shallow	MWA-24	MWA-24-050505	5/5/2005								**529000**		**52.8 J**	
Shallow	MWA-24	MWA-24-071205	7/12/2005										**54.1 J**	
Shallow	MWA-24	MWA-24-081105	8/11/2005										**35.5**	
Shallow	MWA-24	MWA-24-090705	9/7/2005										**20.3**	
Shallow	MWA-24	MWA-24-091405	9/14/2005											**30**
Shallow	MWA-24	MWA-24-120705	12/7/2005										**63.5**	
Shallow	MWA-24	MWA-24-011106	1/11/2006										**31.9**	
Shallow	MWA-24	MWA-24-020806	2/8/2006										**30.6**	
Shallow	MWA-24	MWA-24-072506	7/25/2006										**24**	
Shallow	MWA-24	MWA-24-040307	4/3/2007								**274000**	**1.90 J**	**76.2**	**258 J**
Shallow	MWA-24	MWA-24-080509	8/5/2009								**237000**	< 0.500 U	**86 J**	**17.9**
Shallow	MWA-24	MWA-24-102219	10/22/2019		< 0.0038 U		< 0.0029 U		**0.029 J**	**0.029**	**18200**	< 0.44 U	< 5.0 UJ	< 4.8 U
Shallow	MWA-24	MWA-24-021120	2/11/2020		**0.0051 J**		< 0.0029 UJ		**0.012 J**	**0.0171**	**17900**	**0.20 J-**	< 1.3 U	< 48 U
Shallow	MWA-24	MWA-24-051820	5/18/2020		**0.036 J**		**0.015**		**0.15 J**	**0.201**	**17000**	< 0.025 U	< 1.3 UJ	< 48 U
Shallow	MWA-29	GW04080204	4/8/2002		< 0.0096 U		< 0.0096 U		< 0.0096 U	< 0.0096 UT	**21900000**	< 0.5 U		
Shallow	MWA-29	GW-060403-06	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**11700000**			< 110 U
Shallow	MWA-29	MWA-29-050905	5/9/2005								**9100000**		**14.1**	
Shallow	MWA-29	MWA-29-071805	7/18/2005										< 4.55 U	
Shallow	MWA-29	MWA-29-081205	8/12/2005										< 4.55 U	
Shallow	MWA-29	MWA-29-091205	9/12/2005								**12600000**		**107**	**4800**
Shallow	MWA-29	MWA-29-120805	12/8/2005										**186**	
Shallow	MWA-29	MWA-29-010606	1/6/2006										**14.1**	
Shallow	MWA-29	MWA-29-020806	2/8/2006										**19.5**	
Shallow	MWA-29	MWA-29-072406	7/24/2006										< 20 U	
Shallow	MWA-29	MWA-29-041607	4/16/2007		< 0.0966 U		< 0.0966 U		< 0.0966 U	< 0.0966 UA	**9710000**		< 20 UJ	**243**
Shallow	MWA-29	MWA-29-080609	8/6/2009		< 0.00952 U		< 0.00952 U		< 0.00952 U	< 0.00952 UA	**3750000**		< 25 UJ	< 20 U
Shallow	MWA-29	MWA-29-110719	11/7/2019								**303000**	**0.99 j**	< 1.3 UJ	< 48 U
Shallow	MWA-29	Mwa-29-021920	2/19/2020								**371000**	< 0.20 U	< 1.3 U	< 48 U
Shallow	MWA-29	MWA-29-051820	5/18/2020								**310000**	< 0.025 U	< 1.3 U	< 48 U
Shallow	MWA-30	GW04120203	4/12/2002		**0.18**		**0.021 J**		**0.012**	**0.213 JT**	**179000000**	< 0.5 U		
Shallow	MWA-30	GW-060403-08	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**164000000**			**7900**
Shallow	MWA-30	MWA-30-050605	5/6/2005								**104000000**		**3040**	
Shallow	MWA-30	MWA-30-051005	5/10/2005											**621**
Shallow	MWA-30	MWA-30-071805	7/18/2005										**13.0**	
Shallow	MWA-30	MWA-30	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		< 0.136 U		
Shallow	MWA-30	MWA-30-081705	8/17/2005										**6270**	
Shallow	MWA-30	MWA-30-010606	1/6/2006										**32.8**	
Shallow	MWA-30	MWA-30-021006	2/10/2006										< 4.55 U	
Shallow	MWA-30	MWA-30-072606	7/26/2006										< 2 U	
Shallow	MWA-30	MWA-30-040507	4/5/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**39400000**	**0.900**	**8.5 J**	< 80.0 U
Shallow	MWA-30	MWA-30-081009	8/10/2009		**0.148**		< 0.00943 U		< 0.00943 U	**0.148 A**	**12900000**	< 2.00 UJ	**1100 J**	< 80 U
Shallow	MWA-30	MWA-30-021320	2/13/2020		< 0.0038 U		< 0.0029 U		< 0.0038 U	< 0.0038 U	**5110000**	< 0.44 U	< 0.25 U	**4.9**
Shallow	MWA-30	MWA-30-052020	5/20/2020								**830000**	< 0.025 U	**5.4**	< 48 U
Shallow	MWA-33	GW-060503-05	6/5/2003								**198000**	< 2.51 U		**540**
Shallow	MWA-33	GW-061103-02	6/11/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.518 U	< 0.518 UT	**286000**			**320**

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Shallow	MWA-33	MWA-33-050505	5/5/2005										**44.6**	
Shallow	MWA-33	MWA-33-071405	7/14/2005										**51.8**	
Shallow	MWA-33	MWA-33-081105	8/11/2005										**36.2**	
Shallow	MWA-33	MWA-33-090705	9/7/2005										**30.2**	
Shallow	MWA-33	MWA-33-091405	9/14/2005											**1500**
Shallow	MWA-33	MWA-33-120805	12/8/2005										**17.7**	
Shallow	MWA-33	MWA-33-011106	1/11/2006										**8.74 J**	
Shallow	MWA-33	MWA-33-020806	2/8/2006										**14.8**	
Shallow	MWA-33	MWA-33-072406	7/24/2006										**11 J**	
Shallow	MWA-33	MWA-33-040307	4/3/2007		**0.0688 J**		**0.106**		**0.0892 J**	**0.264 JA**	**336000**		**11.9**	< 20.0 U
Shallow	MWA-33	MWA-33-080509	8/5/2009		< 0.0952 U		< 0.0952 U		< 0.0952 U	< 0.0952 UA	**929000**		**14 J**	< 8 U
Shallow	MWA-33	MWA-33-102219	10/22/2019		< 0.0058 U		< 0.0029 U		< 0.0049 U	< 0.0058	**92400**	**0.82 j**	< 25 UJ	< 4.8 U
Shallow	MWA-33	MWA-33-021120	2/11/2020		< 0.0038 UJ		< 0.0029 UJ		**0.0064 J**	**0.0064**	**75500**	< 0.44 U	**3.1**	< 48 U
Shallow	MWA-33	MWA-33-051820	5/18/2020		< 0.0024 U		< 0.0024 U		**0.047**	**0.047**	**79000**	< 0.44 U	**2.2 j**	< 48 U
Shallow	MWA-40	MWA-40-050505	5/5/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-071205	7/12/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-081105	8/11/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-090705	9/7/2005										**4.76 J**	
Shallow	MWA-40	MWA-40-120705	12/7/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-011106	1/11/2006										< 4.55 U	
Shallow	MWA-40	MWA-40-020806	2/8/2006										< 4.55 U	
Shallow	MWA-40	MWA-40-072406	7/24/2006										**9.5 J**	
Shallow	MWA-40	MWA-40-040307	4/3/2007								**294000**		**21.7**	< 400 U
Shallow	MWA-40	MWA-40-080509	8/5/2009								**220000**		**42 J**	< 20 U
Shallow	MWA-40	MWA-40-102219	10/22/2019		**0.0096 J-**		< 0.0029 UJ		< 0.0048 UJ	**0.0096**	**196000**	< 0.44 U	< 13 UJ	< 4.8 U
Shallow	MWA-40	MWA-40-021120	2/11/2020		**0.0054 J**		< 0.0029 UJ		**0.014 J**	**0.0194**	**123000**	**0.38**	< 5.0 U	< 48 U
Shallow	MWA-40	MWA-40-051820	5/18/2020		**0.0062**		< 0.0024 U		**0.012**	**0.0182**	**290000**	< 0.025 R	< 5.0 UJ	< 95 U
Shallow	MWA-41	MWA-41-050905	5/9/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-071505	7/15/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-081205	8/12/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-090705	9/7/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-120805	12/8/2005										**0.600 J**	
Shallow	MWA-41	MWA-41-010506	1/5/2006										< 4.55 U	
Shallow	MWA-41	MWA-41-020806	2/8/2006										< 4.55 U	
Shallow	MWA-41	MWA-41-072406	7/24/2006										**15.1 J**	
Shallow	MWA-41	MWA-41-041607	4/16/2007								**26600**		< 0.6 U	**1.7 J**
Shallow	MWA-41	MWA-41-080609	8/6/2009								**26300**		< 25 UJ	< 4 U
Shallow	MWA-41	MWA-41-102319	10/23/2019		< 0.0038 U		< 0.0029 U		**0.0052 j**	**0.0052**	**5900**	< 0.44 U	< 0.25 UJ	< 0.95 U
Shallow	MWA-41	MWA-41-021220	2/12/2020		< 0.0038 U		< 0.0029 U		**0.0051 j**	**0.0051**	**10900**	**0.16 j**	< 0.25 U	< 0.95 U
Shallow	MWA-41	MWA-41-051820	5/18/2020		< 0.0024 U		< 0.0024 U		**0.0068**	**0.0068**	**14000**	< 0.025 U	< 0.25 U	< 0.95 U
Shallow	MWA-42	MWA-42-050505	5/5/2005										**56.2**	
Shallow	MWA-42	MWA-42-071205	7/12/2005										< 4.55 U	
Shallow	MWA-42	MWA-42	8/2/2005		< 0.250 UJ		< 0.250 UJ		< 0.250 UJ	< 0.25 UJT		**94.0**		
Shallow	MWA-42	MWA-42-081505	8/15/2005										**11.9**	
Shallow	MWA-42	MWA-42-090805	9/8/2005								**913000**			
Shallow	MWA-42	MWA-42-092305	9/23/2005										**46.7**	
Shallow	MWA-42	MWA-42-120705	12/7/2005										**27.7**	
Shallow	MWA-42	MWA-42-011106	1/11/2006										**5.77 J**	
Shallow	MWA-42	MWA-42-020906	2/9/2006										**6.26 J**	
Shallow	MWA-42	MWA-42-072506	7/25/2006										**8.6 J**	
Shallow	MWA-42	MWA-42-040307	4/3/2007		**0.101**		**0.197**		**0.111**	**0.409 A**	**45000**	**3.35**	**7.4**	< 80.0 U
Shallow	MWA-42	MWA-42-081709	8/17/2009		**0.104**		**0.152**		< 0.0952 U	**0.256 A**	**816000**	**129**	< 25 UJ	< 40 U
Shallow	MWA-42	MWA-42-102819	10/28/2019		**0.0075 J**		**0.34 J**		**0.067 J**	**0.4145**	**42600**	**1500**	< 1.3 UJ	< 4.8 U

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Shallow	MWA-42	MWA-42-021720	2/17/2020								**24900**	**730**	< 1.3 U	< 48 U
Shallow	MWA-42	MWA-42-052620	5/26/2020								**26000**	**110**	< 0.50 U	< 9.5 U
Shallow	MWA-46	MWA-46-050605	5/6/2005										**49.5 J**	
Shallow	MWA-46	MWA-46-071405	7/14/2005										**41.1**	
Shallow	MWA-46	MWA-46	8/4/2005		< 0.0500 U		< 0.0500 U		**0.611 J**	**0.611 JT**		**40.2**		
Shallow	MWA-46	MWA-46-081605	8/16/2005										**20.3**	
Shallow	MWA-46	MWA-46-091305	9/13/2005								**1250000**		**43.3**	< 1 U
Shallow	MWA-46	MWA-46-120905	12/9/2005										**16.7**	
Shallow	MWA-46	MWA-46-010906	1/9/2006										< 4.55 U	
Shallow	MWA-46	MWA-46-021306	2/13/2006										**5.14 J**	
Shallow	MWA-46	MWA-46-072606	7/26/2006										**35.4**	
Shallow	MWA-46	MWA-46-041107	4/11/2007		< 0.0980 U		< 0.0980 U		**0.323**	**0.323 A**	**1820000**	**938**	**22**	< 80.0 U
Shallow	MWA-46	MWA-46-081009	8/10/2009		**0.429**		**0.176 J**		**0.728**	**1.33 JA**	**651000**	**1.54**	< 250 UJ	< 40 U
Shallow	MWA-46	MWA-46-021420	2/14/2020								**18500**	< 0.44 U	**15 J-**	**40**
Shallow	MWA-46	MWA-46-052120	5/21/2020		< 0.0057 UJ		**0.01**		**0.11**	**0.12**	**10000**	< 0.44 U	**9.8 J-**	**6.5**
Shallow	MWA-47	MWA-47-050605	5/6/2005										< 4.55 U	
Shallow	MWA-47	MWA-47-071905	7/19/2005										< 40.0 UJ	
Shallow	MWA-47	MWA-47-081705	8/17/2005										**4.63 J**	
Shallow	MWA-47	MWA-47-090905	9/9/2005								**9690000**		< 4.55 U	**66000**
Shallow	MWA-47	MWA-47-121205	12/12/2005										< 4.55 U	
Shallow	MWA-47	MWA-47-010606	1/6/2006										**14.3**	
Shallow	MWA-47	MWA-47-021006	2/10/2006										< 4.55 U	
Shallow	MWA-47	MWA-47-072606	7/26/2006										< 2 U	
Shallow	MWA-47	MWA-47-040507	4/5/2007		**0.265**		**0.0489 J**		**0.152**	**0.466 JA**	**3690000**	**0.540**	< 20 UJ	**82.3**
Shallow	MWA-47	MWA-47-080609	8/6/2009		**0.200**		**0.0353 J**		**0.0931 J**	**0.328 JA**	**2110000**	**0.880 J**	**110 J**	< 20 U
Shallow	MWA-47	MWA-47-022119	2/21/2019	**0.040 j**	**0.067**	< 0.10	< 0.0050	< 0.10	**0.041**	**0.148**		**33**	**1.1**	**3.9 j**
Shallow	MWA-47	MWA-47-102419	10/24/2019		**0.091 J-**		**0.022 J-**		**0.13 J-**	**0.243**	**997000**	< 0.44 U	< 1.3 UJ	< 19 U
Shallow	MWA-47	MWA-47-021320	2/13/2020								**79900**	**0.13 j**	**1.3**	< 9.5 U
Shallow	MWA-47	MWA-47-052020	5/20/2020								**900000**	< 0.025 U	< 1.3 U	< 48 U
Shallow	MWA-61	MWA-61	8/1/2005		< 2.50 UJ		< 2.50 UJ		< 2.50 UJ	< 2.5 UJT		**5800**		
Shallow	MWA-61	MWA-61-102605	10/26/2005		**0.109**		< 0.236 UJ		**0.129**	**0.238 T**		**2100**		
Shallow	MWA-61	MWA-61-112105	11/21/2005		**0.11**		**0.0557 J**		**0.204**	**0.369 JT**		**133**		
Shallow	MWA-61	MWA-61-011306	1/13/2006		**0.545**		< 0.0472 U		**0.124**	**0.669 T**		**465**		
Shallow	MWA-61	MWA-61-040407	4/4/2007		**0.567**		< 0.0980 U		< 0.0980 U	**0.567 A**	**683000**	**325**		**343**
Shallow	MWA-61	MWA-61-081009	8/10/2009		**0.356 J**		< 0.476 U		< 0.476 U	**0.356 JA**	**473000**	**715 J**		**489**
Shallow	MWA-61	MWA-61-022119	2/21/2019	**0.27 J+**	**0.50 J+**	< 0.10	**0.016 J+**	< 0.10	**0.029 J+**	**0.815**		**690**	< 1.0	**37**
Shallow	MWA-61	MWA-61-103119	10/31/2019		**0.49**		< 0.0030 U		< 0.0050 UJ	**0.49**	**212000**	**140**	< 0.25 UJ	< 0.95 U
Shallow	MWA-61	MWA-61-021920	2/19/2020		**0.70**		**0.034**		**0.092**	**0.826**	**114000**	**200**	< 0.25 U	**9.2**
Shallow	MWA-61	MWA-61-052720	5/27/2020		< 0.0061 U		< 0.0031 U		< 0.0051 U	< 0.00610	**270000**	**790**	< 0.25 U	< 0.95 U
Shallow	MWA-63	MWA-63-102705	10/27/2005		< 0.0472 U		< 0.0472 U		< 0.0472 U	< 0.0472 UT		**7.60**		
Shallow	MWA-63	MWA-63-112105	11/21/2005		< 0.0495 U		< 0.0495 U		**0.0533 J**	**0.0533 JT**		< 0.272 U		
Shallow	MWA-63	MWA-63-040407	4/4/2007		< 0.00995 UJ		< 0.00995 UJ		**0.00603 J**	**0.00603 JA**	**358000**	**0.180 J**		< 4.0 U
Shallow	MWA-63	MWA-63-080509	8/5/2009		< 0.00952 U		< 0.00952 U		**0.00574 J**	**0.00574 JA**	**690000**	< 100 U		< 8 U
Shallow	MWA-63	MWA-63-022119	2/21/2019	< 0.10	< 0.0050	< 0.10	< 0.0050	< 0.10	< 0.010	< 0.10		**5800**	< 1.0 UJ	< 4.0
Shallow	MWA-63	MWA-63-110619	11/6/2019		< 0.0039 U		< 0.0029 U		< 0.0039 U	< 0.00390	**83000**	< 44 U	**0.67 J**	< 0.95 U
Shallow	MWA-63	MWA-63-021720	2/17/2020		< 0.0039 U		< 0.0029 U		< 0.0039 U	< 0.0039 U	**8400**	< 0.44 U	< 0.25 UJ	< 0.95 U
Shallow	MWA-63	MWA-63-052620	5/26/2020		< 0.0024 U		< 0.0024 U		**0.0056**	**0.0056**	**13000**	< 0.44 U	**0.44 j**	< 0.95 U
Shallow	MWA-69	MWA-69	8/2/2005		**17.3**		< 5.00 UJ		**51.1**	**68.4 T**		**9010**		
Shallow	MWA-69	MWA-69-102505	10/25/2005		**3.93**		**0.289**		**6.84**	**11.059 T**		**2690**		
Shallow	MWA-69	MWA-69-112205	11/22/2005		**4.36**		**0.425**		**9.33**	**14.115 T**		**3640**		
Shallow	MWA-69	MWA-69-011606	1/16/2006		**8.64**		**0.838**		**29.5**	**38.978 T**		**166**		
Shallow	MWA-69	MWA-69-041707	4/17/2007		**15.6**		**1.05 J**		**46.4 J**	**62.9 JA**	**511000**	**5360**		**29.5 J**
Shallow	MWA-69	MWA-69-081109	8/11/2009		**50.0**		**4.16**		**57.9**	**112.06**	**297000**	**6930**		< 20 U

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Shallow	MWA-69	MWA-69-090309	9/3/2009		**7.45**		**0.369**		**5.95**	**13.8 A**				
Shallow	MWA-69	MWA-69-103119	10/31/2019		**6.9 J-**		**0.17**		< 0.0048 UJ	**7.07**	**1440000**	**1900**	< 0.25 UJ	**670**
Shallow	MWA-69	MWA-69-021820	2/18/2020		**12**		**0.35**		**0.051**	**12.401**	**729000**	**120**	< 0.25 U	**120**
Shallow	MWA-69	MWA-69-052720	5/27/2020		**7.0**		< 0.0030 U		< 0.0049 U	**7**	**1400000**	**220**	< 0.50 U	< 9.5 U
Intermediate	MWA-8I	GWG001	11/24/1998									**1700**		
Intermediate	MWA-8I	GW019906	1/27/1999		**5.3 J**		**0.07 J**		**1 J**	**6.37 JT**	**2660000**	**4800**		
Intermediate	MWA-8I	GW029908	4/27/1999		**0.16 J**		< 0.04 UJ		< 0.04 UJ	**0.16 JT**	**2290000**	**4300 J**		
Intermediate	MWA-8I	GW039905	8/24/1999		**0.05 J**		< 0.04 UJ		< 0.04 UJ	**0.05 JT**	**2660000**	**3400**		
Intermediate	MWA-8I	GW049906	11/16/1999		**0.08 J**					**0.08 JT**	**2530000**	**2800**		
Intermediate	MWA-8I	GW010112	3/29/2001		< 0.1 U		< 0.1 U		< 0.1 U	< 0.1 UT	**1660000 J**	**4100**		
Intermediate	MWA-8I	GW020107	6/12/2001		**0.11 J**					**0.11 JT**	**1420000**	**1400**		
Intermediate	MWA-8I	GW04100206	4/10/2002		**0.08**		< 0.0097 U		**0.012**	**0.092 T**	**2110000**	**940**		
Intermediate	MWA-8I	GW-060903-02	6/9/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**2380000**	**22.7**		< 20 U
Intermediate	MWA-8I	MWA-8I-111004	11/10/2004		< 0.0500 U		< 0.0500 U		**0.590**	**0.59 T**		**23.7**		
Intermediate	MWA-8I	MWA-8I-031005	3/10/2005		< 0.0500 U		< 0.0500 U		**0.138 J**	**0.138 JT**		**185**		
Intermediate	MWA-8I	MWA-8I-062105	6/21/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**26.6**		
Intermediate	MWA-8I	MWA-8I-091505	9/15/2005		< 0.00103 U		< 0.00367 U		**0.0243 J**	**0.0243 JT**		**122**		
Intermediate	MWA-8I	MWA-8I-102705	10/27/2005		< 0.0472 U		< 0.0472 U		< 0.0472 U	< 0.0472 UT		**215**		
Intermediate	MWA-8I	MWA-8I-112105	11/21/2005		< 0.0472 U		< 0.0472 U		**0.0678 J**	**0.0678 JT**		**46.3**		
Intermediate	MWA-8I	MWA-8I-122005	12/20/2005		< 0.0957 UJ		< 0.0957 UJ		< 0.0957 UJ	< 0.0957 UJT		**24.5**		
Intermediate	MWA-8I	MWA-8I-032906	3/29/2006		< 0.0490 U		< 0.0490 U		< 0.0490 U	< 0.049 UT		**17.8**		
Intermediate	MWA-8I	MWA-8I-040407	4/4/2007		< 0.0976 U		< 0.0976 U		< 0.0976 U	< 0.0976 UA	**1420000**	**4910**		< 200 U
Intermediate	MWA-8I	MWA-8I-080609	8/6/2009		< 0.0190 U		< 0.0190 U		**0.0194**	**0.0194 A**	**1020000**	**746**		< 20 U
Intermediate	MWA-8I	MWA-08i-110419	11/4/2019		**0.097 J-**		**0.017 J-**		**0.048 J-**	**0.162**	**431000**	**1400**	< 1.3 UJ	< 48 U
Intermediate	MWA-8I	MWA-8i-021920	2/19/2020		**0.097**		**0.027**		**0.026 j**	**0.15**	**440000**	**1400**	< 1.3 U	< 48 U
Intermediate	MWA-8I	MWA-8I-052820	5/28/2020		**0.059 J-**		< 0.0033 UJ		**0.033 J-**	**0.092**	**460000**	**1100**	< 1.3 U	< 48 U
Intermediate	MWA-32I	GW-060403-10	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**31000000**			**200000**
Intermediate	MWA-32I	MWA-32I-050605	5/6/2005								**17600000**		**176**	
Intermediate	MWA-32I	MWA-32I-051005	5/10/2005											**158000**
Intermediate	MWA-32I	MWA-32I-071805	7/18/2005										**119**	
Intermediate	MWA-32I	MWA-32I	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1.44**		
Intermediate	MWA-32I	MWA-32I-081705	8/17/2005										**555**	
Intermediate	MWA-32I	MWA-32I-091405	9/14/2005								**13700000**		**386**	**160000**
Intermediate	MWA-32I	MWA-32I-120905	12/9/2005										**14.4**	
Intermediate	MWA-32I	MWA-32I-010606	1/6/2006										**6.55 J**	
Intermediate	MWA-32I	MWA-32I-021006	2/10/2006										**6.72 J**	
Intermediate	MWA-32I	MWA-32I-072606	7/26/2006										< 2 U	
Intermediate	MWA-32I	MWA-32I-040507	4/5/2007		**0.0818 J**		< 0.0952 U		< 0.0952 U	**0.0818 JA**	**33800000**	**0.470 J**	**8 J**	**131 J**
Intermediate	MWA-32I	MWA-32I-081009	8/10/2009		**0.0568 J**		< 0.0962 U		< 0.0962 U	**0.0568 JA**	**2520000**	**0.180 J**	**210 J**	**29900**
Intermediate	MWA-32I	MWA-32i-102419	10/24/2019		**0.010**		< 0.0029 U		< 0.0038 U	**0.01**	**3040000**	< 0.44 U	< 0.50 UJ	< 4.8 U
Intermediate	MWA-32I	MWA-32i-021320	2/13/2020		**0.0084 J-**		< 0.0029 UJ		**0.0045 J-**	**0.0129**	**2540000**	**0.21**	< 1.3 U	< 48 U
Intermediate	MWA-32I	MWA-32I-052020	5/20/2020		**0.011 J+**		< 0.0024 U		< 0.0024 U	**0.011**	**2500000**	**0.11 j**	< 2.5 UJ	< 19 U
Intermediate	MWA-34I	GW-060603-05	6/6/2003		**0.0892**		< 0.0170 U		**0.327**	**0.416 T**	**3040000**	**666**		**4600**
Intermediate	MWA-34I	MWA-34I-050605	5/6/2005								**5260000**		**35.8**	
Intermediate	MWA-34I	MWA-34I-071805	7/18/2005										**17.6**	
Intermediate	MWA-34I	MWA-34I	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1540**		
Intermediate	MWA-34I	MWA-34I-081705	8/17/2005										**192**	
Intermediate	MWA-34I	MWA-34I-091305	9/13/2005								**4580000**		**26.9**	**5900**
Intermediate	MWA-34I	MWA-34I-120905	12/9/2005										**30.2**	
Intermediate	MWA-34I	MWA-34I-010906	1/9/2006										**13.5**	
Intermediate	MWA-34I	MWA-34I-021006	2/10/2006										**12.3**	
Intermediate	MWA-34I	MWA-34I-072606	7/26/2006										**34.5**	

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Intermediate	MWA-34I	MWA-34I-040907	4/9/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**1400000**	**3920**	**32.6**	< 80.0 U
Intermediate	MWA-34I	MWA-34I-081109	8/11/2009		< 0.0200 U		< 0.0200 U		< 0.0200 U	< 0.02 UA	**740000**	**3240**	< 250 UJ	< 40 U
Intermediate	MWA-34I	MWA-34i-102519	10/25/2019		**0.35**		**1.0**		**0.87 J-**	**2.22**	**215000**	**67**	**4.4 J**	**52**
Intermediate	MWA-34I	MWA-34i-021420	2/14/2020		**0.19**		**0.39**		**0.27**	**0.85**	**31900**	< 2.0 U	**1.3**	**25**
Intermediate	MWA-34I	MWA-34I-052120	5/21/2020		**0.092 J**		< 0.0029 U		**0.24**	**0.332**	**680000**	**290**	< 1.3 U	< 48 U
Intermediate	MWA-49I	MWA-49I-050605	5/6/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-071405	7/14/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I	8/3/2005		< 0.0500 U		< 0.0500 U		**0.204**	**0.204 T**		**5.95**		
Intermediate	MWA-49I	MWA-49I-081605	8/16/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-091305	9/13/2005								**10600000**		< 4.55 U	**160000**
Intermediate	MWA-49I	MWA-49I-120905	12/9/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-010906	1/9/2006										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-021306	2/13/2006										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-072606	7/26/2006										< 2 U	
Intermediate	MWA-49I	MWA-49I-041107	4/11/2007		< 0.0971 U		< 0.0971 U		**0.135**	**0.135 A**	**11000000**	**0.780 J**	**0.9 J**	**42800**
Intermediate	MWA-49I	MWA-49I-081009	8/10/2009		**0.0402 J**		**0.0394 J**		**0.269**	**0.349 JA**	**7560000**	< 10.0 U	< 25 UJ	**58900**
Intermediate	MWA-49I	MWA-49i-110619	11/6/2019								**3020000**	< 0.44 U	< 5.0 UJ	**5500**
Intermediate	MWA-49I	MWA-49i-022120	2/21/2020		**0.024 j**		< 0.015 U		**0.12**	**0.144**	**573000**	**42**	< 13 U	< 0.95 U
Intermediate	MWA-49I	MWA-49i-051920	5/19/2020								**840000**	< 0.20 U	< 25 UJ	< 95 U
Intermediate	MWA-51I	MWA-51I-050505	5/5/2005										**48.5**	
Intermediate	MWA-51I	MWA-51I-071405	7/14/2005										**63.1**	
Intermediate	MWA-51I	MWA-51I	8/3/2005		< 0.0500 U		< 0.0500 U		**1.21**	**1.21 T**		**845**		
Intermediate	MWA-51I	MWA-51I-081605	8/16/2005										**24.3**	
Intermediate	MWA-51I	MWA-51I-091305	9/13/2005								**8910000**		**46.8**	**590**
Intermediate	MWA-51I	MWA-51I-120805	12/8/2005										**22.0**	
Intermediate	MWA-51I	MWA-51I-011006	1/10/2006										< 4.55 U	
Intermediate	MWA-51I	MWA-51I-021306	2/13/2006										**10.7**	
Intermediate	MWA-51I	MWA-51I-041107	4/11/2007		**0.103**		< 0.0962 U		**0.0572 J**	**0.16 JA**	**4640000**	**358**	**31.3**	**54.6 J**
Intermediate	MWA-51I	MWA-51I-081009	8/10/2009		**0.113**		< 0.0962 U		**0.0363 J**	**0.149 JA**	**2780000**	**336 J**	< 250 UJ	< 40 U
Intermediate	MWA-51I	MWA-51i-102519	10/25/2019		**0.33 J-**		**0.050 J-**		**0.071 J-**	**0.451**	**803000**	**170 J-**	< 13 UJ	< 4.8 U
Intermediate	MWA-51I	MWA-51I-021720	2/17/2020		< 0.45 U		< 0.34 U		< 0.45 U	< 0.45 U	**1140000**	**630 J-**	< 25 U	< 190 U
Intermediate	MWA-51I	MWA-51i-052620	5/26/2020								**880000**	**180**	< 25 U	< 95 U
Intermediate	MWA-53I	MWA-53I-050905	5/9/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-071805	7/18/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-081205	8/12/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-091205	9/12/2005								**14300000**		< 4.55 U	**1400**
Intermediate	MWA-53I	MWA-53I-120805	12/8/2005										**1.10 J**	
Intermediate	MWA-53I	MWA-53I-010606	1/6/2006										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-020806	2/8/2006										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-072406	7/24/2006										**6.8 J**	
Intermediate	MWA-53I	MWA-53I-041607	4/16/2007								**16200000**		< 6 UJ	**209**
Intermediate	MWA-53I	MWA-53I-080609	8/6/2009								**5980000**		< 25 UJ	< 20 U
Intermediate	MWA-53I	MWA-53i-102319	10/23/2019		< 0.0038 U		< 0.0029 U		**0.017**	**0.017**	**815000**	< 0.44 U	< 0.50 UJ	< 4.8 U
Intermediate	MWA-53I	MWA-53I-021220	2/12/2020								**482000**	**0.18 j**	< 1.3 U	< 48 U
Intermediate	MWA-53I	MWA-53I-052020	5/20/2020		< 0.0024 U		< 0.0024 U		< 0.0024 U	< 0.0024	**380000**	< 0.025 U	< 2.5 UJ	< 48 U
Intermediate	MWA-54I	MWA-54I-050505	5/5/2005										**54.8**	
Intermediate	MWA-54I	MWA-54I-071205	7/12/2005										< 136 U	
Intermediate	MWA-54I	MWA-54I-081505	8/15/2005										< 4.55 U	
Intermediate	MWA-54I	MWA-54I-090805	9/8/2005								**5540000**			
Intermediate	MWA-54I	MWA-54I-092305	9/23/2005										**6.34 J**	
Intermediate	MWA-54I	MWA-54I-120705	12/7/2005										**7.20 J**	
Intermediate	MWA-54I	MWA-54I-011106	1/11/2006										**11.3**	
Intermediate	MWA-54I	MWA-54I-020906	2/9/2006										**11.3**	

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Intermediate	MWA-54I	MWA-54I-07506	7/25/2006										**17.5 J**	
Intermediate	MWA-54I	MWA-54I-040307	4/3/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**3090000**	**8.73**	**14.4**	< 40.0 U
Intermediate	MWA-54I	MWA-54I-081909	8/19/2009		**0.0380 J**		**0.00781 J**		**0.0103 J**	**0.0561**	**2750000**	**7.30**	**210 J**	< 40 U
Intermediate	MWA-54I	MWA-54i-102819	10/28/2019		**0.28 J-**		**0.031 J-**		**0.21 J-**	**0.521**	**619000**	**570 J-**	< 13 UJ	< 48 U
Intermediate	MWA-54I	MWA-54I-021720	2/17/2020		**0.56 j**		< 0.35 U		< 0.47 U	**0.56**	**696000**	**290 J-**	< 25 U	< 190 U
Intermediate	MWA-54I	MWA-54i-052620	5/26/2020								**730000**	**230**	< 25 U	< 95 U
Intermediate	MWA-64I	MWA-64I	8/1/2005		**0.207**		< 0.0500 U		**0.309**	**0.516 T**		**2320**		
Intermediate	MWA-64I	MWA-64I-040407	4/4/2007		**0.0563 J**		< 0.0966 U		< 0.0966 U	**0.0563 JA**	**1910000**	**17500**		< 400 U
Intermediate	MWA-64I	MWA-64I-080609	8/6/2009		**0.0290 J**		< 0.0952 U		**0.0319 J**	**0.0609 JA**	**1590000**	**2070**		< 40 U
Intermediate	MWA-64I	MWA-64i-103119	10/31/2019		**0.39 J-**		**0.098 J-**		< 0.0049 UJ	**0.488**	**301000**	**2300**	< 2.5 UJ	< 48 U
Intermediate	MWA-64I	MWA-64i-021920	2/19/2020		**0.44**		**0.13**		< 0.019 U	**0.57**	**190000**	**13000**	< 5.0 U	< 190 U
Intermediate	MWA-64I	MWA-64i-052720	5/27/2020								**300000**	**24000**	**1.3 j**	< 48 U
Intermediate	MWA-66I	MWA-66I	8/2/2005		< 0.500 UJ		< 0.500 UJ		< 0.500 UJ	< 0.5 UJT		**12900**		
Intermediate	MWA-66I	MWA-66I-041707	4/17/2007		< 0.0957 U		< 0.0957 U		< 0.0957 U	< 0.0957 UA	**1890000**	**8160**		**39.0 J**
Intermediate	MWA-66I	MWA-66I-081109	8/11/2009		< 0.0340 U		< 0.00971 U		**0.00620 J**	**0.0062 JA**	**1720000**	**7780**	< 25 UJ	**1240**
Intermediate	MWA-66I	MWA-66i-103119	10/31/2019		**0.015 J**		< 0.0030 U		< 0.0050 UJ	**0.015**	**690000**	**38000 J+**	< 0.25 UJ	**770**
Intermediate	MWA-66I	MWA-66i-021820	2/18/2020		< 0.019 U		< 0.014 U		< 0.019 U	< 0.019 U	**642000**	**52000**	< 0.25 U	**690**
Intermediate	MWA-66I	MWA-66i-052820	5/28/2020		**0.029**		**0.0037 J**		**0.0093**	**0.042**	**710000**	**37000**	< 0.25 U	**400**
Intermediate	MWA-70I	MWA-70I-B	4/19/2006								**68000**	< 0.17 U	< 1.62 U	< 200 U
Intermediate	MWA-70I	MWA-70I-040307	4/3/2007								**4090000**		**1.4 J**	< 40.0 U
Intermediate	MWA-70I	MWA-70I-080509	8/5/2009								**5200000**		< 25 U	< 20 U
Intermediate	MWA-70I	MWA-70i-102219	10/22/2019		< 0.0058 UJ		< 0.0029 UJ		< 0.0048 UJ	< 0.0058	**36500**	< 0.44 U	**3.7 J-**	< 4.8 U
Intermediate	MWA-70I	MWA-70i-021120	2/11/2020		< 0.0038 UJ		< 0.0029 UJ		**0.0056 J**	**0.0056**	**49600**	**0.77**	**2.8**	< 48 U
Intermediate	MWA-70I	MWA-70I-051820	5/18/2020		< 0.0024 U		< 0.0024 U		**0.011 J**	**0.011**	**45000**	**0.46**	< 1.3 U	< 48 U
Intermediate	MWA-81I	MWA-81i-102319	10/23/2019		< 0.0038 U		< 0.0029 U		**0.030 J**	**0.03**	**49800**	< 0.44 U	< 0.25 UJ	< 0.95 U
Intermediate	MWA-81I	MWA-81i-021220	2/12/2020		< 0.0038 U		< 0.0029 U		< 0.0038 U	< 0.0038 U	**37300**	**0.26**	< 0.25 U	< 0.95 U
Intermediate	MWA-81I	MWA-81I-051820	5/18/2020		< 0.0024 U		< 0.0024 U		**0.0063 J**	**0.0063**	**95000**	< 0.025 U	< 0.25 U	< 0.95 U
Deep	MWA-11I(D)	GWG004	12/7/1998									**49**		
Deep	MWA-11I(D)	GW019916	1/29/1999		< 0.04 U		< 0.04 U		**0.2**	**0.2 T**	**612000**	**2.5**		
Deep	MWA-11I(D)	GW029905	4/27/1999		**0.19**		< 0.04 U		**0.08**	**0.27 T**	**637000**	< 0.5 UJ		
Deep	MWA-11I(D)	GW039916	8/26/1999		**0.12**		< 0.04 U		**0.05**	**0.17 T**	**802000**	< 0.5 U		
Deep	MWA-11I(D)	GW049914	11/17/1999		**0.1 J**		< 0.04 UJ		< 0.04 UJ	**0.1 JT**	**963000**	< 1 U		
Deep	MWA-11I(D)	GW010118	3/30/2001		**0.25**		< 0.1 U		**0.7**	**0.95 T**	**768000 J**	< 0.5 U		
Deep	MWA-11I(D)	GW020119	6/15/2001		**0.25**		**0.01 J**		**0.48**	**0.74 JT**	**773000**	< 0.5 U		
Deep	MWA-11I(D)	GW04110204	4/11/2002		< 0.16 U		< 0.0097 U		< 0.085 U	< 0.16 UT	**833000**	< 1.4 U		
Deep	MWA-11I(D)	GW-061003-03	6/10/2003		**1.2**		< 0.0170 U		< 0.573 U	**1.2 T**	**550000**	< 0.71 U		< 20 U
Deep	MWA-11I(D)	MWA-11	8/1/2005		**0.593**		< 0.0500 U		**0.0829 J**	**0.6759 JT**		**0.810**		
Deep	MWA-11I(D)	MWA-11I-041707	4/17/2007		**0.0722 J**		< 0.0971 U		**0.0591 J**	**0.131 JA**	**1210000**	**1.92**		< 8.0 U
Deep	MWA-11I(D)	MWA-11I-081909	8/19/2009		**0.658**		**0.0459 J**		**0.0599 J**	**0.764 JA**	**1090000**	< 0.780 U	**40 J**	< 4 U
Deep	MWA-11I(D)	MWA-11I(D)-110519	11/5/2019		**0.13**		**0.011 J**		**0.0098 J**	**0.1508**	**1640000**	< 0.44 U	< 0.25 UJ	< 48 U
Deep	MWA-11I(D)	MWA-11i(d)-022620	2/26/2020		**0.078**		**0.018 j**		< 0.019 U	**0.096**	**1480000**	**2.4**	< 0.25 U	< 0.95 U
Deep	MWA-11I(D)	MWA-11i(d)-052920	5/29/2020		**0.085**		< 0.0030 U		**0.012 j**	**0.097**	**1600000**	< 0.025 U	< 0.25 U	< 9.5 U
Deep	MWA-31I(D)	GW04080205	4/8/2002		< 0.0097 U		< 0.0097 U		< 0.0097 U	< 0.0097 UT	**39100000**	< 0.5 U		
Deep	MWA-31I(D)	GW-060403-07	6/4/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**61100000**			**4700**
Deep	MWA-31I(D)	MWA-31I-050605	5/6/2005								**62100000**		**726**	
Deep	MWA-31I(D)	MWA-31I-071805	7/18/2005										**250**	
Deep	MWA-31I(D)	MWA-31I-081705	8/17/2005										**142**	
Deep	MWA-31I(D)	MWA-31I-091405	9/14/2005								**57900000**		**1020**	
Deep	MWA-31I(D)	MWA-31I-120905	12/9/2005										**25.1**	
Deep	MWA-31I(D)	MWA-31I-010906	1/9/2006										**45.3**	
Deep	MWA-31I(D)	MWA-31I-021006	2/10/2006										**104**	
Deep	MWA-31I(D)	MWA-31I-072606	7/26/2006										< 2 U	

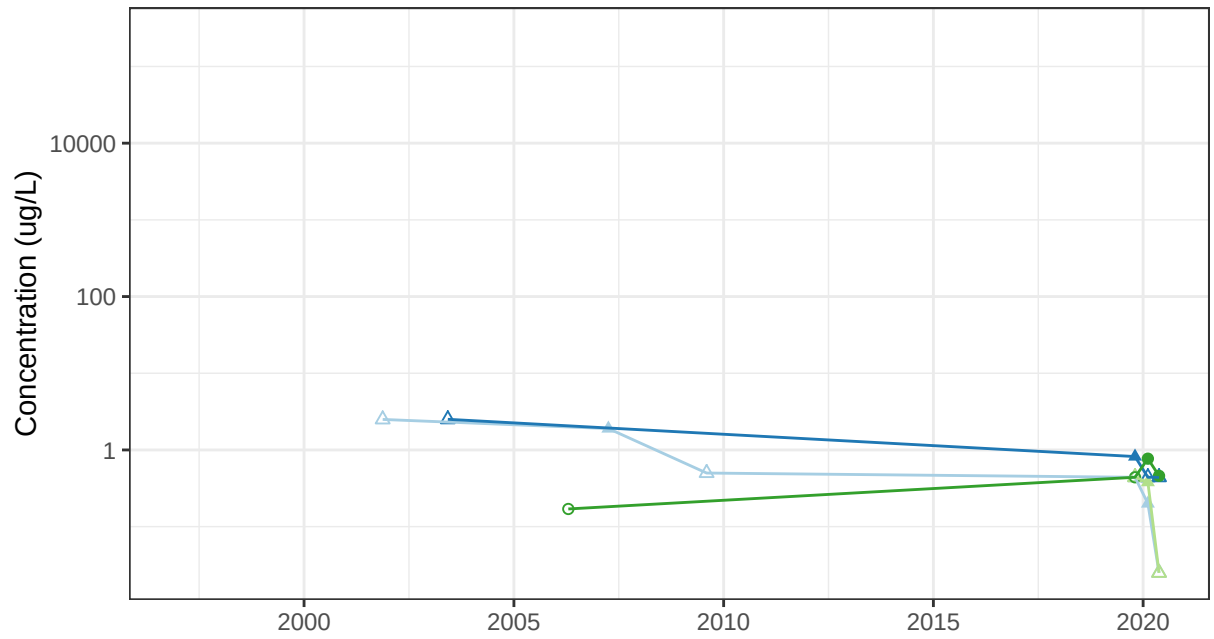
Appendix D
Historical Data Tables
Arkema Quarter 2, 2020, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD µg/L	4,4'-DDD µg/L	2,4'-DDE µg/L	4,4'-DDE µg/L	2,4'-DDT µg/L	4,4'-DDT µg/L	Total of 2,4' and 4,4'-DDD, -DDE, -DDT µg/L	Chloride µg/L	Chlorobenzene µg/L	Chromium (VI) µg/L	Perchlorate µg/L
Deep	MWA-31I(D)	MWA-31I(D)-040507	4/5/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**53700000**	**0.640**	< 6 UJ	**5730**
Deep	MWA-31I(D)	MWA-31I(D)-081009	8/10/2009		< 0.00952 U		< 0.00952 U		< 0.00952 U	< 0.00952 UA	**54300000**	< 2.50 UJ	**9300 J**	**1840**
Deep	MWA-31I(D)	MWA-31i(d)-102419	10/24/2019		< 0.0037 U		< 0.0028 U		< 0.0037 U	< 0.0037	**25900000**	**0.57 j**	< 0.25 UJ	**100000**
Deep	MWA-31I(D)	MWA-31i(D)-021320	2/13/2020		< 0.0037 U		< 0.0028 U		**0.0044 j**	**0.0044**	**27700000**	**0.58 j**	< 0.25 U	**91000**
Deep	MWA-31I(D)	MWA-31I(D)-052020	5/20/2020		< 0.0023 U		**0.0054**		< 0.0023 U	**0.0054**	**27000000**	< 0.44 U	< 0.25 UJ	**100000**
Deep	MWA-56D	MWA-56D-050605	5/6/2005										< 4.55 U	
Deep	MWA-56D	MWA-56D-071405	7/14/2005										**22.3**	
Deep	MWA-56D	MWA-56D-081605	8/16/2005										< 4.55 U	
Deep	MWA-56D	MWA-56D-091305	9/13/2005								**30800000**		< 4.55 U	
Deep	MWA-56D	MWA-56D-120905	12/9/2005										< 4.55 UJ	
Deep	MWA-56D	MWA-56D-010906	1/9/2006										< 4.55 U	
Deep	MWA-56D	MWA-56D-021306	2/13/2006										< 4.55 U	
Deep	MWA-56D	MWA-56D-072606	7/26/2006										< 2 U	
Deep	MWA-56D	MWA-56D-041107	4/11/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**27900000**	< 2.50 U	< 2 UJ	**2430**
Deep	MWA-56D	MWA-56D-081009	8/10/2009		< 0.00976 U		< 0.00976 U		**0.00690 J**	**0.0069 JA**	**22800000**	< 5.00 U	< 25 UJ	**2140**
Deep	MWA-56D	MWA-56D-102419	10/24/2019		< 0.0038 U		< 0.0028 U		**0.035**	**0.035**	**20100000**	< 0.44 U	< 0.25 UJ	**3300**
Deep	MWA-56D	MWA-56D-021420	2/14/2020		< 0.0038 U		< 0.0028 U		**0.035**	**0.035**	**22300000**	< 2.0 U	< 0.25 UJ	**3500**
Deep	MWA-56D	MWA-56D-052120	5/21/2020		< 0.0023 U		< 0.0023 U		**0.053**	**0.053**	**21000000**	< 0.44 U	< 0.25 U	**5700**
Deep	MWA-58D	MWA-58D-050605	5/6/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-071405	7/14/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-081705	8/17/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-091305	9/13/2005								**60700000**		< 4.55 U	
Deep	MWA-58D	MWA-58D-120905	12/9/2005										< 4.55 UJ	
Deep	MWA-58D	MWA-58D-010906	1/9/2006										< 4.55 U	
Deep	MWA-58D	MWA-58D-021006	2/10/2006										< 4.55 U	
Deep	MWA-58D	MWA-58D-072606	7/26/2006										< 2 U	
Deep	MWA-58D	MWA-58D-040907	4/9/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**53600000**	< 2.50 U	**57.5**	**59600**
Deep	MWA-58D	MWA-58D-081009	8/10/2009		< 0.00943 U		< 0.00943 U		**0.0286**	**0.0286 A**	**33600000**	**2.00 J**	< 25 UJ	**128000**
Deep	MWA-58D	MWA-58d-102519	10/25/2019		< 0.0059 U		< 0.0029 U		< 0.0049 UJ	< 0.0059	**18900000**	< 0.44 U	< 0.25 UJ	**61000**
Deep	MWA-58D	MWA-58D-021320	2/13/2020		< 0.0041 U		< 0.0031 U		< 0.0041 U	< 0.0041 U	**21100000**	< 0.44 U	< 0.25 U	**49000**
Deep	MWA-58D	MWA-58D-052120	5/21/2020		< 0.0023 U		< 0.0023 U		**0.0045 j**	**0.0045**	**19000000**	< 0.44 U	< 0.25 U	**46000**

Notes:
Bolded values indicate concentrations above the Reportable Detection Limit.
< = Compound not detected. Reportable detection limit shown.
µg/L = micrograms per liter
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane

Qualifers:
A = Total value based on limited number of analytes.
j = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
T = Sample temperature did not meet quality control criteria.
U = Compound not detected based on quality assurance review.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

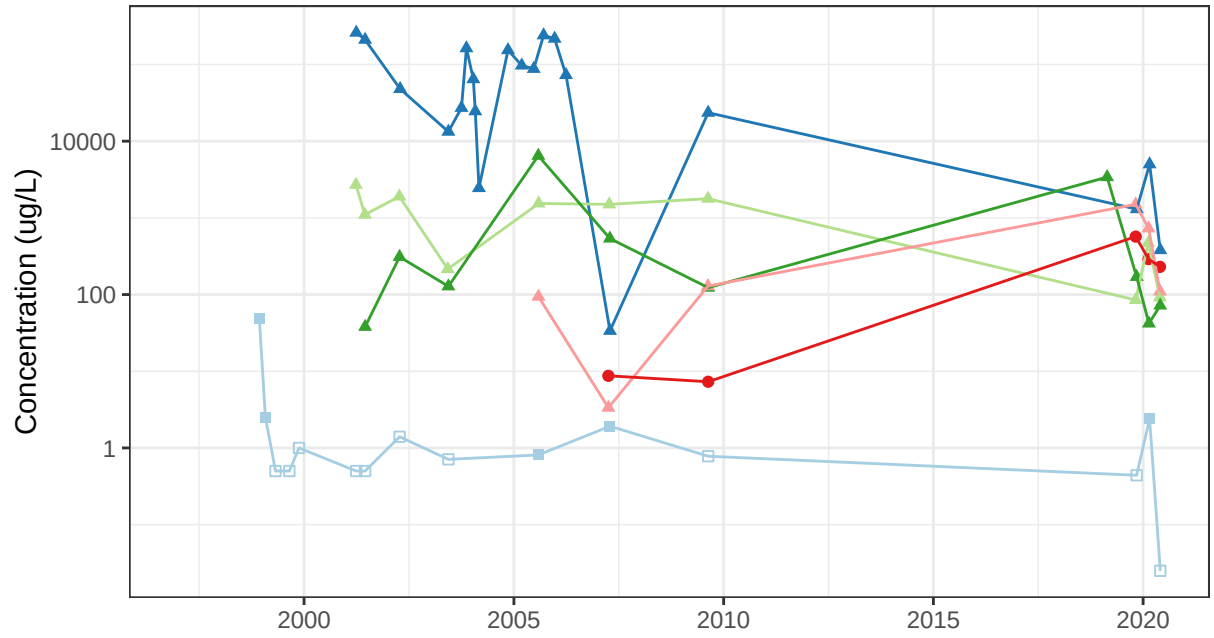
Chlorobenzene in Upgradient Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−24
- MWA−33
- MWA−40
- MWA−70I

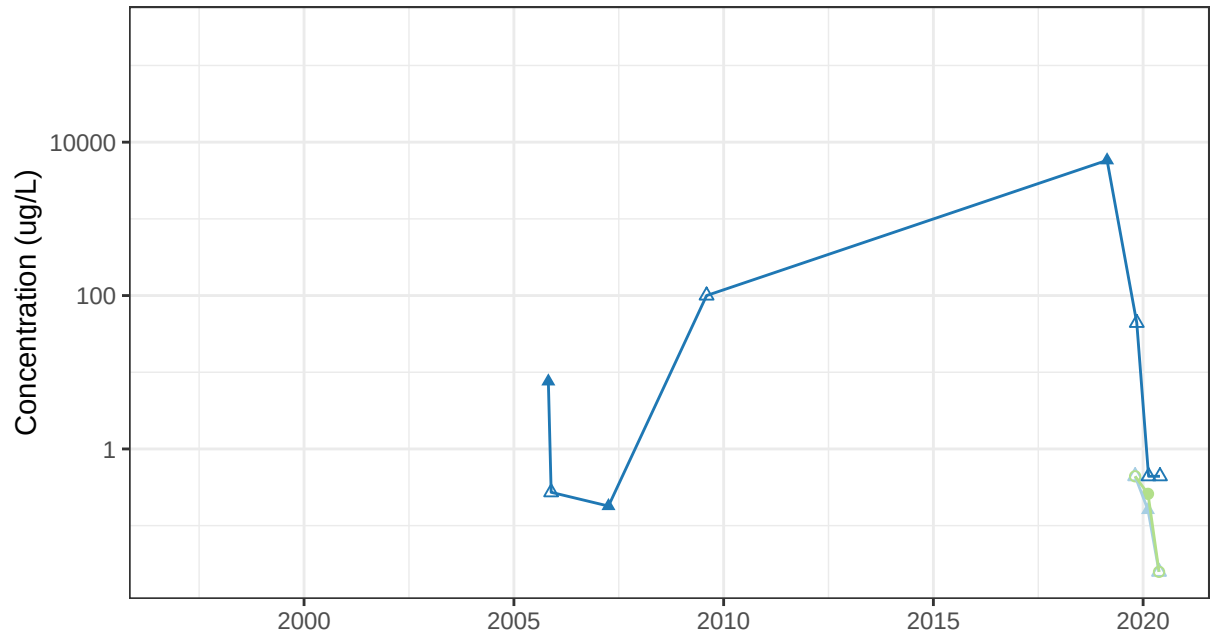
Chlorobenzene in Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−11I(D)
- MWA−15R
- MWA−20
- MWA−22
- MWA−42
- MWA−54I

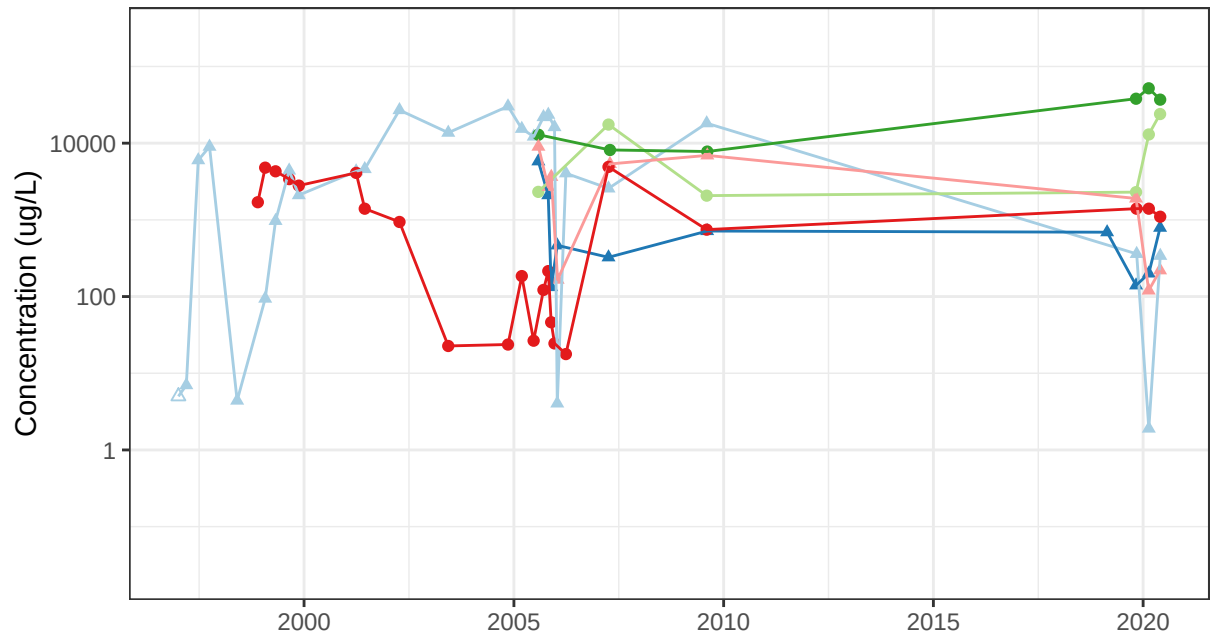
Chlorobenzene in Ends of Barrier Wall Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−63
- MWA−81I

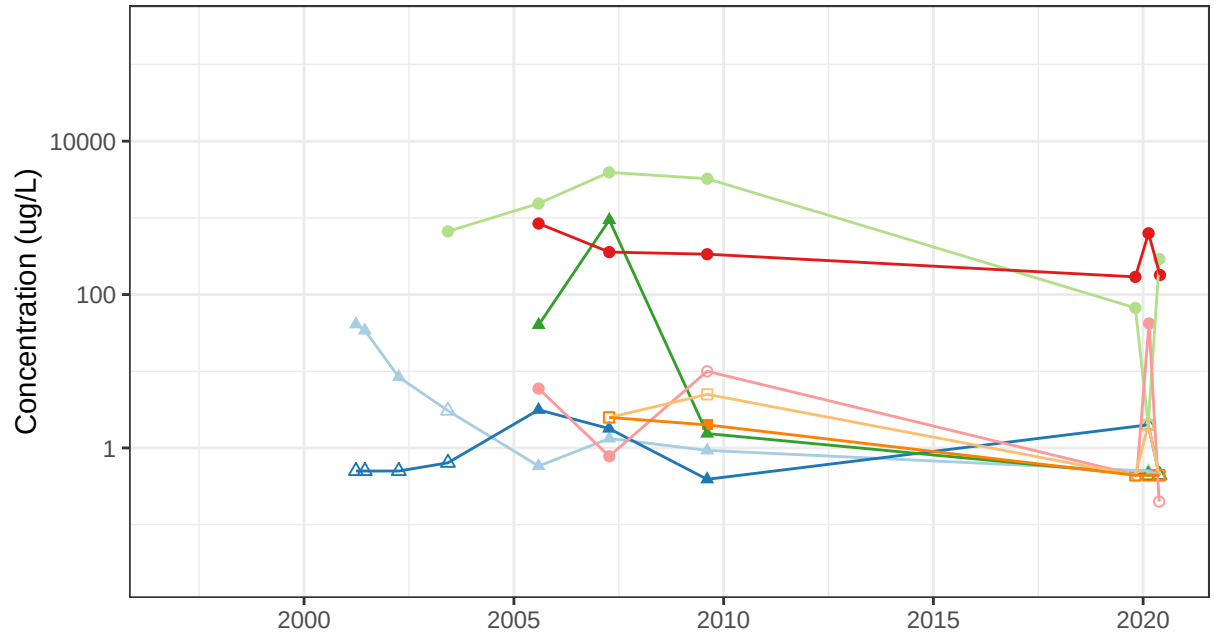
Chlorobenzene in Riverside North Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−2
- MWA−61
- MWA−64I
- MWA−66I
- MWA−69
- MWA−8I

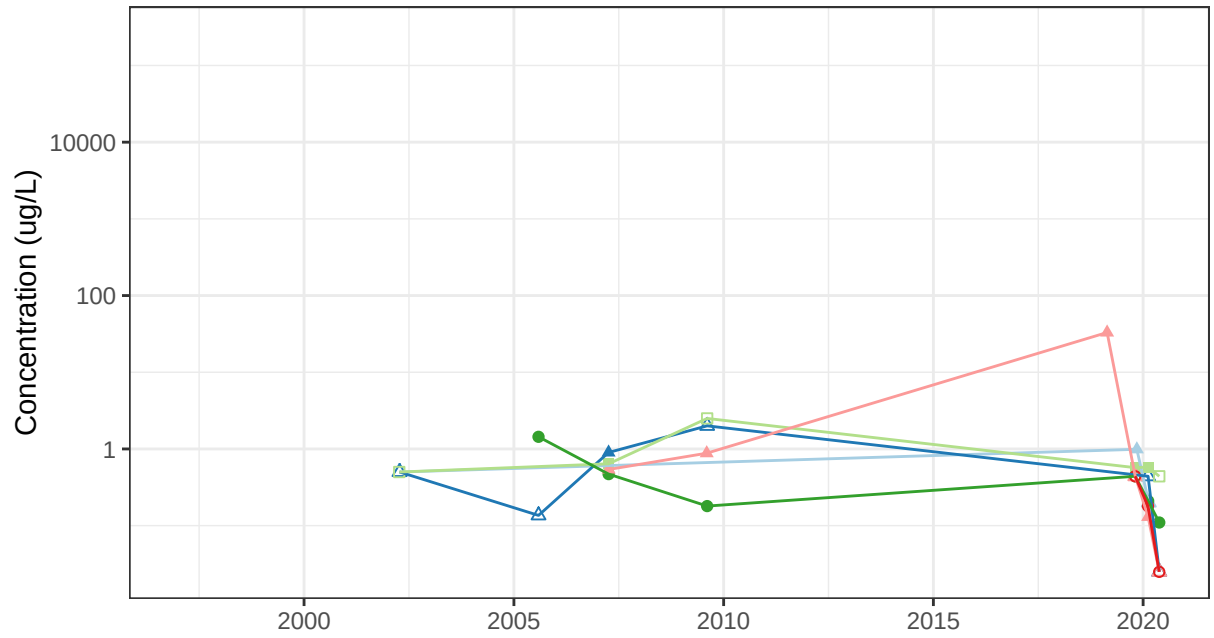
Chlorobenzene in Riverside Middle Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−18
- MWA−19
- MWA−34I
- MWA−46
- MWA−49I
- MWA−51I
- MWA−56D
- MWA−58D

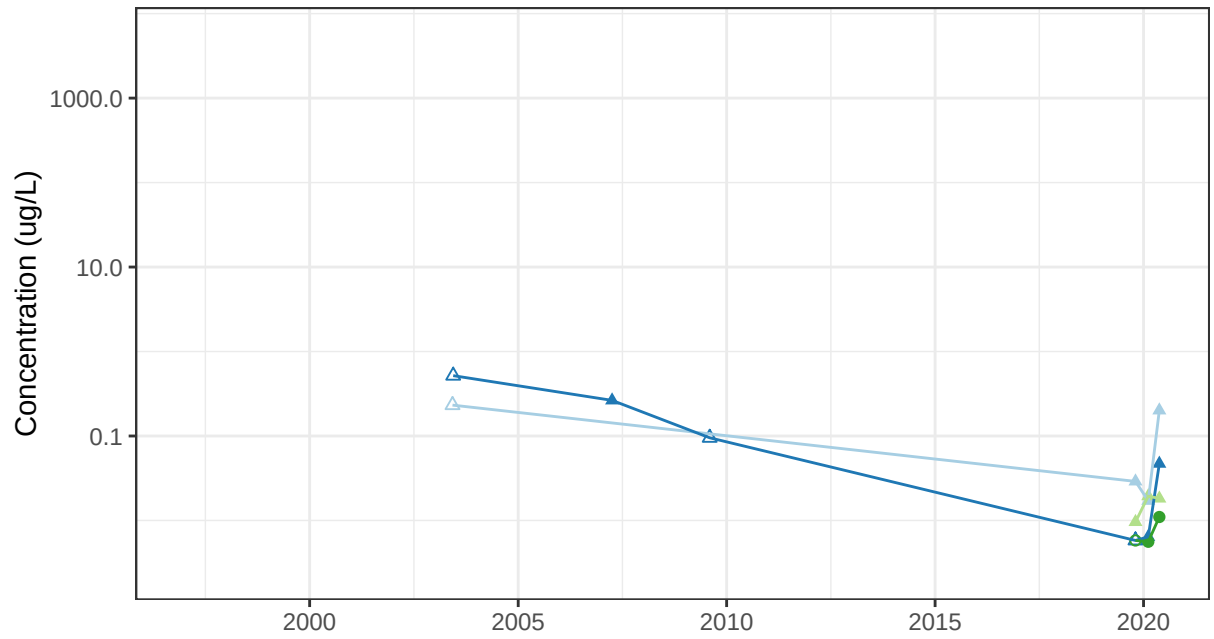
Chlorobenzene in Riverside South Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−29
- MWA−30
- MWA−31I(D)
- MWA−32I
- MWA−47
- MWA−53I

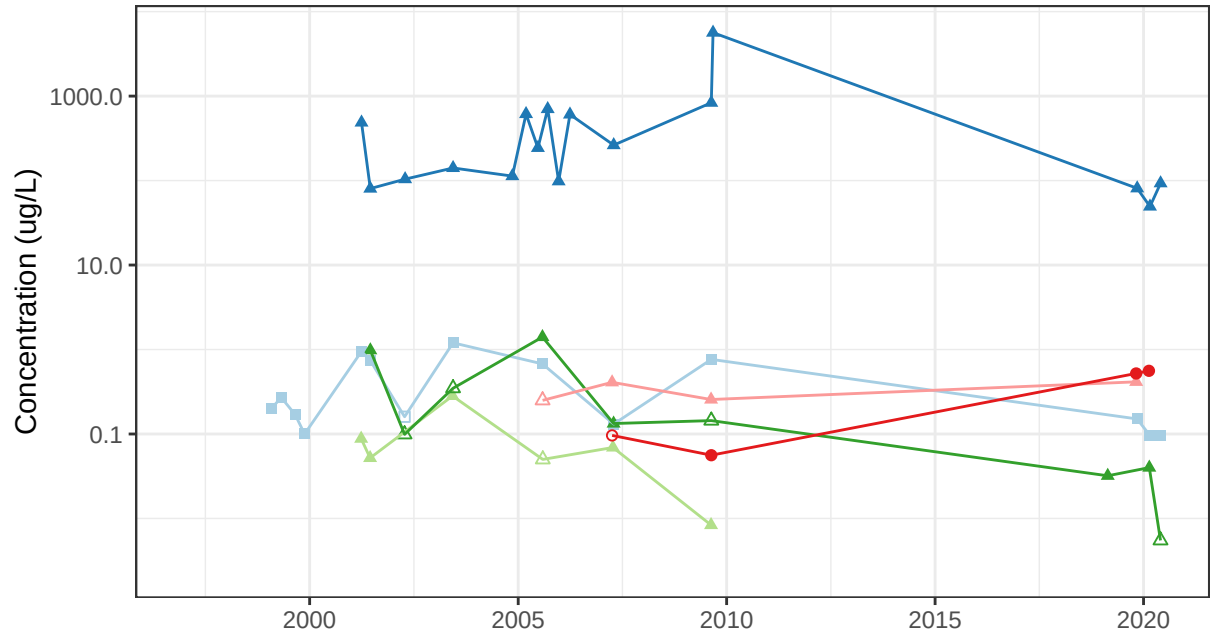
Total of 2,4' and 4,4'−DDD, −DDE, −DDT in Upgradient Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−24
- MWA−33
- MWA−40
- MWA−70I

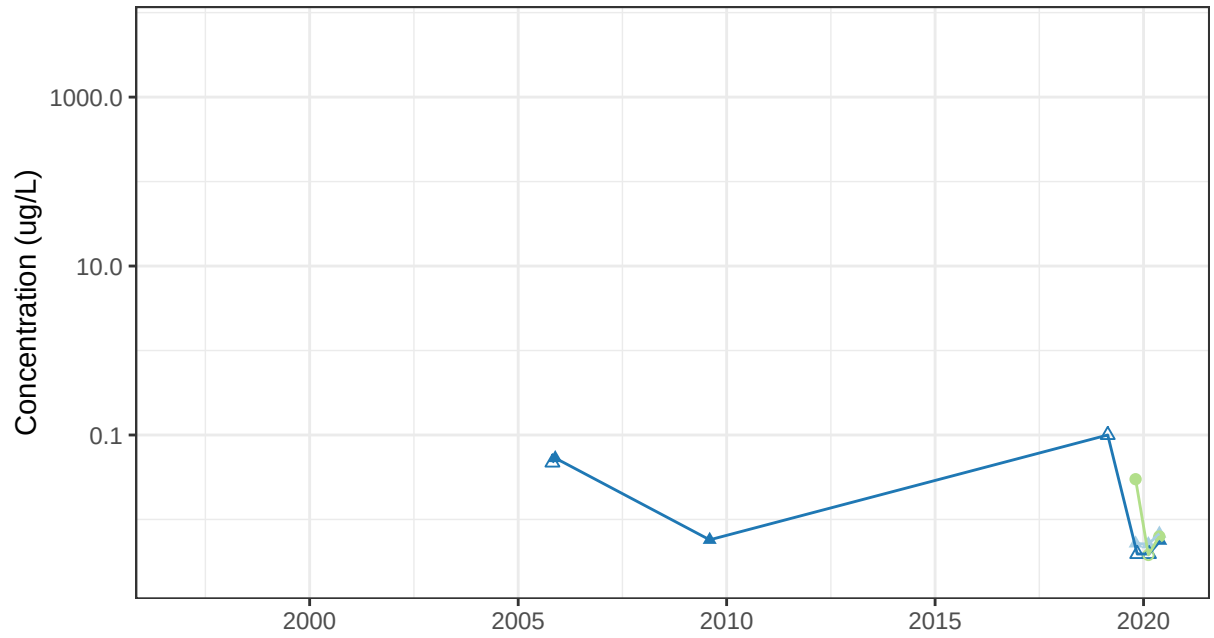
Total of 2,4' and 4,4'−DDD, −DDE, −DDT in Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

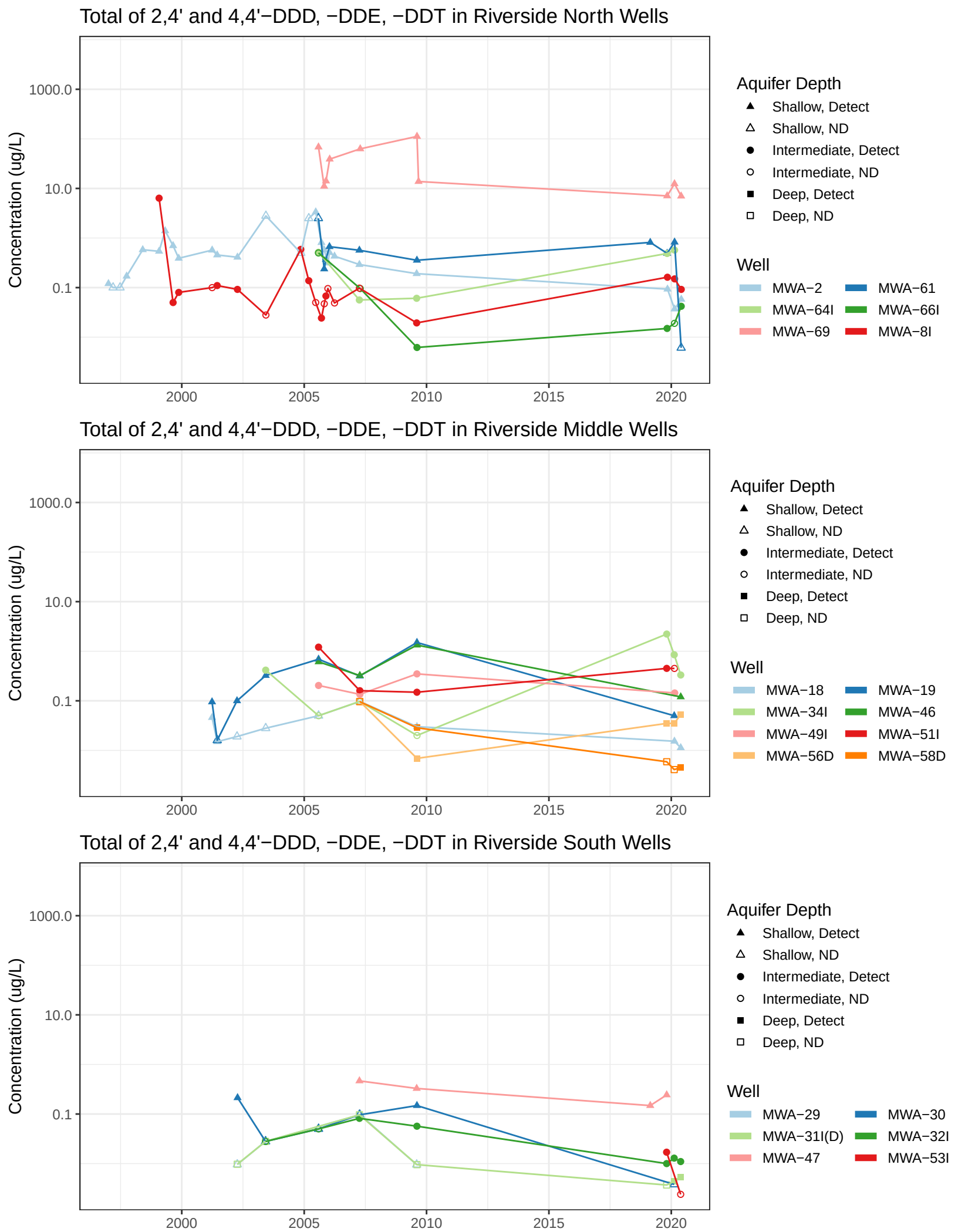
Well
- MWA−11I(D)
- MWA−15R
- MWA−20
- MWA−22
- MWA−42
- MWA−54I

Total of 2,4' and 4,4'−DDD, −DDE, −DDT in Ends of Barrier Wall Wells

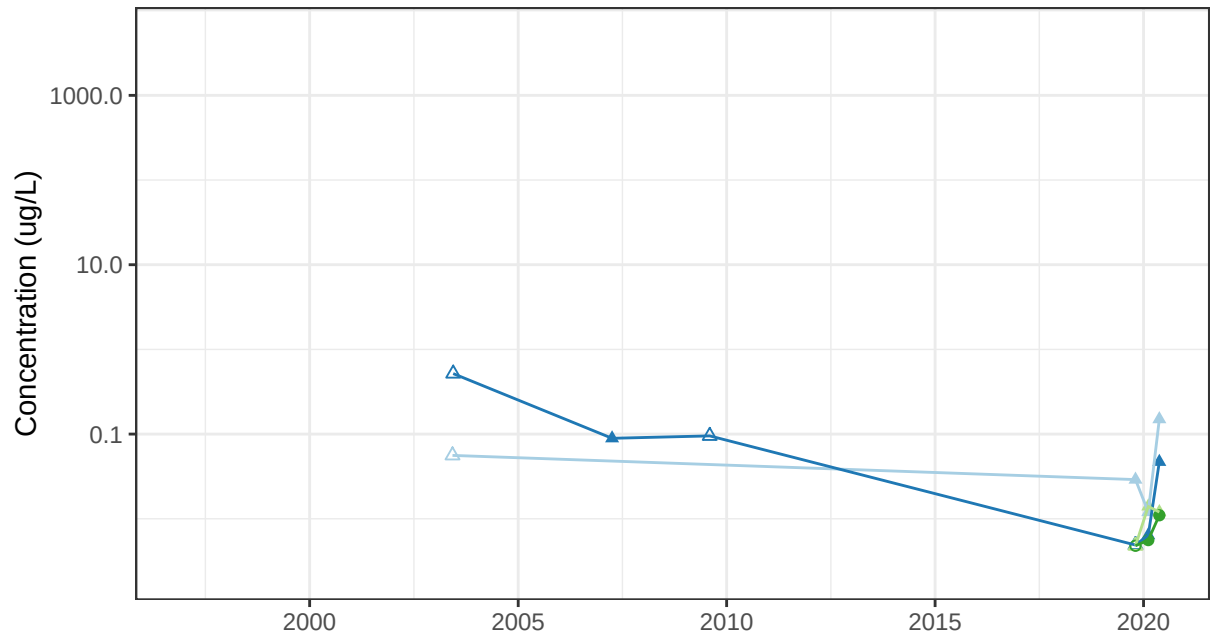


Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−63
- MWA−81I


Total of 2,4' and 4,4'−DDD, −DDE, −DDT in Riverside North Wells
Concentration (ug/L)
1000.0
10.0
0.1
2000
2005
2010
2015
2020
Aquifer Depth
Shallow, Detect
Shallow, ND
Intermediate, Detect
Intermediate, ND
Deep, Detect
Deep, ND
Well
MWA−2
MWA−61
MWA−64I
MWA−66I
MWA−69
MWA−8I
Total of 2,4' and 4,4'−DDD, −DDE, −DDT in Riverside Middle Wells
Concentration (ug/L)
1000.0
10.0
0.1
2000
2005
2010
2015
2020
Aquifer Depth
Shallow, Detect
Shallow, ND
Intermediate, Detect
Intermediate, ND
Deep, Detect
Deep, ND
Well
MWA−18
MWA−19
MWA−34I
MWA−46
MWA−49I
MWA−51I
MWA−56D
MWA−58D
Total of 2,4' and 4,4'−DDD, −DDE, −DDT in Riverside South Wells
Concentration (ug/L)
1000.0
10.0
0.1
2000
2005
2010
2015
2020
Aquifer Depth
Shallow, Detect
Shallow, ND
Intermediate, Detect
Intermediate, ND
Deep, Detect
Deep, ND
Well
MWA−29
MWA−30
MWA−31I(D)
MWA−32I
MWA−47
MWA−53I

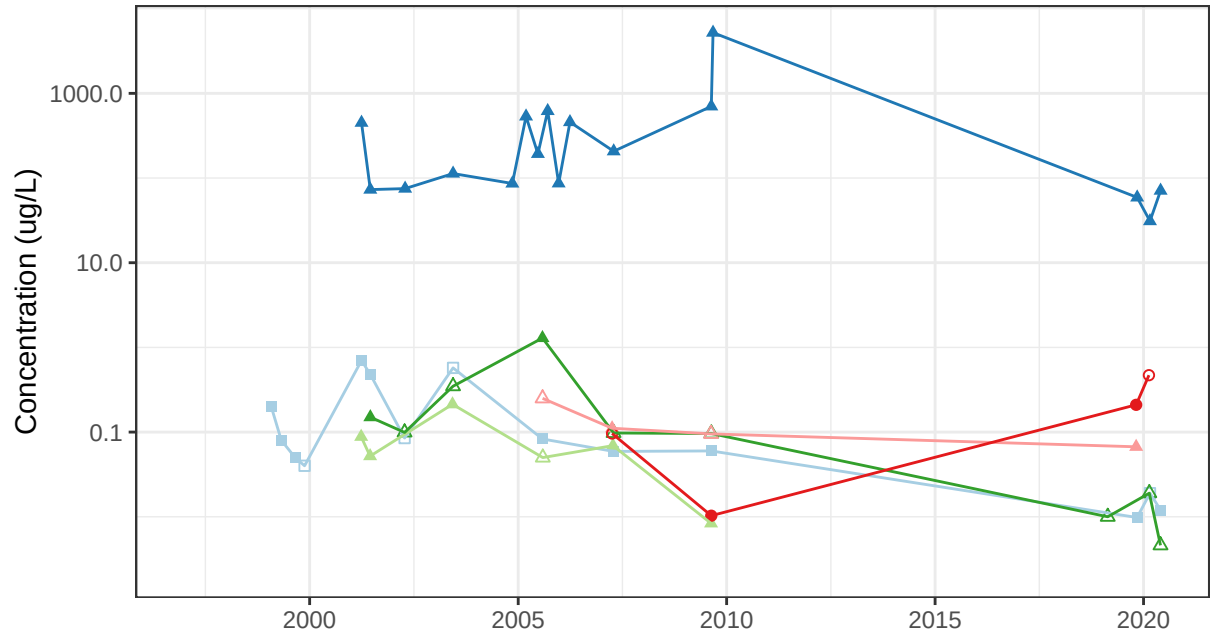
Total of 2,4' and 4,4'−DDT in Upgradient Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−24
- MWA−33
- MWA−40
- MWA−70I

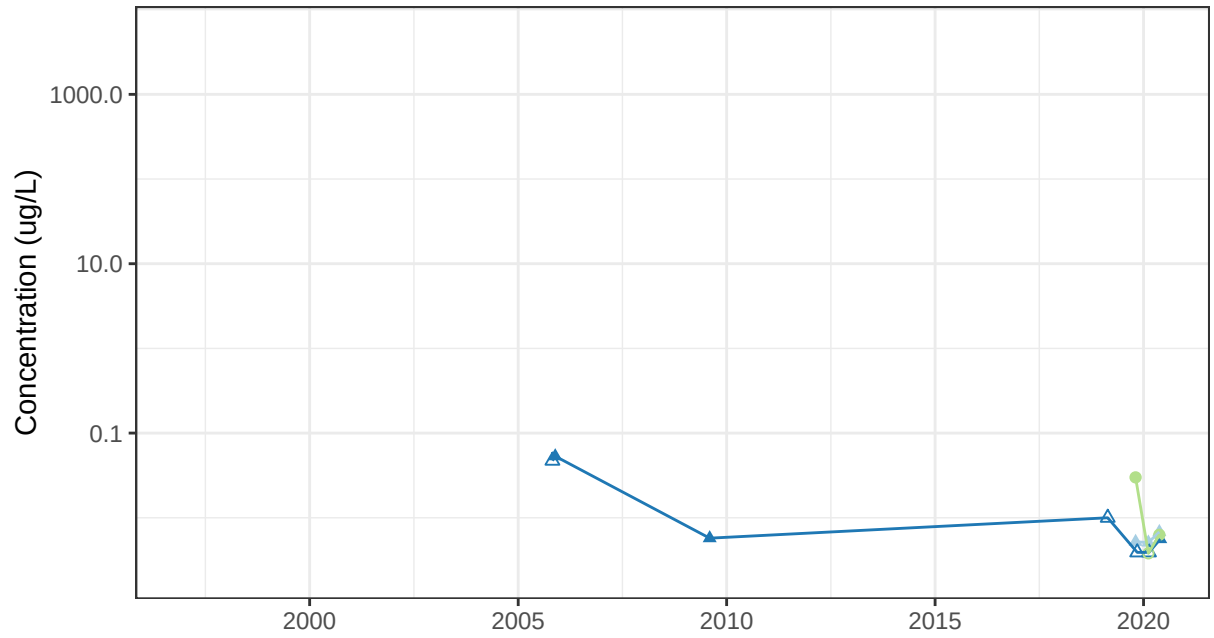
Total of 2,4' and 4,4'−DDT in Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−11I(D)
- MWA−15R
- MWA−20
- MWA−22
- MWA−42
- MWA−54I

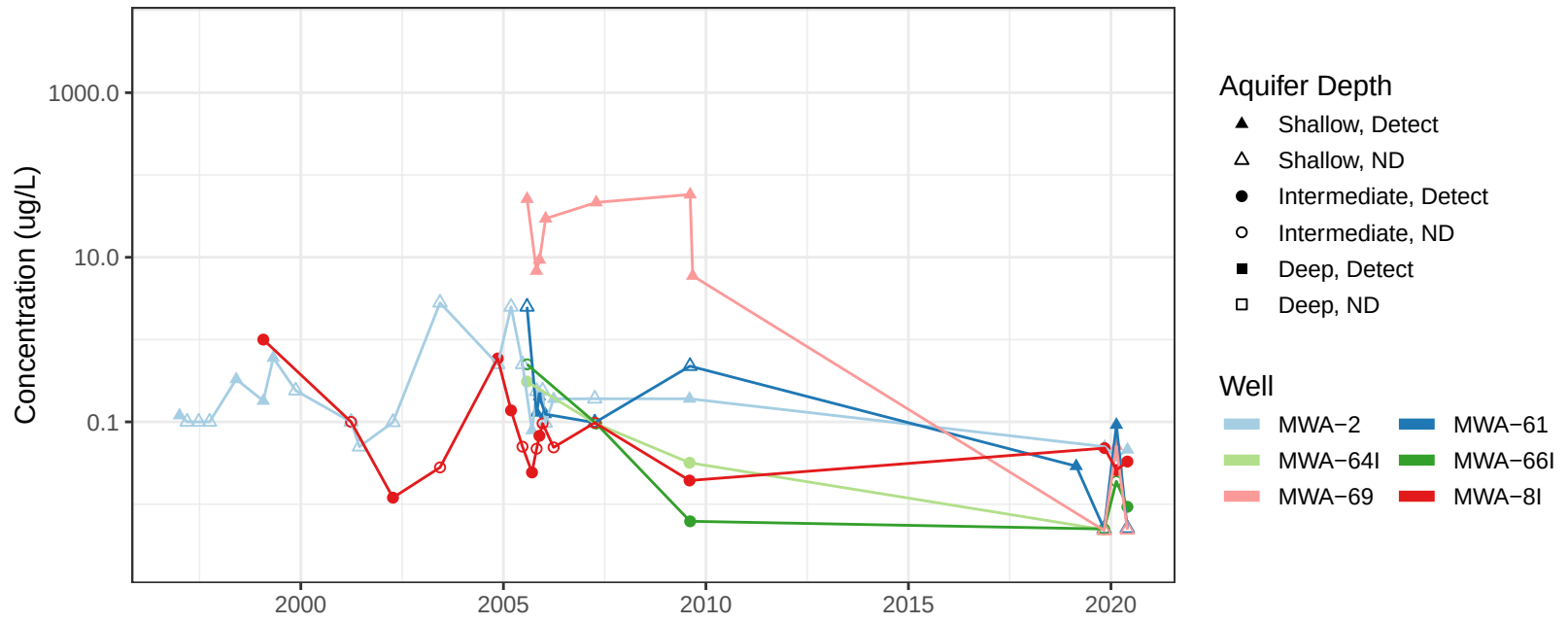
Total of 2,4' and 4,4'−DDT in Ends of Barrier Wall Wells



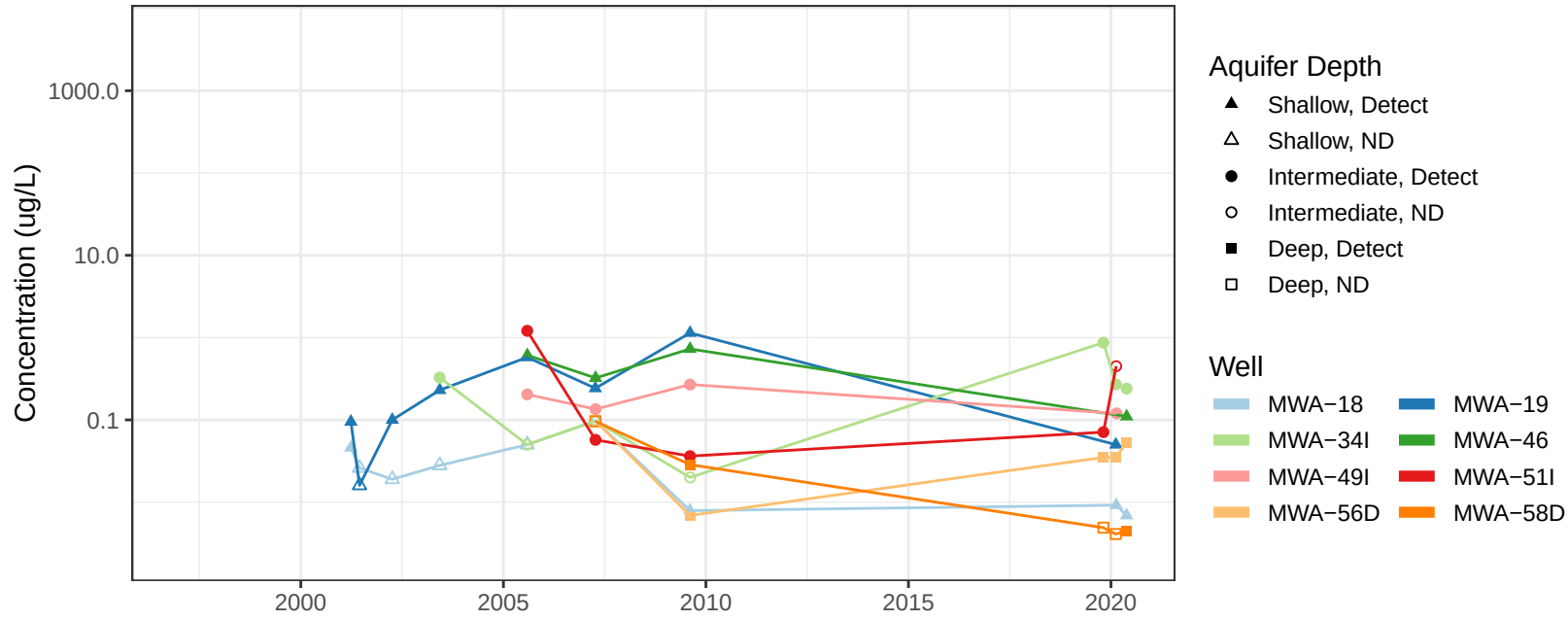
Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−63
- MWA−81I

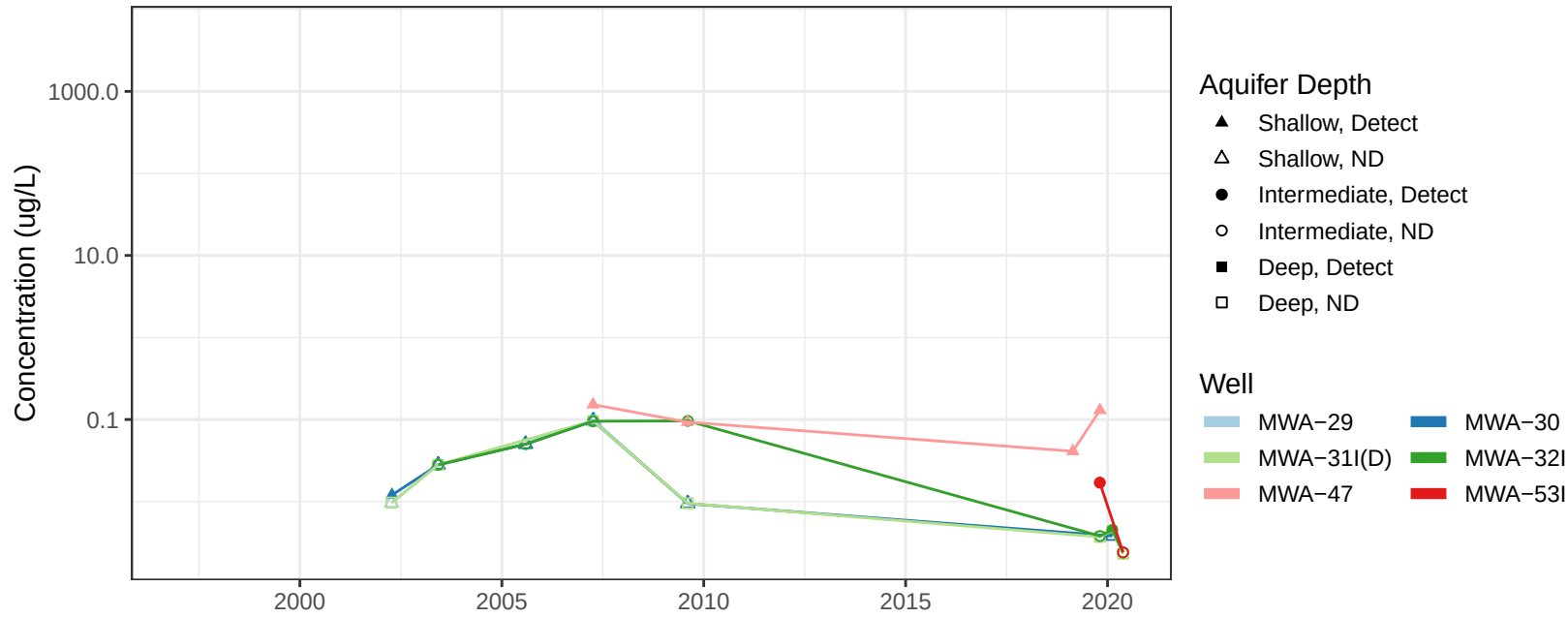
Total of 2,4' and 4,4'−DDT in Riverside North Wells



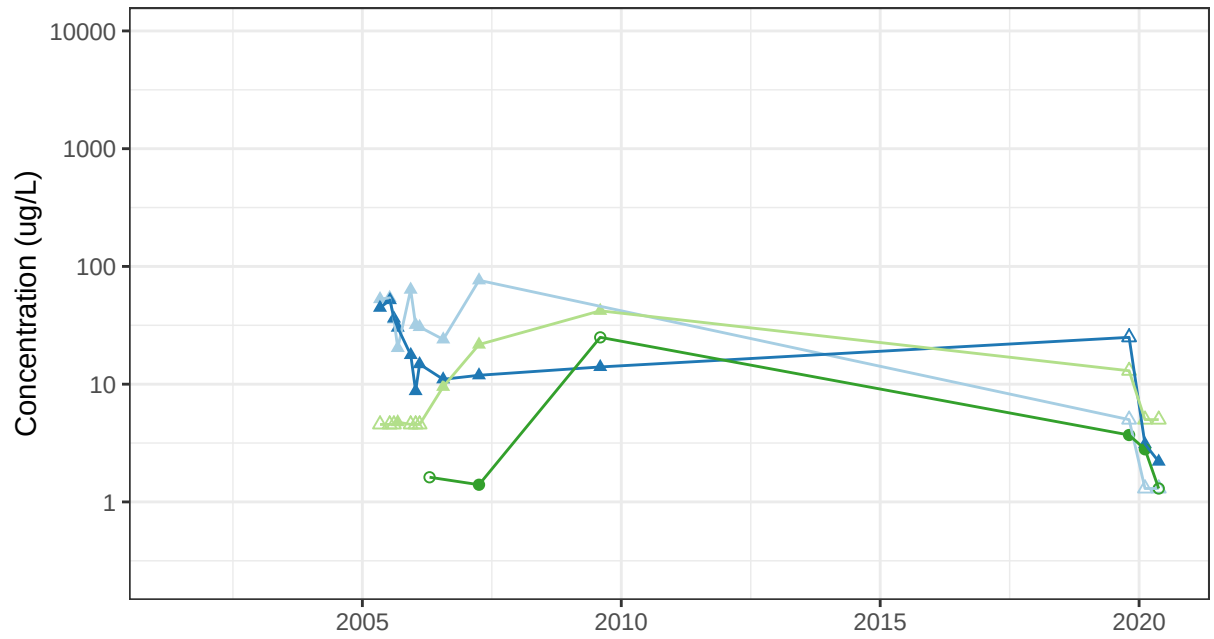
Total of 2,4' and 4,4'−DDT in Riverside Middle Wells



Total of 2,4' and 4,4'−DDT in Riverside South Wells



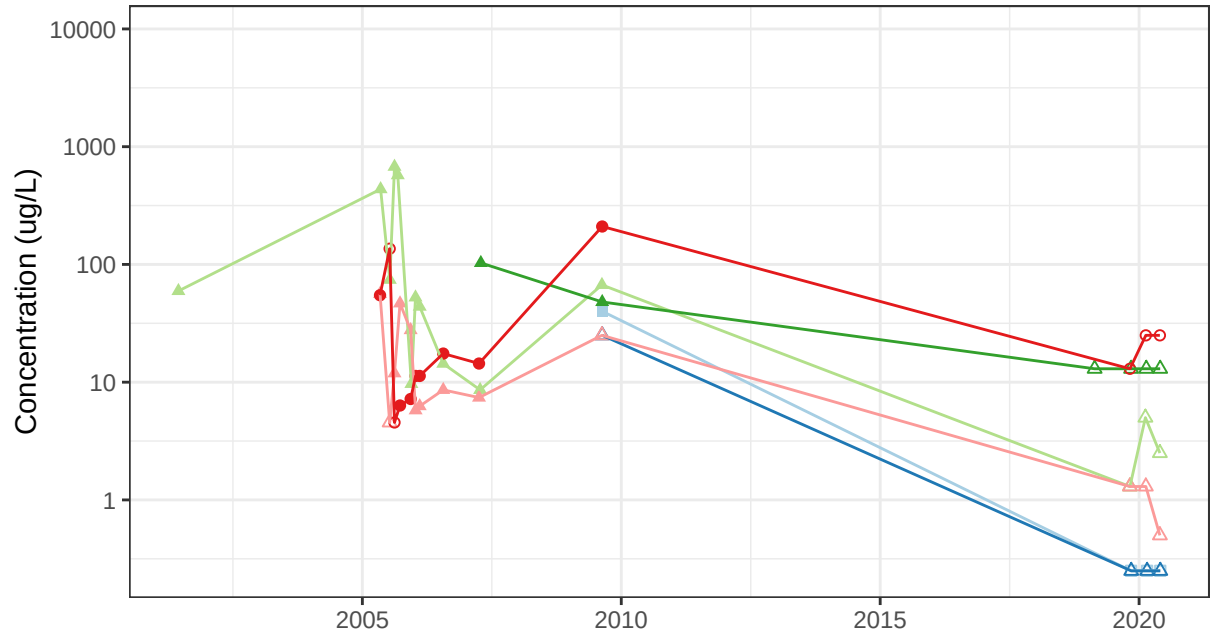
Chromium (VI) in Upgradient Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−24
- MWA−33
- MWA−40
- MWA−70I

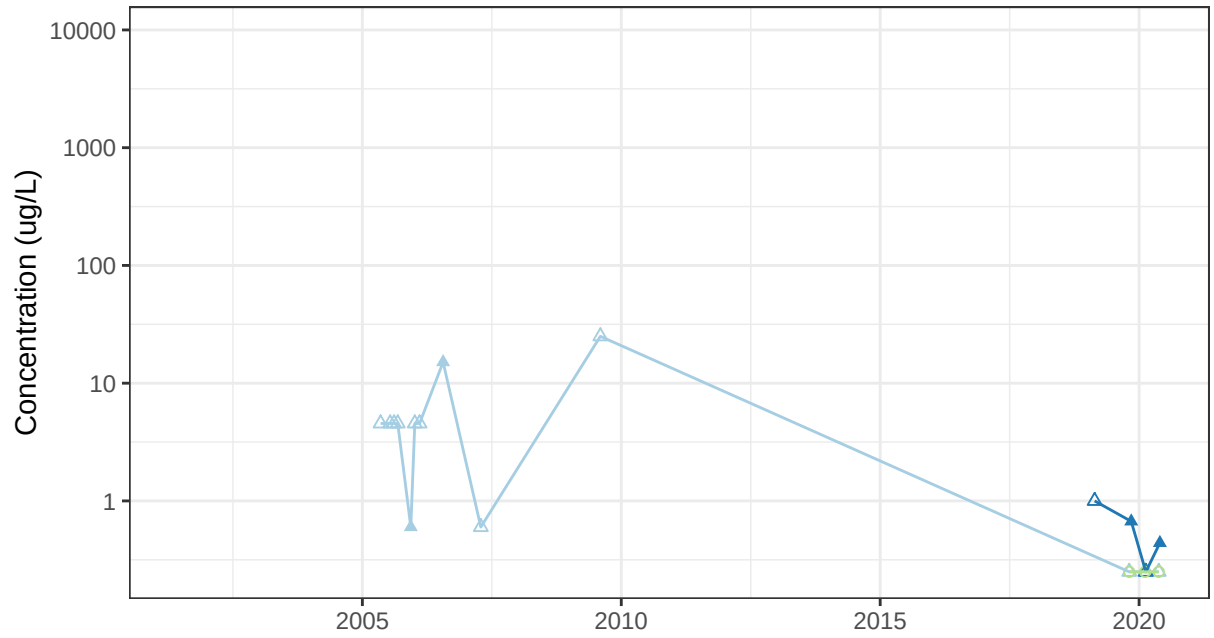
Chromium (VI) in Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−11I(D)
- MWA−15R
- MWA−20
- MWA−22
- MWA−42
- MWA−54I

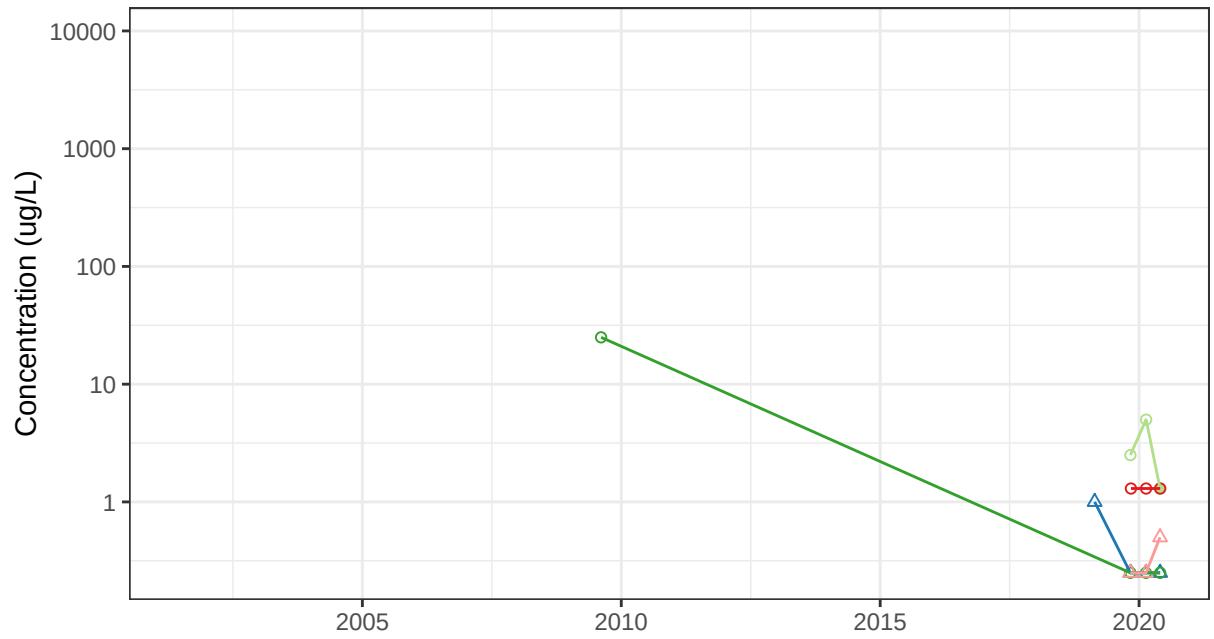
Chromium (VI) in Ends of Barrier Wall Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−63
- MWA−81I

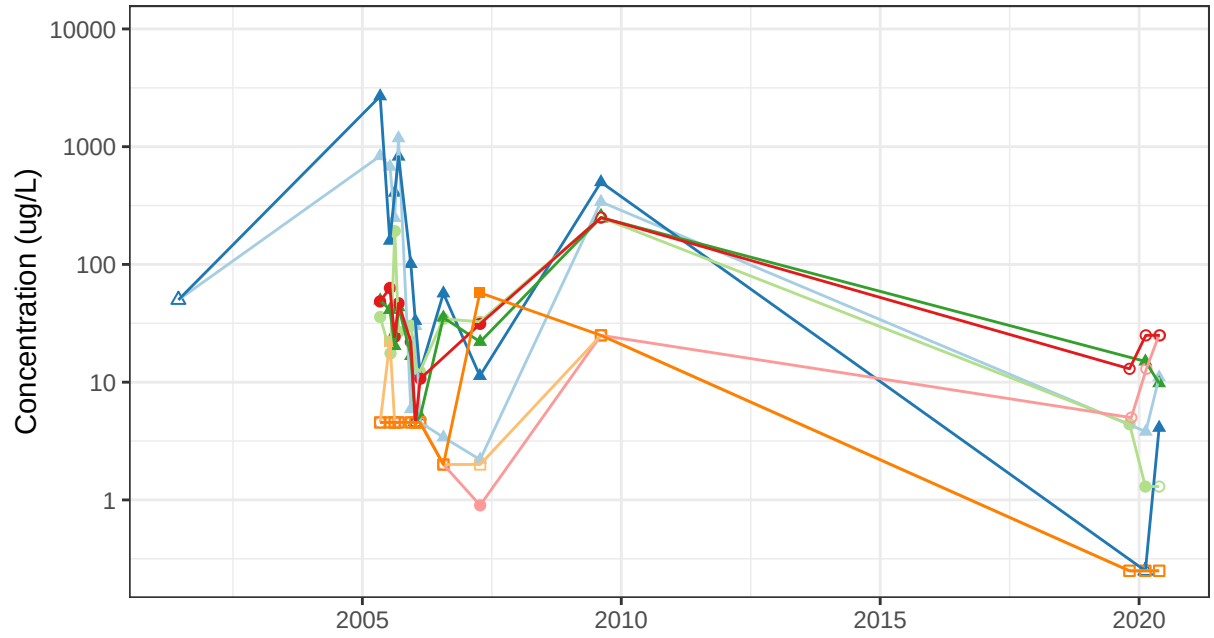
Chromium (VI) in Riverside North Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−2
- MWA−61
- MWA−64I
- MWA−66I
- MWA−69
- MWA−8I

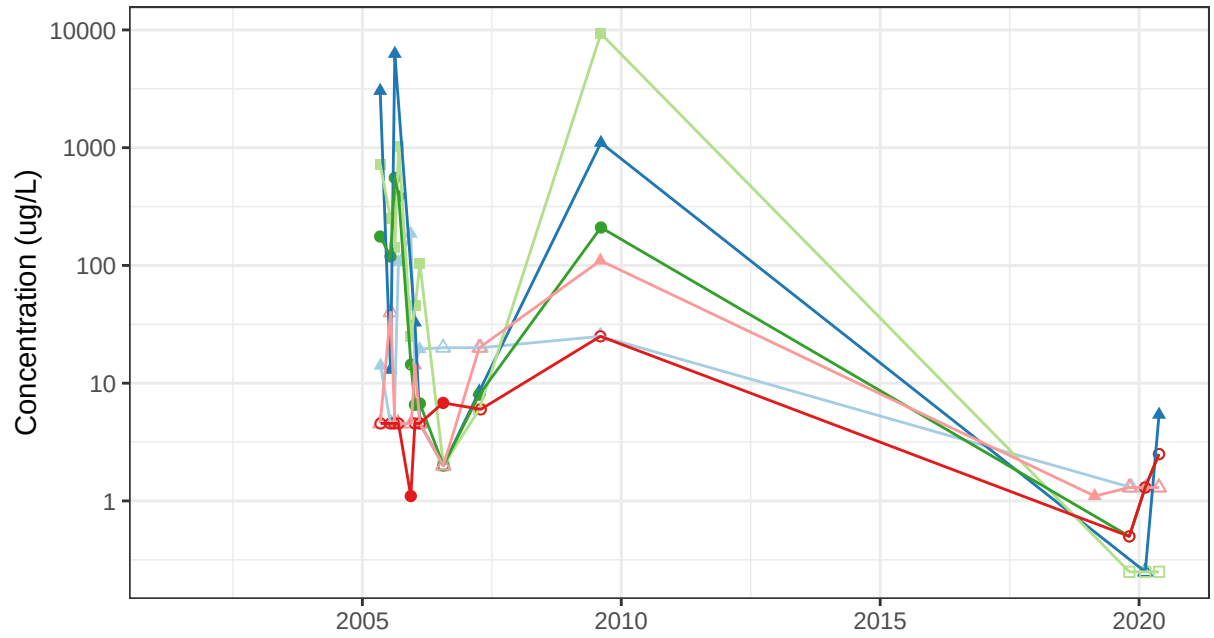
Chromium (VI) in Riverside Middle Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−18
- MWA−19
- MWA−34I
- MWA−46
- MWA−49I
- MWA−51I
- MWA−56D
- MWA−58D

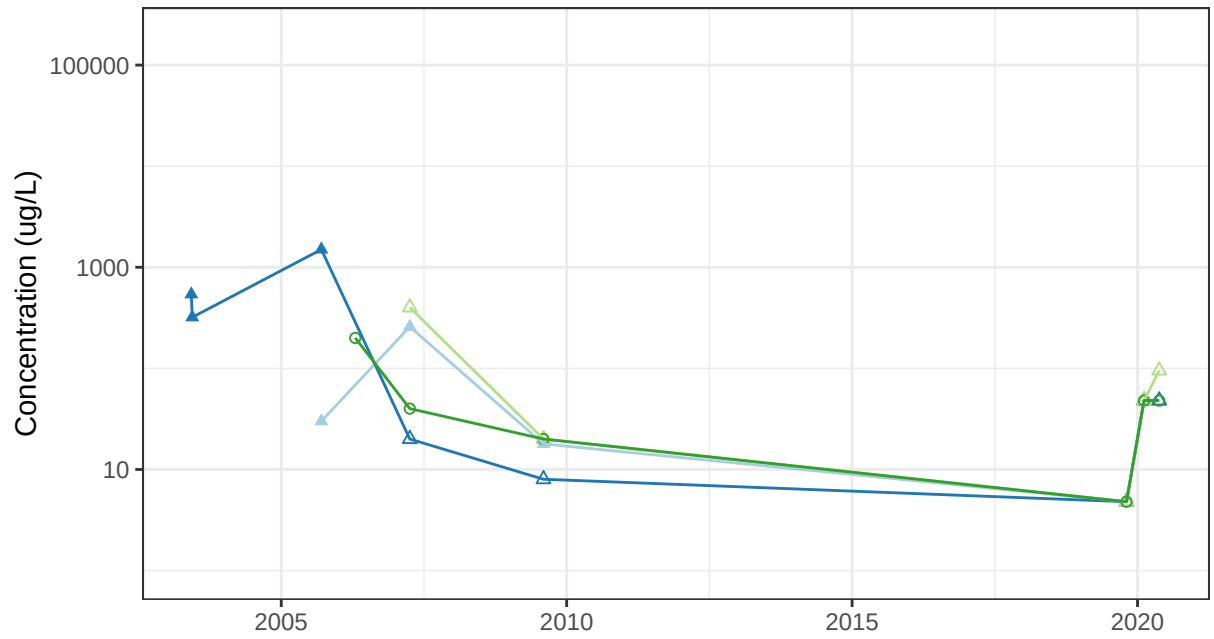
Chromium (VI) in Riverside South Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−29
- MWA−30
- MWA−31I(D)
- MWA−32I
- MWA−47
- MWA−53I

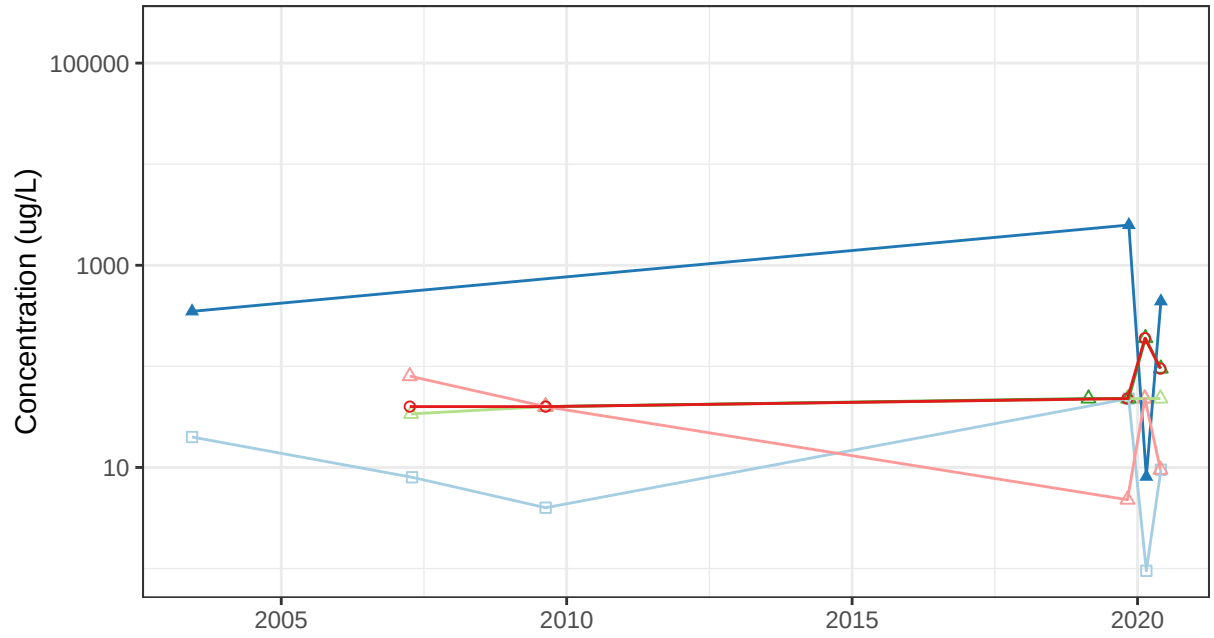
Perchlorate in Upgradient Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−24
- MWA−33
- MWA−40
- MWA−70I

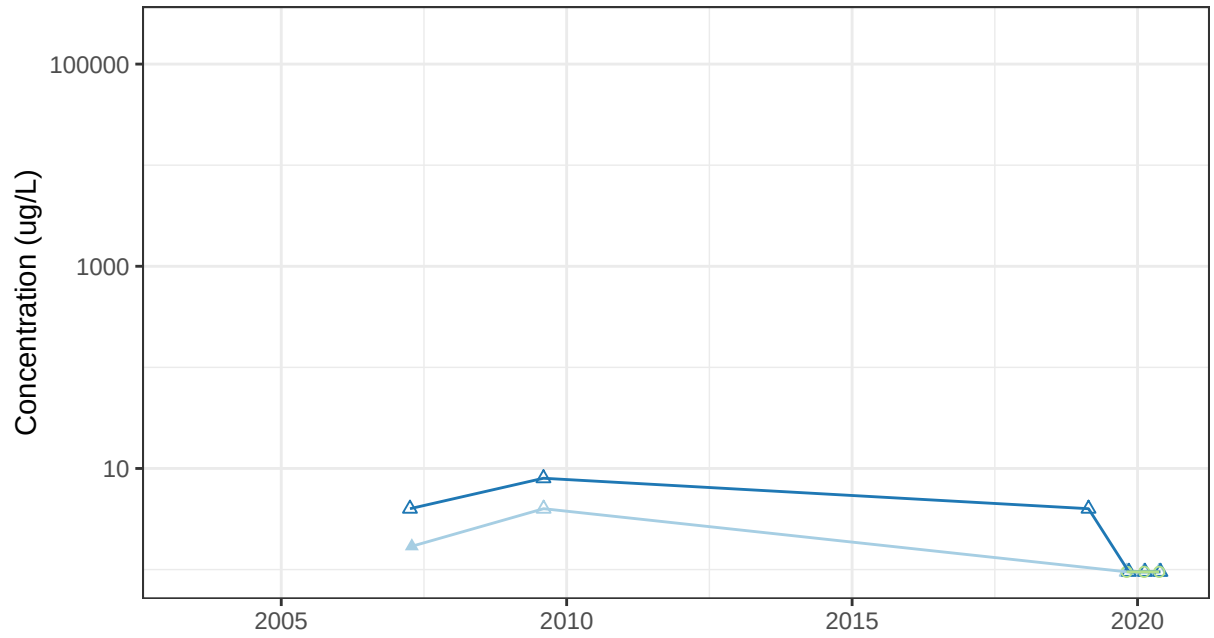
Perchlorate in Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−11I(D)
- MWA−15R
- MWA−20
- MWA−22
- MWA−42
- MWA−54I

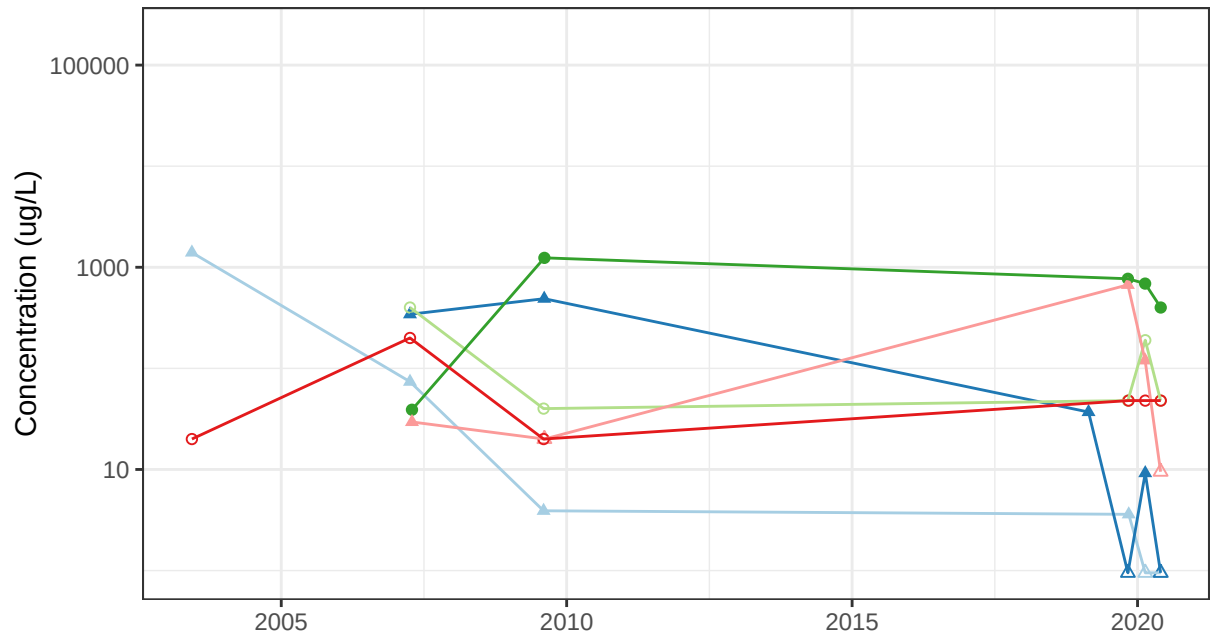
Perchlorate in Ends of Barrier Wall Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−63
- MWA−81I

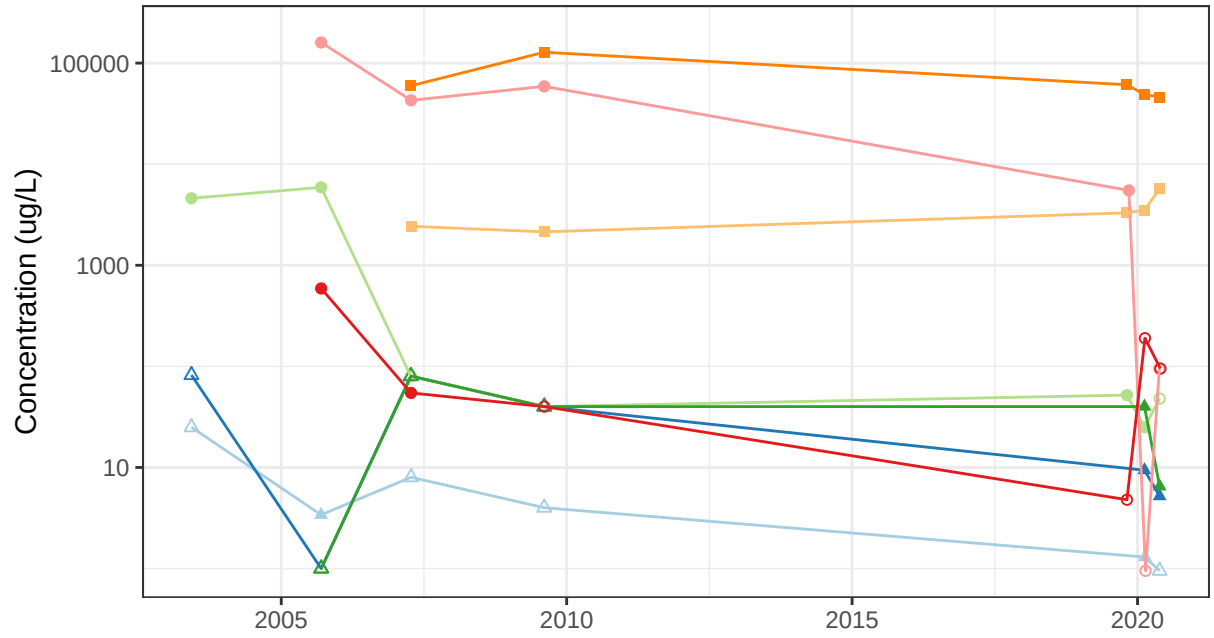
Perchlorate in Riverside North Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−2
- MWA−61
- MWA−64I
- MWA−66I
- MWA−69
- MWA−8I

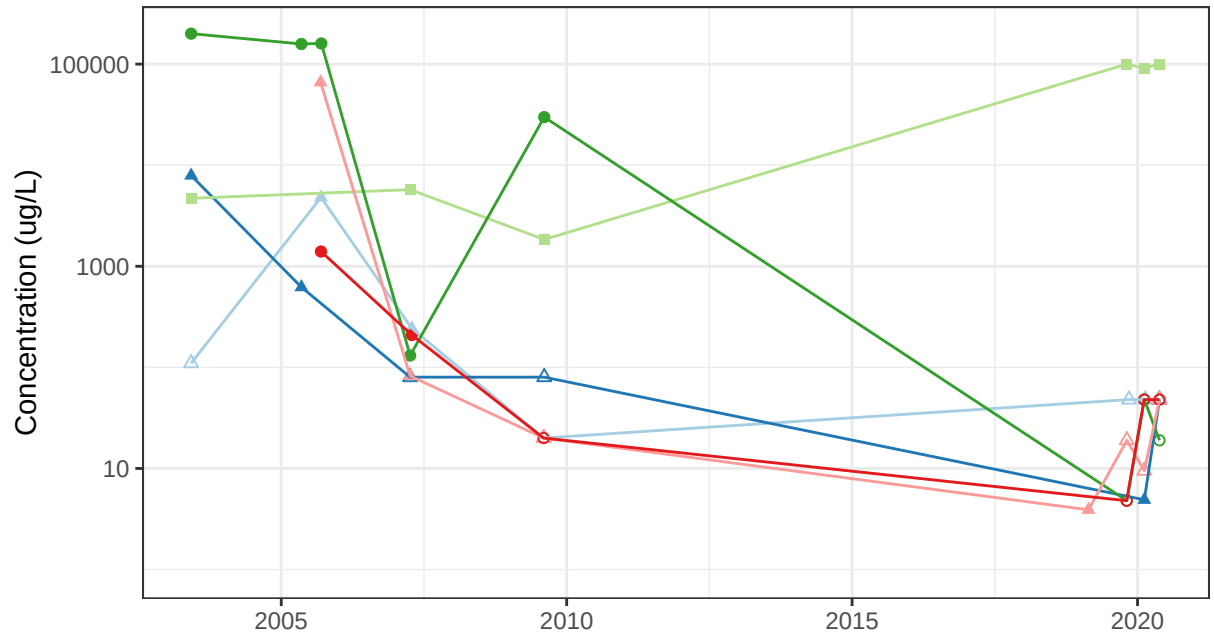
Perchlorate in Riverside Middle Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−18
- MWA−19
- MWA−34I
- MWA−46
- MWA−49I
- MWA−51I
- MWA−56D
- MWA−58D

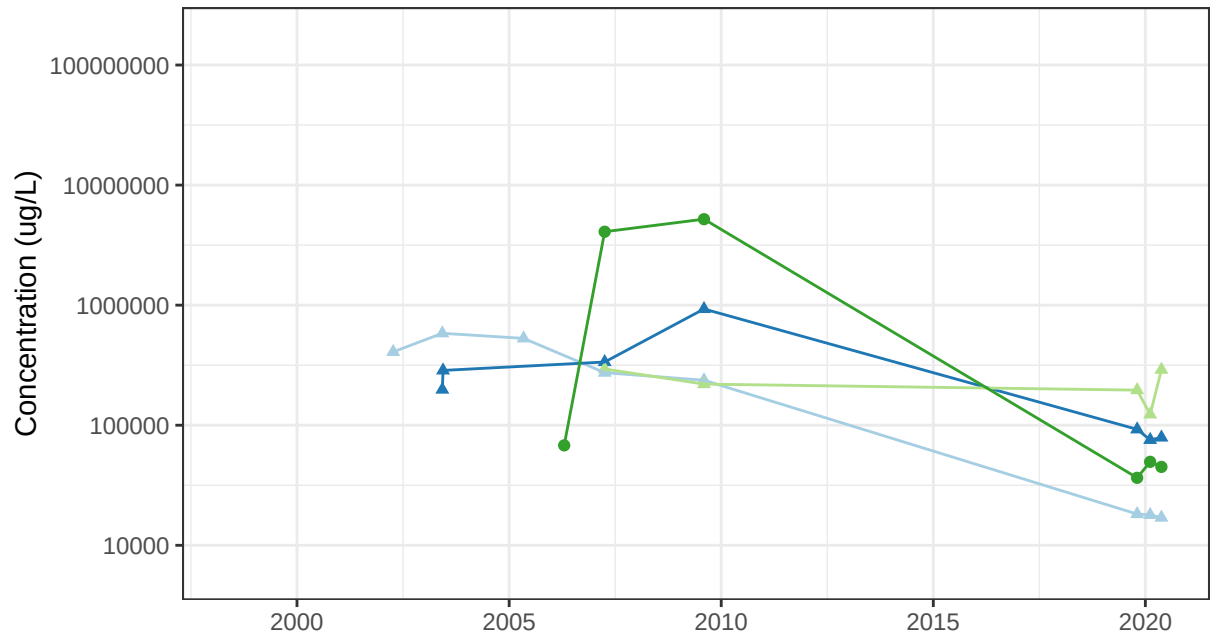
Perchlorate in Riverside South Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−29
- MWA−30
- MWA−31I(D)
- MWA−32I
- MWA−47
- MWA−53I

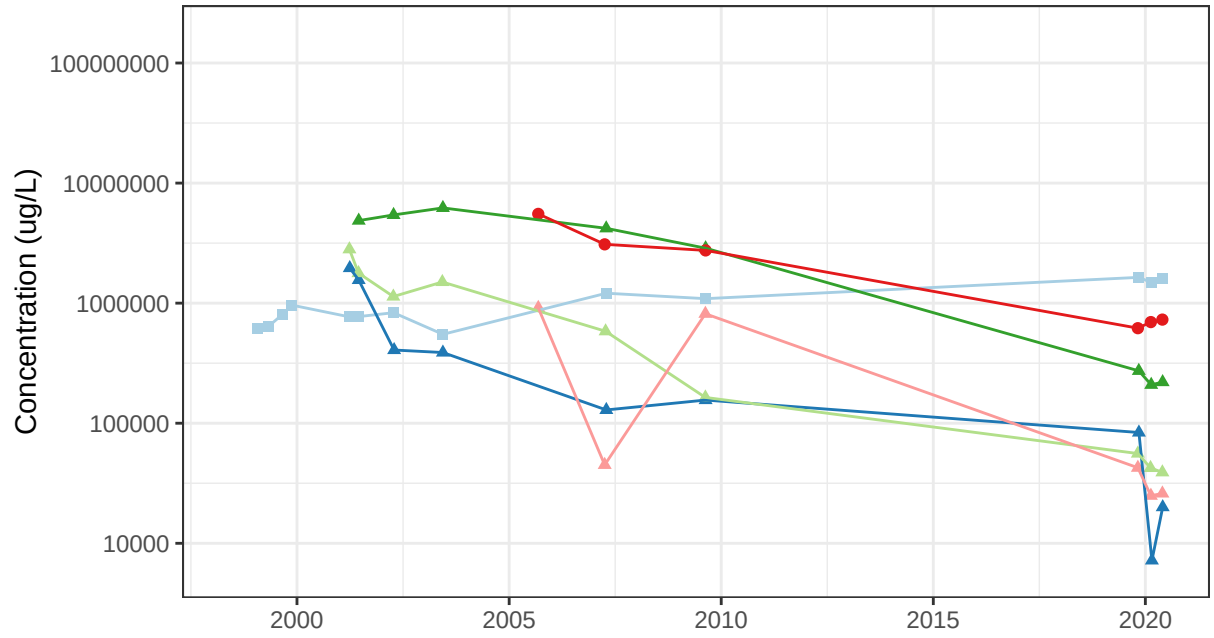
Chloride in Upgradient Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−24
- MWA−33
- MWA−40
- MWA−70I

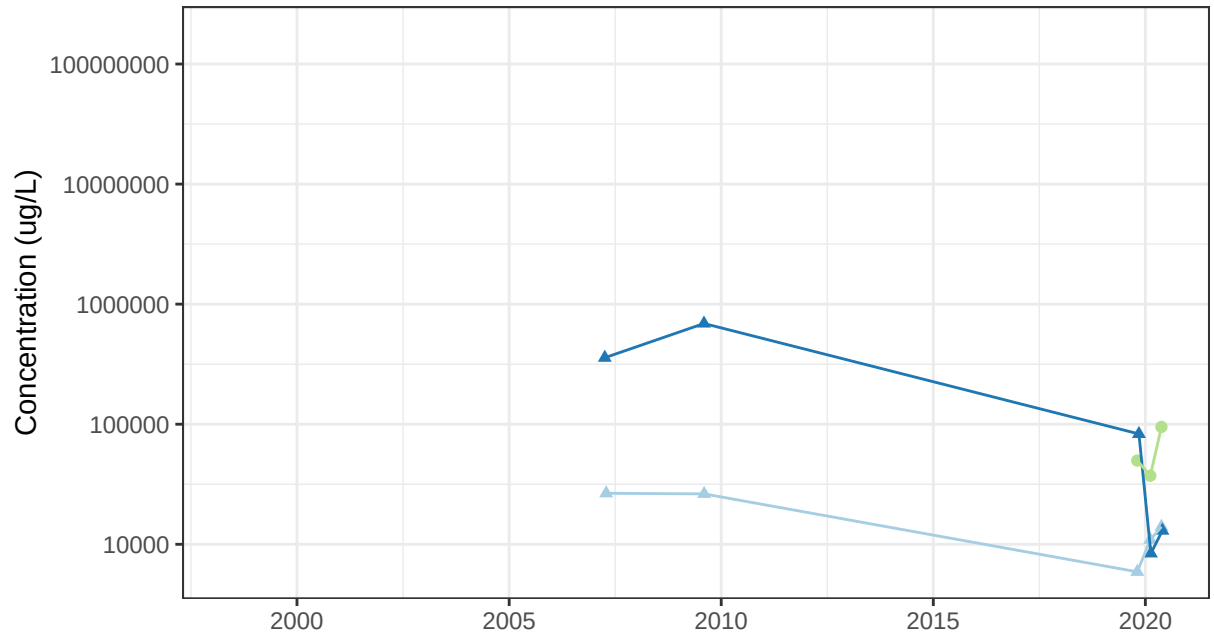
Chloride in Interior Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−11I(D)
- MWA−15R
- MWA−20
- MWA−22
- MWA−42
- MWA−54I

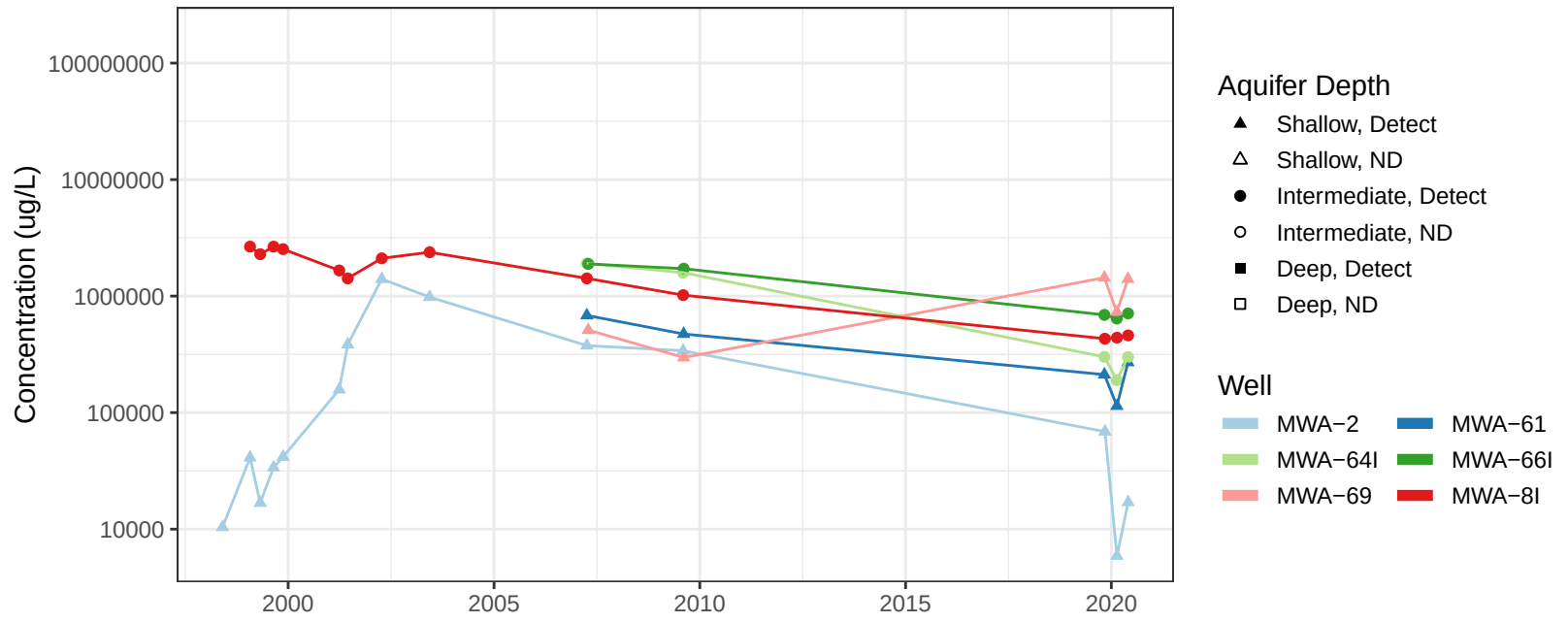
Chloride in Ends of Barrier Wall Wells



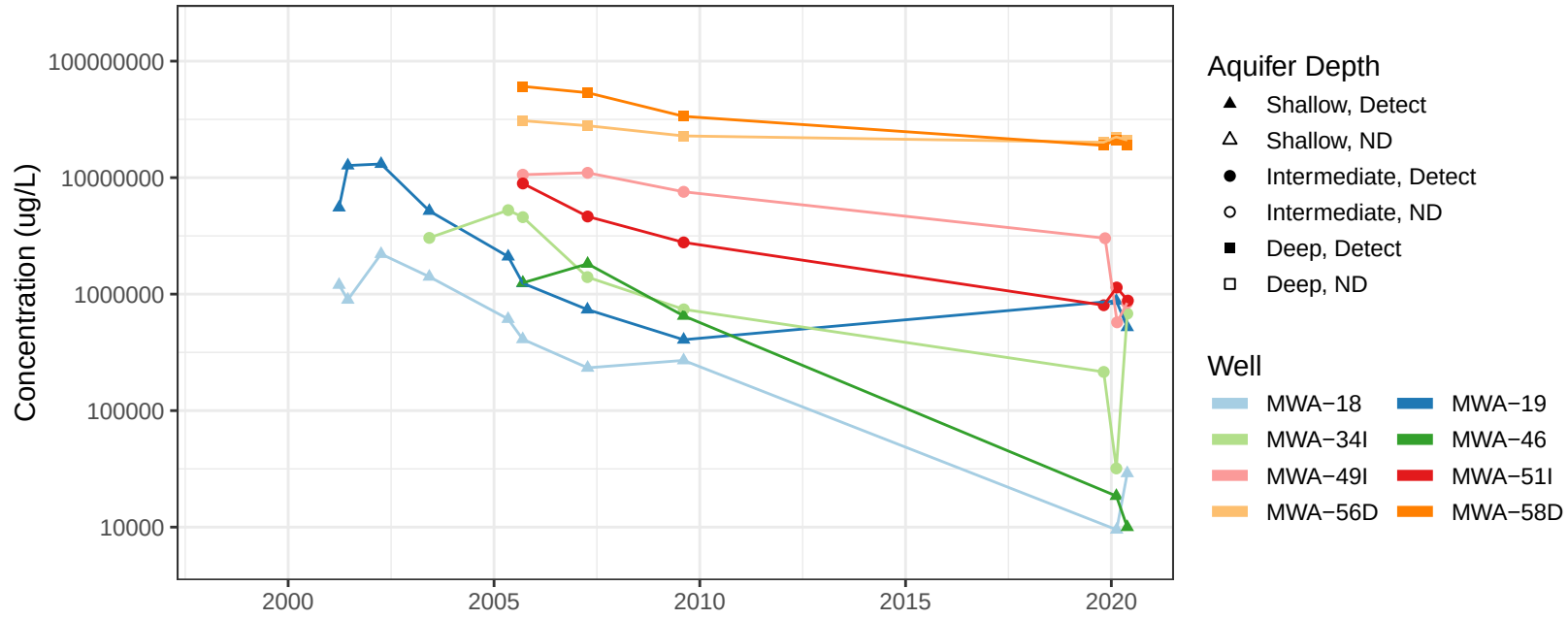
Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−63
- MWA−81I

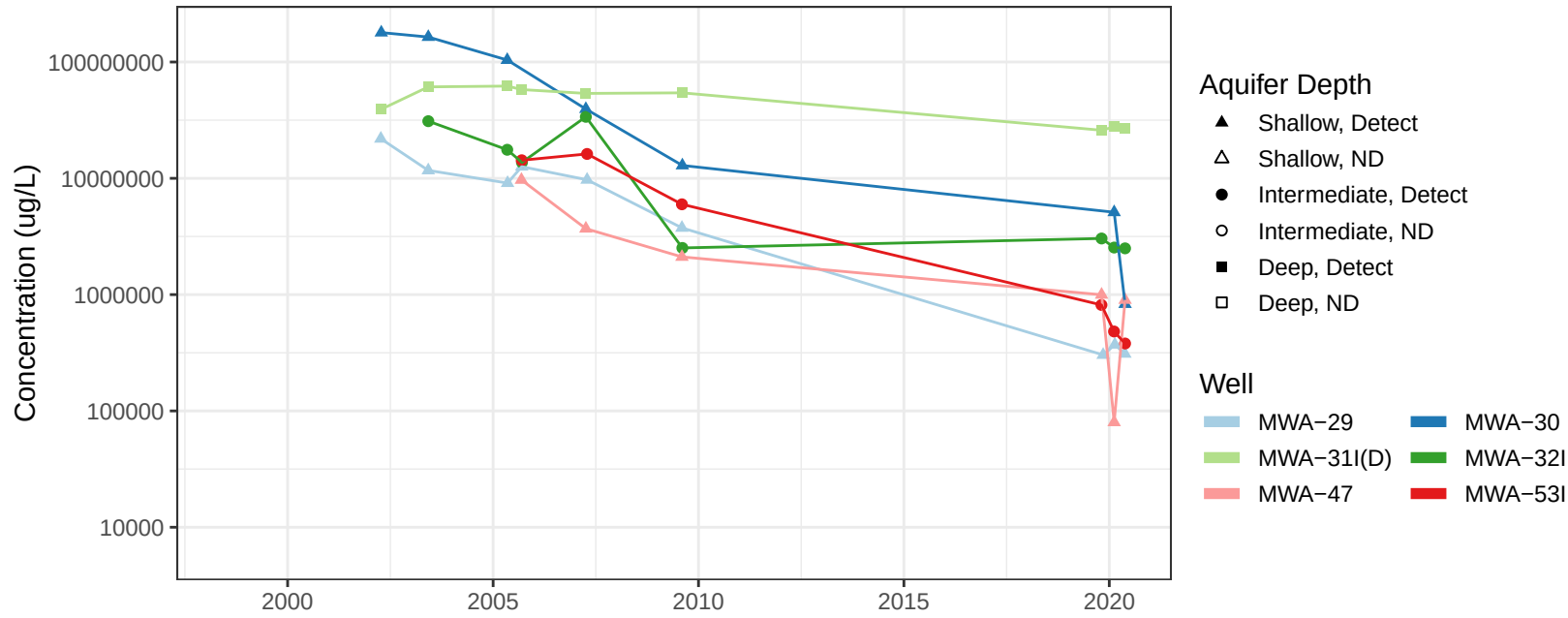
Chloride in Riverside North Wells



Chloride in Riverside Middle Wells



Chloride in Riverside South Wells



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