

Univar USA Inc.

2018 Annual Groundwater Monitoring Report

8201 South 212th Street, Kent, Washington;
Agreed Order No. DE 5988

30 March 2019

Project No.: 0487093

The business of sustainability

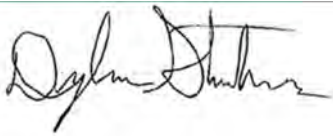


Signature Page

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8201 South 212th Street, Kent, Washington; Agreed Order No. DE 5988



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Acronyms and Abbreviations

AO	Agreed Order No. DE 5988
AST	Aboveground storage tank
bvcA	BAV1 VC reductase
cDCE	cis-1,2-dichloroethene
CAP	Cleanup Action Plan
CLARC	Cleanup Levels and Risk Calculation
CMP	Compliance Monitoring Plan
CUL	cleanup level
1,2-DCA	1,2-dichloroethane
Dhb	dehalobacter
Dhc	dehalococcoides
Ecology	Washington State Department of Ecology
EDR	Engineering Design Report
EPA	Environmental Protection Agency
ERM	Environmental Resources Management
FFS	Focused Feasibility Study
ft bgs	feet below ground surface
ft/ft	foot/foot
IHS	indicator hazardous substance
PCE	tetrachloroethene
PES	PES Environmental, Inc.
RI	Remedial Investigation
site	Univar facility located at 8201 South 212 th Street in Kent, Washington
SOW	scope of work
TCE	trichloroethene
tceA	TCE reductase
TOC	total organic carbon
Univar	Univar USA Inc.
UST	underground storage tank
VC	vinyl chloride
vcrA	vinyl chloride reductase
VOC	volatile organic compound
WAC	Washington Administrative Code
Name	Description

1. INTRODUCTION

Environmental Resources Management (ERM) has prepared this 2018 Groundwater Monitoring Report on behalf of Univar USA Inc. (Univar) to present monitoring results and summarize activities performed at the Univar facility located at 8201 South 212th Street in Kent, Washington (the “site”). The location of the site is shown on Figure 1. This report is being submitted pursuant to the requirements of Agreed Order No. DE 5988 (AO, [Ecology, 2008]) between Univar and the Washington State Department of Ecology (Ecology). The specific requirements for submittal of this report are in the AO Exhibit B scope of work (SOW) Task 3. This report covers the period beginning January 1, 2018 and ending December 31, 2018.

The work performed during the reporting period included:

- Semi-Annual Groundwater Monitoring (i.e., performance monitoring);
- Benzene Bioremediation Evaluation; and
- Dangerous Waste Permit Renewal Application.

On January 15, 2018, Univar provided notification of a new Univar Remediation Manager, Ms. Michelle Stayrook. Univar’s consultant for this site changed from AECOM to ERM in October 2018. As presented in the Third Quarter 2018 Cleanup Progress Report dated 18 October 2018, the project manager for ERM is Mr. Dylan Stankus.

On August 23, 2018, Univar submitted to Ecology the Resource Conservation and Recovery Act (RCRA) Corrective Action Permit Renewal Application for the Site. The renewal application is under review by Ecology.

In 2018 AECOM completed a benzene evaluation on behalf of Univar and the results were presented to Ecology on October 18, 2018. As documented in the Benzene Bioremediation Evaluation Report (AECOM, 2018), benzene concentrations exceeding the CUL of 0.8 ug/L were reported in off-site deep zone groundwater monitoring well MW-20. On November 29, 2018, representatives from Ecology, Univar, and ERM discussed the results of the benzene evaluation report. Ecology stated the nature and extent of benzene must be identified to fulfil the requirements under the AO. This report outlines the scope of work proposed in 2019 to complete delineation of benzene in the deep zone groundwater.

This report also includes a summary of site closure requirements and updates to cleanup levels per the Model Toxics Control Act Cleanup Regulation (Ecology 2013). This is further discussed in Section 3.0 of this report.

2. SITE DESCRIPTION AND HISTORY

Univar is a wholesale distributor of chemical products that it stores, packages, and distributes to meet customer needs. Univar has operated at the site since 1974. The current site plan is shown on Figure 2.

Historically, Van Waters & Rogers operated one 1,500-gallon and one 6,000-gallon aboveground storage tank (AST) containing dangerous waste, as well as, 37 underground storage tanks (USTs) of raw products at the site. According to PES Environmental, Inc. (2009a), the dangerous waste ASTs were taken out of service in 1982 (1,500-gallon tank) and in 1985 (6,000-gallon tank). There were no known releases from the former dangerous waste ASTs during their operating history. The 37 USTs were removed in 1985 and 1986 (PES 2005). This area is currently covered by a concrete pad constructed in approximately 1985. The former USTs are suspected to have impacted soil and groundwater at the site (Figure 2).

Site soil and groundwater investigations completed from 1994 to 2008 indicated that volatile organic compounds (VOCs) were present in the subsurface at concentrations above the applicable Model Toxics Control Act cleanup levels (CULs). Starting in 1998, Univar conducted environmental investigations under Ecology's Voluntary Cleanup Program; in 2008, Univar entered into negotiations with Ecology for an Agreed Order that would cover future remedial action at the site. The AO was finalized and became effective on November 20, 2008.

A combined revised Remedial Investigation (RI), Focused Feasibility Study (FFS) addendum, and draft Cleanup Action Plan (CAP) were developed in 2009 (PES 2009). The document summarized the soil and groundwater data that was collected through 2008, developed CULs for soil and groundwater indicator hazardous substances (IHSs) at the site, and recommended cleanup actions. The combined RI, FFS, and CAP fulfilled the requirements of the AO Exhibit B SOW Task 1. The RI identified IHSs immediately east of the warehouse building (Figure 2) as follows:

- Vadose zone and saturated zone soil to a depth of approximately 25 feet below ground surface [ft bgs]);
- Shallow (i.e., approximately 4 to 20 ft bgs) groundwater in the uppermost water-bearing unit (i.e., shallow zone groundwater); and
- Deep (i.e., approximately 33 to 49 ft bgs) groundwater in the uppermost water-bearing unit (i.e., deep zone groundwater).

Following Ecology approval of the draft CAP, a Final Engineering Design Report (EDR) was developed in 2010 (PES 2010). The EDR presented the procedures, schedule, and goals for implementation of the cleanup action. A Compliance Monitoring Plan (CMP) was included as an Appendix to the EDR to describe monitoring requirements to demonstrate the protection of workers and effectiveness of the cleanup action in accordance with Washington Administrative Code (WAC) 173-340-410 (i.e., protection monitoring, performance monitoring, and conformational monitoring). The CMP fulfilled requirements of the AO Exhibit B SOW Task 2. Univar began implementation of the cleanup action in 2011 and, in general, it included the following:

- Enhanced bioremediation injections in 2011 at targeted groundwater source areas in the shallow zone (i.e., MW-5 source area) and deep zone (i.e., MW-13/MW-21 source area);
- Monitored natural attenuation to address residual contamination in non-source areas in soil and groundwater; and
- Institutional controls to protect human health and the environment.

Implementation of the final cleanup action was documented in the Construction Report dated 12 March 2012 (PES 2012).

3. SITE CLOSURE REQUIREMENTS

The IHSs and associated CULs for the site are presented in Table 1. The CULs are based on Ecology's current Cleanup Levels and Risk Calculation (CLARC) toxicity values. The CULs for some of the IHSs have been revised by Ecology since they were first documented in the revised RI, FFS addendum, and draft CAP (PES 2009a). Those revisions are based on updated toxicity data from the Environmental Protection Agency (EPA) and other changes to CLARC CULs per the Model Toxics Control Act Cleanup Regulation (Ecology 2013). These updates include elimination of a CUL for chloroethane (i.e., ethyl chloride [Chemical Abstract Number 75-00-3]).

The standard point of compliance for direct contact with soil throughout the site is from the ground surface to a depth of 15 feet. For groundwater, the standard point of compliance is the affected portion of the aquifer throughout the site; however, in a case when attaining CULs throughout the site is impractical, a conditional point of compliance for groundwater can be established at the downgradient property line (WAC 173-340-720(8)(c)).

The goals of the final cleanup action as summarized in the CAP are as follows:

- Maintain the existing asphalt and concrete cover to minimize the potential for IHSs to leach from soil to groundwater.
- Implement institutional controls for incidental ingestion of and dermal contact with soil exceeding the applicable CULs and for inhalation of particulates and vapors from soil exceeding the applicable CULs by subsurface construction workers on-site.
- Control migration of groundwater containing IHSs at concentrations exceeding the applicable CULs.
- Control incidental ingestion and dermal contact with groundwater exceeding the applicable CULs, and control inhalation of vapors from groundwater exceeding the applicable CULs by subsurface construction workers on site.

Compliance monitoring is being conducted to demonstrate protection of workers and effectiveness of the final cleanup action for soil and groundwater in accordance with the CMP (PES 2010). Compliance monitoring includes the following:

- Protection monitoring in accordance with WAC 173-340-410(1)(a), which was conducted to confirm the protection of human health and the environment during implementation of the final cleanup action and is documented in the Construction Completion Report (PES 2012);
- Performance monitoring in accordance with WAC 173-340-410(1)(b), which consists of groundwater quality and injection performance monitoring and is currently being performed to assess the progress of the cleanup action toward attaining cleanup standards; and
- Confirmational groundwater monitoring in accordance with WAC 173-340-410(1)(c), which will be performed following attainment of cleanup standards to demonstrate the long-term effectiveness of the cleanup action.

Upon consistent attainment of CULs at the point of compliance for IHSs during confirmational groundwater monitoring, a formal request for a “no further action” determination will be submitted to Ecology.

4. WORK PERFORMED IN 2018

The work performed during the reporting period included the following is described in further detail in the subsections below.

4.1 Performance Groundwater Monitoring

Groundwater monitoring activities were conducted in accordance with the Ecology-approved CMP (PES 2010). This monitoring included collection of hydraulic data from the monitoring well network and sampling groundwater from monitoring wells identified for injection performance monitoring and groundwater performance monitoring in the CMP (PES 2010). The 2018 semi-annual groundwater monitoring events were completed in March and September. Locations of groundwater monitoring wells are shown on Figure 2.

Water level measurements were collected using an electronic water level meter. Water levels from the monitoring well network were measured on 19 March and 10 September 2018.

Groundwater samples were collected from the monitoring well network from 20 March to 21 March 2018 and from 11 September to 12 September 2018. Groundwater samples were collected using standard low flow sampling techniques, a peristaltic pump, and dedicated sampling tubing. Groundwater samples were submitted under standard chain-of-custody to SGS laboratories and analysed for VOCs and injection performance parameters, as detailed in Table 2a.

4.1.1 Groundwater Elevations

Water level measurements from the monitoring well network and the corresponding groundwater elevation data are included in Table 3. The monitoring well water level gauging field notes are included in Appendix A. Historical groundwater elevations are included as Table B1 in Appendix B.

4.1.1.1 Shallow Zone Groundwater

Twelve wells were gauged in the shallow zone during each monitoring event. The shallow zone hydraulic conditions are generally described as a mound near MW-1 with groundwater flow to the north, east, and southeast. Groundwater flow direction in March 2018 was predominately to the north, with a hydraulic gradient of approximately 0.012 foot/foot (ft/ft) (Figure 3). Groundwater flow direction in September 2018 was predominately to the east with a hydraulic gradient of approximately 0.007 ft/ft (Figure 4). Shallow zone groundwater elevations measured in March 2018 were approximately 2.1 feet higher than September 2018.

4.1.1.2 Deep Zone Groundwater

Fourteen wells were gauged in the deep zone during each monitoring event. The groundwater flow direction in March 2018 was to the north and northwest with a relatively flat hydraulic gradient of approximately 0.0006 ft/ft (Figure 5). The groundwater flow direction in September 2018 was north, northwest, and west with a relatively flat hydraulic gradient of approximately 0.0003 to 0.0005 ft/ft (Figure 6). Deep zone groundwater elevations measured in March 2018 were approximately 1.8 feet higher than September 2018.

4.1.1.3 Vertical Gradients

The differences in hydraulic head and corresponding potential vertical groundwater flow between upper and lower geologic units at the Site were determined by assessing the average groundwater elevations in the shallow zone and deep zone groundwater wells. Shallow zone groundwater elevations observed in March 2018 were approximately 0.35 feet higher than those in the deep zone, indicating a slight downward vertical hydraulic gradient. The difference in shallow zone and deep zone groundwater elevations in September 2018 was approximately 0.08 feet, indicating low potential for downward vertical flow.

The shallow zone and deep zone groundwater elevations in 2018 are generally consistent with seasonal trends and historical observations.

4.1.2 Groundwater Quality Results

Field parameters (temperature, pH, electrical conductivity, oxidation reduction potential, and dissolved oxygen) were monitored continuously during well purging using a flow-through cell and water quality meter. Purging was considered complete when temperature, pH, and electrical conductivity had stabilized for three consecutive 3-minute intervals. The groundwater sampling field notes, including field parameter

data, are presented in Appendix A. Groundwater field parameters measured immediately prior to sample collection are presented in Table 4. Groundwater samples were collected in laboratory-supplied sample containers, marked with identifying information, and maintained under chain-of-custody protocols.

IHSs concentrations from groundwater samples collected at performance monitoring locations in March and September 2018 are summarized in Table 5. A copy of the laboratory analytical data reports are included in Appendix C. IHS concentrations in groundwater were compared to the CULs. Locations where IHSs were detected at concentrations exceeding their CULs are shown on Figures 7 through 10.

The laboratory analytical data were validated consistent with Section 5.0 of the CMP (Appendix D of the EDR [PES 2010]). The trip blank results associated with lab report FA52791 were determined to be unusable due to holding time exceedance. Additionally, select VOCs and dissolved gases in samples MW-4-032118, MW-9-032018, MW-13-032118, MW-22-032118, and MW-23-032118 were rejected due to receipt temperature exceedances. With the exception of the rejected results, 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. Data validation memoranda are presented in Appendix C, following the laboratory analytical data reports.

4.1.2.1 Shallow Zone Groundwater

The following observations are provided based on performance monitoring for groundwater quality in the shallow zone:

- Field parameters data collected in March and September 2018 indicate that the shallow zone groundwater has a neutral pH and is slightly reducing and anoxic (Table 4).
- In March 2018, groundwater samples from 7 of the 12 shallow zone monitoring locations either had no detectable IHSs or concentrations of IHSs were below the CULs. Groundwater samples from 5 of the 12 shallow zone monitoring locations had reported concentrations of one or more IHS (i.e., tetrachloroethene [PCE], trichloroethene [TCE], cis-1,2-dichloroethene [cDCE], vinyl chloride [VC], and benzene), exceeding the CULs (Table 5, Figure 7).
- In September 2018, groundwater samples from 3 of the 12 shallow zone monitoring locations had no detectable IHSs or concentrations of IHSs were below the CULs. Groundwater samples from 9 of the 12 shallow zone monitoring locations had reported concentrations of one or more IHS (i.e., PCE, TCE, cDCE, VC, and benzene), exceeding the CULs (Table 5, Figure 8).
- No off-site migration of groundwater containing IHS concentrations exceeding the applicable CULs is evident within the shallow zone groundwater.

4.1.2.2 Deep Zone Groundwater

The following observations are provided based on the groundwater monitoring in the deep zone:

- Field parameters data collected in March and September 2018 indicate that deep zone groundwater has a neutral pH and is slightly reducing and anoxic (Table 4).
- In March 2018, groundwater samples from 9 of 13 deep zone monitoring locations either had no detectable IHSs or concentrations of the IHSs were below the CULs. Groundwater samples from 4 of the 13 deep zone monitoring locations had reported concentrations of one or more IHS (i.e., 1,2-dichloroethane [1,2-DCA], benzene, ethylbenzene, and total xylenes), exceeding the CULs (Table 5, Figure 9).
- In September 2018, groundwater samples from 7 of the 13 deep zone monitoring locations either had no detectable IHSs or concentrations of the IHSs were below the CULs. Groundwater samples from

6 of the 13 deep zone monitoring locations had reported concentrations of one or more IHS (i.e., 1,2-DCA, VC, benzene, and total xylenes), exceeding the CULs (Table 5, Figure 10).

- Groundwater containing IHSs at concentrations exceeding the applicable CULs is controlled on-site with the exception of benzene, which was reported at concentrations exceeding its CUL in groundwater samples from off-site monitoring well MW-20.

4.1.3 Groundwater Quality Trends

Groundwater quality data from April 1995 through October 2010 is included in Appendix D, whereas groundwater quality data from March 2010 onward is provided in Table 5. Time versus IHS concentration trend plots have been updated to include the March and September 2018 results, and the updated trend plots are provided in Appendix E. The plots (Figures E1 through E48) include selected parent IHSs (1,1,1-trichloroethane and PCE) and their breakdown products (1,1-dichloroethane, TCE, 1,1-dichloroethene, cDCE, chloroethane, and VC). Benzene trend plots have also been prepared for select wells (MW-16, MW-17, MW-19, and MW-20) located within or near the benzene impacts in deep zone groundwater (Figures E31, E33, E37, and E39). A trend plot for concentrations of benzene, ethyl benzene, toluene, and total xylenes in MW-21 was also prepared (Figure E42).

4.1.3.1 Shallow Zone Groundwater

Based on trend plots in Appendix E, the following IHS concentration trend observations can be made for shallow zone groundwater since approximately 2013:

- The concentrations of IHSs in shallow zone groundwater at MW-02, MW-06, and MW-10 have been either stable or decreasing at levels below the CULs.
- The concentrations of benzene, ethylbenzene, toluene, and total xylenes in shallow zone groundwater throughout the site, with one exception, have been stable or decreasing at levels below the CULs. The exception is MW-4, which has had stable or decreasing concentrations of benzene at levels exceeding its CUL.
- The concentrations of PCE and its breakdown products in shallow zone groundwater at MW-01, MW-03, MW-04, MW-05, MW-07, MW-08, MW-09, MW-12, and MW-23 have been generally stable or slightly decreasing at levels exceeding their CULs.
- The concentrations of reductive dechlorination breakdown products cDCE, chloroethane, and VC have varied in the source area wells over the project duration with some intermittent increases that are indicative of reductive dechlorination.
- IHS concentrations have been generally stable or decreasing since groundwater monitoring began and indicate the long-term effectiveness of enhanced bioremediation, institutional controls (i.e., maintain asphalt and concrete covering), and natural attenuation at controlling migration of shallow zone groundwater containing IHSs at concentrations that exceed the applicable CULs.

4.1.3.2 Deep Zone Groundwater

Based on trend plots in Appendix E, the following IHS concentration trend observations can be made for deep zone groundwater:

- Over the past 4 to 5 years (since approximately 2013 and 2014, depending on the date of well installation), the concentrations of IHSs in deep zone groundwater at MW-14, MW-15, MW-18, MW-27 (on-site), and MW-28 (off-site) have been either stable or decreasing at levels below the CULs.

- The concentration of benzene in deep zone groundwater at MW-17, MW-19, and MW-20 is stable or slightly decreasing at levels that exceeded its CUL.
- The concentration of ethylbenzene in deep groundwater at MW-21 is stable to decreasing at levels that exceed its CUL.
- The concentration of total xylenes in deep groundwater at MW-21 is increasing at levels that exceed its CUL.

4.1.4 Injection Performance Results

Groundwater injection performance parameters (total organic carbon [TOC], dissolved gases, and microbial analysis) from samples collected at performance monitoring locations in March and September 2018 are summarized in Tables 6 and 7. The laboratory analytical data reports for these parameters are included in Appendix C. Historical injection performance data (i.e., general chemistry, microbial analysis, and TOC) are included in this report as tables D-3 through D-5 in Appendix D. Microbial and vinyl chloride concentration trend plots have been updated to include data collected in September 2018 for evaluation of enhanced bioremediation progress at injection performance wells MW-13, MW-21, and MW-22. These trend plots are included as Figures E49 through E51 in Appendix E.

4.1.4.1 Shallow Zone Groundwater

The following injection performance observations are provided based on monitoring in shallow zone monitoring wells MW-5, MW-7, MW-12, and MW-23:

- TOC in shallow zone groundwater has decreased and is currently stable at pre-injection concentrations (Table 6).
- Methane is detected in shallow zone groundwater at MW-5 and MW-12 at concentrations ranging from one to two orders of magnitude higher than pre-injection concentrations, but the methane concentrations have generally decreased from the maximum levels detected in 2012 and 2013. Ethene and ethane concentrations were non-detect (Tables 6 and D-4).
- Concentrations of dehalococcoides (Dhc), dehalobacter (Dhb), and VC reductase (vcrA) have consistently been low in shallow zone source area wells MW-5 and MW-12 and nearby monitoring well MW-7 over the last 5 years (Table 7).
- Microbial analysis results in 2018 (i.e., Dhc, Dhb, vcrA, BAV1 VC reductase [bvcA] and TCE reductase [tceA]) were at or less than 103 cells/liter (Table 7).
- The injection performance monitoring data indicate that reductive dechlorination is likely occurring at a slow rate and that continued reductions in IHS concentrations are attributable to natural attenuation.

4.1.4.2 Deep Zone Groundwater

The following injection performance observations are provided based on monitoring in deep zone monitoring wells MW-13, MW-17, MW-18, MW-21, and MW-22:

- TOC in deep zone groundwater is currently stable at low concentrations reflective of pre-injection conditions (Table 6).
- Elevated methane and ethane concentrations are generally consistent with the initial post-injection concentrations detected in 2012 and 2013. The high ratio of methane to ethane/ethene concentrations may be indicative of slow reductive dechlorination in favor of methanogenesis (Tables 6 and D-4).

- Moderate concentrations of Dhc and vcrA of 105 to 106 cells/liter were detected in source area monitoring wells MW-13 and MW-21, and moderate to non-detectable concentrations were noted in MW-22 (104 to 103 cells/liter). Moderate to non-detectable concentrations of Dhb were reported in MW-13, MW-21, and MW-22 (Table 7).
- In 2018, the analyses for bvcA and tceA indicated a moderate concentration of bvcA (105 cells/liter) in MW-21, while low concentrations of bvcA were reported in MW-13 and MW-22. Low to non-detectable concentrations of tceA (at or less than 103 cells/liter) were reported in MW-13, MW-21, and MW-22 (Table 7).
- The injection performance monitoring data indicate that reductive dechlorination is occurring at a slow rate and that continued reductions in IHS concentrations are attributable to natural attenuation.

4.1.5 Recommendations

Based on the 2018 groundwater monitoring results and review of historical IHS concentration data (including tabulated results and time versus concentration trend plots), the following recommendations are made:

- Performance monitoring for groundwater quality should continue at shallow zone groundwater monitoring locations to continue to document that groundwater containing IHSs at concentrations exceeding the CULs remains within the site boundary and that no off-site migration is occurring.
- Performance monitoring for groundwater quality should continue at deep zone groundwater monitoring locations to continue to assess performance of the cleanup actions against the cleanup action goals related to controlling off-site migration of groundwater containing IHSs at concentrations exceeding the CULs.
- Review of injection performance data in the shallow zone and deep zone indicate that stable or decreasing trends observed in IHSs are attributable to natural attenuation. These parameters (TOC, dissolved gasses, and microbial analysis) have remained largely unchanged since 2014 (approximately 2 years following the enhanced bioremediation injections). Based on these observations, removal of the injection performance monitoring parameters from the performance monitoring program is warranted and reasonable. Performance monitoring should be limited to groundwater quality parameters. Table 2b shows the proposed modifications to the groundwater monitoring program.

5. WORK PLANNED FOR 2019

5.1 Performance Monitoring

Upon Ecology's approval of the groundwater monitoring program modifications provided in Section 3.1.5, ERM will conduct two rounds of performance monitoring (i.e., groundwater quality) on behalf of Univar at the site as outlined in Table 2b. The planned activities include:

Complete water level monitoring to support evaluation of aquifer conditions, including hydraulic head and corresponding potential vertical groundwater flow.

Collect field parameters for evaluation of geochemical conditions.

Collect groundwater samples in accordance with the performance monitoring (i.e., groundwater quality) requirements in Table 2b.

5.2 Delineation of Benzene in Deep Groundwater

As discussed with Ecology, additional investigation is warranted to identify the nature and extent of benzene identified in deep groundwater downgradient of the site. Current activities include:

- Development of a well installation plan that proposes the location and construction details of a new monitoring well to delineate the off-site extent of benzene in deep groundwater downgradient of the site.
- Work with the adjacent property owner, Olympic Steamship, to negotiate an access agreement for the monitoring well installation, groundwater monitoring, and future well decommissioning activities.
- Implement the work described in the well installation plan and present the data in the next Annual Groundwater Monitoring Report.

5.3 Communications

Univar proposes to provide updates to Ecology via progress reports in 2019 on a semi-annual basis instead of quarterly. The purpose of these updates is to communicate progress of performance monitoring and provide updates regarding planned off-site investigations.

In addition, it is anticipated the Dangerous Waste Permit will be renewed. In the interim, Univar will continue to operate under the current permit.

6. REFERENCES

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TABLES

March 2019

Table 1
Cleanup Levels for IHSs in Groundwater
Univar USA, Inc.
Kent, Washington

Indicator Hazardous Substance	Cleanup Level (µg/L)
Benzene	0.80
Toluene	1,000
Ethylbenzene	700
Total Xylenes	1,600
1,2,4-Trimethylbenzene (1,2,4-TMB)	400
1,2-Dichloropropane (1,2-DCP)	0.64
Chloroethane ¹	-
Chloroform	7.2
1,1-Dichloroethane (1,1- DCA)	800
1,2-Dichloroethane (1,2-DCA)	0.50
1,1-Dichloroethene (1,1-DCE)	7.0
Cis-1,2-Dichloroethene (cis-1,2-DCE)	70
Methylene Chloride	5.0
Trichloroethylene (TCA)	200
Trichloroethylene (TCE)	4.0
Perchloroethylene (PCA)	0.86
Vinyl chloride (VC)	0.50

Notes:

¹ = Cleanup level for chloroethane adjusted according to updates to CLARC database. Previous cleanup level of 15 µg/L for chloroethane (ethyl chloride) adjusted to "researched-no data" based on updated toxicity values from EPA (December 2010).

µg/L= micrograms per liter

Table 2a
Current Performance Monitoring Schedule
Univar USA, Inc.
Kent, Washington

Monitoring Well	Groundwater Elevation Measurement	Water Quality VOCs	Injection Performance		
			TOC	Dissolved Gasses	Microbial Analysis
Shallow On-Site Monitoring Wells					
MW-1	SA	SA	SA	SA	
MW-2	SA	SA			
MW-3	SA	SA			
MW-4	SA	SA	SA	SA	
MW-5	SA	SA	SA	SA	A
MW-6	SA	SA			
MW-7	SA	SA	SA	SA	A
MW-8	SA	SA			
MW-9	SA	SA			
MW-10	SA	SA			
MW-11	SA				
MW-12	SA	SA	SA	SA	A
MW-23	SA	SA	SA	SA	
Deep On-Site Monitoring Wells					
MW-13	SA	SA	SA	SA	A
MW-14	SA	SA			
MW-16	SA	SA			
MW-17	SA	SA	SA	SA	
MW-18	SA	SA	SA	SA	
MW-19	SA	SA	SA	SA	
MW-21	SA	SA	SA	SA	A
MW-22	SA	SA	SA	SA	A
MW-24	SA				
MW-25	SA				
P-1	SA				
Deep Off-Site Monitoring Wells					
MW-20		SA	SA	SA	
MW-27		SA			
MW-28		SA			

Notes:

A = annual

SA = semiannual

TOC = total organic carbon

VOC = volatile organic compounds

Table 2b
Proposed Performance Monitoring Schedule
Univar USA, Inc.
Kent, Washington

Monitoring Well	Groundwater Elevation Measurement	Water Quality VOCs	Injection Performance ¹		
			TOC	Dissolved Gases	Microbial Analysis
Shallow On-Site Monitoring Wells					
MW-1	SA	SA			
MW-2	SA	SA			
MW-3	SA	SA			
MW-4	SA	SA			
MW-5	SA	SA			
MW-6	SA	SA			
MW-7	SA	SA			
MW-8	SA	SA			
MW-9	SA	SA			
MW-10	SA	SA			
MW-11	SA				
MW-12	SA	SA			
MW-23	SA	SA			
Deep On-Site Monitoring Wells					
MW-13	SA	SA			
MW-14	SA	SA			
MW-16	SA	SA			
MW-17	SA	SA			
MW-18	SA	SA			
MW-19	SA	SA			
MW-21	SA	SA			
MW-22	SA	SA			
MW-24	SA				
MW-25	SA				
P-1	SA				
Deep Off-Site Monitoring Wells					
MW-20		SA			
MW-27		SA			
MW-28		SA			

Notes:

1 = As discussed in Sections 3.1.4 and 3.1.5 of the 2018 Annual Groundwater Monitoring Report, modification to the performance monitoring program to remove requirements for analysis of injection performance parameters is warranted on the basis that these parameters have remained generally stable since the initial period following injections. Performance monitoring (i.e., water quality) will continue for assessment of natural attenuation and delineation of dissolved extent of IHSs in groundwater according to analysis of hydraulic conditions, VOCs, and geochemical field parameters.

A = annual

SA = semiannual

TOC = total organic carbon

VOC = volatile organic compounds

Table 3
2018 Groundwater Elevations
Univar USA, Inc.
Kent, Washington

Location	Measuring Point Elevation (ft)	Screen Interval Depth (ft)	Screen Interval Elevation (ft)	Date	Time	Depth to Water (ft)	Water Elevation (ft)
Shallow On-Site Monitoring Wells							
MW-1	33.15	4 to 19	29.15 to 14.15	03/19/18 09/10/18	10:12 13:35	4.01 6.58	29.14 26.57
MW-2	33.79	4 to 19	29.79 to 14.79	03/19/18 09/10/18	10:16 13:45	5.73 7.95	28.06 25.84
MW-3	32.94	4 to 19	28.94 to 13.94	03/19/18 09/10/18	9:13 11:52	5.60 7.33	27.34 25.61
MW-4	32.86	4.5 to 14.5	28.36 to 18.36	03/19/18 09/10/18	9:55 13:11	4.38 6.82	28.48 26.04
MW-5	32.60	4.5 to 14.5	28.10 to 18.10	03/19/18 09/10/18	10:38 12:55	5.18 6.98	27.42 25.62
MW-6	33.05	4.5 to 14.5	28.55 to 18.55	03/19/18 09/10/18	10:23 13:42	4.40 7.64	28.65 25.41
MW-7	32.96	4.5 to 14.5	28.46 to 18.46	03/19/18 09/10/18	9:00 12:15	5.55 7.35	27.41 25.61
MW-8	33.57	4.5 to 14.5	29.07 to 19.07	03/19/18 09/10/18	10:32 12:48	6.12 7.96	27.45 25.61
MW-9	33.77	5 to 15	28.77 to 18.77	03/19/18 09/10/18	10:27 12:52	6.18 8.14	27.59 25.63
MW-10	32.89	5 to 15	27.89 to 17.89	03/19/18 09/10/18	8:52 12:05	5.41 7.21	27.48 25.68
MW-11	32.79	5 to 20	27.79 to 12.79	03/19/18 09/10/18	10:37 12:57	5.31 7.12	27.48 25.67
MW-12	32.81	5 to 20	27.81 to 12.81	03/19/18 09/10/18	10:40 13:00	5.33 7.15	27.48 25.66
MW-23	32.78	5 to 15	27.78 to 17.78	03/19/18 09/10/18	8:57 13:58	5.33 7.13	27.45 25.65
Deep On-Site Monitoring Wells							
MW-13	32.81	39.6 to 44.1	-6.79 to -11.29	03/19/18 09/10/18	11:59 14:54	5.29 7.12	27.52 25.69
MW-14	32.60	32.7 to 42.2	-0.10 to -9.60	03/19/18 09/10/18	12:04 15:05	5.01 6.87	27.59 25.73
MW-15	32.57	33.7 to 43.5	-1.13 to -10.93	Well Abandoned February 16, 2016			
MW-16	36.92	37.2 to 47.2	-0.28 to -10.28	03/19/18 09/10/18	12:10 14:59	9.39 11.24	27.53 25.68
MW-17	32.6	34.3 to 43.8	-1.70 to -11.2	03/19/18 09/10/18	10:55 14:37	5.22 6.98	27.38 25.62
MW-18	32.73	34.0 to 43.5	-1.27 to -10.77	03/19/18 09/10/18	10:53 14:39	5.29 7.03	NM NM
MW-19	33.52	39.4 to 49.4	-5.88 to -15.88	03/19/18 09/10/18	10:57 14:33	6.12 7.85	27.40 25.67
MW-21	32.86	34.1 to 44.1	-1.24 to -11.24	03/19/18 09/10/18	12:03 15:02	5.32 7.18	27.54 25.68
MW-22	33.18	32.2 to 42.2	0.98 to -9.02	03/19/18 09/10/18	11:56 NM	5.69 NM	27.49 NM
MW-24	32.74	21.8 to 41.8	10.94 to -9.06	03/19/18 09/10/18	12:02 15:03	5.14 7.02	27.60 25.72
MW-25	32.80	21.8 to 41.8	11.00 to -9.00	03/19/18 09/10/18	11:58 14:53	5.25 7.11	27.55 25.69
P-1	33.62	39.0 to 44.0	-5.38 to -10.38	03/19/18 09/10/18	12:06 15:08	6.12 7.93	27.50 25.69
Deep Off-site Monitoring Well							
MW-20	33.15	33.5 to 43.2	-0.35 to -10.05	03/19/18 09/10/18	11:14 15:25	5.87 7.52	27.28 25.63
MW-27	32.98	38.0 to 48.0	-5.02 to -15.02	03/19/18 09/10/18	11:11 15:22	5.71 7.41	27.27 25.57
MW-28	34.63	35.0 to 45.0	-0.37 to -10.37	03/19/18 09/10/18	11:05 15:14	7.39 9.11	27.24 25.52

Notes:
Depth = depth to water relative to the top of PVC
Elev. = elevation in feet relative to NAVD 88
NM = not measured

Table 4
Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
Shallow On-Site Monitoring and Pilot Test Wells								
MW-1	03/29/10	6.97	842	11.4	--	0.30	--	-8
	09/30/10	7.26	937	17.2	--	0.24	--	-10
	03/03/11	7.49	510	9.2	7.0	0.23	--	-13
	09/23/11	6.61	523	18.0	3.0	0.10	--	-106
	03/08/12	6.99	494	8.2	7.9	0.22	--	-44
	10/01/12	6.56	507	15.5	5.7	0.22	--	349 ^a
	03/06/13	6.84	820	9.6	14.5	0.20	--	-7
	09/24/13	6.78	496	18.5	55.3	0.20	--	-84
	03/26/14	7.21	991	10.5	1.2	0.00	--	-129
	09/23/14	6.49	698	19.7	2.3	0.55	--	-126
	03/17/15	6.05	438	10.5	0.0	0.00	--	-227
	09/16/15	6.37	700	17.6	0.0	0.00	--	-121
	03/16/16	7.86	888	10.1	0.0	0.00	--	-128
	09/13/16	6.74	530	17.5	1.5	0.70	--	-96.4
	03/07/17	7.04	955	8.7	7.2	0.00	--	-94
	09/21/17	7.00	832	17.3	0.0	0.00	--	52
03/20/18	6.76	701	10.8	2.6	0.42	--	-2.6	
09/13/18	6.77	768	18.5	0.7	1.50	--	-84.9	
MW-2	03/26/10	6.49	390	12.6	--	0.82	--	7
	09/30/10	6.68	556	16.4	--	0.28	--	27
	03/08/11	6.87	441	12.7	85.0	0.17	--	8
	09/21/11	6.30	443	18.0	9.8	0.09	--	-91
	03/06/12	6.56	396	11.2	--	0.67	--	-65
	09/28/12	6.45	382	17.2	--	0.29	--	342 ^a
	03/07/13	6.48	480	12.4	--	0.15	--	20
	09/24/13	6.63	349	16.8	90.7	0.20	--	-50
	03/26/14	6.99	495	13.8	7.2	0.00	--	-106
	09/24/14	6.32	547	17.4	4.3	0.00	--	-119
	03/17/15	6.36	253	15.5	0.0	0.00	--	-153
	09/17/15	6.47	619	16.6	0.0	0.00	--	-70
	03/15/16	7.10	525	12.3	0.0	0.00	--	-67
	09/13/16	6.48	481	17.4	5.1	0.50	--	-88.9
	03/08/17	6.13	394	9.4	7.0	0.00	--	-70
	09/20/17	6.62	714	14.5	0.0	0.00	--	-19
03/21/18	6.35	762	14.4	0.0	0.00	--	-3.6	
09/13/18	6.61	453	14.8	2.9	1.67	--	-57	
MW-3	03/30/10	6.85	601	11.6	--	0.99	--	-5
	09/28/10	6.98	647	15.6	--	0.28	--	8
	03/07/11	7.33	426	12.1	2.0	0.20	--	32
	09/21/11	6.71	556	16.3	1.4	0.03	--	-127
	03/06/12	6.97	497	10.7	--	0.11	--	-1
	10/01/12	6.81	519	16.2	--	0.20	--	308 ^a
	03/07/13	6.87	662	11.7	--	0.19	--	102
	09/24/13	7.03	404	13.6	57.2	0.40	--	-97
	03/27/14	7.29	616	12.4	0.0	0.00	--	-154
	09/25/14	6.82	681	15.1	14.6	0.00	--	-135
	03/19/15	6.06	318	11.6	0.0	0.00	--	-226
	09/16/15	7.13	618	17.4	0.0	0.00	--	-125
	03/14/16	7.67	1,980	10.8	0.0	0.00	--	-142
	09/14/16	6.79	529	16.1	0.7	0.06	--	-98
	03/08/17	7.06	680	11.6	6.5	0.00	--	-70
	09/21/17	7.26	807	15.0	0.0	14.91 ^b	--	-46
03/19/18	7.02	466	12.6	1.5	0.96	--	-79	
09/13/18	6.98	504	13.1	3.4	0.97	--	-110.9	

Table 4
Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
MW-4	03/29/10	6.71	1,094	9.9	--	0.58	--	-8
	10/01/10	6.89	1,054	16.7	--	0.55	--	10
	03/04/11	7.48	906	9.4	7.0	0.17	--	-8
	09/23/11	6.46	1,091	22.1	1.6	0.15	--	-64
	03/08/12	6.67	1,100	9.6	--	0.36	--	-16
	10/01/12	6.56	1,109	16.8	--	0.18	--	355 ^a
	03/06/13	6.73	1,436	9.7	4.3	0.22	--	24
	09/24/13	6.82	823	17.8	63.8	0.00	--	-63
	03/25/14	7.26	1,510	13.9	0.0	0.00	--	-141
	09/23/14	6.49	1,210	19.2	0.5	0.00	--	-107
	03/17/15	6.10	730	10.5	0.0	0.00	--	-225
	09/17/15	6.25	1,150	17.3	0.0	0.00	--	-104
	03/14/16	7.82	1,600	9.6	0.0	0.00	--	-93
	09/14/16	6.57	959	17.9	--	6.60	--	-66
	03/09/17	7.37	1,470	6.9	37.6	0.00	--	-97
09/21/17	6.80	1,090	17.2	1.4	0.00	--	-27	
03/21/18	7.05	890	10.4	2.3	0.88	--	39	
09/13/18	6.72	836	15.3	4.9	2.61	--	-46.3	
MW-5	04/01/10	6.39	287	12.5	16.0	0.49	--	27
	04/09/10	--	340	--	3.0	--	--	--
	04/16/10	6.38	342	13.4	8.0	0.70	--	26
	05/06/10	6.52	297	12.7	6.0	2.35	--	23
	06/09/10	6.44	283	14.1	14.0	1.61	--	24
	09/28/10	6.55	262	18.4	--	1.06	--	26
	03/03/11	6.76	203	11.6	6.0	0.55	--	12
	06/22/11	6.36	200	17.0	14.5	0.11	--	-7
	09/22/11	6.19	226	17.3	5.1	0.38	--	63
	10/21/11	6.11	267	15.8	9.0	0.41	--	34
	12/07/11	6.36	207	14.0	--	0.15	--	73
	03/07/12	6.39	216	12.3	--	0.29	--	53
	06/26/12	6.35	233	17.1	4.2	0.19	--	29
	09/27/12	6.14	266	18.5	0.8	0.25	--	346 ^a
	12/19/12	6.17	362	13.0	23.0	0.34	--	-29
	03/06/13	6.25	360	11.2	4.4	0.18	--	76
	06/06/13	6.63	379	17.9	17.0	0.63	--	23
	09/24/13	6.45	302	14.8	54.6	0.03	--	20
	03/25/14	5.81	404	14.7	0.0	0.00	--	-141
	09/23/14	6.14	380	16.6	2.1	0.00	--	-49
03/16/15	6.21	199	16.1	0.0	0.00	--	-100	
09/15/15	5.95	342	16.3	0.0	0.00	--	-34	
03/15/16	6.60	318	11.7	0.0	0.00	--	105	
09/14/16	6.29	263	17.0	9.7	1.05	--	38	
03/06/17	6.00	199	11.3	9.3	0.00	--	111	
09/20/17	6.54	289	14.6	0.0	13.06 ^b	--	-4	
03/20/18	6.03	162	12.0	4.3	0.62	--	45	
09/11/18	6.37	200	15.0	9.3	0.54	--	-55.6	
MW-6	03/30/10	6.53	533	11.5	--	0.61	--	14
	09/30/10	6.55	936	15.9	--	0.35	--	30
	03/04/11	6.84	331	10.6	4.0	0.21	--	11
	09/21/11	6.23	723	17.9	3.9	0.13	--	-68
	03/06/12	6.53	341	10.5	--	0.25	--	-12
	09/28/12	6.21	717	15.3	--	0.27	--	315 ^a
	03/07/13	6.49	511	11.1	--	0.21	--	76
	09/24/13	6.50	634	14.3	106.0	0.00	--	-52
	03/26/14	6.70	420	13.1	7.3	0.00	--	-60
	09/24/14	6.18	887	15.7	3.2	0.00	--	-94
	03/17/15	5.39	270	11.9	0.0	0.00	--	-155
	09/17/15	6.32	1,040	16.4	1.1	0.00	--	-62
	03/15/16	6.90	628	11.8	36.7	0.05	--	-39
	09/14/16	6.27	760	15.3	2.6	1.95	--	-78
MW-6	03/07/17	6.44	549	9.1	7.9	0.00	--	-35

Table 4
Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
(continued)	09/20/17	6.47	885	15.2	17.8	0.00	--	-46
	03/20/18	6.30	862	12.8	0.0	0.00	--	-16
	09/13/18	6.30	563	17.4	1.5	0.70	--	-81.2
MW-7	04/01/10	6.81	255	12.4	--	1.48	--	6
	09/28/10	6.71	318	17.4	--	0.27	--	17
	03/02/11	6.48	235	11.4	10.0	5.72	--	3
	06/22/11	6.33	193	19.0	38.1	0.33	--	109
	09/22/11	6.33	248	16.6	1.9	0.19	--	158
	10/20/11	6.28	389	16.1	13.0	0.30	--	88
	12/07/11	6.55	273	13.4	--	0.57	--	139
	03/07/12	6.54	200	12.3	--	1.31	--	95
	06/26/12	6.47	196	16.1	5.7	0.18	--	43
	07/12/12	6.54	197	15.8	--	0.23	--	-22
	09/27/12	6.26	245	18.2	1.8	0.30	--	383 ^a
	12/19/12	6.42	641	13.0	7.0	0.46	--	8
	03/05/13	6.32	374	12.6	16.6	0.17	--	19
	06/06/13	6.74	328	16.7	9.3	0.24	--	81
	09/24/13	5.97	427	17.7	0.0	0.00	--	45
	03/26/14	6.48	340	14.2	0.0	0.00	--	132
	09/25/14	6.36	402	17.5	0.0	0.00	--	116
	03/18/15	6.25	162	17.0	0.0	2.87	--	-2
	09/14/15	6.68	433	17.8	0.4	0.00	--	76
	03/15/16	7.01	321	12.0	0.0	2.78	--	96
	09/14/16	6.31	351	18.6	0.5	0.40	--	72
	03/08/17	6.59	270	10.3	7.4	0.00	--	-14
	09/19/17	6.50	341	17.9	0.0	0.00	--	86
	03/21/18	6.43	184	12.3	2.5	3.19	--	41
	09/11/18	6.31	288	17.5	3.0	1.38	--	101.5
MW-8	04/01/10	6.29	949	11.9	--	0.79	--	29
	09/28/10	6.44	1,217	18.1	--	0.28	--	32
	03/04/11	6.81	1,317	11.0	2.0	0.50	--	13
	09/26/11	6.15	1,137	14.4	0.3	0.32	--	270
	03/06/12	6.55	1,106	11.6	--	0.50	--	14
	09/28/12	6.27	1,101	17.1	--	0.32	--	305 ^a
	03/08/13	6.45	1,271	12.3	--	0.23	--	136
	09/24/13	6.43	854	15.9	57.0	0.69	--	57
	03/26/14	6.76	994	13.4	5.0	0.00	--	109
	09/23/14	6.27	1120	16.9	1.5	0.00	--	112
	03/16/15	6.40	486	15.8	0.0	0.00	--	-2
	09/16/15	6.52	1,190	14.1	0.0	0.00	--	126
	03/15/16	6.89	766	11.4	11.0	0.53	--	98
	09/14/16	6.38	834	16.7	2.4	0.48	--	30
	03/07/17	6.04	582	9.3	2.0	0.00	--	51
	09/21/17	6.59	849	15.3	0.0	0.00	--	-11
	03/20/18	6.20	542	11.6	0.7	1.00	--	59
	09/13/18	6.34	635	16.4	0.8	1.16	--	-35.1
MW-9	03/30/10	6.58	559	11.9	--	0.72	--	17
	09/28/10	6.52	651	17.3	--	0.24	--	27
	03/04/11	6.89	505	12.0	4.0	0.24	--	10
	09/26/11	6.41	544	13.4	85.4	0.12	--	-90
	03/06/12	6.37	392	11.3	--	0.30	--	32
	09/28/12	6.57	641	15.3	--	0.16	--	272 ^a
	03/08/13	6.47	557	11.9	--	0.16	--	95
	09/24/13	6.87	365	15.1	128.0	0.00	--	-67
	03/26/14	6.42	388	15.0	0.0	0.00	--	67
	09/24/14	6.45	472	17.1	21.2	0.00	--	-93
	03/17/15	6.09	239	15.7	70.4	0.94	--	-40
	09/16/15	6.54	769	15.9	20.7	0.00	--	-146

Table 4
Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
MW-9 (continued)	03/15/16	6.69	490	11.5	56.3	0.00	--	49
	09/14/16	6.83	592	16.5	28.2	0.52	--	-112
	03/07/17	5.73	300	10.4	36.8	0.00	--	119
	09/21/17	7.19	812	14.4	0.0	0.00	--	-20
	03/20/18	6.00	255	13.7	7.4	0.68	--	37
	09/13/18	6.66	495	16.9	11.2	0.93	--	-113.1
MW-10	03/30/10	6.96	201	11.1	--	1.33	--	-8
	09/28/10	6.98	185	17.7	--	0.20	--	3
	03/04/11	7.24	160	10.7	7.0	0.15	--	-2
	09/26/11	6.61	152	14.9	37.8	0.32	--	-58
	03/07/12	6.86	141	11.2	--	0.24	--	-7
	09/28/12	6.67	136	18.9	--	0.21	--	292 ^a
	03/05/13	6.54	164	11.4	--	0.16	--	2
	09/24/13	7.11	106	17.4	72.5	0.00	--	-72
	03/27/14	7.03	176	13.2	0.0	0.00	--	-88
	09/24/14	6.66	201	17.2	12.9	0.00	--	-94
	03/18/15	6.32	57	14.8	50.2	0.00	--	-56
	09/14/15	6.51	145	17.6	29.1	0.00	--	-110
	03/15/16	7.39	176	11.0	411	0.00	--	-78
	09/15/16	6.64	140	17.2	6.2	0.15	--	-80
	03/08/17	6.54	139	10.5	10.9	0.00	--	-51
	09/19/17	7.01	159	16.3	0.0	0.00	--	-70
03/21/18	6.74	130	11.2	17.9	0.78	--	29	
09/12/18	6.64	152	17.7	4.6	0.65	--	-65.4	
MW-11	04/01/10	6.40	286	12.0	13.0	0.46	--	23
	04/09/10	--	330	--	3.0	--	--	--
	04/16/10	6.41	326	13.6	21.0	0.12	--	26
	05/06/10	6.55	285	13.0	13.0	0.30	--	24
	06/09/10	6.43	278	14.3	13.0	0.65	--	25
MW-12	04/01/10	6.56	347	13.0	--	0.87	--	27
	09/28/10	6.52	322	18.6	--	0.35	--	26
	03/03/11	6.75	244	11.1	28.0	0.22	--	12
	06/22/11	6.87	348	16.1	41.2	0.04	--	-188
	09/22/11	6.51	359	16.4	12.4	0.05	--	-122
	10/21/11	6.41	411	15.0	35.0	0.38	--	11
	12/07/11	6.58	293	12.2	--	0.20	--	-87
	03/07/12	6.38	316	12.9	--	0.30	--	59
	06/27/12	6.44	533	15.5	18.4	0.22	--	32
	07/12/12	6.44	312	15.5	--	0.14	--	16
	10/02/12	6.41	324	16.3	7.9	3.60 ^a	--	275 ^a
	12/19/12	6.29	444	13.1	11.0	0.37	--	15
	03/06/13	6.37	436	12.2	18.1	0.15	--	47
	06/06/13	6.61	431	20.4	33.4	0.25	--	-40
	09/24/13	6.79	417	14.9	54.4	0.00	--	-117
	03/25/14	5.90	413	15.4	0.0	0.00	--	-45
	09/23/14	6.27	424	16.8	3.1	0.70	--	-108
	03/16/15	6.21	196	16.9	2.7	0.00	--	-82
	09/15/15	6.61	423	16.0	0.0	0.00	--	-41
	03/15/16	6.84	436	13.1	0.0	0.00	--	101
09/14/16	6.38	312	16.8	3.7	0.69	--	9	
03/06/17	6.48	399	11.7	10.6	0.00	--	102	
09/20/17	6.78	364	14.7	0.0	0.00	--	-39	
03/20/18	6.28	396	11.8	3.5	0.00	--	119	
09/11/18	6.58	239	15.5	5.0	0.75	--	33.2	
MW-23	04/01/10	6.57	428	13.0	--	0.66	--	16
	09/28/10	6.67	495	19.0	--	0.19	--	19
	03/02/11	6.25	399	11.8	5.0	0.25	--	16
	06/22/11	6.27	320	15.3	26.1	0.19	--	70
	09/23/11	6.35	431	17.8	7.8	0.14	--	82
	10/20/11	6.51	512	16.7	3.0	0.36	--	70
MW-23	12/07/11	6.57	356	13.7	--	0.18	--	102

Table 4
Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
(continued)	03/07/12	6.59	386	13.1	5.2	0.18	--	58
	06/26/12	6.54	460	16.9	7.3	0.20	--	46
	07/12/12	6.54	465	15.8	--	0.17	--	-18
	09/27/12	6.52	409	17.1	5.2	0.26	--	340 ^a
	12/19/12	6.51	430	13.5	64.0	0.34	--	65
	03/05/13	6.50	528	12.6	7.1	0.16	--	-15
	06/06/13	6.91	690	16.8	9.2	0.26	--	43
	09/24/13	6.72	364	17.0	52.4	2.17	--	67
	03/26/14	6.80	616	13.5	4.1	0.00	--	147
	09/25/14	6.53	652	17.5	0.7	0.00	--	107
	03/18/15	6.50	326	16.0	1.5	0.00	--	-39
	09/14/15	6.05	650	18.7	0.4	0.00	--	35
	03/15/16	7.47	729	11.0	9.8	0.00	--	1
	09/14/16	6.45	584	19.0	2.0	0.17	--	70
	03/08/17	6.23	482	11.3	7.3	0.00	--	15
	09/19/17	6.85	597	18.0	0.0	0.00	--	-28
	03/21/18	6.50	642	11.6	6.4	0.00	--	-4
09/12/18	6.50	553	18.0	2.7	0.62	--	-53.6	
MW-26	04/01/10	6.44	269	12.7	34.0	0.74	--	19
	04/09/10	--	290	--	4.0	--	--	--
	04/16/10	6.49	270	13.6	21.0	0.19	--	23
	05/06/10	6.67	218	12.6	18.0	0.31	--	28
	06/09/10	6.47	207	14.9	41.7	0.76	--	28
Deep On-Site Monitoring Wells and Piezometer								
MW-13	03/29/10	6.53	639	12.4	15.0	0.58	--	18
	04/07/10	--	720	--	2.0	--	--	--
	04/16/10	6.67	682	14.2	9.0	0.49	--	24
	05/06/10	6.56	722	13.9	6.0	0.31	--	25
	06/09/10	6.52	753	15.7	4.0	0.20	--	22
	09/30/10	6.58	695	17.2	--	0.14	--	17
	03/03/11	6.76	552	12.9	1.0	0.20	--	9
	06/23/11	6.09	365	14.4	9.2	0.16	--	-61
	09/22/11	6.26	680	19.7	13.3	0.02	--	-86
	10/20/11	6.27	882	16.3	17.0	0.35	--	-28
	12/07/11	6.45	566	12.7	--	0.21	--	-89
	03/07/12	6.49	564	12.2	--	0.27	--	-13
	06/27/12	6.44	533	15.5	18.4	0.22	--	32
	07/12/12	6.47	571	18.5	--	0.16	--	-7
	10/02/12	6.39	541	16.9	6.4	0.20	--	221 ^a
	12/19/12	6.33	694	13.1	26.0	0.31	--	-91
	03/07/13	6.43	688	12.9	4.4	0.16	--	11
	06/06/13	6.70	713	19.9	26.7	0.18	--	-95
	09/24/13	7.02	489	15.7	82.5	6.22	--	-92
	03/26/14	6.78	610	14.1	1.7	0.00	--	-99
	09/23/14	6.41	803	17.7	29.2	0.00	--	-129
	03/17/15	6.25	65	12.4	0.0	0.00	--	-45
	09/15/15	6.34	485	17.8	0.0	0.00	--	-106
03/14/16	7.44	260	11.8	0.0	0.00	--	-20	
09/15/16	6.44	456	16.2	9.5	0.32	--	-38	
03/07/17	5.96	610	9.4	5.3	0.00	--	-63	
09/20/17	6.65	777	16.2	0.0	0.00	--	-59	
03/21/18	6.47	669	15.2	4.9	0.32	--	8.6	
09/11/18	6.30	522	18.0	4.4	0.71	--	-54.7	
MW-14	03/30/10	6.58	360	13.2	--	0.73	--	15
	09/30/10	6.72	555	17.4	--	0.34	--	18
	03/04/11	6.96	316	12.0	6.0	0.15	--	9
	09/21/11	6.39	392	16.7	7.6	0.04	--	-72
	03/06/12	6.58	337	12.0	--	0.27	--	0
09/28/12	6.42	366	16.3	--	0.28	--	294 ^a	

Table 4
Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
MW-14 (continued)	03/07/13	6.50	451	12.4	--	0.18	--	49
	09/24/13	6.57	313	14.0	65.5	0.00	--	-23
	03/26/14	6.74	444	16.3	0.0	0.00	--	-86
	09/24/14	6.39	496	15.7	2.4	0.00	--	-89
	03/17/15	6.41	282	15.4	0.0	7.23	--	-144
	09/16/15	6.71	593	14.6	0.0	0.00	--	-69
	03/16/16	7.06	493	11.4	11.4	0.00	--	-50
	09/15/16	6.50	387	14.1	23.3	0.28	--	-51
	03/08/17	6.66	540	12.3	4.3	0.00	--	-54
	09/20/17	6.72	552	15.1	0.0	0.00	--	-61
	03/20/18	6.42	541	13.5	0.0	0.00	--	-17.3
09/13/18	6.64	470	14.0	2.0	1.19	--	-64.6	
MW-15	03/30/10	6.61	409	13.3	--	0.77	--	14
	09/30/10	6.57	506	17.0	--	0.38	--	19
	03/08/11	6.91	449	13.7	4.0	0.17	--	8
	09/21/11	6.42	462	17.2	3.0	0.06	--	-83
	03/06/12	6.57	403	11.3	--	0.30	--	-32
	10/01/12	6.43	414	14.7	--	0.31	--	370 ^a
	03/07/13	6.50	530	12.9	--	0.17	--	30
	09/24/13	6.61	357	14.4	131.0	0.00	--	-48
	03/26/14	6.73	487	16.5	0.0	0.00	--	-94
	09/24/14	6.40	482	16.1	3.5	0.00	--	-94
	03/17/15	5.58	237	13.7	0.0	0.00	--	-174
	09/17/15	5.69	509	15.1	0.0	0.00	--	-46
	Well Abandoned February 16, 2016							
MW-16	04/02/10	6.45	691	11.5	--	0.59	--	24
	10/10/10	6.62	801	14.2	--	0.39	--	21
	03/08/11	6.76	639	12.3	6.0	0.19	--	7
	09/26/11	6.29	681	13.5	0.6	0.20	--	-71
	03/08/12	6.42	666	11.8	--	0.26	--	7
	10/01/12	6.28	678	13.7	--	0.29	--	358 ^a
	03/08/13	6.54	607	11.2	--	0.21	--	110
	09/24/13	6.59	428	12.9	62.1	0.00	--	-23
	03/27/14	6.67	889	13.3	25.4	0.00	--	-98
	09/25/14	6.30	901	14.9	98.7	0.00	--	-84
	03/18/15	6.30	480	15.2	3.1	0.00	--	-156
	09/17/15	6.08	999	13.7	4.8	0.00	--	-116
	03/16/16	6.87	908	10.9	16.5	0.00	--	-65
	09/15/16	6.43	616	12.8	7.3	0.38	--	-65
	03/07/17	6.51	924	10.6	8.1	0.00	--	-74
09/21/17	6.59	928	13.7	9.4	0.00	--	-53	
03/21/18	6.34	615	12.5	40.9	0.89	--	19.8	
09/13/18	6.50	647	12.5	6.9	0.40	--	-63.5	
MW-17	03/30/10	6.37	667	10.1	--	1.28	--	12
	10/01/10	6.68	1,111	14.2	--	0.31	--	23
	03/07/11	6.88	564	11.6	5.0	0.15	--	8
	06/23/11	6.27	415	14.6	7.1	0.08	--	-40
	09/23/11	6.37	927	16.2	1.4	0.10	--	-60
	03/08/12	6.57	911	11.9	--	0.23	--	-28
	06/27/12	6.57	936	15.3	14.8	0.12	--	-24
	07/12/12	6.53	1,033	15.9	--	0.23	--	-26
	10/01/12	6.36	918	13.6	77.2	0.23	--	346 ^a
	12/19/12	6.35	1,349	10.9	16.0	0.39	--	-100
	03/07/12	6.47	1,128	11.4	4.4	0.18	--	21
	06/06/13	6.88	1,269	15.0	21.6	0.28	--	-89
	09/24/13	6.07	792	12.4	90.1	0.00	--	-55
	03/26/14	6.67	665	12.7	8.0	0.00	--	4
	09/25/14	6.49	914	14.6	43.1	0.00	--	-68
	03/19/15	6.50	499	12.3	44.3	0.00	--	-101

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Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
MW-17 (continued)	09/17/15	6.57	1,100	14.5	5.5	0.00	--	-32
	03/14/16	7.22	3,590	10.9	0.00	0.00	--	-79
	09/14/16	6.36	720	14.8	0.90	0.14	--	-23
	03/08/17	6.13	835	9.4	19.9	0.00	--	-22
	09/19/17	6.96	1,150	13.6	0.96	0.00	--	-23
	03/19/18	6.57	826	11.4	NM	7.57	--	-50
	09/12/18	6.63	803	12.2	9.1	1.21	--	-79.8
MW-18	03/30/10	6.62	494	12.0	--	1.57	--	13
	09/28/10	6.68	616	16.6	--	0.24	--	21
	03/04/11	6.95	464	12.3	3.0	0.18	--	7
	06/23/11	6.32	312	15.3	9.6	0.14	--	-7
	09/23/11	6.37	532	16.9	3.8	0.07	--	-70
	03/07/12	6.54	484	13.0	6.0	0.18	--	15
	06/27/12	6.55	554	17.4	4.9	0.20	--	-18
	07/12/12	6.54	567	14.8	--	0.19	--	-41
	10/01/12	6.48	321	17.7	2.8	2.42 ^a	--	353 ^a
	12/19/12	6.44	697	12.3	9.0	0.42	--	-92
	03/05/13	6.40	657	12.7	6.7	0.17	--	9
	06/06/13	6.87	741	16.6	16.1	0.26	--	-84
	09/24/13	6.67	439	15.0	58.9	0.08	--	-60
	03/26/14	7.76	99	13.9	0.0	3.32	--	115
	09/24/14	6.38	579	16.7	7.1	0.00	--	-59
	03/18/15	5.55	378	14.2	0.0	0.00	--	-178
	09/14/15	6.47	617	16.0	0.0	0.00	--	-82
	03/15/16	7.11	792	12.8	0.0	0.00	--	-76
09/15/16	6.32	558	15.0	1.1	0.37	--	-24	
03/09/17	6.09	523	11.6	11.0	0.00	--	1	
09/19/17	6.71	677	14.8	0.0	0.00	--	-54	
03/21/18	6.39	632	12.1	0.0	0.00	--	-16	
09/12/18	6.50	582	15.7	0.9	0.90	--	-27.2	
MW-19	03/30/10	6.33	528	11.9	--	0.98	--	14
	09/28/10	6.53	722	16.4	--	0.36	--	29
	03/03/11	6.92	413	13.5	4.0	0.15	--	10
	09/21/11	6.38	530	16.6	0.0	0.14	--	-103
	12/07/11	6.53	556	13.3	--	0.26	--	-77
	03/08/12	5.65	596	15.0	--	0.19	--	-29
	06/27/12	6.57	430	16.6	0.8	0.16	--	-22
	07/12/12	6.51	466	15.4	--	0.23	--	21
	09/28/12	6.35	406	17.6	--	0.28	--	322 ^a
	12/19/12	6.42	560	13.7	14.0	0.40	--	-93
	03/05/13	6.39	727	13.3	1.6	0.14	--	-31
	06/06/13	6.84	766	16.3	9.8	0.86	--	-72
	09/24/13	6.72	486	14.0	64.0	0.00	--	-98
	03/27/14	6.83	564	14.7	52.9	0.00	--	-90
	09/25/14	6.47	689	18.5	5.7	0.00	--	-87
	03/19/15	6.56	440	13.4	5.5	0.00	--	-138
	09/15/15	6.37	797	16.4	1.5	0.00	--	-119
	03/14/16	7.03	663	13.2	7.7	0.00	--	-93
09/13/16	6.50	625	18.1	1.3	0.28	--	-83	
03/09/17	6.06	555	11.9	35.8	0.00	--	-19	
09/19/17	6.79	820	17.4	0.0	0.00	--	-51	
03/19/18	6.36	514	15.8	1.9	0.53	--	40	
09/12/18	6.65	553	15.3	5.2	4.56	--	-72.9	
MW-21	03/26/10	6.31	664	13.2	10.0	0.68	--	19
	04/16/10	6.54	702	13.6	19.0	0.90	--	22
	05/06/10	6.50	716	13.9	30.0	0.20	--	29
	06/09/10	6.21	741	15.0	131.0	0.16	--	38
	09/30/10	5.90	965	16.9	--	0.34	--	56

Table 4
Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
MW-21 (continued)	03/02/11	6.13	779	11.4	2.0	0.31	--	24
	06/23/11	5.74	407	13.9	7.2	0.12	--	-46
	09/22/11	5.75	951	17.5	1.5	0.07	--	-21
	09/27/11	5.70	907	15.1	5.2	0.35	--	20
	10/20/11	6.67	1,205	15.0	11.0	0.31	--	-17
	12/07/11	5.88	845	12.6	--	0.21	--	-49
	03/08/12	6.00	880	13.1	--	0.19	--	20
	06/26/12	5.99	846	14.4	74.5	0.22	--	7
	07/12/12	6.03	887	15.6	--	0.15	--	42
	10/02/12	5.94	876	14.5	>1000	1.41 ^a	--	238 ^a
	12/20/12	5.95	1,128	11.4	96.0	0.29	--	-50
	03/06/13	6.16	1,125	11.0	68.0	0.22	--	27
	06/06/13	6.61	1,120	18.8	52.6	0.25	--	-89
	09/24/13	6.28	714	14.6	102.0	0.00	--	-56
	03/26/14	6.50	785	15.1	0.0	0.00	--	-110
	09/24/14	6.25	829	16.1	31.0	0.00	--	-88
	03/17/15	5.35	405	13.5	17.5	0.00	--	-172
	09/15/15	6.50	851	15.4	0.0	0.00	--	-85
	03/16/16	6.93	845	13.7	0.0	0.00	--	-76
	09/15/16	6.40	630	14.2	81.1	0.49	--	-81
03/07/17	5.88	650	9.2	119	0.00	--	-83	
09/20/17	6.60	778	15.1	0.0	0.00	--	-63	
03/20/18	6.29	712	13.6	0.0	0.00	--	16	
09/11/18	6.26	598	16.4	6.9	0.71	--	-75.5	
MW-22	03/29/10	6.20	665	12.0	--	0.85	--	22
	09/30/10	6.57	821	17.6	--	0.56	--	13
	03/04/11	6.77	543	12.2	45.0	0.15	--	12
	06/23/11	6.20	366	13.2	2.1	0.13	--	-30
	09/23/11	6.27	684	16.3	206.7	0.00	--	-85
	10/21/11	6.26	827	14.1	4.0	0.34	--	31
	12/07/11	6.27	583	12.5	--	0.24	--	-50
	03/08/12	6.49	502	10.7	20.5	0.23	--	-17
	06/26/12	6.44	549	14.4	8.8	0.16	--	-33
	07/12/12	6.35	570	16.4	--	0.20	--	15
	10/02/12	6.32	617	15.1	2.8	0.20	--	251 ^a
	12/19/12	6.26	800	12.0	17.0	0.31	--	-96
	03/06/13	6.40	823	10.9	5.7	0.22	--	165
	06/06/13	6.79	881	15.9	11.6	0.32	--	-91
	09/25/13	6.53	564	13.7	89.1	0.00	--	-75
	03/26/14	6.59	769	15.0	0.0	0.00	--	-102
	09/24/14	6.22	769	14.9	12.2	0.00	--	-100
	03/17/15	6.16	430	11.9	0.0	0.00	--	-149
	09/15/15	6.64	833	17.4	0.8	0.00	--	-85
	03/16/16	6.82	904	11.6	0.0	0.00	--	-63
09/15/16	6.33	753	13.8	8.7	0.55	--	-58	
03/07/17	6.46	1,010	10.7	7.2	0.00	--	-65	
09/20/17	6.60	1,070	13.9	0.0	0.00	--	-14	
03/21/18	6.19	132	11.6	0.0	0.00	--	1	
09/11/18	6.24	739	15.8	3.5	0.95	--	-58.7	
MW-24	03/26/10	6.39	651	13.4	153.0	0.31	--	17
	04/16/10	6.59	671	14.0	13.0	0.36	--	21
MW-24 (continued)	05/06/10	6.47	670	15.1	2.0	0.20	--	28
	06/09/10	6.52	799	15.9	10.0	0.19	--	24
MW-25	03/29/10	6.56	703	12.2	57.0	0.67	--	12
	04/07/10	--	720	--	2.0	--	--	--
	04/16/10	6.51	687	14.2	2.0	0.22	--	24
	05/06/10	6.62	744	14.0	2.0	0.31	--	26
	06/09/10	6.52	896	15.8	7.0	0.27	--	25
P-1	09/24/04	6.54	401	15.4	--	0.24	--	33

Table 4
Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (mV)
Deep Off-Site Monitoring Well								
MW-20	03/29/10	6.33	922	13.2	--	0.48	--	17
	10/01/10	6.69	1,013	15.8	--	0.40	--	21
	03/02/11	6.35	1,147	12.6	8.0	0.13	--	9
	09/26/11	6.36	930	16.6	33.0	0.29	--	-80
	03/08/12	6.53	946	14.0	--	0.25	--	-5
	10/01/12	6.37	903	16.8	--	0.14	--	321 ^a
	03/08/13	6.45	180	11.4	--	0.19	--	97
	06/06/13	6.67	898	17.0	30.8	0.21	--	-75
	09/24/13	6.64	761	15.6	96.6	0.00	--	-68
	03/27/14	6.85	166	15.8	0.0	0.00	--	-32
	09/25/14	6.42	1,010	17.8	62.3	0.00	--	-84
	03/18/15	6.33	589	14.4	0.0	0.00	--	-154
	09/16/15	6.27	1,090	19.5	2.0	0.00	--	130
	03/15/16	6.97	1,310	11.8	0.2	0.00	--	-98
	09/15/16	6.33	943	17.5	2.4	0.09	--	-97
	03/08/17	6.11	957	12.3	0.1	0.00	--	-81
09/19/17	6.67	1,170	15.8	2.7	0.00	0.05	-78	
03/20/18	6.26	952	14.4	9.1	0.14	--	-2	
09/12/18	6.56	892	14.5	5.8	0.48	--	-101.2	
MW-27	09/24/14	6.38	566	16.2	64.3	0.00	--	-80
	03/18/15	6.22	339	13.5	17.8	0.00	--	-122
	09/16/15	6.75	631	19.5	2.2	0.00	--	-79
	03/15/16	6.91	699	12.7	0.0	0.00	--	-74
	09/15/16	6.36	522	16.7	1.5	0.12	--	-82
	03/08/17	6.64	700	9.7	300	0.00	--	-49
	09/18/17	6.56	620	16.8	0.0	0.00	--	-61
	03/20/18	6.37	657	15.3	0.0	0.00	--	0
09/12/18	6.36	520	17.2	1.5	0.60	--	-60	
MW-28	09/25/14	6.56	1,010	14.6	257	0.00	--	-95
	03/19/15	5.72	575	11.4	127	0.00	--	-204
	09/17/15	6.32	985	16.2	11.7	0.00	--	-125
	03/16/16	7.30	1,200	12.2	0.0	0.00	--	-99
	09/15/16	6.41	749	14.6	9.1	0.22	--	-94
	03/09/17	6.70	1,010	11.0	18.6	0.00	--	-44
	09/18/17	7.05	957	15.7	45.2	0.00	--	-43
	03/19/18	6.40	687	13.2	4.7	0.36	--	13
09/12/18	6.70	679	13.2	7.0	0.40	--	-99	

Notes: mS/cm - millisiemens per centimeter
 °C - degrees Celsius
 NTU - Nephelometric turbidity units
 mg/L - milligram per liter

mV - millivolts
 -- Not Measured
^a Likely meter malfunction
^b Anomalous result

Table 5
Concentration of VOCs in Groundwater
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	1,1-DCA	1,1-DCE	1,2,4-TMB	1,2-DCA	1,2-Dichloropropane	Benzene	Chloroethane ¹	Chloroform	cis-1,2-DCE	Ethylbenzene	Methylene Chloride	PCE	1,1,1-TCA	TCE	Toluene	Total Xylenes	Vinyl Chloride	
Solubility in Water:		5.1E+06	3,350,000	LNAPL	8.7E+06	0.8			LNAPL	8.2E+06	4E+06	LNAPL	2.0E+07	200,000	7E+05	1.E+06	1,000	LNAPL	LNAPL
Final Cleanup Levels		800	7.0	400	0.5	0.64			-	7.2	70	700	5.0	0.86	200	4.0	1,000	1,600	0.5
MW-27	09/24/14	0.569	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.200 U
	03/18/15	0.33 J	1.0 U	2.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.43 J	1.0 U	5.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.45 J	1.0 U	0.50 U
	09/16/15	0.46 J	1.0 U	2.0 U	0.50 U	0.50 U	0.43 J	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 J	0.50 U
	03/15/16	0.35 J	1.0 U	2.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.38 J	1.0 U	5.0 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
	09/15/16	0.45 J	1.0 U	2.0 U	0.50 U	0.50 U	0.34 J	1.0 U	1.0 U	0.40 J	1.0 U	5.0 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
	03/08/17	0.32 J	0.50 U	0.50 U	0.50 U	0.50 U	0.15 J	0.50 U	0.50 U	0.30 J	0.50 U	2.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U
	09/18/17	0.52	0.50 U	0.50 U	0.50 U	0.50 U	0.30 J	0.50 U	0.50 U	0.42 J	0.50 U	2.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	0.21 J
	03/20/18	0.37 J-	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.41 J-	0.50 UJ	2.0 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	1.0 UJ	0.18 J-
	09/12/18	0.39 j	0.50 U	0.50 U	0.50 U	0.50 U	0.18 j	0.50 U	0.50 U	0.32 j	0.50 U	2.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	0.24 j
	09/25/14	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.200 U
MW-28	03/19/15	1.0 U	1.0 U	2.0 U	0.50 U	0.50 U	0.50 U	0.60 J	1.0 U	1.0 U	1.0 U	5.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.56 J	1.0 U	0.50 U
	09/17/15	5.0 U	5.0 U	10 U	2.5 U	2.5 U	2.5 U	2.6 J	5.0 U	5.0 U	5.0 U	25 U	2.5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.5 U
	03/16/16	5.0 U	5.0 U	10 U	2.5 U	2.5 U	2.5 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	2.5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.5 U
	09/15/16	5.0 U	5.0 U	10 U	2.5 U	2.5 U	2.5 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	2.5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.5 U
	03/09/17	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.13 J	0.24 J	0.50 UJ	0.50 UJ	0.50 UJ	2.0 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	1.0 UJ	0.50 UJ
	09/18/17	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 J	0.50 U	0.50 U	0.14 J	0.50 U	2.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U
	03/19/18	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.31 J-	0.50 UJ	0.50 UJ	0.50 UJ	2.0 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	1.0 UJ	0.50 UJ
	09/12/18	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.15 j	0.20 j	0.50 U	0.50 U	0.50 U	2.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U

Notes:

¹ = Cleanup level for chloroethane adjusted according to updates to CLARC database.

All results in µg/L.

1995 analyses performed using EPA Method 8240A.

Analyses from 1996 to 2014 performed using EPA Method 8260A.

Starting in March 2015, the laboratory was switched to Accutest and VOCs were analyzed by EPA Method 8260B.

Only indicator hazardous substances shown.

Detections shown in **bold**.

Shaded results above their respective cleanup level.

Bromodichloromethane detected (0.54 µg/L) below the MRL in MW-15 on 9/24/04; result likely due to instrument noise so not reported in table.

B = the analyte was also detected in an associated blank.

E = laboratory estimated concentration.

J / j = the associated numerical value is an estimated quantity based on data review or laboratory estimate above the MDL but below the MRL.

J- = Estimated detection with low bias

J+ = Estimated detection with high bias

DUP = duplicate sample collected in the field and blind labeled.

LAB DUP = laboratory duplicate sample.

NA = not analyzed or not quantitated

U = not detected above associated method reporting limit.

UJ = Compound was analyzed for, but not detected above the reporting limit. The reporting limit is an estimated value.

R = Result is rejected.

1,1,1-TCA = 1,1,1-trichloroethane.

1,1-DCA = 1,1-dichloroethane.

1,1-DCE = 1,1-dichloroethene.

1,2,3-TCP = 1,2,3-trichloropropane.

1,2,4-TCB = 1,2,4-trichlorobenzene.

1,2,4-TMB = 1,2,4-trimethylbenzene.

1,2-DCA = 1,2-dichloroethane.

1,3,5-TMB = 1,3,5-trimethylbenzene.

cis-1,2-DCE = cis-1,2-dichloroethene.

PCE = tetrachloroethene.

TCE = trichloroethene.

Table 6
Total Organic Carbon and Dissolved Gases
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	Total Organic Carbon (mg/L)	Dissolved Gases (µg/L)		
		EPA Method 415.1 or SM 5310 B/C	Methane	Ethane	Ethene
Shallow On-Site Monitoring Wells					
MW-1	09/23/11	NA	9,400	12	8.2
	03/08/12	NA	15,000	18	34
	10/01/12	NA	9,900	11	10
	03/06/13	NA	14,000	16	34
	09/25/13	NA	16,000	12	10
	03/26/14	NA	17,000	26	39
	09/23/14	NA	15,000	14	19
	03/17/15	NA	6,540	9.1	7.7
	09/16/15	NA	4,190	14.7	13.0
	03/16/16	NA	7,730	29.7	10 U
	09/13/16	NA	9,800	21.1	10.0 U
	03/07/17	NA	4,640	13.4	1.0 U
	09/21/17	NA	4,660	8.6	1.9
03/20/18	NA	4,160 J-	15.2 J-	0.76 J-	
09/13/18	NA	7,700	10.5	0.84 j	
MW-4	09/23/11	19	14,000	360	240
	03/08/12	13.4	18,000	360	500
	10/01/12	NA	14,000	270	310
	03/06/13	NA	16,000	240	89
	09/26/13	NA	15,000	400	14
	03/25/14	NA	9,000	320	0.58
	09/23/14	NA	16,000	380	32
	03/17/15	NA	5,680	103	1.0 U
	09/17/15	NA	3,110	155	2.6
	03/14/16	NA	2,590	171 J	10 U
	09/14/16	NA	9,710	244	10.0 U
	03/09/17	NA	3,450	172	1.0 U
	09/21/17	NA	8,760 J	184	11.3
03/21/18	NA	4,410 J-	188 J-	R	
09/13/18	NA	6,330	102	6.1	
MW-5	04/01/10	6.3	NA	NA	NA
	04/09/10	5.7	NA	NA	NA
	04/16/10	6.0	NA	NA	NA
	05/06/10	5.9	NA	NA	NA
	06/09/10	5.0	NA	NA	NA
	07/06/10	4.8	NA	NA	NA
	07/06/10	5.6	NA	NA	NA
	03/03/11	4.40	43	0.017 J	0.041
	06/22/11	4.32	550	0.010 J	0.053
	09/22/11	3.87	730	0.10	0.035
	12/07/11	5.65	NA	NA	NA
	03/07/12	5.07	4,100	0.20	0.17
	06/26/12	4.94	NA	NA	NA
	07/12/12	NA	6,600	0.31	0.38
	09/27/12	6.38	6,200	0.33	0.16
	12/19/12	8.92	5,500	0.37 J	0.097 J
	03/06/13	5.08	6,700	0.40	0.13
	03/06/13 (DUP)	5.39	5,700	0.33	0.10
	06/06/13	6.51	NA	NA	NA
	09/26/13	7.11	1,500	0.38	0.24
	09/26/13 (DUP)	7.20	1,700	0.38	0.27
	03/25/14	7.09	1,800	0.57	0.14
	09/23/14	8.75	430	0.38	0.16
	03/16/15	6.8	142	1.0 U	1.0 U
	09/15/15	7.9	160	1.0 U	1.0 U
	03/15/16	6.3	477	10 U	10 U
	09/14/16	7.5	459	10.0 U	10.0 U
03/06/17	4.2	104	0.37 J	1.0 U	
09/20/17	7.7	57.0	1.0 U	1.0 U	
03/20/18	4.0	7.3 J-	1.0 UJ	1.0 UJ	
09/11/18	8.7	22.9	1.0 U	1.0 U	

Table 6
Total Organic Carbon and Dissolved Gases
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	Total Organic Carbon (mg/L)		Dissolved Gases (µg/L)		
		EPA Method 415.1 or SM 5310 B/C		Methane	Ethane	Ethene
MW-7	03/02/11	3.65		0.18	0.025 U	0.026
	06/22/11	5.30		0.59	0.025 U	0.019 J
	09/22/11	7.04		8.2	0.025 U	0.046
	12/07/11	9.44		NA	NA	NA
	03/07/12	5.13		0.24	0.0032 J	0.016 J
	06/26/12	5.52		NA	NA	NA
	07/12/12	NA		0.48	0.025 U	0.014 J
	09/27/12	11.2		28	0.0085 J	0.028
	12/19/12	18.3		1,200	0.028 J	0.034 J
	03/05/13	8.58		200	0.052	0.029
	06/06/13	6.37		NA	NA	NA
	09/24/13	11.1		240	0.055	0.024 J
	03/26/14	2.66		1.2	0.0092 J	0.010 J
	09/25/14	12.3		26	0.021 J	0.012 J
	03/18/15	2.6		0.50 U	1.0 U	1.0 U
	09/14/15	11.0		8.5	1.0 U	1.0 U
	03/15/16	1.9		10 U	10 U	10 U
	09/14/16	6.7		10.0 U	10.0 U	10.0 U
	03/08/17	2.3		0.38 J	1.0 U	1.0 U
	09/19/17	6.4		1.6	1.0 U	1.0 U
03/21/18	3.2		0.30 J-	1.0 UJ	1.0 UJ	
09/11/18	6.4		3.3	1.0 U	1.0 U	
MW-11	04/01/10	5.8		NA	NA	NA
	04/09/10	4.9		NA	NA	NA
	04/16/10	5.7		NA	NA	NA
	05/06/10	5.4		NA	NA	NA
	05/06/10 (LAB DUP)	6.4		NA	NA	NA
	06/09/10	5.2		NA	NA	NA
	06/09/10 (LAB DUP)	5.0		NA	NA	NA
	07/06/10	5.6		NA	NA	NA
MW-12	03/03/11	9.80		3.1	0.017 J	0.20
	06/22/11	47.7		9.3	0.080	0.54
	09/22/11	16.1		1,000	0.15	4.3
	09/22/11 (DUP)	20.8		1,600	0.20	4.7
	09/22/11 (LAB DUP)	NA		1,500	0.19	4.4
	12/07/11	16.0		NA	NA	NA
	03/07/12	13.5		4,000	0.88	0.67
	03/07/12 (DUP)	14.7		4,000	0.85	0.63
	06/26/12	17.9		NA	NA	NA
	07/12/12	NA		13,000	1.2	3.1
	10/02/12	20.0		14,000	1.4	4.9
	12/19/12	15.1		7,500	0.78 J	6.8
	03/06/13	12.0		11,000	1.1	7.1
	06/06/13	11.5		NA	NA	NA
	09/25/13	13.9		13,000	2.7	150
	03/25/14	11.7		7,800	1.6	5.3
	03/25/14 (DUP)	11.6		7,900	1.5	5.3
	09/23/14	15.6		12,000	4.7	6.4
	03/16/15	10.4		1,780	0.71 J	0.88 J
	3/16/15 (DUP)	NA		1,360	0.75 J	0.57 J
	09/15/15	12.8		3,140	1.8	1.2
	09/15/15 (DUP)	NA		2,270	2.1	1.3
	03/15/16	9.4		1,020	10 U	10 U
	03/15/16 (DUP)	NA		879	10 U	10 U
	09/14/16	15.2		1,550	10.0 U	10.0 U
	9/14/16 (DUP)	NA		1,970	10.0 U	10.0 U
	03/06/17	6.5		73.0	1.0 U	1.0 U
	3/6/17 (DUP)	NA		52.1	1.0 U	1.0 U
	09/20/17	14.4		749	2.5	1.0 U
	9/20/17 (DUP)	NA		762	2.7	1.0 U
03/20/18	7.4		117 J-	0.88 J-	1.0 UJ	
03/20/18 (DUP)	NA		112 J-	0.85 J-	1.0 UJ	
09/11/18	11.6		286	3.4	1.0 U	
09/11/18 (DUP)	NA		342	3.4	1.0 U	

Table 6
Total Organic Carbon and Dissolved Gases
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	Total Organic Carbon (mg/L)		Dissolved Gases (µg/L)		
		EPA Method 415.1 or SM 5310 B/C		Methane	Ethane	Ethene
MW-23	03/02/11	9.86		8.6	0.039	0.11
	06/22/11	8.94		4.4	0.016 J	0.042
	09/23/11	7.94		5.8	0.091	0.24
	12/07/11	11.0		NA	NA	NA
	03/07/12	11.4		160	0.21	0.05
	06/26/12	10.2		NA	NA	NA
	07/12/12	NA		2,200	1.1	0.028
	09/27/12	16.6		4,800	3.0	0.040
	12/19/12	20.2		670	0.35 J	0.044 J
	03/05/13	16.5		210	0.15	0.039
	06/06/13	9.86		NA	NA	NA
	09/24/13	16.3		97	0.070	0.026
	03/26/14	11.8		110	0.22	0.0200 J
	09/25/14	16.5		360	0.072	0.018 J
	09/25/14 (DUP)	NA		300	0.063	0.025
	03/18/15	9.4		144	1.0 U	1.0 U
	09/14/15	9.4		123	1.0 U	1.0 U
	03/15/16	9.7		519	10 U	10 U
	09/14/16	10.4		765	10.0 U	10.0 U
	03/08/17	7.5		148	1.0 U	1.0 U
09/19/17	10.8		2,100	2.8	1.0 U	
03/21/18	7.0		131 J-	R	R	
09/12/18	9.7		141	1.0 U	1.0 U	
Shallow On-Site Injection Wells						
IW-206-8	10/04/12	401		NA	NA	NA
IW-206-17	10/04/12	275		NA	NA	NA
IW-209-8	10/04/12	29.9		NA	NA	NA
IW-209-17	10/04/12	28.8		NA	NA	NA
IW-212-8	10/05/12	53.3		NA	NA	NA
IW-212-17	10/05/12	42.8		NA	NA	NA
IW-217-8	10/05/12	30.2		NA	NA	NA
IW-217-17	10/05/12	30.2		NA	NA	NA
Deep On-Site Monitoring Wells						
MW-13	03/29/10	29		NA	NA	NA
	04/07/10	30		NA	NA	NA
	04/07/10 (LAB DUP)	30		NA	NA	NA
	04/16/10	30		NA	NA	NA
	05/06/10	32		NA	NA	NA
	06/09/10	34		NA	NA	NA
	07/06/10	32		NA	NA	NA
	03/03/11	47.1		22,000	310	1,000
	03/03/11 (LAB DUP)	48.3		NA	NA	NA
	06/23/11	72.0		17,000	280	510
	09/22/11	63.5		16,000	240	1,000
	12/07/11	47.7		NA	NA	NA
	03/07/12	31.0		29,000	540	440
	06/27/12	31.0		NA	NA	NA
	07/12/12	NA		18,000	450	160
	10/02/12	19.6		22,000	450	29
	12/19/12	20.2		20,000	420	80
	03/07/13	15.8		20,000	570	3.2
	06/06/13	16.1		NA	NA	NA
	09/25/13	11.3		19,000	410	230
	03/26/14	12.5		16,000	440	2.2
	09/23/14	15.2		27,000	690	220
	03/17/15	1.9		1,620	18.9	1.0 U
09/15/15	7.7		14,400	206	37.3	

Table 6
Total Organic Carbon and Dissolved Gases
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	Total Organic Carbon (mg/L)	Dissolved Gases (µg/L)		
		EPA Method 415.1 or SM 5310 B/C	Methane	Ethane	Ethene
MW-13 (continued)	03/14/16	1.8	8,070	221	10 U
	09/15/16	9.8	22,000	540	10.0 U
	03/07/17	14.0	14,400	10.4	432
	09/20/17	14.8	16,400 J	303 J	3.9 J
	03/21/18	15.2	26,300 J-	411 J-	R
	09/11/18	14.6	14,600	223	137
MW-17	03/07/11	34.8	21,000	470	21
	03/07/11 (LAB DUP)	34.7	NA	NA	NA
	06/23/11	31.9	18,000	670	8.6
	09/22/11	25.1	19,000	530	12
	03/08/12	41.8	20,000	550	4.2
	06/27/12	37.1	NA	NA	NA
	07/12/12	NA	16,000	580	14
	10/01/12	32.5	18,000	440	13
	12/19/12	42.6	18,000	520	7.6
	03/07/13	30.5	18,000	570	3.6
	06/06/13	32.3	NA	NA	NA
	09/26/13	29.7	20,000	390	3.6
	03/26/14	19.1	14,000	300	3.0
	09/25/14	35.4	21,000	240	1.6
	03/19/15	26.6	9,630	122	0.82
	09/17/15	26.9	8,220	194	1.5
	03/14/16	3.8	6,460	99.2	10 U
09/14/16	28.6	17,800	228	10.0 U	
03/08/17	37.4	8,490	213	3.3	
09/19/17	33.5	11,700 J	127 J	2.9 J	
03/19/18	45.1	8,830 J-	149 J-	3.3 J-	
09/12/18	39.6	10,000	166	3.9	
MW-18	03/04/11	16.1	10,000	260	67
	06/23/11	17.9	9,000	24	0.42
	09/22/11	13.0	8,000	20	0.19
	03/07/12	18.8	9,700	39	36
	06/27/12	20.0	NA	NA	NA
	07/12/12	NA	10,000	100	35
	10/01/12	21.9	750	2.0	0.98
	12/19/12	21.2	12,000	50	6.2
	12/19/12 (DUP)	20.4	NA	NA	NA
	03/05/13	17.8	11,000	22	0.18
	06/06/13	18.4	NA	NA	NA
	09/26/13	< 20.0 E	10,000	220	0.18
	03/26/14	18.1	14,000	44	0.14
	09/24/14	14.4	8,200	26	0.61
	03/18/15	18.8	9,520	24.9	1.0 U
	09/14/15	16.9	3,160	28.8	0.77 J
	03/15/16	18.7	8,790	56.5	10 U
09/15/16	17.7	10,300	37.2	10.0 U	
03/09/17	18.3	4,960	20.8	1.0 U	
09/19/17	18.1	6,520	20.9	1.0 U	
03/21/18	20.3	12,200 J-	41.6 J-	1.0 UJ	
09/12/18	20.1	7,890	47.0	1.0 U	
MW-19	06/27/12	16.1	NA	NA	NA
	07/12/12	NA	1,000	140	270
	12/19/12	15.7	18,000	230	520
	03/05/13	NA	12,000	270	840
	06/06/13	16.7	NA	NA	NA
	06/06/13 (DUP)	16.0	NA	NA	NA
	09/25/14	20.5	NA	NA	NA
	03/19/15	16.2	NA	NA	NA
	09/15/15	16.4	NA	NA	NA
	03/14/16	17.1	NA	NA	NA
	09/13/16	13.8	NA	NA	NA
	03/09/17	16.0	NA	NA	NA
	09/19/17	15.7	7,480 J	212 J	225 J
03/19/18	15.9	NA	NA	NA	
09/12/18	17.0	NA	NA	NA	

Table 6
Total Organic Carbon and Dissolved Gases
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	Total Organic Carbon (mg/L)	Dissolved Gases (µg/L)		
		EPA Method 415.1 or SM 5310 B/C	Methane	Ethane	Ethene
MW-21	03/26/10	32	NA	NA	NA
	04/07/10	2,400	NA	NA	NA
	04/16/10	33	NA	NA	NA
	05/06/10	69	NA	NA	NA
	05/06/10 (DUP)	67	NA	NA	NA
	06/09/10	82	NA	NA	NA
	07/06/10	150	NA	NA	NA
	03/02/11	124	17,000	140	1,600
	03/02/11 (DUP)	120	16,000	130	1,400
	03/02/11 (LAB DUP)	122	NA	NA	NA
	06/23/11	136	18,000	100	1,400
	06/23/11 (DUP)	137	20,000	110	1,600
	09/22/11	366	21,000	120	1,500
	12/07/11	386	NA	NA	NA
	03/08/12	455	17,000	150	720
	06/26/12	399	NA	NA	NA
	07/12/12	NA	14,000	94	970
	10/01/12	313	NA	NA	NA
	10/01/12 (DUP)	330	NA	NA	NA
	10/02/12	NA	14,000	84	1,200
	10/02/12	NA	12,000	73	1,100
	12/20/12	33.5	14,000	89	830
	03/06/13	186	18,000	96	1,200
	06/06/13	111	NA	NA	NA
	09/25/13	67.1	20,000	60	1,000
	03/26/14	59.5	25,000	140	830
	09/24/14	62.8	25,000	280	730
03/17/15	22.4	12,200	185	73.5	
09/15/15	26.6	16,400	211	13.3	
03/16/16	29.0	18,500	655	35.9	
09/15/16	21.6	21,700	798	37.1	
03/07/17	20.5	10,800	543	12.5	
09/20/17	20.0	13,200	673	8.1	
03/20/18	17.1	17,700	18,700 J-	849 J-	44.2 J-
09/11/18	19.1	17,700	17,700	1140	1.0 U
MW-22	03/04/11	19.9	16,000	880	940
	06/23/11	21.5	15,000	780	140
	09/23/11	35.1	18,000	1,100	220
	12/07/11	50.9	NA	NA	NA
	03/08/12	39.6	27,000	620	900
	06/26/12	32.6	NA	NA	NA
	06/26/12 (DUP)	32.4	NA	NA	NA
	07/12/12	NA	18,000	470	860
	10/02/12	24.7	22,000	600	810
	12/19/12	18.3	24,000	640	120
	03/06/13	15.1	24,000	520	330
	06/06/13	17.6	NA	NA	NA
	09/25/13	11.7	23,000	430	290
	03/26/14	14.3	25,000	480	170
	09/24/14	18.9	26,000	390	37
	03/17/15	14.8	11,300	104	111
	09/15/15	15.6	9,420	68.3	25.1
	03/16/16	16.2	20,800	299	46.5
	09/15/16	21.2	23,200	235	10.0 U
	03/07/17	21.4	11,100	163	1.0 U
09/20/17	23.9	8,410 J	97.6 J	0.97 J	
03/21/18	21.5	21,700 J-	25,700 J-	303 J-	R
09/11/18	23.8	21,700 J-	21,700 J-	155	1.1
MW-24	03/26/10	27	NA	NA	NA
	04/07/10	2,200	NA	NA	NA
	04/16/10	23	NA	NA	NA
	05/06/10	58	NA	NA	NA

Table 6
Total Organic Carbon and Dissolved Gases
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	Total Organic Carbon (mg/L)		Dissolved Gases (µg/L)		
		EPA Method 415.1 or SM 5310 B/C		Methane	Ethane	Ethene
MW-24 (continued)	06/09/10	68		NA	NA	NA
	07/06/10	74		NA	NA	NA
	7/6/10 (DUP)	72		NA	NA	NA
MW-25	03/29/10	23		NA	NA	NA
	04/07/10	24		NA	NA	NA
	04/16/10	23		NA	NA	NA
	05/06/10	26		NA	NA	NA
	06/09/10	33		NA	NA	NA
	07/06/10	43		NA	NA	NA
MW-26	04/01/10	3.7		NA	NA	NA
	4/1/10 (LAB DUP)	3.7		NA	NA	NA
	04/09/10	4.0		NA	NA	NA
	04/16/10	3.8		NA	NA	NA
	05/06/10	4.2		NA	NA	NA
	06/09/10	4.6		NA	NA	NA
	07/06/10	7.0		NA	NA	NA
	07/06/10 (LAB DUP)	NA		NA	NA	NA
Deep On-Site Injection Wells						
IW-106-37	10/08/12	57.2		NA	NA	NA
IW-106-27	10/08/12	60.0		NA	NA	NA
IW-115-27	10/08/12	61.2		NA	NA	NA
IW-115-37	10/08/12	55.4		NA	NA	NA
IW-130-27	10/05/12	81.4		NA	NA	NA
IW-130-37	10/05/12	86.0		NA	NA	NA
IW-137-28	10/04/12	55.0		NA	NA	NA
IW-137-38	10/04/12	49.0		NA	NA	NA
Deep Off-Site Monitoring Well						
MW-20	06/06/13	25.3		NA	NA	NA
	09/19/17	35.5		8,730 J	487 J	3.1 J

Notes:

Analyses prior to 2011 and after 2014 performed using Modified RSK Method 175.

Analyses from 2011 to 2014 performed using Microseeps Method AM20GAX.

Starting in March 2015, the laboratory was changed to SGS/Accutest.

mg/L = milligrams per liter

µg/L = micrograms per liter

< or U = not detected, the associated value is the quantification limit

UJ = Nondetected, estimated at the report limit

J / j = the associated numerical value is an estimated quantity based on data review or laboratory estimate above the MDL but below the MRL.

J- = Estimated detection with low bias

R = Result is rejected

DUP = duplicate sample collected in the field and blind labeled

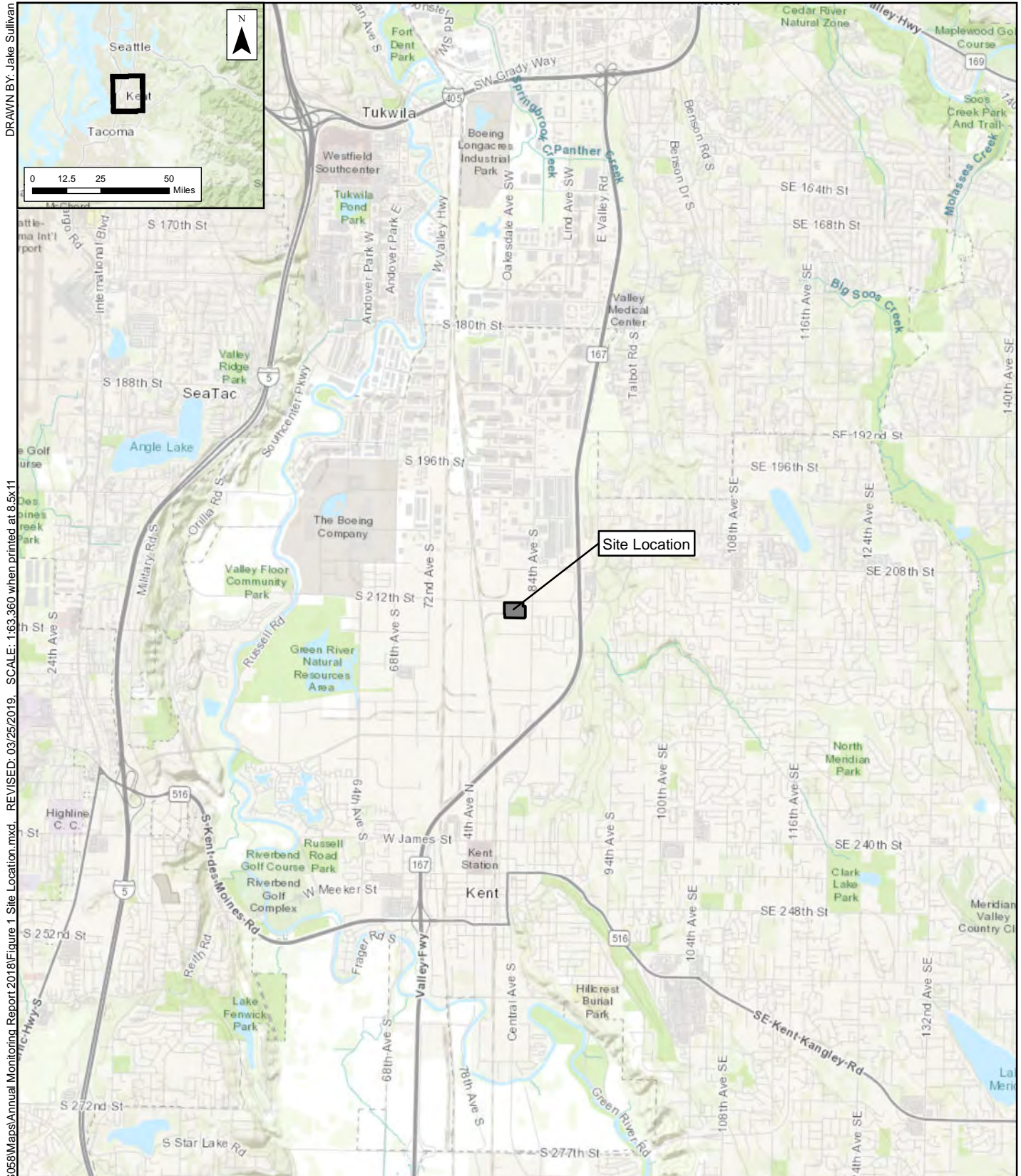
LAB DUP = laboratory duplicate sample

NA = not analyzed

FIGURES

March 2019

M:\Projects\Univar\Kent WA 212th St S058\Maps\Annual Monitoring_Report 2018\Figure 1 Site Location.mxd, REVISED: 03/25/2019, SCALE: 1:63,360 when printed at 8.5x11



Legend
 Site Boundary

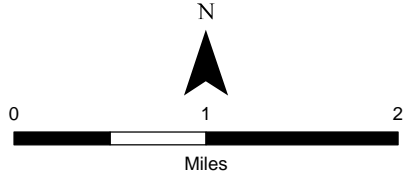
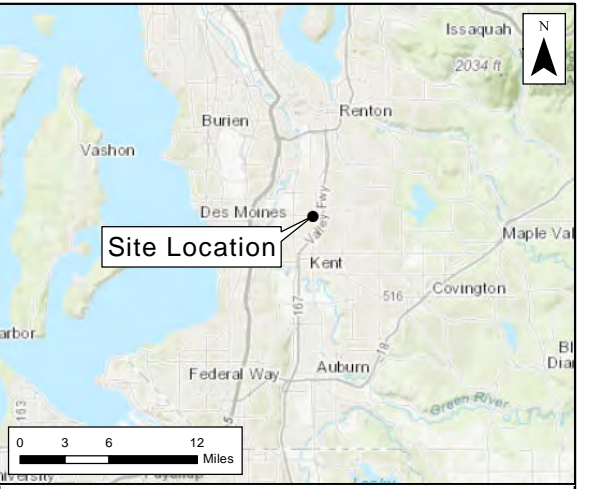
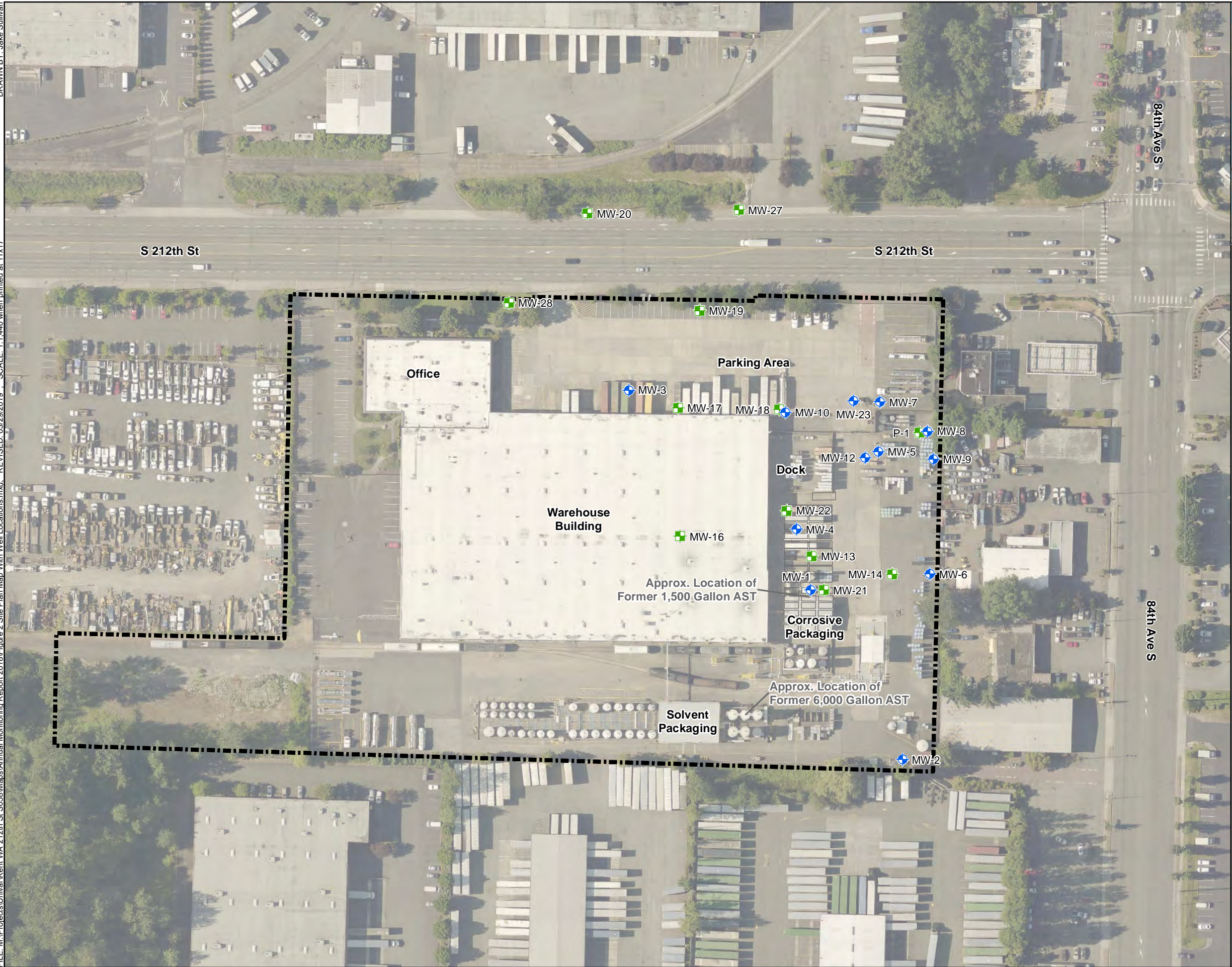


Figure 1
Site Location
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington

Source: Esri - World Topographic Map; NAD 1983 StatePlane Washington North FIPS 4601 Feet



- Legend**
- Shallow Monitoring Well
 - Deep Monitoring Well
 - Approx. Former UST Location
 - Site Boundary

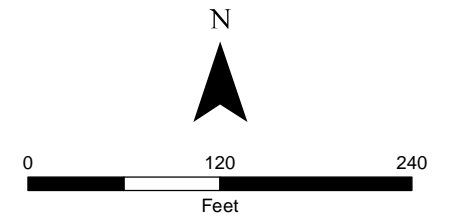
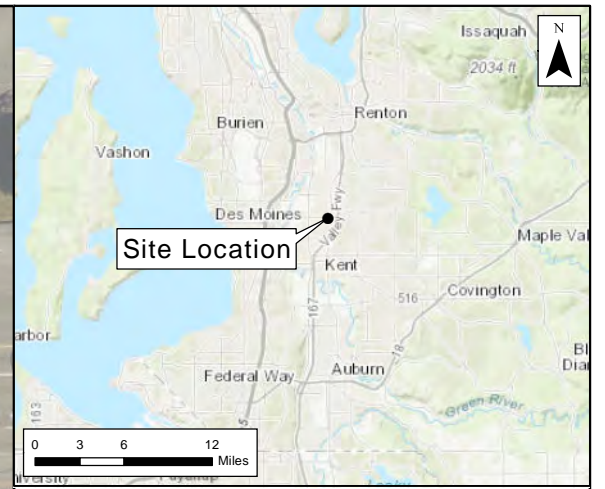
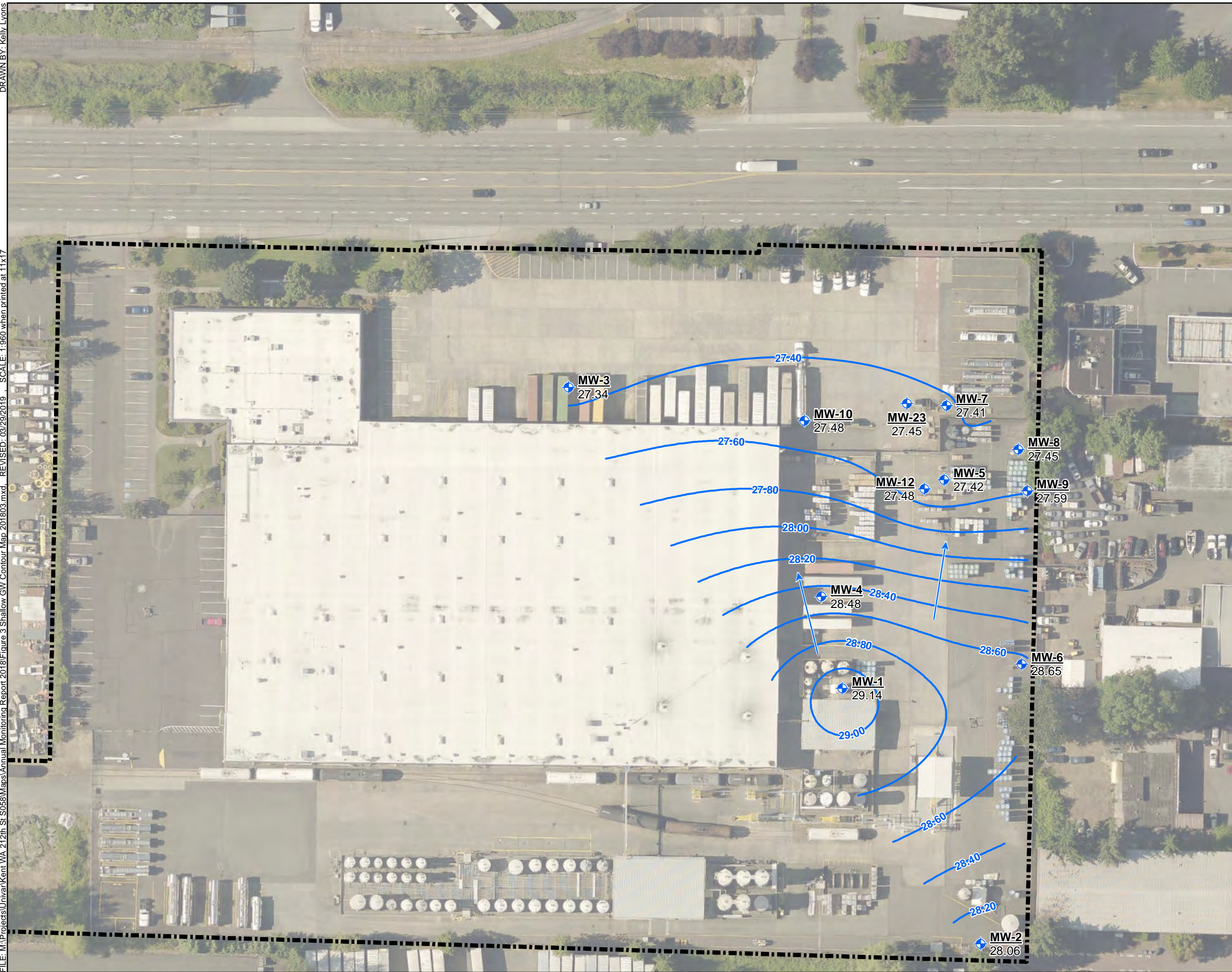


Figure 2
Site Plan Map
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington

Source: King County aerial imagery, flown 2017, 3 inches per pixel; NAD 1983 StatePlane Washington North FIPS 4601 Feet



Legend

- Shallow Monitoring Well
- Flow Direction
- Groundwater Contour (0.20 ft)
- Site Boundary

Notes:
 Groundwater elevations measured March 19, 2018.
 All groundwater elevations given in North American Vertical Datum of 1988 (NAVD88) feet.

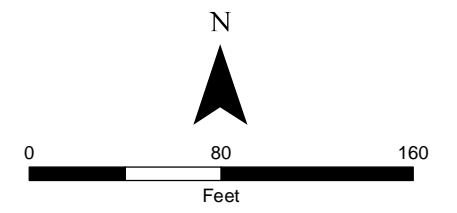
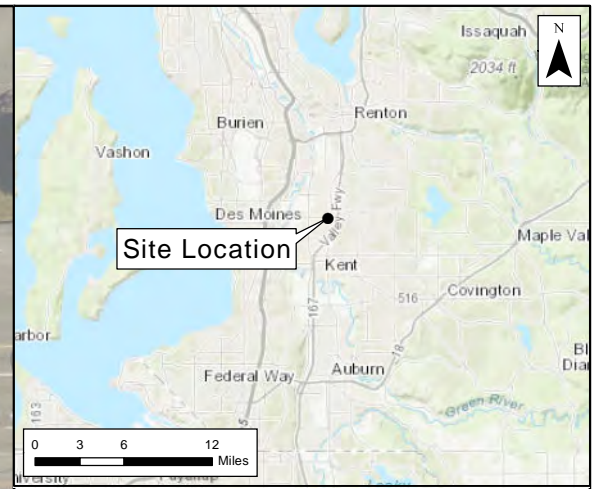


Figure 3
Shallow Groundwater
Elevation Contours
 March 2018
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington



- Legend**
- Shallow Monitoring Well
 - Flow Direction
 - Groundwater Contour (0.20 ft)
 - Site Boundary

Notes:
 Groundwater elevations measured September 10, 2018.
 All groundwater elevations given in North American Vertical Datum of 1988 (NAVD88) feet.

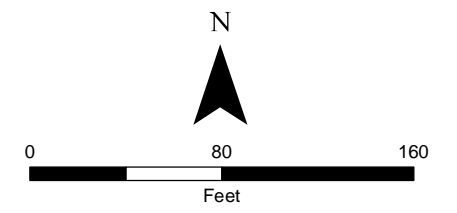
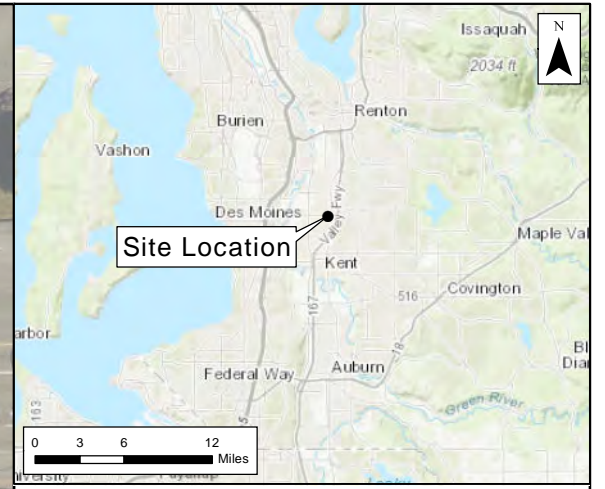


Figure 4
Shallow Groundwater Elevation Contours
 September 2018
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington



Legend

- Deep Monitoring Well
- Flow Direction
- Groundwater Contour (0.05 ft)
- Site Boundary

Notes:
 * Data considered anomalous. Not used for contouring.
 Groundwater elevations measured March 19, 2018.
 All groundwater elevations given in North American Vertical Datum of 1988 (NAVD88) feet.

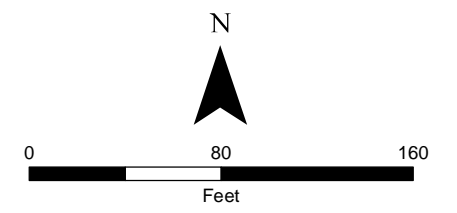
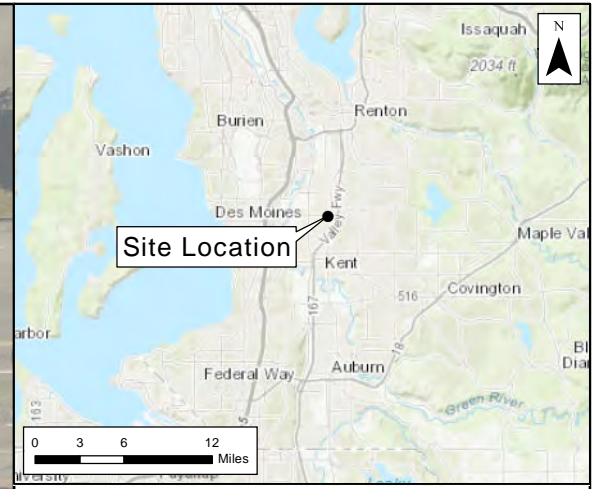


Figure 5
Deep Groundwater
Elevation Contours
 March 2018
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington



Legend

- Shallow Monitoring Well
- Flow Direction
- Groundwater Contour (0.05 ft)
- Site Boundary

Notes:
 NM: Not Measured.
 * MW22 could not be accessed.
 Groundwater elevations measured September 10, 2018.
 All groundwater elevations given in North American Vertical Datum of 1988 (NAVD88) feet.

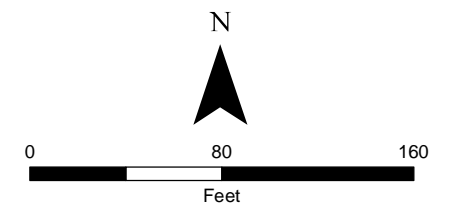
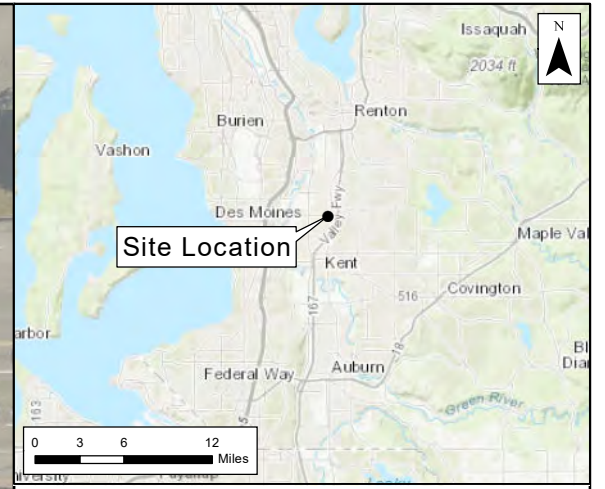
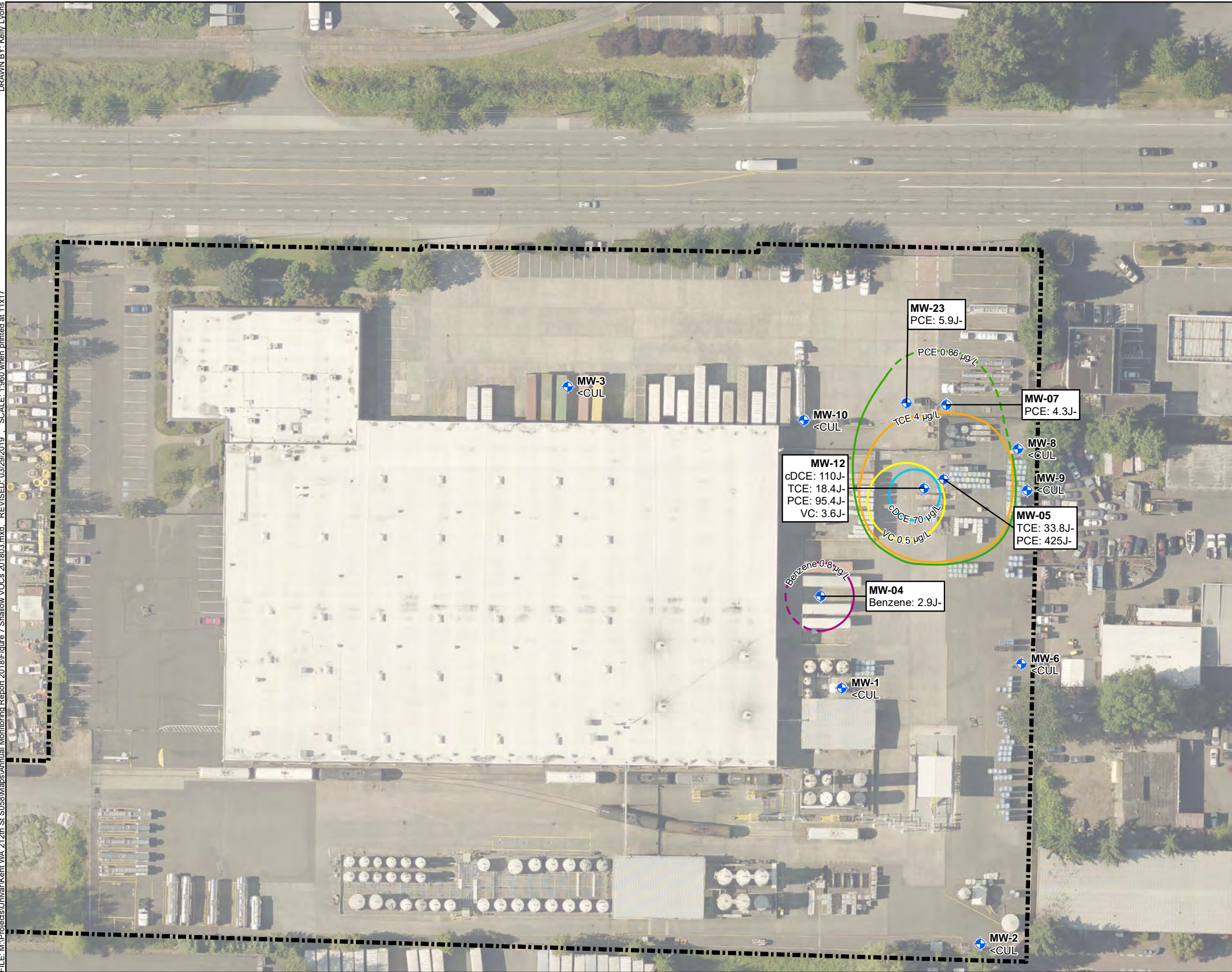


Figure 6
Deep Groundwater
Elevation Contours
 September 2018
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington



Legend

- Shallow Monitoring Well
- Benzene Isoconcentration Contour
- cDCE Isoconcentration Contour
- PCE Isoconcentration Contour
- TCE Isoconcentration Contour
- VC Isoconcentration Contour
- Site Boundary

Notes:
 Isoconcentration lines dashed where inferred.
 Results in µg/L (micrograms per liter).
 Samples collected March 20-21, 2018.
 Only chemicals detected above CUL levels are shown. Isoconcentration lines developed using all data included in Table 5 of the 2018 Annual Groundwater Monitoring Report.

CUL: Cleanup Level
VOC: Volatile Organic Compound
J-: Estimated detection with low bias
1,2-DCA: 1,2-Dichloroethane
cDCE: cis-1,2-Dichloroethene
TCE: Trichloroethene
PCE: Tetrachloroethene
VC: Vinyl chloride

Cleanup Levels:
 1,2-DCA: 0.5 µg/L
 Benzene: 0.8 µg/L
 cDCE: 70 µg/L
 Ethylbenzene: 700 µg/L
 TCE: 4 µg/L
 PCE: 0.86 µg/L
 VC: 0.5 µg/L

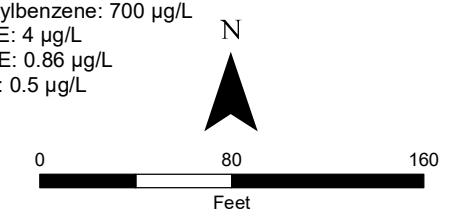
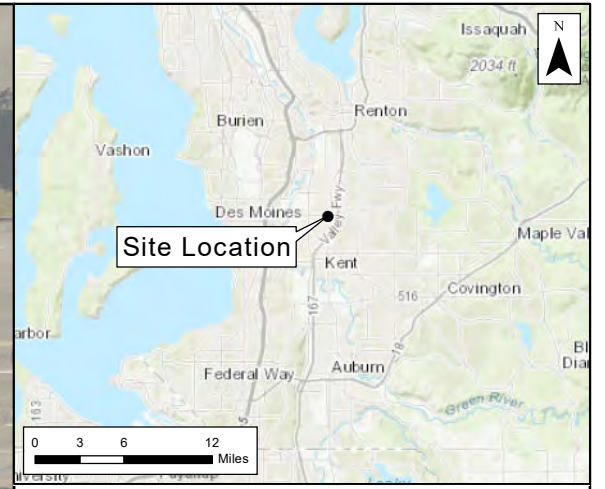


Figure 7
VOC Concentrations in
Shallow Groundwater
 March 2018
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington

Source: King County aerial imagery, flown 2017, 3 inches per pixel; NAD 1983 StatePlane Washington North FIPS 4601 Feet



Legend

- ◆ Shallow Monitoring Well
- Benzene Isoconcentration Contour
- PCE Isoconcentration Contour
- TCE Isoconcentration Contour
- VC Isoconcentration Contour
- cDCE Isoconcentration Contour
- Site Boundary

Notes:
 Isoconcentration lines dashed where inferred.
 Results in µg/L (micrograms per liter).
 Samples collected September 11-13, 2018.
 Only chemicals detected above CUL levels are shown.
 Isoconcentration lines developed using all data included in Table 5 of the 2018 Annual Groundwater Monitoring Report.

CUL: Cleanup Level
 VOC: Volatile Organic Compound
 1,2-DCA: 1,2-Dichloroethane
 cDCE: cis-1,2-Dichloroethene
 TCE: Trichloroethene
 PCE: Tetrachloroethene
 VC: Vinyl chloride
 Cleanup Levels:
 1,2-DCA: 0.5 µg/L
 Benzene: 0.8 µg/L
 cDCE: 70 µg/L
 Ethylbenzene: 700 µg/L
 TCE: 4 µg/L
 PCE: 0.86 µg/L
 VC: 0.5 µg/L

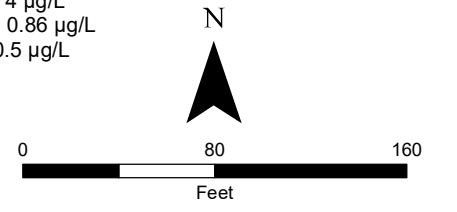
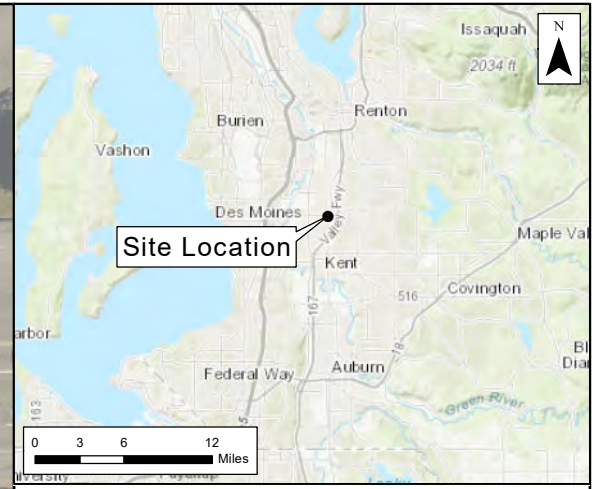


Figure 8
VOC Concentrations in
Shallow Groundwater
 September 2018
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington



- Legend**
- Deep Monitoring Well
 - Benzene Isoconcentration Contour
 - Ethylbenzene Isoconcentration Contour
 - Xylenes Isoconcentration Contour
 - Site Boundary

Notes:
 Isoconcentration lines dashed where inferred.
 Results in µg/L (micrograms per liter).
 Samples collected September 11-13, 2018.
 Only chemicals detected above CUL levels are shown.
 Isoconcentration lines developed using all data included in Table 5 of the 2018 Annual Groundwater Monitoring Report.

CUL: Cleanup Level
VOC: Volatile Organic Compound
J-: Estimated detected result
J-: Estimated detection with low bias
1,2-DCA: 1,2-Dichloroethane
cDCE: cis-1,2-Dichloroethane
TCE: Trichloroethene
PCE: Tetrachloroethene
VC: Vinyl chloride

Cleanup Levels:
 1,2-DCA: 0.5 µg/L
 Benzene: 0.8 µg/L
 cDCE: 70 µg/L
 Ethylbenzene: 700 µg/L
 TCE: 4 µg/L
 PCE: 0.86 µg/L
 VC: 0.5 µg/L
 Xylenes: 1,600 µg/L

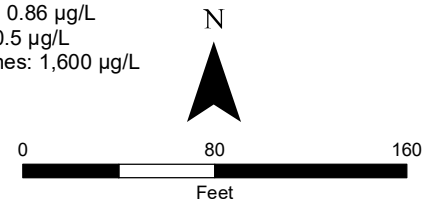
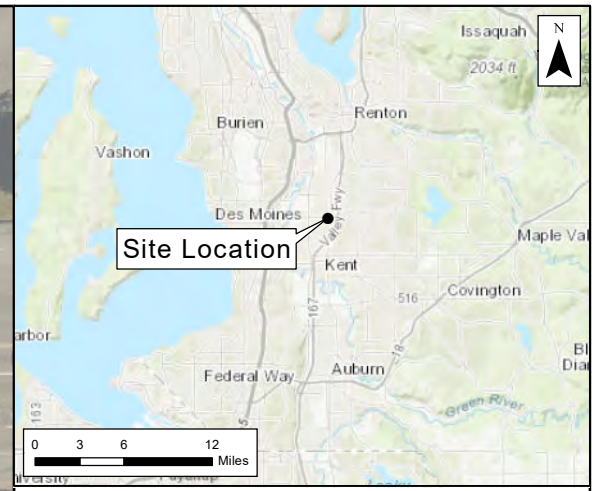


Figure 9
VOC Concentrations in
Deep Groundwater
 March 2018
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington



- Legend**
- Deep Monitoring Well
 - Benzene Isoconcentration Contour
 - VC Isoconcentration Contour
 - Xylenes Isoconcentration Contour
 - Site Boundary

Notes:
 Isoconcentration lines dashed where inferred.
 Results in µg/L (micrograms per liter).
 Samples collected September 11-13, 2018.
 Only chemicals detected above CUL levels are shown.
 Isoconcentration lines developed using all data included in Table 5 of the 2018 Annual Groundwater Monitoring Report.
 CUL: Cleanup Level
 VOC: Volatile Organic Compound
 J-: Estimated detection with low bias
 1,2-DCA: 1,2-Dichloroethane
 cDCE: cis-1,2-Dichloroethene
 TCE: Trichloroethene
 PCE: Tetrachloroethene
 VC: Vinyl chloride
 Cleanup Levels:
 1,2-DCA: 0.5 µg/L
 Benzene: 0.8 µg/L
 cDCE: 70 µg/L
 Ethylbenzene: 700 µg/L
 TCE: 4 µg/L
 PCE: 0.86 µg/L
 VC: 0.5 µg/L
 Xylenes: 1,600 µg/L

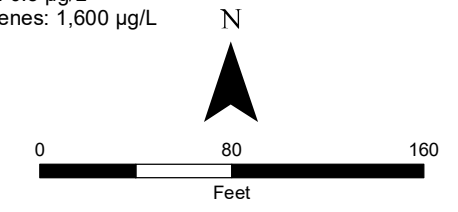


Figure 10
VOC Concentrations in
Deep Groundwater
 September 2018
 Univar USA, Inc.
 8201 S 212th St
 Kent, Washington

APPENDIX A FIELD FORMS

March 2019

APPENDIX A – FIELD NOTES AND SAMPLING FORMS

Field Notes and Sampling Forms

Number	Field Note and Sampling Form Reference
01	March 2018 water level data
02	March 2018 field parameter data and purge logs
03	September 2018 water level form
04	September 2018 field parameter data and purge logs

WATER LEVEL DATA FORM

PAGE: <u>1</u>	OF: <u>1</u>
DATE: <u>3/19/18</u>	
PROJECT: Univar Kent	
JOB No: 60559583.701	
FIELD PERSONNEL: <u>DJ SH</u>	
RECORDED BY: <u>DL SH</u>	
DATUM: <input type="checkbox"/> MEAN SEA LEVEL	

MEASURING INSTRUMENT:

STEEL TAPE OTHER-

ELECTRONIC SOUNDER SERIAL No.

	WELL I.D.	TIME	DEPTH TO WATER (Feet)	TIME	DEPTH TO WATER (Feet)	COMMENTS (well condition, odor, presence of product, etc.)
Shallow Zone (SZ)	MW-1	1012	4.01			<i>some pressure</i>
	MW-2	1016	5.73			
	MW-3	0913	5.60			
	MW-4	0955	4.38			
	MW-5	1038	5.18			
	MW-6	1023	4.40			
	MW-7	0900	5.55			
	MW-8	1032	6.12			
	MW-9	1027	6.18			
	MW-10	0852	5.41			
	MW-11	1037	5.31			
	MW-12	1040	5.33			
MW-23	0857	5.33				
Deep Zone (DZ)	MW-13	1002	5.30	1159	5.29	
	MW-14	1021	5.01	1204	5.01	
	MW-16	1044	9.42	1210	9.39	
	MW-17	0910	5.18	1055	5.22	HIGH Pressure
	MW-18	0854	5.30	1053	5.29	
	MW-19	0906	6.11	1057	6.12	<i>some pressure</i>
	MW-20	0932	6.53	1114	5.87	Offsite High pressure
	MW-21	1005	6.09	1203	5.32	High pressure
	MW-22	0952	5.72	1156	5.69	
	MW-24	1007	5.18	1202	5.14	Broken bolt mounts
	MW-25	0958	5.23	1158	5.25	BIO-FOULING
	MW-27	0928	5.73	1111	5.70 5.71	Offsite <i>some pressure</i>
	MW-28	0921	7.65	1105	7.39	Offsite <i>some pressure</i>
	P-1	1033	6.17	1206	6.12	

Note: Deep Zone MW's two rounds of measurements - initial water level and second after >1hr.

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3-20-18

Well No. MW-1
 Sampled By SH
 Weather Sunny 55 °F

WELL INFORMATION	
Depth to water	<u>3.98</u> (ft)
Depth of well:	<u>21</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>4-19</u> (ft)
well condition:	

COMMENTS
Sample Depth: 13 ft.

PURGE DATA							
start purge time	<u>1455</u>						
time		<u>1500</u>	<u>1505</u>	<u>1510</u>	<u>1515</u>	<u>1520</u>	
DTW	(ft)	<u>4.24</u>	<u>4.32</u>	<u>4.39</u>	<u>4.44</u>	<u>4.47</u>	
purge rate	(L/min)	<u>0.175</u>	<u>0.175</u>	<u>0.175</u>	<u>0.150</u>	<u>0.150</u>	
pH	(Units)	<u>6.43</u>	<u>6.59</u>	<u>6.68</u>	<u>6.73</u>	<u>6.76</u>	
conductivity	(umhos/cm)	<u>0.793</u>	<u>0.708</u>	<u>0.696</u>	<u>0.697</u>	<u>0.701</u>	
temperature	(deg C)	<u>11.74</u>	<u>11.07</u>	<u>10.90</u>	<u>10.95</u>	<u>10.83</u>	
D.O.	(mg/L)	<u>0.49</u>	<u>0.44</u>	<u>0.40</u>	<u>0.41</u>	<u>0.42</u>	
ORP	(mv)	<u>-6.5</u>	<u>-5.2</u>	<u>-5.5</u>	<u>-3.2</u>	<u>-2.6</u>	
turbidity	(NTU)	<u>9.11</u>	<u>3.97</u>	<u>3.45</u>	<u>2.79</u>	<u>2.61</u>	
purge and sample equip.		<u>peristaltic pump</u>					

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-1-032018</u>	<u>1525</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>
		<u>RSK175</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3/21/18

Well No. MW-2
 Sampled By Drews
 Weather cloudy °F 55

WELL INFORMATION	
Depth to water	<u>5.53</u> (ft)
Depth of well:	<u>21</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	<u>————</u> (ft)
Screen interval:	<u>4-19</u> (ft)
well condition:	<u>OK</u>

COMMENTS
Sample Depth: 13 ft

PURGE DATA							
start purge time	<u>1303</u>						
time		<u>1317</u>	<u>1322</u>	<u>1327</u>	<u>1332</u>	<u>1337</u>	
DTW	(ft)	<u>5.53</u>	<u>5.53</u>	<u>5.53</u>	<u>5.53</u>	<u>5.53</u>	
purge rate	(L/min)	<u>1200</u>	<u>200</u>	<u>200</u>	<u>1200</u>	<u>1200</u>	
pH	(Units)	<u>6.38</u>	<u>6.37</u>	<u>6.37</u>	<u>6.35</u>	<u>6.35</u>	
conductivity $\mu S/cm$	(umhos/cm)	<u>750</u>	<u>756</u>	<u>759</u>	<u>762</u>	<u>762</u>	
temperature	(deg C)	<u>14.36</u>	<u>14.35</u>	<u>14.45</u>	<u>14.41</u>	<u>14.41</u>	
D.O.	(mg/L)	<u>1.73</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
ORP	(mv)	<u>32.7</u>	<u>18.0</u>	<u>7.7</u>	<u>-1.3</u>	<u>-3.6</u>	
turbidity	(NTU)	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
purge and sample equip.		<u>peristaltic pump</u>					

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-2-032118</u>	<u>1340</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3/19/18

Well No. MW-3
 Sampled By DL
 Weather overcast °F 50

WELL INFORMATION	
Depth to water	<u>5.55</u> (ft)
Depth of well:	<u>21</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>4-19</u> (ft)
well condition:	<u>no bolts</u>

COMMENTS
Sample Depth: 13 ft
<u>Yellow tint to water</u>

PURGE DATA							
start purge time	<u>1432</u>						
time		<u>1440</u>	<u>1445</u>	<u>1450</u>	<u>1455</u>	<u>1500</u>	<u>1505</u>
DTW	(ft)	<u>5.58</u>	<u>5.58</u>	<u>5.58</u>	<u>5.58</u>	<u>5.58</u>	<u>5.58</u>
purge rate	(L/min)	<u>.200</u>	<u>.200</u>	<u>.200</u>	<u>.200</u>	<u>.200</u>	<u>.200</u>
pH	(Units)	<u>6.94</u>	<u>6.94</u>	<u>6.97</u>	<u>6.98</u>	<u>7.01</u>	<u>7.02</u>
conductivity	(umhos/cm)	<u>456</u>	<u>463</u>	<u>462</u>	<u>465</u>	<u>466</u>	<u>466</u>
temperature	(deg C)	<u>11.97</u>	<u>12.43</u>	<u>12.41</u>	<u>12.52</u>	<u>12.58</u>	<u>12.62</u>
D.O.	(mg/L)	<u>1.32</u>	<u>1.79</u>	<u>0.37</u>	<u>0.88</u>	<u>0.94</u>	<u>0.96</u>
ORP	(mv)	<u>-53.0</u>	<u>-51.3</u>	<u>-66.6</u>	<u>-78.4</u>	<u>-78.4</u>	<u>-78.9</u>
turbidity	(NTU)	<u>11.72</u>	<u>4.68</u>	<u>3.98</u>	<u>3.52</u>	<u>2.04</u>	<u>1.50</u>
purge and sample equip.	<u>peristaltic pump</u>						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-3-031918</u>	<u>1510</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)

Well No. MW-4

Project No. 60559583.701 (labor only)
(Labor only)

Sampled By SM

Date 3-21-18

Weather 50 °F

WELL INFORMATION	
Depth to water	4.21 (ft)
Depth of well:	15 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	4.5-14.5 (ft)
well condition:	

COMMENTS
Sample Depth: 10 ft

PURGE DATA								
start purge time	1111							
time		1116	1121	1126	1131	1136	1141	SM
DTW (ft)		4.43	4.50	4.53	4.58	4.61	4.61	
purge rate (L/min)		0.175	0.150	0.150	"	"	"	
pH (Units)		6.80	6.94	6.99	7.02	7.03	7.05	
conductivity (µmhos/cm)		0.873	0.884	0.885	0.886	0.889	0.890	
temperature (deg C)		10.55	10.47	10.47	10.46	10.42	10.41	
D.O. (mg/L)		2.21	0.85	0.86	0.86	0.83	0.88	
ORP (mv)		168.1	98.2	63.1	49.4	42.8	38.6	
turbidity (NTU)		3.28	2.03	1.77	1.73	1.75	2.25	
purge and sample equip.		peristaltic pump						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
MW-4-032118	1155	VOCs 8260	VOAs	3	HCL
		RSK175	VOAs	3	HCL
MS/MSD		VOCs 8260	VOAs	6/8	HCL
		RSK175	VOAs	6/8	HCL

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3-20-18

Well No. MW-5
 Sampled By SH
 Weather 45 °F

WELL INFORMATION	
Depth to water	5.13 (ft)
Depth of well:	15 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	4.5-14.5 (ft)
well condition:	

COMMENTS
Sample Depth: 10 ft
Large slug of level seen during initial purge

PURGE DATA								
start purge time	0920							
time		0925	0930	0935	0940	0945	0950	0955
DTW	(ft)	5.26	5.29	5.31	5.31	5.31	5.31	5.31
purge rate	(L/min)	0.175	"	"	"	"	"	"
pH	(Units)	6.86	6.38	6.23	6.13	6.08	6.06	6.03
conductivity	(µmhos/cm)	0.160	0.157	0.156	0.157	0.159	0.159	0.161
temperature	(deg C)	11.37	11.42	11.49	11.58	11.78	11.75	11.88
D.O.	(mg/L)	0.69	0.59	0.46	0.50	0.57	0.77	0.69
ORP	(mv)	182.7	123.5	86.6	66.2	55.3	54.3	46.9
turbidity	(NTU)	27.9	14.4	10.75	8.38	6.17	5.83	5.04
purge and sample equip.		peristaltic pump						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
MW-5-032018	1005	VOCs 8260	VOAs	3	HCL
		TOC	Amber VOAs	2	HCL
		RSK175	VOAs	3	HCL

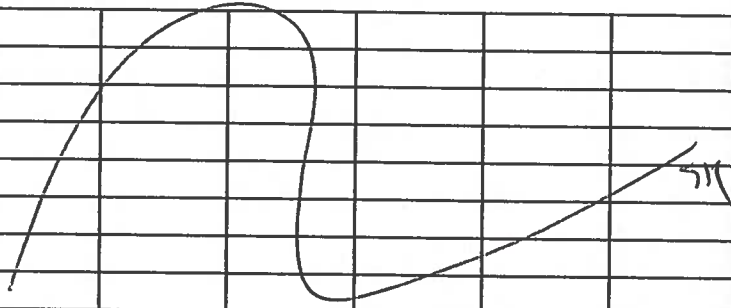
GROUNDWATER SAMPLING LOG (CONTINUED)

Project name Univar Kent (S 212th Street)
 Project No. 60527139.701 (labor only)
 (Labor only)
 Date 3-20-18

Well No. MW-5
 Sampled By SH

PURGE DATA (CONTINUED FROM PAGE 1)

start purge time	<u>0920</u>								
time		<u>1000</u>							
DTW	(ft)	<u>5.31</u>							
purge rate	(L/min)	<u>0.175</u>							
pH	(Units)	<u>6.03</u>							
conductivity	(umhos/cm)	<u>0.162</u>							
temperature	(deg C)	<u>11.99</u>							
D.O.	(mg/L)	<u>0.62</u>							
ORP	(mv)	<u>45.1</u>							
turbidity	(NTU)	<u>4.29</u>							
purge and sample equip.									



GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3/20/18

Well No. MW-6
 Sampled By D Lewis
 Weather Clear °F 50

WELL INFORMATION	
Depth to water	<u>4.35</u> (ft)
Depth of well:	<u>15</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>4.5-14.5</u> (ft)
well condition:	<u>good</u>

COMMENTS
Sample Depth: 10 ft

PURGE DATA								
start purge time	<u>1650</u>							
time		<u>1100</u>	<u>1105</u>	<u>1110</u>	<u>1115</u>	<u>1120</u>	<u>1125</u>	
DTW	(ft)	<u>6.58</u>	<u>6.58</u>	<u>6.58</u>	<u>6.58</u>	<u>6.58</u>	<u>6.58</u>	
purge rate	(L/min)	<u>.200</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	
pH	(Units)	<u>6.28</u>	<u>6.30</u>	<u>6.30</u>	<u>6.30</u>	<u>6.30</u>	<u>6.30</u>	
conductivity µS/cm (µmhos/cm)		<u>580</u>	<u>640</u>	<u>860</u>	<u>840</u>	<u>853</u>	<u>862</u>	
temperature	(deg C)	<u>12.23</u>	<u>12.46</u>	<u>12.61</u>	<u>12.73</u>	<u>12.78</u>	<u>12.81</u>	
D.O.	(mg/L)	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
ORP	(mv)	<u>-7.2</u>	<u>-11.6</u>	<u>-13.4</u>	<u>-13.9</u>	<u>-15.3</u>	<u>-16.1</u>	
turbidity	(NTU)	<u>2.70</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
purge and sample equip.		<u>peristaltic pump</u>						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-6-032018</u>	<u>1130</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)

Well No. MW-7

Project No. 60559583.701 (labor only)
(Labor only)

Sampled By SH

Date 3-21-18

Weather 45 °F

WELL INFORMATION	
Depth to water	<u>5.41</u> (ft)
Depth of well:	<u>15</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>4.5-14.5</u> (ft)
well condition:	

COMMENTS
Sample Depth: 10 ft

PURGE DATA						
start purge time	<u>1000</u>					
time		<u>1005</u>	<u>1010</u>	<u>1015</u>	<u>1020</u>	
DTW	(ft)	<u>5.49</u>	<u>5.47</u>	<u>5.46</u>	<u>5.46</u>	
purge rate	(L/min)	<u>0.175</u>	<u>0.150</u>	<u>0.150</u>	<u>"</u>	
pH	(Units)	<u>6.55</u>	<u>6.47</u>	<u>6.45</u>	<u>6.43</u>	
conductivity	(µmhos/cm)	<u>0.168</u>	<u>0.177</u>	<u>0.182</u>	<u>0.184</u>	
temperature	(deg C)	<u>12.03</u>	<u>11.99</u>	<u>12.21</u>	<u>12.34</u>	
D.O.	(mg/L)	<u>2.58</u>	<u>3.15</u>	<u>3.35</u>	<u>3.19</u>	
ORP	(mv)	<u>33.4</u>	<u>37.4</u>	<u>41.1</u>	<u>40.8</u>	
turbidity	(NTU)	<u>10.09</u>	<u>5.19</u>	<u>3.28</u>	<u>2.54</u>	
purge and sample equip.		<u>peristaltic pump</u>				

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-7-032118</u>	<u>1030</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>
		<u>TOC</u>	<u>Amber VOAs</u>	<u>2</u>	<u>HCL</u>
		<u>RSK175</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)

Well No. MW-8

Project No. 60559583.701 (labor only)

Sampled By SH

(Labor only)

Date 3-20-18

Weather SO °F

WELL INFORMATION		
Depth to water	<u>6.07</u>	(ft)
Depth of well:	<u>15</u>	(ft)
Well diameter:	<u>2</u>	(in)
Feet of water:		(ft)
Product thickness:		(ft)
Screen interval:	<u>4.5-14.5</u>	(ft)
well condition:		

COMMENTS
Sample Depth <u>(10)ft</u>

PURGE DATA									
start purge time	<u>1032</u>								
time		<u>1037</u>	<u>1042</u>	<u>1047</u>	<u>1052</u>	<u>1057</u>	<u>1102</u>	<u>1107</u>	<u>1112</u>
DTW	(ft)	<u>6.39</u>	<u>6.41</u>	<u>6.42</u>	<u>6.43</u>	<u>6.43</u>	<u>6.43</u>	<u>6.43</u>	<u>6.43</u>
purge rate	(L/min)	<u>0.175</u>	<u>0.150</u>	<u>0.150</u>	"	"	"	"	"
pH	(Units)	<u>6.16</u>	<u>6.19</u>	<u>6.20</u>	<u>6.20</u>	<u>6.20</u>	<u>6.20</u>	<u>6.20</u>	<u>6.20</u>
conductivity	(umhos ^{µS} /cm)	<u>0.535</u>	<u>0.538</u>	<u>0.537</u>	<u>0.538</u>	<u>0.538</u>	<u>0.539</u>	<u>0.540</u>	<u>0.542</u>
temperature	(deg C)	<u>11.64</u>	<u>11.62</u>	<u>11.55</u>	<u>11.50</u>	<u>11.49</u>	<u>11.52</u>	<u>11.52</u>	<u>11.55</u>
D.O.	(mg/L)	<u>1.04</u>	<u>1.02</u>	<u>1.06</u>	<u>1.07</u>	<u>1.05</u>	<u>1.08</u>	<u>1.01</u>	<u>1.00</u>
ORP	(mv)	<u>28.8</u>	<u>156.0</u>	<u>129.7</u>	<u>100.6</u>	<u>86.0</u>	<u>73.0</u>	<u>67.3</u>	<u>59.1</u>
turbidity	(NTU)	<u>1.87</u>	<u>1.22</u>	<u>1.23</u>	<u>0.98</u>	<u>1.62</u>	<u>0.88</u>	<u>0.59</u>	<u>0.73</u>
purge and sample equip.		<u>peristaltic pump</u>							

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-8-032018</u>	<u>115</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)

Well No. MW-9
 Sampled By SH

Date 3-20-18

Weather SS °F

WELL INFORMATION		
Depth to water	6.13	(ft)
Depth of well:	15	(ft)
Well diameter:	2	(in)
Feet of water:		(ft)
Product thickness:		(ft)
Screen interval:	5-15	(ft)
well condition:		

COMMENTS
Sample Depth: 10 ft
Female iron build up in flow cell

PURGE DATA								
start purge time	1158							
time		1203	1208	1213	1218	1223	1228	1233
DTW	(ft)	0.2009	6.33	6.34	6.34	6.35	6.35	6.36
purge rate	(L/min)	6.29	0.200	0.200	"	"	"	"
pH	(Units)	6.22	6.10	6.02	6.00	6.00	6.00	6.00
conductivity	(µmhos/cm)	0.386	0.298	0.265	0.254	0.252	0.254	0.235
temperature	(deg C)	13.07	13.12	13.36	13.44	13.53	13.62	13.65
D.O.	(mg/L)	1.20	1.02	0.92	0.87	0.78	0.75	0.68
ORP	(mv)	330	37.4	37.1	38.4	36.1	37.2	
turbidity	(NTU)	23.1	18.6	13.8	10.13	9.46	8.37	7.44
purge and sample equip.		peristaltic pump						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
MW-9-032018	1235	VOCs 8260	VOAs	3	HCL

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)

Well No. MW-10
 Sampled By SH

Date 3-21-18

Weather Sunny 45 °F

WELL INFORMATION	
Depth to water	5.35 5.31 (ft)
Depth of well:	15 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	5-15 (ft)
well condition:	

COMMENTS
Sample Depth: 10 ft
Slight vacuum on well

PURGE DATA								
start purge time	0901							
time		0906	0911	0916	0921	0926	0931	
DTW	(ft)	5.34	5.34	5.34	5.34	5.34	5.34	
purge rate	(L/min)	0.150	"	"	"	"	"	
pH	(Units)	8.52	7.41	7.02	6.84	6.79	6.74	
conductivity	(µmhos/cm)	0.135	0.134	0.130	0.130	0.130	0.130	SH
temperature	(deg C)	10.33	10.50	10.83	11.10	11.18	11.24	
D.O.	(mg/L)	7.87	0.94	0.99	0.87	0.82	0.78	
ORP	(mv)	319.2	141.0	78.1	44.2	34.8	29.0	
turbidity	(NTU)	20.9	19.2	17.8	19.0	18.3	17.9	
purge and sample equip.	peristaltic pump							

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
MW-10-032118	0935	VOCs 8260	VOAs	3	HCL

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3/20/18

Well No. MW-12
 Sampled By DZewis
 Weather Clear °F 45

WELL INFORMATION	
Depth to water	<u>5.32</u> (ft)
Depth of well:	<u>20</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>5-20</u> (ft)
well condition:	<u>good</u>

COMMENTS
Sample Depth: 13 ft

PURGE DATA							
start purge time	<u>0922</u>						
time		<u>0941</u>	<u>0946</u>	<u>0949</u>	<u>0952</u>	<u>0955</u>	<u>0958</u>
DTW	(ft)	<u>5.45</u>	<u>5.40</u>	<u>5.37</u>	<u>5.35</u>	<u>5.32</u>	<u>5.32</u>
purge rate	(L/min)	<u>.200</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>
pH	(Units)	<u>6.27</u>	<u>6.27</u>	<u>6.28</u>	<u>6.28</u>	<u>6.28</u>	<u>6.28</u>
conductivity ^{µS/cm}	(µmhos/cm)	<u>445</u>	<u>420</u>	<u>410</u>	<u>402</u>	<u>399</u>	<u>396</u>
temperature	(deg C)	<u>11.93</u>	<u>11.74</u>	<u>11.74</u>	<u>11.72</u>	<u>11.76</u>	<u>11.75</u>
D.O.	(mg/L)	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
ORP	(mv)	<u>125.0</u>	<u>122.3</u>	<u>120.9</u>	<u>119.6</u>	<u>119.1</u>	<u>118.5</u>
turbidity	(NTU)	<u>4.80</u>	<u>4.20</u>	<u>3.90</u>	<u>3.85</u>	<u>3.64</u>	<u>3.50</u>
purge and sample equip.	peristaltic pump						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-12-032018</u>	<u>1000</u>	VOCs 8260	VOAs	3	HCL
		TOC	Amber VOAs	2	HCL
		RSK175	VOAs	3	HCL
<u>DUP-1-032018</u>	<u>0900</u>	VOCs 8260	VOAs	3	HCL
		RSK 175	VOAs	3	HCL

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)

Well No. MW-13
 Sampled By JH

Date 3-21-20

Weather SS °F

WELL INFORMATION	
Depth to water	<u>5.11</u> (ft)
Depth of well:	<u>45.3</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>39.6-44.1</u> (ft)
well condition:	

COMMENTS
sample depth: <u>43.5</u>

PURGE DATA									
start purge time	<u>1250</u>								
time		<u>1255</u>	<u>1300</u>	<u>1305</u>	<u>1310</u>	<u>1315</u>	<u>1320</u>	<u>1325</u>	<u>1330</u>
DTW	(ft)	<u>5.19</u>	<u>5.19</u>	<u>5.19</u>	<u>5.19</u>	<u>5.19</u>	<u>5.20</u>	<u>5.20</u>	<u>5.20</u>
purge rate	(L/min)	<u>0.150</u>	<u>0.150</u>	<u>0.150</u>	"	"	"	"	"
pH	(Units)	<u>6.89</u>	<u>6.66</u>	<u>6.56</u>	<u>6.53</u>	<u>6.51</u>	<u>6.49</u>	<u>6.47</u>	<u>6.47</u>
conductivity	(µmhos/cm)	<u>0.803</u>	<u>0.722</u>	<u>0.693</u>	<u>0.687</u>	<u>0.681</u>	<u>0.678</u>	<u>0.674</u>	<u>0.669</u>
temperature	(deg C)	<u>12.91</u>	<u>13.76</u>	<u>14.59</u>	<u>14.77</u>	<u>15.11</u>	<u>15.14</u>	<u>15.05</u>	<u>15.16</u>
D.O.	(mg/L)	<u>1.43</u>	<u>1.13</u>	<u>0.74</u>	<u>0.65</u>	<u>0.44</u>	<u>0.35</u>	<u>0.33</u>	<u>0.32</u>
ORP	(mv)	<u>28.2</u>	<u>25.7</u>	<u>20.0</u>	<u>17.0</u>	<u>13.0</u>	<u>10.9</u>	<u>9.5</u>	<u>8.6</u>
turbidity	(NTU)	<u>6.77</u>	<u>5.50</u>	<u>5.40</u>	<u>4.92</u>	<u>4.15</u>	<u>3.87</u>	<u>4.31</u>	<u>4.90</u>
purge and sample equip.	<u>peristaltic pump</u>								

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-13-032118</u>	<u>1340</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>
		<u>TOC</u>	<u>Amber VOAs</u>	<u>2</u>	<u>HCL</u>
		<u>RSK175</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 Date 3/20/18 (Labor only)

Well No. MW-14
 Sampled By J. Lewis
 Weather Clear °F 50°

WELL INFORMATION	
Depth to water	4.98 (ft)
Depth of well:	43 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	32.7-42.2 (ft)
well condition:	good

COMMENTS	
sample depth:	39

PURGE DATA							
start purge time	1210						
time		1220	1225	1230	1233	1236	
DTW	(ft)	4.98	4.98	4.98	4.98	4.98	
purge rate	(L/min)	.200	.200	.200	.200	.200	
pH	(Units)	6.40	6.41	6.41	6.42	6.42	
conductivity	µS/cm (umhos/cm)	600	563	551	546	541	
temperature	(deg C)	13.56	13.56	13.53	13.50	13.48	
D.O.	(mg/L)	0.00	0.00	0.00	0.00	0.00	
ORP	(mv)	-15.2	-16.4	-15.5	-16.9	-17.3	
turbidity	(NTU)	0.00	0.00	0.00	0.00	0.00	
purge and sample equip.	peristaltic pump						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
MW-14-032018	1240	VOCs 8260	VOAs	3	HCL

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)

Well No. MW-16
 Sampled By SHDL

Date 3-21-18

Weather SS °F

WELL INFORMATION	
Depth to water	9.20 (ft)
Depth of well:	48 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	37.2-47.2 (ft)
well condition:	

COMMENTS
sample depth: 48 31
Couldn't get tubing past 31'
Iron/rust build up in flow cell

PURGE DATA							
start purge time	1417						
time		1427	1432	1437	1442	1447	
DTW	(ft)	9.30	9.26	9.27	9.27	9.27	
purge rate	(L/min)	.200	0.175	0.175	0.175	0.175	
pH	(Units)	6.34	6.32	6.33	6.34	6.34	
conductivity	(µmhos/cm)	0.583	0.600	0.603	0.608	0.615	
temperature	(deg C)	12.87	12.61	12.53	12.55	12.47	
D.O.	(mg/L)	1.48	0.96	0.86	0.83	0.84	
ORP	(mv)	15.9	16.6	16.3	15.8	14.8	
turbidity	(NTU)	19.6	13.6	28.5	55.8	40.9	
purge and sample equip.		peristaltic pump					

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
MW-16-032118	1450	VOCs 8260	VOAs	3	HCL

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3/19/18

Well No. MW-17
 Sampled By [Signature]
 Weather Cloudy °F 50

WELL INFORMATION	
Depth to water	<u>5.18</u> (ft)
Depth of well:	44.3 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	34.3-43.8 (ft)
well condition:	<u>good</u>

COMMENTS	
sample depth:	39

PURGE DATA								
start purge time	<u>1320</u>							
time		<u>1330</u>	<u>1335</u>	<u>1340</u>	<u>1345</u>	<u>1350</u>	<u>1355</u>	
DTW	(ft)	<u>15.28</u>	<u>5.18</u>	<u>5.18</u>	<u>5.18</u>	<u>5.18</u>	<u>5.18</u>	
purge rate	(L/min)	<u>.200</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	
pH	(Units)	<u>6.53</u>	<u>6.55</u>	<u>6.57</u>	<u>6.57</u>	<u>6.57</u>	<u>6.57</u>	
conductivity	$\mu\text{mhos/cm}$ (umhos/cm)	<u>834</u>	<u>833</u>	<u>829</u>	<u>827</u>	<u>826</u>	<u>826</u>	
temperature	(deg C)	<u>11.71</u>	<u>11.57</u>	<u>11.47</u>	<u>11.44</u>	<u>11.44</u>	<u>11.44</u>	
D.O.	(mg/L)	<u>6.33</u>	<u>7.07</u>	<u>7.32</u>	<u>7.55</u>	<u>7.55</u>	<u>7.57</u>	
ORP	(mv)	<u>-30.4</u>	<u>-40.3</u>	<u>-45.1</u>	<u>-48.9</u>	<u>-49.9</u>	<u>-50.2</u>	
turbidity	(NTU)	<u>1148 AU</u>	<u>1102 AU</u>	<u>982 AU</u>	<u>916 AU</u>		<u>900 AU</u>	
purge and sample equip.		<u>peristaltic pump</u>						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-17-031918</u>	<u>1355</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>
		<u>TOC</u>	<u>Amber VOAs</u>	<u>2</u>	<u>HCL</u>
		<u>RSK175</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 Date 3/21/18 (Labor only)

Well No. MW-18
 Sampled By Drews
 Weather cloudy °F 50

WELL INFORMATION	
Depth to water	<u>5.13</u> (ft)
Depth of well:	<u>44</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>34.0-43.5</u> (ft)
well condition:	<u>good</u>

COMMENTS	
sample depth:	<u>39</u>

PURGE DATA							
start purge time	<u>0907</u>						
time		<u>0915</u>	<u>0920</u>	<u>0923</u>	<u>0926</u>	<u>0929</u>	
DTW	(ft)	<u>5.13</u>	<u>5.13</u>	<u>5.13</u>	<u>5.13</u>	<u>5.13</u>	
purge rate	(L/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH	(Units)	<u>6.35</u>	<u>6.36</u>	<u>6.38</u>	<u>6.39</u>	<u>6.39</u>	
conductivity	(µmhos/cm)	<u>480</u>	<u>520</u>	<u>610</u>	<u>625</u>	<u>632</u>	
temperature	(deg C)	<u>11.51</u>	<u>11.59</u>	<u>11.93</u>	<u>12.01</u>	<u>12.09</u>	
D.O.	(mg/L)	<u>1.57</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
ORP	(mv)	<u>33.0</u>	<u>8.0</u>	<u>-7.5</u>	<u>-10.5</u>	<u>-15.6</u>	
turbidity	(NTU)	<u>4.66</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
purge and sample equip.		<u>peristaltic pump</u>					

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-18-032118</u>	<u>0930</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>
		<u>TOC</u>	<u>Amber VOA</u>	<u>2</u>	<u>HCL</u>
		<u>RSK175</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3-19-18

Well No. MW-19
 Sampled By SH
 Weather 50, Partly Cloudy °F

WELL INFORMATION	
Depth to water	<u>6.10</u> (ft)
Depth of well:	<u>44</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>34.0-43.5</u> (ft)
well condition:	

COMMENTS
sample depth: <u>39-45</u>

PURGE DATA								
start purge time	<u>1310</u>							
time		<u>1315</u>	<u>1320</u>	<u>1325</u>	<u>1330</u>	<u>1335</u>	<u>1340</u>	<u>1345</u>
DTW	(ft)	<u>6.11</u>	<u>6.11</u>	<u>6.11</u>	<u>6.11</u>	<u>6.11</u>	<u>6.11</u>	<u>6.11</u>
purge rate	(L/min)	<u>0.175</u>	<u>0.175</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>
pH	(Units)	<u>5.93</u>	<u>6.19</u>	<u>6.79</u>	<u>6.33</u>	<u>6.32</u>	<u>6.33</u>	<u>6.35</u>
conductivity	(µmhos/cm)	<u>0.650</u>	<u>0.600</u>	<u>0.567</u>	<u>0.549</u>	<u>0.540</u>	<u>0.533</u>	<u>0.525</u>
temperature	(deg C)	<u>15.32</u>	<u>15.48</u>	<u>15.44</u>	<u>15.52</u>	<u>15.69</u>	<u>15.65</u>	<u>15.77</u>
D.O.	(mg/L)	<u>0.55</u>	<u>0.46</u>	<u>0.59</u>	<u>0.77</u>	<u>0.70</u>	<u>0.52</u>	<u>0.54</u>
ORP	(mv)	<u>170.4</u>	<u>119.2</u>	<u>85.4</u>	<u>62.4</u>	<u>55.3</u>	<u>49.8</u>	<u>45.3</u>
turbidity	(NTU)	<u>5.08</u>	<u>9.18</u>	<u>2.41</u>	<u>8.54</u>	<u>0.95</u>	<u>5.56</u>	<u>1.03</u>
purge and sample equip.	<u>peristaltic pump</u>							

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-19-031918</u>	<u>1400</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>
		<u>TOC</u>	<u>Amber VOAs</u>	<u>2</u>	<u>HCL</u>
<u>DUP-2-031918</u>	<u>1200</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

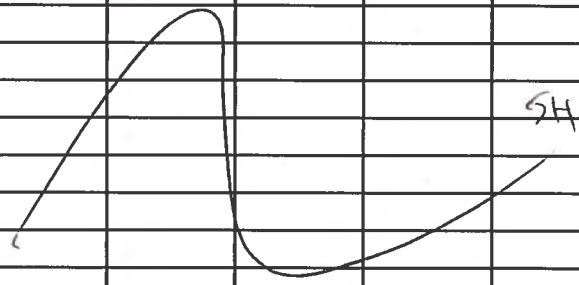
GROUNDWATER SAMPLING LOG (CONTINUED)

Project name Univar Kent (S 212th Street)
 Project No. 60527139.701 (labor only)
 (Labor only)
 Date 3-19-18

Well No. MW-19
 Sampled By SH

PURGE DATA (CONTINUED FROM PAGE 1)

start purge time		1360						
time		1350	1355					
DTW	(ft)	6.11	6.11					
purge rate	(L/min)	0.75	"					
pH	(Units)	6.34	6.36					SH
conductivity	(µmhos/cm)	0.521	0.514					
temperature	(deg C)	15.78	15.79					
D.O.	(mg/L)	0.55	0.53					
ORP	(mv)	42.0	39.9					
turbidity	(NTU)	1.97	1.91					
purge and sample equip.								



GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3-20-18

Well No. MW-20
 Sampled By SH
 Weather Sunny 55 °F

WELL INFORMATION	
Depth to water	<u>5.82</u> (ft)
Depth of well:	<u>44.5</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>33.5-43.2</u> (ft)
well condition:	

COMMENTS	
sample depth:	<u>39</u>

PURGE DATA								
start purge time	<u>1340</u>							
time		<u>1345</u>	<u>1350</u>	<u>1355</u>	<u>1400</u>	<u>1405</u>	<u>1410</u>	<u>1415</u>
DTW	(ft)	<u>5.85</u>	<u>5.86</u>	<u>5.86</u>	<u>5.86</u>	<u>5.86</u>	<u>5.86</u>	<u>5.86</u>
purge rate	(L/min)	<u>0.175</u>	"	"	"	"	"	"
pH	(Units)	<u>6.20</u>	<u>6.20</u>	<u>6.23</u>	<u>6.24</u>	<u>6.25</u>	<u>6.25</u>	<u>6.26</u>
conductivity	(µmhos/cm)	<u>0.939</u>	<u>0.948</u>	<u>0.951</u>	<u>0.953</u>	<u>0.953</u>	<u>0.953</u>	<u>0.952</u>
temperature	(deg C)	<u>14.41</u>	<u>14.45</u>	<u>14.38</u>	<u>14.41</u>	<u>14.45</u>	<u>14.38</u>	<u>14.38</u>
D.O.	(mg/L)	<u>1.40</u>	<u>0.77</u>	<u>0.40</u>	<u>0.25</u>	<u>0.17</u>	<u>0.15</u>	<u>0.14</u>
ORP	(mv)	<u>114.9</u>	<u>80.6</u>	<u>79.1</u>	<u>13.4</u>	<u>6.1</u>	<u>1.4</u>	<u>-1.8</u>
turbidity	(NTU)	<u>14.1</u>	<u>27.0</u>	<u>12.6</u>	<u>11.9</u>	<u>11.9</u>	<u>11.1</u>	<u>9.10</u>
purge and sample equip.		<u>peristaltic pump</u>						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-20-032018</u>	<u>1420</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 Date 3/20/19 (Labor only)

Well No. MW-21
 Sampled By D Lewis
 Weather clear °F 55

WELL INFORMATION	
Depth to water	5.25 (ft)
Depth of well:	43 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	34.1-44.1 (ft)
well condition:	good

COMMENTS	
sample depth:	37

PURGE DATA							
start purge time	1500						
time		1512	1515	1520	1525		
DTW	(ft)	5.28	5.28	5.28	5.28		
purge rate	(L/min)	.200	.200	.200	.200		
pH	(Units)	6.26	6.27	6.27	6.29		
conductivity	(umhos/cm)	726	720	716	712		
temperature	(deg C)	13.5	13.47	13.48	13.59		
D.O.	(mg/L)	0.00	0.00	0.00	0.00		
ORP	(mv)	31.5	26.1	20.1	15.9		
turbidity	(NTU)	0.00	0.00	0.00	0.00		
purge and sample equip.	peristaltic pump						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
MW-21-032018	1530	VOCs 8260	VOAs	3	HCL
		TOC	Amber VOAs	2	HCL
		RSK175	VOAs	3	HCL

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 Date ~~3/21/18~~ ²¹ 3/21/18

Well No. MW-22
 Sampled By D. Lewis
 Weather cloudy °F 50

WELL INFORMATION	
Depth to water	<u>5.55</u> (ft)
Depth of well:	45 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	32.2-42.2 (ft)
well condition:	<u>good</u>

COMMENTS	
sample depth:	39
	<u>Bio-floccing</u>

PURGE DATA							
start purge time	<u>1115</u>						
time		<u>1130</u>	<u>1135</u>	<u>1140</u>	<u>1143</u>	<u>1144</u>	
DTW (ft)		<u>5.55</u>	<u>5.55</u>	<u>5.55</u>	<u>5.55</u>	<u>5.55</u>	
purge rate (L/min)		<u>.200</u>	<u>.200</u>	<u>.200</u>	<u>.200</u>	<u>.200</u>	
pH (Units)		<u>6.20</u>	<u>6.24</u>	<u>6.22</u>	<u>6.20</u>	<u>6.19</u>	
conductivity ^{uS/cm} (umhos/cm)		<u>120</u>	<u>126</u>	<u>128</u>	<u>130</u>	<u>132</u>	
temperature (deg C)		<u>11.19</u>	<u>11.16</u>	<u>11.50</u>	<u>11.58</u>	<u>11.62</u>	
D.O. (mg/L)		<u>0.78</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
ORP (mv)		<u>36.4</u>	<u>14.8</u>	<u>6.8</u>	<u>1.6</u>	<u>0.5</u>	
turbidity (NTU)		<u>3.96</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
purge and sample equip.	<u>peristaltic pump</u>						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-22-032118</u>	<u>1150</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>
		<u>TOC</u>	<u>Amber VOA</u>	<u>2</u>	<u>HCL</u>
		<u>RSK175</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3/21/18

Well No. MW-23
 Sampled By Drew
 Weather Cloudy °F 50

WELL INFORMATION	
Depth to water	<u>5.16</u> (ft)
Depth of well:	15 (ft)
Well diameter:	2 (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	5-15 (ft)
well condition:	<u>good</u>

COMMENTS
Sample Depth: 10

PURGE DATA								
start purge time	<u>1000</u>							
time		<u>1013</u>	<u>1017</u>	<u>1020</u>	<u>1024</u>	<u>1027</u>	<u>1030</u>	
DTW	(ft)	<u>5.27</u>	<u>5.27</u>	<u>5.27</u>	<u>5.27</u>	<u>5.27</u>	<u>5.27</u>	
purge rate	(L/min)	<u>.200</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	<u>.150</u>	
pH	(Units)	<u>6.46</u>	<u>6.46</u>	<u>6.47</u>	<u>6.48</u>	<u>6.50</u>	<u>6.50</u>	
conductivity µmhos/cm	(µmhos/cm)	<u>460</u>	<u>540</u>	<u>601</u>	<u>624</u>	<u>637</u>	<u>642</u>	
temperature	(deg C)	<u>11.66</u>	<u>11.73</u>	<u>11.70</u>	<u>11.57</u>	<u>11.60</u>	<u>11.60</u>	
D.O.	(mg/L)	<u>1.18</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
ORP	(mv)	<u>-16.2</u>	<u>-14.6</u>	<u>-11.0</u>	<u>-8.4</u>	<u>-5.6</u>	<u>-4.0</u>	
turbidity	(NTU)	<u>4.01</u>	<u>1.49</u>	<u>5.68</u>	<u>6.20</u>	<u>6.78</u>	<u>6.35</u>	
purge and sample equip.	<u>peristaltic pump</u>							

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-23-032118</u>	<u>1035</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>
		<u>TOC</u>	<u>Amber VOAs</u>	<u>2</u>	<u>HCL</u>
		<u>RSK175</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 Date 3/20/18 (Labor only)

Well No. MW-27
 Sampled By D. Lewis
 Weather clear °F 55

WELL INFORMATION	
Depth to water	<u>5.70</u> (ft)
Depth of well:	<u>48</u> (ft)
Well diameter:	<u>2</u> (in)
Feet of water:	(ft)
Product thickness:	(ft)
Screen interval:	<u>38-48</u> (ft)
well condition:	<u>good</u>

COMMENTS	
sample depth:	<u>43</u>

PURGE DATA							
start purge time	<u>1350</u>						
time		<u>1400</u>	<u>1405</u>	<u>1410</u>	<u>1413</u>	<u>1416</u>	
DTW	(ft)	<u>5.70</u>	<u>5.70</u>	<u>5.70</u>	<u>5.70</u>	<u>5.70</u>	
purge rate	(L/min)	<u>.200</u>	<u>.200</u>	<u>.200</u>	<u>.200</u>	<u>.200</u>	
pH	(Units)	<u>6.42</u>	<u>6.39</u>	<u>6.37</u>	<u>6.37</u>	<u>6.37</u>	
conductivity	<u>µS/cm</u> (umhos/cm)	<u>610</u>	<u>640</u>	<u>652</u>	<u>655</u>	<u>657</u>	
temperature	(deg C)	<u>15.80</u>	<u>15.22</u>	<u>15.22</u>	<u>15.27</u>	<u>15.30</u>	
D.O.	(mg/L)	<u>0.65</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
ORP	(mv)	<u>36.7</u>	<u>27.2</u>	<u>6.3</u>	<u>3.7</u>	<u>0.4</u>	
turbidity	(NTU)	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
purge and sample equip.	<u>peristaltic pump</u>						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
<u>MW-27-032018</u>	<u>1420</u>	<u>VOCs 8260</u>	<u>VOAs</u>	<u>3</u>	<u>HCL</u>

GROUNDWATER SAMPLING LOG

Project name Univar Kent (S. 212th Street)
 Project No. 60559583.701 (labor only)
 (Labor only)
 Date 3-19-18

Well No. MW-28
 Sampled By SH
 Weather sun 50 °F

WELL INFORMATION		
Depth to water	7.31	(ft)
Depth of well:	45	(ft)
Well diameter:	2	(in)
Feet of water:		(ft)
Product thickness:		(ft)
Screen interval:	35-45	(ft)
well condition:		

COMMENTS	
sample depth:	40

PURGE DATA								
start purge time	1440							
time		1445	1450	1455	1500	1505		
DTW	(ft)	7.41	7.42	7.43	7.43	7.43		
purge rate	(L/min)	0.175	"	"	"	"		
pH	(Units)	6.31	6.34	6.38	6.40	6.40		
conductivity	(umhos/cm)	0.689	0.686	0.686	0.689	0.687		
temperature	(deg C)	14.02	13.50	13.36	13.38	13.21		
D.O.	(mg/L)	0.61	0.49	0.39	0.57	0.36		
ORP	(mv)	25.4	19.0	15.3	13.2	12.6		
turbidity	(NTU)	11.31	7.63	4.87	4.65	4.67		
purge and sample equip.		peristaltic pump						

SAMPLE INFORMATION					
sample number	time	analysis	container	# bottles	preservative
MW-28-031918	1516	VOCs 8260	VOAs	3	HCL

PAGE: 1 OF 1
 DATE: 9-10-18
 PROJECT: Univar Kent
 JOB No: 60559583.701
 FIELD PERSONNEL: PK SH
 RECORDED BY: DL SH
 DATUM: MEAN SEA LEVEL

WATER LEVEL DATA FORM

MEASURING INSTRUMENT:

- STEEL TAPE OTHER-
 ELECTRONIC SOUNDER SERIAL No.

	WELL I.D.	TIME	DEPTH TO WATER (Feet)	TIME	DEPTH TO WATER (Feet)	COMMENTS (well condition, odor, presence of product, etc.)
Shallow Zone (SZ)	MW-1	1335	6.58			
	MW-2	1345	7.95			
	MW-3	1152	7.33			
	MW-4	1311	6.82			
	MW-5	1255	6.98			
	MW-6	1342	7.64			
	MW-7	1215	7.35			
	MW-8	1248	7.96			
	MW-9	1252	8.14			
	MW-10	1205	7.21			
	MW-11	1257	7.12			
	MW-12	1300	7.15			
	MW-23	1319 1338	7.13			Aug 10 water on top
Deep Zone (DZ)	MW-13	1319	7.80	1454	7.12	
	MW-14	1338	6.87	1505	6.87	
	MW-16	1325	11.24	1459	11.24	
	MW-17	11.57	6.98	1437	6.98	
	MW-18	1203	7.05	1459 7.03	7.03	
	MW-19	1219	7.84	1433	7.85	
	MW-20	1415	7.76	1525	7.52	Offsite
	MW-21	1336	7.26	1502	7.18	
	MW-22					TRAILER ON TOP
	MW-24	1324	7.03	1503	7.02	
	MW-25	1315	7.11	1453	7.11	
MW-27	1411	7.41	1522 1453	7.11 7.41	Offsite	
MW-28	1225	10.75	1514	9.11	Offsite	
P-1	1245	7.95	1508	7.93		

Note: Deep Zone MW's two rounds of measurements - initial water level and second after >1hr.

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 212
 Project Number: _____
 Date: 09-13-18
 Weather: 58-62°F cloudy

Well ID: MW-1
 Sample ID: MW-1-091318
 Well Condition: Good
 Sampled By: AS

PRE-PURGE INFORMATION

Purge/Sample Method: low flow Initial Depth to Water* (feet): 6.54
 Purge/Sample Equipment: peri-pump Water Column (feet): _____
 Screened Interval Depth Range* (ft): _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 13 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: PVC

PURGING/SAMPLING INFORMATION

start purging: 0930

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0945	250	7.80		6.81	0.788	18.95	2.21	1.50	41.8	
0948	250	7.85		6.80	0.786	18.96	1.99	1.10	51.4	DTW drawn down quickly.
0951	250	7.88		6.80	0.784	18.94	1.93	1.17	56.2	
0954	250	7.98		6.79	0.781	18.93	1.82	1.04	61.3	
0957	250	8.10		6.78	0.776	18.79	1.67	1.05	68.5	
1000	200	8.24		6.78	0.773	18.71	1.63	0.83	74.2	
1003	200	8.30		6.77	0.771	18.67	1.56	0.97	79.2	
1006	200	8.34		6.77	0.770	18.66	1.52	0.76	82.5	
1009	200	8.38		6.77	0.769	18.53	1.51	0.89	84.7	
1012	200	8.44		6.77	0.768	18.52	1.50	0.72	84.9	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
<u>MW-1-091318</u>		<u>VOCs</u>	<u>EPA 8260</u>	<u>40mL vial</u>	<u>3</u>	<u>HCL</u>
	<u>1015</u>	<u>VOAs</u>	<u>RSK 175</u>	<u>40mL vial</u>	<u>3</u>	<u>HCL</u>

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

purge water is cloudy to clear with
TPH/sulfur like odor.
ORP unstable

* = Measured from top of inner casing

DTW - Depth to Water

Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 2/2th
 Project Number: 60559583
 Date: 9-13-18
 Weather: overcast °F 60°

Well ID: MW-2
 Sample ID: MW-2-091318
 Well Condition: good
 Sampled By: Drews

PRE-PURGE INFORMATION

Purge/Sample Method: peri pump
 Purge/Sample Equipment: 11 11
 Screened Interval Depth Range* (ft): _____
 Tubing Inlet Depth* (ft): 13
 Total Well Depth* (feet): _____

Initial Depth to Water* (feet): 7.90
 Water Column (feet): _____
 Water Volume in Well (gal): _____
 Inner Casing Diameter (inch): 2
 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Start Purge: 12:30

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	US/CM Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1240	250	7.90		6.49	460	14.95	1.24	-	-57.4	
1243	250	7.90		6.49	456	15.09	1.29	2.83	-60.6	
1247	250	7.90		6.50	457	15.09	1.40	2.76	-61.8	
1250	250	7.90		6.51	455	15.08	1.49	2.60	-60.7	
1253	250	7.90		6.51	455	14.99	1.63	3.19	-59.4	
1256	250	7.90		6.51	454	14.91	1.65	3.03	-58.0	
1259	250	7.90		6.61	453	14.84	1.67	2.91	-57.0	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-2-091318	1300	VOCs		HOA	3	HCL

Stabilization Ranges Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Dissolved Oxygen: +/- 10% _____

Specific Conductance: +/- 3% _____

Temperature: +/- 10 % _____

pH: +/- 0.1 unit _____

Redox Potential: +/- 20mv _____

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter
 2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 212th
 Project Number: 1
 Date: 9/11/18
 Weather: overcast °F 60

Well ID: MW-3
 Sample ID: MW-3-0911B
 Well Condition: OK no bolts
 Sampled By: Shawn

PRE-PURGE INFORMATION

Purge/Sample Method: peris pump Initial Depth to Water* (feet): 7.34
 Purge/Sample Equipment: 11 11 Water Column (feet): _____
 Screened Interval Depth Range* (ft) _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 13 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): 19.20 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Start purge: 0910-0910

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0924	250	7.34		6.98	508	13.30	2.00	2.45	-102.3	
0927	250	7.34		6.98	507	13.27	1.64	2.95	-92.7	
0930	250	7.34		6.98	506	13.20	1.25	3.79	-95.2	
0933	250	7.34		6.98	505	13.19	1.09	3.46	-108.8	
0936	250	7.34		6.98	505	13.15	1.00	3.40	-110.4	
0939	250	7.34		6.98	504	13.13	0.97	2.36	-110.9	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-3-0911B	0940	VOCs 8260	8260	VOA	3	HCL

Stabilization Ranges Observations During Sampling (e.g. slow recharge turbidity, odor, sheen, PID FID readings)
 Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter
 2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Union 212th
 Project Number: 60559583
 Date: 9-13-18
 Weather: cloudy °F 60

Well ID: MW-4
 Sample ID: MW-4-091318
 Well Condition: good
 Sampled By: J. Lewis

PRE-PURGE INFORMATION

Purge/Sample Method: per pump Initial Depth to Water* (feet): 6.76
 Purge/Sample Equipment: _____ Water Column (feet): _____
 Screened Interval Depth Range* (ft): _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 10' Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Start Purge: 0915

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (µS/cm) (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0926	250	7.32		6.76	835	15.11	2.86	68.5	-41.2	
0929	250	7.32		6.75	839	15.28	2.68	71.51	-43.4	
0934	250	7.55		6.73	839	15.34	2.53	6.00	-45.7	
0937	200	7.60		6.72	839	15.35	2.56	5.35	-46.5	
0940	200	7.64		6.72	836	15.29	2.59	5.17	-45.4	
0943	200	7.64		6.72	836	15.27	2.61	4.92	-46.3	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-4-091318	0945	VOCs		VOA	3	HCL
		RSK 175		VOA	3	HCL
MS/MSD		VOCs		VOA	3	HCL
		RSK 175		VOA	3	HCL
					3	
					3	
					3	
					3	

Stabilization Ranges: _____
 Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):
MS/MSD

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter
 2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 212th
 Project Number: _____
 Date: 9-11-18
 Weather: cloudy °F 60

Well ID: MW-5-091118
 Sample ID: MW-5-091118
 Well Condition: good no bolts
 Sampled By: J. Stevia

PRE-PURGE INFORMATION

Purge/Sample Method: peri pump
 Purge/Sample Equipment: peri pump
 Screened Interval Depth Range* (ft): _____
 Tubing Inlet Depth* (ft): 10 ~~14.55~~
 Total Well Depth* (feet): 14.55

Initial Depth to Water* (feet): 6.95
 Water Column (feet): _____
 Water Volume in Well (gal): _____
 Inner Casing Diameter (inch): _____
 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Start purge: 1043

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1052 1043	250	6.95		6.42	243	16.07	0.44	23.0	0.5	
1055 1052	250	6.95		6.38	224	15.77	0.65		11.8	
1100	250	6.95		6.34	212	15.38	0.59	11.1	37.2	
1105	250	6.95		6.34	205	15.22	0.59	9.95	48.0	
1109	250	6.95		6.36	202	15.13	0.56	9.76	53.2	
1112	250	6.95		6.37	200	15.04	0.54	9.32	55.6	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-5-091118	1115	8260		VOA	3	HCL
		TOC		AMBER VOA	2	HCL
		RSKITS		VOA	3	HCL
		SIREM		filter	1	

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Volume for Sirem: 1 liter

* = Measured from top of inner casing

DTW - Depth to Water

Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: univar 212 Well ID: MW-6
 Project Number: _____ Sample ID: MW-6-091318
 Date: 09-13-18 Well Condition: Good
 Weather: 50 °F partly cloudy Sampled By: AS

PRE-PURGE INFORMATION

Purge/Sample Method: low flow Initial Depth to Water* (feet): 7.55
 Purge/Sample Equipment: perpump Water Column (feet): _____
 Screened Interval Depth Range* (ft) _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 10 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: PVC

PURGING/SAMPLING INFORMATION

start purging: 1425

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1435	250	7.98		6.30	0.567	17.35	0.72	2.15	-83.3	
1438	250	8.00		6.30	0.566	17.29	0.72	2.04	-82.3	
1441	250	8.04		6.30	0.566	17.38	0.72	1.71	-82.7	
1444	250	8.07		6.30	0.565	17.42	0.71	1.58	-81.8	
1447	250	8.10		6.30	0.563	17.43	0.70	1.52	-81.2	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
<u>MW-6-091318</u>	<u>1450</u>	<u>VOCs</u>	<u>EPA 8260</u>	<u>40 mL vial</u>	<u>3</u>	<u>HCL</u>

Stabilization Ranges
 Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):
purge water is clear

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter
 2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: UNIVAR 212th
 Project Number: _____
 Date: 9-11-18
 Weather: 60 °F cloudy

Well ID: MW-7
 Sample ID: MW-7-09118
 Well Condition: Fair
 Sampled By: SH

PRE-PURGE INFORMATION

Purge/Sample Method: low-flow
 Purge/Sample Equipment: P-pump
 Screened Interval Depth Range* (ft): _____
 Tubing Inlet Depth* (ft): 10'
 Total Well Depth* (feet): _____

Initial Depth to Water* (feet): 7.36
 Water Column (feet): _____
 Water Volume in Well (gal): _____
 Inner Casing Diameter (inch): _____
 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0908	START	PURGE								
0913	100	7.40		6.64	0.279	18.42	13.42	5.17	93.7	
0918	125	7.40		6.40	0.267	18.21	7.75	4.68	98.5	
0923	125	7.40		6.30	0.266	17.80	4.09	3.69	100.1	
0928	125	7.40		6.30	0.270	17.69	2.69	2.97	103.0	
0933	125	7.40		6.30	0.273	17.63	2.09	2.63	103.5	
0938	150	7.40		6.30	0.279	17.54	1.68	2.58	102.4	
0943	150	7.40		6.30	0.283	17.50	1.50	2.82	102.1	
0948	150	7.40		6.31	0.288	17.51	1.38	2.95	101.5	
SH										

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-7-09118	0955	VOCs, EPA 8160	→	VGA	3	HCl
I	I	substrate distribution	TOC	Amber VGA	2	HCl
I	I	Dissolved gases	RS/RS	VGA	3	HCl
		Microbial Analysis	SIREM			None

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10%
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Sampled @ 0955
Filtered 1L of H₂O thru SIREM

* = Measured from top of inner casing

DTW - Depth to Water

Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L

4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 212
 Project Number: _____
 Date: 09-13-18
 Weather: 59 °F Cloudy

Well ID: MW-8
 Sample ID: MW-8-09/13/18
 Well Condition: Good
 Sampled By: AS

PRE-PURGE INFORMATION

Purge/Sample Method: low flow Initial Depth to Water* (feet): 7.92
 Purge/Sample Equipment: peri-pump Water Column (feet): _____
 Screened Interval Depth Range* (ft) _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 10 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: PVC

PURGING/SAMPLING INFORMATION start purging: 1104

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1120	250	8.65		6.34	0.633	16.33	1.17	1.00	-42.2	
1123	200	8.60		6.34	0.634	16.38	1.16	0.77	-40.1	
1126	200	8.55		6.34	0.634	16.35	1.14	0.68	-38.0	
1129	200	8.55		6.34	0.634	16.34	1.13	0.81	-36.8	
1132	200	8.54		6.34	0.635	16.39	1.16	0.72	-35.7	
1135	200	8.54		6.34	0.635	16.40	1.16	0.84	-35.1	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
<u>MW-8-09/13/18</u>	<u>1140</u>	<u>VOCs</u>	<u>EPA 8260</u>	<u>40 mL vials</u>	<u>3</u>	<u>HCL</u>

Stabilization Ranges
 Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):
purge water is clear.

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter
 2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univat 212
 Project Number: _____
 Date: 09-13-18
 Weather: 50°F cloudy

Well ID: MW-9
 Sample ID: MW-9-091318
 Well Condition: Good
 Sampled By: AS

PRE-PURGE INFORMATION

Purge/Sample Method: Low Flow Initial Depth to Water* (feet): 8.10
 Purge/Sample Equipment: per pump Water Column (feet): _____
 Screened Interval Depth Range* (ft) _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 10 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: PRC

PURGING/SAMPLING INFORMATION start purging: 1220

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1235	250	8.38		6.69	0.530	16.88	0.91	12.07	102.9	
1238	250	8.40		6.68	0.526	16.89	0.90	12.82	104.3	
1241	250	8.40		6.67	0.511	16.93	0.92	11.63	109.1	
1244	250	8.40		6.67	0.509	16.89	0.94	11.83	109.9	
1247	250	8.40		6.66	0.501	16.84	0.93	11.50	111.8	
1250	250	8.40		6.65	0.498	16.91	0.92	11.25	112.4	
1253	250	8.40		6.66	0.495	16.93	0.93	11.15	113.1	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
<u>MW-9-091318</u>	<u>1255</u>	<u>VOCS</u>	<u>EPA 8260</u>	<u>40 mL Vials</u>	<u>3</u>	<u>HCL</u>

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10%
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

purge water is cloudy with Iron Flakes

* = Measured from top of inner casing

DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 212 Well ID: MW-10-
 Project Number: _____ Sample ID: MW-10-091218
 Date: 09-12-18 Well Condition: Good
 Weather: 62°F partly cloudy Sampled By: AS

PRE-PURGE INFORMATION

Purge/Sample Method: Low Flow Initial Depth to Water* (feet): 7.18
 Purge/Sample Equipment: peri-pump Water Column (feet): _____
 Screened Interval Depth Range* (ft): _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 10 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: PVC

PURGING/SAMPLING INFORMATION Start purge: 1154

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1204	250	7.22		6.64	0.159	17.90	0.68	7.30	63.8	
1207	250	7.22		6.63	0.156	17.78	0.68	5.94	62.2	
1210	250	7.22		6.63	0.154	17.76	0.67	5.40	63.4	
1213	250	7.22		6.63	0.153	17.75	0.67	5.26	65.1	
1216	250	7.22		6.64	0.152	17.73	0.66	4.45	65.0	
1219	250	7.22		6.64	0.152	17.70	0.65	4.62	65.4	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-10-091218	1220	VOCs	EPA 8260	40 mL vial	3	HCL

Stabilization Ranges **Observations During Sampling** (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):
 Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10%
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

purge water is cloudy to clear with light sulfur like odor.

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Union 2/2th
 Project Number: _____
 Date: 9/11/18
 Weather: overcast 60 SHOWERS

Well ID: MW-12-09115
 Sample ID: MW-12-09118
 Well Condition: good
 Sampled By: PT

PRE-PURGE INFORMATION

Purge/Sample Method: 13. per pump Initial Depth to Water* (feet): 7.15
 Purge/Sample Equipment: _____ Water Column (feet): _____
 Screened Interval Depth Range* (ft): _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 13.0 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

start purge: 1245

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	us/cm ² Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1257	250	7.15		6.59	245	15.03	1.13	4.16	48.9	
1302	250	7.15		6.59	244	15.91	0.87	4.24	39.4	
1306	250	7.15		6.58	242	15.71	0.85	5.14	32.5	
1309	250	7.15		6.58	240	15.54	0.78		33.8	
1312	250	7.15		6.58	239	15.49	0.75	5.00	33.2	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-12-09118	1315	8260		VOA	3	HCL
		TOC		AMBER VOA	2	HCL
		RSK175		VOA	3	HCL
		SIREM		FILTER	1	-

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

DUPLICATE FOR VOCs; DUP-1-09118
RSK-175 time: 1215
Green sample volume: 1 liter

* = Measured from top of inner casing

DTW - Depth to Water

Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L

4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: UNIVAR 217h
 Project Number: _____
 Date: 9-11-18
 Weather: 65 °F Sunny

Well ID: MW-13
 Sample ID: MW-13-091118
 Well Condition: Fair
 Sampled By: SH

PRE-PURGE INFORMATION

Purge/Sample Method: low-flow Initial Depth to Water* (feet): 7.09
 Purge/Sample Equipment: P-pump Water Column (feet): _____
 Screened Interval Depth Range* (ft): _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 43.5' Inner Casing Diameter (inch): _____
 Total Well Depth* (feet): _____ Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1232	125	7.20		6.32	0.703	18.67	1.01	14.5	-66.5	
1237	" "	7.21		6.33	0.620	18.70	0.95	9.87	-62.7	
1242	" "	7.21		6.31	0.564	18.19	0.86	6.17	-69.2	
1247	" "	7.21		6.28	0.536	17.94	0.78	4.83	-55.9	
1252	" "	7.21		6.30	0.521	18.08	0.74	5.36	-55.0	
1257	" "	7.21		6.30	0.522	17.97	0.71	4.35	-54.7	
SH										

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-13-091118	1310	VOCs	EPA 8260	VOA	3	HCl
		Substrate distribution	TOC	Amber VOA	2	I
		Dissolved gases	RSK175	VOA	3	I
		Microbial Analyses	SIREM			None

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

805 mL H2O filtered thru SIREM

* = Measured from top of inner casing

DTW - Depth to Water

Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L

4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Unwan 2/2th
 Project Number: 160559583
 Date: 9/13/18
 Weather: cloudy °F 60

Well ID: MW-14
 Sample ID: MW-14-091318
 Well Condition: good
 Sampled By: Aduris

PRE-PURGE INFORMATION

Purge/Sample Method: peri pump
 Purge/Sample Equipment: peri pump
 Screened Interval Depth Range* (ft): _____
 Tubing Inlet Depth* (ft): 39
 Total Well Depth* (feet): _____

Initial Depth to Water* (feet): 6.85
 Water Column (feet): _____
 Water Volume in Well (gal): _____
 Inner Casing Diameter (inch): 2
 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION start purge: 1117

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	us/cm Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1127	250	6.85		6.64	500	14.27	1.22	10.24	-54.7	
1130	250	6.85		6.64	494	14.20	1.21	10.85	-59.3	
1135	250	6.85		6.64	488	14.08	1.20	2.22	-62.9	
1140	250	6.85		6.64	479	14.08	1.17	2.22	-64.3	
1143	250	6.85		6.64	473	14.04	1.18	2.09	-64.6	
1146	250	6.85		6.64	470	14.03	1.19	2.01	-64.6	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-14-091318	1150	VOCs		VOA	3	HCl

Stabilization Ranges
 Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 212th
 Project Number: 60559588
 Date: 9-13-18
 Weather: overcast °F 65

Well ID: MW-16
 Sample ID: MW-16-091318
 Well Condition: good
 Sampled By: DLewis

PRE-PURGE INFORMATION

Purge/Sample Method: peri pump Initial Depth to Water* (feet): 11.25
 Purge/Sample Equipment: " " Water Column (feet): _____
 Screened Interval Depth Range* (ft) _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 43 Inner Casing Diameter (inch): _____
 Total Well Depth* (feet): _____ Inner Casing Material: _____

PURGING/SAMPLING INFORMATION purge start: 1350

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	uS/cm Conductivity (µmS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1400	250	11.25		6.46	618	12.43	0.45	10.90	-47.0	
1403	250	11.25		6.47	635	12.39	0.43	7.39	-53.6	
1406	250	11.25		6.48	638	12.32	0.40	7.18	-58.9	
1409	250	11.25		6.49	645	12.45	0.42	7.02	-62.7	
1412	250	11.25		6.50	647	12.47	0.40	6.92	-63.5	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-16-091318	1415	VOCs		VOA	3	HCL

Stabilization Ranges **Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):**

Dissolved Oxygen: +/- 10% _____

Specific Conductance: +/- 3% _____

Temperature: +/- 10 % _____

pH: +/- 0.1 unit _____

Redox Potential: +/- 20mv _____

* = Measured from top of inner casing
 DTW - Depth to Water 2" casing: 1 ft = 0.164 gal = 0.62 L
 Water Levels Measured with an Electronic Water Level Meter 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Union 212 tk
 Project Number: 60559583
 Date: 9-12-18
 Weather: showers °F 60

Well ID: MW-17
 Sample ID: MW-17-091218
 Well Condition: good
 Sampled By: J Lewis

PRE-PURGE INFORMATION

Purge/Sample Method: per pump
 Purge/Sample Equipment: ~ ~
 Screened Interval Depth Range* (ft): _____
 Tubing Inlet Depth* (ft): 39
 Total Well Depth* (feet): _____

Initial Depth to Water* (feet): 6.93
 Water Column (feet): _____
 Water Volume in Well (gal): _____
 Inner Casing Diameter (inch): 2
 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Start Purge: 1231

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	uS/cm Conductivity (mS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1241	250	6.93		6.63	808	12.44	1.27	15.2	-85.6	
1244	250	6.93		6.64	813	12.34	1.25	11.81	-88.2	
1247	250	6.93		6.64	811	12.27	1.25	10.02	-88.1	
1250	250	6.93		6.64	807	12.21	1.24	9.57	-85.6	
1253	250	6.93		6.63	803		1.21	9.04	-79.8	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-17-091218	1255	VOCs			3	
		TOC			2	
		RSK175			3	

Stabilization Ranges **Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):**

Dissolved Oxygen: +/- 10% _____

Specific Conductance: +/- 3% _____

Temperature: +/- 10 % _____

pH: +/- 0.1 unit _____

Redox Potential: +/- 20mv _____

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 212
 Project Number: _____
 Date: 09-12-18
 Weather: 58 °F cloudy

Well ID: MW-18
 Sample ID: MW-18-091218
 Well Condition: Good
 Sampled By: AS

PRE-PURGE INFORMATION

Purge/Sample Method: low flow Initial Depth to Water* (feet): 7.03
 Purge/Sample Equipment: peri-pump Water Column (feet): _____
 Screened Interval Depth Range* (ft): _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 39 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: PVC

PURGING/SAMPLING INFORMATION start purge: 1030

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1045	250	7.05		6.48	0.591	15.85	0.98	8.55	-8.8	
1048	250	7.05		6.50	0.590	15.88	0.94	1.36	-14.6	
1051	250	7.05		6.50	0.583	15.72	0.92	0.88	-23.4	
1054	250	7.05		6.50	0.582	15.73	0.90	0.82	-25.8	
1057	250	7.05		6.50	0.583	15.72	0.89	0.79	-26.7	
1100	250	7.05		6.50	0.582	15.74	0.90	0.94	-27.2	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-18-091218		VOCS	EPA 8260	40ml vial	3	HCL
		TOC	TOC	40ml Ag.	2.	HCL
	1105	VOAs	RSK175	40ml vial	3	HCL

Stabilization Ranges

- Dissolved Oxygen: +/- 10%
- Specific Conductance: +/- 3%
- Temperature: +/- 10 %
- pH: +/- 0.1 unit
- Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

purge water is clear with sulfure like odor.

* = Measured from top of inner casing

DTW - Depth to Water

Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L

4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Unwan 212th
 Project Number: 00559583
 Date: 9/12/18
 Weather: showers °F 60

Well ID: MW-19
 Sample ID: MW-19-091218
 Well Condition: good
 Sampled By: Dave Lewis

PRE-PURGE INFORMATION

Purge/Sample Method: peric pump
 Purge/Sample Equipment: _____
 Screened Interval Depth Range* (ft): _____
 Tubing Inlet Depth* (ft): 45
 Total Well Depth* (feet): _____

Initial Depth to Water* (feet): 7.82
 Water Column (feet): _____
 Water Volume in Well (gal): _____
 Inner Casing Diameter (inch): 2
 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Start Purge: 1048

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	4°Cm Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1058	250	7.82		6.68	561	15.74	10.58	11.53	-74.5	
1103	250	7.82		6.68	563	15.81	5.12	8.79	-74.8	
1107	250	7.82		6.67	563	15.77	4.81	6.01	-74.7	
1111	250	7.82		6.66	557	15.41	4.64	5.31	-73.8	
1114	250	7.82		6.65	554	15.38	4.60	5.27	-73.0	
1117	250	7.82		6.65	553	15.30	4.56	5.15	-72.9	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-19-091218	1120		VOCs	VOA	3	HCL
			TOC	PA TOC	2	HCL

Stabilization Ranges
 Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

DUP-2-091218: VOCs only time: 1020

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Unwar 212th
 Project Number: 60559583
 Date: 9-12-18
 Weather: Cloudy °F 60

Well ID: MW-20
 Sample ID: MW-20-091218
 Well Condition: good
 Sampled By: DJewin

PRE-PURGE INFORMATION

Purge/Sample Method: peri pump
 Purge/Sample Equipment: " "
 Screened Interval Depth Range* (ft):
 Tubing Inlet Depth* (ft): 39
 Total Well Depth* (feet):

Initial Depth to Water* (feet): 7.52
 Water Column (feet):
 Water Volume in Well (gal):
 Inner Casing Diameter (inch): 2
 Inner Casing Material:

PURGING/SAMPLING INFORMATION start purge: 1433

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	µs/cm Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1443	250	7.52		6.57	890	14.71	0.66	6.43	-99.1	
1446	250	7.52		6.57	890	14.67	0.61	6.17	-101.0	
1449	250	7.52		6.57	892	14.57	0.56	5.98	-101.1	
1452	250	7.52		6.56	892	14.52	0.52	5.75	-105.2	
1455	250	7.52		6.56	892	14.47	0.48		-101.2	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-20-091218	1500	VOCs		VOA	3	HCL

Stabilization Ranges
 Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: UNIVAR 217th
 Project Number: _____
 Date: 9-11-18
 Weather: 60'S °F cloudy

Well ID: MW-21
 Sample ID: MW-21-091118
 Well Condition: Fair
 Sampled By: SH

PRE-PURGE INFORMATION

Purge/Sample Method: low flow
 Purge/Sample Equipment: p-pump
 Screened Interval Depth Range* (ft): _____
 Tubing Inlet Depth* (ft): 37'
 Total Well Depth* (feet): _____

Initial Depth to Water* (feet): 714'
 Water Column (feet): _____
 Water Volume in Well (gal): _____
 Inner Casing Diameter (inch): _____
 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1349	125	7.20		6.31	0.551	19.33	0.81	9.30	-62.5	
1354	125	7.21		6.23	0.594	16.82	1.04	7.95	-61.7	
1359	" "	7.21		6.23	0.596	16.82	0.86	7.57	-64.9	
1404	150	7.21		6.24	0.598	16.62	0.77	5.80	-66.2	
1409	150	7.21		6.26	0.597	16.53	0.73	6.52	-69.5	
1414	150	7.21		6.26	0.598	16.41	0.71	6.93	-75.5	
										SH

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
<u>MW-21-091118</u>	<u>1425</u>	<u>VOCs</u>	<u>EPA 8260</u>	<u>VOA</u>	<u>3</u>	<u>HCl</u>
<u>I</u>	<u>I</u>	<u>Substrate distribution</u>	<u>TOC</u>	<u>Amber VOA</u>	<u>2</u>	<u>I</u>
		<u>Dissolved gasses</u>	<u>RSK 175</u>	<u>VOA</u>	<u>3</u>	<u>I</u>
		<u>Microbial Analyses</u>	<u>SIREM</u>			<u>None</u>

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Water has "fizz" effect - impossible to get rid of microbubbles
800 mL thru SIREM filter.

* = Measured from top of inner casing

DTW - Depth to Water

Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L

4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: UMIVAR 212^H
 Project Number: _____
 Date: 9-11-18
 Weather: 60^S °F partly sunny

Well ID: MW-22
 Sample ID: MW-22-091118
 Well Condition: Fair
 Sampled By: SH

PRE-PURGE INFORMATION

Purge/Sample Method: low-flow
 Purge/Sample Equipment: P-pump
 Screened Interval Depth Range* (ft): _____
 Tubing Inlet Depth* (ft): 39'
 Total Well Depth* (feet): _____

Initial Depth to Water* (feet): 7.53
 Water Column (feet): _____
 Water Volume in Well (gal): _____
 Inner Casing Diameter (inch): _____
 Inner Casing Material: _____

PURGING/SAMPLING INFORMATION

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1035	175	7.53		6.22	0.638	16.50	1.65	3.23	54.7	
1040	175	7.53		6.09	0.711	16.09	1.51	3.12	-5.3	
1045	175	7.53		6.15	0.735	16.16	1.18	3.29	-36.0	
1050	175	7.53		6.21	0.744	16.14	0.98	5.02	-46.7	
1055	" "	" "		6.26	0.745	16.08	0.98	4.02	-60.2	
1100	" "	" "		6.24	0.739	15.79	0.95	3.52	-58.7	
SH										

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-22-091118	1110	VOCs	EPA 8260	VQA	3	HCl
I	I	Substrate distribution	ROC	Amber VQA	2	I
		Dissolved Gases	RSK 175	VQA	3	I
		Microbial Analysis	SIREM			None

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

1 L filtered thru SIREM

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: UNIVOK 212
 Project Number: _____
 Date: 09-12-18
 Weather: 59 °F cloudy

Well ID: MW-23
 Sample ID: MW-23-091218
 Well Condition: Good
 Sampled By: AS

PRE-PURGE INFORMATION

Purge/Sample Method: Low Flow Initial Depth to Water* (feet): 7.08
 Purge/Sample Equipment: Peri-pump Water Column (feet): _____
 Screened Interval Depth Range* (ft): _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 10 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: PVC

PURGING/SAMPLING INFORMATION

start purging: 1550

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1600	250	7.10		6.45	0.539	18.57	0.65	3.35	-61.7	
1605	250	7.10		6.49	0.546	18.28	0.63	3.93	-57.2	
1608	250	7.10		6.50	0.550	18.26	0.62	3.00	-54.9	
1611	250	7.10		6.51	0.553	18.06	0.64	2.98	-53.8	
1614	250	7.10		6.50	0.553	18.04	0.63	2.81	-53.5	
1617	250	7.10		6.50	0.553	18.00	0.62	2.74	-53.6	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
<u>MW-23-091218</u>		<u>VOCs</u>	<u>EPA 8260</u>	<u>40mL vial</u>	<u>3</u>	<u>HCL</u>
	<u>1620</u>	<u>TOC</u>	<u>TOC</u>	<u>40mL AG</u>	<u>2</u>	<u>HCL</u>
		<u>VOAs</u>	<u>PSK 75</u>	<u>40mL vial</u>	<u>3</u>	<u>HCL</u>

Stabilization Ranges **Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):**

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10%
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

purge water is clear

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Univar 212
 Project Number: _____
 Date: 09-12-18
 Weather: 62 °F cloudy

Well ID: MW-27
 Sample ID: MW-27-091219
 Well Condition: Good
 Sampled By: AS

PRE-PURGE INFORMATION

Purge/Sample Method: low flow Initial Depth to Water* (feet): 7.37
 Purge/Sample Equipment: peri-pump Water Column (feet): _____
 Screened Interval Depth Range* (ft): _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 43 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: pvc

PURGING/SAMPLING INFORMATION

start purging. 1450

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (mS/m)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1505	250	7.38		6.36	0.523	17.49	0.66	3.69	58.9	
1508	250	7.28		6.38	0.523	17.44	0.63	2.71	60.6	
1511	250	7.38		6.35	0.522	17.43	0.61	2.73	59.5	
1514	250	7.38		6.36	0.522	17.29	0.60	2.33	59.7	
1517	250	7.38		6.36	0.521	17.26	0.59	1.37	59.9	
1520	250	7.38		6.36	0.520	17.22	0.60	1.48	60.2	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-27-091218	1525	VOCs	EPA 8260	40 mL vial	3	HCL

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

purge water is clear.

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

LOW-FLOW GROUND WATER SAMPLING FORM

Project Name: Union 2124
 Project Number: 00559588
 Date: 9/12/18
 Weather: cloudy °F 60

Well ID: MW-28
 Sample ID: MW-28-091218
 Well Condition: OK
 Sampled By: JJ

PRE-PURGE INFORMATION

Purge/Sample Method: peri-pump Initial Depth to Water* (feet): 9.10
 Purge/Sample Equipment: _____ Water Column (feet): _____
 Screened Interval Depth Range* (ft) _____ Water Volume in Well (gal): _____
 Tubing Inlet Depth* (ft): 40 Inner Casing Diameter (inch): 2
 Total Well Depth* (feet): _____ Inner Casing Material: _____

PURGING/SAMPLING INFORMATION Start purge: 1558

1608

Time	purge rate (mL/min)	depth to water (ft)	volume purged (gal)	pH (SI Units)	Conductivity (µS/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1610	250	9.10		6.70	702	13.55	0.47	23.0	-110.4	
1611	250	9.10		6.70	693	13.42	0.43	19.6	-111.6	
1614	250	9.10		6.70	692	13.32	0.41	12.8	-110.8	
1618	250	9.10		6.70	683	13.21	0.41	8.92	-103.1	
1621	250	9.10		6.70	680	13.22	0.40	7.42	-100.0	
1624	250	9.10		6.70	679	13.19	0.40	6.98	-99.3	

Sampling Information:

Sample ID	sample time	Analysis	Method	Container	No. of bottles	Preservative
MW-28-091218	1625	VOCS		VOA	3	HCL

Stabilization Ranges

Dissolved Oxygen: +/- 10%
 Specific Conductance: +/- 3%
 Temperature: +/- 10 %
 pH: +/- 0.1 unit
 Redox Potential: +/- 20mv

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

* = Measured from top of inner casing
 DTW - Depth to Water
 Water Levels Measured with an Electronic Water Level Meter

2" casing: 1 ft = 0.164 gal = 0.62 L
 4" casing: 1 ft = 0.656 gal = 2.48 L

APPENDIX B HISTORICAL GROUNDWATER ELEVATIONS

March 2019

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
Shallow On-Site Monitoring and Pilot Test Wells					
MW-1	33.45	04/17/95	12:14	4.70	28.75
		09/07/95	NR	6.24	27.21
		11/10/95	NR	5.86	27.59
		12/07/95	NR	5.13	28.32
		01/29/96	NR	4.57	28.88
		09/04/96	13:50	6.04	27.41
		10/11/96	11:00	6.04	27.41
		11/06/96	9:25	5.53	27.92
		12/10/96	10:55	4.46	28.99
		01/10/97	NR	4.20	29.25
		02/21/97	12:45	4.33	29.12
		03/04/97	9:55	4.33	29.12
		06/27/97	10:57	4.81	28.64
		09/04/97	11:08	5.63	27.82
		12/22/97	8:46	4.82	28.63
		03/06/98	10:03	4.50	28.95
		06/18/98	9:19	5.02	28.43
		09/29/98	9:25	6.52	26.93
		12/15/98	9:45	4.78	28.67
		01/07/99	9:02	4.33	29.12
		01/13/99	9:29	4.35	29.10
		03/02/99	12:43	3.60	29.85
		06/16/99	10:26	4.87	28.58
		09/16/99	10:43	5.72	27.73
		12/08/99	8:43	4.63	28.82
	03/07/00	8:58	4.28	29.17	
	06/21/00	9:45	4.80	28.65	
	09/12/00	9:30	5.81	27.64	
	12/07/00	8:45	5.36	28.09	
	03/15/01	9:30	4.91	28.54	
	07/12/01	11:00	5.10	28.35	
	09/24/01	11:29	5.95	27.50	
	01/02/02	11:07	4.35	28.80	
	03/27/02	9:55	4.12	29.03	
	06/11/02	10:42	4.75	28.40	
	09/17/02	12:36	6.03	27.12	
	12/16/02	11:40	5.60	27.55	
	03/17/03	11:00	4.91	28.24	
	06/10/03	NR	5.11	28.04	
	09/11/03	10:05	6.66	26.49	
	12/04/03	7:30	4.96	28.19	
	01/12/04	11:12	4.70	28.45	
	03/16/04	12:20	4.80	28.35	
	06/10/04	8:25	5.25	27.90	
	09/22/04	11:15	5.88	27.27	
	04/04/05	13:40	5.03	28.12	
	09/20/05	9:40	6.77	26.38	
	01/25/06	15:15	4.45	28.70	
	03/14/06	10:30	4.60	28.55	
	03/15/06	0:00	4.56	28.59	
05/19/06	12:30	4.91	28.24		
06/09/06	14:12	4.70	28.45		
09/12/06	12:32	6.85	26.30		
04/03/07	10:30	4.51	28.64		
04/03/07	12:04	4.40	28.75		
09/24/07	10:55	6.40	26.75		
09/24/07	12:47	6.38	26.77		
05/01/08	11:08	4.85	28.30		
09/29/08	NR	5.92	27.23		
03/23/09	10:25	4.65	28.50		
	33.15				

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
MW-1 (continued)	33.15	09/28/09	13:45	6.21	26.94
		03/25/10	8:39	4.75	28.40
		04/05/10	10:28	4.51	28.64
		05/06/10	NR	NM	NM
		07/13/10	14:35	4.81	28.34
		09/27/10	10:10	5.35	27.80
		02/28/11	14:55	4.29	28.86
		03/22/11	14:05	4.00	29.15
		04/25/11	8:22	NM	NM
		05/04/11	8:36	3.99	29.16
		06/22/11	8:25	4.21	28.94
		09/20/11	13:20	6.06	27.09
		12/06/11	11:10	5.02	28.13
		03/05/12	12:39	4.06	29.09
		03/05/12	14:16	3.76	29.39
		03/05/12	14:50	3.79	29.36
		06/26/12	12:50	4.06	29.09
		06/26/12	12:55	3.97	29.18
		06/26/12	14:07	3.94	29.21
		10/03/12	15:55	6.54	26.61
		12/18/12	13:42	4.50	28.65
		12/18/12	15:25	4.28	28.87
		03/04/13	14:32	4.43	28.72
		03/04/13	14:53	4.28	28.87
		03/04/13	15:10	4.23	28.92
		03/04/13	16:07	4.20	28.95
		06/06/13	7:35	4.45	28.70
		09/24/13	12:43	5.89	27.26
		03/25/14	12:50	4.00	29.15
		09/22/14	15:25	6.10	27.05
03/16/15	11:02	4.41	28.74		
09/13/15	11:25	6.52	26.63		
03/14/16	9:13	4.14	29.01		
09/13/16	10:40	6.38	26.77		
03/06/17	9:52	3.64	29.51		
09/18/17	12:13	6.74	26.41		
03/19/18	10:12	4.01	29.14		
09/10/18	13:35	6.58	26.57		
MW-2	34.07	04/17/95	12:09	6.26	27.81
		09/07/95	NR	7.72	26.35
		11/10/95	NR	7.21	26.86
		12/07/95	NR	6.01	28.06
		01/29/96	NR	5.37	28.70
		09/04/96	9:00	7.93	26.14
		10/11/96	10:30	7.71	26.36
		11/06/96	8:50	7.02	27.05
		12/10/96	10:50	5.55	28.52
		01/10/97	NR	5.02	29.05
		02/21/97	12:10	5.31	28.76
		03/04/97	9:50	5.29	28.78
		06/27/97	10:53	6.11	27.96
		09/04/97	11:04	7.07	27.00
		12/22/97	8:44	5.92	28.15
		03/06/98	2:20	5.67	28.40
		06/18/98	9:22	6.54	27.53
		09/29/98	9:28	7.95	26.12
		12/15/98	9:52	5.71	28.36
		01/07/99	8:50	5.51	28.56
		01/13/99	9:25	5.62	28.45
		03/02/99	9:29	4.73	29.34
		06/16/99	10:31	6.40	27.67
		09/16/99	10:41	7.39	26.68
		12/08/99	8:40	5.84	28.23

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point			Depth to Water	Water Elevation
	Elevation	Date	Time		
MW-2 (continued)	34.07	03/07/00	8:52	5.36	28.71
		06/21/00	9:54	6.43	27.64
		09/12/00	11:25	7.92	26.15
		12/07/00	8:40	7.11	26.96
		03/15/01	9:40	6.44	27.63
		07/12/01	13:00	6.83	27.24
		09/24/01	11:33	7.64	26.43
		01/02/02	10:30	5.61	28.18
		03/27/02	10:00	5.49	28.30
		06/11/02	10:45	6.28	27.51
		09/17/02	12:33	7.67	26.12
		12/16/02	11:37	7.07	26.72
		03/17/03	10:55	5.75	28.04
	06/10/03	NR	6.68	27.11	
	09/10/03	9:10	8.16	25.63	
	12/04/03	9:30	6.24	27.55	
	01/12/04	10:55	5.75	28.04	
	03/15/04	11:15	5.90	27.89	
	06/10/04	8:10	6.50	27.29	
	09/23/04	8:10	7.12	26.67	
	04/04/05	13:35	6.00	27.79	
	09/20/05	9:35	7.74	26.05	
	03/14/06	10:20	5.45	28.34	
	03/15/06	7:55	5.45	28.34	
	09/12/06	12:26	7.99	25.80	
	04/03/07	10:25	5.35	28.44	
	04/03/07	11:58	5.38	28.41	
	09/24/07	10:44	7.76	26.03	
	05/01/08	11:30	6.11	27.68	
	09/29/08	NR	7.45	26.34	
	03/23/09	10:06	5.77	28.02	
	09/28/09	13:20	7.53	26.26	
	03/25/10	8:47	6.53	27.26	
	04/05/10	10:45	7.66	26.13	
	05/06/10	8:15	7.02	26.77	
	07/13/10	14:37	6.55	27.24	
	09/27/10	10:05	6.75	27.04	
	02/28/11	16:09	5.32	28.47	
	03/17/11	12:43	5.14	28.65	
	04/25/11	8:32	5.21	28.58	
	05/04/11	8:39	5.43	28.36	
	06/22/11	8:32	5.96	27.83	
	09/20/11	13:28	7.50	26.29	
	12/06/11	11:20	6.58	27.21	
	03/05/12	12:47	5.46	28.33	
	03/05/12	14:00	5.45	28.34	
	06/25/12	12:15	5.92	27.87	
10/03/12	15:30	7.79	26.00		
12/18/12	13:39	5.57	28.22		
12/18/12	15:14	5.58	28.21		
03/04/13	14:35	5.80	27.99		
03/04/13	14:45	5.80	27.99		
06/06/13	7:30	6.20	27.59		
09/24/13	12:32	7.21	26.58		
03/25/14	12:38	4.93	28.86		
09/22/14	15:16	7.60	26.19		
03/16/15	11:17	5.47	28.32		
09/13/15	9:35	7.90	25.89		
03/14/16	9:19	4.68	29.11		
09/13/16	10:37	7.77	26.02		
03/06/17	9:38	5.04	28.75		
09/18/17	12:02	7.84	25.95		
03/19/18	10:16	5.73	28.06		
09/10/18	13:45	7.95	25.84		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-3	32.94	09/07/95	NR	7.34	-7.34
		11/10/95	NR	6.93	-6.93
		12/07/95	NR	6.24	-6.24
		01/29/96	NR	5.73	-5.73
		09/04/96	14:50	7.17	-7.17
		10/11/96	10:20	7.32	-7.32
		11/06/96	9:10	6.85	-6.85
		12/10/96	10:25	5.75	-5.75
		01/10/97	NR	5.30	-5.30
		02/21/97	11:55	5.51	-5.51
		03/04/97	9:27	5.50	-5.50
		06/27/97	10:30	6.24	-6.24
		09/04/97	10:47	6.87	-6.87
		12/22/97	8:10	6.03	-6.03
		03/06/98	9:34	5.90	-5.90
		06/18/98	8:57	6.51	-6.51
		09/29/98	9:05	5.73	-5.73
		12/14/98	9:32	5.92	-5.92
		01/07/99	8:44	5.81	-5.81
		01/13/99	9:12	5.93	-5.93
		03/02/99	9:04	5.21	-5.21
		06/16/99	9:55	6.48	-6.48
		09/16/99	10:23	7.20	-7.20
		12/08/99	8:24	6.08	-6.08
		03/07/00	8:23	5.74	-5.74
		06/21/00	9:15	6.48	-6.48
		09/12/00	10:30	7.40	-7.40
		12/07/00	9:25	6.94	-6.94
		03/15/01	9:57	6.41	-6.41
		07/12/01	15:55	6.77	-6.77
		09/24/01	11:37	7.48	-7.48
		01/02/02	11:12	5.71	27.23
		03/27/02	10:05	5.65	27.29
		06/11/02	10:27	6.28	26.66
		09/17/02	12:00	7.41	25.53
		12/16/02	11:05	6.81	26.13
		03/17/03	10:05	5.84	27.10
		06/10/03	NR	6.60	26.34
		09/11/03	9:50	7.82	25.12
		12/03/03	12:00	6.26	26.68
		01/12/04	11:59	5.80	27.14
		03/15/04	10:00	5.98	26.96
		06/10/04	7:00	6.22	26.72
		09/22/04	10:05	7.87	25.07
		04/04/05	12:10	5.92	27.02
		09/20/05	8:10	7.45	25.49
		01/25/06	15:30	5.24	27.70
		03/14/06	11:40	5.57	27.37
		03/14/06	11:53	5.57	27.37
		09/12/06	11:10	7.70	25.24
04/03/07	9:35	5.52	27.42		
04/03/07	11:10	5.51	27.43		
09/24/07	11:35	7.43	25.51		
05/01/08	9:24	5.96	26.98		
09/29/08	NR	7.08	25.86		
03/23/09	8:58	5.74	27.20		
09/28/09	13:00	7.22	25.72		
03/25/10	9:30	5.75	27.19		
04/05/10	11:30	5.96	26.98		
05/06/10	8:56	6.25	26.69		
07/13/10	14:50	5.90	27.04		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Measuring Point				Depth to	Water
Location	Elevation	Date	Time	Water	Elevation
MW-3 (continued)	32.94	09/27/10	11:20	6.36	26.58
		02/28/11	NM	NM	-
		03/17/11	13:45	5.15	27.79
		04/25/11	9:38	5.11	27.83
		05/04/11	9:24	5.35	27.59
		06/22/11	7:52	5.74	27.20
		09/20/11	12:58	7.10	25.84
		12/06/11	10:56	6.35	26.59
		03/05/12	13:50	5.35	27.59
		03/05/12	15:10	5.35	27.59
		06/25/12	11:55	5.71	27.23
		06/25/12	11:57	5.70	27.24
		10/03/12	16:30	7.47	25.47
		12/18/12	11:52	5.40	27.54
		12/18/12	12:31	5.40	27.54
		03/04/13	14:05	5.70	27.24
		03/04/13	15:18	5.68	27.26
		06/06/13	8:02	6.03	26.91
		09/24/13	11:50	6.74	26.20
		03/25/14	11:46	6.11	26.83
		09/22/14	16:00	7.20	25.74
		03/16/15	9:52	5.19	27.75
		09/13/15	8:36	7.45	25.49
03/14/16	8:10	4.75	28.19		
09/13/16	11:25	7.32	25.62		
03/06/17	10:59	5.04	27.90		
09/18/17	11:18	7.24	25.70		
03/19/18	9:13	5.60	27.34		
09/10/18	11:52	7.33	25.61		
MW-4	32.86	10/11/96	10:40	6.21	-6.21
		11/06/96	9:15	5.75	-5.75
		12/10/96	10:40	4.68	-4.68
		01/10/97	NR	3.95	-3.95
		02/21/97	12:40	4.10	-4.10
		03/04/97	11:35	4.16	-4.16
		06/27/97	10:44	4.59	-4.59
		09/04/97	10:55	5.44	-5.44
		12/22/97	8:39	4.78	-4.78
		03/06/98	9:51	4.28	-4.28
		06/18/98	9:16	5.00	-5.00
		09/29/98	9:20	6.44	-6.44
		12/14/98	9:43	5.16	-5.16
		01/07/99	9:06	4.38	-4.38
		01/13/99	9:17	4.38	-4.38
		03/02/99	9:26	3.73	-3.73
		06/16/99	10:23	4.77	-4.77
		09/16/99	10:45	5.78	-5.78
		12/08/99	8:45	4.81	-4.81
		03/07/00	9:03	4.17	-4.17
		06/21/00	9:41	4.85	-4.85
		09/12/00	9:40	6.22	-6.22
		12/07/00	8:50	6.78	-6.78
		03/15/01	9:35	5.10	-5.10
		07/12/01	10:00	5.14	-5.14
		09/24/01	11:41	6.02	-6.02
		01/02/02	11:05	4.41	28.45
		03/27/02	9:53	4.17	28.69
		06/11/02	10:37	4.69	28.17
		09/17/02	12:38	6.25	26.61
12/16/02	11:45	6.22	26.64		
03/17/03	11:02	4.74	28.12		
06/10/03	NR	5.17	27.69		
09/10/03	9:20	7.02	25.84		
12/04/03	7:25	5.49	27.37		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-4 (continued)	32.86	01/12/04	11:20	4.88	27.98
		03/15/04	11:25	4.83	28.03
		06/10/04	8:35	5.33	27.53
		09/22/04	11:30	6.11	26.75
		04/04/05	13:50	5.28	27.58
		09/20/05	9:55	6.65	26.21
		01/25/06	15:25	4.41	28.45
		03/14/06	10:50	4.58	28.28
		03/15/06	12:05	4.64	28.22
		05/19/06	12:25	5.00	27.86
		06/09/06	14:20	4.80	28.06
		09/12/06	12:45	6.96	25.90
		04/03/07	10:45	4.46	28.40
		04/03/07	12:15	4.40	28.46
		09/24/07	11:05	6.67	26.19
		05/01/08	10:30	5.00	27.86
		09/29/08	NR	6.29	26.57
		03/23/09	10:58	4.80	28.06
		09/28/09	14:00	6.53	26.33
		03/25/10	10:28	4.60	28.26
		04/05/10	10:30	4.67	28.19
		05/06/10	8:21	5.32	27.54
		07/13/10	14:42	4.98	27.88
		09/27/10	10:27	5.70	27.16
		02/28/11	14:08	4.40	28.46
		03/17/11	14:13	4.10	28.76
		04/25/11	8:10	4.11	28.75
		05/04/11	8:31	3.90	28.96
		06/22/11	8:20	4.58	28.28
		09/20/11	13:52	6.31	26.55
		12/06/11	11:08	5.51	27.35
		03/05/12	13:03	4.26	28.60
		03/05/12	14:25	4.27	28.59
		06/25/12	13:07	4.50	28.36
		10/03/12	13:12	6.70	26.16
		12/18/12	13:47	4.82	28.04
		12/18/12	15:21	4.80	28.06
		03/04/13	14:28	4.75	28.11
		03/04/13	15:11	4.73	28.13
		06/06/13	7:38	4.82	28.04
09/24/13	12:51	6.20	26.66		
03/25/14	13:02	3.93	28.93		
09/22/14	15:29	6.37	26.49		
03/16/15	10:54	4.61	28.25		
09/13/15	9:07	6.81	26.05		
03/14/16	9:05	3.93	28.93		
09/13/16	11:06	6.65	26.21		
03/06/17	8:43	4.00	28.86		
09/18/17	12:30	6.81	26.05		
03/19/18	9:55	4.38	28.48		
09/10/18	13:11	6.82	26.04		
MW-5	32.77	09/04/96	11:50	6.74	26.03
		10/11/96	10:45	6.82	25.95
		11/06/96	9:05	6.24	26.53
		12/10/96	10:30	5.01	27.76
		01/10/97	NR	4.54	28.23
		02/21/97	12:30	4.79	27.98
		03/04/97	9:40	4.78	27.99
		06/27/97	10:40	5.54	27.23
		09/04/97	10:59	6.29	26.48
		12/22/97	8:32	5.36	27.41
		03/06/98	9:43	5.15	27.62
		06/18/98	9:11	5.89	26.88
		09/29/98	9:39	7.13	25.64
		12/15/98	9:38	5.18	27.59

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation	
	Elevation	Date				
MW-5 (continued)	32.77	01/07/99	9:08	5.04	27.73	
		01/13/99	9:00	5.97	26.80	
		03/02/99	9:16	4.38	28.39	
		06/16/99	10:07	5.81	26.96	
		09/16/99	10:36	6.58	26.19	
		12/08/99	8:34	5.33	27.44	
		03/07/00	8:44	4.92	27.85	
		06/21/00	9:24	5.31	27.46	
		09/12/00	10:05	6.84	25.93	
		12/07/00	8:55	6.42	26.35	
		03/15/01	9:55	5.82	26.95	
		07/09/01	10:08	6.22	26.55	
		08/27/01	10:11	6.67	26.10	
		09/24/01	11:43	6.98	25.79	
		10/22/01	11:37	6.94	25.83	
		11/19/01	13:10	6.31	26.46	
		32.60	01/02/02	10:57	5.14	27.46
			03/27/02	10:36	5.05	27.55
			06/11/02	10:13	5.75	26.85
			09/17/02	12:15	6.98	25.62
	12/16/02		11:22	6.31	26.29	
	03/17/03		10:30	5.31	27.29	
	06/10/03		NR	6.08	26.52	
	09/11/03		9:55	7.39	25.21	
	12/03/03		11:40	5.70	26.90	
	01/12/04		10:23	5.24	27.36	
	03/15/04		10:45	5.39	27.21	
	09/22/04		11:00	6.44	26.16	
	04/04/05		12:55	5.34	27.26	
	09/20/05		9:00	6.99	25.61	
	03/14/06		9:30	5.04	27.56	
	03/14/06		13:40	5.03	27.57	
	09/12/06		11:52	7.25	25.35	
	04/03/07		11:35	5.01	27.59	
	09/24/07		10:26	7.01	25.59	
	05/01/08		10:05	5.50	27.10	
	09/29/08		NR	6.71	25.89	
	03/23/09		9:35	5.39	27.21	
	09/28/09		14:10	6.80	25.80	
	03/25/10		10:12	5.52	27.08	
	04/05/10		10:34	5.91	26.69	
	05/06/10		8:10	6.02	26.58	
	07/13/10		14:42	5.79	26.81	
	09/27/10		10:19	5.95	26.65	
	02/28/11		13:47	4.69	27.91	
	03/22/11		13:05	4.63	27.97	
	04/25/11	8:53	4.65	27.95		
	05/04/11	8:56	4.85	27.75		
	06/22/11	8:57	5.30	27.30		
	09/20/11	13:45	6.71	25.89		
12/06/11	11:34	5.91	26.69			
03/05/12	12:16	4.89	27.71			
03/05/12	14:30	4.90	27.70			
06/25/12	12:40	5.27	27.33			
10/03/12	15:00	7.03	25.57			
12/18/12	13:31	4.92	27.68			
12/18/12	15:28	4.93	27.67			
03/04/13	15:02	5.22	27.38			
03/04/13	16:12	5.22	27.38			
06/06/13	7:50	5.56	27.04			
09/24/13	12:18	6.51	26.09			

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-5 (continued)	32.60	03/25/14	12:02	4.52	28.08
		09/22/14	16:23	6.80	25.80
		03/16/15	10:25	4.74	27.86
		09/13/15	9:12	7.11	25.49
		03/14/16	8:35	4.23	28.37
		09/13/16	10:23	6.92	25.68
		03/06/17	8:57	4.44	28.16
		09/18/17	11:45	6.90	25.70
		03/19/18	10:38	5.18	27.42
		09/10/18	12:55	6.98	25.62
MW-6	33.33	09/04/96	9:50	6.26	27.07
		10/11/96	10:35	6.55	26.78
		11/06/96	8:58	5.98	27.35
		12/10/96	10:45	5.08	28.25
		01/10/97	NR	4.17	29.16
		02/21/97	12:15	4.33	29.00
		03/04/97	9:45	4.42	28.91
		06/27/97	10:49	5.05	28.28
		09/04/97	11:01	5.87	27.46
		12/22/97	8:36	5.11	28.22
		03/06/98	9:49	4.57	28.76
		06/18/98	9:26	5.48	27.85
		09/29/98	9:32	6.87	26.46
		12/15/98	9:50	5.15	28.18
		01/07/99	8:55	4.39	28.94
		01/13/99	9:20	4.44	28.89
		03/02/99	9:24	3.64	29.69
		06/16/99	10:19	5.04	28.29
		09/16/99	10:39	6.03	27.30
		12/08/99	8:37	4.82	28.51
		03/07/00	8:48	4.44	28.89
		06/21/00	9:50	5.08	28.25
		09/12/00	11:15	6.24	27.09
		12/07/00	9:05	5.85	27.48
		03/15/01	9:45	5.25	28.08
		07/12/01	15:30	5.61	27.72
		09/24/01	11:46	6.35	26.98
	01/02/02	10:37	4.52	28.53	
	03/27/02	9:50	4.00	29.05	
	06/11/02	10:51	4.87	28.18	
	06/11/02	12:30	6.39	26.66	
	12/16/02	11:35	6.27	26.78	
	03/17/03	10:46	4.67	28.38	
	06/10/03	NR	5.65	27.40	
	09/10/03	8:55	7.90	25.15	
	12/04/03	8:00	5.91	27.14	
	01/12/04	10:45	5.62	27.43	
	03/15/04	11:10	5.33	27.72	
	06/10/04	8:05	6.40	26.65	
	09/22/04	11:10	7.27	25.78	
	04/04/05	13:20	5.74	27.31	
09/20/05	9:20	7.72	25.33		
01/25/06	15:15	4.93	28.12		
03/14/06	10:00	5.20	27.85		
03/14/06	14:40	5.20	27.85		
05/19/06	12:40	5.88	27.17		
06/09/06	14:00	5.75	27.30		
09/12/06	12:12	8.00	25.05		
04/03/07	10:15	4.89	28.16		
04/03/07	11:50	4.89	28.16		
09/24/07	10:42	7.87	25.18		
05/02/08	10:18	5.75	27.30		
09/29/08	NR	7.64	25.41		
	33.05				

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-6 (continued)	33.05	03/23/09	9:54	5.23	27.82
		09/28/09	13:30	7.93	25.12
		03/25/10	10:15	5.32	27.73
		04/05/10	10:42	5.20	27.85
		05/06/10	8:19	6.02	27.03
		07/13/10	14:39	6.13	26.92
		09/27/10	9:49	6.84	26.21
		02/28/11	16:13	5.11	27.94
		03/17/11	12:57	4.50	28.55
		04/25/11	8:28	4.70	28.35
		05/04/11	8:44	4.58	28.47
		06/22/11	8:43	5.48	27.57
		09/20/11	13:33	7.41	25.64
		12/06/11	11:25	6.23	26.82
		03/05/12	12:50	5.00	28.05
		03/05/12	14:03	4.95	28.10
		06/25/12	12:22	5.58	27.47
		10/03/12	15:30	7.80	25.25
		12/18/12	13:37	5.31	27.74
		12/18/12	15:10	5.31	27.74
		03/04/13	14:30	5.33	27.72
		03/04/13	15:09	5.30	27.75
		06/06/13	7:34	5.79	27.26
		09/24/13	12:26	7.35	25.70
		03/25/14	12:26	4.30	28.75
		09/22/14	15:21	7.80	25.25
		03/16/15	11:15	4.85	28.20
		09/13/15	9:24	8.15	24.90
		03/14/16	8:45	3.83	29.22
		09/13/16	10:33	8.04	25.01
03/06/17	9:28	4.22	28.83		
09/18/17	11:59	8.04	25.01		
03/19/18	10:23	4.40	28.65		
09/10/18	13:32	7.64	25.41		
MW-7	33.24	12/22/97	8:26	5.86	27.38
		03/06/98	9:41	5.66	27.58
		06/18/98	9:04	6.38	26.86
		09/29/98	9:15	7.62	25.62
		12/14/98	9:36	5.66	27.58
		01/07/99	8:34	5.58	27.66
		01/13/99	9:05	5.68	27.56
		03/02/99	9:09	4.89	28.35
		06/16/99	10:03	6.32	26.92
		09/16/99	10:30	7.09	26.15
		12/08/99	8:28	5.89	27.35
		03/07/00	8:38	5.45	27.79
		06/21/00	10:00	6.47	26.77
		09/12/00	10:25	7.31	25.93
		12/07/00	9:20	6.91	26.33
		03/15/01	10:00	6.32	26.92
		07/12/01	13:45	6.75	26.49
		08/27/01	10:30	7.09	26.15
		09/24/01	11:49	7.33	25.91
		10/22/01	18:37	7.20	26.04
	11/19/01	12:50	6.33	26.91	
	01/02/02	10:23	5.55	27.41	
	03/27/02	10:12	5.45	27.51	
	06/11/02	10:23	6.16	26.80	
	09/17/02	12:41	7.34	25.62	
	12/16/02	11:10	6.71	26.25	
	03/17/03	10:15	5.70	27.26	
	06/10/03	NR	6.48	26.48	
	09/10/03	8:23	7.80	25.16	
		32.96			

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-7 (continued)	32.96	12/03/03	11:30	6.17	26.79
		01/12/04	10:07	5.64	27.32
		03/15/04	10:23	5.79	27.17
		06/10/04	7:25	6.22	26.74
		09/22/04	10:35	6.84	26.12
		04/04/05	12:30	5.73	27.23
		09/20/05	8:35	7.38	25.58
		01/25/06	14:55	5.06	27.90
		03/14/06	9:00	5.41	27.55
		03/14/06	12:20	5.44	27.52
		05/19/06	13:00	5.99	26.97
		06/09/06	13:36	5.81	27.15
		09/12/06	11:35	7.62	25.34
		04/03/07	9:45	5.31	27.65
		04/03/07	11:20	5.32	27.64
		09/24/07	10:13	7.36	25.60
		05/01/08	9:46	5.86	27.10
		09/29/08	NR	7.07	25.89
		03/23/09	9:25	5.61	27.35
		09/28/09	12:42	7.18	25.78
		03/25/10	8:12	5.86	27.10
		04/05/10	10:51	6.22	26.74
		05/06/10	8:47	6.35	26.61
		07/13/10	14:15	6.13	26.83
		09/27/10	11:30	6.35	26.61
		02/28/11	15:25	5.07	27.89
		03/17/11	13:30	5.00	27.96
		04/25/11	9:13	5.05	27.91
		05/04/11	9:07	5.25	27.71
		06/22/11	8:06	5.64	27.32
		09/20/11	13:10	7.08	25.88
		12/06/11	11:48	6.30	26.66
		03/05/12	13:42	5.27	27.69
		03/05/12	15:01	5.28	27.68
		06/25/12	12:12	5.65	27.31
		06/25/12	12:14	5.64	27.32
		10/03/12	16:30	7.41	25.55
		12/18/12	12:12	5.30	27.66
		12/18/12	12:50	5.30	27.66
		03/04/13	14:20	5.63	27.33
03/04/13	15:14	5.60	27.36		
06/06/13	7:55	5.96	27.00		
09/24/13	12:03	6.73	26.23		
03/25/14	11:58	4.48	28.48		
09/22/14	12:05	7.17	25.79		
03/16/15	9:55	5.11	27.85		
09/13/15	8:46	7.43	25.53		
03/14/16	8:22	4.58	28.38		
09/13/16	10:25	7.31	25.65		
03/06/17	10:52	4.92	28.04		
09/18/17	11:27	7.26	25.70		
03/19/18	9:00	5.55	27.41		
09/10/18	12:15	7.35	25.61		
MW-8	33.83	12/22/97	8:30	6.39	27.44
		03/06/98	9:46	6.20	27.63
		06/18/98	9:13	6.94	26.89
		09/29/98	9:42	8.22	25.61
		12/14/98	9:55	6.21	27.62
		01/07/99	9:12	6.10	27.73
		01/13/99	8:55	6.22	27.61
		03/02/99	9:21	5.38	28.45
		06/16/99	10:12	6.88	26.95
		09/16/99	10:33	7.65	26.18
		12/08/99	8:33	6.42	27.41

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-8 (continued)	33.83	03/07/00	8:42	5.97	27.86
		06/21/00	10:06	6.77	27.06
		09/12/00	10:20	7.90	25.93
		12/07/00	9:10	7.46	26.37
		03/15/01	9:50	6.95	26.88
		07/12/01	12:00	7.31	26.52
		08/27/01	10:27	7.65	26.18
		09/24/01	11:52	7.98	25.85
		10/22/01	17:50	7.95	25.88
		11/19/01	14:15	6.88	26.95
	33.57	01/02/02	10:48	6.07	27.50
		03/27/02	10:21	5.98	27.59
		06/11/02	10:08	6.71	26.86
		09/17/02	12:26	7.94	25.63
		12/16/02	11:28	7.29	26.28
		03/17/03	10:37	6.58	26.99
		06/10/03	NR	7.05	26.52
		09/10/03	8:44	8.38	25.19
		12/03/03	11:00	6.70	26.87
		01/12/04	10:33	6.19	27.38
		03/15/04	11:00	6.32	27.25
		06/10/04	7:55	6.78	26.79
		09/23/04	8:05	7.40	26.17
		04/04/05	13:10	6.29	27.28
		09/20/05	9:10	7.94	25.63
		03/14/06	9:45	6.03	27.54
		03/15/06	10:55	6.03	27.54
		05/19/06	12:50	6.52	27.05
		06/09/06	13:54	6.37	27.20
		09/12/06	12:04	8.20	25.37
		04/03/07	10:08	5.88	27.69
		04/03/07	11:43	5.89	27.68
		09/24/07	10:34	7.95	25.62
		05/01/08	15:15	6.42	27.15
		09/29/08	NR	7.64	25.93
		03/23/09	9:43	6.15	27.42
		09/28/09	14:15	7.75	25.82
		03/25/10	10:20	6.43	27.14
		04/05/10	10:37	6.85	26.72
		05/06/10	8:10	6.97	26.60
		07/13/10	14:41	6.71	26.86
		09/27/10	9:41	6.93	26.64
		02/28/11	13:01	5.62	27.95
		03/17/11	13:00	5.55	28.02
		04/25/11	8:45	5.60	27.97
		05/04/11	8:50	5.80	27.77
		06/22/11	8:48	6.24	27.33
		09/20/11	13:38	7.65	25.92
		12/06/11	11:30	6.86	26.71
		03/05/12	13:20	5.84	27.73
03/05/12	14:06	5.84	27.73		
06/25/12	12:27	6.21	27.36		
10/03/12	15:35	7.98	25.59		
12/18/12	13:34	5.86	27.71		
12/18/12	15:07	5.86	27.71		
03/04/13	15:05	6.17	27.40		
03/04/13	16:13	6.18	27.39		
06/06/13	7:52	6.51	27.06		
09/24/13	12:14	7.25	26.32		
03/25/14	12:22	5.39	28.18		
09/22/14	16:27	7.72	25.85		
03/16/15	10:28	4.68	28.89		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-8 (continued)	33.57	09/13/15	9:18	8.04	25.53
		03/14/16	8:40	5.10	28.47
		09/13/16	10:13	7.88	25.69
		03/06/17	9:12	5.45	28.12
		09/18/17	11:52	7.86	25.71
		03/19/18	10:27	6.12	27.45
		09/10/18	12:48	7.96	25.61
MW-9	33.77	08/27/01	10:26	7.80	25.97
		10/22/01	16:55	7.95	25.82
		11/19/01	14:23	7.02	26.75
		01/02/02	10:44	6.21	27.56
		03/27/02	10:25	6.06	27.71
		06/11/02	10:05	6.84	26.93
		09/17/02	12:28	8.11	25.66
		12/16/02	11:30	7.51	26.26
		03/17/03	10:41	6.36	27.41
		06/10/03	NR	7.20	26.57
		09/10/03	8:49	8.61	25.16
		12/03/03	11:05	6.90	26.87
		01/12/04	10:40	6.34	27.43
		03/15/04	11:05	6.41	27.36
		06/10/04	8:00	7.00	26.77
		09/22/04	11:05	7.81	25.96
		04/04/05	13:15	6.45	27.32
		09/20/05	9:15	8.15	25.62
		01/25/06	15:10	5.74	28.03
		03/14/06	9:50	6.09	27.68
		03/14/06	14:10	6.09	27.68
		05/19/06	12:45	6.71	27.06
		06/09/06	13:58	6.54	27.23
		09/12/06	12:08	8.42	25.35
		04/03/07	10:10	6.00	27.77
		04/03/07	11:47	6.01	27.76
		09/24/07	10:37	8.15	25.62
		05/01/08	12:12	6.57	27.20
		09/29/08	NR	7.89	25.88
		03/23/09	9:50	6.28	27.49
		09/28/09	14:20	7.98	25.79
		03/25/10	10:24	6.55	27.22
		04/05/10	10:39	6.89	26.88
		05/06/10	8:11	7.10	26.67
		07/13/10	14:40	6.88	26.89
		09/27/10	9:45	7.12	26.65
		02/28/11	16:15	5.77	28.00
		03/17/11	12:59	5.61	28.16
		04/25/11	8:34	5.69	28.08
		05/04/11	8:48	5.89	27.88
		06/22/11	8:46	6.37	27.40
09/20/11	13:36	7.84	25.93		
12/06/11	11:28	7.01	26.76		
03/05/12	13:25	5.96	27.81		
03/05/12	14:05	5.96	27.81		
06/25/12	12:25	6.37	27.40		
10/03/12	15:30	8.15	25.62		
12/18/12	13:35	6.00	27.77		
12/18/12	15:08	6.00	27.77		
03/04/13	15:07	6.30	27.47		
03/04/13	16:14	6.30	27.47		
06/06/13	7:53	6.61	27.16		
09/24/13	12:15	7.50	26.27		
03/25/14	12:14	5.52	28.25		
09/22/14	16:31	7.90	25.87		
03/16/15	10:30	5.76	28.01		
09/13/15	9:20	8.21	25.56		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-9 (continued)	33.77	03/14/16	8:42	5.14	28.63
		09/13/16	11:14	8.02	25.75
		03/06/17	9:00	5.51	28.26
		09/18/17	11:55	8.05	25.72
		03/19/18	10:27	6.18	27.59
		09/10/18	12:52	7.15	26.62
MW-10	32.89	01/02/02	10:18	5.48	27.41
		03/27/02	10:08	5.42	27.47
		06/11/02	10:25	6.08	26.81
		09/17/02	12:46	7.25	25.64
		12/16/02	11:07	6.58	26.31
		03/17/03	10:10	5.62	27.27
		06/10/03	NR	6.40	26.49
		09/10/03	8:20	7.72	25.17
		12/03/03	10:30	6.07	26.82
		01/12/04	10:03	5.58	27.31
		03/15/04	10:17	5.73	27.16
		06/10/04	7:15	6.13	26.76
		09/22/04	10:25	6.71	26.18
		04/04/05	12:25	5.66	27.23
		09/20/05	8:30	7.29	25.60
		01/25/06	14:50	5.05	27.84
		03/14/06	11:05	5.35	27.54
		03/15/06	11:25	5.42	27.47
		05/19/06	12:15	5.90	26.99
		06/09/06	13:30	5.74	27.15
		09/12/06	11:28	7.53	25.36
		04/03/07	9:20	5.31	27.58
		04/03/07	11:00	5.27	27.62
		09/24/07	10:08	7.25	25.64
		05/01/08	9:35	5.76	27.13
		09/29/08	NR	6.96	25.93
		03/23/09	8:31	5.54	27.35
		09/28/09	12:51	7.06	25.83
		03/25/10	8:10	5.65	27.24
		04/05/10	10:53	6.00	26.89
		05/06/10	8:46	6.22	26.67
		07/13/10	14:06	6.03	26.86
		09/27/10	11:35	6.21	26.68
		02/28/11	15:31	4.96	27.93
		03/17/11	13:39	4.93	27.96
		04/25/11	9:25	4.94	27.95
		05/04/11	9:09	5.07	27.82
		06/22/11	8:01	5.55	27.34
		09/20/11	13:03	6.96	25.93
		12/06/11	11:50	6.20	26.69
		03/05/12	13:32	5.16	27.73
03/05/12	15:05	5.17	27.72		
06/25/12	12:05	5.57	27.32		
06/25/12	12:15	5.54	27.35		
10/03/12	16:30	7.31	25.58		
12/18/12	12:10	5.30	27.59		
12/18/12	12:45	5.20	27.69		
12/18/12	14:00	5.19	27.70		
03/04/13	14:16	5.52	27.37		
03/04/13	15:15	5.50	27.39		
06/06/13	7:59	5.85	27.04		
09/24/13	11:59	6.60	26.29		
03/25/14	11:42	4.83	28.06		
09/22/14	16:38	7.05	25.84		
03/16/15	9:58	4.79	28.10		
09/13/15	8:44	7.34	25.55		
03/14/16	8:18	4.75	28.14		
09/13/16	10:39	7.18	25.71		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
MW-10 (continued)	32.89	03/06/17	10:43	4.84	28.05
		09/18/17	11:21	7.12	25.77
		03/10/18	8:52	5.41	27.48
		09/19/18	12:05	7.21	25.68
MW-11	32.79	08/27/01	10:16	6.88	25.91
		10/15/02	11:50	8.20	24.59
		10/22/01	12:20	7.14	25.65
		10/29/01	16:04	6.98	25.81
		11/19/01	12:55	6.27	26.52
		01/02/02	11:00	5.34	27.45
		03/27/02	10:34	5.25	27.54
		06/11/02	10:16	5.95	26.84
		09/17/02	12:14	7.16	25.63
		12/16/02	11:21	6.50	26.29
		03/17/03	10:25	5.48	27.31
		06/10/03	NR	6.28	26.51
		09/10/03	8:36	7.61	25.18
		12/03/03	10:44	5.94	26.85
		01/12/04	10:18	5.43	27.36
		03/15/04	10:40	5.57	27.22
		06/10/04	7:45	6.01	26.78
		09/22/04	10:55	6.62	26.17
		04/04/05	12:50	5.57	27.22
		09/20/05	8:55	7.16	25.63
		03/14/06	9:20	5.21	27.58
		03/14/06	13:15	5.21	27.58
		06/09/06	13:45	5.63	27.16
		09/12/06	11:48	7.42	25.37
		04/03/07	9:59	5.13	27.66
		04/03/07	11:33	5.14	27.65
		09/24/07	10:24	7.16	25.63
		05/01/08	10:02	5.65	27.14
		09/29/08	NR	6.86	25.93
		03/23/09	9:32	5.41	27.38
		09/28/09	14:06	6.99	25.80
		03/25/10	9:00	5.67	27.12
		04/05/10	10:33	6.07	26.72
05/06/10	8:09	6.17	26.62		
07/13/10	14:39	5.94	26.85		
09/27/10	10:15	6.10	26.69		
02/28/11	13:40	4.84	27.95		
03/17/11	13:07	4.80	27.99		
04/25/11	8:54	4.81	27.98		
05/04/11	8:57	5.01	27.78		
06/22/11	9:00	5.43	27.36		
09/20/11	13:47	6.84	25.95		
12/06/11	11:36	6.07	26.72		
06/25/12	12:40	5.42	27.37		
10/03/12	15:00	7.18	25.61		
03/25/14	12:10	4.65	28.14		
03/16/15	10:52	4.89	27.90		
09/13/15	9:42	7.22	25.57		
03/14/16	8:33	4.37	28.42		
09/13/16	10:21	7.06	25.73		
03/06/17	8:53	4.66	28.13		
09/18/17	12:42	7.02	25.77		
03/19/18	10:37	5.31	27.48		
09/10/18	12:57	7.12	25.67		
MW-12	32.81	08/27/01	10:15	6.89	25.92
		10/15/01	11:40	8.24	24.57
		10/22/01	14:05	7.13	25.68
		10/29/01	14:17	7.12	25.69
		11/19/01	11:07	6.22	26.59
		01/02/02	11:02	5.36	27.45
		03/27/02	10:31	5.28	27.53
06/11/02	10:18	5.97	26.84		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-12 (continued)	32.81	09/17/02	12:11	7.16	25.65
		12/16/02	11:19	6.51	26.30
		03/17/03	10:23	5.50	27.31
		06/10/03	NR	6.30	26.51
		09/10/03	8:33	7.64	25.17
		12/03/03	10:42	5.98	26.83
		01/12/04	10:16	5.45	27.36
		03/15/04	10:35	5.60	27.21
		06/10/04	7:40	6.03	26.78
		09/22/04	10:50	6.64	26.17
		04/04/05	12:45	5.55	27.26
		09/20/05	8:50	7.19	25.62
		01/25/06	15:00	4.85	27.96
		03/14/06	9:15	5.20	27.61
		03/14/06	12:50	5.23	27.58
		05/19/06	12:20	5.78	27.03
		06/09/06	13:48	5.61	27.20
		09/12/06	11:46	7.45	25.36
		04/03/07	9:57	5.15	27.66
		04/03/07	11:30	5.14	27.67
		09/24/07	10:22	7.18	25.63
		05/01/08	9:57	5.68	27.13
		09/29/08	NR	6.88	25.93
		03/23/09	9:30	5.44	27.37
		09/28/09	14:03	7.00	25.81
		03/25/10	10:07	5.69	27.12
		04/05/10	10:32	6.08	26.73
		05/06/10	8:00	6.20	26.61
		07/13/10	14:40	5.94	26.87
		09/27/10	10:20	6.12	26.69
		02/28/11	13:20	4.86	27.95
		03/17/11	13:09	4.80	28.01
		04/25/11	8:56	4.85	27.96
05/04/11	8:58	5.05	27.76		
06/22/11	9:03	5.46	27.35		
09/20/11	13:49	6.87	25.94		
12/06/11	11:38	6.10	26.71		
03/05/12	13:17	5.09	27.72		
03/05/12	14:29	5.07	27.74		
06/25/12	12:42	5.44	27.37		
10/03/12	15:17	7.20	25.61		
12/18/12	13:30	5.12	27.69		
12/18/12	15:27	5.10	27.71		
03/04/13	15:03	5.40	27.41		
03/04/13	16:11	5.40	27.41		
06/06/13	7:50	5.75	27.06		
09/24/13	12:19	6.55	26.26		
03/25/14	12:06	4.69	28.12		
09/22/14	16:19	6.98	25.83		
03/16/15	10:53	4.90	27.91		
09/13/15	9:14	7.27	25.54		
03/14/16	8:32	4.35	28.46		
09/13/16	10:27	7.10	25.71		
03/06/17	8:51	4.64	28.17		
09/18/17	11:47	7.06	25.75		
03/19/18	10:40	5.33	27.48		
09/10/18	13:00	7.15	25.66		
MW-23	32.78	09/12/06	11:30	7.44	25.34
		04/03/07	9:40	5.17	27.61
		04/03/07	11:14	5.16	27.62
		09/24/07	10:11	7.17	25.61
		05/01/08	9:42	5.66	27.12
		09/29/08	NR	6.87	25.91
		03/23/09	9:17	5.43	27.35
09/28/09	12:47	6.98	25.80		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
MW-23 (continued)	32.78	03/25/10	8:14	5.63	27.15
		04/05/10	10:49	5.98	26.80
		05/06/10	8:48	6.13	26.65
		07/13/10	14:10	5.93	26.85
		09/27/10	11:30	6.13	26.65
		02/28/11	14:19	4.86	27.92
		03/17/11	13:32	4.83	27.95
		04/25/11	9:11	4.85	27.93
		05/04/11	9:06	5.04	27.74
		06/22/11	8:04	5.48	27.30
		09/20/11	13:07	6.88	25.90
		12/06/11	11:45	6.10	26.68
		03/05/12	13:40	5.07	27.71
		03/05/12	15:00	5.08	27.70
		06/25/12	12:10	5.45	27.33
		06/25/12	12:14	5.45	27.33
		10/03/12	16:30	7.21	25.57
		12/18/12	13:55	5.10	27.68
		12/18/12	15:30	5.10	27.68
		03/04/13	15:13	5.41	27.37
		03/04/13	16:13	5.41	27.37
		06/06/13	7:56	5.77	27.01
		09/24/13	12:01	6.53	26.25
03/25/14	11:54	4.72	28.06		
09/22/14	16:35	6.96	25.82		
03/16/15	9:56	4.91	27.87		
09/13/15	8:45	7.26	25.52		
03/14/16	8:20	4.40	28.38		
09/13/16	10:33	7.09	25.69		
03/06/17	10:47	4.72	28.06		
09/18/17	11:25	7.04	25.74		
03/19/18	10:40	5.33	27.45		
09/10/18	13:58	7.13	25.65		
MW-26	32.65	03/25/10	8:56	5.52	27.13
		04/05/10	11:05	5.91	26.74
		05/06/10	8:06	6.00	26.65
		06/09/10	8:57	5.10	27.55
		Well Abandoned July 6, 2010			
Shallow On-Site Injection Wells					
INJ-1	32.77	11/19/01	14:27	6.50	26.27
		03/27/02	10:38	5.23	27.54
		06/11/02	10:11	5.94	26.83
		09/17/02	12:16	7.14	25.63
		12/16/02	11:24	6.48	26.29
		03/17/03	10:32	5.47	27.30
		06/10/03	NR	6.09	26.68
		09/11/03	10:00	7.56	25.21
		01/12/04	10:27	5.44	27.33
		03/15/04	10:50	5.55	27.22
		04/04/05	13:00	5.49	27.28
		09/12/06	11:55	7.41	25.36
		04/03/07	10:03	5.06	27.71
		04/25/11	8:52	4.75	28.02
		05/04/11	8:54	4.83	27.94
		09/20/11	13:43	7.15	25.62
		INJ-2	32.81	12/06/11	11:35
10/15/01	11:35			8.22	24.59
10/22/01	15:43			7.12	25.69
10/29/01	13:10			7.02	25.79
11/19/01	11:05			6.30	26.51
03/27/02	10:28			5.29	27.52
06/11/02	10:20			5.99	26.82
09/17/02	12:10			7.18	25.63
12/16/02	11:17	6.52	26.29		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point			Depth to Water	Water Elevation
	Elevation	Date	Time		
INJ-2 (continued)	32.81	03/17/03	10:20	5.51	27.30
		06/10/03	NR	6.31	26.50
		09/10/03	8:30	7.65	25.16
		12/03/03	10:40	6.00	26.81
		01/12/04	10:14	5.46	27.35
		03/15/04	10:30	5.62	27.19
		06/10/04	7:35	6.05	26.76
		09/22/04	10:45	6.65	26.16
		04/04/05	12:40	5.58	27.23
		09/20/05	NR	7.20	25.61
		03/14/06	9:10	5.25	27.56
		09/12/06	11:44	7.47	25.34
		04/03/07	9:55	5.12	27.69
		09/24/07	10:20	7.19	25.62
		05/01/08	9:53	5.70	27.11
		03/25/10	10:05	5.69	27.12
		05/06/10	8:05	6.20	26.61
		09/27/10	10:21	6.15	26.66
		02/28/11	13:16	4.87	27.94
		03/17/11	13:06	4.83	27.98
04/25/11	8:58	4.86	27.95		
05/04/11	8:59	5.05	27.76		
09/20/11	13:50	6.89	25.92		
12/06/11	11:39	6.10	26.71		
10/03/12	15:17	7.20	25.61		
INJ-3	33.01	11/19/01	14:40	6.45	26.56
		06/11/02	10:21	6.19	26.82
		09/17/02	12:43	7.38	25.63
		12/16/02	11:15	7.00	26.01
		03/17/03	10:17	5.74	27.27
		06/10/03	NR	6.50	26.51
		09/10/03	8:27	7.73	25.28
		12/03/03	10:50	6.32	26.69
		01/12/03	10:11	5.70	27.31
		03/15/04	10:27	5.81	27.20
		06/10/04	7:30	6.18	26.83
		09/22/04	10:40	6.90	26.11
		04/04/05	12:35	5.58	27.43
		09/20/05	NR	7.32	25.69
		03/14/06	9:05	5.37	27.64
		06/09/06	13:39	5.72	27.29
		09/12/06	11:40	7.65	25.36
		04/03/07	9:50	5.30	27.71
		09/24/07	10:16	7.25	25.76
		05/01/08	9:51	5.78	27.23
09/29/08	NR	7.02	25.99		
03/25/10	10:00	5.84	27.17		
05/06/10	8:04	6.28	26.73		
02/28/11	13:55	5.09	27.92		
03/17/11	13:05	5.01	28.00		
04/25/11	8:59	5.15	27.86		
05/04/11	9:01	5.11	27.90		
09/20/11	13:55	6.83	26.18		
12/06/11	11:44	6.40	26.61		
10/03/12	15:25	7.42	25.59		
IW-201	32.71	03/25/10	8:58	5.59	27.12
		04/05/10	11:03	5.99	26.72
		05/06/10	8:07	6.08	26.63
		09/27/10	10:22	5.96	26.75
		02/28/11	13:29	4.82	27.89
		10/03/12	15:00	7.08	25.63

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point			Depth to Water	Water Elevation
	Elevation	Date	Time		
IW-202	32.61	10/03/12	15:24	7.10	25.51
		12/18/12	14:25	5.00	27.61
		12/18/12	16:00	5.00	27.61
IW-203	32.45	10/03/12	15:17	6.94	25.51
IW-204	32.73	10/03/12	15:35	7.20	25.53
IW-205	32.92	10/03/12	15:35	7.39	25.53
		12/18/12	14:27	5.30	27.62
		12/18/12	16:05	5.30	27.62
IW-206	32.68	10/03/12	15:17	7.15	25.53
IW-207	32.53	10/03/12	NR	NM	NM
IW-208	32.73	10/03/12	15:40	7.21	25.52
IW-209	32.95	10/03/12	15:35	7.42	25.53
IW-210	32.87	10/03/12	15:24	7.37	25.50
		12/18/12	14:26	5.28	27.59
		12/18/12	16:02	5.28	27.59
IW-211	32.81	10/03/12	15:24	7.28	25.53
IW-212	32.81	10/03/12	16:50	7.35	25.46
IW-213	33.02	10/03/12	15:40	7.50	25.52
IW-214	33.08	10/03/12	15:40	7.58	25.50
		12/18/12	14:26	5.49	27.59
		12/18/12	16:04	5.49	27.59
IW-215	32.72	10/03/12	NR	NM	NM
IW-216	32.9	10/03/12	NR	NM	NM
IW-217	32.82	10/03/12	16:30	7.37	25.45
IW-218	33.19	10/03/12	NR	NM	NM
Deep On-Site Monitoring Wells and Piezometer					
MW-13	32.81	03/31/03	13:05	5.43	27.38
		06/10/03	NR	6.09	26.72
		09/10/03	9:26	7.65	25.16
		12/03/03	11:20	5.91	26.90
		01/12/04	11:23	5.37	27.44
		03/15/04	11:20	5.55	27.26
		06/10/04	8:30	6.44	26.37
		09/22/04	11:25	6.60	26.21
		04/04/05	13:45	5.50	27.31
		07/28/05	10:35	6.27	26.54
		09/20/05	9:45	7.10	25.71
		03/14/06	10:40	6.20	26.61
		03/15/06	8:55	6.14	26.67
		06/09/06	14:15	5.54	27.27
		09/12/06	12:40	7.44	25.37
		04/03/07	10:43	6.04	26.77
		04/03/07	12:10	4.40	28.41
		09/24/07	11:02	10.60	22.21
		09/24/07	12:42	7.11	25.70
		05/01/08	11:00	5.61	27.20
		09/29/08	NR	7.70	25.11
		09/29/08	NR	6.78	26.03
		03/23/09	10:30	5.43	27.38
03/23/09	12:30	5.34	27.47		
09/28/09	13:50	6.87	25.94		
09/28/09	14:40	6.87	25.94		
03/25/10	8:20	5.82	26.99		
03/25/10	10:40	5.73	27.08		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-13 (continued)	32.81	03/25/10	16:00	5.74	27.07
		03/29/10	8:05	5.73	27.08
		03/29/10	9:02	5.62	27.19
		04/05/10	11:16	6.21	26.60
		05/06/10	8:27	6.37	26.44
		05/06/10	9:00	6.17	26.64
		06/18/10	11:30	5.48	27.33
		06/18/10	12:33	5.45	27.36
		07/06/10	11:15	5.60	27.21
		07/06/10	13:23	5.76	27.05
		07/13/10	14:21	5.90	26.91
		09/27/10	10:40	6.40	26.41
		09/27/10	12:05	6.07	26.74
		02/28/11	14:12	5.31	27.50
		02/28/11	16:29	4.81	28.00
		03/17/11	14:00	4.74	28.07
		04/25/11	8:14	4.78	28.03
		04/25/11	10:06	4.73	28.08
		05/04/11	8:29	4.98	27.83
		05/04/11	9:44	4.96	27.85
		06/22/11	8:14	5.24	27.57
		06/22/11	9:36	5.35	27.46
		09/20/11	13:16	6.71	26.10
		09/20/11	14:20	6.76	26.05
		12/06/11	11:03	7.71	25.10
		12/06/11	12:05	6.01	26.80
		03/05/12	12:30	6.01	26.80
		03/05/12	14:10	4.99	27.82
		03/05/12	14:50	5.00	27.81
		06/25/12	13:05	5.42	27.39
		06/25/12	14:10	5.38	27.43
		10/03/12	13:12	7.10	25.71
		12/18/12	13:43	7.20	25.61
		12/18/12	13:45	5.60	27.21
		12/18/12	15:20	5.05	27.76
12/18/12	15:45	5.05	27.76		
03/04/13	14:25	5.20	27.61		
03/04/13	16:09	5.30	27.51		
03/08/13	12:31	5.30	27.51		
06/06/13	7:37	5.66	27.15		
06/06/13	8:40	5.75	27.06		
09/24/13	12:48	6.42	26.39		
03/25/14	13:55	4.62	28.19		
09/22/14	15:03	6.88	25.93		
03/16/15	12:17	4.86	27.95		
09/13/15	11:18	7.16	25.65		
03/14/16	10:17	4.36	28.45		
09/13/16	12:08	7.03	25.78		
03/06/17	13:32	4.68	28.13		
09/18/17	13:52	7.05	25.76		
03/19/18	10:02	5.30	27.51		
09/10/18	13:19	7.80	25.01		
MW-14	32.60	12/03/03	10:03	5.65	26.95
		01/12/04	11:30	5.07	27.53
		03/16/04	13:00	5.21	27.39
		06/10/04	8:20	5.68	26.92
		09/23/04	8:20	6.30	26.30
		04/04/05	13:25	5.25	27.35
		07/28/05	10:20	6.01	26.59
		09/20/05	9:25	6.86	25.74
		03/14/06	10:05	4.90	27.70
		03/14/06	15:30	4.85	27.75
		06/09/06	14:05	5.27	27.33
		09/12/06	12:16	7.13	25.47
		04/03/07	10:17	4.39	28.21

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-14 (continued)	32.60	04/03/07	11:52	4.75	27.85
		09/24/07	10:51	6.85	25.75
		09/24/07	12:51	6.86	25.74
		05/01/08	10:55	5.34	27.26
		09/29/08	NR	6.56	26.04
		09/29/08	NR	6.57	26.03
		03/23/09	13:15	5.08	27.52
		03/23/09	14:25	5.08	27.52
		09/28/09	13:35	6.62	25.98
		09/28/09	14:47	6.61	25.99
		03/25/10	10:30	5.57	27.03
		03/25/10	11:30	5.57	27.03
		03/25/10	16:02	5.59	27.01
		03/29/10	8:15	5.42	27.18
		03/29/10	9:20	5.41	27.19
		04/05/10	11:20	6.15	26.45
		05/06/10	8:17	5.93	26.67
		05/06/10	9:07	5.92	26.68
		06/18/10	11:25	5.25	27.35
		06/18/10	12:30	5.25	27.35
		07/06/10	10:50	5.53	27.07
		07/06/10	12:22	5.53	27.07
		07/13/10	14:41	5.67	26.93
		09/27/10	9:59	5.85	26.75
		09/27/10	12:00	5.84	26.76
		02/28/11	15:00	4.55	28.05
		02/28/11	16:15	NM	NM
		03/17/11	13:52	4.48	28.12
		04/25/11	8:29	NM	NM
		05/04/11	8:42	4.69	27.91
		05/04/11	9:51	4.71	27.89
		06/22/11	8:39	5.15	27.45
		06/22/11	9:50	5.15	27.45
		09/20/11	13:30	6.55	26.05
		09/20/11	14:36	6.56	26.04
		12/06/11	11:23	5.81	26.79
		12/06/11	12:23	5.78	26.82
		03/05/12	12:56	4.72	27.88
		03/05/12	14:20	4.74	27.86
		06/25/12	12:20	5.14	27.46
06/25/12	14:00	5.14	27.46		
10/03/12	15:30	6.88	25.72		
12/18/12	13:37	4.79	27.81		
12/18/12	15:11	4.80	27.80		
03/04/13	14:48	5.08	27.52		
03/04/13	16:05	5.06	27.54		
03/08/13	12:28	5.05	27.55		
06/06/13	7:33	5.42	27.18		
06/06/13	8:47	5.43	27.17		
09/24/13	12:24	6.24	26.36		
03/25/14	13:59	4.33	28.27		
09/22/14	15:10	6.67	25.93		
03/16/15	12:26	4.62	27.98		
09/13/15	11:28	6.94	25.66		
03/14/16	10:23	4.08	28.52		
09/13/16	11:32	6.80	25.80		
03/06/17	11:50	4.39	28.21		
09/18/17	13:45	6.79	25.81		
03/19/18	10:21	5.01	27.59		
09/10/18	13:38	6.87	25.73		
MW-15	32.57	12/03/03	10:00	5.46	27.11
		01/12/04	11:09	4.86	27.71
		03/16/04	13:35	4.98	27.59

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-15 (continued)	32.57	06/10/04	8:15	5.50	27.07
		09/23/04	8:15	6.23	26.34
		04/04/05	13:30	5.07	27.50
		07/28/05	10:25	5.84	26.73
		09/20/05	9:30	6.69	25.88
		03/14/06	10:10	4.96	27.61
		03/14/06	15:55	4.65	27.92
		06/09/06	14:09	5.07	27.50
		09/12/06	12:20	6.97	25.60
		04/03/07	10:22	4.82	27.75
		04/03/07	11:55	4.55	28.02
		09/24/07	10:48	6.87	25.70
		09/24/07	12:55	6.70	25.87
		05/01/08	11:20	5.20	27.37
		09/29/08	NR	6.51	26.06
		09/29/08	NR	6.38	26.19
		03/23/09	13:20	4.95	27.62
		03/23/09	14:40	4.90	27.67
		09/28/09	13:25	6.50	26.07
		09/28/09	14:50	6.45	26.12
		03/25/10	10:33	5.57	27.00
		03/25/10	11:32	5.58	26.99
		03/25/10	16:05	5.62	26.95
		03/29/10	8:17	5.40	27.17
		03/29/10	9:23	5.39	27.18
		04/05/10	11:22	6.35	26.22
		05/06/10	8:16	5.85	26.72
		05/06/10	9:07	5.82	26.75
		06/18/10	11:22	5.18	27.39
		06/18/10	12:32	5.18	27.39
		07/06/10	11:00	5.42	27.15
		07/06/10	12:20	5.42	27.15
		07/13/10	14:40	5.51	27.06
		09/27/10	10:02	5.71	26.86
		09/27/10	12:25	5.70	26.87
		02/28/11	15:07	4.41	28.16
		02/28/11	16:37	4.41	28.16
		03/17/11	13:50	4.30	28.27
		04/25/11	8:25	4.31	28.26
		04/25/11	10:10	4.32	28.25
		05/04/11	8:37	4.54	28.03
		05/04/11	9:50	4.55	28.02
		06/22/11	8:35	4.96	27.61
		06/22/11	9:42	4.99	27.58
		09/20/11	13:29	6.56	26.01
		09/20/11	14:32	6.51	26.06
		12/06/11	11:18	5.73	26.84
12/06/11	12:20	5.61	26.96		
03/05/12	12:43	4.55	28.02		
03/05/12	14:22	4.56	28.01		
06/25/12	12:18	4.96	27.61		
06/25/12	13:58	4.99	27.58		
10/03/12	NR	NM	NM		
12/18/12	13:38	4.64	27.93		
12/18/12	15:13	4.65	27.92		
03/04/13	14:50	4.91	27.66		
03/04/13	16:06	4.90	27.67		
03/08/13	12:28	4.90	27.67		
06/06/13	7:32	5.27	27.30		
06/06/13	8:50	5.27	27.30		
09/24/13	12:29	6.11	26.46		
03/25/14	14:03	4.15	28.42		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-15 (continued)	32.57	09/22/14	15:42	6.51	26.06
		03/16/15	12:28	4.52	28.05
		09/13/15	11:29	6.82	25.75
		Well Abandoned February 16, 2016			
MW-16	36.92	12/03/03	10:10	10.11	26.81
		01/12/04	11:40	9.56	27.36
		03/15/04	11:30	9.68	27.24
		06/10/04	8:40	10.12	26.80
		09/22/04	11:35	10.72	26.20
		04/04/05	13:55	9.70	27.22
		07/28/05	10:30	10.48	26.44
		09/20/05	9:50	11.31	25.61
		03/14/06	11:00	9.30	27.62
		03/15/06	12:45	9.30	27.62
		06/09/06	14:30	9.70	27.22
		09/12/06	12:50	11.56	25.36
		04/03/07	10:55	9.25	27.67
		04/03/07	12:25	9.28	27.64
		09/24/07	11:17	11.29	25.63
		05/01/08	11:40	9.80	27.12
		09/29/08	NR	10.95	25.97
		09/29/08	NR	10.90	26.02
		03/23/09	11:05	9.54	27.38
		03/23/09	12:50	9.51	27.41
		09/28/09	13:15	11.03	25.89
		09/28/09	14:35	11.03	25.89
		03/25/10	8:17	9.77	27.15
		03/25/10	10:45	9.74	27.18
		03/25/10	16:09	9.74	27.18
		03/29/10	8:22	9.63	27.29
		03/29/10	9:30	9.59	27.33
		04/05/10	11:40	10.21	26.71
		05/06/10	8:25	10.26	26.66
		05/06/10	9:12	10.27	26.65
		06/18/10	11:45	9.54	27.38
		06/18/10	12:50	9.52	27.40
		07/06/10	11:10	9.91	27.01
		07/06/10	13:20	9.92	27.00
		07/13/10	14:20	10.04	26.88
		09/27/10	10:52	10.25	26.67
		09/27/10	12:15	10.25	26.67
		02/28/11	15:14	8.97	27.95
		02/28/11	16:40	8.99	27.93
		03/17/11	14:30	8.92	28.00
		04/25/11	8:40	8.88	28.04
		04/25/11	10:15	8.90	28.02
05/04/11	9:04	9.12	27.80		
05/04/11	10:06	9.12	27.80		
06/22/11	8:12	9.51	27.41		
06/22/11	9:33	9.54	27.38		
09/20/11	13:14	10.98	25.94		
09/20/11	14:16	10.99	25.93		
12/06/11	11:01	10.17	26.75		
12/06/11	12:04	10.16	26.76		
03/05/12	13:15	9.11	27.81		
03/05/12	14:50	9.12	27.80		
06/25/12	13:12	9.53	27.39		
06/25/12	14:15	9.53	27.39		
10/03/12	16:50	11.33	25.59		
12/18/12	13:46	9.22	27.70		
12/18/12	15:18	9.22	27.70		
03/04/13	14:23	9.58	27.34		
03/04/13	16:09	9.45	27.47		
03/08/13	11:30	9.45	27.47		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-16 (continued)	36.92	06/06/13	7:45	9.77	27.15
		06/06/13	8:43	9.81	27.11
		09/24/13	12:53	10.63	26.29
		03/25/14	14:07	8.69	28.23
		09/22/14	15:40	11.05	25.87
		03/16/15	12:32	9.02	27.90
		09/13/15	11:20	11.32	25.60
		03/14/16	10:25	8.53	28.39
		09/13/16	12:20	11.19	25.73
		03/06/17	12:07	8.84	28.08
		09/18/17	13:56	11.12	25.80
03/19/18	10:44	9.42	27.50		
09/10/18	13:25	11.24	25.68		
MW-17	32.60	12/03/03	10:20	5.91	26.69
		01/12/04	12:05	5.43	27.17
		03/15/04	10:05	5.59	27.01
		06/10/04	7:05	5.95	26.65
		09/22/04	10:15	6.50	26.10
		04/04/05	12:15	5.50	27.10
		07/28/05	10:10	6.28	26.32
		09/20/05	8:15	7.18	25.42
		03/14/06	11:30	5.17	27.43
		03/15/06	9:25	5.24	27.36
		06/09/06	14:45	5.53	27.07
		09/12/06	11:15	7.31	25.29
		04/03/07	9:25	5.15	27.45
		04/03/07	11:05	5.13	27.47
		09/24/07	10:03	7.03	25.57
		09/24/07	12:35	7.03	25.57
		05/01/08	9:30	5.57	27.03
		09/29/08	NR	6.72	25.88
		09/29/08	NR	6.71	25.89
		03/23/09	8:38	5.35	27.25
		03/23/09	12:17	5.33	27.27
		09/28/09	12:58	6.86	25.74
		09/28/09	14:21	6.85	25.75
		03/25/10	9:35	5.37	27.23
		03/25/10	10:55	5.38	27.22
		03/25/10	16:25	5.38	27.22
		03/29/10	8:00	5.30	27.30
		03/29/10	8:45	5.30	27.30
		04/05/10	11:27	5.65	26.95
		05/06/10	8:55	5.98	26.62
		05/06/10	9:12	5.98	26.62
		06/18/10	11:15	5.22	27.38
		06/18/10	12:10	5.22	27.38
		07/06/10	10:38	5.66	26.94
		07/06/10	13:55	5.67	26.93
		07/13/10	14:05	5.80	26.80
		09/27/10	11:15	5.99	26.61
		09/27/10	12:25	6.00	26.60
		02/28/11	15:37	4.76	27.84
		02/28/11	16:47	4.78	27.82
03/17/11	13:42	4.75	27.85		
04/25/11	9:31	4.73	27.87		
04/25/11	11:12	4.75	27.85		
05/04/11	9:21	4.99	27.61		
05/04/11	10:22	5.00	27.60		
06/22/11	7:50	5.34	27.26		
06/22/11	9:27	5.35	27.25		
09/20/11	13:01	6.72	25.88		
09/20/11	14:06	6.70	25.90		
12/06/11	10:58	5.70	26.90		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
MW-17 (continued)	32.6	12/06/11	12:01	5.99	26.61
		03/05/12	13:47	4.96	27.64
		03/05/12	15:10	4.98	27.62
		06/25/12	12:00	5.32	27.28
		06/25/12	13:45	5.34	27.26
		10/03/12	16:30	7.10	25.50
		12/18/12	11:55	4.90	27.70
		12/18/12	12:01	5.02	27.58
		12/18/12	12:06	5.02	27.58
		03/04/13	14:09	5.30	27.30
		03/04/13	16:20	5.30	27.30
		03/08/13	12:24	5.27	27.33
		06/06/13	8:00	5.43	27.17
		06/06/13	9:03	5.66	26.94
		09/24/13	11:54	6.30	26.30
		03/25/14	14:11	4.60	28.00
		09/22/14	13:43	6.82	25.78
		03/16/15	12:37	4.89	27.71
		09/13/15	11:05	7.08	25.52
		03/14/16	10:33	4.35	28.25
09/13/16	12:32	6.95	25.65		
03/06/17	13:25	4.63	27.97		
09/18/17	13:36	6.86	25.74		
03/19/18	9:10	5.18	27.42		
09/10/18	11:57	6.98	25.62		
MW-18	32.73	12/03/03	11:50	5.94	26.79
		01/12/04	10:00	5.43	27.30
		03/15/04	10:15	5.60	27.13
		06/10/04	7:10	6.00	26.73
		09/22/04	10:20	6.57	26.16
		04/04/05	12:20	5.53	27.20
		07/28/05	10:05	6.31	26.42
		09/20/05	8:25	7.13	25.60
		03/14/06	11:10	5.23	27.50
		03/15/06	10:25	5.29	27.44
		06/09/06	13:32	5.60	27.13
		09/12/06	11:25	7.40	25.33
		04/03/07	11:03	5.15	27.58
		09/24/07	10:06	7.11	25.62
		09/24/07	12:37	7.11	25.62
		05/01/08	9:07	5.61	27.12
		09/29/08	NR	6.80	25.93
		09/29/08	NR	6.79	25.94
		03/23/09	8:27	5.38	27.35
		03/23/09	12:15	5.37	27.36
		09/28/09	12:56	6.91	25.82
		09/28/09	14:25	6.90	25.83
		03/25/10	8:00	5.53	27.20
		03/25/10	11:00	5.47	27.26
		03/25/10	16:13	5.47	27.26
		03/29/10	7:56	5.40	27.33
		03/29/10	8:50	5.37	27.36
		04/05/10	11:25	5.84	26.89
		05/06/10	8:45	6.02	26.71
		05/06/10	9:25	6.01	26.72
		06/18/10	11:10	5.32	27.41
		06/18/10	12:05	5.34	27.39
07/06/10	10:43	5.72	27.01		
07/06/10	14:00	5.73	27.00		
07/13/10	14:07	5.88	26.85		
09/27/10	11:35	6.06	26.67		
09/27/10	12:30	6.06	26.67		
02/28/11	15:29	4.82	27.91		
02/28/11	16:45	4.82	27.91		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
MW-18 (continued)	32.73	03/17/11	14:40	4.78	27.95
		04/25/11	9:23	4.85	27.88
		04/25/11	11:07	4.80	27.93
		05/04/11	9:10	5.00	27.73
		05/04/11	10:10	5.00	27.73
		06/22/11	7:59	5.42	27.31
		06/22/11	9:28	5.41	27.32
		09/20/11	13:05	6.81	25.92
		09/20/11	14:09	6.78	25.95
		12/06/11	11:52	6.03	26.70
		12/06/11	12:53	6.05	26.68
		03/05/12	13:30	5.01	27.72
		03/05/12	15:06	5.01	27.72
		06/25/12	NR	NM	NM
		10/03/12	16:30	7.16	25.57
		12/18/12	12:08	5.05	27.68
		12/18/12	12:52	5.05	27.68
		03/04/13	14:15	5.37	27.36
		03/04/13	15:16	5.35	27.38
		03/08/13	12:26	5.30	27.43
		06/06/13	7:59	5.70	27.03
		06/06/13	9:02	5.70	27.03
		09/24/13	11:58	6.44	26.29
		03/25/14	14:16	4.68	28.05
		09/22/14	13:48	6.91	25.82
		03/16/15	12:34	4.89	27.84
		09/13/15	11:02	7.19	25.54
		03/14/16	10:31	4.41	28.32
		09/13/16	11:47	7.05	25.68
		03/06/17	12:23	5.57	27.16
09/18/17	14:04	7.74	24.99		
03/19/18	8:54	5.30	27.43		
09/10/18	12:03	7.05	25.68		
MW-19	33.52	03/16/04	10:10	6.54	26.98
		06/10/04	7:20	6.87	26.65
		09/22/04	10:30	7.44	26.08
		04/04/05	12:05	6.37	27.15
		07/28/05	10:15	7.20	26.32
		09/20/05	8:20	7.98	25.54
		03/14/06	11:20	6.15	27.37
		03/15/06	9:55	6.21	27.31
		06/09/06	14:36	6.49	27.03
		09/12/06	11:20	8.25	25.27
		04/03/07	9:30	6.10	27.42
		04/03/07	11:07	6.07	27.45
		09/24/07	10:00	7.94	25.58
		09/24/07	12:30	7.95	25.57
		05/01/08	9:20	6.50	27.02
		09/29/08	NR	7.66	25.86
		09/29/08	NR	7.64	25.88
		03/23/09	9:15	6.29	27.23
		03/23/09	12:20	6.27	27.25
		09/28/09	12:35	7.79	25.73
		09/28/09	14:20	7.79	25.73
		03/25/10	9:25	6.25	27.27
		03/25/10	10:50	6.27	27.25
		03/25/10	16:28	6.29	27.23
		03/29/10	7:40	6.15	27.37
		03/29/10	8:40	6.18	27.34
		04/05/10	11:28	6.46	27.06
		05/06/10	7:30	6.60	26.92
		05/06/10	9:40	6.61	26.91
		06/18/10	11:05	6.11	27.41
06/18/10	12:00	6.11	27.41		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point			Depth to Water	Water Elevation
	Elevation	Date	Time		
MW-19 (continued)	33.52	07/06/10	10:34	6.58	26.94
		07/06/10	13:53	6.59	26.93
		07/13/10	14:00	6.71	26.81
		09/27/10	11:10	6.92	26.60
		09/27/10	12:34	6.90	26.62
		02/28/11	15:45	5.68	27.84
		02/28/11	16:50	5.69	27.83
		03/17/11	14:50	5.70	27.82
		04/25/11	9:28	5.65	27.87
		04/25/11	11:10	5.64	27.88
		05/04/11	9:12	5.89	27.63
		05/04/11	10:13	5.88	27.64
		06/22/11	7:47	6.28	27.24
		06/22/11	9:19	6.28	27.24
		09/20/11	12:55	7.63	25.89
		09/20/11	14:03	7.61	25.91
		12/06/11	10:50	6.89	26.63
		12/06/11	11:59	6.89	26.63
		03/05/12	13:45	5.88	27.64
		03/05/12	15:12	5.90	27.62
		06/25/12	11:50	6.27	27.25
		06/25/12	13:48	6.25	27.27
		10/03/12	16:30	8.02	25.50
		12/18/12	11:50	5.94	27.58
		12/18/12	12:36	5.93	27.59
		12/18/12	13:00	5.93	27.59
		03/04/13	14:00	6.23	27.29
		03/04/13	15:20	6.21	27.31
		03/08/13	12:22	6.16	27.36
		06/06/13	8:05	6.55	26.97
		06/06/13	9:00	6.57	26.95
		09/24/13	11:40	7.26	26.26
		03/25/14	14:24	5.55	27.97
09/22/14	13:40	7.74	25.78		
03/16/15	12:31	5.68	27.84		
09/13/15	11:04	7.97	25.55		
03/14/16	10:36	5.30	28.22		
09/13/16	14:28	7.86	25.66		
03/19/18	9:06	6.11	27.41		
09/10/18	12:19	7.84	25.68		
MW-21	32.86	09/12/06	12:35	7.45	25.41
		04/03/07	10:40	5.23	27.63
		04/03/07	12:06	5.06	27.80
		09/24/07	10:58	7.11	25.75
		09/24/07	12:44	7.15	25.71
		05/01/08	11:05	5.62	27.24
		09/29/08	NR	6.84	26.02
		09/29/08	NR	6.82	26.04
		03/23/09	10:15	5.40	27.46
		03/23/09	12:35	5.39	27.47
		09/28/09	13:40	6.98*	25.88*
		09/28/09	14:45	6.22*	26.64*
		09/30/09	14:40	7.07*	25.79*
		03/25/10	8:36	5.82	27.04
		03/25/10	10:38	5.82	27.04
		03/25/10	16:20	5.82	27.04
		03/29/10	8:15	5.68	27.18
		03/29/10	9:15	5.67	27.19
		04/05/10	11:10	6.38	26.48
		05/06/10	8:33	6.28	26.58
		05/06/10	9:06	6.28	26.58
		06/18/10	11:20	5.50	27.36
		06/18/10	12:35	5.50	27.36
07/06/10	11:30	5.70	27.16		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
MW-21 (continued)	32.86	07/06/10	12:00	5.85	27.01
		07/13/10	14:31	5.98	26.88
		09/27/10	10:12	6.05	26.81
		09/27/10	12:10	6.15	26.71
		02/28/11	14:40	4.93	27.93
		02/28/11	16:33	4.85	28.01
		03/17/11	14:50	4.78	28.08
		04/25/11	8:21	4.84	28.02
		04/25/11	10:08	4.77	28.09
		05/04/11	8:35	5.00	27.86
		05/04/11	9:48	4.99	27.87
		06/22/11	8:27	5.48	27.38
		06/22/11	9:38	5.42	27.44
		09/20/11	13:25	6.89	25.97
		09/20/11	13:28	6.85	26.01
		12/06/11	11:12	8.00	24.86
		12/06/11	12:14	6.06	26.80
		03/05/12	12:35	5.39	27.47
		03/05/12	14:18	5.03	27.83
		03/05/12	14:50	5.05	27.81
		06/25/12	12:57	5.47	27.39
		06/25/12	14:07	5.45	27.41
		10/03/12	15:55	7.17	25.69
		12/18/12	13:42	5.22	27.64
		12/18/12	15:24	5.10	27.76
		12/18/12	15:43	5.10	27.76
		03/04/13	14:33	5.41	27.45
		03/04/13	14:52	5.37	27.49
		03/04/13	16:08	5.35	27.51
		03/08/13	12:30	5.35	27.51
		06/06/13	7:35	5.77	27.09
		06/06/13	8:40	5.74	27.12
		09/24/13	12:40	6.53	26.33
		03/25/14	14:28	4.67	28.19
		09/22/14	15:07	6.96	25.90
03/16/15	12:18	4.93	27.93		
09/14/15	14:22	7.22	25.64		
03/14/16	10:20	4.38	28.48		
09/13/16	12:33	7.10	25.76		
03/06/17	11:55	4.68	28.18		
09/18/17	13:49	7.06	25.80		
03/19/18	10:05	6.09	26.77		
09/10/18	13:36	7.26	25.60		
MW-22	33.18	09/12/06	12:47	7.85	25.33
		04/03/07	10:50	5.55	27.63
		04/03/07	12:20	5.55	27.63
		09/24/07	11:10	7.58	25.60
		05/01/08	10:24	6.07	27.11
		09/29/08	NR	7.26	25.92
		09/29/08	NR	7.24	25.94
		03/23/09	10:51	5.83	27.35
		03/23/09	12:40	5.81	27.37
		09/28/09	NR	NM	NM
		03/25/10	10:35	6.07	27.11
		03/25/10	11:55	6.08	27.10
		03/25/10	16:11	6.10	27.08
		03/29/10	8:10	5.96	27.22
		03/29/10	9:10	5.96	27.22
		04/05/10	11:35	6.52	26.66
		05/06/10	8:22	6.55	26.63
		05/06/10	9:00	6.55	26.63
		06/18/10	11:31	5.85	27.33
		06/18/10	12:37	5.75	27.43
07/06/10	12:00	6.24	26.94		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
MW-22 (continued)	33.18	07/06/10	13:35	6.22	26.96
		07/13/10	14:45	6.35	26.83
		09/27/10	10:25	6.54	26.64
		09/27/10	12:07	6.54	26.64
		02/28/11	14:03	5.26	27.92
		02/28/11	16:23	5.28	27.90
		03/17/11	14:10	5.21	27.97
		04/25/11	8:15	NM	NM
		05/04/11	8:32	5.42	27.76
		05/04/11	9:46	5.42	27.76
		06/22/11	NR	NM	NM
		09/20/11	NR	NM	NM
		12/06/11	11:42	6.46	26.72
		12/06/11	12:43	6.49	26.69
		03/05/12	13:00	5.44	27.74
		03/05/12	14:26	5.47	27.71
		03/05/12	14:50	5.48	27.70
		06/25/12	13:15	5.83	27.35
		06/25/12	14:12	5.85	27.33
		10/03/12	13:10	7.59	25.59
		12/18/12	13:48	5.50	27.68
		12/18/12	15:22	5.50	27.68
		03/04/13	NR	NM	NM
		03/08/13	12:32	5.76	27.42
		06/06/13	7:41	6.14	27.04
		06/06/13	8:41	6.17	27.01
		09/24/13	13:06	6.64	26.54
		03/26/14	11:05	5.12	28.06
		09/22/14	14:53	7.35	25.83
		03/17/15	8:20	5.32	27.86
		09/13/15	11:14	7.61	25.57
		03/14/16	10:15	4.82	28.36
		09/13/16	12:17	7.47	25.71
03/06/17	12:12	5.11	28.07		
09/18/17	NM	NM	NM		
03/19/18	9:52	5.72	27.46		
09/10/18	NM	NM	NM		
MW-24	32.74	03/25/10	8:39	5.69	27.05
		03/25/10	10:50	5.64	27.10
		03/25/10	16:41	5.68	27.06
		03/29/10	8:17	5.53	27.21
		03/29/10	9:17	5.50	27.24
		04/05/10	11:13	6.26	26.48
		05/06/10	8:31	6.01	26.73
		05/06/10	9:05	6.01	26.73
		06/09/10	10:15	5.21	27.53
		06/18/10	11:36	5.39	27.35
		06/18/10	12:38	5.38	27.36
		07/06/10	11:35	5.70	27.04
		07/06/10	12:02	5.70	27.04
		07/13/10	14:32	5.80	26.94
		09/27/10	10:12	5.99	26.75
		09/27/10	12:10	5.99	26.75
		02/28/11	14:50	4.70	28.04
		02/28/11	16:32	4.70	28.04
		03/17/11	NR	NM	NM
		04/25/11	8:20	4.75	27.99
		04/25/11	10:07	4.61	28.13
		05/04/11	8:34	4.85	27.89
		05/04/11	9:49	4.85	27.89
		06/22/11	6:29	5.28	27.46
		06/22/11	9:40	5.26	27.48
		09/20/11	13:22	6.71	26.03
		09/20/11	14:29	6.70	26.04

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Measuring Point				Depth to	Water
Location	Elevation	Date	Time	Water	Elevation
MW-24 (continued)	32.74	12/06/11	11:15	5.90	26.84
		12/06/11	12:16	5.89	26.85
		06/25/12	13:00	5.27	27.47
		06/25/12	14:06	5.27	27.47
		10/03/12	15:55	7.01	25.73
		03/25/14	12:42	4.42	28.32
		09/22/14	15:06	6.81	25.93
		03/16/15	12:23	4.78	27.96
		09/13/15	14:23	7.05	25.69
		03/14/16	10:22	4.23	28.51
		09/13/16	12:10	6.90	25.84
		03/06/17	11:53	4.52	28.22
		09/18/17	13:48	6.91	25.83
		03/19/18	10:07	5.18	27.56
09/10/18	13:26	7.03	25.71		
MW-25	32.80	03/25/10	8:30	5.69	27.11
		03/25/10	10:55	5.71	27.09
		03/25/10	16:41	5.72	27.08
		03/29/10	8:06	5.56	27.24
		03/29/10	9:05	5.57	27.23
		04/05/10	11:18	6.21	26.59
		05/06/10	8:28	6.12	26.68
		05/06/10	9:01	6.12	26.68
		06/09/10	11:15	5.28	27.52
		06/18/10	11:35	5.45	27.35
		06/18/10	12:40	5.45	27.35
		07/06/10	11:17	5.76	27.04
		07/06/10	13:25	5.78	27.02
		07/13/10	14:22	5.90	26.90
		09/27/10	10:41	6.08	26.72
		09/27/10	12:05	6.08	26.72
		02/28/11	14:25	4.80	28.00
		02/28/11	16:25	4.82	27.98
		03/17/11	14:06	4.75	28.05
		04/25/11	8:11	4.75	28.05
		04/25/11	10:05	4.75	28.05
		05/04/11	8:30	4.97	27.83
		05/04/11	9:45	4.95	27.85
		06/22/11	8:16	5.43	27.37
		06/22/11	9:37	5.40	27.40
		09/20/11	13:18	6.73	26.07
		09/20/11	14:22	6.81	25.99
		12/06/11	11:05	6.05	26.75
		12/06/11	12:07	6.02	26.78
		06/25/12	13:03	5.60	27.20
		06/25/12	14:09	5.39	27.41
		10/03/12	13:20	7.11	25.69
		03/25/14	12:54	4.57	28.23
09/22/14	15:01	6.86	25.94		
03/16/15	12:19	4.84	27.96		
09/13/15	11:17	7.16	25.64		
03/14/16	10:18	4.36	28.44		
09/13/16	12:13	7.08	25.72		
03/06/17	12:02	4.60	28.20		
09/18/17	13:53	6.98	25.82		
03/19/18	9:58	5.23	27.57		
09/10/18	13:15	7.11	25.69		
P-1	33.85	01/13/99	8:55	6.25	27.60
		03/02/99	9:19	5.42	28.43
		06/16/99	10:15	6.82	27.03
		09/16/99	10:34	7.57	26.28
		12/08/99	8:32	6.49	27.36
		03/07/00	8:41	6.15	27.70
		06/21/00	9:33	6.96	26.89
		09/12/00	10:15	7.91	25.94

**Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington**

Location	Measuring Point Elevation	Date	Time	Depth to Water	Water Elevation
P-1 (continued)	33.62	12/07/00	9:15	7.50	26.12
		03/15/01	9:52	6.10	27.52
		01/02/02	10:55	6.12	27.50
		09/17/02	12:18	7.94	25.68
		12/16/02	11:26	7.28	26.34
		03/17/03	10:35	6.28	27.34
		09/10/03	8:42	8.40	25.22
		12/03/03	10:53	7.03	26.59
		01/12/04	10:35	6.20	27.42
		03/15/04	10:55	6.35	27.27
		06/10/04	7:50	6.81	26.81
		09/23/04	8:00	7.41	26.21
		04/04/05	13:05	6.30	27.32
		09/20/05	9:05	7.95	25.67
		03/14/06	9:40	5.99	27.63
		06/09/06	13:52	6.37	27.25
		09/12/06	12:00	8.21	25.41
		04/03/07	10:06	5.90	27.72
		04/03/07	11:42	5.90	27.72
		09/24/07	10:30	7.95	25.67
		05/01/08	10:10	6.44	27.18
		09/29/08	NR	7.64	25.98
		03/23/09	9:45	6.19	27.43
		09/28/09	14:12	7.75	25.87
		03/25/10	10:18	6.47	27.15
		03/25/10	11:20	6.47	27.15
		03/29/10	8:20	6.35	27.27
		03/29/10	9:28	6.35	27.27
		04/05/10	11:07	6.89	26.73
		05/06/10	8:10	6.97	26.65
		05/06/10	9:10	6.96	26.66
		07/06/10	12:05	6.60	27.02
		07/06/10	12:25	6.60	27.02
		07/13/10	14:42	6.73	26.89
		09/27/10	9:43	6.92	26.70
		09/27/10	12:20	6.93	26.69
		02/28/11	13:09	5.63	27.99
		02/28/11	16:20	5.64	27.98
		03/17/11	14:18	5.57	28.05
		04/25/11	8:36	5.62	28.00
		04/25/11	10:12	5.65	27.97
		05/04/11	8:51	5.81	27.81
		05/04/11	9:54	5.80	27.82
06/22/11	8:50	6.24	27.38		
09/20/11	13:40	7.65	25.97		
09/20/11	14:45	7.66	25.96		
12/06/11	11:32	6.92	26.70		
12/06/11	12:33	6.87	26.75		
03/05/12	13:18	5.84	27.78		
03/05/12	14:31	5.85	27.77		
06/25/12	12:30	6.23	27.39		
06/25/12	14:03	6.23	27.39		
10/03/12	15:35	7.97	25.65		
12/18/12	13:32	5.90	27.72		
12/18/12	15:05	5.88	27.74		
03/04/13	15:05	6.18	27.44		
03/04/13	16:13	6.18	27.44		
03/08/13	12:28	6.13	27.49		
06/06/13	7:52	6.53	27.09		
06/06/13	8:52	6.52	27.10		
09/25/13	7:13	7.32	26.30		
03/25/14	12:18	5.47	28.15		
09/22/14	16:25	7.75	25.87		
03/16/15	12:36	5.69	27.93		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
P-1 (continued)	33.62	09/13/15	11:31	8.04	25.58
		03/14/16	10:13	5.20	28.42
		09/13/16	11:27	7.88	25.74
		03/06/17	11:46	5.50	28.12
		09/18/17	13:41	7.83	25.79
		03/19/18	10:33	6.17	27.45
		09/10/18	12:45	7.95	25.67
Deep Off-Site Monitoring Well					
MW-20	33.15	07/28/05	10:00	6.92	26.23
		09/20/05	NR	7.74	25.41
		03/14/06	12:00	5.97	27.18
		03/15/06	13:25	6.03	27.12
		06/09/06	15:00	6.28	26.87
		09/12/06	13:05	7.96	25.19
		04/03/07	9:00	5.98	27.17
		04/03/07	12:35	5.94	27.21
		09/24/07	11:30	7.71	25.44
		05/01/08	11:45	6.23	26.92
		09/29/08	NR	7.36	25.79
		09/29/08	NR	7.36	25.79
		03/23/09	9:10	6.07	27.08
		03/24/09	15:00	6.05	27.10
		09/28/09	13:05	7.52	25.63
		09/28/09	14:30	7.52	25.63
		03/25/10	9:20	5.90	27.25
		03/25/10	16:30	5.92	27.23
		03/29/10	7:12	5.75	27.40
		03/29/10	9:00	5.74	27.41
		04/05/10	12:34	6.05	27.10
		05/06/10	7:30	6.60	26.55
		05/06/10	9:40	6.61	26.54
		06/18/10	10:50	5.77	27.38
		06/18/10	13:00	5.77	27.38
		07/06/10	10:30	6.29	26.86
		07/06/10	13:50	6.30	26.85
		07/13/10	15:05	6.45	26.70
		09/27/10	11:40	6.60	26.55
		09/27/10	12:45	6.60	26.55
		02/28/11	15:50	5.44	27.71
		02/28/11	16:55	5.45	27.70
		03/17/11	14:50	5.48	27.67
		04/25/11	9:50	5.45	27.70
		04/25/11	11:20	5.37	27.78
		05/04/11	9:29	5.56	27.59
		05/04/11	10:30	5.56	27.59
		06/22/11	7:56	6.05	27.10
		06/22/11	9:23	6.03	27.12
		09/20/11	12:40	7.30	25.85
09/20/11	14:42	7.32	25.83		
12/06/11	10:50	6.65	26.50		
12/06/11	12:45	6.61	26.54		
03/05/12	13:26	5.62	27.53		
03/05/12	15:32	5.65	27.50		
06/25/12	13:20	6.06	27.09		
06/25/12	14:50	6.00	27.15		
09/27/12	7:57	7.62	25.53		
10/01/12	NR	7.67	25.48		
10/03/12	17:00	7.49	25.66		
12/18/12	11:00	5.70	27.45		
12/18/12	16:37	5.71	27.44		
03/04/13	13:45	5.99	27.16		
03/04/13	16:45	5.97	27.18		
03/08/13	9:15	5.92	27.23		
06/06/13	9:20	6.30	26.85		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
MW-20 (continued)	33.15	06/06/13	17:00	6.31	26.84
		09/24/13	11:44	7.00	26.15
		03/25/14	14:24	5.37	27.78
		09/22/14	16:59	7.46	25.69
		03/16/15	12:19	5.50	27.65
		09/13/15	11:42	7.71	25.44
		03/14/16	10:57	5.12	28.03
		09/13/16	14:15	7.49	25.66
		03/06/17	13:10	5.37	27.78
		09/18/17	14:13	7.47	25.68
		03/19/18	9:32	6.53	26.62
09/10/18	13:15	7.76	25.39		
MW-27	32.98	09/22/14	16:56	7.37	25.61
		03/16/15	12:22	5.29	27.69
		09/13/15	11:40	7.60	25.38
		03/14/16	10:55	4.92	28.06
		09/13/16	14:10	7.44	25.54
		03/19/18	9:28	5.73	27.25
09/10/18	14:11	7.41	25.57		
MW-28	34.63	09/22/14	13:29	9.02	25.61
		03/16/15	12:27	7.03	27.60
		09/13/15	11:07	9.25	25.38
		03/14/16	10:38	6.60	28.03
		09/13/16	12:35	9.10	25.53
		03/06/17	13:18	6.87	27.76
		09/18/17	14:07	8.99	25.64
		03/19/18	9:21	6.17	28.46
09/10/18	12:25	10.75	23.88		
Deep On-Site Injection Wells					
IW-101	32.77	03/25/10	8:38	5.73	27.04
		03/25/10	10:52	5.70	27.07
		03/25/10	16:40	5.70	27.07
		03/29/10	8:16	5.56	27.21
		03/29/10	9:18	5.55	27.22
		04/05/10	11:12	6.29	26.48
		05/06/10	8:30	6.12	26.65
		05/06/10	9:05	6.10	26.67
		06/18/10	11:37	5.55	27.22
		06/18/10	12:40	5.45	27.32
		07/06/10	11:35	5.62	27.15
		07/06/10	12:01	5.70	27.07
		07/13/10	14:30	5.84	26.93
		09/27/10	10:11	6.01	26.76
		09/27/10	12:10	6.01	26.76
02/28/11	14:43	4.81	27.96		
02/28/11	16:34	4.73	28.04		
10/03/12	15:55	7.05	25.72		
IW-102	32.68	03/25/10	8:23	5.55	27.13
		03/25/10	10:57	5.59	27.09
		03/25/10	16:04	5.60	27.08
		03/29/10	8:08	5.45	27.23
		03/29/10	9:07	5.43	27.25
		04/05/10	11:15	6.10	26.58
		05/06/10	8:29	6.00	26.68
		05/06/10	9:02	6.02	26.66
		06/18/10	11:37	5.44	27.24
		06/18/10	12:40	5.33	27.35
		07/06/10	11:37	5.62	27.06
		07/06/10	13:27	5.62	27.06
		07/13/10	14:20	5.75	26.93
		09/27/10	10:39	5.90	26.78
		09/27/10	12:06	5.90	26.78
02/28/11	14:30	4.78	27.90		
02/28/11	16:28	4.68	28.00		
10/03/12	13:20	7.00	25.68		

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point			Depth to Water	Water Elevation
	Elevation	Date	Time		
IW-103	32.45	10/03/12	15:40	6.73	25.72
		12/18/12	14:30	4.70	27.75
		12/18/12	16:20	4.74	27.71
IW-104	36.32	10/03/12	13:32	10.69	25.63
IW-105	35.96	12/18/12	14:32	8.25	27.71
		12/18/12	16:20	8.27	27.69
IW-106	32.51	10/03/12	15:40	6.82	25.69
IW-107	32.36	10/03/12	NR	NM	NM
IW-108	32.34	10/03/12	16:10	6.60	25.74
IW-109	36.30	10/03/12	13:40	10.65	25.65
		12/18/12	14:34	8.59	27.71
		12/18/12	16:18	8.60	27.70
IW-110	35.98	10/03/12	13:32	10.42	25.56
IW-111	32.47	10/03/12	15:55	6.84	25.63
IW-112	32.64	10/03/12	15:40	7.04	25.60
		12/18/12	14:41	4.97	27.67
		12/18/12	16:27	4.98	27.66
IW-113	36.72	10/03/12	13:40	11.09	25.63
IW-114	32.83	10/03/12	16:10	7.22	25.61
IW-115	32.65	10/03/12	16:10	7.07	25.58
IW-116	36.93	10/03/12	13:50	11.32	25.61
IW-117	32.91	10/03/12	16:10	7.31	25.60
IW-118	33.03	10/03/12	16:10	7.40	25.63
IW-119	36.77	10/03/12	13:50	11.05	25.72
IW-120	36.69	10/03/12	14:05	11.16	25.53
		12/18/12	14:36	9.05	27.64
		12/18/12	16:16	9.07	27.62
IW-121	33.43	10/03/12	16:10	7.87	25.56
		12/18/12	14:40	5.80	27.63
		12/18/12	16:25	5.78	27.65
IW-122	33.03	10/03/12	16:10	7.42	25.61
IW-123	32.77	10/03/12	NR	NM	NM
IW-124	32.62	10/03/12	NR	NM	NM
IW-125	32.52	10/03/12	NR	NM	NM
IW-126	32.72	10/03/12	16:30	7.18	25.54
IW-127	35.46	10/03/12	15:55	9.95	25.51
IW-128	33.93	10/03/12	15:55	8.38	25.55
IW-129	32.69	10/03/12	16:30	7.07	25.62
		12/18/12	14:39	5.01	27.68
		12/18/12	16:11	5.01	27.68
IW-130	32.61	10/03/12	16:30	7.27	25.34
IW-131	32.49	10/03/12	16:30	6.94	25.55
IW-132	36.74	10/03/12	14:05	11.20	25.54
IW-133	36.89	10/03/12	14:05	11.35	25.54
IW-134	37.04	10/03/12	13:20	11.50	25.54
IW-135	33.02	10/03/12	15:55	7.46	25.56
		12/18/12	14:38	5.40	27.62
		12/18/12	16:12	5.38	27.64
IW-136	32.90	10/03/12	15:55	7.15	25.75
IW-137	32.79	10/03/12	NR	NM	NM
IW-138	32.58	10/03/12	16:30	7.09	25.49
		12/18/12	14:40	5.00	27.58
		12/18/12	16:10	5.00	27.58

Table B1
Historical Groundwater Elevation Data
Univar USA Inc., Kent, Washington

Location	Measuring Point		Time	Depth to Water	Water Elevation
	Elevation	Date			
IW-139	36.79	10/03/12	13:29	11.27	25.52
		12/18/12	14:38	9.21	27.58
		12/18/12	16:15	9.21	27.58
IW-140	33.00	10/03/12	13:12	7.44	25.56
IW-141	33.04	10/03/12	16:30	7.47	25.57
Barrel Wash Sump					
Sump Wash	34.17	09/04/96	NR	6.50	27.67
		10/11/96	10:55	6.11	28.06
		11/06/96	NR	6.57	27.60
		12/10/96	11:00	5.54	28.63
		01/10/97	NR	5.84	28.33
		02/21/97	12:50	4.48	29.69
		03/04/97	NR	6.36	27.81
		06/27/97	11:00	5.42	28.75
		09/04/97	11:07	4.46	29.71
		12/22/97	NR	4.00	30.17
		03/06/98	10:06	5.17	29.00
		06/16/99	10:35	4.98	29.19
		12/08/99	8:40	3.66	30.51
		03/07/00	8:55	5.17	29.00
		06/21/00	10:09	5.03	29.14
09/12/00	10:00	5.60	28.57		
12/07/00	8:48	dry	dry		
03/15/01	9:20	5.20	28.97		

NOTE: Depth = depth to water relative to the top of PVC.
 Elev. = elevation relative to NAVD 88.
 * = anomalous field reading; measurement not used for contouring.
 NR = not recorded.
 NM = not measured.

APPENDIX C LABORATORY DATA AND VALIDATION MEMORANDUM

March 2019

APPENDIX C – LABORATORY ANALYTICAL DATA REPORTS AND DATA VALIDATION MEMORANDA

<Provided in electronic format only>

Laboratory Analytical Data Reports

Number	Lab ID	Report Reference
01	FA52791	March 2018 groundwater sampling
02	FA57558	September 2018 groundwater sampling (microbial analysis)
03	FA57673	September 2018 groundwater sampling

Data Validation Memoranda

21 February 2019. Data Review of Univar Kent 212 Groundwater Samples Collected March and September 2018: SGS Data Packages FA52791, FA57558, and FA 57673. ERM.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Univar

AECOMWAS: Univar; 8201 S 212th St, Kent, WA

60527139

SGS Job Number: FA52791

Sampling Dates: 03/13/18 - 03/21/18

Report to:

AECOM
1111 Third Ave Suite 1600
Seattle, WA 98101
melanie.young@aecom.com

ATTN: Melanie Young

Total number of pages in report: 117



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink that reads "Caitlin Brice".

Caitlin Brice, M.S.
General Manager

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FI002), NY(12022), SC(96038001)
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Test results relate only to samples analyzed.

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Sample Summary

Univar

Job No: FA52791

AECOMWAS: Univar; 8201 S 212th St, Kent, WA
 Project No: 60527139

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA52791-1	03/13/18	14:06 DL	03/26/18	AQ	Trip Blank Water	TRIP BLANK
FA52791-2	03/19/18	15:10 DL	03/26/18	AQ	Ground Water	MW-3-031918
FA52791-3	03/19/18	13:55 DL	03/26/18	AQ	Ground Water	MW-17-031918
FA52791-4	03/19/18	15:10 DL	03/26/18	AQ	Ground Water	MW-28-031918
FA52791-5	03/19/18	14:00 DL	03/26/18	AQ	Ground Water	MW-19-031918
FA52791-6	03/19/18	12:00 DL	03/26/18	AQ	Ground Water	DUP-2-031918
FA52791-7	03/20/18	15:25 DL	03/26/18	AQ	Ground Water	MW-1-032018
FA52791-8	03/20/18	14:20 DL	03/26/18	AQ	Ground Water	MW-20-032018
FA52791-9	03/20/18	12:35 DL	03/26/18	AQ	Ground Water	MW-9-032018
FA52791-10	03/20/18	11:15 DL	03/26/18	AQ	Ground Water	MW-8-032018
FA52791-11	03/20/18	10:05 DL	03/26/18	AQ	Ground Water	MW-5-032018
FA52791-12	03/20/18	15:30 DL	03/26/18	AQ	Ground Water	MW-21-032018
FA52791-13	03/20/18	14:20 DL	03/26/18	AQ	Ground Water	MW-23-032018



Sample Summary

(continued)

Univar

Job No: FA52791

AECOMWAS: Univar; 8201 S 212th St, Kent, WA
 Project No: 60527139

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA52791-14	03/20/18	12:40 DL	03/26/18	AQ	Ground Water	MW-14-032018
FA52791-15	03/20/18	11:30 DL	03/26/18	AQ	Ground Water	MW-6-032018
FA52791-16	03/20/18	10:00 DL	03/26/18	AQ	Ground Water	MW-12-032018
FA52791-17	03/20/18	09:00 DL	03/26/18	AQ	Ground Water	DUP-1-032018
FA52791-18	03/21/18	11:55 DL	03/26/18	AQ	Ground Water	MW-4-032118
FA52791-18D	03/21/18	11:55 DL	03/26/18	AQ	Water Dup/MSD	MW-4-032118
FA52791-18S	03/21/18	11:55 DL	03/26/18	AQ	Water Matrix Spike	MW-4-032118
FA52791-19	03/21/18	09:35 DL	03/26/18	AQ	Ground Water	MW-10-032118
FA52791-20	03/21/18	10:30 DL	03/26/18	AQ	Ground Water	MW-7-032118
FA52791-21	03/21/18	13:40 DL	03/26/18	AQ	Ground Water	MW-2-032118
FA52791-22	03/21/18	11:50 DL	03/26/18	AQ	Ground Water	MW-22-032118
FA52791-23	03/21/18	10:35 DL	03/26/18	AQ	Ground Water	MW-23-032118
FA52791-24	03/21/18	09:30 DL	03/26/18	AQ	Ground Water	MW-18-032118



Sample Summary

(continued)

Univar

Job No: FA52791

AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Project No: 60527139

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA52791-25	03/21/18	14:50 DL	03/26/18	AQ	Ground Water	MW-16-032118
FA52791-26	03/21/18	13:40 DL	03/26/18	AQ	Ground Water	MW-13-032118

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Univar **Job** FA52791
Site: AECOMWAS: Univar; 8201 S 212th St, Kent, WA **Report** 4/6/2018 12:40:41

25 Samples and 1 Trip Blank were collected on/between 03/13/2018 and 03/21/2018 and were received at SGS North America Inc - Orlando on 03/26/2018, at 16.6 Deg. C and intact. These Samples received an SGS Orlando job number of FA52791. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** VE1938

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA52791-12MS, FA52791-12MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for Bromoform, Dibromochloromethane are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Sample(s) FA52791-12 have compounds reported from the diluted analysis.

Matrix: AQ **Batch ID:** VE1939

All method blanks for this batch meet method specific criteria.

Sample(s) FA52791-18MS, FA52791-18MSD were used as the QC samples indicated.

The following samples were run outside of holding time for method SW846 8260B: FA52791-1. Sample analyzed beyond hold time; reported results are considered minimum values.

Matrix Spike Recovery(s) for Bromoform, cis-1,3-Dichloropropene, Dibromochloromethane, n-Propylbenzene, Styrene, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Duplicate Recovery(s) for Bromodichloromethane, Bromoform, Chlorobenzene, cis-1,3-Dichloropropene, Dibromochloromethane, n-Propylbenzene, Styrene, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

RPD(s) for MSD for Bromodichloromethane are outside control limits for sample FA52791-18MSD. Probable cause is due to sample non-homogeneity.

Sample(s) FA52791-3, FA52791-8, FA52791-11, FA52791-16, FA52791-17, FA52791-22, FA52791-26 have compounds reported from the diluted analysis.

GC Volatiles By Method RSKSOP-147/175

Matrix: AQ **Batch ID:** GFF1638

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA52791-18DUP, FA52791-18MS were used as the QC samples indicated.

Sample(s) FA52791-3, FA52791-7, FA52791-12, FA52791-18, FA52791-22, FA52791-24, FA52791-26 have compounds reported from the diluted analysis.

Matrix Spike Recovery(s) for Methane are outside control limits. Outside control limits due to high level in sample relative to spike amount.

General Chemistry By Method SM5310 B-11/SW9060A

Matrix: AQ **Batch ID:** GP31294

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA52791-5MS, FA52791-5MSD were used as the QC samples for Total Organic Carbon.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Lovelie Metzgar, QA Officer (signature on file)

Date: April 6, 2018

Summary of Hits

Job Number: FA52791
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 03/13/18 thru 03/21/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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FA52791-1 TRIP BLANK

No hits reported in this sample.

FA52791-2 MW-3-031918

Benzene	0.19 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane	1.4	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane	0.97	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene	0.81	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene	0.32 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride	0.48 J	0.50	0.13	ug/l	SW846 8260B

FA52791-3 MW-17-031918

Benzene	8.0	0.50	0.13	ug/l	SW846 8260B
Chloroethane	90.0	1.0	0.40	ug/l	SW846 8260B
1,1-Dichloroethane	0.61	0.50	0.13	ug/l	SW846 8260B
1,2-Dichloroethane	0.77	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene	0.19 J	0.50	0.13	ug/l	SW846 8260B
Toluene	0.41 J	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	0.51	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride	0.15 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene	2.1	1.0	0.13	ug/l	SW846 8260B
o-Xylene	0.67	0.50	0.13	ug/l	SW846 8260B
Methane	8830	10	3.2	ug/l	RSKSOP-147/175
Ethane	149	1.0	0.32	ug/l	RSKSOP-147/175
Ethene	3.3	1.0	0.43	ug/l	RSKSOP-147/175
Total Organic Carbon	45.1	2.0	0.46	mg/l	SM5310 B-11/SW9060A

FA52791-4 MW-28-031918

Chloroethane	0.31 J	0.50	0.20	ug/l	SW846 8260B
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FA52791-5 MW-19-031918

Benzene	1.1	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene	0.22 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane	3.4	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane	0.28 J	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene	22.5	0.50	0.13	ug/l	SW846 8260B
Hexane	6.8	1.0	0.20	ug/l	SW846 8260B
Isopropylbenzene	3.0	0.50	0.13	ug/l	SW846 8260B
p-Isopropyltoluene	0.19 J	0.50	0.13	ug/l	SW846 8260B
n-Propylbenzene	3.5	0.50	0.13	ug/l	SW846 8260B

Summary of Hits

Job Number: FA52791
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 03/13/18 thru 03/21/18



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Toluene		2.2	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		20.5	0.50	0.13	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		1.3	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.21 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		11.1	1.0	0.13	ug/l	SW846 8260B
o-Xylene		8.0	0.50	0.13	ug/l	SW846 8260B
Total Organic Carbon		15.9	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA52791-6 DUP-2-031918

Benzene		0.92	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene		0.22 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane		3.0	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane		0.25 J	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene		19.7	0.50	0.13	ug/l	SW846 8260B
Hexane		5.7	1.0	0.20	ug/l	SW846 8260B
Isopropylbenzene		2.6	0.50	0.13	ug/l	SW846 8260B
p-Isopropyltoluene		0.17 J	0.50	0.13	ug/l	SW846 8260B
n-Propylbenzene		3.0	0.50	0.13	ug/l	SW846 8260B
Toluene		1.9	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		17.3	0.50	0.13	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		1.0	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.21 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		9.4	1.0	0.13	ug/l	SW846 8260B
o-Xylene		6.9	0.50	0.13	ug/l	SW846 8260B

FA52791-7 MW-1-032018

Benzene		0.19 J	0.50	0.13	ug/l	SW846 8260B
n-Butylbenzene		0.53	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene		0.96	0.50	0.13	ug/l	SW846 8260B
Carbon Tetrachloride		0.45 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane		38.5	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane		16.4	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.77	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.44 J	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene		1.4	0.50	0.13	ug/l	SW846 8260B
Isopropylbenzene		15.6	0.50	0.13	ug/l	SW846 8260B
p-Isopropyltoluene		0.56	0.50	0.13	ug/l	SW846 8260B
n-Propylbenzene		15.2	0.50	0.13	ug/l	SW846 8260B
Tetrachloroethylene		0.26 J	0.50	0.13	ug/l	SW846 8260B
Toluene		0.98	0.50	0.13	ug/l	SW846 8260B
1,1,1-Trichloroethane		2.6	0.50	0.13	ug/l	SW846 8260B
Trichloroethylene		0.83	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		17.6	0.50	0.13	ug/l	SW846 8260B

Summary of Hits

Job Number: FA52791
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 03/13/18 thru 03/21/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
		0.84	0.50	0.13	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		0.34 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		19.5	1.0	0.13	ug/l	SW846 8260B
m,p-Xylene		7.0	0.50	0.13	ug/l	SW846 8260B
o-Xylene		4160	5.0	1.6	ug/l	RSKSOP-147/175
Methane		15.2	1.0	0.32	ug/l	RSKSOP-147/175
Ethane		0.76 J	1.0	0.43	ug/l	RSKSOP-147/175
Ethene						

FA52791-8 MW-20-032018

Benzene		17.8	0.50	0.13	ug/l	SW846 8260B
Chloroethane		137	5.0	2.0	ug/l	SW846 8260B
Toluene		0.62	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		0.50	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.13 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		1.7	1.0	0.13	ug/l	SW846 8260B
o-Xylene		1.7	0.50	0.13	ug/l	SW846 8260B

FA52791-9 MW-9-032018

cis-1,2-Dichloroethylene		0.20 J	0.50	0.13	ug/l	SW846 8260B
Trichloroethylene		1.7	0.50	0.13	ug/l	SW846 8260B

FA52791-10 MW-8-032018

1,1-Dichloroethylene		0.32 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.69	0.50	0.13	ug/l	SW846 8260B
Tetrachloroethylene		0.35 J	0.50	0.13	ug/l	SW846 8260B
Trichloroethylene		2.5	0.50	0.13	ug/l	SW846 8260B

FA52791-11 MW-5-032018

cis-1,2-Dichloroethylene		10.1	0.50	0.13	ug/l	SW846 8260B
Tetrachloroethylene		425	25	6.3	ug/l	SW846 8260B
Trichloroethylene		33.8	0.50	0.13	ug/l	SW846 8260B
Methane		7.3	0.50	0.16	ug/l	RSKSOP-147/175
Total Organic Carbon		4.0	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA52791-12 MW-21-032018

Chloroethane		240	50	20	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		33.0 J	50	13	ug/l	SW846 8260B
Ethylbenzene		740	50	13	ug/l	SW846 8260B
Isopropylbenzene		51.4	50	13	ug/l	SW846 8260B
n-Propylbenzene		72.6	50	13	ug/l	SW846 8260B

Summary of Hits

Job Number: FA52791
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 03/13/18 thru 03/21/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Toluene		118	50	13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		212	50	13	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		146	50	13	ug/l	SW846 8260B
m,p-Xylene		5160	100	13	ug/l	SW846 8260B
o-Xylene		503	50	13	ug/l	SW846 8260B
Methane		18700	25	8.0	ug/l	RSKSOP-147/175
Ethane		849	1.0	0.32	ug/l	RSKSOP-147/175
Ethene		44.2	1.0	0.43	ug/l	RSKSOP-147/175
Total Organic Carbon		17.1	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA52791-13 MW-23-032018

1,1-Dichloroethane		0.37 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.41 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.18 J	0.50	0.13	ug/l	SW846 8260B

FA52791-14 MW-14-032018

No hits reported in this sample.

FA52791-15 MW-6-032018

1,1-Dichloroethane		0.46 J	0.50	0.13	ug/l	SW846 8260B
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FA52791-16 MW-12-032018

1,1-Dichloroethylene		0.16 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		110	2.5	0.63	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.44 J	0.50	0.13	ug/l	SW846 8260B
Tetrachloroethylene		95.4	2.5	0.63	ug/l	SW846 8260B
Trichloroethylene		18.4	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		3.6	0.50	0.13	ug/l	SW846 8260B
Methane		117	0.50	0.16	ug/l	RSKSOP-147/175
Ethane		0.88 J	1.0	0.32	ug/l	RSKSOP-147/175
Total Organic Carbon		7.4	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA52791-17 DUP-1-032018

1,1-Dichloroethylene		0.16 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		84.0	2.5	0.63	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.47 J	0.50	0.13	ug/l	SW846 8260B
Tetrachloroethylene		89.0	2.5	0.63	ug/l	SW846 8260B
Trichloroethylene		18.1	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		3.1	0.50	0.13	ug/l	SW846 8260B
Methane		112	0.50	0.16	ug/l	RSKSOP-147/175

Summary of Hits

Job Number: FA52791
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 03/13/18 thru 03/21/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Ethane		0.85 J	1.0	0.32	ug/l	RSKSOP-147/175
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FA52791-18 MW-4-032118

Benzene		2.9	0.50	0.13	ug/l	SW846 8260B
n-Butylbenzene		0.31 J	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene		1.6	0.50	0.13	ug/l	SW846 8260B
Chloroethane		6.7	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane		0.30 J	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.56	0.50	0.13	ug/l	SW846 8260B
Isopropylbenzene		17.4	0.50	0.13	ug/l	SW846 8260B
n-Propylbenzene		14.9	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		0.20 J	0.50	0.13	ug/l	SW846 8260B
Methane		4410	5.0	1.6	ug/l	RSKSOP-147/175
Ethane		188	1.0	0.32	ug/l	RSKSOP-147/175

FA52791-19 MW-10-032118

No hits reported in this sample.

FA52791-20 MW-7-032118

Tetrachloroethylene		4.3	0.50	0.13	ug/l	SW846 8260B
Methane		0.30 J	0.50	0.16	ug/l	RSKSOP-147/175
Total Organic Carbon		3.2	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA52791-21 MW-2-032118

1,1-Dichloroethane		0.36 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.50	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.19 J	0.50	0.13	ug/l	SW846 8260B

FA52791-22 MW-22-032118

Benzene		0.57	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene		0.38 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane		89.8	2.5	1.0	ug/l	SW846 8260B
1,1-Dichloroethane		0.72	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.16 J	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		1.4	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene		8.5	0.50	0.13	ug/l	SW846 8260B
Hexane		2.7	1.0	0.20	ug/l	SW846 8260B
Isopropylbenzene		18.7	0.50	0.13	ug/l	SW846 8260B
p-Isopropyltoluene		0.15 J	0.50	0.13	ug/l	SW846 8260B
n-Propylbenzene		20.4	0.50	0.13	ug/l	SW846 8260B

Summary of Hits

Job Number: FA52791
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 03/13/18 thru 03/21/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Toluene		0.59	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		58.4	2.5	0.63	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		0.15 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.39 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		173	5.0	0.63	ug/l	SW846 8260B
o-Xylene		1.0	0.50	0.13	ug/l	SW846 8260B
Methane		25700	25	8.0	ug/l	RSKSOP-147/175
Ethane		303	1.0	0.32	ug/l	RSKSOP-147/175
Total Organic Carbon		21.5	1.0	0.23	mg/l	SM5310 B-11/SW9060A
FA52791-23 MW-23-032118						
cis-1,2-Dichloroethylene		0.22 J	0.50	0.13	ug/l	SW846 8260B
Tetrachloroethylene		5.9	0.50	0.13	ug/l	SW846 8260B
Trichloroethylene		0.45 J	0.50	0.13	ug/l	SW846 8260B
Methane		131	0.50	0.16	ug/l	RSKSOP-147/175
Total Organic Carbon		7.0	1.0	0.23	mg/l	SM5310 B-11/SW9060A
FA52791-24 MW-18-032118						
Chloroethane		0.96	0.50	0.20	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.20 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.18 J	0.50	0.13	ug/l	SW846 8260B
Methane		12200	10	3.2	ug/l	RSKSOP-147/175
Ethane		41.6	1.0	0.32	ug/l	RSKSOP-147/175
Total Organic Carbon		20.3	1.0	0.23	mg/l	SM5310 B-11/SW9060A
FA52791-25 MW-16-032118						
Acetone		17.3	10	2.0	ug/l	SW846 8260B
1,1-Dichloroethane		0.42 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.31 J	0.50	0.13	ug/l	SW846 8260B
FA52791-26 MW-13-032118						
Benzene		0.60	0.50	0.13	ug/l	SW846 8260B
n-Butylbenzene		0.36 J	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene		0.76	0.50	0.13	ug/l	SW846 8260B
Chloroethane		51.9	10	4.0	ug/l	SW846 8260B
o-Chlorotoluene		3.2	0.50	0.13	ug/l	SW846 8260B
1,1-Dichloroethane		0.30 J	0.50	0.13	ug/l	SW846 8260B
1,2-Dichloroethane		0.16 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.26 J	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		1.9	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene		18.2	0.50	0.13	ug/l	SW846 8260B

Summary of Hits

Job Number: FA52791
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 03/13/18 thru 03/21/18

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
		5.8	1.0	0.20	ug/l	SW846 8260B
		26.6	0.50	0.13	ug/l	SW846 8260B
		0.43 J	0.50	0.13	ug/l	SW846 8260B
		32.4	0.50	0.13	ug/l	SW846 8260B
		0.99	0.50	0.13	ug/l	SW846 8260B
		88.7	10	2.5	ug/l	SW846 8260B
		20.2	0.50	0.13	ug/l	SW846 8260B
		0.42 J	0.50	0.13	ug/l	SW846 8260B
		287	20	2.5	ug/l	SW846 8260B
		26300	25	8.0	ug/l	RSKSOP-147/175
		411	1.0	0.32	ug/l	RSKSOP-147/175
		15.2	1.0	0.23	mg/l	SM5310 B-11/SW9060A

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	03/13/18
Lab Sample ID:	FA52791-1	Date Received:	03/26/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	E057615.D	1	03/29/18 19:01	TD	n/a	n/a	VE1939
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	03/13/18
Lab Sample ID:	FA52791-1	Date Received:	03/26/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	107%		83-118%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3-031918		
Lab Sample ID: FA52791-2		Date Sampled: 03/19/18
Matrix: AQ - Ground Water		Date Received: 03/26/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057574.D	1	03/28/18 16:59	TD	n/a	n/a	VE1938
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	0.19	0.50	0.13	ug/l	J
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	1.4	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.97	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.81	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.32	0.50	0.13	ug/l	J
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: MW-3-031918		Date Sampled: 03/19/18
Lab Sample ID: FA52791-2		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.48	0.50	0.13	ug/l	J
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	106%		85-112%
460-00-4	4-Bromofluorobenzene	105%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-17-031918		Date Sampled: 03/19/18
Lab Sample ID: FA52791-3		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057575.D	1	03/28/18 17:25	TD	n/a	n/a	VE1938
Run #2	E057612.D	2	03/29/18 17:47	TD	n/a	n/a	VE1939

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	8.0	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	90.0 ^a	1.0	0.40	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.61	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	0.77	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	0.19	0.50	0.13	ug/l	J

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-17-031918	Date Sampled:	03/19/18
Lab Sample ID:	FA52791-3	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.41	0.50	0.13	ug/l	J
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.51	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.15	0.50	0.13	ug/l	J
	m,p-Xylene	2.1	1.0	0.13	ug/l	
95-47-6	o-Xylene	0.67	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	99%	79-125%
2037-26-5	Toluene-D8	108%	103%	85-112%
460-00-4	4-Bromofluorobenzene	102%	110%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-17-031918	Date Sampled: 03/19/18
Lab Sample ID: FA52791-3	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42339.D	1	03/28/18 11:09	EG	n/a	n/a	GFF1638
Run #2	FF42359.D	20	03/28/18 17:04	EG	n/a	n/a	GFF1638

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	21 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	8830 ^a	10	3.2	ug/l	
74-84-0	Ethane	149	1.0	0.32	ug/l	
74-85-1	Ethene	3.3	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: MW-17-031918	Date Sampled: 03/19/18
Lab Sample ID: FA52791-3	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

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General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	45.1	2.0	0.46	mg/l	1	04/05/18 01:05 FN	SM5310	B-11/SW9060A

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-28-031918		Date Sampled: 03/19/18
Lab Sample ID: FA52791-4		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	E057576.D	1	03/28/18 17:49	TD	n/a	n/a	VE1938

Run #1	Purge Volume
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	0.31	0.50	0.20	ug/l	J
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-28-031918	Date Sampled:	03/19/18
Lab Sample ID:	FA52791-4	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	105%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-19-031918		Date Sampled: 03/19/18
Lab Sample ID: FA52791-5		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057577.D	1	03/28/18 18:14	TD	n/a	n/a	VE1938
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	1.1	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	0.22	0.50	0.13	ug/l	J
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	3.4	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.28	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	22.5	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-19-031918	Date Sampled:	03/19/18
Lab Sample ID:	FA52791-5	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	6.8	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	3.0	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	0.19	0.50	0.13	ug/l	J
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	3.5	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	2.2	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	20.5	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	1.3	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.21	0.50	0.13	ug/l	J
	m,p-Xylene	11.1	1.0	0.13	ug/l	
95-47-6	o-Xylene	8.0	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	102%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-19-031918	Date Sampled: 03/19/18
Lab Sample ID: FA52791-5	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

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General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	15.9	1.0	0.23	mg/l	1	04/05/18 01:32 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: DUP-2-031918		
Lab Sample ID: FA52791-6		Date Sampled: 03/19/18
Matrix: AQ - Ground Water		Date Received: 03/26/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	E057578.D	1	03/28/18 18:38	TD	n/a	n/a	VE1938

Run #1	Purge Volume
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	0.92	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	0.22	0.50	0.13	ug/l	J
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	3.0	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.25	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	19.7	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-2-031918	Date Sampled:	03/19/18
Lab Sample ID:	FA52791-6	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	5.7	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	2.6	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	0.17	0.50	0.13	ug/l	J
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	3.0	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	1.9	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	17.3	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	1.0	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.21	0.50	0.13	ug/l	J
	m,p-Xylene	9.4	1.0	0.13	ug/l	
95-47-6	o-Xylene	6.9	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-7	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057579.D	1	03/28/18 19:03	TD	n/a	n/a	VE1938
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	0.19	0.50	0.13	ug/l	J
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	0.53	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	0.96	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	0.45	0.50	0.13	ug/l	J
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	38.5	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	16.4	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.77	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.44	0.50	0.13	ug/l	J
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	1.4	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-7	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	15.6	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	0.56	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	15.2	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	0.26	0.50	0.13	ug/l	J
108-88-3	Toluene	0.98	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	2.6	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	0.83	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	17.6	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.84	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.34	0.50	0.13	ug/l	J
	m,p-Xylene	19.5	1.0	0.13	ug/l	
95-47-6	o-Xylene	7.0	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-7	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42340.D	1	03/28/18 11:33	EG	n/a	n/a	GFF1638
Run #2	FF42358.D	10	03/28/18 16:44	EG	n/a	n/a	GFF1638

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	21 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	4160 ^a	5.0	1.6	ug/l	
74-84-0	Ethane	15.2	1.0	0.32	ug/l	
74-85-1	Ethene	0.76	1.0	0.43	ug/l	J

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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4

Report of Analysis

Client Sample ID: MW-20-032018		Date Sampled: 03/20/18
Lab Sample ID: FA52791-8		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057580.D	1	03/28/18 19:27	TD	n/a	n/a	VE1938
Run #2	E057613.D	10	03/29/18 18:12	TD	n/a	n/a	VE1939

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	17.8	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	137 ^a	5.0	2.0	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-20-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-8	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.62	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.13	0.50	0.13	ug/l	J
	m,p-Xylene	1.7	1.0	0.13	ug/l	
95-47-6	o-Xylene	1.7	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	96%	103%	79-125%
2037-26-5	Toluene-D8	107%	105%	85-112%
460-00-4	4-Bromofluorobenzene	101%	104%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-9-032018		
Lab Sample ID: FA52791-9		Date Sampled: 03/20/18
Matrix: AQ - Ground Water		Date Received: 03/26/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057581.D	1	03/28/18 19:52	TD	n/a	n/a	VE1938
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.20	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-9-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-9	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	1.7	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	106%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-8-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-10	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057582.D	1	03/28/18 20:16	TD	n/a	n/a	VE1938
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	0.32	0.50	0.13	ug/l	J
156-59-2	cis-1,2-Dichloroethylene	0.69	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-8-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-10	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	0.35	0.50	0.13	ug/l	J
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	2.5	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	96%		79-125%
2037-26-5	Toluene-D8	107%		85-112%
460-00-4	4-Bromofluorobenzene	104%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-5-032018		Date Sampled: 03/20/18
Lab Sample ID: FA52791-11		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057583.D	1	03/28/18 20:40	TD	n/a	n/a	VE1938
Run #2	E057614.D	50	03/29/18 18:37	TD	n/a	n/a	VE1939

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	10.1	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-11	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	425 ^a	25	6.3	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	33.8	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	99%	79-125%
2037-26-5	Toluene-D8	105%	107%	85-112%
460-00-4	4-Bromofluorobenzene	102%	102%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-5-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-11	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42341.D	1	03/28/18 11:45	EG	n/a	n/a	GFF1638
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	7.3	0.50	0.16	ug/l	
74-84-0	Ethane	ND	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.11
4

Report of Analysis

Client Sample ID: MW-5-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-11	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.11
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	4.0	1.0	0.23	mg/l	1	04/05/18 03:08 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-21-032018		Date Sampled: 03/20/18
Lab Sample ID: FA52791-12		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057584.D	100	03/28/18 21:04	TD	n/a	n/a	VE1938
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	1000	200	ug/l	
71-43-2	Benzene	ND	50	13	ug/l	
108-86-1	Bromobenzene	ND	50	13	ug/l	
75-27-4	Bromodichloromethane	ND	50	13	ug/l	
75-25-2	Bromoform	ND	50	13	ug/l	
104-51-8	n-Butylbenzene	ND	50	13	ug/l	
135-98-8	sec-Butylbenzene	ND	50	13	ug/l	
98-06-6	tert-Butylbenzene	ND	50	13	ug/l	
56-23-5	Carbon Tetrachloride	ND	50	13	ug/l	
108-90-7	Chlorobenzene	ND	50	13	ug/l	
75-00-3	Chloroethane	240	50	20	ug/l	
67-66-3	Chloroform	ND	50	13	ug/l	
95-49-8	o-Chlorotoluene	ND	50	13	ug/l	
106-43-4	p-Chlorotoluene	ND	50	13	ug/l	
124-48-1	Dibromochloromethane	ND	50	13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	50	25	ug/l	
106-93-4	1,2-Dibromoethane	ND	50	13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	50	20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	13	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	13	ug/l	
107-06-2	1,2-Dichloroethane	ND	50	13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	50	13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	50	13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	33.0	50	13	ug/l	J
78-87-5	1,2-Dichloropropane	ND	50	13	ug/l	
142-28-9	1,3-Dichloropropane	ND	50	13	ug/l	
594-20-7	2,2-Dichloropropane	ND	50	13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	13	ug/l	
100-41-4	Ethylbenzene	740	50	13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID:	MW-21-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-12	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	100	20	ug/l	
98-82-8	Isopropylbenzene	51.4	50	13	ug/l	
99-87-6	p-Isopropyltoluene	ND	50	13	ug/l	
74-83-9	Methyl Bromide	ND	50	20	ug/l	
74-87-3	Methyl Chloride	ND	50	20	ug/l	
74-95-3	Methylene Bromide	ND	50	13	ug/l	
75-09-2	Methylene Chloride	ND	200	100	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	130	ug/l	
103-65-1	n-Propylbenzene	72.6	50	13	ug/l	
100-42-5	Styrene	ND	50	13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	13	ug/l	
127-18-4	Tetrachloroethylene	ND	50	13	ug/l	
108-88-3	Toluene	118	50	13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	13	ug/l	
79-01-6	Trichloroethylene	ND	50	13	ug/l	
75-69-4	Trichlorofluoromethane	ND	50	20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	212	50	13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	146	50	13	ug/l	
75-01-4	Vinyl Chloride	ND	50	13	ug/l	
	m,p-Xylene	5160	100	13	ug/l	
95-47-6	o-Xylene	503	50	13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	106%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-21-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-12	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42342.D	1	03/28/18 11:56	EG	n/a	n/a	GFF1638
Run #2	FF42361.D	50	03/28/18 17:29	EG	n/a	n/a	GFF1638

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	21 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	18700 ^a	25	8.0	ug/l	
74-84-0	Ethane	849	1.0	0.32	ug/l	
74-85-1	Ethene	44.2	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: MW-21-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-12	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.12
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	17.1	1.0	0.23	mg/l	1	04/05/18 03:28 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-23-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-13	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057585.D	1	03/28/18 21:30	TD	n/a	n/a	VE1938
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.37	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.41	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-23-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-13	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.18	0.50	0.13	ug/l	J
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	104%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-14-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-14	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057586.D	1	03/28/18 21:54	TD	n/a	n/a	VE1938
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.14
4

Report of Analysis

Client Sample ID:	MW-14-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-14	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	103%		85-112%
460-00-4	4-Bromofluorobenzene	105%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-6-032018		Date Sampled: 03/20/18
Lab Sample ID: FA52791-15		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057587.D	1	03/28/18 22:18	TD	n/a	n/a	VE1938
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.46	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-15	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-12-032018		Date Sampled: 03/20/18
Lab Sample ID: FA52791-16		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057598.D	1	03/29/18 12:03	TD	n/a	n/a	VE1939
Run #2	E057616.D	5	03/29/18 19:26	TD	n/a	n/a	VE1939

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	0.16	0.50	0.13	ug/l	J
156-59-2	cis-1,2-Dichloroethylene	110 ^a	2.5	0.63	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.44	0.50	0.13	ug/l	J
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.16
4

Report of Analysis

Client Sample ID: MW-12-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-16	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	95.4 ^a	2.5	0.63	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	18.4	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	3.6	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	97%	79-125%
2037-26-5	Toluene-D8	107%	107%	85-112%
460-00-4	4-Bromofluorobenzene	106%	102%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.16
4

Report of Analysis

Client Sample ID: MW-12-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-16	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42343.D	1	03/28/18 12:07	EG	n/a	n/a	GFF1638
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	117	0.50	0.16	ug/l	
74-84-0	Ethane	0.88	1.0	0.32	ug/l	J
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.16
4

Report of Analysis

Client Sample ID: MW-12-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-16	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.16
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	7.4	1.0	0.23	mg/l	1	04/05/18 03:44 FN	SM5310	B-11/SW9060A

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	DUP-1-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-17	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057599.D	1	03/29/18 12:27	TD	n/a	n/a	VE1939
Run #2	E057617.D	5	03/29/18 19:50	TD	n/a	n/a	VE1939

	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	0.16	0.50	0.13	ug/l	J
156-59-2	cis-1,2-Dichloroethylene	84.0 ^a	2.5	0.63	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.47	0.50	0.13	ug/l	J
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-1-032018	Date Sampled:	03/20/18
Lab Sample ID:	FA52791-17	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	89.0 ^a	2.5	0.63	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	18.1	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	3.1	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	96%	100%	79-125%
2037-26-5	Toluene-D8	105%	104%	85-112%
460-00-4	4-Bromofluorobenzene	103%	102%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: DUP-1-032018	Date Sampled: 03/20/18
Lab Sample ID: FA52791-17	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42344.D	1	03/28/18 12:19	EG	n/a	n/a	GFF1638
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	112	0.50	0.16	ug/l	
74-84-0	Ethane	0.85	1.0	0.32	ug/l	J
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.17
4

Report of Analysis

Client Sample ID:	MW-4-032118	Date Sampled:	03/21/18
Lab Sample ID:	FA52791-18	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	17.4	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	14.9	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.20	0.50	0.13	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	94%		79-125%
2037-26-5	Toluene-D8	102%		85-112%
460-00-4	4-Bromofluorobenzene	105%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4-032118		Date Sampled: 03/21/18
Lab Sample ID: FA52791-18		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42347.D	1	03/28/18 12:55	EG	n/a	n/a	GFF1638
Run #2	FF42353.D	10	03/28/18 15:33	EG	n/a	n/a	GFF1638

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	21 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	4410 ^a	5.0	1.6	ug/l	
74-84-0	Ethane	188	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.18
4

Report of Analysis

Client Sample ID: MW-10-032118**Lab Sample ID:** FA52791-19**Matrix:** AQ - Ground Water**Method:** SW846 8260B**Project:** AECOMWAS: Univar; 8201 S 212th St, Kent, WA**Date Sampled:** 03/21/18**Date Received:** 03/26/18**Percent Solids:** n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057601.D	1	03/29/18 13:17	TD	n/a	n/a	VE1939
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-10-032118	Date Sampled:	03/21/18
Lab Sample ID:	FA52791-19	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	102%		85-112%
460-00-4	4-Bromofluorobenzene	106%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-7-032118		Date Sampled: 03/21/18
Lab Sample ID: FA52791-20		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057602.D	1	03/29/18 13:41	TD	n/a	n/a	VE1939
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7-032118	Date Sampled:	03/21/18
Lab Sample ID:	FA52791-20	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	4.3	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	103%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-7-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-20	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42348.D	1	03/28/18 13:07	EG	n/a	n/a	GFF1638
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.30	0.50	0.16	ug/l	J
74-84-0	Ethane	ND	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.20
4

Report of Analysis

Client Sample ID: MW-7-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-20	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.20
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	3.2	1.0	0.23	mg/l	1	04/05/18 04:00 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-2-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-21	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057603.D	1	03/29/18 14:06	TD	n/a	n/a	VE1939
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.36	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID:	MW-2-032118	Date Sampled:	03/21/18
Lab Sample ID:	FA52791-21	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.19	0.50	0.13	ug/l	J
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	102%		85-112%
460-00-4	4-Bromofluorobenzene	105%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-22-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-22	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057604.D	1	03/29/18 14:30	TD	n/a	n/a	VE1939
Run #2	E057618.D	5	03/29/18 20:14	TD	n/a	n/a	VE1939

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	0.57	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	0.38	0.50	0.13	ug/l	J
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	89.8 ^a	2.5	1.0	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.72	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.16	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	1.4	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	8.5	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.22
4

Report of Analysis

Client Sample ID: MW-22-032118		Date Sampled: 03/21/18
Lab Sample ID: FA52791-22		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	2.7	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	18.7	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	0.15	0.50	0.13	ug/l	J
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	20.4	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.59	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	58.4 ^a	2.5	0.63	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.15	0.50	0.13	ug/l	J
75-01-4	Vinyl Chloride	0.39	0.50	0.13	ug/l	J
	m,p-Xylene	173 ^a	5.0	0.63	ug/l	
95-47-6	o-Xylene	1.0	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	109%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	103%	79-125%
2037-26-5	Toluene-D8	103%	100%	85-112%
460-00-4	4-Bromofluorobenzene	97%	96%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.22
4

Report of Analysis

Client Sample ID: MW-22-032118		Date Sampled: 03/21/18
Lab Sample ID: FA52791-22		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42349.D	1	03/28/18 13:19	EG	n/a	n/a	GFF1638
Run #2	FF42362.D	50	03/28/18 17:42	EG	n/a	n/a	GFF1638

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	21 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	25700 ^a	25	8.0	ug/l	
74-84-0	Ethane	303	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.22
4

Report of Analysis

Client Sample ID: MW-22-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-22	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.22
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	21.5	1.0	0.23	mg/l	1	04/05/18 04:21 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-23-032118		Date Sampled: 03/21/18
Lab Sample ID: FA52791-23		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057605.D	1	03/29/18 14:54	TD	n/a	n/a	VE1939
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.22	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-23-032118		Date Sampled: 03/21/18
Lab Sample ID: FA52791-23		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	5.9	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	0.45	0.50	0.13	ug/l	J
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	103%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.23
 4

Report of Analysis

Client Sample ID: MW-23-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-23	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42350.D	1	03/28/18 13:30	EG	n/a	n/a	GFF1638
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	131	0.50	0.16	ug/l	
74-84-0	Ethane	ND	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.23
4

Report of Analysis

Client Sample ID: MW-23-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-23	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.23
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	7.0	1.0	0.23	mg/l	1	04/05/18 04:42 FN	SM5310	B-11/SW9060A

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-18-032118		Date Sampled: 03/21/18
Lab Sample ID: FA52791-24		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057606.D	1	03/29/18 15:18	TD	n/a	n/a	VE1939
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	0.96	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.20	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.24
4

Report of Analysis

Client Sample ID: MW-18-032118	
Lab Sample ID: FA52791-24	Date Sampled: 03/21/18
Matrix: AQ - Ground Water	Date Received: 03/26/18
Method: SW846 8260B	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.18	0.50	0.13	ug/l	J
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	95%		79-125%
2037-26-5	Toluene-D8	106%		85-112%
460-00-4	4-Bromofluorobenzene	105%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.24
 4

Report of Analysis

Client Sample ID: MW-18-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-24	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42351.D	1	03/28/18 15:08	EG	n/a	n/a	GFF1638
Run #2	FF42360.D	20	03/28/18 17:16	EG	n/a	n/a	GFF1638

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	21 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	12200 ^a	10	3.2	ug/l	
74-84-0	Ethane	41.6	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.24
4

Report of Analysis

Client Sample ID: MW-18-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-24	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.24
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	20.3	1.0	0.23	mg/l	1	04/05/18 05:01 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-16-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-25	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057607.D	1	03/29/18 15:43	TD	n/a	n/a	VE1939
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	17.3	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.42	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.25
4

Report of Analysis

Client Sample ID:	MW-16-032118	Date Sampled:	03/21/18
Lab Sample ID:	FA52791-25	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.31	0.50	0.13	ug/l	J
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	107%		85-112%
460-00-4	4-Bromofluorobenzene	104%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-13-032118		
Lab Sample ID: FA52791-26		Date Sampled: 03/21/18
Matrix: AQ - Ground Water		Date Received: 03/26/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E057608.D	1	03/29/18 16:07	TD	n/a	n/a	VE1939
Run #2	E057619.D	20	03/29/18 20:39	TD	n/a	n/a	VE1939

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	0.60	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	0.36	0.50	0.13	ug/l	J
135-98-8	sec-Butylbenzene	0.76	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	51.9 ^a	10	4.0	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	3.2	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.30	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	0.16	0.50	0.13	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.26	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	1.9	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	18.2	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-13-032118	Date Sampled:	03/21/18
Lab Sample ID:	FA52791-26	Date Received:	03/26/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	5.8	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	26.6	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	0.43	0.50	0.13	ug/l	J
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	32.4	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.99	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	88.7 ^a	10	2.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	20.2	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.42	0.50	0.13	ug/l	J
	m,p-Xylene	287 ^a	20	2.5	ug/l	
95-47-6	o-Xylene	ND ^a	10	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	96%	79-125%
2037-26-5	Toluene-D8	107%	104%	85-112%
460-00-4	4-Bromofluorobenzene	91%	106%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-13-032118		Date Sampled: 03/21/18
Lab Sample ID: FA52791-26		Date Received: 03/26/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF42364.D	1	03/28/18 18:08	EG	n/a	n/a	GFF1638
Run #2	FF42363.D	50	03/28/18 17:56	EG	n/a	n/a	GFF1638

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	21 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	26300 ^a	25	8.0	ug/l	
74-84-0	Ethane	411	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.26
4

Report of Analysis

Client Sample ID: MW-13-032118	Date Sampled: 03/21/18
Lab Sample ID: FA52791-26	Date Received: 03/26/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

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4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	15.2	1.0	0.23	mg/l	1	04/05/18 05:17 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



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FA 52791

SGS ACCUTEST JOB #:

PAGE 1 OF 3

SGS Accutest Quote # SKIFF #

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes			
Company Name: AECOM		Project Name: UNIVAR KENT 212th												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SQL - Other Solid			
Address: 1111 32nd AVE #1600		Street: 212th															
City: SEATTLE State: WA Zip: 98101		City: KENT State: WA															
Project Contact: MELANIE YOUNG Email: melanie.young@acom.com		Project #: 605960559583															
Phone #: 206-848-2700		Fax #:															
Sampler(s) Name(s) (Printed) Sampler 1: DANE LEWIS Sampler 2: STU HOLMBS		Client Purchase Order #:															
SGS Accutest Sample #	Field ID / Point of Collection	COLLECTION		CONTAINER INFORMATION										LAB USE ONLY			
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL OF BOTTLES	OTHER	NOPE	ICI	NACH	INOC	NACH/200A	DI WATER		MICH		
1	TRIP BLANK	3/13/18	400	W		1											
2	MW-3-031918	3-19-18	1510	DL	W	3											
3	MW-17-031918	3-19-18	1355	DL	W	3											
4	MW-28-031918	3-19-18	1510	SH	W	3											
5	MW-19-031918	3-19-18	1400	SH	W	5											
6	DUP-2-031918	3-19-18	1200	SH	W	3											
7	MW-1-032018	3-20-18	1525	SH	W	6											
8	MW-20-032018	3-20-18	1420	SH	W	3											
9	MW-9-032018	3-20-18	1235	SH	W	3											
10	MW-8-032018	3-20-18	1115	SH	W	3											
11	MW-5-032018	3-20-18	1005	SH	W	8											
12	MW-21-032018	3-20-18	1550	DL	W	8											
Turnaround Time (Business days)				Data Deliverable Information										Comments / Remarks			
<input checked="" type="checkbox"/> 10 Day (Business) <input type="checkbox"/> 7 Day <input type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> Other		Approved By: / Date:		<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input type="checkbox"/> FULLT1 (EPA LEVEL 4) <input type="checkbox"/> EDD'S													
Rush T/A Data Available VIA Email or Lablink				Sample Custody must be documented below each time samples change possession, including courier delivery.													
Relinquished by/Affiliation Dane Lewis AECOM		Date/Time: 3/22/18 12:40		Received By/Affiliation FX		Relinquished By/Affiliation FX		Date/Time: 03-26-18		Received By/Affiliation J. Corne		Date/Time: 08:30					
Relinquished by/Affiliation		Date/Time:		Received By/Affiliation		Relinquished By/Affiliation		Date/Time:		Received By/Affiliation		Date/Time:					
5		6		7		8											
Lab Use Only: Cooler Temperature (s) Celsius (corrected): 14.8 16.6				http://www.sgs.com/en/terms-and-conditions													

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Client / Reporting Information			Project Information			Analytical Information										Matrix Codes			
Company Name: AECOM			Project Name: UNIVAR KENT 212th			VOCs RSK175 TOC										DW - Drinking Water			
Address: 1111 3rd Ave #1600			Street: 212th													GW - Ground Water			
City: SEATTLE State: WA Zip: 98101			City: KENT State: WA													WW - Water			
Project Contact: Melanie Young Email: melanie.young@aecom.com			Project # 60559583													SW - Surface Water			
Phone #: 206-438-2700			Client Purchase Order #			SO - Soil											SL - Sludge		
Sampler(s) Name(s) (Printed)			Sampler 1: DAVE LEWIS			Sampler 2: STU HALMES													LIQ - Other Liquid
COLLECTION			CONTAINER INFORMATION										LAB USE ONLY						
SGS Accutest Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PC	NOAH	MUS	MS04	NOAH-ZINC	DIWATER	MEDIA				
13	MW-27-032018	3-20-18	1420	DL	W	3			X										
14	MW-14-032018	3-20-18	1240	DL	W	3			X										
15	MW-6-032018	3-20-18	1130	DL	W	3			X										
16	MW-12-032018	3-20-18	1000	DL	W	8			X										
17	DUP-1-032018	3-20-18	0900	DL	W	6			X										
18	MW-4-032118	3-21-18	1155	SH	W	18			X								ms/msD		
19	MW-10-032118	3-21-18	0935	SH	W	3			X										
20	MW-7-032118	3-21-18	1030	SH	W	8			X										
21	MW-2-032118	3-21-18	1340	DL	W	3			X										
22	MW-22-032118	3-21-18	1150	DL	W	8			X										
23	MW-23-032118	3-21-18	1035	DL	W	8			X										
24	MW-18-032118	3-21-18	0930	DL	W	8			X										
Turnaround Time (Business days)						Data Deliverable Information						Comments / Remarks							
<input checked="" type="checkbox"/> 10 Day (Business) <input type="checkbox"/> 7 Day <input type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> Other			Approved By: / Date: _____			<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input type="checkbox"/> FULLT1 (EPA LEVEL 4) <input type="checkbox"/> EDD'S													
Rush T/A Data Available VIA Email or Lablink												Sample Custody must be documented below each time samples change possession, including courier delivery.							
Relinquished by Sampler/Affiliation		Date Time:		Received By/Affiliation		Relinquished By/Affiliation		Date Time:		Received By/Affiliation		Relinquished By/Affiliation		Date Time:		Received By/Affiliation			
Dave Lewis AECOM		3/21/18 1240		2		FX		3		FX		03-26-18		4 J. Copple		08:30			
5				6				7				8							
Lab Use Only: Cooler Temperature (s) Celsius (corrected):												http://www.sgs.com/en/terms-and-conditions							

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SGS Accutest Quote # SKIFF #

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes																			
Company Name: AECOM		Project Name: UNNAR KENT 212th												DW - Drinking Water																			
Address: 1111 3rd Ave #1600		Street: 212th												GW - Ground Water																			
City: Seattle State: WA Zip: 98101		City: KENT State: WA												WW - Water																			
Project Contact: MELANIE YOUNG Email: melanie.young@aecom.com		Project # 60559583												SW - Surface Water																			
Phone #: 206-438-2900		Fax #												SO - Soil																			
Sampler(s) Name(s) (Printed)		Client Purchase Order #												SL - Sludge																			
Sampler 1: Melanie Young														OI - Oil																			
Sampler 2: STH HOLMES														LIQ - Other Liquid																			
														AIR - Air																			
														SOL - Other Solid																			
														LAB USE ONLY																			
SGS Accutest Sample #		Field ID / Point of Collection		DATE		TIME		SAMPLED BY		MATRIX		TOTAL # OF BOTTLES		OTHER		NONE		SC3		HIGH		PNO3		USO4		MADH/PAMA		DI WATER		P/COH			
95		MW-16-032118		3-21-18		1450		SH		W		3						X															
26		MW-13-032118		3-21-18		1340		SH		W		8						X															

VOCs
RSK 175
TDC

Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks	
<input checked="" type="checkbox"/> 10 Day (Business) <input type="checkbox"/> 7 Day <input type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> Other		Approved By: / Date: _____ <input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input type="checkbox"/> FULLT1 (EPA LEVEL 4) <input type="checkbox"/> EDD'S			

Relinquished by Sampler/Affiliation		Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
Melanie Young AECOM		3/22/18 1240	FX	FX	03-26-18	J. Cooper 08:30
5			6	7		8

Lab Use Only: Cooler Temperature (s) Celsius (corrected): <http://www.sgs.com/en/terms-and-conditions>

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FA52791: Chain of Custody

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SGS Sample Receipt Summary

Job Number: FA52791

Client: AECOM/UNIVAR

Project: UNIVAR KENT 212th

Date / Time Received: 3/26/2018 8:30:00 AM

Delivery Method: FedEx

Airbill #s: 7802 0603 8633

Therm ID: IR 1;

Therm CF: 0.4;

of Coolers: 2

Cooler Temps (Raw Measured) °C: Cooler 1: (14.4); Cooler 2: (16.2);

Cooler Temps (Corrected) °C: Cooler 1: (14.8); Cooler 2: (16.6);

Cooler Information

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

Sample Information

Y or N N/A

- 1. Sample labels present on bottles
- 2. Samples preserved properly
- 3. Sufficient volume/containers recvd for analysis:
- 4. Condition of sample Broken / Leaking
- 5. Sample recvd within HT
- 6. Dates/Times/IDs on COC match Sample Label
- 7. VOCs have headspace
- 8. Bottles received for unspecified tests
- 9. Compositing instructions clear
- 10. Voa Soil Kits/Jars received past 48hrs?
- 11. % Solids Jar received?
- 12. Residual Chlorine Present?

Trip Blank Information

Y or N N/A

- 1. Trip Blank present / cooler
- 2. Trip Blank listed on COC

W or S N/A

- 3. Type Of TB Received

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____
 Test Strip Lot #: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____
 Residual Chlorine Test Strip Lot #: _____

Comments TEMPERATURE CRITERIA NOT MET
 DUP-2-031918 (received 2 x 40ml vials Empty for VOCs)
 MW-17-031918 (received 1 vials Broken for TOC)

SM001
 Rev. Date 05/24/17

Technician: PhilipD

Date: 3/26/2018 8:30:00 AM

Reviewer: P.H.

Date: 3/27/2018

Responded to by: Elvin Kumar

Response Date: 03/26/18

Per Melanie Young at AECOM, proceed with sample analysis, 03/26/18

FA52791: Chain of Custody

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MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE1938-MB	E057572.D	1	03/28/18	TD	n/a	n/a	VE1938

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-2, FA52791-3, FA52791-4, FA52791-5, FA52791-6, FA52791-7, FA52791-8, FA52791-9, FA52791-10, FA52791-11, FA52791-12, FA52791-13, FA52791-14, FA52791-15

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	

Method Blank Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE1938-MB	E057572.D	1	03/28/18	TD	n/a	n/a	VE1938

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-2, FA52791-3, FA52791-4, FA52791-5, FA52791-6, FA52791-7, FA52791-8, FA52791-9, FA52791-10, FA52791-11, FA52791-12, FA52791-13, FA52791-14, FA52791-15

CAS No.	Compound	Result	RL	MDL	Units	Q
74-87-3	Methyl Chloride	0.21	0.50	0.20	ug/l	J
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	106%	85-112%
460-00-4	4-Bromofluorobenzene	108%	83-118%

Method Blank Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE1939-MB	E057597.D	1	03/29/18	TD	n/a	n/a	VE1939

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-1, FA52791-3, FA52791-8, FA52791-11, FA52791-16, FA52791-17, FA52791-18, FA52791-19, FA52791-20, FA52791-21, FA52791-22, FA52791-23, FA52791-24, FA52791-25, FA52791-26

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	

Method Blank Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE1939-MB	E057597.D	1	03/29/18	TD	n/a	n/a	VE1939

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-1, FA52791-3, FA52791-8, FA52791-11, FA52791-16, FA52791-17, FA52791-18, FA52791-19, FA52791-20, FA52791-21, FA52791-22, FA52791-23, FA52791-24, FA52791-25, FA52791-26

CAS No.	Compound	Result	RL	MDL	Units	Q
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	79-125%
2037-26-5	Toluene-D8	106%	85-112%
460-00-4	4-Bromofluorobenzene	106%	83-118%

Blank Spike Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE1938-BS	E057570.D	1	03/28/18	TD	n/a	n/a	VE1938

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-2, FA52791-3, FA52791-4, FA52791-5, FA52791-6, FA52791-7, FA52791-8, FA52791-9, FA52791-10, FA52791-11, FA52791-12, FA52791-13, FA52791-14, FA52791-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	51.8	104	50-147
71-43-2	Benzene	10	9.7	97	81-122
108-86-1	Bromobenzene	10	10.6	106	80-121
75-27-4	Bromodichloromethane	10	9.5	95	79-123
75-25-2	Bromoform	10	9.0	90	66-123
104-51-8	n-Butylbenzene	10	10.4	104	79-126
135-98-8	sec-Butylbenzene	10	10.5	105	83-133
98-06-6	tert-Butylbenzene	10	10.8	108	80-133
56-23-5	Carbon Tetrachloride	10	10.5	105	76-136
108-90-7	Chlorobenzene	10	8.8	88	82-124
75-00-3	Chloroethane	10	9.2	92	62-144
67-66-3	Chloroform	10	9.4	94	80-124
95-49-8	o-Chlorotoluene	10	10.4	104	81-127
106-43-4	p-Chlorotoluene	10	10.4	104	83-130
124-48-1	Dibromochloromethane	10	9.4	94	78-122
96-12-8	1,2-Dibromo-3-chloropropane	10	10.2	102	64-123
106-93-4	1,2-Dibromoethane	10	9.9	99	75-120
75-71-8	Dichlorodifluoromethane	10	9.1	91	42-167
95-50-1	1,2-Dichlorobenzene	10	10	100	82-124
541-73-1	1,3-Dichlorobenzene	10	9.7	97	84-125
106-46-7	1,4-Dichlorobenzene	10	10.2	102	78-120
75-34-3	1,1-Dichloroethane	10	10	100	81-122
107-06-2	1,2-Dichloroethane	10	9.8	98	75-125
75-35-4	1,1-Dichloroethylene	10	9.8	98	78-137
156-59-2	cis-1,2-Dichloroethylene	10	9.7	97	78-120
156-60-5	trans-1,2-Dichloroethylene	10	9.8	98	76-127
78-87-5	1,2-Dichloropropane	10	9.7	97	76-124
142-28-9	1,3-Dichloropropane	10	10.3	103	80-118
594-20-7	2,2-Dichloropropane	10	10.2	102	74-139
10061-01-5	cis-1,3-Dichloropropene	10	9.8	98	75-118
10061-02-6	trans-1,3-Dichloropropene	10	9.7	97	80-120
100-41-4	Ethylbenzene	10	10.6	106	81-121
110-54-3	Hexane	10	10.1	101	69-132
98-82-8	Isopropylbenzene	10	10.6	106	83-132
99-87-6	p-Isopropyltoluene	10	10.7	107	79-130
74-83-9	Methyl Bromide	10	9.1	91	59-143

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE1938-BS	E057570.D	1	03/28/18	TD	n/a	n/a	VE1938

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-2, FA52791-3, FA52791-4, FA52791-5, FA52791-6, FA52791-7, FA52791-8, FA52791-9, FA52791-10, FA52791-11, FA52791-12, FA52791-13, FA52791-14, FA52791-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-87-3	Methyl Chloride	10	9.8	98	50-159
74-95-3	Methylene Bromide	10	9.8	98	78-119
75-09-2	Methylene Chloride	10	10.5	105	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	50	49.5	99	66-122
103-65-1	n-Propylbenzene	10	10.6	106	82-133
100-42-5	Styrene	10	9.8	98	78-119
630-20-6	1,1,1,2-Tetrachloroethane	10	9.6	96	77-122
79-34-5	1,1,2,2-Tetrachloroethane	10	9.6	96	72-120
127-18-4	Tetrachloroethylene	10	9.8	98	76-135
108-88-3	Toluene	10	9.6	96	80-120
120-82-1	1,2,4-Trichlorobenzene	10	10.6	106	73-129
71-55-6	1,1,1-Trichloroethane	10	10.0	100	75-130
79-00-5	1,1,2-Trichloroethane	10	9.9	99	76-119
79-01-6	Trichloroethylene	10	9.5	95	81-126
75-69-4	Trichlorofluoromethane	10	10.2	102	71-156
96-18-4	1,2,3-Trichloropropane	10	9.1	91	77-120
95-63-6	1,2,4-Trimethylbenzene	10	10.5	105	79-120
108-67-8	1,3,5-Trimethylbenzene	10	10.4	104	79-120
75-01-4	Vinyl Chloride	10	9.6	96	69-159
	m,p-Xylene	20	20.4	102	79-126
95-47-6	o-Xylene	10	10.6	106	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	79-125%
2037-26-5	Toluene-D8	103%	85-112%
460-00-4	4-Bromofluorobenzene	108%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE1939-BS	E057595.D	1	03/29/18	TD	n/a	n/a	VE1939

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-1, FA52791-3, FA52791-8, FA52791-11, FA52791-16, FA52791-17, FA52791-18, FA52791-19, FA52791-20, FA52791-21, FA52791-22, FA52791-23, FA52791-24, FA52791-25, FA52791-26

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	46.0	92	50-147
71-43-2	Benzene	10	10	100	81-122
108-86-1	Bromobenzene	10	10.9	109	80-121
75-27-4	Bromodichloromethane	10	9.8	98	79-123
75-25-2	Bromoform	10	9.6	96	66-123
104-51-8	n-Butylbenzene	10	11.0	110	79-126
135-98-8	sec-Butylbenzene	10	11.1	111	83-133
98-06-6	tert-Butylbenzene	10	10.6	106	80-133
56-23-5	Carbon Tetrachloride	10	11.3	113	76-136
108-90-7	Chlorobenzene	10	9.2	92	82-124
75-00-3	Chloroethane	10	10.9	109	62-144
67-66-3	Chloroform	10	9.8	98	80-124
95-49-8	o-Chlorotoluene	10	10.8	108	81-127
106-43-4	p-Chlorotoluene	10	10.9	109	83-130
124-48-1	Dibromochloromethane	10	10	100	78-122
96-12-8	1,2-Dibromo-3-chloropropane	10	10	100	64-123
106-93-4	1,2-Dibromoethane	10	9.8	98	75-120
75-71-8	Dichlorodifluoromethane	10	8.1	81	42-167
95-50-1	1,2-Dichlorobenzene	10	10.1	101	82-124
541-73-1	1,3-Dichlorobenzene	10	10.3	103	84-125
106-46-7	1,4-Dichlorobenzene	10	10.6	106	78-120
75-34-3	1,1-Dichloroethane	10	10.7	107	81-122
107-06-2	1,2-Dichloroethane	10	9.5	95	75-125
75-35-4	1,1-Dichloroethylene	10	10.4	104	78-137
156-59-2	cis-1,2-Dichloroethylene	10	9.9	99	78-120
156-60-5	trans-1,2-Dichloroethylene	10	10.0	100	76-127
78-87-5	1,2-Dichloropropane	10	9.7	97	76-124
142-28-9	1,3-Dichloropropane	10	9.6	96	80-118
594-20-7	2,2-Dichloropropane	10	10.5	105	74-139
10061-01-5	cis-1,3-Dichloropropene	10	9.4	94	75-118
10061-02-6	trans-1,3-Dichloropropene	10	10.2	102	80-120
100-41-4	Ethylbenzene	10	10.8	108	81-121
110-54-3	Hexane	10	9.7	97	69-132
98-82-8	Isopropylbenzene	10	11.9	119	83-132
99-87-6	p-Isopropyltoluene	10	11.4	114	79-130
74-83-9	Methyl Bromide	10	12.3	123	59-143

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE1939-BS	E057595.D	1	03/29/18	TD	n/a	n/a	VE1939

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-1, FA52791-3, FA52791-8, FA52791-11, FA52791-16, FA52791-17, FA52791-18, FA52791-19, FA52791-20, FA52791-21, FA52791-22, FA52791-23, FA52791-24, FA52791-25, FA52791-26

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-87-3	Methyl Chloride	10	10.5	105	50-159
74-95-3	Methylene Bromide	10	10.3	103	78-119
75-09-2	Methylene Chloride	10	10.9	109	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	50	49.3	99	66-122
103-65-1	n-Propylbenzene	10	10.7	107	82-133
100-42-5	Styrene	10	10.3	103	78-119
630-20-6	1,1,1,2-Tetrachloroethane	10	10.9	109	77-122
79-34-5	1,1,2,2-Tetrachloroethane	10	10	100	72-120
127-18-4	Tetrachloroethylene	10	10.5	105	76-135
108-88-3	Toluene	10	9.8	98	80-120
120-82-1	1,2,4-Trichlorobenzene	10	10.5	105	73-129
71-55-6	1,1,1-Trichloroethane	10	9.7	97	75-130
79-00-5	1,1,2-Trichloroethane	10	9.7	97	76-119
79-01-6	Trichloroethylene	10	9.6	96	81-126
75-69-4	Trichlorofluoromethane	10	11.2	112	71-156
96-18-4	1,2,3-Trichloropropane	10	9.0	90	77-120
95-63-6	1,2,4-Trimethylbenzene	10	10.6	106	79-120
108-67-8	1,3,5-Trimethylbenzene	10	11.0	110	79-120
75-01-4	Vinyl Chloride	10	10.7	107	69-159
	m,p-Xylene	20	21.2	106	79-126
95-47-6	o-Xylene	10	10.8	108	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	105%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA52791-12MS	E057588.D	100	03/28/18	TD	n/a	n/a	VE1938
FA52791-12MSD	E057589.D	100	03/28/18	TD	n/a	n/a	VE1938
FA52791-12	E057584.D	100	03/28/18	TD	n/a	n/a	VE1938

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-2, FA52791-3, FA52791-4, FA52791-5, FA52791-6, FA52791-7, FA52791-8, FA52791-9, FA52791-10, FA52791-11, FA52791-12, FA52791-13, FA52791-14, FA52791-15

CAS No.	Compound	FA52791-12 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
67-64-1	Acetone	ND		5000	4240	85	5000	4210	84	1	50-147/21
71-43-2	Benzene	ND		1000	982	98	1000	913	91	7	81-122/14
108-86-1	Bromobenzene	ND		1000	1050	105	1000	1030	103	2	80-121/14
75-27-4	Bromodichloromethane	ND		1000	915	92	1000	902	90	1	79-123/19
75-25-2	Bromoform	ND		1000	601	60*	1000	739	74	21	66-123/21
104-51-8	n-Butylbenzene	ND		1000	1050	105	1000	1010	101	4	79-126/16
135-98-8	sec-Butylbenzene	ND		1000	1070	107	1000	1040	104	3	83-133/16
98-06-6	tert-Butylbenzene	ND		1000	1050	105	1000	1040	104	1	80-133/16
56-23-5	Carbon Tetrachloride	ND		1000	972	97	1000	954	95	2	76-136/23
108-90-7	Chlorobenzene	ND		1000	945	95	1000	882	88	7	82-124/14
75-00-3	Chloroethane	240		1000	1360	112	1000	1280	104	6	62-144/20
67-66-3	Chloroform	ND		1000	928	93	1000	888	89	4	80-124/15
95-49-8	o-Chlorotoluene	ND		1000	1050	105	1000	1040	104	1	81-127/15
106-43-4	p-Chlorotoluene	ND		1000	1050	105	1000	1010	101	4	83-130/15
124-48-1	Dibromochloromethane	ND		1000	758	76*	1000	805	81	6	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		1000	867	87	1000	845	85	3	64-123/18
106-93-4	1,2-Dibromoethane	ND		1000	992	99	1000	975	98	2	75-120/13
75-71-8	Dichlorodifluoromethane	ND		1000	792	79	1000	798	80	1	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		1000	979	98	1000	928	93	5	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		1000	1020	102	1000	951	95	7	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		1000	1030	103	1000	985	99	4	78-120/15
75-34-3	1,1-Dichloroethane	ND		1000	1010	101	1000	961	96	5	81-122/15
107-06-2	1,2-Dichloroethane	ND		1000	938	94	1000	856	86	9	75-125/14
75-35-4	1,1-Dichloroethylene	ND		1000	1000	100	1000	888	89	12	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND		1000	939	94	1000	894	89	5	78-120/15
156-60-5	trans-1,2-Dichloroethylene	33.0	J	1000	974	94	1000	893	86	9	76-127/17
78-87-5	1,2-Dichloropropane	ND		1000	972	97	1000	893	89	8	76-124/14
142-28-9	1,3-Dichloropropane	ND		1000	956	96	1000	940	94	2	80-118/13
594-20-7	2,2-Dichloropropane	ND		1000	837	84	1000	809	81	3	74-139/17
10061-01-5	cis-1,3-Dichloropropene	ND		1000	911	91	1000	819	82	11	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		1000	921	92	1000	899	90	2	80-120/22
100-41-4	Ethylbenzene	740		1000	1760	102	1000	1700	96	3	81-121/14
110-54-3	Hexane	ND		1000	886	89	1000	856	86	3	69-132/20
98-82-8	Isopropylbenzene	51.4		1000	1180	113	1000	1100	105	7	83-132/15
99-87-6	p-Isopropyltoluene	ND		1000	1070	107	1000	1030	103	4	79-130/16
74-83-9	Methyl Bromide	ND		1000	1230	123	1000	1080	108	13	59-143/19

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA52791-12MS	E057588.D	100	03/28/18	TD	n/a	n/a	VE1938
FA52791-12MSD	E057589.D	100	03/28/18	TD	n/a	n/a	VE1938
FA52791-12	E057584.D	100	03/28/18	TD	n/a	n/a	VE1938

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-2, FA52791-3, FA52791-4, FA52791-5, FA52791-6, FA52791-7, FA52791-8, FA52791-9, FA52791-10, FA52791-11, FA52791-12, FA52791-13, FA52791-14, FA52791-15

CAS No.	Compound	FA52791-12 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
74-87-3	Methyl Chloride	ND	1000	1010	101	1000	990	99	2	50-159/19
74-95-3	Methylene Bromide	ND	1000	1020	102	1000	918	92	11	78-119/14
75-09-2	Methylene Chloride	ND	1000	1050	105	1000	988	99	6	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5000	4450	89	5000	4400	88	1	66-122/16
103-65-1	n-Propylbenzene	72.6	1000	1120	105	1000	1080	101	4	82-133/15
100-42-5	Styrene	ND	1000	1020	102	1000	994	99	3	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND	1000	944	94	1000	961	96	2	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	ND	1000	1040	104	1000	1020	102	2	72-120/14
127-18-4	Tetrachloroethylene	ND	1000	964	96	1000	931	93	3	76-135/16
108-88-3	Toluene	118	1000	1090	97	1000	1050	93	4	80-120/14
120-82-1	1,2,4-Trichlorobenzene	ND	1000	953	95	1000	941	94	1	73-129/20
71-55-6	1,1,1-Trichloroethane	ND	1000	932	93	1000	859	86	8	75-130/16
79-00-5	1,1,2-Trichloroethane	ND	1000	955	96	1000	933	93	2	76-119/14
79-01-6	Trichloroethylene	ND	1000	948	95	1000	857	86	10	81-126/15
75-69-4	Trichlorofluoromethane	ND	1000	1060	106	1000	1020	102	4	71-156/21
96-18-4	1,2,3-Trichloropropane	ND	1000	904	90	1000	930	93	3	77-120/16
95-63-6	1,2,4-Trimethylbenzene	212	1000	1290	108	1000	1250	104	3	79-120/18
108-67-8	1,3,5-Trimethylbenzene	146	1000	1190	104	1000	1150	100	3	79-120/19
75-01-4	Vinyl Chloride	ND	1000	966	97	1000	933	93	3	69-159/18
95-47-6	m,p-Xylene	5160	2000	7370	111	2000	7180	101	3	79-126/15
95-47-6	o-Xylene	503	1000	1550	105	1000	1510	101	3	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA52791-12	Limits
1868-53-7	Dibromofluoromethane	97%	92%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	99%	97%	79-125%
2037-26-5	Toluene-D8	102%	104%	105%	85-112%
460-00-4	4-Bromofluorobenzene	103%	105%	106%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA52791-18MS	E057610.D	1	03/29/18	TD	n/a	n/a	VE1939
FA52791-18MSD	E057611.D	1	03/29/18	TD	n/a	n/a	VE1939
FA52791-18	E057600.D	1	03/29/18	TD	n/a	n/a	VE1939

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-1, FA52791-3, FA52791-8, FA52791-11, FA52791-16, FA52791-17, FA52791-18, FA52791-19, FA52791-20, FA52791-21, FA52791-22, FA52791-23, FA52791-24, FA52791-25, FA52791-26

CAS No.	Compound	FA52791-18 Spike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
67-64-1	Acetone	ND	50	59.4	119	50	57.8	116	3	50-147/21
71-43-2	Benzene	2.9	10	12.2	93	10	11.6	87	5	81-122/14
108-86-1	Bromobenzene	ND	10	10.1	101	10	10.3	103	2	80-121/14
75-27-4	Bromodichloromethane	ND	10	8.6	86	10	0.15	2*	193*	79-123/19
75-25-2	Bromoform	ND	10	5.9	59*	10	6.3	63*	7	66-123/21
104-51-8	n-Butylbenzene	0.31	J 10	10.8	105	10	10.9	106	1	79-126/16
135-98-8	sec-Butylbenzene	1.6	10	11.8	102	10	11.5	99	3	83-133/16
98-06-6	tert-Butylbenzene	ND	10	9.9	99	10	10.1	101	2	80-133/16
56-23-5	Carbon Tetrachloride	ND	10	9.3	93	10	8.9	89	4	76-136/23
108-90-7	Chlorobenzene	ND	10	8.2	82	10	7.8	78*	5	82-124/14
75-00-3	Chloroethane	6.7	10	18.1	114	10	16.1	94	12	62-144/20
67-66-3	Chloroform	ND	10	8.8	88	10	8.8	88	0	80-124/15
95-49-8	o-Chlorotoluene	ND	10	9.5	95	10	9.7	97	2	81-127/15
106-43-4	p-Chlorotoluene	ND	10	9.5	95	10	9.6	96	1	83-130/15
124-48-1	Dibromochloromethane	ND	10	7.3	73*	10	7.4	74*	1	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	10.4	104	10	9.4	94	10	64-123/18
106-93-4	1,2-Dibromoethane	ND	10	9.0	90	10	8.5	85	6	75-120/13
75-71-8	Dichlorodifluoromethane	ND	10	6.4	64	10	6.3	63	2	42-167/19
95-50-1	1,2-Dichlorobenzene	ND	10	9.6	96	10	9.6	96	0	82-124/14
541-73-1	1,3-Dichlorobenzene	ND	10	9.2	92	10	9.1	91	1	84-125/14
106-46-7	1,4-Dichlorobenzene	ND	10	9.4	94	10	9.6	96	2	78-120/15
75-34-3	1,1-Dichloroethane	0.30	J 10	9.9	96	10	9.6	93	3	81-122/15
107-06-2	1,2-Dichloroethane	ND	10	8.4	84	10	8.7	87	4	75-125/14
75-35-4	1,1-Dichloroethylene	ND	10	9.0	90	10	9.0	90	0	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND	10	8.6	86	10	8.5	85	1	78-120/15
156-60-5	trans-1,2-Dichloroethylene	0.56	10	9.2	86	10	9.0	84	2	76-127/17
78-87-5	1,2-Dichloropropane	ND	10	8.7	87	10	8.5	85	2	76-124/14
142-28-9	1,3-Dichloropropane	ND	10	8.7	87	10	8.4	84	4	80-118/13
594-20-7	2,2-Dichloropropane	ND	10	9.5	95	10	8.7	87	9	74-139/17
10061-01-5	cis-1,3-Dichloropropene	ND	10	6.9	69*	10	6.8	68*	1	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND	10	7.4	74*	10	7.1	71*	4	80-120/22
100-41-4	Ethylbenzene	ND	10	9.8	98	10	9.7	97	1	81-121/14
110-54-3	Hexane	ND	10	8.8	88	10	8.5	85	3	69-132/20
98-82-8	Isopropylbenzene	17.4	10	28.1	107	10	27.0	96	4	83-132/15
99-87-6	p-Isopropyltoluene	ND	10	10.1	101	10	10	100	1	79-130/16
74-83-9	Methyl Bromide	ND	10	10.1	101	10	9.0	90	12	59-143/19

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA52791-18MS	E057610.D	1	03/29/18	TD	n/a	n/a	VE1939
FA52791-18MSD	E057611.D	1	03/29/18	TD	n/a	n/a	VE1939
FA52791-18	E057600.D	1	03/29/18	TD	n/a	n/a	VE1939

The QC reported here applies to the following samples:

Method: SW846 8260B

FA52791-1, FA52791-3, FA52791-8, FA52791-11, FA52791-16, FA52791-17, FA52791-18, FA52791-19, FA52791-20, FA52791-21, FA52791-22, FA52791-23, FA52791-24, FA52791-25, FA52791-26

CAS No.	Compound	FA52791-18 Spike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
74-87-3	Methyl Chloride	ND	10	7.5	75	10	7.2	72	4	50-159/19
74-95-3	Methylene Bromide	ND	10	9.1	91	10	8.9	89	2	78-119/14
75-09-2	Methylene Chloride	ND	10	10.2	102	10	9.8	98	4	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	46.1	92	50	47.0	94	2	66-122/16
103-65-1	n-Propylbenzene	14.9	10	23.0	81*	10	23.0	81*	0	82-133/15
100-42-5	Styrene	ND	10	7.3	73*	10	6.7	67*	9	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND	10	9.4	94	10	8.8	88	7	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	9.6	96	10	9.8	98	2	72-120/14
127-18-4	Tetrachloroethylene	ND	10	9.0	90	10	8.5	85	6	76-135/16
108-88-3	Toluene	ND	10	8.7	87	10	8.7	87	0	80-120/14
120-82-1	1,2,4-Trichlorobenzene	ND	10	10.3	103	10	10.1	101	2	73-129/20
71-55-6	1,1,1-Trichloroethane	ND	10	8.6	86	10	8.3	83	4	75-130/16
79-00-5	1,1,2-Trichloroethane	ND	10	9.1	91	10	9.0	90	1	76-119/14
79-01-6	Trichloroethylene	ND	10	8.8	88	10	8.3	83	6	81-126/15
75-69-4	Trichlorofluoromethane	ND	10	9.0	90	10	9.1	91	1	71-156/21
96-18-4	1,2,3-Trichloropropane	ND	10	8.1	81	10	8.5	85	5	77-120/16
95-63-6	1,2,4-Trimethylbenzene	0.20	J	10	9.5	10	9.7	95	2	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND	10	9.4	94	10	9.3	93	1	79-120/19
75-01-4	Vinyl Chloride	ND	10	8.4	84	10	8.1	81	4	69-159/18
	m,p-Xylene	ND	20	19.0	95	20	18.2	91	4	79-126/15
95-47-6	o-Xylene	ND	10	9.8	98	10	9.4	94	4	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA52791-18	Limits
1868-53-7	Dibromofluoromethane	98%	98%	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	104%	94%	79-125%
2037-26-5	Toluene-D8	100%	100%	102%	85-112%
460-00-4	4-Bromofluorobenzene	103%	109%	105%	83-118%

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFF1638-MB	FF42336.D	1	03/28/18	EG	n/a	n/a	GFF1638

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA52791-3, FA52791-7, FA52791-11, FA52791-12, FA52791-16, FA52791-17, FA52791-18, FA52791-20, FA52791-22, FA52791-23, FA52791-24, FA52791-26

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	
74-84-0	Ethane	ND	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

7.1.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFF1638-BS	FF42337.D	1	03/28/18	EG	n/a	n/a	GFF1638
GFF1638-BSD	FF42338.D	1	03/28/18	EG	n/a	n/a	GFF1638

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA52791-3, FA52791-7, FA52791-11, FA52791-12, FA52791-16, FA52791-17, FA52791-18, FA52791-20, FA52791-22, FA52791-23, FA52791-24, FA52791-26

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	112	104	125	116	11	62-139/30
74-84-0	Ethane	219	231	105	253	116	9	67-141/30
74-85-1	Ethene	290	320	110	350	121	9	68-141/30

* = Outside of Control Limits.

7.2.1
7

Matrix Spike Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA52791-18MS	FF42355.D	10	03/28/18	EG	n/a	n/a	GFF1638
FA52791-18	FF42347.D	1	03/28/18	EG	n/a	n/a	GFF1638
FA52791-18	FF42353.D	10	03/28/18	EG	n/a	n/a	GFF1638

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA52791-3, FA52791-7, FA52791-11, FA52791-12, FA52791-16, FA52791-17, FA52791-18, FA52791-20, FA52791-22, FA52791-23, FA52791-24, FA52791-26

CAS No.	Compound	FA52791-18 Spike ug/l	Q ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	4410 ^b	1080	4940	49* ^a	62-139
74-84-0	Ethane	188	2190	2680	114	67-141
74-85-1	Ethene	ND	2900	3510	121	68-141

- (a) Outside control limits due to high level in sample relative to spike amount.
- (b) Result is from Run #2.

* = Outside of Control Limits.

7:31
7

Duplicate Summary

Job Number: FA52791
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA52791-18DUP	FF42354.D	10	03/28/18	EG	n/a	n/a	GFF1638
FA52791-18	FF42347.D	1	03/28/18	EG	n/a	n/a	GFF1638
FA52791-18	FF42353.D	10	03/28/18	EG	n/a	n/a	GFF1638

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA52791-3, FA52791-7, FA52791-11, FA52791-12, FA52791-16, FA52791-17, FA52791-18, FA52791-20, FA52791-22, FA52791-23, FA52791-24, FA52791-26

CAS No.	Compound	FA52791-18 DUP		Q	RPD	Limits
		ug/l	Q ug/l			
74-82-8	Methane	4410 ^a	4460	1		30
74-84-0	Ethane	188	175	1		30
74-85-1	Ethene	ND	ND	nc		30

(a) Result is from Run #2.

* = Outside of Control Limits.

7.4.1
 7

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA52791
Account: UNIVAR - Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Total Organic Carbon	GP31294/GN78256	1.0	0.0	mg/l	15	15.7	104.7	90-110%

Associated Samples:

Batch GP31294: FA52791-3, FA52791-5, FA52791-11, FA52791-12, FA52791-16, FA52791-20, FA52791-22, FA52791-23, FA52791-24, FA52791-26

(*) Outside of QC limits

8.1

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA52791
Account: UNIVAR - Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Total Organic Carbon	GP31294/GN78256	FA52791-5	mg/l	15.9	15	31.9	106.7	90-110%

Associated Samples:

Batch GP31294: FA52791-3, FA52791-5, FA52791-11, FA52791-12, FA52791-16, FA52791-20, FA52791-22, FA52791-23, FA52791-24, FA52791-26

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

8.2

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MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA52791
Account: UNIVAR - Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP31294/GN78256	FA52791-5	mg/l	15.9	15	30.7	3.8	20%

Associated Samples:

Batch GP31294: FA52791-3, FA52791-5, FA52791-11, FA52791-12, FA52791-16, FA52791-20, FA52791-22, FA52791-23, FA52791-24, FA52791-26

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Univar

AECOMWAS: Univar; 8201 S 212th St, Kent, WA

60559583

SGS Job Number: FA57558X

Sampling Date: 09/11/18

Report to:

AECOM
1111 Third Ave Suite 1600
Seattle, WA 98101
melanie.young@aecom.com

ATTN: Melanie Young

Total number of pages in report: **18**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink that reads "Caitlin Brice".

Caitlin Brice, M.S.
General Manager

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Test results relate only to samples analyzed.

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Sample Summary

Univar

Job No: FA57558X

AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Project No: 60559583

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA57558-1X	09/11/18	13:10 DL	09/13/18	SO	Solid	MW-13-091118
FA57558-2X	09/11/18	13:15 DL	09/13/18	SO	Solid	MW-12-091118
FA57558-3X	09/11/18	11:15 DL	09/13/18	SO	Solid	MW-5-091118
FA57558-4X	09/11/18	11:10 DL	09/13/18	SO	Solid	MW-22-091118
FA57558-5X	09/11/18	09:55 DL	09/13/18	SO	Solid	MW-7-091118
FA57558-6X	09/11/18	14:25 DL	09/13/18	SO	Solid	MW-21-091118

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Subcontract Lab Data

Report of Analysis

Certificate of Analysis: Gene-Trac® *Dehalococcoides* Assay

Customer: Elvin Kumar, SGS North America, Inc.

SiREM Reference: S-5009

Project: Univar, 8201 S 212th St., Kent, WA

Report Date: 4-Oct-18

Customer Reference: FA57558X

Data Files: iQ5A-DHCT-TM-QPCR-1589
iQ5A-DB-DHC-TM-QPCR-0916

Table 1a: Test Results

Sample ID	<i>Dehalococcoides</i> (Dhc)	
	Percent Dhc ⁽¹⁾	Enumeration/Liter ⁽²⁾
MW-13-091118	0.4 - 1 %	6 x 10 ⁵
MW-12-091118	0.005 - 0.02 %	6 x 10 ³
MW-5-091118	NA	1 x 10 ³ U
MW-22-091118	0.1 - 0.4 %	7 x 10 ⁴
MW-7-091118	NA	1 x 10 ³ U
MW-21-091118	0.2 - 0.7 %	1 x 10 ⁶

See final page for notes.

Analyst:



Taylor Aris, B.Sc.
Laboratory Technician

Approved:



Ximena Druar, B.Sc.
Genetic Testing Coordinator

Certificate of Analysis: Gene-Trac® Functional Gene Assay

Customer: Elvin Kumar, SGS North America, Inc.

SiREM Reference: S-5009

Project: Univar, 8201 S 212th St., Kent, WA

Report Date: 4-Oct-18

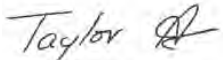
Customer Reference: FA57558X


Data Files: iQ5A-FGA-QPCR-1049
iQ5A-DB-FGA-QPCR-0744

Table 1b: Test Results

Sample ID	VC Reductase (<i>vcrA</i>)		BAV1 VC Reductase (<i>bvca</i>)		TCE Reductase (<i>tceA</i>)	
	Percent <i>vcrA</i> ⁽³⁾	Gene Copies/Liter	Percent <i>bvca</i> ⁽³⁾	Gene Copies/Liter	Percent <i>tceA</i> ⁽³⁾	Gene Copies/Liter
MW-13-091118	1 - 3 %	1 x 10 ⁶	0.4 - 1 %	5 x 10 ⁵	0.005 - 0.01 %	7 x 10 ³
MW-12-091118	0.001 - 0.003 %	1 x 10 ³	0.009 - 0.03 %	1 x 10 ⁴	NA	1 x 10 ³ U
MW-22-091118	0.1 - 0.4 %	7 x 10 ⁴	0.06 - 0.2 %	3 x 10 ⁴	NA	1 x 10 ³ U
MW-21-091118	0.2 - 0.5 %	8 x 10 ⁵	0.1 - 0.4 %	6 x 10 ⁵	0.03 - 0.1 %	2 x 10 ⁵

See final page for notes.

Analyst: 
Taylor Aris, B.Sc.
Laboratory Technician

Approved: 
Ximena Druar, B.Sc.
Genetic Testing Coordinator

Certificate of Analysis: Gene-Trac® *Dehalobacter* Assay

Customer: Elvin Kumar, SGS North America, Inc.

SiREM Reference: S-5009

Project: Univar, 8201 S 212th St., Kent, WA

Report Date: 4-Oct-18

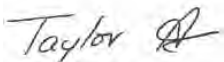
Customer Reference: FA57558X

Data Files: iQ5B-DHB-QPCR-0460
iQ5B-DB-DHB-QPCR-0271

Table 1c: Test Results

Sample ID	<i>Dehalobacter</i> (Dhb)	
	Percent Dhb ⁽¹⁾	Gene Copies/Liter
MW-13-091118	0.0008 - 0.003 %	1 x 10 ³ J
MW-12-091118	0.001 - 0.004 %	1 x 10 ³
MW-5-091118	NA	1 x 10 ³ U
MW-22-091118	0.003 - 0.009 %	1 x 10 ³
MW-7-091118	NA	1 x 10 ³ U
MW-21-091118	0.01 - 0.03 %	5 x 10 ⁴

See final page for notes.

Analyst: 
Taylor Aris, B.Sc.
Laboratory Technician

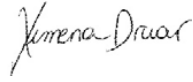
Approved: 
Ximena Druar, B.Sc.
Genetic Testing Coordinator

Table 2.1: Detailed Test Parameters, Gene-Trac Test Reference S-5009

Customer Sample ID	MW-13-091118	MW-12-091118	MW-5-091118
SIREM Dhc Test ID	DHC-16384	DHC-16385	DHC-16390
SIREM FGA Test ID	FGA-8582	FGA-8583	NA
SIREM Dhb Test ID	DHB-1917	DHB-1918	DHB-1923
Date Sampled ⁽⁴⁾	11-Sep-18	11-Sep-18	11-Sep-18
Matrix	Field Filter	Field Filter	Field Filter
Date Received ⁽⁴⁾	14-Sep-18	14-Sep-18	14-Sep-18
Sample Temperature	23.3 °C	23.3 °C	23.3 °C
Filtration Date ⁽⁴⁾	11-Sep-18	11-Sep-18	11-Sep-18
Volume Used for DNA Extraction	805 mL	1000 mL	1000 mL
DNA Extraction Date	19-Sep-18	19-Sep-18	25-Sep-18
DNA Concentration in Sample (extractable)	276 ng/L (J)	230 ng/L (J)	683 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected
Dhc qPCR Date Analyzed	27-Sep-18	27-Sep-18	27-Sep-18
FGA qPCR Date Analyzed	3-Oct-18	3-Oct-18	NA
Dhb qPCR Date Analyzed	27-Sep-18	27-Sep-18	27-Sep-18
Laboratory Controls (see Tables 3, 4 & 5)	Passed	Passed	Passed
Comments	--	--	FGA testing was not performed as sample was ND for Dhc

See final page for notes.

Table 2.2: Detailed Test Parameters, Gene-Trac Test Reference S-5009

Customer Sample ID	MW-22-091118	MW-7-091118	MW-21-091118
SIREM Dhc Test ID	DHC-16391	DHC-16392	DHC-16393
SIREM FGA Test ID	FGA-8584	NA	FGA-8585
SIREM Dhb Test ID	DHB-1924	DHB-1925	DHB-1926
Date Sampled ⁽⁴⁾	11-Sep-18	11-Sep-18	11-Sep-18
Matrix	Field Filter	Field Filter	Field Filter
Date Received ⁽⁴⁾	14-Sep-18	14-Sep-18	14-Sep-18
Sample Temperature	23.3 °C	23.3 °C	23.3 °C
Filtration Date ⁽⁴⁾	11-Sep-18	11-Sep-18	11-Sep-18
Volume Used for DNA Extraction	1000 mL	1000 mL	800 mL
DNA Extraction Date	25-Sep-18	25-Sep-18	25-Sep-18
DNA Concentration in Sample (extractable)	98 ng/L (J)	252 ng/L (J)	901 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected
Dhc qPCR Date Analyzed	27-Sep-18	27-Sep-18	27-Sep-18
FGA qPCR Date Analyzed	3-Oct-18	NA	3-Oct-18
Dhb qPCR Date Analyzed	27-Sep-18	27-Sep-18	27-Sep-18
Laboratory Controls (see Tables 3, 4 & 5)	Passed	Passed	Passed
Comments	--	FGA testing was not performed as sample was ND for Dhc	--

See final page for notes.

Table 3: Gene-Trac Dhc Control Results, Test Reference S-5009

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	27-Sep-18	Genomic DNA (CSLD-1227)	1.8 x 10 ⁶	2.1 x 10 ⁶	Passed
Positive Control High Concentration	27-Sep-18	Genomic DNA (CSHD-1227)	1.7 x 10 ⁸	2.0 x 10 ⁸	Passed
Extraction Control	27-Sep-18	Extraction Control (KB-0628)	3.3 x 10 ¹¹	2.5 x 10 ¹¹	Passed
DNA Extraction Blank	27-Sep-18	Sterile Water (EB-3134)	0	2.6 x 10 ³ U	Passed
Negative Control	27-Sep-18	Reagent Blank (TBD-1186)	0	2.6 x 10 ³ U	Passed

See final page for notes.

Table 4: Gene-Trac FGA Control Results, Test Reference S-5009

Laboratory Control	Analysis Date	Control Description	vcrA		bvcA		tceA		Comments
			Spiked Gene Copies per Reaction	Recovered Gene Copies per Reaction	Spiked Gene Copies per Reaction	Recovered Gene Copies per Reaction	Spiked Gene Copies per Reaction	Recovered Gene Copies per Reaction	
Positive Control Low Concentration	3-Oct-18	Genomic DNA (CSLF-0917)	1.4 x 10 ⁷	6.7 x 10 ⁶	4.9 x 10 ⁶	2.3 x 10 ⁶ (5)	7.4 x 10 ⁷	7.2 x 10 ⁷	See note 5
Positive Control High Concentration	3-Oct-18	Genomic DNA (CSHF-0917)	1.4 x 10 ⁹	1.0 x 10 ⁹	5.1 x 10 ⁸	4.6 x 10 ⁸	8.9 x 10 ⁹	9.8 x 10 ⁹	Passed
DNA Extraction Blank	3-Oct-18	Sterile Water (EB-3134)	0	2.6 x 10 ³ U	0	2.6 x 10 ³ U	0	1.4 x 10 ⁴	Passed
Negative Control	3-Oct-18	Reagent Blank (TBF-0888)	0	2.6 x 10 ³ U	0	2.6 x 10 ³ U	0	2.6 x 10 ³ U	Passed

See final page for notes.

Table 5: Gene-Trac Dhb Control Results, Test Reference S-5009

Laboratory Control	Analysis Date	Control Description	Spiked Dhb 16S rRNA Gene Copies per Liter	Recovered Dhb 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	27-Sep-18	Genomic DNA (CSLDB-0419)	3.1×10^8	3.5×10^8	Passed
Positive Control High Concentration	27-Sep-18	Genomic DNA (CSHDB-0419)	4.0×10^{10}	3.6×10^{10}	Passed
DNA Extraction Blank	27-Sep-18	Sterile Water (EB-3134)	0	2.6×10^3 U	Passed
Negative Control	27-Sep-18	Reagent Blank (TBDB-0419)	0	2.6×10^3 U	Passed

See final page for notes.

Notes:

Dhc = *Dehalococcoides*

Dhb = *Dehalobacter*

vcrA = VC reductase

bvcA = BAV1 VC reductase

tceA = TCE reductase

FGA = functional gene assay

J The associated value is an estimated quantity between the method detection limit and quantitation limit.

U Not detected, associated value is the quantitation limit.

B Analyte was detected in the method blank within an order of magnitude of the test sample.

E Extracted genomic DNA was not detected in the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

ng/L = nanograms per liter

mL = milliliter

NA = not applicable

ND = not detected

DNA = deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

°C = degrees Celsius

¹Percent *Dehalococcoides* (Dhc) or *Dehalobacter* (Dhb) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc or Dhb enumeration.

²Based on quantification of Dhc 16S rRNA gene copies. Dhc is generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

³Percent of functional gene in microbial population. This value is calculated by dividing the functional gene copies quantified by the total number of estimated prokaryotes in the sample (based on the total quantity of DNA extracted from the sample). A value of 100% would suggest that all microbes in the sample contain the gene.

⁴Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 7 days of date received or filtration date.

⁵Control was outside recovery limit guidelines (+/- 50%), however, test results are deemed acceptable if one of two positive controls falls within the recovery limit guidelines.

S-5009



4405 Vineland Rd, Suite C-15, Orlando, FL 32811
 TEL: 407-425-6700 FAX: 407-425-0707

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)		Matrix Codes							
Company Name: SGS North America Inc. 4405 Vineland Rd, Suite C-15 Orlando FL 32811 Project Contact: Elvin Kumar@sgs.com Phone #: 407-425-6700 Sample(s) Name(s): DL		Project Name: AECOMWAS: Univar; 8201 S 212th St, Kent, WA Billing Information (if different from Report to): Company Name: Street Address: City: State: Zip: Client Purchase Order #: Project Manager:		Requested Analysis (see TEST CODE sheet) Genetrac-DHC/MC/DHC/tea X X X X X X		Matrix Codes: DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment CI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank LAB USE ONLY FK-04 886 805 ml FK-04 888 1L FK-04 889 1L FK-04 891 1L FK-04 887 1L FK-04 890 800 ml							
SGS Sample #	Field ID / Point of Collection	MECH/ID/Vial #	Collection Date	Time	Matrix	Sampled by	# of bottles	Number of preserved bottles				Comments / Special Instructions	
1X	MW-13-091118		9/11/18	1:10:00 PM	DL	SO							
2X	MW-12-091118		9/11/18	1:15:00 PM	DL	SO							
3X	MW-6-091118		9/11/18	11:15:00 AM	DL	SO							
4X	MW-22-091118		9/11/18	11:10:00 AM	DL	SO							
5X	MW-7-091118		9/11/18	9:55:00 AM	DL	SO							
6X	MW-21-091118		9/11/18	2:25:00 PM	DL	SO							

Approved By (SGS PM) / Date: _____		Data Deliverable Information <input type="checkbox"/> Commercial "A" (Level 1, Results Only) <input type="checkbox"/> Commercial "B" (Level 2, Results + OC summary) <input type="checkbox"/> REDT1 (Level 3) <input checked="" type="checkbox"/> FULT1 (Level 4) <input checked="" type="checkbox"/> DOD FULT1 (Level 4) <input type="checkbox"/> Other <input checked="" type="checkbox"/> EDO Format_ERPIMS	
Turnaround Time (Business days) <input type="checkbox"/> 10 Day (business) <input type="checkbox"/> 5-7 Day <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input checked="" type="checkbox"/> other 14 Ruth T/A data available VIA Lablink		SIREM Knoxville 180A Market Place Blvd Knoxville, TN 37922 Samples were at 23.3°C No cooler, No ice. Shipped in a FedEX Box. ST	

Relinquished by Sampler: Date Time: 09/13/18 1030 Signature: <i>[Signature]</i>	Relinquished By: <i>[Signature]</i> Date Time: 9-17-18 Received By: <i>[Signature]</i> Date Time: 9-17-18
Relinquished by Supplier: Date Time: 3 Signature: <i>[Signature]</i>	Relinquished By: <i>[Signature]</i> Date Time: 4 Received By: <i>[Signature]</i> Date Time: 4
Relinquished by: 5 Signature: <i>[Signature]</i>	Relinquished By: <i>[Signature]</i> Date Time: 5 Received By: <i>[Signature]</i> Date Time: 5

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished By: *[Signature]* Date Time: 9-17-18
 Relinquished By: *[Signature]* Date Time: 9-17-18
 Relinquished By: *[Signature]* Date Time: 9-17-18
 Relinquished By: *[Signature]* Date Time: 9-17-18

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

*Project Name UNINAR 212th		*Project # 60559583		Analysis																																														
*Project Manager MELANIE YOUNG		*Company AECOM																																																
*Email Address melanie.young@aecom.com				<table border="1"> <tr> <td>Gene-Trac DHC</td> <td>Gene-Trac FGA (verA, bndA, bndB)</td> <td>Gene-Trac DHB</td> <td>Gene-Trac DHG</td> <td>Gene-Trac SRB</td> <td>Volatile Fatty Acids</td> <td>Disolved hydrocarbon gases</td> <td>Treatability Study</td> <td rowspan="2" style="text-align: center;">GENE-TRAC MICROBIAL</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>										Gene-Trac DHC	Gene-Trac FGA (verA, bndA, bndB)	Gene-Trac DHB	Gene-Trac DHG	Gene-Trac SRB	Volatile Fatty Acids	Disolved hydrocarbon gases	Treatability Study	GENE-TRAC MICROBIAL																												
Gene-Trac DHC	Gene-Trac FGA (verA, bndA, bndB)	Gene-Trac DHB	Gene-Trac DHG											Gene-Trac SRB	Volatile Fatty Acids	Disolved hydrocarbon gases	Treatability Study	GENE-TRAC MICROBIAL																																
Address (Street) 8201 S. 212th St.				<table border="1"> <tr> <th colspan="4">Client Sample ID</th> <th colspan="2">Sampling</th> <th rowspan="2">Matrix</th> <th rowspan="2"># of Containers</th> <th colspan="8">Preservative Key</th> </tr> <tr> <th>Date</th> <th>Time</th> <th></th> <th></th> <th>0. None</th> <th>1. HCL</th> <th>2. Other</th> <th>3. Other</th> <th>4. Other</th> <th>5. Other</th> <th>6. Other</th> </tr> </table>										Client Sample ID				Sampling		Matrix	# of Containers	Preservative Key								Date	Time			0. None	1. HCL	2. Other	3. Other	4. Other	5. Other	6. Other										
Client Sample ID														Sampling		Matrix	# of Containers	Preservative Key																																
Date	Time			0. None	1. HCL	2. Other	3. Other	4. Other	5. Other	6. Other																																								
City KENT		State/Province WA		Country USA		<table border="1"> <tr> <th>Date</th> <th>Time</th> <th>Matrix</th> <th># of Containers</th> <th>Other Information</th> </tr> <tr> <td>9-11-18</td> <td>1310</td> <td>ALTER</td> <td>1</td> <td>805 ml FK-04886</td> </tr> <tr> <td>"</td> <td>1315</td> <td>"</td> <td>1</td> <td>1L FK-04888</td> </tr> <tr> <td>"</td> <td>1115</td> <td>"</td> <td>1</td> <td>1L FK-04889</td> </tr> <tr> <td>"</td> <td>0955</td> <td>"</td> <td>1</td> <td>1L FK-04891</td> </tr> <tr> <td>"</td> <td>1425</td> <td>"</td> <td>1</td> <td>1L FK-04887</td> </tr> <tr> <td>"</td> <td></td> <td></td> <td></td> <td>800ml FK-04890</td> </tr> </table>										Date	Time	Matrix	# of Containers	Other Information	9-11-18	1310	ALTER	1	805 ml FK-04886	"	1315	"	1	1L FK-04888	"	1115	"	1	1L FK-04889	"	0955	"	1	1L FK-04891	"	1425	"	1	1L FK-04887	"				800ml FK-04890
Date	Time	Matrix	# of Containers	Other Information																																														
9-11-18	1310	ALTER	1	805 ml FK-04886																																														
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"	1425	"	1	1L FK-04887																																														
"				800ml FK-04890																																														
*Phone # 206-438-2700		*Sampler's Printed Name DAVE LEWIS		<table border="1"> <tr> <th colspan="2">Billing Information</th> <th colspan="2">Turnaround Time Requested</th> <th colspan="2">For Lab Use Only</th> </tr> <tr> <td>P.O. #</td> <td>*Bill To:</td> <td>Normal <input checked="" type="checkbox"/></td> <td>Rush <input type="checkbox"/></td> <td>Cooler Condition:</td> <td>Cooler Temperature:</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Intact</td> <td>N/A</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td>Custody Seals:</td> <td>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></td> </tr> </table>										Billing Information		Turnaround Time Requested		For Lab Use Only		P.O. #	*Bill To:	Normal <input checked="" type="checkbox"/>	Rush <input type="checkbox"/>	Cooler Condition:	Cooler Temperature:					Intact	N/A					Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>													
Billing Information		Turnaround Time Requested												For Lab Use Only																																				
P.O. #	*Bill To:	Normal <input checked="" type="checkbox"/>	Rush <input type="checkbox"/>	Cooler Condition:	Cooler Temperature:																																													
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				Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																													
*Sampler's Signature Dave Lewis				<table border="1"> <tr> <th>Relinquished By:</th> <th>Received By:</th> <th>Relinquished By:</th> <th>Received By:</th> <th>Relinquished By:</th> <th>Received By:</th> </tr> <tr> <td>Signature: Dave Lewis</td> <td>Signature: Fed Ex</td> <td>Signature: Fed Ex</td> <td>Signature: Shayla Prince</td> <td>Signature:</td> <td>Signature:</td> </tr> <tr> <td>Printed Name: DAVE LEWIS</td> <td>Printed Name:</td> <td>Printed Name:</td> <td>Printed Name: Shayla Prince</td> <td>Printed Name:</td> <td>Printed Name:</td> </tr> <tr> <td>Firm: AECOM</td> <td>Firm:</td> <td>Firm:</td> <td>Firm: S6S</td> <td>Firm:</td> <td>Firm:</td> </tr> <tr> <td>Date/Time: 7600 9-11-18</td> <td>Date/Time:</td> <td>Date/Time:</td> <td>Date/Time: 0913/18 845</td> <td>Date/Time:</td> <td>Date/Time:</td> </tr> </table>										Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:	Signature: Dave Lewis	Signature: Fed Ex	Signature: Fed Ex	Signature: Shayla Prince	Signature:	Signature:	Printed Name: DAVE LEWIS	Printed Name:	Printed Name:	Printed Name: Shayla Prince	Printed Name:	Printed Name:	Firm: AECOM	Firm:	Firm:	Firm: S6S	Firm:	Firm:	Date/Time: 7600 9-11-18	Date/Time:	Date/Time:	Date/Time: 0913/18 845	Date/Time:	Date/Time:							
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Printed Name: DAVE LEWIS	Printed Name:	Printed Name:	Printed Name: Shayla Prince	Printed Name:	Printed Name:																																													
Firm: AECOM	Firm:	Firm:	Firm: S6S	Firm:	Firm:																																													
Date/Time: 7600 9-11-18	Date/Time:	Date/Time:	Date/Time: 0913/18 845	Date/Time:	Date/Time:																																													

Distribution: White - return to Originator; Yellow - Lab Copy; Pink - Retained by Client
* Mandatory Fields

31
3

SGS Sample Receipt Summary

Job Number: FA57558

Client: AECOM

Project: UNIVAR 212TH

Date / Time Received: 9/13/2018 8:45:00 AM

Delivery Method: FED EX

Airbill #s: 1001891741660003281100782738792447

Therm ID:	Therm CF:	# of Coolers: N/A
Cooler Temps (Raw Measured) °C:		
Cooler Temps (Corrected) °C:		

<u>Cooler Information</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Temp criteria achieved	<input type="checkbox"/>		<input type="checkbox"/>
4. Cooler temp verification	N/A		
5. Cooler media	N/A		

<u>Trip Blank Information</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>W</u>	<u>or</u>	<u>S</u>	<u>N/A</u>
3. Type Of TB Received		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Information</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Sample labels present on bottles	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Samples preserved properly	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Sufficient volume/containers recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Condition of sample	Intact			
5. Sample recvd within HT	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
6. Dates/Times/IDs on COC match Sample Label	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
7. VOCs have headspace	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
9. Compositing instructions clear	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Voa Soil Kits/Jars received past 48hrs?	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. % Solids Jar received?	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. Residual Chlorine Present?	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Misc. Information</u>			
Number of Encores: 25-Gram _____	5-Gram _____	Number of 5035 Field Kits: _____	Number of Lab Filtered Metals: _____
Test Strip Lot #s: pH 0-3 _____	230315 _____	pH 10-12 _____	219813A _____
Residual Chlorine Test Strip Lot #: _____			

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP

Date: 9/13/2018 8:45:00 AM

Reviewer: P.H

Date: 9/13/2018

FA57558X: Chain of Custody

Page 2 of 3



3
1
3

*Project Name UNIVAR 212th		*Project # 60559583		Analysis										Preservative Key 0. None 1. HCL 2. Other _____ 3. Other _____ 4. Other _____ 5. Other _____ 6. Other _____				
*Project Manager MELANIE YOUNG		*Company AECOM																
*Email Address melanie.young@aecom.com													GENE-TRAC MICROBIAL					
Address (Street) 8201 S. 212th St.																		
City KENT			State/Province WA			Country USA												
*Phone # 206-438-2700													Other Information					
*Sampler's Signature Dave Lewis						*Sampler's Printed Name DAVE LEWIS												
Client Sample ID				Sampling		Matrix	# of Containers											
				Date	Time													
MW-13-091118				9-11-18	1310	ALTER	1											
MW-12-091118				"	1315	"	1											
MW-5-091118				"	1115	"	1											
MW-22-091118				"	1110	"	1											
MW-7-091118				"	0955	"	1											
MW-21-091118				"	1425	"	1											

31
3

Billing Information		Turnaround Time Requested		For Lab Use Only	
P.O. #		Normal <input checked="" type="checkbox"/>		Cooler Condition:	
*Bill To:		Rush <input type="checkbox"/>		Cooler Temperature:	
				Custody Seals: Yes <input type="checkbox"/> No <input type="checkbox"/>	

Relinquished By:		Received By:		Relinquished By:		Received By:	
Signature Dave Lewis		Signature		Signature		Signature	
Printed Name DAVE LEWIS		Printed Name		Printed Name		Printed Name	
Firm AECOM		Firm		Firm		Firm	
Date/Time 1600 9-11-18		Date/Time		Date/Time		Date/Time	

Distribution: White - return to Originator; Yellow - Lab Copy; Pink - Retained by Client
* Mandatory Fields

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Univar

AECOMWAS: Univar; 8201 S 212th St, Kent, WA

60527139

SGS Job Number: FA57673

Sampling Dates: 09/11/18 - 09/13/18

Report to:

AECOM
1111 Third Ave Suite 1600
Seattle, WA 98101
melanie.young@aecom.com

ATTN: Melanie Young

Total number of pages in report: **125**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink that reads "Caitlin Brice".

Caitlin Brice, M.S.
General Manager

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Test results relate only to samples analyzed.

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Sample Summary

Univar

Job No: FA57673

AECOMWAS: Univar; 8201 S 212th St, Kent, WA
 Project No: 60527139

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA57673-1	09/11/18	09:40 DL	09/18/18	AQ	Ground Water	MW-3-091118
FA57673-2	09/11/18	11:15 DL	09/18/18	AQ	Ground Water	MW-5-091118
FA57673-3	09/11/18	09:55 DL	09/18/18	AQ	Ground Water	MW-7-091118
FA57673-4	09/11/18	13:15 DL	09/18/18	AQ	Ground Water	MW-12-091118
FA57673-5	09/11/18	12:15 DL	09/18/18	AQ	Ground Water	DUP-1-091118
FA57673-6	09/11/18	13:10 DL	09/18/18	AQ	Ground Water	MW-13-091118
FA57673-7	09/11/18	14:25 DL	09/18/18	AQ	Ground Water	MW-21-091118
FA57673-8	09/11/18	11:10 DL	09/18/18	AQ	Ground Water	MW-22-091118
FA57673-9	09/12/18	12:20 DL	09/18/18	AQ	Ground Water	MW-10-091218
FA57673-10	09/12/18	12:55 DL	09/18/18	AQ	Ground Water	MW-17-091218
FA57673-11	09/12/18	11:05 DL	09/18/18	AQ	Ground Water	MW-18-091218
FA57673-12	09/12/18	10:20 DL	09/18/18	AQ	Ground Water	DUP-2-091218
FA57673-13	09/12/18	11:20 DL	09/18/18	AQ	Ground Water	MW-19-091218



Sample Summary

(continued)

Univar

Job No: FA57673

AECOMWAS: Univar; 8201 S 212th St, Kent, WA
 Project No: 60527139

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA57673-14	09/12/18	15:00 DL	09/18/18	AQ	Ground Water	MW-20-091218
FA57673-15	09/12/18	16:20 DL	09/18/18	AQ	Ground Water	MW-23-091218
FA57673-16	09/12/18	15:25 DL	09/18/18	AQ	Ground Water	MW-27-091218
FA57673-17	09/12/18	16:25 DL	09/18/18	AQ	Ground Water	MW-28-091218
FA57673-18	09/13/18	09:45 DL	09/18/18	AQ	Ground Water	MW-4-091318
FA57673-18D	09/13/18	09:45 DL	09/18/18	AQ	Water Dup/MSD	MW-4-091318
FA57673-18S	09/13/18	09:45 DL	09/18/18	AQ	Water Matrix Spike	MW-4-091318
FA57673-19	09/13/18	14:15 DL	09/18/18	AQ	Ground Water	MW-16-091318
FA57673-20	09/13/18	13:00 DL	09/18/18	AQ	Ground Water	MW-2-091318
FA57673-21	09/13/18	11:50 DL	09/18/18	AQ	Ground Water	MW-14-091318
FA57673-22	09/13/18	10:15 DL	09/18/18	AQ	Ground Water	MW-1-091318
FA57673-23	09/13/18	14:50 DL	09/18/18	AQ	Ground Water	MW-6-091318
FA57673-24	09/13/18	12:55 DL	09/18/18	AQ	Ground Water	MW-9-091318



Sample Summary

(continued)

Univar

Job No: FA57673

AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Project No: 60527139

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA57673-25	09/13/18	11:40 DL	09/18/18	AQ	Ground Water	MW-8-091318
FA57673-26	09/13/18	00:00 DL	09/18/18	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

2

Client: Univar

Job No: FA57673

Site: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Report Date: 10/2/2018 2:08:19

25 Sample(s), 1 Trip Blank(s) were collected between 09/11/2018 and 09/13/2018 and were received at SGS North America Inc - Orlando on 09/18/2018 properly preserved, at 3.2 Deg. C and intact. These Samples received an SGS Orlando job number of FA57673. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ

Batch ID: VE2020

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA57673-2MS, FA57673-2MSD were used as the QC samples indicated.

Sample(s) FA57673-2, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8 have compounds reported from the diluted analysis.

Matrix Spike Recovery(s) for Bromoform, cis-1,3-Dichloropropene, Dibromochloromethane are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for cis-1,3-Dichloropropene, Dibromochloromethane, Tetrachloroethylene are outside control limits. Probable cause is due to matrix interference.

FA57673-8: Sample vial(s) contained bubbles greater than 6mm; reported results are considered minimum values.

FA57673-8: Sample vial(s) contained bubbles greater than 6mm; reported results are considered minimum values.

Matrix: AQ

Batch ID: VE2021

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA57673-18MS, FA57673-18MSD were used as the QC samples indicated.

Sample(s) FA57673-10, FA57673-14 have compounds reported from the diluted analysis.

Matrix Spike Recovery(s) for 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, cis-1,3-Dichloropropene, Styrene, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, cis-1,3-Dichloropropene, Styrene, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for Dichlorodifluoromethane, Methyl Bromide, Methyl Chloride, Vinyl Chloride are outside control limits for sample FA57673-18MSD. Probable cause is due to sample non-homogeneity.

Matrix: AQ

Batch ID: VE2022

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA57832-3MS, FA57832-3MSD were used as the QC samples indicated.

Sample(s) FA57673-22 have compounds reported from the diluted analysis.

GC Volatiles By Method RSKSOP-147/175

Matrix: AQ

Batch ID: GFF1713

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA57673-18DUP, FA57673-18MS were used as the QC samples indicated.

Sample(s) FA57673-18, FA57673-6, FA57673-7, FA57673-8 have compounds reported from the diluted analysis.

Matrix Spike Recovery(s) for Methane are outside control limits. Outside control limits due to high level in sample relative to spike amount.

FA57673-8: Sample vial(s) contained bubbles greater than 6mm; reported results are considered minimum values.

Matrix: AQ

Batch ID: GFF1714

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA57697-1DUP, FA57697-1MS were used as the QC samples indicated.

Sample(s) FA57673-10, FA57673-11, FA57673-22 have compounds reported from the diluted analysis.

General Chemistry By Method SM5310 B-11/SW9060A

Matrix: AQ

Batch ID: GP32092

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA57697-1MSD, FA57697-1MS were used as the QC samples for Total Organic Carbon.

Matrix Spike Recovery(s) for Total Organic Carbon are outside control limits. Spike recovery indicates possible matrix interference.

Matrix: AQ

Batch ID: GP32108

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA57908-11MS, FA57908-11MSD were used as the QC samples for Total Organic Carbon.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA57673
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 09/11/18 thru 09/13/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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FA57673-1 MW-3-091118

Acetone		229	10	2.0	ug/l	SW846 8260B
Benzene		0.29 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane		3.1	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane		0.31 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		1.1	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.37 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		21.7	0.50	0.20	ug/l	SW846 8260B
Vinyl Chloride		0.97	0.50	0.13	ug/l	SW846 8260B

FA57673-2 MW-5-091118

Acetone		131	50	10	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		43.2	2.5	0.63	ug/l	SW846 8260B
Methyl Chloride		15.7	2.5	1.0	ug/l	SW846 8260B
Tetrachloroethylene		188	2.5	0.63	ug/l	SW846 8260B
Trichloroethylene		58.2	2.5	0.63	ug/l	SW846 8260B
Methane		22.9	0.50	0.16	ug/l	RSKSOP-147/175
Total Organic Carbon		8.7	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA57673-3 MW-7-091118

Acetone		180	10	2.0	ug/l	SW846 8260B
Methyl Chloride		14.5	0.50	0.20	ug/l	SW846 8260B
Tetrachloroethylene		3.3	0.50	0.13	ug/l	SW846 8260B
Trichloroethylene		0.29 J	0.50	0.13	ug/l	SW846 8260B
Methane		3.3	0.50	0.16	ug/l	RSKSOP-147/175
Total Organic Carbon		6.4	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA57673-4 MW-12-091118

Acetone		94.3 J	100	20	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		395	5.0	1.3	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		1.9 J	5.0	1.3	ug/l	SW846 8260B
Methyl Chloride		13.6	5.0	2.0	ug/l	SW846 8260B
Tetrachloroethylene		18.6	5.0	1.3	ug/l	SW846 8260B
Trichloroethylene		14.7	5.0	1.3	ug/l	SW846 8260B
Vinyl Chloride		26.3	5.0	1.3	ug/l	SW846 8260B
Methane		286	0.50	0.16	ug/l	RSKSOP-147/175
Ethane		3.4	1.0	0.32	ug/l	RSKSOP-147/175
Total Organic Carbon		11.6	1.0	0.23	mg/l	SM5310 B-11/SW9060A

Summary of Hits

Job Number: FA57673
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 09/11/18 thru 09/13/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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FA57673-5 DUP-1-091118

Acetone	110	100	20	ug/l	SW846 8260B
cis-1,2-Dichloroethylene	416	5.0	1.3	ug/l	SW846 8260B
trans-1,2-Dichloroethylene	2.1 J	5.0	1.3	ug/l	SW846 8260B
Methyl Chloride	19.7	5.0	2.0	ug/l	SW846 8260B
Tetrachloroethylene	21.2	5.0	1.3	ug/l	SW846 8260B
Trichloroethylene	15.6	5.0	1.3	ug/l	SW846 8260B
Vinyl Chloride	28.7	5.0	1.3	ug/l	SW846 8260B
Methane	342	0.50	0.16	ug/l	RSKSOP-147/175
Ethane	3.4	1.0	0.32	ug/l	RSKSOP-147/175

FA57673-6 MW-13-091118

Benzene	0.43 J	1.3	0.31	ug/l	SW846 8260B
sec-Butylbenzene	0.42 J	1.3	0.31	ug/l	SW846 8260B
Chloroethane	57.4	1.3	0.50	ug/l	SW846 8260B
o-Chlorotoluene	0.39 J	1.3	0.31	ug/l	SW846 8260B
1,1-Dichloroethane	0.34 J	1.3	0.31	ug/l	SW846 8260B
cis-1,2-Dichloroethylene	0.58 J	1.3	0.31	ug/l	SW846 8260B
trans-1,2-Dichloroethylene	1.4	1.3	0.31	ug/l	SW846 8260B
Ethylbenzene	6.7	1.3	0.31	ug/l	SW846 8260B
Hexane	2.0 J	2.5	0.50	ug/l	SW846 8260B
Isopropylbenzene	13.4	1.3	0.31	ug/l	SW846 8260B
n-Propylbenzene	21.6	1.3	0.31	ug/l	SW846 8260B
Toluene	1.7	1.3	0.31	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	69.0	1.3	0.31	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	2.3	1.3	0.31	ug/l	SW846 8260B
Vinyl Chloride	0.76 J	1.3	0.31	ug/l	SW846 8260B
m,p-Xylene	176	2.5	0.31	ug/l	SW846 8260B
o-Xylene	0.61 J	1.3	0.31	ug/l	SW846 8260B
Methane	14600	10	3.2	ug/l	RSKSOP-147/175
Ethane	223	1.0	0.32	ug/l	RSKSOP-147/175
Ethene	137	1.0	0.43	ug/l	RSKSOP-147/175
Total Organic Carbon	14.6	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA57673-7 MW-21-091118

Chloroethane	330	25	10	ug/l	SW846 8260B
o-Chlorotoluene	19.8 J	25	6.3	ug/l	SW846 8260B
trans-1,2-Dichloroethylene	24.8 J	25	6.3	ug/l	SW846 8260B
Ethylbenzene	267	25	6.3	ug/l	SW846 8260B
Isopropylbenzene	64.0	25	6.3	ug/l	SW846 8260B
Methyl Chloride	15.5 J	25	10	ug/l	SW846 8260B
n-Propylbenzene	93.1	25	6.3	ug/l	SW846 8260B

Summary of Hits

Job Number: FA57673
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 09/11/18 thru 09/13/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
		8.3 J	25	6.3	ug/l	SW846 8260B
Toluene		306	25	6.3	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		176	25	6.3	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		6280	200	25	ug/l	SW846 8260B
m,p-Xylene		484	25	6.3	ug/l	SW846 8260B
o-Xylene		17700	10	3.2	ug/l	RSKSOP-147/175
Methane		1140	1.0	0.32	ug/l	RSKSOP-147/175
Ethane		19.1	1.0	0.23	mg/l	SM5310 B-11/SW9060A
Total Organic Carbon						

FA57673-8 MW-22-091118

Acetone ^a		196	10	2.0	ug/l	SW846 8260B
Benzene ^a		0.56	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene ^a		0.24 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane ^a		67.4	2.5	1.0	ug/l	SW846 8260B
Chloroform ^a		0.32 J	0.50	0.13	ug/l	SW846 8260B
1,1-Dichloroethane ^a		0.61	0.50	0.13	ug/l	SW846 8260B
1,2-Dichloroethane ^a		0.17 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene ^a		0.83	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene ^a		1.1	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene ^a		1.8	0.50	0.13	ug/l	SW846 8260B
Hexane ^a		2.7	1.0	0.20	ug/l	SW846 8260B
Isopropylbenzene ^a		11.8	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride ^a		18.7	0.50	0.20	ug/l	SW846 8260B
n-Propylbenzene ^a		14.6	0.50	0.13	ug/l	SW846 8260B
Toluene ^a		0.50	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene ^a		42.0	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride ^a		1.7	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene ^a		70.1	1.0	0.13	ug/l	SW846 8260B
o-Xylene ^a		0.64	0.50	0.13	ug/l	SW846 8260B
Methane ^a		21700	10	3.2	ug/l	RSKSOP-147/175
Ethane		155	1.0	0.32	ug/l	RSKSOP-147/175
Ethene		1.1	1.0	0.43	ug/l	RSKSOP-147/175
Total Organic Carbon		23.8	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA57673-9 MW-10-091218

Acetone		189	10	2.0	ug/l	SW846 8260B
Methyl Chloride		14.0	0.50	0.20	ug/l	SW846 8260B

FA57673-10 MW-17-091218

Acetone		109	10	2.0	ug/l	SW846 8260B
Benzene		15.4	0.50	0.13	ug/l	SW846 8260B
Chloroethane		250	5.0	2.0	ug/l	SW846 8260B

Summary of Hits

Job Number: FA57673
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 09/11/18 thru 09/13/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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1,2-Dichloroethane		1.4	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		13.3	0.50	0.20	ug/l	SW846 8260B
Toluene		0.42 J	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		0.36 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.19 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		2.2	1.0	0.13	ug/l	SW846 8260B
o-Xylene		0.66	0.50	0.13	ug/l	SW846 8260B
Methane		10000	10	3.2	ug/l	RSKSOP-147/175
Ethane		166	1.0	0.32	ug/l	RSKSOP-147/175
Ethene		3.9	1.0	0.43	ug/l	RSKSOP-147/175
Total Organic Carbon		39.6	2.0	0.47	mg/l	SM5310 B-11/SW9060A

FA57673-11 MW-18-091218

Acetone		218	10	2.0	ug/l	SW846 8260B
Chloroethane		0.67	0.50	0.20	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.16 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		19.9	0.50	0.20	ug/l	SW846 8260B
Vinyl Chloride		0.15 J	0.50	0.13	ug/l	SW846 8260B
Methane		7890	5.0	1.6	ug/l	RSKSOP-147/175
Ethane		47.0	1.0	0.32	ug/l	RSKSOP-147/175
Total Organic Carbon		20.1	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA57673-12 DUP-2-091218

Acetone		193	10	2.0	ug/l	SW846 8260B
Benzene		0.76	0.50	0.13	ug/l	SW846 8260B
Chloroethane		2.5	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane		0.18 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.15 J	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene		11.5	0.50	0.13	ug/l	SW846 8260B
Hexane		0.98 J	1.0	0.20	ug/l	SW846 8260B
Isopropylbenzene		1.2	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		9.2	0.50	0.20	ug/l	SW846 8260B
n-Propylbenzene		1.0	0.50	0.13	ug/l	SW846 8260B
Toluene		0.72	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		7.0	0.50	0.13	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		0.21 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.28 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		1.5	1.0	0.13	ug/l	SW846 8260B
o-Xylene		2.7	0.50	0.13	ug/l	SW846 8260B

FA57673-13 MW-19-091218

Acetone		185	10	2.0	ug/l	SW846 8260B
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Summary of Hits

Job Number: FA57673
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 09/11/18 thru 09/13/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Benzene		0.78	0.50	0.13	ug/l	SW846 8260B
Chloroethane		2.5	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane		0.16 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.15 J	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene		12.3	0.50	0.13	ug/l	SW846 8260B
Hexane		1.1	1.0	0.20	ug/l	SW846 8260B
Isopropylbenzene		1.3	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		11.9	0.50	0.20	ug/l	SW846 8260B
n-Propylbenzene		1.1	0.50	0.13	ug/l	SW846 8260B
Toluene		0.76	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		7.6	0.50	0.13	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		0.22 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.27 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		1.6	1.0	0.13	ug/l	SW846 8260B
o-Xylene		3.0	0.50	0.13	ug/l	SW846 8260B
Total Organic Carbon		17.0	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA57673-14 MW-20-091218

Acetone		140	10	2.0	ug/l	SW846 8260B
Benzene		17.5	0.50	0.13	ug/l	SW846 8260B
Chloroethane		363	5.0	2.0	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.14 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		10.8	0.50	0.20	ug/l	SW846 8260B
Methylene Chloride		1.2 J	2.0	1.0	ug/l	SW846 8260B
Toluene		0.66	0.50	0.13	ug/l	SW846 8260B
Trichlorofluoromethane		0.34 J	0.50	0.20	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		0.20 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.17 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		1.3	1.0	0.13	ug/l	SW846 8260B
o-Xylene		1.1	0.50	0.13	ug/l	SW846 8260B

FA57673-15 MW-23-091218

Acetone		144	10	2.0	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.17 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		14.2	0.50	0.20	ug/l	SW846 8260B
Tetrachloroethylene		4.3	0.50	0.13	ug/l	SW846 8260B
Trichloroethylene		0.37 J	0.50	0.13	ug/l	SW846 8260B
Methane		141	0.50	0.16	ug/l	RSKSOP-147/175
Total Organic Carbon		9.7	1.0	0.23	mg/l	SM5310 B-11/SW9060A

FA57673-16 MW-27-091218

Acetone		143	10	2.0	ug/l	SW846 8260B
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Summary of Hits

Job Number: FA57673
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 09/11/18 thru 09/13/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Benzene		0.18 J	0.50	0.13	ug/l	SW846 8260B
1,1-Dichloroethane		0.39 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.32 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		16.8	0.50	0.20	ug/l	SW846 8260B
Vinyl Chloride		0.24 J	0.50	0.13	ug/l	SW846 8260B

FA57673-17 MW-28-091218

Acetone		136	10	2.0	ug/l	SW846 8260B
Benzene		0.15 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane		0.20 J	0.50	0.20	ug/l	SW846 8260B
Methyl Chloride		17.9	0.50	0.20	ug/l	SW846 8260B

FA57673-18 MW-4-091318

Acetone		101	10	2.0	ug/l	SW846 8260B
Benzene		3.9	0.50	0.13	ug/l	SW846 8260B
n-Butylbenzene		0.15 J	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene		0.50	0.50	0.13	ug/l	SW846 8260B
Chloroethane		13.5	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane		0.36 J	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.64	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene		0.23 J	0.50	0.13	ug/l	SW846 8260B
Hexane		0.39 J	1.0	0.20	ug/l	SW846 8260B
Isopropylbenzene		11.4	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		10.6	0.50	0.20	ug/l	SW846 8260B
n-Propylbenzene		9.7	0.50	0.13	ug/l	SW846 8260B
Toluene		0.45 J	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		0.17 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.49 J	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		0.63 J	1.0	0.13	ug/l	SW846 8260B
o-Xylene		0.24 J	0.50	0.13	ug/l	SW846 8260B
Methane		6330	5.0	1.6	ug/l	RSKSOP-147/175
Ethane		102	1.0	0.32	ug/l	RSKSOP-147/175
Ethene		6.1	1.0	0.43	ug/l	RSKSOP-147/175

FA57673-19 MW-16-091318

Acetone		129	10	2.0	ug/l	SW846 8260B
Chloroethane		0.36 J	0.50	0.20	ug/l	SW846 8260B
1,1-Dichloroethane		0.34 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		16.5	0.50	0.20	ug/l	SW846 8260B
Vinyl Chloride		0.57	0.50	0.13	ug/l	SW846 8260B

Summary of Hits

Job Number: FA57673
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 09/11/18 thru 09/13/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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FA57673-20 MW-2-091318

Acetone		84.6	10	2.0	ug/l	SW846 8260B
1,1-Dichloroethane		0.37 J	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.60	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		8.2	0.50	0.20	ug/l	SW846 8260B

FA57673-21 MW-14-091318

Acetone		114	10	2.0	ug/l	SW846 8260B
Chloroethane		0.48 J	0.50	0.20	ug/l	SW846 8260B
Methyl Chloride		11.6	0.50	0.20	ug/l	SW846 8260B

FA57673-22 MW-1-091318

Acetone		140	10	2.0	ug/l	SW846 8260B
Benzene		0.28 J	0.50	0.13	ug/l	SW846 8260B
n-Butylbenzene		0.26 J	0.50	0.13	ug/l	SW846 8260B
sec-Butylbenzene		0.39 J	0.50	0.13	ug/l	SW846 8260B
Chloroethane		113	2.5	1.0	ug/l	SW846 8260B
1,1-Dichloroethane		38.5	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		3.3	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.53	0.50	0.13	ug/l	SW846 8260B
Ethylbenzene		0.50	0.50	0.13	ug/l	SW846 8260B
Hexane		0.21 J	1.0	0.20	ug/l	SW846 8260B
Isopropylbenzene		9.1	0.50	0.13	ug/l	SW846 8260B
p-Isopropyltoluene		0.44 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		13.8	0.50	0.20	ug/l	SW846 8260B
Methylene Chloride		1.9 J	2.0	1.0	ug/l	SW846 8260B
n-Propylbenzene		9.4	0.50	0.13	ug/l	SW846 8260B
Tetrachloroethylene		0.81	0.50	0.13	ug/l	SW846 8260B
Toluene		0.87	0.50	0.13	ug/l	SW846 8260B
1,1,1-Trichloroethane		1.1	0.50	0.13	ug/l	SW846 8260B
Trichloroethylene		2.2	0.50	0.13	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		5.3	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		1.2	0.50	0.13	ug/l	SW846 8260B
m,p-Xylene		2.3	1.0	0.13	ug/l	SW846 8260B
o-Xylene		11.5	0.50	0.13	ug/l	SW846 8260B
Methane		7700	5.0	1.6	ug/l	RSKSOP-147/175
Ethane		10.5	1.0	0.32	ug/l	RSKSOP-147/175
Ethene		0.84 J	1.0	0.43	ug/l	RSKSOP-147/175

FA57673-23 MW-6-091318

Acetone		120	10	2.0	ug/l	SW846 8260B
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Summary of Hits

Job Number: FA57673
Account: Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA
Collected: 09/11/18 thru 09/13/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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1,1-Dichloroethane		0.44 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		14.9	0.50	0.20	ug/l	SW846 8260B

FA57673-24 MW-9-091318

Acetone		123	10	2.0	ug/l	SW846 8260B
Benzene		0.63	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		0.52	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.24 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		17.9	0.50	0.20	ug/l	SW846 8260B
Trichloroethylene		0.14 J	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.52	0.50	0.13	ug/l	SW846 8260B

FA57673-25 MW-8-091318

Acetone		130	10	2.0	ug/l	SW846 8260B
1,1-Dichloroethylene		1.5	0.50	0.13	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		2.6	0.50	0.13	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.46 J	0.50	0.13	ug/l	SW846 8260B
Methyl Chloride		27.2	0.50	0.20	ug/l	SW846 8260B
Tetrachloroethylene		0.37 J	0.50	0.13	ug/l	SW846 8260B
Trichloroethylene		20.0	0.50	0.13	ug/l	SW846 8260B
Vinyl Chloride		0.47 J	0.50	0.13	ug/l	SW846 8260B

FA57673-26 TRIP BLANK

Acetone		113	10	2.0	ug/l	SW846 8260B
Methyl Chloride		13.2	0.50	0.20	ug/l	SW846 8260B

(a) Sample vial(s) contained bubbles greater than 6mm; reported results are considered minimum values.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MW-3-091118		
Lab Sample ID: FA57673-1		Date Sampled: 09/11/18
Matrix: AQ - Ground Water		Date Received: 09/18/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096814.D	1	09/24/18 11:06	AB	n/a	n/a	VE2020
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	229	10	2.0	ug/l	
71-43-2	Benzene	0.29	0.50	0.13	ug/l	J
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	3.1	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.31	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.1	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.37	0.50	0.13	ug/l	J
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3-091118	Date Sampled:	09/11/18
Lab Sample ID:	FA57673-1	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	21.7	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.97	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	103%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-5-091118		Date Sampled: 09/11/18
Lab Sample ID: FA57673-2		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096822.D	5	09/24/18 14:27	AB	n/a	n/a	VE2020
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	131	50	10	ug/l	
71-43-2	Benzene	ND	2.5	0.63	ug/l	
108-86-1	Bromobenzene	ND	2.5	0.63	ug/l	
75-27-4	Bromodichloromethane	ND	2.5	0.63	ug/l	
75-25-2	Bromoform	ND	2.5	0.63	ug/l	
104-51-8	n-Butylbenzene	ND	2.5	0.63	ug/l	
135-98-8	sec-Butylbenzene	ND	2.5	0.63	ug/l	
98-06-6	tert-Butylbenzene	ND	2.5	0.63	ug/l	
56-23-5	Carbon Tetrachloride	ND	2.5	0.63	ug/l	
108-90-7	Chlorobenzene	ND	2.5	0.63	ug/l	
75-00-3	Chloroethane	ND	2.5	1.0	ug/l	
67-66-3	Chloroform	ND	2.5	0.63	ug/l	
95-49-8	o-Chlorotoluene	ND	2.5	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.5	0.63	ug/l	
124-48-1	Dibromochloromethane	ND	2.5	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	1.2	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.5	0.63	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.5	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.63	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.63	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.63	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.5	0.63	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.5	0.63	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.5	0.63	ug/l	
156-59-2	cis-1,2-Dichloroethylene	43.2	2.5	0.63	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.5	0.63	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.5	0.63	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.5	0.63	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.5	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	0.63	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.63	ug/l	
100-41-4	Ethylbenzene	ND	2.5	0.63	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5-091118	Date Sampled:	09/11/18
Lab Sample ID:	FA57673-2	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	2.5	0.63	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.5	0.63	ug/l	
74-83-9	Methyl Bromide	ND	2.5	1.0	ug/l	
74-87-3	Methyl Chloride	15.7	2.5	1.0	ug/l	
74-95-3	Methylene Bromide	ND	2.5	0.63	ug/l	
75-09-2	Methylene Chloride	ND	10	5.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	13	6.3	ug/l	
103-65-1	n-Propylbenzene	ND	2.5	0.63	ug/l	
100-42-5	Styrene	ND	2.5	0.63	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.63	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.63	ug/l	
127-18-4	Tetrachloroethylene	188	2.5	0.63	ug/l	
108-88-3	Toluene	ND	2.5	0.63	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.63	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.63	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.63	ug/l	
79-01-6	Trichloroethylene	58.2	2.5	0.63	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.5	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.63	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.63	ug/l	
75-01-4	Vinyl Chloride	ND	2.5	0.63	ug/l	
	m,p-Xylene	ND	5.0	0.63	ug/l	
95-47-6	o-Xylene	ND	2.5	0.63	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-5-091118		Date Sampled: 09/11/18
Lab Sample ID: FA57673-2		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44395.D	1	09/21/18 12:20	EG	n/a	n/a	GFF1713
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	22.9	0.50	0.16	ug/l	
74-84-0	Ethane	ND	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: MW-5-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-2	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.2
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	8.7	1.0	0.23	mg/l	1	09/27/18 23:32 FN	SM5310	B-11/SW9060A

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-7-091118		Date Sampled: 09/11/18
Lab Sample ID: FA57673-3		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096816.D	1	09/24/18 11:56	AB	n/a	n/a	VE2020
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	180	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7-091118	Date Sampled:	09/11/18
Lab Sample ID:	FA57673-3	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	14.5	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	3.3	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	0.29	0.50	0.13	ug/l	J
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-7-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-3	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44396.D	1	09/21/18 12:32	EG	n/a	n/a	GFF1713
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	3.3	0.50	0.16	ug/l	
74-84-0	Ethane	ND	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: MW-7-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-3	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.3
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	6.4	1.0	0.23	mg/l	1	09/27/18 23:48 FN	SM5310	B-11/SW9060A

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-12-091118		
Lab Sample ID: FA57673-4		Date Sampled: 09/11/18
Matrix: AQ - Ground Water		Date Received: 09/18/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096817.D	10	09/24/18 12:22	AB	n/a	n/a	VE2020
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	94.3	100	20	ug/l	J
71-43-2	Benzene	ND	5.0	1.3	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.3	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.3	ug/l	
75-25-2	Bromoform	ND	5.0	1.3	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	1.3	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	1.3	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	1.3	ug/l	
56-23-5	Carbon Tetrachloride	ND	5.0	1.3	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.3	ug/l	
75-00-3	Chloroethane	ND	5.0	2.0	ug/l	
67-66-3	Chloroform	ND	5.0	1.3	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	1.3	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	1.3	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	1.3	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.5	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.3	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.3	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.3	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	1.3	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.3	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.3	ug/l	
156-59-2	cis-1,2-Dichloroethylene	395	5.0	1.3	ug/l	
156-60-5	trans-1,2-Dichloroethylene	1.9	5.0	1.3	ug/l	J
78-87-5	1,2-Dichloropropane	ND	5.0	1.3	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.3	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.3	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-12-091118	Date Sampled:	09/11/18
Lab Sample ID:	FA57673-4	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	1.3	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	1.3	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	13.6	5.0	2.0	ug/l	
74-95-3	Methylene Bromide	ND	5.0	1.3	ug/l	
75-09-2	Methylene Chloride	ND	20	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	25	13	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	1.3	ug/l	
100-42-5	Styrene	ND	5.0	1.3	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.3	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.3	ug/l	
127-18-4	Tetrachloroethylene	18.6	5.0	1.3	ug/l	
108-88-3	Toluene	ND	5.0	1.3	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.3	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.3	ug/l	
79-01-6	Trichloroethylene	14.7	5.0	1.3	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	1.3	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.3	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.3	ug/l	
75-01-4	Vinyl Chloride	26.3	5.0	1.3	ug/l	
	m,p-Xylene	ND	10	1.3	ug/l	
95-47-6	o-Xylene	ND	5.0	1.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-12-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-4	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44397.D	1	09/21/18 12:45	EG	n/a	n/a	GFF1713
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	286	0.50	0.16	ug/l	
74-84-0	Ethane	3.4	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID: MW-12-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-4	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.4
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	11.6	1.0	0.23	mg/l	1	09/28/18 00:03 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: DUP-1-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-5	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096823.D	10	09/24/18 14:52	AB	n/a	n/a	VE2020
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	110	100	20	ug/l	
71-43-2	Benzene	ND	5.0	1.3	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.3	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.3	ug/l	
75-25-2	Bromoform	ND	5.0	1.3	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	1.3	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	1.3	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	1.3	ug/l	
56-23-5	Carbon Tetrachloride	ND	5.0	1.3	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.3	ug/l	
75-00-3	Chloroethane	ND	5.0	2.0	ug/l	
67-66-3	Chloroform	ND	5.0	1.3	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	1.3	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	1.3	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	1.3	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.5	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.3	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.3	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.3	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	1.3	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.3	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.3	ug/l	
156-59-2	cis-1,2-Dichloroethylene	416	5.0	1.3	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.1	5.0	1.3	ug/l	J
78-87-5	1,2-Dichloropropane	ND	5.0	1.3	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.3	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.3	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID:	DUP-1-091118	Date Sampled:	09/11/18
Lab Sample ID:	FA57673-5	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	1.3	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	1.3	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	19.7	5.0	2.0	ug/l	
74-95-3	Methylene Bromide	ND	5.0	1.3	ug/l	
75-09-2	Methylene Chloride	ND	20	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	25	13	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	1.3	ug/l	
100-42-5	Styrene	ND	5.0	1.3	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.3	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.3	ug/l	
127-18-4	Tetrachloroethylene	21.2	5.0	1.3	ug/l	
108-88-3	Toluene	ND	5.0	1.3	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.3	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.3	ug/l	
79-01-6	Trichloroethylene	15.6	5.0	1.3	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	1.3	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.3	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.3	ug/l	
75-01-4	Vinyl Chloride	28.7	5.0	1.3	ug/l	
	m,p-Xylene	ND	10	1.3	ug/l	
95-47-6	o-Xylene	ND	5.0	1.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: DUP-1-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-5	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44403.D	1	09/21/18 15:18	EG	n/a	n/a	GFF1713
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	342	0.50	0.16	ug/l	
74-84-0	Ethane	3.4	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID: MW-13-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-6	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096824.D	2.5	09/24/18 15:17	AB	n/a	n/a	VE2020
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
71-43-2	Benzene	0.43	1.3	0.31	ug/l	J
108-86-1	Bromobenzene	ND	1.3	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.3	0.31	ug/l	
75-25-2	Bromoform	ND	1.3	0.31	ug/l	
104-51-8	n-Butylbenzene	ND	1.3	0.31	ug/l	
135-98-8	sec-Butylbenzene	0.42	1.3	0.31	ug/l	J
98-06-6	tert-Butylbenzene	ND	1.3	0.31	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.3	0.31	ug/l	
108-90-7	Chlorobenzene	ND	1.3	0.31	ug/l	
75-00-3	Chloroethane	57.4	1.3	0.50	ug/l	
67-66-3	Chloroform	ND	1.3	0.31	ug/l	
95-49-8	o-Chlorotoluene	0.39	1.3	0.31	ug/l	J
106-43-4	p-Chlorotoluene	ND	1.3	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.3	0.31	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.3	0.62	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.3	0.31	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.3	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.3	0.31	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.3	0.31	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.3	0.31	ug/l	
75-34-3	1,1-Dichloroethane	0.34	1.3	0.31	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.3	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.3	0.31	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.58	1.3	0.31	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	1.4	1.3	0.31	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.3	0.31	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.3	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.3	0.31	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	0.31	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	0.31	ug/l	
100-41-4	Ethylbenzene	6.7	1.3	0.31	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-13-091118	Date Sampled:	09/11/18
Lab Sample ID:	FA57673-6	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	2.0	2.5	0.50	ug/l	J
98-82-8	Isopropylbenzene	13.4	1.3	0.31	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.3	0.31	ug/l	
74-83-9	Methyl Bromide	ND	1.3	0.50	ug/l	
74-87-3	Methyl Chloride	ND	1.3	0.50	ug/l	
74-95-3	Methylene Bromide	ND	1.3	0.31	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.3	3.1	ug/l	
103-65-1	n-Propylbenzene	21.6	1.3	0.31	ug/l	
100-42-5	Styrene	ND	1.3	0.31	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.3	0.31	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	0.31	ug/l	
127-18-4	Tetrachloroethylene	ND	1.3	0.31	ug/l	
108-88-3	Toluene	1.7	1.3	0.31	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	0.31	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.3	0.31	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.3	0.31	ug/l	
79-01-6	Trichloroethylene	ND	1.3	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.3	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	1.3	0.31	ug/l	
95-63-6	1,2,4-Trimethylbenzene	69.0	1.3	0.31	ug/l	
108-67-8	1,3,5-Trimethylbenzene	2.3	1.3	0.31	ug/l	
75-01-4	Vinyl Chloride	0.76	1.3	0.31	ug/l	J
	m,p-Xylene	176	2.5	0.31	ug/l	
95-47-6	o-Xylene	0.61	1.3	0.31	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		83-118%
17060-07-0	1,2-Dichloroethane-D4	110%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-13-091118		Date Sampled: 09/11/18
Lab Sample ID: FA57673-6		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44404.D	1	09/21/18 15:29	EG	n/a	n/a	GFF1713
Run #2	FF44413.D	20	09/21/18 17:27	EG	n/a	n/a	GFF1713

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	22 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	14600 ^a	10	3.2	ug/l	
74-84-0	Ethane	223	1.0	0.32	ug/l	
74-85-1	Ethene	137	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: MW-13-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-6	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.6
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	14.6	1.0	0.23	mg/l	1	10/02/18 07:32 FN	SM5310	B-11/SW9060A

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-21-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-7	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096825.D	50	09/24/18 15:42	AB	n/a	n/a	VE2020
Run #2	E096820.D	200	09/24/18 13:37	AB	n/a	n/a	VE2020

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	500	100	ug/l	
71-43-2	Benzene	ND	25	6.3	ug/l	
108-86-1	Bromobenzene	ND	25	6.3	ug/l	
75-27-4	Bromodichloromethane	ND	25	6.3	ug/l	
75-25-2	Bromoform	ND	25	6.3	ug/l	
104-51-8	n-Butylbenzene	ND	25	6.3	ug/l	
135-98-8	sec-Butylbenzene	ND	25	6.3	ug/l	
98-06-6	tert-Butylbenzene	ND	25	6.3	ug/l	
56-23-5	Carbon Tetrachloride	ND	25	6.3	ug/l	
108-90-7	Chlorobenzene	ND	25	6.3	ug/l	
75-00-3	Chloroethane	330	25	10	ug/l	
67-66-3	Chloroform	ND	25	6.3	ug/l	
95-49-8	o-Chlorotoluene	19.8	25	6.3	ug/l	J
106-43-4	p-Chlorotoluene	ND	25	6.3	ug/l	
124-48-1	Dibromochloromethane	ND	25	6.3	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	25	12	ug/l	
106-93-4	1,2-Dibromoethane	ND	25	6.3	ug/l	
75-71-8	Dichlorodifluoromethane	ND	25	10	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	25	6.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	25	6.3	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	25	6.3	ug/l	
75-34-3	1,1-Dichloroethane	ND	25	6.3	ug/l	
107-06-2	1,2-Dichloroethane	ND	25	6.3	ug/l	
75-35-4	1,1-Dichloroethylene	ND	25	6.3	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	25	6.3	ug/l	
156-60-5	trans-1,2-Dichloroethylene	24.8	25	6.3	ug/l	J
78-87-5	1,2-Dichloropropane	ND	25	6.3	ug/l	
142-28-9	1,3-Dichloropropane	ND	25	6.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	25	6.3	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	25	6.3	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	25	6.3	ug/l	
100-41-4	Ethylbenzene	267	25	6.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID:	MW-21-091118	Date Sampled:	09/11/18
Lab Sample ID:	FA57673-7	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	50	10	ug/l	
98-82-8	Isopropylbenzene	64.0	25	6.3	ug/l	
99-87-6	p-Isopropyltoluene	ND	25	6.3	ug/l	
74-83-9	Methyl Bromide	ND	25	10	ug/l	
74-87-3	Methyl Chloride	15.5	25	10	ug/l	J
74-95-3	Methylene Bromide	ND	25	6.3	ug/l	
75-09-2	Methylene Chloride	ND	100	50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	130	63	ug/l	
103-65-1	n-Propylbenzene	93.1	25	6.3	ug/l	
100-42-5	Styrene	ND	25	6.3	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	25	6.3	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	25	6.3	ug/l	
127-18-4	Tetrachloroethylene	ND	25	6.3	ug/l	
108-88-3	Toluene	8.3	25	6.3	ug/l	J
120-82-1	1,2,4-Trichlorobenzene	ND	25	6.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	25	6.3	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	25	6.3	ug/l	
79-01-6	Trichloroethylene	ND	25	6.3	ug/l	
75-69-4	Trichlorofluoromethane	ND	25	10	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	25	6.3	ug/l	
95-63-6	1,2,4-Trimethylbenzene	306	25	6.3	ug/l	
108-67-8	1,3,5-Trimethylbenzene	176	25	6.3	ug/l	
75-01-4	Vinyl Chloride	ND	25	6.3	ug/l	
	m,p-Xylene	6280 ^a	200	25	ug/l	
95-47-6	o-Xylene	484	25	6.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	104%	102%	79-125%
2037-26-5	Toluene-D8	101%	100%	85-112%
460-00-4	4-Bromofluorobenzene	100%	101%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-21-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-7	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSKSOP-147/175	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44405.D	1	09/21/18 15:42	EG	n/a	n/a	GFF1713
Run #2	FF44414.D	20	09/21/18 17:38	EG	n/a	n/a	GFF1713

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	22 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	17700 ^a	10	3.2	ug/l	
74-84-0	Ethane	1140	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: MW-21-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-7	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By Method
Total Organic Carbon	19.1	1.0	0.23	mg/l	1	09/28/18 00:21 FN	SM5310 B-11/SW9060A

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 J = Indicates a result > = MDL but < RL

4.7
4

Report of Analysis

Client Sample ID: MW-22-091118		
Lab Sample ID: FA57673-8		Date Sampled: 09/11/18
Matrix: AQ - Ground Water		Date Received: 09/18/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	E096831.D	1	09/24/18 18:14	AB	n/a	n/a	VE2020
Run #2 ^a	E096821.D	5	09/24/18 14:02	AB	n/a	n/a	VE2020

	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	196	10	2.0	ug/l	
71-43-2	Benzene	0.56	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	0.24	0.50	0.13	ug/l	J
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	67.4 ^b	2.5	1.0	ug/l	
67-66-3	Chloroform	0.32	0.50	0.13	ug/l	J
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.61	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	0.17	0.50	0.13	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.83	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	1.1	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	1.8	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-22-091118	
Lab Sample ID: FA57673-8	Date Sampled: 09/11/18
Matrix: AQ - Ground Water	Date Received: 09/18/18
Method: SW846 8260B	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	2.7	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	11.8	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	18.7	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	14.6	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.50	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	42.0	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	1.7	0.50	0.13	ug/l	
	m,p-Xylene	70.1	1.0	0.13	ug/l	
95-47-6	o-Xylene	0.64	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	105%	83-118%
17060-07-0	1,2-Dichloroethane-D4	105%	108%	79-125%
2037-26-5	Toluene-D8	97%	94%	85-112%
460-00-4	4-Bromofluorobenzene	96%	98%	83-118%

(a) Sample vial(s) contained bubbles greater than 6mm; reported results are considered minimum values.

(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-22-091118		Date Sampled: 09/11/18
Lab Sample ID: FA57673-8		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44406.D	1	09/21/18 16:05	EG	n/a	n/a	GFF1713
Run #2 ^a	FF44415.D	20	09/21/18 17:49	EG	n/a	n/a	GFF1713

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	22 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	21700 ^b	10	3.2	ug/l	
74-84-0	Ethane	155	1.0	0.32	ug/l	
74-85-1	Ethene	1.1	1.0	0.43	ug/l	

(a) Sample vial(s) contained bubbles greater than 6mm; reported results are considered minimum values.

(b) Result is from Run# 2

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.8
4

Report of Analysis

Client Sample ID: MW-22-091118	Date Sampled: 09/11/18
Lab Sample ID: FA57673-8	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.8
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By Method
Total Organic Carbon	23.8	1.0	0.23	mg/l	1	09/28/18 00:38 FN	SM5310 B-11/SW9060A

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-10-091218		
Lab Sample ID: FA57673-9		Date Sampled: 09/12/18
Matrix: AQ - Ground Water		Date Received: 09/18/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096826.D	1	09/24/18 16:07	AB	n/a	n/a	VE2020
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	189	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-10-091218	Date Sampled:	09/12/18
Lab Sample ID:	FA57673-9	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	14.0	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	87%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-17-091218	Date Sampled: 09/12/18
Lab Sample ID: FA57673-10	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096827.D	1	09/24/18 16:33	AB	n/a	n/a	VE2020
Run #2	E096842.D	10	09/25/18 12:33	AB	n/a	n/a	VE2021

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	109	10	2.0	ug/l	
71-43-2	Benzene	15.4	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	250 ^a	5.0	2.0	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	1.4	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-17-091218	Date Sampled: 09/12/18
Lab Sample ID: FA57673-10	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	13.3	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.42	0.50	0.13	ug/l	J
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.36	0.50	0.13	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.19	0.50	0.13	ug/l	J
	m,p-Xylene	2.2	1.0	0.13	ug/l	
95-47-6	o-Xylene	0.66	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	105%	108%	79-125%
2037-26-5	Toluene-D8	97%	97%	85-112%
460-00-4	4-Bromofluorobenzene	100%	98%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.10
 4

Report of Analysis

Client Sample ID: MW-17-091218		Date Sampled: 09/12/18
Lab Sample ID: FA57673-10		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44407.D	1	09/21/18 16:17	EG	n/a	n/a	GFF1713
Run #2	FF44422.D	20	09/24/18 11:33	EG	n/a	n/a	GFF1714

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	22 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	10000 ^a	10	3.2	ug/l	
74-84-0	Ethane	166	1.0	0.32	ug/l	
74-85-1	Ethene	3.9	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.10
4

Report of Analysis

Client Sample ID: MW-17-091218	Date Sampled: 09/12/18
Lab Sample ID: FA57673-10	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.10
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	39.6	2.0	0.47	mg/l	1	09/28/18 15:48 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-18-091218	Date Sampled: 09/12/18
Lab Sample ID: FA57673-11	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096841.D	1	09/25/18 12:08	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	218	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	0.67	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.16	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.11
 4

Report of Analysis

Client Sample ID: MW-18-091218	Date Sampled: 09/12/18
Lab Sample ID: FA57673-11	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	19.9	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.15	0.50	0.13	ug/l	J
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-18-091218		Date Sampled: 09/12/18
Lab Sample ID: FA57673-11		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44408.D	1	09/21/18 16:28	EG	n/a	n/a	GFF1713
Run #2	FF44423.D	10	09/24/18 11:48	EG	n/a	n/a	GFF1714

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	22 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	7890 ^a	5.0	1.6	ug/l	
74-84-0	Ethane	47.0	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.11
4

Report of Analysis

Client Sample ID: MW-18-091218	Date Sampled: 09/12/18
Lab Sample ID: FA57673-11	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.11
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	20.1	1.0	0.23	mg/l	1	09/28/18 01:14 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	DUP-2-091218	Date Sampled:	09/12/18
Lab Sample ID:	FA57673-12	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	0.98	1.0	0.20	ug/l	J
98-82-8	Isopropylbenzene	1.2	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	9.2	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	1.0	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.72	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	7.0	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.21	0.50	0.13	ug/l	J
75-01-4	Vinyl Chloride	0.28	0.50	0.13	ug/l	J
	m,p-Xylene	1.5	1.0	0.13	ug/l	
95-47-6	o-Xylene	2.7	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-19-091218	Date Sampled:	09/12/18
Lab Sample ID:	FA57673-13	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	1.1	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	1.3	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	11.9	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	1.1	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.76	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	7.6	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.22	0.50	0.13	ug/l	J
75-01-4	Vinyl Chloride	0.27	0.50	0.13	ug/l	J
	m,p-Xylene	1.6	1.0	0.13	ug/l	
95-47-6	o-Xylene	3.0	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-19-091218	Date Sampled: 09/12/18
Lab Sample ID: FA57673-13	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.13
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Total Organic Carbon	17.0	1.0	0.23	mg/l	1	09/28/18 01:30 FN	SM5310 B-11/SW9060A	

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-20-091218		Date Sampled: 09/12/18
Lab Sample ID: FA57673-14		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096843.D	1	09/25/18 12:58	AB	n/a	n/a	VE2021
Run #2	E096857.D	10	09/25/18 18:52	AB	n/a	n/a	VE2021

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	140	10	2.0	ug/l	
71-43-2	Benzene	17.5	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	363 ^a	5.0	2.0	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.14	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-20-091218	Date Sampled:	09/12/18
Lab Sample ID:	FA57673-14	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	10.8	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	1.2	2.0	1.0	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.66	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	0.34	0.50	0.20	ug/l	J
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.20	0.50	0.13	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.17	0.50	0.13	ug/l	J
	m,p-Xylene	1.3	1.0	0.13	ug/l	
95-47-6	o-Xylene	1.1	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	107%	111%	79-125%
2037-26-5	Toluene-D8	98%	97%	85-112%
460-00-4	4-Bromofluorobenzene	97%	98%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-23-091218	Date Sampled:	09/12/18
Lab Sample ID:	FA57673-15	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096844.D	1	09/25/18 13:23	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	144	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.17	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-23-091218	Date Sampled:	09/12/18
Lab Sample ID:	FA57673-15	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	14.2	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	4.3	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	0.37	0.50	0.13	ug/l	J
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	92%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-23-091218		Date Sampled: 09/12/18
Lab Sample ID: FA57673-15		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44409.D	1	09/21/18 16:40	EG	n/a	n/a	GFF1713
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2				

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	141	0.50	0.16	ug/l	
74-84-0	Ethane	ND	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.15
4

Report of Analysis

Client Sample ID: MW-23-091218	Date Sampled: 09/12/18
Lab Sample ID: FA57673-15	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

4.15
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By Method
Total Organic Carbon	9.7	1.0	0.23	mg/l	1	09/28/18 02:32 FN	SM5310 B-11/SW9060A

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW-27-091218		
Lab Sample ID: FA57673-16		Date Sampled: 09/12/18
Matrix: AQ - Ground Water		Date Received: 09/18/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096845.D	1	09/25/18 13:48	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	143	10	2.0	ug/l	
71-43-2	Benzene	0.18	0.50	0.13	ug/l	J
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.39	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.32	0.50	0.13	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-27-091218	Date Sampled:	09/12/18
Lab Sample ID:	FA57673-16	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	16.8	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.24	0.50	0.13	ug/l	J
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-28-091218	Date Sampled:	09/12/18
Lab Sample ID:	FA57673-17	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	17.9	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4-091318	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-18	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096847.D	1	09/25/18 14:39	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	101	10	2.0	ug/l	
71-43-2	Benzene	3.9	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	0.15	0.50	0.13	ug/l	J
135-98-8	sec-Butylbenzene	0.50	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	13.5	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.36	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.64	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	0.23	0.50	0.13	ug/l	J

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.18
4

Report of Analysis

Client Sample ID:	MW-4-091318	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-18	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	0.39	1.0	0.20	ug/l	J
98-82-8	Isopropylbenzene	11.4	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	10.6	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	9.7	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	0.45	0.50	0.13	ug/l	J
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.17	0.50	0.13	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.49	0.50	0.13	ug/l	J
	m,p-Xylene	0.63	1.0	0.13	ug/l	J
95-47-6	o-Xylene	0.24	0.50	0.13	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4-091318		Date Sampled: 09/13/18
Lab Sample ID: FA57673-18		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44394.D	1	09/21/18 12:07	EG	n/a	n/a	GFF1713
Run #2	FF44398.D	10	09/21/18 12:57	EG	n/a	n/a	GFF1713

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	22 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	6330 ^a	5.0	1.6	ug/l	
74-84-0	Ethane	102	1.0	0.32	ug/l	
74-85-1	Ethene	6.1	1.0	0.43	ug/l	

(a) Result is from Run# 2

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.18
4

Report of Analysis

Client Sample ID: MW-16-091318	Date Sampled: 09/13/18
Lab Sample ID: FA57673-19	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096848.D	1	09/25/18 15:04	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	129	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	0.36	0.50	0.20	ug/l	J
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.34	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-16-091318	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-19	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	16.5	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.57	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-2-091318		Date Sampled: 09/13/18
Lab Sample ID: FA57673-20		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096849.D	1	09/25/18 15:29	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	84.6	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.37	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.60	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-2-091318	
Lab Sample ID: FA57673-20	Date Sampled: 09/13/18
Matrix: AQ - Ground Water	Date Received: 09/18/18
Method: SW846 8260B	Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	8.2	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-14-091318	Date Sampled: 09/13/18
Lab Sample ID: FA57673-21	Date Received: 09/18/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096850.D	1	09/25/18 15:55	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	114	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	0.48	0.50	0.20	ug/l	J
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1-091318		
Lab Sample ID: FA57673-22		Date Sampled: 09/13/18
Matrix: AQ - Ground Water		Date Received: 09/18/18
Method: SW846 8260B		Percent Solids: n/a
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096851.D	1	09/25/18 16:20	AB	n/a	n/a	VE2021
Run #2	E096869.D	5	09/26/18 13:13	AB	n/a	n/a	VE2022

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	140	10	2.0	ug/l	
71-43-2	Benzene	0.28	0.50	0.13	ug/l	J
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	0.26	0.50	0.13	ug/l	J
135-98-8	sec-Butylbenzene	0.39	0.50	0.13	ug/l	J
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	113 ^a	2.5	1.0	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	38.5	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3.3	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.53	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	0.50	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1-091318	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-22	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	0.21	1.0	0.20	ug/l	J
98-82-8	Isopropylbenzene	9.1	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	0.44	0.50	0.13	ug/l	J
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	13.8	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	1.9	2.0	1.0	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	9.4	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	0.81	0.50	0.13	ug/l	
108-88-3	Toluene	0.87	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	1.1	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	2.2	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	5.3	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	1.2	0.50	0.13	ug/l	
	m,p-Xylene	2.3	1.0	0.13	ug/l	
95-47-6	o-Xylene	11.5	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	106%	107%	79-125%
2037-26-5	Toluene-D8	96%	94%	85-112%
460-00-4	4-Bromofluorobenzene	96%	99%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1-091318		Date Sampled: 09/13/18
Lab Sample ID: FA57673-22		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSKSOP-147/175		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FF44410.D	1	09/21/18 16:52	EG	n/a	n/a	GFF1713
Run #2	FF44424.D	10	09/24/18 12:00	EG	n/a	n/a	GFF1714

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	22 Deg. C
Run #2	38.0 ml	5.0 ml	500 ul	22 Deg. C

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	7700 ^a	5.0	1.6	ug/l	
74-84-0	Ethane	10.5	1.0	0.32	ug/l	
74-85-1	Ethene	0.84	1.0	0.43	ug/l	J

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.22
4

Report of Analysis

Client Sample ID: MW-6-091318		Date Sampled: 09/13/18
Lab Sample ID: FA57673-23		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096852.D	1	09/25/18 16:45	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	120	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	0.44	0.50	0.13	ug/l	J
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6-091318	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-23	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	14.9	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-9-091318		Date Sampled: 09/13/18
Lab Sample ID: FA57673-24		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096853.D	1	09/25/18 17:11	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	123	10	2.0	ug/l	
71-43-2	Benzene	0.63	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.52	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.24	0.50	0.13	ug/l	J
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-9-091318	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-24	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	17.9	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	0.14	0.50	0.13	ug/l	J
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.52	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	108%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-8-091318		Date Sampled: 09/13/18
Lab Sample ID: FA57673-25		Date Received: 09/18/18
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096854.D	1	09/25/18 17:36	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	130	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	1.5	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2.6	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.46	0.50	0.13	ug/l	J
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8-091318	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-25	Date Received:	09/18/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	27.2	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	0.37	0.50	0.13	ug/l	J
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	20.0	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	0.47	0.50	0.13	ug/l	J
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-26	Date Received:	09/18/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E096855.D	1	09/25/18 18:01	AB	n/a	n/a	VE2021
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	113	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	09/13/18
Lab Sample ID:	FA57673-26	Date Received:	09/18/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMWAS: Univar; 8201 S 212th St, Kent, WA		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	
74-87-3	Methyl Chloride	13.2	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SGS North America Inc - Orlando

Chain of Custody

4405 Vineyard Road, Suite C-15 Orlando, FL 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB #:

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FA57673

SGS - ORLANDO Quote # SKIFF #

Client / Reporting Information		Project Information		Analytical Information														Matrix Codes
Company Name: AECOM		Project Name: UNWR 2/2/16		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs BR60</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TOC</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">DISS. GASES RSK 175</div> </div>														DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid
Address: 1111 3rd AVE #1600		Street: 8201 212th ST.																
City: SEATTLE State: WA Zip: 98101		City: KENT State: WA																
Project Contact: MELNIE YOUNG melnie_young@aecom.com		Project # 60559583																
Phone #: 206-438-2406		Fax #																
Sampler(s) Name(s) (Printed)		Client Purchase Order #																
Sampler 1: Adrian Sampler 2: A. Sebbane																		
SGS Orlando Sample #		COLLECTION		CONTAINER INFORMATION														LAB USE ONLY
Field ID / Point of Collection		DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	ICI	MECH	INCS	USDA	WOM/2/KA	D/WATER	MECH			
25	mw-8-0913/8	9-13-18	1140	AS	W	3			<input checked="" type="checkbox"/>									
26	TRIP BLANK				W	4			<input checked="" type="checkbox"/>									
Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks														
<input checked="" type="checkbox"/> 10 Day (Business) <input type="checkbox"/> 7 Day <input type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> Other		Approved By: / Date:		<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input type="checkbox"/> FULLT1 (EPA LEVEL 4) <input type="checkbox"/> EDD'S														
Rush T/A Data Available VIA Email or Lablink																		
Relinquished by Sampler/Affiliation		Date Time:	Sample Custody must be documented below each time samples change possession, including courier delivery.		Relinquished By/Affiliation													
1	Nancy Lewis	9/17/18 11:30	2	FF	3 FF													
5			6		4 Pettit													
			7		5 8/6													
			8															
Lab Use Only : Cooler Temperature (s) Celsius (corrected):				http://www.sgs.com/en/terms-and-conditions														

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ORLD-SMT-0001-03-FORM-COC (1) Rev 031318

FA57673: Chain of Custody

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SGS Sample Receipt Summary

Job Number: FA57673

Client: AECOM

Project: UNIVAR 212TH

Date / Time Received: 9/18/2018 8:45:00 AM

Delivery Method: FedEx

Airbill #s: 790866215766, 773247001119, 773247026502

Therm ID: IR 1;

Therm CF: -0.2;

of Coolers: 3

Cooler Temps (Raw Measured) °C: Cooler 1: (3.3); Cooler 2: (3.4); Cooler 3: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.1); Cooler 2: (3.2); Cooler 3: (1.8);

Cooler Information

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

Sample Information

Y or N N/A

- 1. Sample labels present on bottles
- 2. Samples preserved properly
- 3. Sufficient volume/containers recvd for analysis:
- 4. Condition of sample Broken / Leaking
- 5. Sample recvd within HT
- 6. Dates/Times/IDs on COC match Sample Label
- 7. VOCs have headspace
- 8. Bottles received for unspecified tests
- 9. Compositing instructions clear
- 10. Voa Soil Kits/Jars received past 48hrs?
- 11. % Solids Jar received?
- 12. Residual Chlorine Present?

Trip Blank Information

Y or N N/A

- 1. Trip Blank present / cooler
- 2. Trip Blank listed on COC

W or S N/A

- 3. Type Of TB Received

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____
 Test Strip Lot #: pH 0-3 230315
 Residual Chlorine Test Strip Lot #: _____

Number of 5035 Field Kits: _____
 pH 10-12 219813A

Number of Lab Filtered Metals: _____
 Other: (Specify) _____

Comments SAMPLE # 6 TOC VIALS RECEIVED EMPTY

SM001
Rev. Date 05/24/17

Technician: PETERH

Date: 9/18/2018 8:45:00 AM

Reviewer: SP

Date: 9/20/2018

FA57673: Chain of Custody

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MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2020-MB	E096813.D	1	09/24/18	AB	n/a	n/a	VE2020

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-1, FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-9, FA57673-10, FA57673-12, FA57673-13

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	

Method Blank Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2020-MB	E096813.D	1	09/24/18	AB	n/a	n/a	VE2020

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-1, FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-9, FA57673-10, FA57673-12, FA57673-13

CAS No.	Compound	Result	RL	MDL	Units	Q
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

Method Blank Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2021-MB	E096840.D	1	09/25/18	AB	n/a	n/a	VE2021

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-10, FA57673-11, FA57673-14, FA57673-15, FA57673-16, FA57673-17, FA57673-18, FA57673-19, FA57673-20, FA57673-21, FA57673-22, FA57673-23, FA57673-24, FA57673-25, FA57673-26

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.13	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.13	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.13	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.13	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.13	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.13	ug/l	
56-23-5	Carbon Tetrachloride	ND	0.50	0.13	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.13	ug/l	
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	
67-66-3	Chloroform	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.13	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.13	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.13	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.25	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.13	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.13	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.13	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.13	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.13	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.13	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.13	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.13	ug/l	
110-54-3	Hexane	ND	1.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.13	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.13	ug/l	
74-83-9	Methyl Bromide	ND	0.50	0.20	ug/l	

Method Blank Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2021-MB	E096840.D	1	09/25/18	AB	n/a	n/a	VE2021

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-10, FA57673-11, FA57673-14, FA57673-15, FA57673-16, FA57673-17, FA57673-18, FA57673-19, FA57673-20, FA57673-21, FA57673-22, FA57673-23, FA57673-24, FA57673-25, FA57673-26

CAS No.	Compound	Result	RL	MDL	Units	Q
74-87-3	Methyl Chloride	ND	0.50	0.20	ug/l	
74-95-3	Methylene Bromide	ND	0.50	0.13	ug/l	
75-09-2	Methylene Chloride	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.5	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.13	ug/l	
100-42-5	Styrene	ND	0.50	0.13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.13	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.13	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.13	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.13	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.13	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	0.13	ug/l	
	m,p-Xylene	ND	1.0	0.13	ug/l	
95-47-6	o-Xylene	ND	0.50	0.13	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	105%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	99%	83-118%

Method Blank Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2022-MB	E096867.D	1	09/26/18	AB	n/a	n/a	VE2022

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-22

CAS No.	Compound	Result	RL	MDL	Units	Q
75-00-3	Chloroethane	ND	0.50	0.20	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	105%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

6.1.3
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Blank Spike Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2020-BS	E096811.D	1	09/24/18	AB	n/a	n/a	VE2020

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-1, FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-9, FA57673-10, FA57673-12, FA57673-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	43.9	88	50-147
71-43-2	Benzene	10	9.3	93	81-122
108-86-1	Bromobenzene	10	9.2	92	80-121
75-27-4	Bromodichloromethane	10	9.5	95	79-123
75-25-2	Bromoform	10	9.2	92	66-123
104-51-8	n-Butylbenzene	10	10.5	105	79-126
135-98-8	sec-Butylbenzene	10	10.3	103	83-133
98-06-6	tert-Butylbenzene	10	9.9	99	80-133
56-23-5	Carbon Tetrachloride	10	10.1	101	76-136
108-90-7	Chlorobenzene	10	9.4	94	82-124
75-00-3	Chloroethane	10	8.9	89	62-144
67-66-3	Chloroform	10	9.5	95	80-124
95-49-8	o-Chlorotoluene	10	9.8	98	81-127
106-43-4	p-Chlorotoluene	10	9.6	96	83-130
124-48-1	Dibromochloromethane	10	9.3	93	78-122
96-12-8	1,2-Dibromo-3-chloropropane	10	9.6	96	64-123
106-93-4	1,2-Dibromoethane	10	9.1	91	75-120
75-71-8	Dichlorodifluoromethane	10	10.0	100	42-167
95-50-1	1,2-Dichlorobenzene	10	9.5	95	82-124
541-73-1	1,3-Dichlorobenzene	10	9.6	96	84-125
106-46-7	1,4-Dichlorobenzene	10	9.3	93	78-120
75-34-3	1,1-Dichloroethane	10	9.7	97	81-122
107-06-2	1,2-Dichloroethane	10	8.9	89	75-125
75-35-4	1,1-Dichloroethylene	10	9.2	92	78-137
156-59-2	cis-1,2-Dichloroethylene	10	9.4	94	78-120
156-60-5	trans-1,2-Dichloroethylene	10	9.3	93	76-127
78-87-5	1,2-Dichloropropane	10	9.4	94	76-124
142-28-9	1,3-Dichloropropane	10	8.7	87	80-118
594-20-7	2,2-Dichloropropane	10	10.6	106	74-139
10061-01-5	cis-1,3-Dichloropropene	10	8.4	84	75-118
10061-02-6	trans-1,3-Dichloropropene	10	9.1	91	80-120
100-41-4	Ethylbenzene	10	9.9	99	81-121
110-54-3	Hexane	10	9.4	94	69-132
98-82-8	Isopropylbenzene	10	10.9	109	83-132
99-87-6	p-Isopropyltoluene	10	10.4	104	79-130
74-83-9	Methyl Bromide	10	9.0	90	59-143

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2020-BS	E096811.D	1	09/24/18	AB	n/a	n/a	VE2020

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-1, FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-9, FA57673-10, FA57673-12, FA57673-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-87-3	Methyl Chloride	10	11.0	110	50-159
74-95-3	Methylene Bromide	10	8.8	88	78-119
75-09-2	Methylene Chloride	10	9.3	93	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.3	101	66-122
103-65-1	n-Propylbenzene	10	9.8	98	82-133
100-42-5	Styrene	10	9.5	95	78-119
630-20-6	1,1,1,2-Tetrachloroethane	10	10.1	101	77-122
79-34-5	1,1,2,2-Tetrachloroethane	10	9.5	95	72-120
127-18-4	Tetrachloroethylene	10	10	100	76-135
108-88-3	Toluene	10	9.6	96	80-120
120-82-1	1,2,4-Trichlorobenzene	10	9.5	95	73-129
71-55-6	1,1,1-Trichloroethane	10	9.6	96	75-130
79-00-5	1,1,2-Trichloroethane	10	9.3	93	76-119
79-01-6	Trichloroethylene	10	9.4	94	81-126
75-69-4	Trichlorofluoromethane	10	8.8	88	71-156
96-18-4	1,2,3-Trichloropropane	10	8.9	89	77-120
95-63-6	1,2,4-Trimethylbenzene	10	9.7	97	79-120
108-67-8	1,3,5-Trimethylbenzene	10	10.0	100	79-120
75-01-4	Vinyl Chloride	10	10.5	105	69-159
	m,p-Xylene	20	20.0	100	79-126
95-47-6	o-Xylene	10	10.0	100	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	102%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2021-BS	E096838.D	1	09/25/18	AB	n/a	n/a	VE2021

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-10, FA57673-11, FA57673-14, FA57673-15, FA57673-16, FA57673-17, FA57673-18, FA57673-19, FA57673-20, FA57673-21, FA57673-22, FA57673-23, FA57673-24, FA57673-25, FA57673-26

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	44.4	89	50-147
71-43-2	Benzene	10	9.7	97	81-122
108-86-1	Bromobenzene	10	9.5	95	80-121
75-27-4	Bromodichloromethane	10	10.2	102	79-123
75-25-2	Bromoform	10	9.7	97	66-123
104-51-8	n-Butylbenzene	10	10.6	106	79-126
135-98-8	sec-Butylbenzene	10	10.3	103	83-133
98-06-6	tert-Butylbenzene	10	10.0	100	80-133
56-23-5	Carbon Tetrachloride	10	10.3	103	76-136
108-90-7	Chlorobenzene	10	9.8	98	82-124
75-00-3	Chloroethane	10	10.1	101	62-144
67-66-3	Chloroform	10	9.9	99	80-124
95-49-8	o-Chlorotoluene	10	9.7	97	81-127
106-43-4	p-Chlorotoluene	10	9.8	98	83-130
124-48-1	Dibromochloromethane	10	10.0	100	78-122
96-12-8	1,2-Dibromo-3-chloropropane	10	9.6	96	64-123
106-93-4	1,2-Dibromoethane	10	9.7	97	75-120
75-71-8	Dichlorodifluoromethane	10	10.8	108	42-167
95-50-1	1,2-Dichlorobenzene	10	9.5	95	82-124
541-73-1	1,3-Dichlorobenzene	10	9.8	98	84-125
106-46-7	1,4-Dichlorobenzene	10	9.4	94	78-120
75-34-3	1,1-Dichloroethane	10	10.0	100	81-122
107-06-2	1,2-Dichloroethane	10	9.7	97	75-125
75-35-4	1,1-Dichloroethylene	10	9.6	96	78-137
156-59-2	cis-1,2-Dichloroethylene	10	9.5	95	78-120
156-60-5	trans-1,2-Dichloroethylene	10	9.6	96	76-127
78-87-5	1,2-Dichloropropane	10	10	100	76-124
142-28-9	1,3-Dichloropropane	10	9.3	93	80-118
594-20-7	2,2-Dichloropropane	10	10.2	102	74-139
10061-01-5	cis-1,3-Dichloropropene	10	9.3	93	75-118
10061-02-6	trans-1,3-Dichloropropene	10	10	100	80-120
100-41-4	Ethylbenzene	10	10.2	102	81-121
110-54-3	Hexane	10	10	100	69-132
98-82-8	Isopropylbenzene	10	11.0	110	83-132
99-87-6	p-Isopropyltoluene	10	10.3	103	79-130
74-83-9	Methyl Bromide	10	10.2	102	59-143

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2021-BS	E096838.D	1	09/25/18	AB	n/a	n/a	VE2021

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-10, FA57673-11, FA57673-14, FA57673-15, FA57673-16, FA57673-17, FA57673-18, FA57673-19, FA57673-20, FA57673-21, FA57673-22, FA57673-23, FA57673-24, FA57673-25, FA57673-26

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-87-3	Methyl Chloride	10	12.1	121	50-159
74-95-3	Methylene Bromide	10	9.7	97	78-119
75-09-2	Methylene Chloride	10	9.7	97	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	50	47.3	95	66-122
103-65-1	n-Propylbenzene	10	9.9	99	82-133
100-42-5	Styrene	10	9.8	98	78-119
630-20-6	1,1,1,2-Tetrachloroethane	10	10.2	102	77-122
79-34-5	1,1,2,2-Tetrachloroethane	10	9.8	98	72-120
127-18-4	Tetrachloroethylene	10	10.2	102	76-135
108-88-3	Toluene	10	9.8	98	80-120
120-82-1	1,2,4-Trichlorobenzene	10	9.6	96	73-129
71-55-6	1,1,1-Trichloroethane	10	9.8	98	75-130
79-00-5	1,1,2-Trichloroethane	10	10.0	100	76-119
79-01-6	Trichloroethylene	10	9.8	98	81-126
75-69-4	Trichlorofluoromethane	10	10	100	71-156
96-18-4	1,2,3-Trichloropropane	10	9.2	92	77-120
95-63-6	1,2,4-Trimethylbenzene	10	9.7	97	79-120
108-67-8	1,3,5-Trimethylbenzene	10	10.1	101	79-120
75-01-4	Vinyl Chloride	10	11.8	118	69-159
	m,p-Xylene	20	20.6	103	79-126
95-47-6	o-Xylene	10	10.2	102	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	107%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2022-BS	E096865.D	1	09/26/18	AB	n/a	n/a	VE2022

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-22

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-00-3	Chloroethane	10	8.9	89	62-144

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	107%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57673-2MS	E096832.D	10	09/24/18	AB	n/a	n/a	VE2020
FA57673-2MSD	E096833.D	10	09/24/18	AB	n/a	n/a	VE2020
FA57673-2	E096822.D	5	09/24/18	AB	n/a	n/a	VE2020

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-1, FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-9, FA57673-10, FA57673-12, FA57673-13

CAS No.	Compound	FA57673-2		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
67-64-1	Acetone	131	500	545	83	500	559	86	3	50-147/21
71-43-2	Benzene	ND	100	89.6	90	100	90.1	90	1	81-122/14
108-86-1	Bromobenzene	ND	100	88.1	88	100	85.7	86	3	80-121/14
75-27-4	Bromodichloromethane	ND	100	85.1	85	100	86.2	86	1	79-123/19
75-25-2	Bromoform	ND	100	60.2	60*	100	65.6	66	9	66-123/21
104-51-8	n-Butylbenzene	ND	100	96.4	96	100	93.8	94	3	79-126/16
135-98-8	sec-Butylbenzene	ND	100	95.9	96	100	94.2	94	2	83-133/16
98-06-6	tert-Butylbenzene	ND	100	93.7	94	100	92.3	92	2	80-133/16
56-23-5	Carbon Tetrachloride	ND	100	89.9	90	100	91.0	91	1	76-136/23
108-90-7	Chlorobenzene	ND	100	90.2	90	100	89.3	89	1	82-124/14
75-00-3	Chloroethane	ND	100	88.6	89	100	107	107	19	62-144/20
67-66-3	Chloroform	ND	100	91.7	92	100	91.5	92	0	80-124/15
95-49-8	o-Chlorotoluene	ND	100	91.2	91	100	90.0	90	1	81-127/15
106-43-4	p-Chlorotoluene	ND	100	89.9	90	100	88.4	88	2	83-130/15
124-48-1	Dibromochloromethane	ND	100	73.1	73*	100	77.3	77*	6	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND	100	82.3	82	100	86.9	87	5	64-123/18
106-93-4	1,2-Dibromoethane	ND	100	86.5	87	100	84.9	85	2	75-120/13
75-71-8	Dichlorodifluoromethane	ND	100	95.6	96	100	112	112	16	42-167/19
95-50-1	1,2-Dichlorobenzene	ND	100	88.2	88	100	88.1	88	0	82-124/14
541-73-1	1,3-Dichlorobenzene	ND	100	90.9	91	100	89.3	89	2	84-125/14
106-46-7	1,4-Dichlorobenzene	ND	100	87.7	88	100	86.1	86	2	78-120/15
75-34-3	1,1-Dichloroethane	ND	100	91.5	92	100	92.1	92	1	81-122/15
107-06-2	1,2-Dichloroethane	ND	100	88.5	89	100	88.4	88	0	75-125/14
75-35-4	1,1-Dichloroethylene	ND	100	88.6	89	100	87.6	88	1	78-137/18
156-59-2	cis-1,2-Dichloroethylene	43.2	100	131	88	100	132	89	1	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND	100	87.9	88	100	88.5	89	1	76-127/17
78-87-5	1,2-Dichloropropane	ND	100	92.3	92	100	91.6	92	1	76-124/14
142-28-9	1,3-Dichloropropane	ND	100	83.6	84	100	83.7	84	0	80-118/13
594-20-7	2,2-Dichloropropane	ND	100	88.8	89	100	88.2	88	1	74-139/17
10061-01-5	cis-1,3-Dichloropropene	ND	100	71.9	72*	100	72.3	72*	1	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND	100	81.1	81	100	81.9	82	1	80-120/22
100-41-4	Ethylbenzene	ND	100	92.9	93	100	92.7	93	0	81-121/14
110-54-3	Hexane	ND	100	89.0	89	100	89.8	90	1	69-132/20
98-82-8	Isopropylbenzene	ND	100	99.6	100	100	100	100	0	83-132/15
99-87-6	p-Isopropyltoluene	ND	100	94.7	95	100	94.2	94	1	79-130/16
74-83-9	Methyl Bromide	ND	100	87.0	87	100	104	104	18	59-143/19

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57673-2MS	E096832.D	10	09/24/18	AB	n/a	n/a	VE2020
FA57673-2MSD	E096833.D	10	09/24/18	AB	n/a	n/a	VE2020
FA57673-2	E096822.D	5	09/24/18	AB	n/a	n/a	VE2020

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-1, FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-9, FA57673-10, FA57673-12, FA57673-13

CAS No.	Compound	FA57673-2 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
74-87-3	Methyl Chloride	15.7	100	116	100	100	133	117	14	50-159/19
74-95-3	Methylene Bromide	ND	100	87.9	88	100	85.5	86	3	78-119/14
75-09-2	Methylene Chloride	ND	100	88.6	89	100	88.8	89	0	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	421	84	500	446	89	6	66-122/16
103-65-1	n-Propylbenzene	ND	100	91.7	92	100	91.0	91	1	82-133/15
100-42-5	Styrene	ND	100	86.4	86	100	86.8	87	0	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND	100	91.8	92	100	92.4	92	1	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	90.2	90	100	89.7	90	1	72-120/14
127-18-4	Tetrachloroethylene	188	100	269	81	100	263	75*	2	76-135/16
108-88-3	Toluene	ND	100	90.3	90	100	90.4	90	0	80-120/14
120-82-1	1,2,4-Trichlorobenzene	ND	100	85.3	85	100	86.6	87	2	73-129/20
71-55-6	1,1,1-Trichloroethane	ND	100	90.4	90	100	88.8	89	2	75-130/16
79-00-5	1,1,2-Trichloroethane	ND	100	90.0	90	100	88.6	89	2	76-119/14
79-01-6	Trichloroethylene	58.2	100	145	87	100	146	88	1	81-126/15
75-69-4	Trichlorofluoromethane	ND	100	87.8	88	100	104	104	17	71-156/21
96-18-4	1,2,3-Trichloropropane	ND	100	85.8	86	100	82.4	82	4	77-120/16
95-63-6	1,2,4-Trimethylbenzene	ND	100	91.1	91	100	89.7	90	2	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND	100	94.5	95	100	93.1	93	1	79-120/19
75-01-4	Vinyl Chloride	ND	100	102	102	100	121	121	17	69-159/18
	m,p-Xylene	ND	200	187	94	200	186	93	1	79-126/15
95-47-6	o-Xylene	ND	100	91.2	91	100	92.0	92	1	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA57673-2	Limits
1868-53-7	Dibromofluoromethane	100%	100%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	106%	106%	103%	79-125%
2037-26-5	Toluene-D8	99%	99%	99%	85-112%
460-00-4	4-Bromofluorobenzene	97%	97%	101%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57673-18MS	E096859.D	1	09/25/18	AB	n/a	n/a	VE2021
FA57673-18MSD	E096860.D	1	09/25/18	AB	n/a	n/a	VE2021
FA57673-18	E096847.D	1	09/25/18	AB	n/a	n/a	VE2021

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-10, FA57673-11, FA57673-14, FA57673-15, FA57673-16, FA57673-17, FA57673-18, FA57673-19, FA57673-20, FA57673-21, FA57673-22, FA57673-23, FA57673-24, FA57673-25, FA57673-26

CAS No.	Compound	FA57673-18 Spike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
67-64-1	Acetone	101	50	138	74	50	159	116	14	50-147/21
71-43-2	Benzene	3.9	10	12.8	89	10	12.7	88	1	81-122/14
108-86-1	Bromobenzene	ND	10	8.5	85	10	8.7	87	2	80-121/14
75-27-4	Bromodichloromethane	ND	10	8.8	88	10	8.7	87	1	79-123/19
75-25-2	Bromoform	ND	10	7.3	73	10	7.3	73	0	66-123/21
104-51-8	n-Butylbenzene	0.15	J 10	9.5	94	10	9.6	95	1	79-126/16
135-98-8	sec-Butylbenzene	0.50	10	9.7	92	10	9.8	93	1	83-133/16
98-06-6	tert-Butylbenzene	ND	10	9.1	91	10	9.3	93	2	80-133/16
56-23-5	Carbon Tetrachloride	ND	10	9.3	93	10	8.9	89	4	76-136/23
108-90-7	Chlorobenzene	ND	10	8.8	88	10	9.0	90	2	82-124/14
75-00-3	Chloroethane	13.5	10	21.8	83	10	25.3	118	15	62-144/20
67-66-3	Chloroform	ND	10	9.3	93	10	9.2	92	1	80-124/15
95-49-8	o-Chlorotoluene	ND	10	8.5	85	10	8.5	85	0	81-127/15
106-43-4	p-Chlorotoluene	ND	10	8.3	83	10	8.5	85	2	83-130/15
124-48-1	Dibromochloromethane	ND	10	8.0	80	10	8.0	80	0	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	8.9	89	10	9.2	92	3	64-123/18
106-93-4	1,2-Dibromoethane	ND	10	8.4	84	10	8.5	85	1	75-120/13
75-71-8	Dichlorodifluoromethane	ND	10	8.8	88	10	11.3	113	25*	42-167/19
95-50-1	1,2-Dichlorobenzene	ND	10	8.9	89	10	8.8	88	1	82-124/14
541-73-1	1,3-Dichlorobenzene	ND	10	8.8	88	10	8.8	88	0	84-125/14
106-46-7	1,4-Dichlorobenzene	ND	10	8.7	87	10	8.8	88	1	78-120/15
75-34-3	1,1-Dichloroethane	0.36	J 10	9.6	92	10	9.5	91	1	81-122/15
107-06-2	1,2-Dichloroethane	ND	10	8.8	88	10	8.9	89	1	75-125/14
75-35-4	1,1-Dichloroethylene	ND	10	8.5	85	10	8.5	85	0	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND	10	8.6	86	10	8.8	88	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	0.64	10	9.3	87	10	9.3	87	0	76-127/17
78-87-5	1,2-Dichloropropane	ND	10	9.2	92	10	9.2	92	0	76-124/14
142-28-9	1,3-Dichloropropane	ND	10	8.2	82	10	8.4	84	2	80-118/13
594-20-7	2,2-Dichloropropane	ND	10	8.3	83	10	8.3	83	0	74-139/17
10061-01-5	cis-1,3-Dichloropropene	ND	10	7.0	70*	10	6.9	69*	1	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND	10	7.6	76*	10	7.7	77*	1	80-120/22
100-41-4	Ethylbenzene	0.23	J 10	9.2	90	10	9.3	91	1	81-121/14
110-54-3	Hexane	0.39	J 10	8.9	85	10	9.3	89	4	69-132/20
98-82-8	Isopropylbenzene	11.4	10	23.1	117	10	23.4	120	1	83-132/15
99-87-6	p-Isopropyltoluene	ND	10	8.7	87	10	8.7	87	0	79-130/16
74-83-9	Methyl Bromide	ND	10	9.0	90	10	11.0	110	20*	59-143/19

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57673-18MS	E096859.D	1	09/25/18	AB	n/a	n/a	VE2021
FA57673-18MSD	E096860.D	1	09/25/18	AB	n/a	n/a	VE2021
FA57673-18	E096847.D	1	09/25/18	AB	n/a	n/a	VE2021

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-10, FA57673-11, FA57673-14, FA57673-15, FA57673-16, FA57673-17, FA57673-18, FA57673-19, FA57673-20, FA57673-21, FA57673-22, FA57673-23, FA57673-24, FA57673-25, FA57673-26

CAS No.	Compound	FA57673-18 Spike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
74-87-3	Methyl Chloride	10.6	10	23.9	133	10	18.7	81	24*	50-159/19
74-95-3	Methylene Bromide	ND	10	8.8	88	10	8.7	87	1	78-119/14
75-09-2	Methylene Chloride	ND	10	9.1	91	10	9.0	90	1	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	47.2	94	50	50.2	100	6	66-122/16
103-65-1	n-Propylbenzene	9.7	10	19.1	94	10	19.4	97	2	82-133/15
100-42-5	Styrene	ND	10	4.2	42*	10	3.8	38*	10	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND	10	9.3	93	10	9.3	93	0	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	9.1	91	10	9.2	92	1	72-120/14
127-18-4	Tetrachloroethylene	ND	10	9.1	91	10	9.2	92	1	76-135/16
108-88-3	Toluene	0.45	J 10	9.0	86	10	9.1	87	1	80-120/14
120-82-1	1,2,4-Trichlorobenzene	ND	10	9.0	90	10	9.1	91	1	73-129/20
71-55-6	1,1,1-Trichloroethane	ND	10	9.0	90	10	9.0	90	0	75-130/16
79-00-5	1,1,2-Trichloroethane	ND	10	9.2	92	10	9.4	94	2	76-119/14
79-01-6	Trichloroethylene	ND	10	8.8	88	10	8.7	87	1	81-126/15
75-69-4	Trichlorofluoromethane	ND	10	8.6	86	10	10.6	106	21	71-156/21
96-18-4	1,2,3-Trichloropropane	ND	10	8.3	83	10	8.5	85	2	77-120/16
95-63-6	1,2,4-Trimethylbenzene	0.17	J 10	7.5	73*	10	7.2	70*	4	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND	10	7.1	71*	10	6.8	68*	4	79-120/19
75-01-4	Vinyl Chloride	0.49	J 10	10.1	96	10	12.7	122	23*	69-159/18
	m,p-Xylene	0.63	J 20	17.8	86	20	17.5	84	2	79-126/15
95-47-6	o-Xylene	0.24	J 10	8.6	84	10	8.7	85	1	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA57673-18	Limits
1868-53-7	Dibromofluoromethane	102%	101%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	110%	107%	107%	79-125%
2037-26-5	Toluene-D8	97%	98%	95%	85-112%
460-00-4	4-Bromofluorobenzene	94%	97%	99%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57832-3MS	E096882.D	1	09/26/18	AB	n/a	n/a	VE2022
FA57832-3MSD	E096883.D	1	09/26/18	AB	n/a	n/a	VE2022
FA57832-3	E096875.D	1	09/26/18	AB	n/a	n/a	VE2022

The QC reported here applies to the following samples:

Method: SW846 8260B

FA57673-22

CAS No.	Compound	FA57832-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-00-3	Chloroethane	0.50 U	10	11.2	112	10	11.1	111	1	62-144/20

CAS No.	Surrogate Recoveries	MS	MSD	FA57832-3	Limits
1868-53-7	Dibromofluoromethane	103%	101%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	111%	111%	108%	79-125%
2037-26-5	Toluene-D8	98%	97%	99%	85-112%
460-00-4	4-Bromofluorobenzene	94%	96%	100%	83-118%

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFF1713-MB	FF44391.D	1	09/21/18	EG	n/a	n/a	GFF1713

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-10, FA57673-11, FA57673-15, FA57673-18, FA57673-22

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	
74-84-0	Ethane	ND	1.0	0.32	ug/l	
74-85-1	Ethene	ND	1.0	0.43	ug/l	

7.1.1
7

Method Blank Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFF1714-MB	FF44419.D	1	09/24/18	EG	n/a	n/a	GFF1714

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA57673-10, FA57673-11, FA57673-22

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	

7.1.2

7

Blank Spike/Blank Spike Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFF1713-BS	FF44392.D	1	09/21/18	EG	n/a	n/a	GFF1713
GFF1713-BSD	FF44393.D	1	09/21/18	EG	n/a	n/a	GFF1713

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-10, FA57673-11, FA57673-15, FA57673-18, FA57673-22

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	115	106	107	99	7	62-139/30
74-84-0	Ethane	219	230	105	208	95	10	67-141/30
74-85-1	Ethene	290	313	108	285	98	9	68-141/30

* = Outside of Control Limits.

7.2.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFF1714-BS	FF44420.D	1	09/24/18	EG	n/a	n/a	GFF1714
GFF1714-BSD	FF44421.D	1	09/24/18	EG	n/a	n/a	GFF1714

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA57673-10, FA57673-11, FA57673-22

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	126	117	130	120	3	62-139/30

* = Outside of Control Limits.

7.2.2
7

Matrix Spike Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57673-18MS	FF44399.D	10	09/21/18	EG	n/a	n/a	GFF1713
FA57673-18	FF44394.D	1	09/21/18	EG	n/a	n/a	GFF1713
FA57673-18	FF44398.D	10	09/21/18	EG	n/a	n/a	GFF1713

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-10, FA57673-11, FA57673-15, FA57673-18, FA57673-22

CAS No.	Compound	FA57673-18 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	6330 ^b	1080	6410	7* ^a	62-139
74-84-0	Ethane	102	2190	2480	107	67-141
74-85-1	Ethene	6.1	2900	3250	112	68-141

- (a) Outside control limits due to high level in sample relative to spike amount.
- (b) Result is from Run #2.

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57697-1MS	FF44438.D	10	09/24/18	EG	n/a	n/a	GFF1714
FA57697-1	FF44425.D	1	09/24/18	EG	n/a	n/a	GFF1714
FA57697-1	FF44427.D	10	09/24/18	EG	n/a	n/a	GFF1714

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA57673-10, FA57673-11, FA57673-22

CAS No.	Compound	FA57697-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	3090 ^a	1080	4530	133	62-139

(a) Result is from Run #2.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57673-18DUP	FF44402.D	10	09/21/18	EG	n/a	n/a	GFF1713
FA57673-18	FF44394.D	1	09/21/18	EG	n/a	n/a	GFF1713
FA57673-18	FF44398.D	10	09/21/18	EG	n/a	n/a	GFF1713

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA57673-2, FA57673-3, FA57673-4, FA57673-5, FA57673-6, FA57673-7, FA57673-8, FA57673-10, FA57673-11, FA57673-15, FA57673-18, FA57673-22

CAS No.	Compound	FA57673-18 DUP		Q	RPD	Limits
		ug/l	Q ug/l			
74-82-8	Methane	6330 ^a	7100		11	30
74-84-0	Ethane	102	158		9	30
74-85-1	Ethene	6.1	6.7	J	24	30

(a) Result is from Run #2.

* = Outside of Control Limits.

7.4.1
 7

Duplicate Summary

Job Number: FA57673
Account: UNIVAR Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA57697-1DUP	FF44430.D	10	09/24/18	EG	n/a	n/a	GFF1714
FA57697-1	FF44425.D	1	09/24/18	EG	n/a	n/a	GFF1714
FA57697-1	FF44427.D	10	09/24/18	EG	n/a	n/a	GFF1714

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA57673-10, FA57673-11, FA57673-22

CAS No.	Compound	FA57697-1 ug/l	DUP Q	ug/l	Q	RPD	Limits
74-82-8	Methane	3090 ^a		3160		2	30

(a) Result is from Run #2.

* = Outside of Control Limits.

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA57673
Account: UNIVAR - Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Total Organic Carbon	GP32092/GN79890	1.0	0.0	mg/l	15	16.1	107.3	90-110%
Total Organic Carbon	GP32108/GN79924	1.0	0.0	mg/l	15	16.2	108.0	90-110%

Associated Samples:

Batch GP32092: FA57673-2, FA57673-3, FA57673-4, FA57673-7, FA57673-8, FA57673-10, FA57673-11, FA57673-13, FA57673-15

Batch GP32108: FA57673-6

(*) Outside of QC limits

8.1

8

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA57673
Account: UNIVAR - Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Total Organic Carbon	GP32092/GN79890	FA57697-1	mg/l	1.5	15	18.3	112.0N(a)	90-110%
Total Organic Carbon	GP32108/GN79924	FA57908-11	mg/l	1.6	15	18.0	109.3	90-110%

Associated Samples:

Batch GP32092: FA57673-2, FA57673-3, FA57673-4, FA57673-7, FA57673-8, FA57673-10, FA57673-11, FA57673-13, FA57673-15
Batch GP32108: FA57673-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery indicates possible matrix interference.

8.2

8

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA57673
Account: UNIVAR - Univar
Project: AECOMWAS: Univar; 8201 S 212th St, Kent, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP32092/GN79890	FA57697-1	mg/l	1.5	15	18.7	2.2	20%
Total Organic Carbon	GP32108/GN79924	FA57908-11	mg/l	1.6	15	20.2	11.5	20%

Associated Samples:

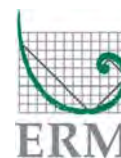
Batch GP32092: FA57673-2, FA57673-3, FA57673-4, FA57673-7, FA57673-8, FA57673-10, FA57673-11, FA57673-13, FA57673-15

Batch GP32108: FA57673-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



**Memo**

To	Dylan Stankus
From	Rachel James
Date	21 February 2019
Reference	0487093
Subject	Data Review of Univar Kent, Washington 2018 Groundwater Samples: SGS North America, Inc. Data Packages FA52791, FA57558, and FA57673.

The data quality was assessed and any necessary qualifiers were applied following the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, January 2017 and *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review*, January 2017.

SAMPLE RECEIPT DISCREPANCIES

The laboratory described that in report FA52791, two of three VOA vials for sample DUP-2-031918 were received empty and one TOC vial for sample MW-17-031918 was received broken. The laboratory was able to complete the requested analyses for each sample using the remaining intact containers and data quality was not impacted.

The laboratory described that in report FA57673, the TOC vials for sample MW-13-091118 were received empty. The laboratory was able to complete TOC analysis using extra containers submitted for VOC or RSK analysis as they contain the same preservative. Data quality was not impacted.

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 with the exception of coolers in lab report FA52791. The coolers were in transit for four days and were received at temperatures of 14.8°C and 16.6°C. A comparison of historical results was performed to check for consistency of detected and non-detected results. Historical data is not readily available for comparison for 39 of the 57 reported VOCs (referred to as non-contaminants of concern [non-COCs]). The non-detected results for these analytes were rejected (R) and the detected results were qualified as estimates with a low bias (J-). For the VOC contaminants of concern (COCs), non-detected results that were comparable to historical results were qualified as estimates (UJ), non-detected results that were not comparable to historical results were rejected (R), and detected results were qualified as estimates with a low bias (J-). Historical results that were consistently reported below the reporting limit did not result in rejection of current results. Additionally, for the common lab contaminant methylene chloride, the historical data show that it has been sporadically detected in most wells and the current results were not rejected. Qualifications due to the temperature exceedances are displayed in Table 1.

The VOA vials for sample MW-22-091118 that were used for VOC and dissolved gases (methane only) contained headspace. The non-detected results for non-COCs were rejected (R) as no historical data was available for comparison. The non-detected results for COCs were comparable to historical data and were qualified as estimates (UJ). The detected results were qualified as estimates with a low bias (J-), with the exception of acetone and methyl chloride, which were qualified as estimates with no bias (J) due to additional trip blank contamination. The qualifications due to headspace are presented in Table 1.

The samples were prepared and analyzed within the method-prescribed time period from the date of collection with the exception in Table 2. Sample TRIP BLANK associated with lab report FA52791 was analyzed two days past the 14 day holding time. No target analytes were detected in the sample and the results were rejected (R) due to the holding time exceedance.

BLANK EVALUATION

The method and trip blank sample results were nondetected for each of the target analytes with three exceptions. Methyl chloride was detected in a method blank sample at a concentration below the reporting limit; however, this compound was not detected in associated project samples and qualifications were not necessary. Acetone (a common laboratory contaminant) and methyl chloride were detected at concentrations above the reporting limit in the trip blank sample associated with lab report FA57673. Associated sample results within five times the blank concentration (or ten times for common laboratory contaminants) and less than the reporting limit were qualified as non-detect (U) at the MRL. Results greater than the reporting limit but less than the blank concentration were qualified as non-detect (U) at the sample concentration. Results within five times the blank concentration (or ten times for common laboratory contaminants) and greater than the reporting limit were qualified as estimated with a high bias (J+), with the exception of acetone and methyl chloride results for sample MW-22-032118, which were qualified as estimates with no bias (J) due to presence of headspace in the sample vial. The blank detections and associated data are presented in Table 1.

The trip blank sample associated with lab report FA52791 was non-detected for each of the target analytes. The trip blank sample results were rejected due to holding time exceedance. Therefore, the trip blank results cannot be used to evaluate whether or not contaminants were introduced to the samples during shipment, handling, and storage.

BLANK SPIKE EVALUATION

The laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) recoveries and RPDs were within the laboratory's limits of acceptance, with the exception noted in Table 4. BAV1 VC reductase was recovered below the control limit in the low concentration positive control sample CSLF-0917. No data were qualified as the associated high concentration positive control sample was recovered within control limits.

MATRIX SPIKE EVALUATION

The matrix spike (MS)/matrix spike duplicate (MSD) recoveries and RPDs were within laboratory limits of acceptance with several exceptions. No data were qualified if the outlier is from a non-project sample, if the outlier can be verified by an in-control result, or if the sample result is greater than four times the spike concentration. Remaining sample results associated with low MS and MSD recoveries were qualified as estimated with a low bias (J-/UJ). The outliers and associated qualifications can be found in Table 4.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits. No qualifications were required based on surrogate recoveries. The surrogate recoveries indicate minimal matrix interference in the samples.

LABORATORY DUPLICATE EVALUATION

The laboratory prepared two project samples and one non-project sample as laboratory duplicates for RSK175. The RPDs for detected analytes were within the control limits. The acceptable RPDs indicate acceptable laboratory precision.

FIELD DUPLICATE EVALUATION

Four samples were submitted in duplicate. ERM calculated the relative percent differences (RPDs) between detected results in Table 5. The USEPA has not established control criteria for field duplicate samples; therefore, sample data are not qualified on the basis of field duplicate imprecision.

OVERALL ASSESSMENT

The trip blank results associated with lab report FA52791 were determined to be unusable due to holding time exceedance. Additionally, select VOCs and dissolved gases in samples MW-4-032118, MW-9-032018, MW-13-032118, MW-22-032118, and MW-23-032118 were rejected due to receipt temperature exceedance. With exception of the rejected results, 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 Preservation Requirements
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Sample ID	Analysis Method	Affected Analytes	Preservation Condition	Limits	ERM Qualifier																
FA52791	All	8260B	Non-COC VOCs ¹	Cooler temps = 14.8°C and 16.6°C	0 - 6°C	J-/R																
	MW-1-032018		COC VOCs ²			J-/UJ																
	MW-2-032118						J-/UJ															
	MW-3-031918							J-/UJ														
	MW-5-032018								J-/UJ													
	MW-6-032018									J-/UJ												
	MW-7-032118										J-/UJ											
	MW-8-032018											J-/UJ										
	MW-10-032118												J-/UJ									
	DUP-1-032018													J-/UJ								
	MW-12-032018														J-/UJ							
	MW-13-032118															J-/UJ						
	MW-14-032018																J-/UJ					
	MW-16-032118																	J-/UJ				
	MW-17-031819																		J-/UJ			
	MW-18-032118																			J-/UJ		
	MW-19-031918																				J-/UJ	
	DUP-2-031918																					J-/UJ
	MW-20-032018																					
	MW-21-032018		J-/UJ																			
MW-22-032118	J-/UJ																					
MW-23-032018		J-/UJ																				
MW-27-032018				J-/UJ																		
MW-28-031918					J-/UJ																	
MW-4-032118						Toluene	R															
						Vinyl chloride	J-/UJ															
						Remaining COC VOCs ²	R															
						Benzene	J-/UJ															
MW-9-032018						Remaining COC VOCs ²																

Table 1
Samples with Exceeded Preservation Requirements
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Sample ID	Analysis Method	Affected Analytes	Preservation Condition	Limits	ERM Qualifier
FA52791	MW-17-031918 MW-1-032018 MW-5-032018 MW-21-032018 MW-12-032018 DUP-1-032018 MW-7-032118 MW-18-032118	RSK175	All	Cooler temps = 14.8°C and 16.6°C	0 - 6°C	J-/UJ
	MW-4-032118 MW-22-032118 MW-23-032118 MW-13-032118	RSK175				J-/R
FA57673	MW-22-091118	8260B	Acetone Methyl chloride	> 6mm headspace	No headspace	J
			Remaining Non-COC VOCs ¹			J-/R
			COC VOCs ²			J-/UJ
		RSK 175	Methane			J-

Lab reports reviewed: FA52791, FA57558, and FA57673

Key:

1 = Non-COC VOCs are 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dichlorobenzene, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,3-Dichloropropane, 1,4-Dichlorobenzene, 2,2-Dichloropropane, 4-Chlorotoluene, 4-Isopropyltoluene, 4-Methyl-2-pentanone, Acetone, Bromobenzene, Bromodichloromethane, Bromoform, Carbon tetrachloride, Chlorobenzene, cis-1,3-Dichloropropene, Dibromochloromethane, Dibromomethane, Dichlorodifluoromethane, Ethylene dibromide, Isopropylbenzene, Methyl bromide, Methyl chloride, n-Butylbenzene, n-Hexane, n-Propylbenzene, o-Chlorotoluene, sec-Butylbenzene, Styrene, tert-Butylbenzene, trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, and Trichlorofluoromethane

2 = COC VOCs are 1,1,1-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene, 1,2,4-Trimethylbenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, Benzene, Chloroethane, Chloroform, cis-1,2-Dichloroethene, Ethylbenzene, m,p-Xylenes, Methylene chloride, o-Xylene, Tetrachloroethene, Toluene, Trichloroethene, and Vinyl chloride

J = Estimated detected result

J- = Detected results are estimated with a low bias

J-/R = Detected results are estimated, biased low; nondetected results are rejected

J-/UJ = Detected results are estimated with low bias; nondetected results are estimated at the report limit

mm = Millimeters

R = Result is rejected

Table 2
Samples with Exceeded Holding Times
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Sample ID	Method	Extraction Holding Time	Time Exceeded	Analysis Holding Time	Time Exceeded	ERM Qualifier
FA52791	TRIP BLANK	8260B	--	--	14 days	2 days	R

Lab reports reviewed: FA52791, FA57558, and FA57673

Key:

R = Result is rejected

Table 3
Blank and Associated Suspect Sample Detections
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Blank ID	Associated Samples	Detected Compound	Reported Concentration	Report Limit	Units	ERM Qualifier
FA52791	VE1938-MB	--	Methyl Chloride	0.21	0.50	µg/L	--
FA57673	TRIP BLANK	See below	Acetone	113	10	µg/L	--
		See below	Methyl Chloride	13.2	0.50	µg/L	--
	--	MW-3-091118	Acetone	229	10	µg/L	J+
	--	MW-5-091118		131	50	µg/L	J+
	--	MW-7-091118		180	10	µg/L	J+
	--	MW-12-091118		94.3	100	µg/L	100 U
	--	DUP-1-091118		110	100	µg/L	110 U
	--	MW-22-091118		196	10	µg/L	J
	--	MW-10-091218		189	10	µg/L	J+
	--	MW-17-091218		109	10	µg/L	109 U
	--	MW-18-091218		218	10	µg/L	J+
	--	DUP-2-091218		193	10	µg/L	J+
	--	MW-19-091218		185	10	µg/L	J+
	--	MW-20-091218		140	10	µg/L	J+
	--	MW-23-091218		144	10	µg/L	J+
	--	MW-27-091218		143	10	µg/L	J+
	--	MW-28-091218		136	10	µg/L	J+
	--	MW-4-091318		101	10	µg/L	101 U
	--	MW-16-091318		129	10	µg/L	J+
	--	MW-2-091318		84.6	10	µg/L	84.6 U
	--	MW-14-091318		114	10	µg/L	J+
--	MW-1-091318	140		10	µg/L	J+	
--	MW-6-091318	120		10	µg/L	J+	
--	MW-9-091318	123	10	µg/L	J+		
--	MW-8-091318	130	10	µg/L	J+		

Table 3
Blank and Associated Suspect Sample Detections
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Blank ID	Associated Samples	Detected Compound	Reported Concentration	Report Limit	Units	ERM Qualifier
FA57673	--	MW-3-091118	Methyl Chloride	21.7	0.50	µg/L	J+
	--	MW-5-091118		15.7	2.5	µg/L	J+
	--	MW-7-091118		14.5	0.50	µg/L	J+
	--	MW-12-091118		13.6	5.0	µg/L	J+
	--	DUP-1-091118		19.7	5.0	µg/L	J+
	--	MW-21-091118		15.5	25	µg/L	25 U
	--	MW-22-091118		18.7	0.50	µg/L	J
	--	MW-10-091218		14.0	0.50	µg/L	J+
	--	MW-17-091218		13.3	0.50	µg/L	J+
	--	MW-18-091218		19.9	0.50	µg/L	J+
	--	DUP-2-091218		9.2	0.50	µg/L	9.2 U
	--	MW-19-091218		11.9	0.50	µg/L	11.9 U
	--	MW-20-091218		10.8	0.50	µg/L	10.8 U
	--	MW-23-091218		14.2	0.50	µg/L	J+
	--	MW-27-091218		16.8	0.50	µg/L	J+
	--	MW-28-091218		17.9	0.50	µg/L	J+
	--	MW-4-091318		10.6	0.50	µg/L	10.6 U
	--	MW-16-091318		16.5	0.50	µg/L	J+
	--	MW-2-091318		8.2	0.50	µg/L	8.2 U
	--	MW-14-091318		11.6	0.50	µg/L	11.6 U
--	MW-1-091318	13.8	0.50	µg/L	J+		
--	MW-6-091318	14.9	0.50	µg/L	J+		
--	MW-9-091318	17.9	0.50	µg/L	J+		
--	MW-8-091318	27.2	0.50	µg/L	J+		

Lab reports reviewed: FA52791, FA57558, and FA57673

Key:

J = Estimated detected result

J+ = Detected results are estimated with a high bias

U = Nondetected

µg/L = Micrograms per liter

Table 4
Spike Recoveries Outside of Acceptable Limits
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
LCS/LCSD										
FA57558	Positive Control Low Concentration Genomic DNA (CSLF-0917)	--	BAV1 VC reductase	47	50	--	--	--	--	--
MS/MSD										
FA52791	MW-21-032018 MS/MSD	MW-21-032018	Bromoform	60/74	66-123	21	21	--	--	--
			Dibromochloromethane	76/81	78-122	6	19	--	--	--
	MW-4-032118 MS/MSD	MW-4-032118	Bromodichloromethane	86/2	79-123	193	19	--	--	--
			Bromoform	59/63	66-123	7	21	ND	µg/L	UJ
			Chlorobenzene	82/78	82-124	5	14	--	--	--
			Dibromochloromethane	73/74	78-122	1	19	ND	µg/L	UJ
			cis-1,3-Dichloropropene	69/68	75-118	1	23	ND	µg/L	UJ
			trans-1,3-Dichloropropene	74/71	80-120	4	22	ND	µg/L	UJ
			n-Propylbenzene	81/81	82-133	0	15	14.9	µg/L	J-
			Styrene	73/67	78-119	9	23	ND	µg/L	UJ
Methane	49	62-139	--	--	4X	--	--			

Table 4
Spike Recoveries Outside of Acceptable Limits
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
FA57673	MW-5-091118 MS/MSD	MW-5-091118	Bromoform	60/66	66-123	9	21	--	--	--
			Dibromochloromethane	73/77	78-122	6	19	ND	µg/L	UJ
			cis-1,3-Dichloropropene	72/72	75-118	1	23	ND	µg/L	UJ
			Tetrachloroethylene	81/75	76-135	2	16	--	--	--
	MW-4-091318 MS/MSD	MW-4-091318	Dichlorodifluoromethane	88/113	42-167	25	16	--	--	--
			cis-1,3-Dichloropropene	70/69	75-118	1	23	ND	µg/L	UJ
			trans-1,3-Dichloropropene	76/77	80-120	1	22	ND	µg/L	UJ
			Methyl Bromide	90/110	59-143	20	19	--	--	--
			Methyl Chloride	133/81	50-159	24	19	--	--	--
			Styrene	42/38	78-119	10	23	ND	µg/L	UJ
			1,2,4-Trimethylbenzene	73/70	79-120	4	18	0.17	µg/L	J-
			1,3,5-Trimethylbenzene	71/68	79-120	4	19	ND	µg/L	UJ
			Vinyl Chloride	96/122	69-159	23	18	--	--	--
			Methane	7	62-139	--	--	4X	--	--
	Batch MS/MSD	--	Total Organic Carbon	112	90-110	--	--	--	--	--

Lab reports reviewed: FA52791, FA57558, and FA57673

Key:

- 4X = The unspiked sample result was greater than four times the spike concentration
- Batch = Spike sample was prepared using non-client sample
- J- = Estimated detection with low bias
- LCS/LCSD = Laboratory control sample/laboratory control sample duplicate
- MS/MSD - Matrix spike/matrix spike duplicate
- RPD = Relative percent difference
- UJ = Nondetected, estimated report limit
- µg/L = Micrograms per liter

Table 5
Field Duplicate Results and Calculated Relative Percent Differences
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Primary/ Duplicate Sample ID	Compound	Concentration		Report Limit		Units	RPD
			Sample	Duplicate	Sample	Duplicate		
FA52791	MW-12-032018/ DUP-1-032018	1,1-Dichloroethylene	0.16	0.16	0.50	0.50	µg/L	0.0
		cis-1,2-Dichloroethylene	110	84.0	2.5	2.5	µg/L	27
		trans-1,2-Dichloroethylene	0.44	0.47	0.50	0.50	µg/L	6.6
		Tetrachloroethylene	95.4	89.0	2.5	2.5	µg/L	6.9
		Trichloroethylene	18.4	18.1	0.50	0.50	µg/L	1.6
		Vinyl Chloride	3.6	3.1	0.50	0.50	µg/L	15
		Methane	117	112	0.50	0.50	µg/L	4.4
		Ethane	0.88	0.85	1.0	1.0	µg/L	3.5
	MW-19-031918/ DUP-2-031918	Benzene	1.1	0.92	0.50	0.50	µg/L	18
		sec-Butylbenzene	0.22	0.22	0.50	0.50	µg/L	0.0
		Chloroethane	3.4	3.0	0.50	0.50	µg/L	13
		1,1-Dichloroethane	0.28	0.25	0.50	0.50	µg/L	11
		Ethylbenzene	22.5	19.7	0.50	0.50	µg/L	13
		Hexane	6.8	5.7	1.0	1.0	µg/L	18
		Isopropylbenzene	3.0	2.6	0.50	0.50	µg/L	14
		p-Isopropyltoluene	0.19	0.17	0.50	0.50	µg/L	11
		n-Propylbenzene	3.5	3.0	0.50	0.50	µg/L	15
		Toluene	2.2	1.9	0.50	0.50	µg/L	15
		1,2,4-Trimethylbenzene	20.5	17.3	0.50	0.50	µg/L	17
		1,3,5-Trimethylbenzene	1.3	1.00	0.50	0.50	µg/L	26
		Vinyl Chloride	0.21	0.21	0.50	0.50	µg/L	0.0
		m,p-Xylene	11.1	9.4	1.0	1.0	µg/L	17
		o-Xylene	8.0	6.9	0.50	0.50	µg/L	15

Table 5
Field Duplicate Results and Calculated Relative Percent Differences
2018 Groundwater Samples
Univar USA, Inc.
Kent, Washington

Lab Package	Primary/ Duplicate Sample ID	Compound	Concentration		Report Limit		Units	RPD
			Sample	Duplicate	Sample	Duplicate		
FA57673	MW-12-091118/ DUP-1-091118	Acetone	94.3	110	100	100	µg/L	15
		cis-1,2-Dichloroethylene	395	416	5.0	5.0	µg/L	5.2
		trans-1,2-Dichloroethylene	1.9	2.1	5.0	5.0	µg/L	10
		Methyl Chloride	13.6	19.7	5.0	5.0	µg/L	37
		Tetrachloroethylene	18.6	21.2	5.0	5.0	µg/L	13
		Trichloroethylene	14.7	15.6	5.0	5.0	µg/L	5.9
		Vinyl Chloride	26.3	28.7	5.0	5.0	µg/L	8.7
		Methane	286	342	0.50	0.50	µg/L	18
	Ethane	3.4	3.4	1.0	1.0	µg/L	0.0	
	MW-19-091218/ DUP-2-091218	Acetone	185	193	10	10	µg/L	4.2
		Benzene	0.78	0.76	0.50	0.50	µg/L	2.6
		Chloroethane	2.5	2.5	0.50	0.50	µg/L	0.0
		1,1-Dichloroethane	0.16	0.18	0.50	0.50	µg/L	12
		cis-1,2-Dichloroethylene	0.15	0.15	0.50	0.50	µg/L	0.0
		Ethylbenzene	12.3	11.5	0.50	0.50	µg/L	6.7
		Hexane	1.1	0.98	1.0	1.0	µg/L	12
		Isopropylbenzene	1.3	1.2	0.50	0.50	µg/L	8.0
		Methyl Chloride	11.9	9.2	0.50	0.50	µg/L	26
		n-Propylbenzene	1.1	1.0	0.50	0.50	µg/L	9.5
		Toluene	0.76	0.72	0.50	0.50	µg/L	5.4
		1,2,4-Trimethylbenzene	7.6	7.0	0.50	0.50	µg/L	8.2
		1,3,5-Trimethylbenzene	0.22	0.21	0.50	0.50	µg/L	4.7
		Vinyl Chloride	0.27	0.28	0.50	0.50	µg/L	3.6
		m,p-Xylene	1.6	1.5	1.0	1.0	µg/L	6.5
		o-Xylene	3.0	2.7	0.50	0.50	µg/L	11

Lab reports reviewed: FA52791, FA57558, and FA57673

Key:

RPD = Relative percent difference

µg/L = Micrograms per liter

APPENDIX D HISTORICAL DATA TABLES

March 2019

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific		Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)			
MW-1	04/17/95	6.37	2,310	11.0	NM	NM	NM
	09/04/96	6.49	1,620	18.5	227.0	1.20	NM
	12/10/96	6.37	1,653	9.8	427.0	1.18	NM
	03/04/97	6.65	1,359	11.0	37.1	1.70	NM
	06/27/97	6.62	1,195	15.0	> 1,000	1.00	NM
	09/04/97	6.78	837	18.0	40.0	1.71	NM
	12/04/97	6.23	1,076	12.0	16.2	8.85	NM
	03/06/98	6.83	1,284	10.0	16.0	2.15	NM
	06/18/98	6.85	1,045	15.5	60.7	2.60	NM
	09/29/98	6.58	851	18.5	45.8	1.27	NM
	12/14/98	6.50	973	13.1	16.4	1.14	-147
	03/03/99	6.70	849	10.0	55.0	3.02	-148
	06/17/99	6.51	790	14.0	6.7	1.30	-176
	09/16/99	6.60	905	17.0	14.1	0.10	-189
	12/08/99	7.12	408	12.9	9.8	0.30	-158
	03/07/00	7.51	599	10.0	5.9	0.20	-126
	06/21/00	7.10	505	16.0	4.6	1.20	7
	09/12/00	6.80	790	14.5	NM	2.60	-69
	12/07/00	7.04	830	12.0	6.9	1.10	-60
	03/15/01	7.06	999	10.0	4.9	2.00	-48
	07/12/01	7.03	925	15.6	7.8	2.65	-141
	09/24/01	6.54	NM	20.2	4.3	1.08	NM
	01/02/02	7.19	1,150	11.8	NM	NM	NM
	03/28/02	7.26	351	10.2	NM	0.20	NM
	06/11/02	7.34	613	15.2	NM	0.22	NM
	09/18/02	6.93	771	18.6	NM	0.04	-200
	12/17/02	7.01	601	12.6	3.5	0.19	NM
	03/20/03	7.19	517	10.9	5.8	0.13	-111
	05/14/03	7.00	493	12.9	NM	0.74	-75
	06/11/03	7.02	405	15.0	8.0	0.23	NM
	09/11/03	7.03	474	18.7	4.0	0.21	NM
	12/04/03	7.00	451	13.7	4.2	0.23	-51
	03/16/04	6.71	391	11.0	4.6	0.32	-63
	09/22/04	6.49	500	16.0	NM	0.21	4
	04/05/05	6.75	465	12.3	NM	1.10	5
	09/21/05	7.26	624	17.8	NM	0.26	5
	03/15/06	6.88	550	11.0	18.8	< 0.01	NM
	09/14/06	6.82	630	16.8	NM	0.22	56
	04/04/07	7.16	737	11.6	5.7	< 0.01	-64
	09/25/07	6.80	687	15.7	6.2	0.18	-240
05/02/08	6.87	883	12.3	NM	0.19	-66	
09/30/08	6.93	843	16.2	NM	7.57 ^a	-101	

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific		Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)			
	03/25/09	7.11	843	9.4	NM	0.30	-45
	09/30/09	6.96	346	18.1	NM	0.08	3
	03/29/10	6.97	842	11.4	NM	0.30	-8
	09/30/10	7.26	937	17.2	NM	0.24	-10
MW-2	04/17/95	6.30	1,000	13.0	NM	NM	NM
	09/04/96	6.11	964	14.8	8.5	1.00	NM
	12/10/96	6.27	704	13.1	1000.0	0.92	NM
	03/04/97	6.20	754	13.0	9.4	1.77	NM
	06/27/97	6.54	667	14.0	322.0	3.00	NM
	09/04/97	6.41	638	15.0	332.0	1.17	NM
	12/04/97	5.25	612	14.0	74.4	1.80	NM
	03/06/98	6.48	826	12.0	66.9	1.12	NM
	06/18/98	6.60	899	14.0	334.0	3.50	NM
	09/29/98	6.35	705	17.0	16.6	16.6 ^a	NM
	12/14/98	6.20	632	15.1	NM	1.14	-84
	03/02/99	6.29	560	12.0	59.4	1.30	-91.9
	06/16/99	6.02	663	13.0	NM	0.90	-76
	09/16/99	6.39	734	13.0	11.5	< 0.1	-475
	12/08/99	6.74	421	14.8	15.5	1.30	-121
	03/07/00	6.40	491	12.0	18.9	0.40	-70
	06/21/00	6.55	320	15.0	6.1	1.51	8
	09/12/00	6.10	667	13.0	10.9	3.90	-57
	12/07/00	6.21	574	13.0	6.1	1.90	-18
	03/15/01	6.60	556	12.0	39.0	0.60	-49
	07/12/01	6.53	652	15.1	76.7	2.54	-116
	09/24/01	6.69	NM	19.5	5.0	1.10	NM
	01/03/02	5.81	531	13.7	12.3	0.00	NM
	03/28/02	6.28	229	12.6	6.2	0.63	NM
	06/11/02	6.72	526	14.2	7.1	0.43	NM
	09/18/02	6.63	597	17.9	NM	0.08	-11
	12/16/02	6.04	480	15.2	5.1	0.34	NM
	03/20/03	6.63	413	12.5	28.9	0.12	-57
	06/11/03	6.59	306	13.9	10.2	0.31	NM
	09/10/03	6.33	416	15.9	4.2	0.34	NM
	12/05/03	6.58	293	14.3	5.3	0.31	-20
	03/16/04	6.54	306	12.8	25.4	0.30	-23
09/24/04	6.46	376	17.0	NM	0.37	30	
04/05/05	6.39	438	12.5	NM	1.04	24	
09/21/05	6.71	512	17.1	NM	0.26	-3	
03/15/06	6.57	403	12.4	52.8	< 0.01	NM	
09/13/06	6.33	472	15.5	NM	0.15	68	
04/03/07	6.64	421	13.9	64.8	0.11	116	
09/26/07	6.44	608	15.8	42.3	0.21	-178	

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific		Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)			
	05/02/08	6.29	567	12.2	NM	0.25	-23
	09/29/08	6.43	607	19.6	NM	0.20	-121
	03/26/09	5.99	543	9.6	NM	0.31	-9
	09/29/09	6.44	55 ^a	15.6	NM	8.1 ^a	32
	03/26/10	6.49	390	12.6	NM	0.82	7
	09/30/10	6.68	556	16.4	NM	0.28	27
MW-3	04/17/95	6.40	1,580	12.0	NM	NM	NM
	09/04/96	6.33	1,357	14.9	5.1	1.60	NM
	12/11/96	6.48	979	12.4	14.7	1.00	NM
	03/04/97	6.44	1,152	13.0	9.4	1.69	NM
	06/27/97	6.64	937	13.0	423.0	1.00	NM
	09/04/97	6.47	765	15.0	132.0	1.81	NM
	12/04/97	6.20	844	13.5	7.5	1.29	NM
	03/06/98	6.53	1,255	12.0	3.4	1.90	NM
	06/18/98	6.55	1,225	13.0	5.3	0.90	NM
	09/29/98	6.41	947	14.0	7.9	1.22	NM
	12/14/98	6.25	1,054	13.5	0.9	1.14	-79
	03/03/99	6.45	765	12.0	4.7	NM	-105
	06/16/99	6.31	837	12.0	NM	1.00	-120
	09/17/99	6.48	964	14.0	4.2	0.10	-129
	12/08/99	6.80	137	13.5	6.7	1.50	-63
	03/07/00	6.62	766	12.0	8.0	0.80	-75
	06/21/00	6.92	452	14.0	7.5	1.25	-81
	09/12/00	6.70	836	10.7	NM	1.40	-36
	12/07/00	6.09	732	12.0	2.7	1.80	-62
	03/15/01	6.80	809	11.0	7.5	0.90	NM
	07/12/01	6.63	746	13.1	8.2	1.36	-42
	09/24/01	6.49	NM	16.9	11.8	0.16	NM
	01/03/02	6.52	955	13.1	2.0	0.00	NM
	03/28/02	6.74	330	12.3	5.8	0.19	NM
	06/11/02	6.89	786	12.8	14.3	0.38	NM
	09/17/02	6.80	773	15.2	NM	0.10	-135
	12/17/02	6.44	821	13.0	7.5	0.40	NM
	03/20/03	6.85	521	12.1	3.3	0.12	-73
	06/11/03	7.17	411	13.8	3.6	0.24	NM
	09/11/03	6.72	395	16.1	2.5	0.24	NM
	12/04/03	6.69	388	13.2	2.2	0.68	94
	03/15/04	6.61	425	12.3	2.1	0.32	-81
09/24/04	6.56	448	15.6	NM	NM	2	
04/05/05	6.95	726	13.0	NM	0.33	-4	
09/21/05	7.11	560	15.6	NM	0.42	-6	
03/14/06	7.14	519	11.9	1.0	< 0.01	NM	
09/12/06	6.50	606	15.8	NM	0.19	-21	

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)			
	04/04/07	6.40	515	12.1	13.3	0.06	-1	
	09/25/07	6.43	540	14.2	6.8	0.40	-183	
	05/01/08	6.63	688	11.9	NM	0.17	-74	
	10/01/08	6.77	662	17.2	NM	0.04	-118	
	03/24/09	6.64	727	11.3	NM	0.26	-81	
	09/29/09	6.82	220	17.0	NM	0.37	10	
	03/30/10	6.85	601	11.6	NM	0.99	-5	
	09/28/10	6.98	647	15.6	NM	0.28	8	
	MW-4	09/04/96	6.29	1,452	17.9	98.5	1.50	NM
		12/10/96	6.29	1,690	11.9	427.0	0.83	NM
03/04/97		6.75	1,868	10.0	2.6	2.82	NM	
06/27/97		6.78	1,431	11.0	55.0	1.00	NM	
09/04/97		6.82	1,120	19.0	51.0	1.40	NM	
12/04/97		6.33	1,578	13.0	6.5	1.80	NM	
03/06/98		6.88	1,847	10.0	3.6	1.92	NM	
06/18/98		6.79	1,862	15.0	4.5	2.20	NM	
09/29/98		6.63	1,288	18.0	10.8	1.26	NM	
12/14/98		6.18	1,560	13.9	2.6	1.16	-150	
03/03/99		6.69	1,288	9.0	9.6	NM	155	
06/17/99		6.69	NM	13.0	1.9	0.10	-186	
09/17/99		6.57	1,623	17.0	2.5	1.90	-178	
12/08/99		6.94	394	13.6	4.3	0.50	-109	
03/07/00		6.92	1,344	12.0	5.8	1.10	-68	
06/21/00		6.90	992	15.0	2.4	1.29	-67	
09/12/00		6.58	1,450	14.0	1.6	2.20	-86	
12/07/00		6.60	1,210	13.0	3.6	2.40	15	
03/15/01		6.60	1,361	10.0	5.2	1.50	-24	
07/12/01		6.70	1,594	15.2	6.2	2.73	-108	
09/25/01		6.17	NM	17.7	47.9	1.04	NM	
01/02/02		6.73	1,840	11.9	74.0	NM	NM	
03/28/02		6.95	655	10.5	24.7	0.39	NM	
06/11/02		6.97	817	13.3	NM	0.17	NM	
09/18/02		6.81	1,452	18.1	NM	0.04	-106	
12/17/02		6.54	1,011	12.4	2.7	0.34	NM	
03/20/03		6.74	877	10.8	3.6	0.07	-78	
05/14/03		6.70	864	12.2	NM	0.74	-45	
06/11/03		6.89	776	13.9	4.0	0.21	NM	
09/11/03		6.60	756	17.1	3.7	0.25	NM	
12/04/03	6.68	437	13.1	4.2	0.22	-52		
03/15/04	6.60	518	10.6	1.9	0.46	-58		
09/24/04	6.45	596	15.4	NM	0.62	36		
04/04/05	6.71	945	11.6	NM	1.20	58		
09/21/05	6.56	881	17.5	NM	0.71	-1		

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)			
	03/15/06	6.82	907	10.1	8.3	0.01	NM	
	09/14/06	6.49	907	15.5	NM	0.33	98	
	04/04/07	6.85	891	11.2	5.9	< 0.01	-68	
	09/26/07	6.51	992	16.7	4.2	< 0.01	-210	
	05/02/08	6.46	1,076	11.1	NM	0.19	-39	
	10/01/08	6.48	1,073	15.8	NM	0.26	-68	
	03/25/09	6.81	1,256	9.5	NM	0.30	-45	
	09/30/09	6.59	369	17.9	NM	0.11	24	
	03/29/10	6.71	1,094	9.9	NM	0.58	-8	
	10/01/10	6.89	1,054	16.7	NM	0.55	10	
	MW-5	09/04/96	6.23	422	15.9	21.7	2.10	NM
		12/10/96	6.15	463	12.7	984.0	1.53	NM
		03/04/97	6.22	506	13.0	8.9	2.48	NM
		06/27/97	6.46	329	15.0	245.0	2.00	NM
09/04/97		6.79	285	16.0	51.0	1.39	NM	
12/04/97		5.90	367	13.0	3.6	1.35	NM	
03/06/98		6.38	425	12.0	4.9	1.97	NM	
06/18/98		6.36	439	14.0	8.5	2.20	NM	
09/29/98		6.29	326	17.0	8.7	1.54	NM	
12/15/98		5.94	394	14.8	3.6	1.72	111	
03/02/99		5.87	301	12.0	8.9	1.47	237	
06/16/99		5.99	375	12.0	< 10	0.20	161	
09/16/99		6.19	449	14.0	2.9	0.40	-159	
12/08/99		6.59	238	14.9	5.1	0.20	72	
03/07/00		6.34	278	12.0	7.9	1.10	67	
06/21/00		6.45	185	14.0	1.6	1.68	-8	
09/12/00		7.24	349	12.4	1.9	1.20	-18	
12/07/00		6.15	314	13.0	14.4	2.30	-45	
03/15/01		6.55	371	11.0	9.1	3.50	-61	
07/09/01		6.32	352	14.2	4.6	1.01	111	
09/24/01		6.16	256	18.1	63.7	6.17	NM	
01/02/02		6.09	468	15.3	NM	NM	NM	
03/27/02		6.51	5,000	9.7	5.1	3.84	NM	
06/11/02		6.29	439	13.9	2.4	1.05	NM	
09/18/02		6.28	429	15.6	NM	0.25	-4	
12/16/02		6.18	341	14.2	2.7	0.48	NM	
03/17/03		6.29	350	13.4	3.4	0.36	79	
05/14/03		6.42	286	12.3	NM	0.69	34	
06/10/03		6.35	218	13.8	11.6	0.30	NM	
09/11/03		6.32	267	16.5	1.4	0.37	NM	
12/05/03		6.40	219	13.8	7.1	0.34	281	
03/16/04		6.40	219	12.7	7.1	0.77	73	
09/22/04	6.27	337	13.9	NM	0.66	60		

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Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific		Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)			
	04/04/05	6.41	290	13.1	NM	1.55	100
	09/20/05	6.59	324	18.5	NM	0.36	11
	03/14/06	6.45	312	12.4	12.1	0.61	NM
	09/13/06	6.34	296	15.7	NM	0.32	124
	04/05/07	6.47	327	12.2	7.7	0.73	128
	09/26/07	6.22	351	15.1	6.2	0.58	92
	05/01/08	6.10	436	12.9	NM	0.84	74
	09/30/08	6.17	397	15.7	NM	0.33	116
	03/25/09	6.29	463	10.6	NM	0.57	106
	09/29/09	6.36	127	16.5	NM	1.73	37
	04/01/10	6.39	287	12.5	16.0	0.49	27
	04/09/10	NM	340	NM	3.0	NM	NM
	04/16/10	6.38	342	13.4	8.0	0.70	26
	05/06/10	6.52	297	12.7	6.0	2.35	23
	06/09/10	6.44	283	14.1	14.0	1.61	24
	09/28/10	6.55	262	18.4	NM	1.06	26
MW-6	09/04/96	6.30	1,930	14.5	23.0	4.80	NM
	12/10/96	6.17	1,909	12.0	> 1,000	1.02	NM
	03/04/97	6.32	1,683	11.0	6.1	3.44	NM
	06/27/97	6.41	1,469	14.0	73.0	1.00	NM
	09/04/97	6.30	1,157	15.0	98.0	1.15	NM
	12/04/97	5.92	1,286	14.0	5.7	1.05	NM
	03/06/98	6.33	1,620	11.0	5.7	1.10	NM
	06/18/98	6.33	1,804	14.0	7.0	1.80	NM
	09/29/98	6.25	1,440	17.5	7.9	1.91	NM
	12/15/98	5.93	1,390	14.4	NM	1.26	-89
	03/02/99	6.03	1,107	11.0	7.7	1.38	-85
	06/16/99	6.15	1,441	12.0	< 10	< 0.1	-117
	09/16/99	6.27	1,621	13.0	9.1	0.60	-476
	12/08/99	6.63	315	13.7	3.7	0.70	-91
	03/07/00	6.36	1,147	11.0	5.5	0.60	-54
	06/21/00	6.66	810	14.0	1.0	1.75	-37
	09/12/00	6.50	1,378	12.0	NM	2.30	-43
	12/07/00	5.79	1,270	14.0	3.6	1.60	-15
	03/15/01	6.35	1,079	11.0	16.1	0.40	-31
	07/12/01	6.39	1,210	14.1	7.6	1.07	-44
	09/25/01	6.63	NM	16.4	18.9	1.02	NM
	01/03/02	6.19	1,120	12.9	1.5	0.00	NM
	03/27/02	6.32	NM	9.0	NM	0.45	NM
06/11/02	6.78	891	13.5	NM	0.34	NM	
09/18/02	6.49	1,312	16.7	NM	0.16	-157	
12/16/02	6.25	1,179	14.2	8.8	0.24	NM	

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)			
	03/20/03	6.53	721	12.1	5.3	0.17	-70	
	06/11/03	6.74	387	14.1	21.3	0.33	NM	
	09/10/03	6.44	601	16.9	4.2	0.31	NM	
	12/04/03	6.60	393	14.3	6.2	0.26	-12	
	03/16/04	6.75	286	12.9	6.9	0.25	-37	
	09/23/04	6.36	635	16.3	NM	0.55	13	
	04/05/05	6.61	541	13.3	NM	0.61	-17	
	09/21/05	6.47	1,045	15.4	NM	0.66	40	
	03/14/06	6.70	445	12.7	12.6	< 0.01	NM	
	09/13/06	6.39	868	15.4	NM	0.25	64	
	04/05/07	6.50	377	12.6	19.0	0.07	23	
	09/26/07	6.39	1,010	15.0	12.2	0.06	-190	
	05/02/08	6.39	578	11.9	NM	0.19	-26	
	09/30/08	6.26	1,011	14.9	NM	0.14	-85	
	03/26/09	6.84	573	11.9	NM	0.41	6	
	09/29/09	6.30	99 ^a	14.3	NM	6.9 ^a	39	
	03/30/10	6.53	533	11.5	NM	0.61	14	
	09/30/10	6.55	936	15.9	NM	0.35	30	
	MW-7	12/22/97	6.56	550	11.0	139.0	2.15	NM
		03/06/98	6.63	536	12.0	13.4	1.53	NM
06/18/98		6.36	543	14.0	13.0	2.40	NM	
09/29/98		6.38	438	17.0	20.5	1.41	NM	
12/14/98		5.98	409	15.2	3.2	1.23	68	
03/03/99		7.07	288	12.0	5.5	NM	-8.4	
06/17/99		6.07	462	13.0	NM	0.80	1	
09/17/99		6.13	506	16.0	11.4	< 0.1	-72	
12/08/99		6.71	342	15.3	7.6	1.30	-2	
03/07/00		6.44	362	12.0	6.7	0.80	-11	
06/21/00		6.57	241	14.0	0.7	2.04	24	
09/12/00		6.00	493	13.0	12.6	1.40	5	
12/07/00		6.46	505	14.0	31.0	2.60	-39	
03/15/01		6.58	425	12.0	20.2	1.50	NM	
07/12/01		6.45	493	14.1	10.5	1.87	54	
09/25/01		6.48	NM	15.6	2.8	1.12	NM	
01/03/02		6.17	628	13.9	4.1	0.00	NM	
03/28/02		6.37	184	12.3	4.7	2.61	NM	
06/11/02		6.66	383	13.2	5.7	0.70	NM	
09/17/02		6.56	427	16.0	NM	0.15	4	
12/17/02	6.46	351	13.2	2.4	0.32	NM		
03/17/03	6.49	436	13.3	19.7	0.13	27		
06/10/03	6.88	282	13.8	52.1	0.18	NM		
09/10/03	6.27	257	16.0	3.0	0.49	NM		
12/04/03	6.68	239	13.4	4.7	0.29	159		

Table D1
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Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)		
	03/16/04	6.62	268	13.9	7.3	0.84	34
	09/22/04	7.00	469	16.0	NM	0.21	103
	04/04/05	6.71	388	13.0	NM	0.86	40
	09/20/05	6.75	404	18.3	NM	0.68	-11
	03/14/06	7.11	312	12.5	3.7	2.78	NM
	09/13/06	6.33	345	16.0	NM	0.26	115
	04/03/07	6.56	220	12.6	15.2	5.06	222
	09/25/07	6.43	313	17.1	8.7	0.59	44
	05/01/08	6.30	337	13.4	NM	1.40	41
	10/01/08	6.41	389	17.3	NM	0.13	30
	03/24/09	6.12	450	11.3	NM	0.97	94
	09/29/09	6.51	141	15.9	NM	1.83	28
	04/01/10	6.81	255	12.4	NM	1.48	6
	09/28/10	6.71	318	17.4	NM	0.27	17
MW-8	12/22/97	6.37	495	12.0	66.5	4.06	NM
	03/06/98	6.49	758	12.0	70.1	2.72	NM
	06/18/98	6.66	662	13.0	243.0	2.80	NM
	09/29/98	6.33	428	14.5	48.3	1.70	NM
	12/14/98	6.11	413	13.9	13.8	1.83	72
	03/02/99	6.10	442	12.0	90.5	2.11	117
	06/16/99	5.95	534	11.0	< 10	0.10	132
	09/16/99	6.22	588	13.0	10.5	1.80	-205
	12/08/99	6.50	140	13.9	133.0	2.40	55
	03/07/00	6.90	455	12.0	25.3	1.50	38
	06/21/00	6.30	313	14.0	1.2	1.73	37
	09/12/00	6.52	447	11.6	2.6	3.50	52
	12/07/00	6.99	387	14.0	6.5	1.80	-10
	03/15/01	6.45	433	11.0	8.3	2.70	-50
	07/12/01	6.30	427	13.8	5.0	2.03	53
	09/25/01	6.48	NM	14.4	22.0	1.02	NM
	01/03/02	5.64	468	13.4	2.8	0.00	NM
	03/27/02	6.31	NM	8.9	5.1	1.95	NM
	06/11/02	6.41	576	12.9	6.4	0.40	NM
	09/18/02	6.32	415	15.0	NM	0.15	-88
	12/16/02	6.23	294	13.6	11.6	0.35	NM
	03/17/03	6.31	279	12.4	2.4	0.28	87
	05/14/03	6.36	338	13.6	NM	0.83	35
	06/11/03	6.54	249	13.4	3.5	0.54	NM
09/10/03	6.12	249	15.5	1.3	0.70	NM	
12/04/03	6.62	165	13.5	4.7	0.17	153	
03/16/04	6.48	292	12.6	6.1	0.72	47	
09/24/04	6.60	309	16.0	NM	0.18	66	

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)			
	04/05/05	6.48	385	12.9	NM	1.31	-1	
	09/20/05	6.52	349	18.1	NM	0.53	31	
	03/15/06	6.60	433	12.0	26.5	0.42	NM	
	09/13/06	6.41	411	14.9	NM	0.25	52	
	04/05/07	6.32	690	12.4	6.7	0.44	176	
	09/26/07	6.30	506	14.7	10.3	0.50	-1	
	05/01/08	6.07	812	12.8	NM	1.14	94	
	09/30/08	6.25	584	15.2	NM	0.18	60	
	03/26/09	6.70	906	12.3	NM	0.96	90	
	09/29/09	6.27	135	15.3	NM	7.6 ^a	40	
	04/01/10	6.29	949	11.9	NM	0.79	29	
	09/28/10	6.44	1,217	18.1	NM	0.28	32	
	MW-9	07/09/01	6.24	812	13.9	8.2	2.28	-63
		09/25/01	6.33	NM	14.7	52.2	1.06	NM
		01/03/02	6.13	763	13.4	1.4	0.00	NM
		03/27/02	6.37	NM	8.2	NM	0.59	NM
06/11/02		6.61	700	12.8	NM	0.61	NM	
09/17/02		6.41	728	14.7	NM	0.13	-131	
12/16/02		6.24	614	13.7	27.7	0.26	NM	
03/17/03		6.52	460	12.7	18.8	0.08	-47	
06/11/03		6.28	395	13.3	64.7	0.41	NM	
09/10/03		6.12	494	15.1	21.6	0.33	NM	
12/04/03		6.49	351	14.5	16.0	0.18	21	
03/16/04		6.46	269	12.4	5.1	0.44	46	
09/23/04		6.48	488	15.5	NM	0.17	55	
04/05/05		6.53	710	13.2	NM	1.15	-5	
09/20/05		6.25	550	16.7	NM	0.21	24	
03/14/06		6.51	416	12.7	347.0	< 0.01	NM	
09/13/06		6.43	548	14.7	NM	0.18	59	
04/05/07		6.26	438	12.5	110.0	0.01	50	
09/26/07		6.18	596	14.2	89.1	0.35	-166	
05/01/08		6.28	753	13.1	NM	0.24	78	
09/30/08	6.29	707	14.7	NM	0.15	-79		
03/26/09	6.69	649	11.8	NM	0.29	66		
09/29/09	6.38	111	14.9	NM	7.7 ^a	35		
03/30/10	6.58	559	11.9	NM	0.72	17		
09/28/10	6.52	651	17.3	NM	0.24	27		

Table D1
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Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)		
MW-10	07/09/01	6.47	463	14.2	14.2	2.11	72
	09/25/01	6.53	NM	15.6	184.0	0.98	NM
	01/03/02	6.33	460	13.6	3.2	0.00	NM
	03/28/02	6.57	159	12.0	NM	0.32	NM
	06/11/02	6.90	397	13.1	NM	0.22	NM
	09/17/02	6.76	390	15.1	NM	0.10	-97
	12/17/02	6.65	300	13.5	20.2	0.21	NM
	03/20/02	6.82	336	12.9	3.2	0.10	-62
	06/10/03	6.97	222	14.1	15.9	0.18	NM
	09/10/03	6.09	267	16.3	9.0	0.49	NM
	12/04/03	6.61	179	13.4	7.6	0.37	44
	03/16/04	6.51	245	11.7	3.4	0.56	-24
	09/22/04	6.80	282	17.0	NM	0.61	10
	04/05/05	7.68	315	12.1	NM	0.89	-10
	09/20/05	6.62	284	18.1	NM	0.67	1
	03/15/06	6.71	268	11.2	6.7	0.16	NM
	09/12/06	6.59	281	20.3	NM	0.30	-67
	04/03/07	6.95	215	13.7	11.7	< 0.01	46
	09/24/07	6.61	238	16.9	7.7	0.45	-138
	05/01/08	6.56	268	11.8	NM	0.12	-54
10/01/08	6.72	237	15.3	NM	0.11	-62	
03/24/09	6.53	266	11.2	NM	0.27	-36	
09/30/09	6.73	96 ^a	15.7	NM	0.23	13	
03/30/10	6.96	201	11.1	NM	1.33	-8	
09/28/10	6.98	185	17.7	NM	0.20	3	
MW-11	07/09/01	6.69	406	12.8	134.0	0.89	22
	09/24/01	6.28	418	17.5	112.0	6.13	NM
	01/02/02	6.24	431	14.8	NM	NM	NM
	03/27/02	6.58	5,000	9.1	12.0	4.42	NM
	06/11/02	6.35	444	14.2	6.4	2.74	NM
	09/17/02	6.22	530	16.3	NM	0.14	83
	12/16/02	6.00	593	14.0	1.8	0.30	NM
	03/17/03	6.15	539	13.4	4.6	0.16	26
	06/10/03	6.20	321	13.7	8.7	0.35	NM
	09/10/03	6.08	411	15.4	5.0	0.31	NM
	12/05/03	6.25	337	13.5	5.1	0.29	260
	03/16/04	6.36	269	12.7	1.7	0.50	73
	09/22/04	6.44	285	16.6	NM	0.38	85
	04/04/05	6.51	320	13.2	NM	1.84	94
	09/20/05	6.33	352	18.6	NM	0.51	-8
	03/14/06	6.80	345	13.0	41.5	< 0.01	NM
09/13/06	6.22	397	15.2	NM	0.19	138	

Table D1
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Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)		
	04/04/07	5.85	315	12.1	23.5	0.28	208
	09/26/07	6.27	312	14.9	18.3	0.39	85
	05/01/08	6.11	486	13.5	NM	0.46	69
	09/30/08	6.13	703	16.2	NM	0.19	107
	04/01/10	6.40	286	12.0	13.0	0.46	23
	04/09/10	NM	330	NM	3.0	NM	NM
	04/16/10	6.41	326	13.6	21.0	0.12	26
	05/06/10	6.55	285	13.0	13.0	0.30	24
	06/09/10	6.43	278	14.3	13.0	0.65	25
MW-12	07/09/01	6.67	590	14.5	95.2	1.40	37
	09/24/01	6.41	NM	19.2	78.9	1.17	NM
	01/03/02	5.37	1,480	16.2	7.9	NM	NM
	03/27/02	5.59	NM	12.3	15.8	0.43	NM
	06/11/02	6.33	865	14.6	5.4	0.31	NM
	09/17/02	6.29	737	16.8	NM	0.18	-147
	12/16/02	6.14	475	14.7	2.1	0.12	NM
	03/17/03	6.13	620	14.1	47.3	0.21	1
	05/14/03	6.21	383	13.7	NM	0.66	31
	06/10/03	6.30	367	13.8	66.7	0.45	NM
	09/10/03	6.06	419	15.9	27.8	0.35	NM
	12/05/03	6.18	410	13.4	9.2	0.33	40
	03/16/04	6.40	317	12.5	3.4	0.30	60
	09/22/04	6.58	408	16.5	NM	2.00	59
	04/04/05	6.93	416	13.0	NM	1.39	88
	09/20/05	6.70	460	18.4	NM	0.37	-12
	03/14/06	6.91	410	12.8	36.4	0.38	NM
	09/13/06	6.31	390	15.6	NM	0.19	132
	04/04/07	5.82	420	12.5	34.1	0.10	196
	09/26/07	6.42	383	15.3	28.7	0.20	62
	05/01/08	6.07	592	14.0	NM	0.35	71
09/30/08	6.25	511	16.6	NM	0.19	97	
03/26/09	6.32	672	13.3	NM	0.34	9	
09/29/09	6.40	196	16.7	NM	1.55	33	
04/01/10	6.56	347	13.0	NM	0.87	27	
09/28/10	6.52	322	18.6	NM	0.35	26	
MW-13	03/31/03	6.41	506	14.3	76.0	0.22	-37
	05/14/03	6.29	491	13.8	NM	0.84	-53
	06/11/03	6.63	425	14.7	15.5	0.25	NM
	09/11/03	6.60	470	16.8	23.1	0.58	NM
	12/04/03	6.86	379	13.1	5.7	0.28	-11
	03/15/04	6.58	458	12.8	9.7	0.31	-44
	06/10/04	6.55	383	14.4	NM	0.62	-21
	09/23/04	6.38	427	15.6	NM	0.17	18

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Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)		
	04/05/05	7.02	242	12.9	NM	1.43	9
	09/21/05	6.92	367	16.9	NM	0.22	-15
	03/15/06	7.07	301	13.2	4.0	< 0.01	NM
	09/14/06	6.58	490	16.0	NM	0.20	59
	04/04/07	6.76	557	13.6	5.0	0.03	-39
	09/25/07	6.50	617	15.6	4.8	-0.11	-210
	05/02/08	6.29	758	14.0	NM	0.24	-20
	09/30/08	6.36	687	17.1	NM	0.07	-84
	03/25/09	6.33	763	11.7	NM	0.31	-7
	09/30/09	6.47	273	17.0	NM	0.13	30
	03/29/10	6.53	639	12.4	15.0	0.58	18
	04/07/10	NM	720	NM	2.0	NM	NM
	04/16/10	6.67	682	14.2	9.0	0.49	24
	05/06/10	6.56	722	13.9	6.0	0.31	25
	06/09/10	6.52	753	15.7	4.0	0.20	22
	09/30/10	6.58	695	17.2	NM	0.14	17
MW-14	12/04/03	6.80	207	13.5	8.2	0.22	44
	03/16/04	6.52	294	13.6	1.6	0.57	-9
	06/10/04	6.68	274	14.4	NM	0.55	-3
	09/24/04	6.97	343	14.5	NM	0.21	155
	04/05/05	6.84	369	13.8	NM	0.85	21
	09/21/05	6.71	495	15.1	NM	0.56	11
	03/14/06	6.92	341	13.5	4.9	0.05	NM
	09/13/06	6.81	396	15.7	NM	0.23	33
	04/04/07	6.64	393	14.5	0.8	0.21	-32
	09/26/07	6.56	358	14.8	2.2	0.26	-184
	05/02/08	6.28	412	12.7	NM	0.50	-27
	09/30/08	6.41	425	13.9	NM	0.35	-75
	03/23/09	6.23	498	11.4	NM	0.27	-28
	09/29/09	6.58	60 ^a	14.2	NM	6.6 ^a	24
03/30/10	6.58	360	13.2	NM	0.73	15	
09/30/10	6.72	555	17.4	NM	0.34	18	
MW-15	12/04/03	7.00	259	13.2	9.1	0.18	48
	03/16/04	6.92	290	13.4	2.8	0.39	-25
	06/10/04	6.66	297	14.1	NM	0.56	-17
	09/24/04	6.68	311	14.9	NM	0.21	74
	04/05/05	6.79	370	13.8	NM	0.70	15
	09/21/05	6.91	682	16.4	NM	0.56	-9
	03/14/06	6.80	334	13.7	NM	< 0.01	NM
	09/13/06	6.77	367	15.3	NM	0.50	55

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
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Sample Location	Date Collected	pH	Specific		Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	
			Conductance (mS/cm)	Temperature (°C)				
	04/04/07	6.71	396	14.2	1.2	0.06	-39	
	09/26/07	6.51	390	15.4	NM	0.01	-205	
	05/02/08	6.30	491	13.7	NM	0.21	-24	
	09/29/08	6.47	499	18.5	NM	2.86	-97	
	03/26/09	6.66	519	12.0	NM	0.23	-13	
	09/29/09	6.52	59 ^a	15.3	NM	7.7 ^a	25	
	03/30/10	6.61	409	13.3	NM	0.77	14	
	09/30/10	6.57	506	17.0	NM	0.38	19	
	MW-16	12/05/03	6.35	385	12.7	6.1	0.59	19
		03/16/04	6.42	370	12.7	7.2	0.39	-14
		06/10/04	6.36	366	14.4	NM	0.54	-5
		09/23/04	6.50	488	14.0	NM	0.24	27
04/05/05		6.56	645	13.0	NM	1.09	38	
09/21/05		6.48	555	14.6	NM	0.47	21	
03/15/06		6.91	569	12.4	2.1	< 0.01	NM	
09/13/06		6.58	459	14.0	NM	0.19	68	
04/05/07		6.46	659	12.7	1.0	< 0.01	-62	
09/26/07		6.52	621	15.8	1.6	0.43	-202	
05/02/08		6.13	790	12.8	NM	0.18	0	
10/01/08		6.35	820	14.6	NM	0.17	-57	
MW-17	03/25/09	6.09	892	11.5	NM	0.32	-36	
	09/30/09	6.41	254	13.7	NM	0.16	32	
	04/02/10	6.45	691	11.5	NM	0.59	24	
	10/10/10	6.62	801	14.2	NM	0.39	21	
	12/04/03	6.59	384	12.0	5.7	0.51	93	
	03/15/04	6.32	619	12.3	7.1	0.78	-24	
	06/10/04	6.41	489	13.1	NM	0.68	-12	
	09/23/04	6.42	521	13.4	NM	0.01	10	
	04/05/05	6.60	920	12.6	NM	0.97	30	
	09/21/05	6.52	882	13.6	NM	0.31	16	
	03/15/06	6.92	804	11.4	2.7	0.73	NM	
	09/12/06	6.27	908	16.7	NM	0.14	-1	
04/03/07	6.24	766	11.7	1.9	0.65	96		
09/24/07	6.45	922	13.9	2.1	0.40	-175		
05/01/08	6.27	1,286	12.3	NM	0.24	105		
09/29/08	6.46	967	14.9	NM	4.61	-98		
03/24/09	6.12	1,282	11.9	NM	0.42	-22		
09/30/09	6.52	152	12.9	NM	0.31	27		
03/30/10	6.37	667	10.1	NM	1.28	12		
10/01/10	6.68	1,111	14.2	NM	0.31	23		

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)		
MW-18	12/04/03	6.54	308	13.0	8.1	0.33	21
	03/16/04	6.46	363	12.4	19.4	0.36	-14
	06/10/04	6.41	415	13.8	NM	0.66	-3
	09/23/04	6.31	373	15.3	NM	0.01	7
	04/05/05	6.94	463	12.9	NM	0.83	18
	09/20/05	6.84	183	17.3	NM	0.72	21
	03/15/06	6.68	430	12.3	2.5	0.22	NM
	09/12/06	6.07	519	17.0	NM	0.42	NM
	04/03/07	6.50	464	14.5	2.7	< 0.01	48
	09/24/07	6.57	566	15.5	2.1	0.41	-152
	05/01/08	6.32	637	12.6	NM	0.38	-43
	10/01/08	6.46	599	15.6	NM	0.12	-53
	03/24/09	6.20	626	12.3	NM	0.42	-29
	09/30/09	6.53	190	15.0	NM	0.38	26
03/30/10	6.62	494	12.0	NM	1.57	13	
09/28/10	6.68	616	16.6	NM	0.24	21	
MW-19	03/16/04	6.49	403	13.2	12.0	0.38	-23
	06/10/04	6.31	379	14.5	NM	0.89	-15
	09/23/04	6.66	368	15.4	NM	0.26	5
	04/05/05	6.87	571	14.2	NM	0.39	-21
	09/21/05	6.80	636	15.7	NM	0.44	31
	03/15/06	6.78	510	12.6	3.7	0.14	NM
	09/12/06	6.40	563	18.1	NM	0.18	-22
	04/03/07	6.05	505	13.9	3.9	0.21	40
	09/24/07	6.31	317	15.6	3.4	0.41	-218
	05/02/08	6.32	698	13.5	NM	0.23	-32
	10/01/08	6.48	573	18.0	NM	0.10	-83
	03/23/09	6.23	610	12.6	NM	0.34	-71
	09/29/09	6.54	29 ^a	15.3	NM	7.5 ^a	29
	03/30/10	6.33	528	11.9	NM	0.98	14
09/28/10	6.53	722	16.4	NM	0.36	29	
MW-20	07/28/05	7.01	1,053	14.7	10.8	NM	NM
	09/20/05	6.71	957	15.1	NM	0.42	45
	03/15/06	6.82	861	12.7	3.2	< 0.01	NM
	09/12/06	6.32	958	17.1	NM	0.39	-64
	04/05/07	6.54	972	14.1	5.0	< 0.01	-70
	09/26/07	6.34	961	15.1	NM	0.20	-169
	05/02/08	6.27	1,037	13.1	NM	0.21	-42
	09/29/08	6.41	1,130	18.9	NM	2.48	-125
	03/23/09	6.18	1,235	12.8	NM	0.37	-39
	09/30/09	6.58	119 ^a	14.4	NM	0.22	27
03/29/10	6.33	922	13.2	NM	0.48	17	
10/01/10	6.69	1,013	15.8	NM	0.40	21	

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific			Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
			Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)		
MW-21	09/14/06	6.65	624	14.9	NM	0.34	85
	04/04/07	6.68	657	13.3	14.9	< 0.01	-47
	09/25/07	6.58	636	14.7	12.2	0.06	-231
	05/02/08	6.28	746	13.8	NM	0.25	-29
	09/30/08	6.35	788	15.6	NM	0.12	-79
	03/25/09	6.46	687	11.6	NM	0.32	6
	09/30/09	6.46	310	14.6	NM	0.08	30
	03/26/10	6.31	664	13.2	10.0	0.68	19
	04/16/10	6.54	702	13.6	19.0	0.90	22
	05/06/10	6.50	716	13.9	30.0	0.20	29
	06/09/10	6.21	741	15.0	131.0	0.16	38
09/30/10	5.90	965	16.9	NM	0.34	56	
MW-22	09/14/06	6.40	581	14.0	NM	0.62	121
	04/04/07	5.92	525	12.4	8.2	0.04	-40
	09/26/07	6.40	621	15.0	9.2	0.07	-178
	05/02/08	6.11	774	12.7	NM	0.19	-7.4
	10/01/08	6.32	815	13.9	NM	0.19	-74
	03/25/09	6.25	824	11.3	NM	0.26	-26
	09/30/09	6.39	287	14.9	NM	0.09	34
	03/29/10	6.20	665	12.0	NM	0.85	22
09/30/10	6.57	821	17.6	NM	0.56	13	
MW-23	09/13/06	6.07	433	16.2	NM	0.52	122
	04/04/07	6.04	414	12.6	63.9	0.65	185
	09/25/07	6.47	432	15.9	31.2	0.49	1.1
	05/01/08	6.24	552	13.8	NM	0.29	38
	10/01/08	6.40	458	17.7	NM	0.13	46
	03/24/09	6.08	487	11.8	NM	0.41	90
	09/29/09	6.48	170	16.8	NM	0.75	29
	04/01/10	6.57	428	13.0	NM	0.66	16
09/28/10	6.67	495	19.0	NM	0.19	19	
MW-24	03/26/10	6.39	651	13.4	153.0	0.31	17
	04/16/10	6.59	671	14.0	13.0	0.36	21
	05/06/10	6.47	670	15.1	2.0	0.20	28
	06/09/10	6.52	799	15.9	10.0	0.19	24
MW-25	03/29/10	6.56	703	12.2	57.0	0.67	12
	04/07/10	NM	720	NM	2.0	NM	NM
	04/16/10	6.51	687	14.2	2.0	0.22	24
	05/06/10	6.62	744	14.0	2.0	0.31	26
	06/09/10	6.52	896	15.8	7.0	0.27	25

Table D1
Historical Groundwater Field Parameters
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	pH	Specific Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)
MW-26	04/01/10	6.44	269	12.7	34.0	0.74	19
	04/09/10	NM	290	NM	4.0	NM	NM
	04/16/10	6.49	270	13.6	21.0	0.19	23
	05/06/10	6.67	218	12.6	18.0	0.31	28
	06/09/10	6.47	207	14.9	41.7	0.76	28
P-1	09/24/04	6.54	401	15.4	NM	0.24	33
INJ-1	07/09/01	6.39	703	14.2	47.8	1.55	-18
INJ-2	07/09/01	6.45	384	15.1	61.9	1.20	17
	06/11/02	6.49	950	15.6	13.8	0.23	NM
	06/10/03	6.38	381	14.5	10.4	0.25	NM
INJ-3	07/09/01	6.37	407	14.2	30.1	1.51	17
	06/11/02	6.59	1,971	15.1	13.8	0.11	NM
	12/17/02	6.27	417	13.4	12.3	0.11	NM
	06/10/03	6.50	634	14.2	23.8	0.21	NM

Notes: mS/cm - millisiemens per centimeter
°C - degrees Celsius
NTU - Nephelometric turbidity units
mg/L - milligram per liter

mV - millivolts
NM - not measured
^a Likely meter malfunction
^b Anomalous result

Table D-2
 Indicator Hazardous Substances in Groundwater
 Univar USA, Inc.
 Kent, Washington

Sample Location	Date Collected	1,1-DCA	1,1-DCE	1,2,4-TMB	1,2-DCA	1,2-Dichloropropane	Benzene	Chloroethane	Chloroform	cis-1,2-DCE	Ethylbenzene	Methylene Chloride	PCE	1,1,1-TCA	TCE	Toluene	Total Xylenes	Vinyl Chloride	
Solubility in Water:	Final Cleanup Levels	5,100,000	3,350,000	LNAPL	8,690,000	0.64	0.8	LNAPL	8,200,000	3,500,000	LNAPL	20,000,000	200,000	720,000	1,100,000	1,000	LNAPL	LNAPL	
Shallow On-Site Monitoring Wells																			
MW-1	04/17/95	710	53	NA	25 U	25 U	25 U	560	25 U	1400	1,300	29	180	540	150	2,900	3,600	120	
	04/17/95 (DUP)	770	65	NA	25 U	25 U	25 U	610	25 U	1600	1,500	31	230	640	180	3,100	3,900	130	
	09/04/96	1,300	50 U	200 U	50 U	50 U	50 U	220	50 U	700	1,300	100 U	50 U	180	50 U	1,600	4,400	82	
	12/10/96	1,400 J	67 J	210 J	1.5 J	0.5 U	7.7 J	120 J	5.1 J	2700 J	1,600 J	9 JB	31 J	1,200 J	62 J	3,500 J	6,300 J	91 J	
MW-1	03/04/97	640 J	24 J	210 EJ	1.2 J	0.5 UJ	5.3 J	73 J	2.1 J	1000 J	1,600 J	5 JB	66 J	420 J	68 J	4,700 J	7,100 J	80 J	
	06/27/97	900	21	200	5 U	5 U	8.0	200	5 U	860	2,000	10 U	34	290	26	3,000	7,400	120	
	09/04/97	790	7.6	2 U	0.5 U	0.5 U	7.5	150	0.9	350	1,500	2.9	12	74	12	1,500	4,200	52	
	12/04/97	540 J	27 J	97 J	0.8 J	0.5 UJ	4.5 J	31 J	2.4 J	320 J	1,800 J	3 JB	22 J	250 J	20 J	4,700 J	7,000 J	38 J	
	03/06/98	420	9	110	5 U	5 U	8.0	320	5 U	340	1,500	10 U	10	160	7	1,600	4,400	50	
	03/06/98 (DUP)	400	10	120	5 U	5 U	8.0	380	5 U	400	1,500	10 U	8	190	8	1,500	4,300	56	
	06/18/98	420	16	190	10 U	10 U	10 U	120	10 U	450	1,700	20 U	14	400	10	2,900	6,700	120	
	09/29/98	330 J	2 UJ	81 J	2 UJ	2 UJ	7 J	300 J	2 UJ	94 J	1,800 J	5 UJ	2 UJ	46 J	2 J	1,400 J	5,400 J	14 J	
	12/15/98	330	14	110	5 U	5 U	6	190	5 U	390	1,600	10 U	6	270	6	2,000	4,600	54	
	03/02/99	320	11	94	5 U	5 U	5	390	5 U	490	1,700	10 U	6	220	7	1,600 B	5,970	73	
	06/17/99	230	50 U	200 U	50 U	50 U	50 U	140	50 U	400	1,400	500 U	50 U	270	50 U	2,500	6,000	180	
	09/17/99	250	6.4	110	0.2 U	0.2 U	4 E	200	0.2 U	210	1,400	0.3 U	7.8 B	240	8.9	1,500	4,100	88	
	12/08/99	310	12 U	130	12 U	12 U	12 U	79 J	12 U	330	1,300 J	25 U	12 UJ	240	12 UJ	860 J	5,500 J	110	
	03/07/00	310	17	220	2 U	2 U	2 U	22	2 U	1,100	970	5 U	14	300	17	1,100	4,310	450	
	06/21/00	290	9 J	260	6 U	7 U	6 U	32	5 U	380	860	50 J	10 J	390	10 J	1,300	3,700	290	
	06/21/00 (DUP)	210	7 J	170	3 U	4 U	3 U	58	3 U	340	860	20 J	10 J	310	10 J	1,300	3,420	290	
	09/12/00	190	5	91	1 U	1 U	3	110	2	170	1,100	5 U	4	180	8	980	3,730	61	
	12/07/00	310	20 J	130	6 U	7 U	6 U	42 J	9 J	390	830	10 U	10 J	270	10 J	630	3,290	100	
	12/07/00 (DUP)	260	10 J	120	6 U	7 U	6 U	76 J	8 J	300	890	10 U	10 J	250	9 J	480	3,330	79	
	03/15/01	350 J	27	190	2 U	2 U	2 U	13	31	500	690	12	14 J	480 J	23	290	2,890	110 J	
03/15/01 (DUP)	450	35	230	2 U	2 U	2 U	13	43	620	740	13	20	610	27	320	2,830	150		
07/12/01	370	16	120	2.9 U	3.1 U	2.7 U	12 J	21	290	480	9.5 J	8.8 J	610	31	130	1,930	210		
09/25/01	790	23	NA	5 U	5 U	5 U	17	18	460	480	10	16	480	41	320	1,970	240		
01/02/02	660	30	130	0.57 U	0.62 U	0.5 U	27	22	690	570	2.2 J	9.1	510	22	270	2,300	300		
03/28/02	540	25	160	0.57 U	0.62 U	0.75 J	18	28	800	690	2.8 J	14	510	25	240	2,620	390		
06/11/02	250	5.5	160	0.57 U	0.62 U	1 U	12	10	240	500	1.0 J	6.4	230	7.8	170	1,570	270		
09/18/02	130	2.3 J	70	0.57 U	0.62 U	2.0 J	81	1.7 J	100	880	2.5 J	3.8	44	7.2	58	2,840	35		
12/17/02	560	22	130	1.3 U	1.30 U	1.3 U	7.8	4.3 B	340	520	5 U	10	600	25	80	1,030	100		
03/20/03	490	16	110	0.5 U	0.5 U	0.5 U	7.5	3.2	160	380	2 U	7.3	440	15	69	940	120		
06/11/03	270	5.4	120	0.12 U	0.13 U	0.35 J	4.4	1.3	64	330	1.0 J	4.2	260	6.7	200	730	60		
09/11/03	610	12	93	0.23 U	0.25 U	0.82 JB	19	1.3	170	510	2.9 J	5	290	15	1,200	1,480	71		
12/04/03	1,300	36	120	2.0	0.31 U	0.8 J	38	9	390	370	8.6	7.6	1,200	29	360	1,170	140		
03/16/04	410	11	110	2.1	0.5 U	0.56 J	14	5.3	66	390	5.4 J	5.8	370	13	520	1,590	50		
09/23/04	790	15	60	1.1 J	0.31 U	0.90 J	31	1.7	200	320	3.7 J	4.2	410	16	850	1,440	60		
04/05/05	350	12	45	0.85 J	0.7 U	0.85 J	22	50	120	290	11	7.4	540	23	1,500	900	26		
09/21/05	590	6.3	33	0.25 J	0.14 U	0.86	30	3.4	65	260	2.2	2.1	130	8	1,100	1,100	24		
03/15/06	580	6.5	60	0.35 J	0.35 U	0.73 J	44	8.5	55	300	9.6	3.9	240	15	710	1,680	24		
09/14/06	830	6.4	37	0.33 J	0.35 U	0.78 J	71	8.0	49	200	5.6	3.1	160	7.6	62	1,590	21		
04/04/07	240	4.9	47	0.57 U	0.7 U	0.68 U	17	8.9	44	400	6.6 J	3.6	210	9.3	69	2,080	12		
09/25/07	300	4.4	34	0.57 U	0.7 U	1.0 J	100	3.3	49	290	3.5 J	2.7	150	8.9	1,500	1,360	8.5		
09/25/07	300	4.4	34	0.57 U	0.7 U	1.0 J	100	3.3	49	290	3.5 J	2.7	150	8.9	1,500	1,360	8.5		
05/02/08	250	6.3	29	0.11 J	0.042 U	0.65	25	5.3	48	180	3.5	3.0	220	8.7	290	1,010	12		
09/30/08	320	4.3	27	0.19 U	0.11 U	0.63 J	60	2.7	37	170	3.4 J	2.3	130	7.1	300	910	10		
03/25/09	240	4.0	27	0.50 U	0.50 U	3.2	60	4.0	22	140	0.5 U	3.8	109	7.1	43	740	10		
09/30/09	500	12	14	5.0 U	5.0 U	5.0 U	86	4.5 J	38	180	5.0 U	1.7 J	190	5.6 J	610	1,400	14		
03/29/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	9.6 J	20 U	15	48	0.5 U	0.5 U	63	7.8 J	27	170	4.4		
09/30/10	339	0.5 U	18.1	0.5 U	0.5 U	0.5 U	46.5	1.0 U	28.3	70.2	1.41 J	0.5 U	173	3.16	144	301	9.51		
MW-2	04/17/95	5 U	5 U	NA	5 U	5 U	5 U	10 U	9	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	
	09/04/96	0.8	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.2	0.5 U	2.0 U	0.5 U	0.5 U	0.6	0.5 U	0.5 U	0.5 U	
	12/10/96	0.6	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.0	0.5 U	1.0 U	0.5 U	0.5 U	2.5	0.5 U	0.5 U	0.5 U	
	03/04/97	0.8	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.4	0.5 U	1.0 U	1.6	0.5 U	2.6	0.5 U	0.5 U	0.5 U	
	06/27/97	1.0	0.5 U	2 U	0.5 U	0.5 U	2.1	0.5 U	0.5 U	7.2	0.5 U	1.0 U	1.9	0.5 U	2.1	0.5 U	0.5 U	0.5 U	
	09/04/97	0.8	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.1	0.5 U	1.0 U	0.5 U	0.5 U	0.5	0.5 U	0.5 U	0.5 U	
	12/04/97	0.6	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.8	0.5 U	1.0 U	0.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	03/06/98	0.8	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.9	0.5 U	1.0 U	2.5	0.5 U	2.8	0.5 U	0.5 U	0.5 U	
	06/18/98	0.9	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.8	0.5 U	1.0 U	1.8	0.5 U	2.0	0.5 U	0.5 U	0.5 U	
	09/29/98	1.1	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.9	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	12/15/98	1.0	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.7	0.5 U	1.0 U	0.7	0.5 U	1.7	0.5 U	0.5 U	0.5 U	
	03/02/99	0.9	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	8.5	0.5 U	1.0 U	2.2	0.5 U	1.5	0.5 U	0.5 U	0.5 U	
	06/16/99	0.6	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.3	0.5 U	5.0 U	3.4	0.5 U	1.5	0.5 U	0.5 U	0.5 U	
	06/16/99 (DUP)	0.7	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.4	0.5 U	5.0 U	2.8	0.5 U	1.4	0.5 U	0.5 U	0.5 U	
09/16/99	0.9	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	2.5	0.2 U	0.3 U	0.3 EB	0.3 U	0.3 U	0.2 U				

Table D-2
Indicator Hazardous Substances in Groundwater
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	1,1-DCA		1,2,4-TMB	1,2-DCA		1,2-Dichloropropane	Benzene	Chloroethane	Chloroform	cis-1,2-DCE	Ethylbenzene	Methylene Chloride	PCE	1,1,1-TCA	TCE	Toluene	Total Xylenes	Vinyl Chloride
		Solubility in Water: Final Cleanup Levels	5,100,000	3,350,000	LNAPL	8,690,000	0.64	0.8	LNAPL	8,200,000	3,500,000	LNAPL	20,000,000	200,000	720,000	1,100,000	1,000	LNAPL	LNAPL
MW-3 (continued)	05/01/08	4.6	0.10 U	0.037 U	0.13	0.04 U	0.34 J	0.13 U	0.042 U	0.8	0.23 U	0.042 U	0.23 U	0.077 U	0.05 U	0.06 U	0.34 JB	0.12 J	0.25 J
	10/01/08	11	0.10 U	0.037 U	0.07 U	0.04 U	0.36 J	0.13 U	0.042 U	1.8	0.042 U	0.23 U	0.077 U	0.05 U	0.06 U	0.18 JB	0.08 J	0.28 J	
	03/24/09	8.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.1
	09/29/09	15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.8 J
	03/30/10	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.3
	09/28/10	8.47	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.33 J	0.5 U	1.0 U	1.49	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	09/04/96	76	50 U	200 U	50 U	50 U	50 U	830	50 U	200	100 U	50 U	50 U	50 U	50 U	2,000	1,500	50 U	
	12/10/96	33	0.5 U	110 E	2.6	0.5 U	38	950	0.5 U	2.1	430	7 B	0.5 U	0.5 U	0.5 U	310	340	6.1	
	03/04/97	140	0.5 U	170	1.9	0.5 U	29	1,100	0.5 U	12	580	7	0.5 U	4.8	1	160	210	15.0	
	06/27/97	160	0.5 U	230	1.2	0.5 U	31	2,000	0.5 U	2.8	900	9.6	0.5 U	2.6	2	62	53	6.3	
	09/04/97	52	0.5 U	2 U	1.4	0.5 U	23	820	0.5 U	2.5	570	7	0.5 U	0.5 U	0.8	120	42	6.9	
	09/04/97 (DUP)	47	0.5 U	510	1.5	0.5 U	22	2,100	0.5 U	0.5 U	1,300	7.1	0.5 U	0.5 U	1.7	300	110	6.5	
	12/04/97	22 J	0.5 UJ	180 J	1.3 J	0.5 UJ	23 J	960 J	0.5 UJ	1.2 J	860 J	7 J	0.5 UJ	0.5 UJ	1 J	320 J	250 J	3.4 J	
	03/06/98	84	1 U	220	1.9	1 U	29	1,400	1 U	4	970	10	1 U	11	1	48	140	8.0	
	06/18/98	410	12 U	260	12 U	12 U	140	1,700	12 U	12 U	1,200	45	12 U	12 U	12 U	390	1,800	12 U	
	09/29/98	33 J	2 U	240 J	2 U	2 U	23 J	1,000 J	2 U	2 U	780 J	8 J	2 U	2 U	2 U	1,600 J	1,300 J	2 U	
	12/14/98	26	2 U	250	2 U	2 U	37	1,000	2 U	2 U	840	7	2 U	2 U	2 U	1,100	1,900	2 U	
	03/03/99	72	2 U	110	2 U	2 U	18	1,300	4 U	6	790	9	2 U	2 U	2 U	8 B	13 B	8	
	06/17/99	210	25 U	240	25 U	25 U	25 U	1,200	25 U	25 U	1,200	250 U	25 U	25 U	110	142	25 U		
	09/17/99	36	0.2 U	220	0.2 U	0.2 U	18	820 J	0.2 U	1.4 E	850 J	9	0.2 U	0.3 U	0.3 U	540	1,230	0 U	
	12/08/99	19	5 U	270	5 U	5 U	24	1,000 J	5 U	5 U	980 J	10 U	5 U	5 U	5 UJ	380 J	1,570 J	5 U	
	12/08/99 (DUP)	20	5 U	260	5 U	5 U	23	1,100 J	5 U	5 U	970 J	10 U	5 U	5 UJ	360 J	1,560 J	5 U		
	03/07/00	29	2 U	240	2 U	2 U	17	1,200	2 U	2 U	1,200	9	2 U	2 U	2 U	8	389	2 U	
	03/07/00 (DUP)	28	2 U	240	2 U	2 U	17	1,200	2 U	2 U	1,200	9	2 U	2 U	2 U	8	389	2 U	
	06/21/00	43	3 U	230	3 U	3 U	17	980	2 U	3 U	1,100	20	3 U	3 U	58	1,040	5 U		
	09/12/00	14	1.0 U	140	1.0 U	1.0 U	10	840	1.0 U	1.0 U	610	6	1.0 U	1.0 U	25	820	1.0		
	12/07/00	10 J	6 U	230	6 U	7 U	10 J	750 J	5 U	6 U	850	10 J	6 U	6 U	32	2,540	20 U		
	03/15/01	23 J	0.6 U	210	2.0 J	0.7 U	19	770	0.5 U	0.7 U	820	11	0.6 U	0.6 U	37	850	2.0 U		
	07/12/01	43	3 U	93	2.9 U	3.1 U	14	710	2.4 U	3 U	960	16 J	2.8 U	2.8 U	5 J	370	5.3 U		
	09/25/01	27	0.5 U	27	0.71	0.5 U	6.5	340	0.5 U	0.74	230	5.9	0.5 U	0.5 U	2.1	38	3.6		
	01/02/02	25	0.6 U	55	0.57 U	0.62 U	10	570	0.48 U	1.4 J	450	7.5 J	0.55 U	0.56 U	1.2 J	5.5	164	1.6 J	
	03/28/02	87	0.6 U	65	0.57 U	0.62 U	12	810	0.48 U	2.6	700	13	0.55 U	0.57 U	2.3 J	18	184	6.2	
	06/11/02	58	0.6 U	36	0.57 U	0.62 U	12	760	0.48 U	0.58 U	630	9.2 J	1.6 J	0.57 U	1.7 J	6.7	64	1.1 U	
	09/18/02	20	0.3 U	160	0.29 U	0.31 U	11	570	0.24 U	1.1 J	690	7.6	0.28 U	0.29 U	0.70 J	11	1,640	1.9	
	12/17/02	18	1 U	150	1.0 U	1.0 U	14	500	1 U	1.0	620	6.2	1.0 U	1.0 U	1.0 U	1,290	3.1		
	03/20/03	13	1 U	140	1.0 U	1.0 U	16	530	1 U	1.0 U	740	5.3	1.0 U	1.0 U	1.0 U	2.3	325	1.3	
	06/11/03	24	0.3 U	120	0.58 J	0.31 U	13	530	0.24 U	1.0 J	750	7.2	0.28 U	0.29 U	0.68 J	1.8 B	114	1.5	
	09/11/03	18	0.24 U	200	0.23 U	0.25 U	13	460	0.2 U	1.1	780	6.8	0.22 U	0.23 U	0.34 J	9.3	1,990	2.3	
	12/04/03	11	0.24 U	180	0.23 U	0.25 U	27	370	0.2 U	0.56 J	800	4.2	0.22 U	0.23 U	0.32 J	11	1,787	0.7 J	
	03/15/04	15	0.12 U	160	0.12 U	0.13 U	24	420	0.096 U	0.67	730	6.2	0.11 U	0.12 U	0.48 J	5.6	702	0.59	
	09/24/04	12	0.12 U	19	0.75	0.13 U	13	270	0.096 U	0.56	350	2.6	0.11 U	0.12 U	0.31 J	0.8	11.3	0.78	
	04/04/05	10	0.25 U	170	0.86 J	0.28 U	21	400	0.28 U	0.42 J	730	3.9	0.46 J	0.24 U	0.34 J	3.6	690	0.66 J	
	09/21/05	15	0.13 U	120	0.63	0.14 U	17	230	0.14 U	0.79	270	3.1	0.13 U	0.12 U	0.29 J	2.9	328	0.58	
	03/15/06	12	0.13 U	140	0.66	0.14 U	20	300	0.14 U	0.46 J	81	3.7	0.13 U	0.12 U	0.19 J	2.1	376	0.86	
	09/14/06	10	0.13 U	120	0.59	0.14 U	12	190	0.14 U	0.51	61	2.2	0.13 U	0.12 U	0.17 J	1.4	343	1.60	
	04/04/07	7.2	0.13 U	140	0.49 J	0.14 U	17	110	0.14 U	0.25 J	22	1.3 J	0.13 U	0.12 U	0.15 J	0.78	151	0.09 J	
	09/26/07	9.0	0.13 U	120	0.85 U	0.14 U	14	85	0.14 U	0.31 J	62	0.62 J	0.13 U	0.12 U	0.18 J	2.2	38.5	0.54	
	05/02/08	4.5	0.1 U	100	0.76 U	0.042 U	13	96	0.042 U	0.13 J	18	0.61 J	0.077 U	0.05 U	0.16 U	1.1	6.9	0.1 J	
	10/01/08	7.3	0.1 U	79	0.36	0.042 U	11	140	0.042 U	0.24 J	7.8	0.82 J	0.077 U	0.05 U	0.20 J	1.1	8.1	0.29 J	
	03/25/09	4.8	0.5 U	128	0.5 U	0.5 U	11	206	1.0 U	0.5 U	4.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.2	1.0	
	03/25/09 (DUP)	4.5	0.5 U	120	0.5 U	0.5 U	11	220	1.0 U	0.5 U	3.9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.7	1.0	
09/30/09	6.1	3.3	210	0.5 U	0.5 U	10	450	1.0 U	0.5 U	8.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	8.0	1.1		
03/29/10	5.9	0.5 U	140	0.5 U	0.5 U	10	130	1.0 U	0.5 U	0.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2		
10/01/10	5.74	0.5 U	43.4	0.5 U	0.5 U	6.78	78.1	1.0 U	0.5 U	2.17	0.63 J	0.5 U	0.5 U	0.5 U	0.53	3.80	0.19 J		
MW-5	09/04/96	25 U	25 U	100 U	25 U	25 U	25 U	25 U	25 U	34	25 U	50 U	2,600	25 U	180	25 U	25 U		
	12/10/96	0.7	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.9	28	1 U	1 U	3,400	3.4	130	1.3 B	1.6 B		
	12/10/96 (DUP)	0.8	0.6	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.9	34	0.5 U	1 U	3,300	3.4	130	0.5 U	0.5 U		
	03/04/97	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.7	21	0.5 U	1 U	3,100	3.1	100	0.5 U	0.5 U		
	06/27/97	5 UJ	5 UJ	20 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	32	5 UJ	10 UJ	4,700 J	5 UJ	140 J	5 UJ	5 UJ		
	09/04/97	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	30	0.9	1 U	4,800	3.2	150	0.5 U	0.5 U		
	12/04/97	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6	18	1 U	1 U	4,400	3	120	0.5 U	0.5 U		
	03/06/98	5 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	30	5 U	10 U	4,000	5 U	140	5 U	5 U		
	06/18/98	12 U	12 U	50 U	12 U	12 U	12 U	12 U	12 U	28	12 U	25 U	4,100	12 U	130	12 U	12 U		
	09/29/98	10 U	10 U	40 U	10 U	10 U	10 U	10 U	10 U	25	10 U	20 U	3,800	10 U	130	10 U	10 U		
	12/15/98	5 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	34	5 U	10 U	3,300	5 U	120	5 U	5 U		
	03/02/99	12 U	12 U	50 U	12 U	12 U	12 U	12 U	12 U	14	12 U	25 U	4,400	12 U	96	12 U			

Table D-2
 Indicator Hazardous Substances in Groundwater
 Univar USA, Inc.
 Kent, Washington

Sample Location	Date Collected	1,1-DCA		1,2,4-TMB	1,2-DCA		1,2-Dichloropropane	Benzene	Chloroethane	Chloroform	cis-1,2-DCE	Ethylbenzene	Methylene Chloride	PCE	1,1,1-TCA	TCE	Toluene	Total Xylenes	Vinyl Chloride
		Solubility in Water:	5,100,000	3,350,000	LNAPL	8,690,000	0.64	0.8	LNAPL	8,200,000	3,500,000	70	700	20,000,000	200,000	720,000	1,100,000	1,000	LNAPL
Final Cleanup Levels		800	7.0	400	0.5	0.64	0.8	-	7.2	70	700	5.0	0.86	200	4.0	1,000	1,600	0.5	
MW-5 (continued)	03/07/00	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	17	0.5 U	1 U	2,700	1.3	94	0.5 U	1.60 U	0.5 U	
	06/21/00	5 U	6 U	8 U	6 U	7 U	6 U	9 U	5 U	6 J	5 U	30 J	2,900	6 U	92	5 U	14 U	20 U	
	09/12/00	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	11	1.0 U	5 U	2,500	1.0	99	1.0 U	3 U	1.0 U	
	12/07/00	5 U	6 U	8 U	6 U	7 U	6 U	9 U	5 U	10 J	5 U	10 U	2,600	6 U	88	5 U	14 U	20 U	
	03/15/01	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	8.2	3 J	5 J	2,300 J	2 U	87	1.0 U	2 J	3 U	
	07/12/01	0.91 U	1.2 U	1.5 U	1.2 U	1.3 U	1.1 U	1.8 U	0.96 U	5.4	0.98 U	2 U	2,800	1.2 U	84	0.98 U	1.9 U	2.2 U	
	08/27/01	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	7.4	5 U	10 U	1,800	5 U	68	5 U	5 U	5 U	
	09/24/01	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	1,800	5 U	74	5 U	5 U	5 U	
	10/22/01	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	7.1	5 U	10 U	1,600	5 U	76	5 U	5 U	5 U	
	11/19/01	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	12	5 U	10 U	2,000	5 U	75	5 U	5 U	5 U	
	01/02/02	0.8 J	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	7.4	0.49 U	0.97 U	1,600	0.9 J	69	0.49 U	0.93 U	1.1 U	
	03/27/02	0.91 U	1.2 U	1.5 U	1.2 U	1.3 U	1.1 U	2.3 U	0.96 U	2.9 J	1.3 U	2 U	2,500	1.2 U	70	0.98 U	2.2 U	2.2 U	
	06/11/02	0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	2.2 J	0.65 U	0.97 U	2,100	0.75 J	63	0.49 U	1.5 U	1.1 U	
	09/18/02	0.91 U	1.2 U	1.5 U	1.2 U	0.76 U	1.1 U	2.3 U	0.96 U	3.7 J	1.3 U	4 J	2,600	1.2 U	76	0.98 U	2.2 U	2.2 U	
	12/16/02	5 U	5 U	20 U	5 U	5 U	5 U	5.0 U	5 U	7.2	5 U	20 U	2,200	5 U	82	5 U	5 U	5 U	
	03/17/03	0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	7.6	0.65 U	1.1 J	1,500	0.6 J	57	0.49 U	1.1 U	1.1 U	
	06/10/03	0.91 U	1.2 U	1.5 U	1.2 U	1.3 U	1.1 U	2.3 U	0.96 U	1.4 J	1.3 U	2 U	2,200	1.2 U	57	0.98 U	2.2 U	2.2 U	
	09/11/03	0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	1.5 J	0.65 U	0.97 U	2,400	0.57 U	86	0.49 U	1.1 U	1.1 U	
	12/05/03	0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	5	0.65 U	0.97 U	1,600	0.57 U	76	0.49 U	1.1 U	1.1 U	
	03/16/04	0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	0.8 J	0.65 U	0.97 U	1,700	0.7 J	47	0.49 U	1.1 U	1.1 U	
	09/22/04	0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	1.2 J	0.65 U	0.97 U	2,200	0.85 J	57	0.49 U	1.1 U	1.1 U	
	04/04/05	0.26 U	0.31 U	0.36 U	0.29 U	0.35 U	0.34 U	0.57 U	0.34 U	1.5	0.33 U	0.49 U	1,300	0.43 J	45	0.28 J	0.55 U	0.53 U	
	09/20/05	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	2.0	0.13 U	0.2 U	1,300	0.53	48	0.32 J	0.22 U	0.042 U	
	03/14/06	0.51 U	0.61 U	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	3.1	0.65 U	0.97 U	1,300	0.58 U	47	0.54 U	1.1 U	0.21 U	
	09/13/06	0.51 U	0.61 U	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	3.6	0.65 U	0.97 U	1,600	0.58 U	59	0.54 U	1.1 U	0.21 U	
	04/05/07	0.51 U	0.61 U	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	4.5	0.65 U	1.2 J	1,200	0.58 U	43	0.54 U	1.1 U	0.21 U	
	09/26/07	0.51 U	0.61 U	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	6.7	0.65 U	0.97 U	1,300	0.58 U	49	0.54 U	1.1 U	0.21 U	
	05/01/08	0.11 U	0.28 J	0.093 U	0.19 U	0.11 U	0.12 U	0.3 U	0.11 U	6.1	0.11 U	0.58 U	990	0.28 J	37	0.13 JB	0.2 U	0.18 U	
	09/30/08	0.21 U	0.5 U	0.19 U	0.37 U	0.21 U	0.23 U	0.65 U	0.21 U	8.1	0.21 U	1.2 U	1,500	0.25 J	46	0.25 JB	0.39 U	0.36 U	
	03/25/09	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	5.4 J	10 U	10 U	1,200	10 U	27	10 U	10 U	4.0 U	
	09/29/09	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	4.6 J	5.0 U	5.0 U	850	5.0 U	31 J	5.0 U	5.0 U	2.0 U	
	09/29/09 (DUP)	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	10 UJ	6.0 J	5.0 UJ	5.0 UJ	900	5.0 UJ	48 J	5.0 UJ	5.0 UJ	2.0 UJ	
	04/01/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	3.9	0.5 U	0.5 U	340	0.5 U	42	0.5 U	0.5 U	0.2 U	
	04/01/10 (DUP)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	3.9	0.5 U	0.5 U	270	0.5 U	44	0.5 U	0.5 U	0.2 U	
	04/09/10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	10 U	1,100	10 U	35	10 U	10 U	4.0 U	
	04/16/10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	5.0 J	10 U	10 U	780	10 U	42	10 U	10 U	4.0 U	
	05/06/10	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U	20 U	3.2 J	10 U	10 U	640	10 U	36	10 U	10 U	2.0 U	
	06/09/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	3.2	0.5 U	0.5 U	670	0.5 U	33	0.5 U	0.5 U	0.2 U	
	07/06/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	4.6	0.5 U	0.5 U	640	0.5 U	31	0.5 U	0.5 U	0.2 U	
	07/06/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	4.6	0.5 U	0.5 U	640	0.5 U	31	0.5 U	0.5 U	0.2 U	
09/28/10	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U	20 U	5.0 U	10 U	10 U	514	10 U	22.6	10 U	10 U	2.0 UJ		
09/28/10 (DUP)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	2.43	0.5 U	0.5 U	514	0.5 U	21.7	0.5 U	0.5 U	0.2 UJ		
MW-6	09/04/96	12	0.5 U	2 U	3.2	0.5 U	1.7	460	0.5 U	0.6	0.5 U	2 B	0.5 U	0.5 U	0.5 U	31	0.5 U	0.5 U	
	12/10/96	13	0.5 U	2 U	2.1	0.5 U	1.2	240	0.5 U	0.7	0.5 U	1 B	1 U	0.5 U	0.5 U	26	0.5 U	0.5 U	
	03/04/97	12	0.5 U	2 U	1.4	0.5 U	0.7	190 J	0.5 U	0.5	0.5 U	1 U	1 U	0.5 U	0.5 U	5.0	0.5 U	0.5 U	
	06/27/97	13	0.5 U	2 U	2.2	0.5 U	1.2	370	0.5 U	0.9	0.5 U	1 U	1 U	0.5 U	0.5 U	7.3	0.5 U	0.5 U	
	09/04/97	9.5	0.5 U	2 U	2.4	0.5 U	1.6	320	0.5 U	0.5 U	0.5 U	1 U	2.7	0.5 U	0.5 U	13	0.5	0.5 U	
	12/04/97	9.1	0.5 U	2 U	1.4	0.5 U	0.7	180	0.5 U	0.6	0.5 U	1 U	0.5 U	0.5 U	0.5 U	4.9	0.5 U	0.5 U	
	03/06/98	11	0.5 U	2 U	1.8	0.5 U	1.1 B	150	0.5 U	0.6	0.5 U	2.5 B	0.5 U	0.5 U	0.5 U	9.4 B	0.5 U	0.5 U	
	06/18/98	12	0.5 U	2 U	2.6	0.5 U	1.7 B	190	0.5 U	0.8	0.5 U	1 U	0.5 U	0.5 U	0.5 U	11 B	0.5 U	0.5 U	
	09/29/98	10	0.5 U	2 U	2.1	0.5 U	1.5	190 E	0.5 U	0.7	0.5 U	1 U	0.5 U	0.5 U	0.5 U	8.9	0.5 U	0.5 U	
	12/15/98	9.9	0.5 U	2 U	0.9	0.5 U	0.5 U	110	0.5 U	0.6	0.5 U	1 U	0.5 U	0.5 U	0.5 U	3.7 B	0.5 U	0.5 U	
	03/02/99	10	0.5 U	2 U	0.9	0.5 U	0.5 U	180	0.5 U	0.6	0.5 U	1 U	0.5 U	0.5 U	0.5 U	3.2 B	0.5 U	0.5 U	
	03/02/99 (DUP)	9.5	0.5 U	2 U	0.8	0.5 U	0.5 U	170	0.5 U	0.6	0.5 U	1 U	0.5 U	0.5 U	0.5 U	3.1 B	0.5 U	0.5 U	
	06/16/99	7.4	0.5 U	2 U	0.5 U	0.5 U	0.5 B	100	0.5 U	0.5	0.5 U	5 U	0.5 U	0.5 U	0.5 U	2.3 B	0.5 U	0.5 U	
	09/16/99	7.5	0.2 U	0.2 U	0.8	0.2 U	0.5 E	81	0.2 U	0.5	0.2 U	0.3 U	0.2 U	0.3 U	0.3 U	2.3 E	0.4 U	0.3 U	
	12/08/99	7.2	0.5 U	2 U	0.7	0.5 U	0.50 U	73 J	0.5 U	0.6	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	1.5	0.5 U	0.5 U	
	03/07/00	6.9	0.5 U	2 U	0.8	0.5 U	0.5 U	72	0.5 U	0.5	0.5 U	1 U	0.5 U	0.5 U	0.5 U	1.8	0.5 U	0.5 U	
	06/21/00	6.6	0.2 U	0.2 U	0.4 J	0.2 U	0.2 U	29	0.1 U	0.3 J	0.78	0.2 U	2.6	0.2 U	0.3 J	0.7	0.7 J	0.3 U	
	09/12/00	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	53	1.0 U	1.0 U	1.0 U	5 U	1.0 U	1.0 U	1.0 U	3 U	1.0 U	1.0 U	
	12/07/00	5.8	0.2 U	0.2 U	0.5 J	0.2 U	0.4 J	52 J	0.1 U	0.51	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U	1.6 B	0.2 U	0.3 U	
	03/15/01	6 J	0.2 U	0.2 U	0.64	0.2 U	0.3 J	54	0.1 U	0.4 J	0.1 U	0.4 J	0.2 U	0.2 U	0.2 U	1.6	0.2 U	0.3 U	
	07/12/01	4.8	0.12 U	0.15 U	0.40 J	0.13 U	0.25 J	29	0.096 U	0.3 J	0.098 U	0.2 U	0.11 U	0.12 U					

Table D-2
Indicator Hazardous Substances in Groundwater
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	Solubility in Water:																	
		1,1-DCA	1,1-DCE	1,2,4-TMB	1,2-DCA	1,2-Dichloro-propane	Benzene	Chloro-ethane	Chloro-form	cis-1,2-DCE	Ethyl-benzene	Methylene Chloride	PCE	1,1,1-TCA	TCE	Toluene	Total Xylenes	Vinyl Chloride	
	Final Cleanup Levels	5,100,000	3,350,000	LNAPL	8,690,000	0.64	0.8	LNAPL	8,200,000	3,500,000	LNAPL	20,000,000	200,000	720,000	1,100,000	1,000	LNAPL	LNAPL	
MW-6 (continued)	03/16/04	1.5	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	2.2	0.096 U	0.13 J	0.13 U	0.2 U	0.11 U	0.12 U	0.12 U	0.12 U	0.16 J	0.22 U	0.22 U
	09/23/04	3.6	0.12 U	0.15 U	0.57	0.13 U	0.31 J	19	0.096 U	0.34 J	0.13 U	0.2 U	0.11 U	0.12 U	0.12 U	0.73	0.22 U	0.22 U	
	04/05/05	1.3	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.72	0.14 U	0.12 U	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.40 J	0.22 U	0.22 U	
	09/21/05	3.8	0.13 U	0.15 U	0.44 J	0.14 U	0.31 J	12	0.14 U	0.31 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.54	0.22 U	0.042 U	
	03/14/06	0.74	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.13 J	0.22 U	0.042 U	
	03/14/06 (DUP)	0.73	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.11 U	0.22 U	0.042 U	
	09/13/06	3.3	0.13 U	0.15 U	0.46 J	0.14 U	0.27 J	10	0.14 U	0.31 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.17 J	0.22 U	0.042 U	
	04/05/07	0.39 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.2 U	0.13 U	0.12 U	0.15 J	0.11 U	0.22 U	0.042 U	
	09/26/07	2.4	0.13 U	0.15 U	0.25 J	0.14 U	0.21 J	1.3	0.14 U	0.23 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.14 J	0.22 U	0.042 U	
	05/02/08	0.34 J	0.1 U	0.037 U	0.073 U	0.042 U	0.05 J	0.13 U	0.042 U	0.1 J	0.042 U	0.23 U	0.077 U	0.05 U	0.061 U	0.11 JB	0.078 U	0.071 U	
	09/30/08	1.8	0.1 U	0.037 U	0.21 J	0.042 U	0.2 J	1.3	0.042 U	0.19 J	0.05 J	0.23 U	0.077 U	0.05 U	0.07 J	0.32 JB	0.21 J	0.071 U	
	03/26/09	1.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U	
	09/29/09	3.0	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	6.2	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U	
	03/30/10	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U	
	09/30/10	1.51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.87	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U	
MW-7	12/22/97	0.5 U	0.5 U	2 U	0.5 U	2.0	0.5 U	0.5 U	0.9 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	03/06/98	0.5 U	0.5 U	2 U	0.5 U	1.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	06/18/98	0.5 U	0.5 U	2 U	0.5 U	1.0	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	4.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	06/18/98 (DUP)	0.5 U	0.5 U	2 U	0.5 U	1.0	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	4.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	09/29/98	0.5 U	0.5 U	2 U	0.5 U	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	12/14/98	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	03/03/99	0.5 U	0.5 U	2 U	0.5 U	2.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	3.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	06/17/99	0.5 U	0.5 U	2 U	0.5 U	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	4.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	09/17/99	0.2 U	0.2 U	0.2 U	0.2 U	0.9	0.2 U	0.2 U	0.2 U	0.3 U	0.2 E	0.3 U	2	0.3 U	0.3 U	0.2 EB	0.4 U	0.3 U	
	12/08/99	0.5 U	0.5 U	2 U	0.5 U	2.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	03/07/00	0.5 U	0.5 U	2 U	0.5 U	2.0	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	06/21/00	0.1 J	0.2 U	0.2 U	0.2 U	0.3 J	0.2 U	0.82	0.1 U	0.2 U	0.58	0.2 U	9	0.2 U	0.2 U	0.1 U	0.4 J	0.3 U	
	09/12/00	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	5	1.0 U	1.0 U	1.0 U	3 U	1.0 U	
	12/07/00	0.1 U	0.2 U	0.2 U	0.2 U	1.7	0.2 U	0.2 U	0.1 U	0.09 U	0.1 U	0.2 U	0.82	0.2 U	0.2 U	0.1 U	0.2 U	0.3 U	
	03/15/01	0.1 U	0.2 U	0.2 U	0.2 U	0.91	0.2 U	0.2 U	0.1 U	0.09 U	0.1 U	0.2 U	2.1	0.2 U	0.2 U	0.1 J	0.2 U	0.3 U	
	07/12/01	0.091 U	0.12 U	0.15 U	0.12 U	0.28 J	0.11 U	0.18 U	0.096 U	0.12 U	0.098 U	0.2 U	4.9	0.12 U	0.12 U	0.11 J	0.19 U	0.22 U	
	08/27/01	0.5 U	0.5 U	2.0 U	0.5 U	0.72	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	3	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	
	09/25/01	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	10/22/01	0.5 U	0.5 U	2.0 U	0.5 U	0.69	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	11/20/01	0.5 U	0.5 U	2.0 U	0.5 U	1.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	01/03/02	0.091 U	0.12 U	0.15 U	0.12 U	1.2	0.11 U	0.23 U	0.096 U	0.12 U	0.098 U	0.2 U	1.4	0.12 U	0.12 U	0.2 JB	0.19 U	0.22 U	
	03/28/02	0.091 U	0.12 U	0.15 U	0.12 U	0.58	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.28 J	3.5	0.12 U	0.12 U	0.2 J	0.22 U	0.22 U	
	06/14/02	0.091 U	0.12 U	0.15 U	0.12 U	0.31 J	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	4.7	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	09/17/02	0.091 U	0.12 U	0.15 U	0.12 U	0.37 J	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	2.9	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	09/17/02 (DUP)	0.091 U	0.12 U	0.15 U	0.12 U	0.36 J	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	2.7	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	12/17/02	0.5 U	0.5 U	2.0 U	0.5 U	1.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	03/17/03	0.091 U	0.12 U	0.15 U	0.12 U	1.3	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	1.5	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	06/10/03	0.091 U	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	8.5	0.12 U	0.12 U	0.50 B	0.22 U	0.22 U	
	09/10/03	0.091 U	0.12 U	0.15 U	0.12 U	0.17 J	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	4.1	0.12 U	0.12 U	0.33 JB	0.22 U	0.22 U	
	12/04/03	0.091 U	0.12 U	0.15 U	0.12 U	1.7	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	0.86	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	03/16/04	0.091 U	0.12 U	0.15 U	0.12 U	0.2 J	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	5.9	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	09/22/04	0.091 U	0.12 U	0.15 U	0.12 U	0.51	0.11 U	0.23 U	0.096 U	0.12 U	0.13 U	0.2 U	2.8	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
04/04/05	0.11 U	0.13 U	0.15 U	0.12 U	0.68	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.2 U	2.1	0.12 U	0.14 U	0.42 J	0.22 U	0.22 U		
09/20/05	0.11 U	0.13 U	0.15 U	0.12 U	0.28 J	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.2 U	3.4	0.12 U	0.14 U	0.17 J	0.22 U	0.042 U		
03/14/06	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.2 U	6.9	0.12 U	0.14 U	0.14 J	0.22 U	0.042 U		
09/13/06	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.2 U	4.2	0.12 U	0.14 U	0.11 U	0.22 U	0.042 U		
04/03/07	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.27 J	1.8	0.12 U	0.14 U	4.3 U	0.22 U	0.042 U		
09/25/07	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.12 U	0.13 U	0.2 U	3.2	0.12 U	0.14 U	0.11 U	0.22 U	0.042 U		
05/01/08	0.042 U	0.1 U	0.037 U	0.073 U	0.042 U	0.045 U	0.13 U	0.042 U	0.045 U	0.042 U	0.23 U	5.4	0.05 U	0.09 J	0.11 JB	0.078 U	0.071 U		
10/01/08	0.042 U	0.1 U	0.037 U	0.073 U	0.10 J	0.045 U	0.13 U	0.042 U	0.045 U	0.05 J	0.23 U	2.5	0.05 U	0.17 J	0.24 JB	0.13 J	0.071 U		
03/24/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.3	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U		
09/29/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	1.4	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U		
04/01/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.3	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U		
09/28/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	1.38	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U		
MW-8	12/22/97	0.5 U	3.3	2 U	0.5 U	0.5 U	0.5 U	1.4	2.9										

Table D-2
 Indicator Hazardous Substances in Groundwater
 Univar USA, Inc.
 Kent, Washington

Sample Location	Date Collected	Solubility in Water: Final Cleanup Levels	1,1-DCA	1,1-DCE	1,2,4-TMB	1,2-DCA	1,2-Dichloro-propane	Benzene	Chloro-ethane	Chloro-form	cis-1,2-DCE	Ethyl-benzene	Methylene Chloride	PCE	1,1,1-TCA	TCE	Toluene	Total Xylenes	Vinyl Chloride
			5,100,000	3,350,000	LNAPL	8,690,000	0.64	0.8	LNAPL	8,200,000	3,500,000	LNAPL	20,000,000	200,000	720,000	1,100,000	1,000	1,600	LNAPL
MW-8 (continued)	03/07/00	0.5 U	1.2	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.4	0.5 U	0.5 U	1 U	0.5 U	0.5 U	18	0.5 U	0.5 U	0.5 U
	06/21/00	0.1 U	1.3	0.2 U	0.2 U	0.2 U	0.2 U	0.5 J	0.1 U	1.5	0.4 J	0.2 U	1.2	0.2 U	16	0.1 U	0.3 J	0.3 U	
	09/12/00	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0	1.0 U	5.0 U	1.0 U	1.0 U	19	1.0 U	3.0 U	1.0 U	
	12/07/00	0.1 U	2.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	2.4	0.1 U	0.2 U	0.2 U	0.2 U	23	0.2 U	0.2 U	0.3 J	
	03/15/01	0.1 U	1.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.4	0.1 U	0.2 U	0.2 U	0.2 U	18	0.2 U	0.2 U	0.3 U	
	07/12/01	0.091 U	2.5	0.15 U	0.12 U	0.13 U	0.11 U	0.18 U	0.096 U	2.3	0.098 U	0.2 U	0.11 U	0.12 U	28	0.14 J	0.19 U	0.37 J	
	08/27/01	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.91	0.5 U	0.5 U	0.5 U	
	09/25/01	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	10/22/01	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	11/20/01	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	01/03/02	0.091 U	2.0	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	2.3	0.098 U	0.2 U	0.11 U	0.12 U	27	0.31 JB	0.19 U	0.22 U	
	03/27/02	0.091 U	0.72	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	1.0	0.13 U	0.2 U	0.17 J	0.12 U	14	0.098 U	0.22 U	0.22 U	
	06/14/02	0.091 U	0.77	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	1.0	0.13 U	0.2 U	0.13 J	0.12 U	11	0.098 U	0.22 U	0.22 U	
	09/18/02	0.091 U	2.5	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	2.8	0.13 U	0.2 U	0.21 J	0.12 U	29	0.098 U	0.22 U	0.5	
	12/16/02	0.5 U	3.1	2.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.0	0.5 U	2.0 U	0.5 U	0.5 U	34	0.5 U	0.5 U	0.62	
	03/17/03	0.091 U	2.5	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	2.6	0.13 U	0.2 U	0.12 J	0.12 U	29	0.098 U	0.22 U	0.22 U	
	06/11/03	0.091 U	1.2	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	1.7	0.13 U	0.2 U	0.51	0.12 U	16	0.66 B	0.22 U	0.22 U	
	09/10/03	0.091 U	2.2	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	2.4	0.13 U	0.2 U	0.26 J	0.12 U	32	0.39 JB	0.22 U	0.41 J	
	09/10/03 (DUP)	0.091 U	2.3	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	2.5	0.13 U	0.2 U	0.21 J	0.12 U	32	0.22 JB	0.22 U	0.45 J	
	12/04/03	0.091 U	2.8	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	3.2	0.13 U	0.2 U	0.11 U	0.12 U	36	0.098 U	0.22 U	0.6	
	03/16/04	0.091 U	0.59	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	0.92	0.13 U	0.2 U	0.31 J	0.12 U	11	0.12 J	0.22 U	0.22 U	
	09/24/04	0.091 U	1.7	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	2.4	0.13 U	0.2 U	0.11 U	0.12 U	20	0.098 U	0.22 U	0.38 J	
	04/05/05	0.11 U	0.99	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	1.6	0.13 U	0.2 U	0.26 J	0.12 U	15	0.34 J	0.22 U	0.22 U	
	09/20/05	0.11 U	1.3	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	2.3	0.13 U	0.2 U	0.43 J	0.12 U	19	0.23 J	0.22 U	0.13 J	
	03/15/06	0.11 U	0.60	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	1.1	0.13 U	0.2 U	0.26 J	0.12 U	9.8	0.18 J	0.22 U	0.08 J	
	09/13/06	0.11 U	1.1	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	2.2	0.13 U	0.2 U	0.39 J	0.12 U	14	0.11 U	0.22 U	0.36 J	
	04/05/07	0.11 U	0.5 J	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.90	0.13 U	0.2 U	0.31 J	0.12 U	7.4	0.11 U	0.22 U	0.05 J	
	09/26/07	0.11 U	1.1	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	1.9	0.13 U	0.2 U	0.23 J	0.12 U	13	0.11 U	0.22 U	0.25 J	
	05/01/08	0.042 U	0.65	0.037 U	0.073 U	0.042 U	0.045 U	0.13 U	0.042 U	0.99	0.042 U	0.23 U	0.34 J	0.05 U	6.5	0.09 JB	0.12 U	0.071 U	
	09/30/08	0.042 U	1.4	0.037 U	0.073 U	0.042 U	0.045 U	0.13 U	0.042 U	2.8	0.042 U	0.23 U	0.22 J	0.05 U	14	0.18 JB	0.11 J	0.47 J	
	03/26/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.7	0.5 U	0.5 U	0.5 U	
	09/29/09	0.5 U	1.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.7	0.5 U	0.5 U	0.5 U	0.5 U	9.1 J	0.5 U	0.5 U	0.4 J	
	04/01/10	0.5 U	0.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.4	0.5 U	0.5 U	0.5 U	0.5 U	5.0	0.5 U	0.5 U	0.5 U	
	09/28/10	0.5 U	1.11	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	2.02	0.5 U	0.5 U	0.5 U	0.5 U	5.09	0.5 U	0.5 U	0.5 U	
	MW-9	07/12/01	2.3	0.12 U	0.15 U	0.12 U	0.13 U	3.5	15	0.1 J	4.1	0.12 J	0.2 U	0.15 J	0.12 U	0.28 J	1.2	0.18 J	0.26 J
		07/12/01 (DUP)	2.3	0.12 U	0.15 U	0.12 U	0.13 U	3.4	14	0.15 J	3.4	0.098 U	0.2 U	0.18 J	0.12 U	0.28 J	1.0	0.13 J	0.23 J
		08/27/01	2.4	0.5 U	2.0 U	0.5 U	0.5 U	4.0	12	0.5 U	5.2	0.5 U	1 U	0.5 U	0.5 U	0.5 U	1.7	0.5 U	0.5 U
09/25/01		2.3	0.5 U	2.0 U	0.5 U	0.5 U	3.6	12	0.5 U	4.8	0.5 U	1 U	0.5 U	0.5 U	0.5 U	1.2	0.5 U	0.5 U	
10/22/01		2.3	0.5 U	2.0 U	0.5 U	0.5 U	4.1	12	0.5 U	5.9	0.5 U	1 U	0.5 U	0.5 U	0.5 U	1.4	0.5 U	0.5 U	
11/20/01		1.8	0.5 U	2.0 U	0.5 U	0.5 U	4.5	10	0.5 U	8.4	0.5 U	1 U	0.5 U	0.5 U	0.5 U	1.4	0.5 U	0.5 U	
01/03/02		0.65	0.78	0.15 U	0.12 U	0.13 U	1.8	2.9	0.096 U	31	0.098 U	0.2 U	0.11 U	0.12 U	18	0.59 B	0.19 U	0.29 J	
03/27/02		0.091 U	0.95	0.15 U	0.12 U	0.13 U	0.11 U	0.38 J	0.096 U	27	0.13 U	0.21 J	0.11 U	0.12 U	45	0.14 J	0.22 U	0.26 J	
06/14/02		1.8	0.25 J	0.15 U	0.12 U	0.13 U	2.6	19	0.096 U	12	0.13 J	0.28 J	0.11 U	0.12 U	6.2	1.0	0.23 J	0.25 J	
09/17/02		2.2	0.12 U	0.15 U	0.12 U	0.13 U	2.9	21	0.096 U	5.5	0.20 J	0.27 J	0.11 U	0.12 U	2.0	1.2	0.28 J	0.23 J	
12/16/02		2.4	0.5 U	2.0 U	0.5 U	0.5 U	2.7	21	0.5 U	4.2	0.5 U	2 U	0.5 U	0.5 U	0.9	0.93	0.5 U	0.5 U	
03/17/03		0.48 J	0.74	0.15 U	0.12 U	0.13 U	1.4	2.7	0.096 U	27	0.13 U	0.2 U	0.11 U	0.12 U	12	0.33 J	0.12 J	0.22 U	
06/11/03		2.3	0.12 U	0.15 U	0.12 U	0.13 U	1.9	34	0.096 U	4.3	0.13 U	0.4 J	0.11 U	0.12 U	1.7	0.99 B	0.13 J	0.22 J	
09/10/03		2.5	0.12 U	0.15 U	0.12 U	0.13 U	2.3 B	32	0.096 U	6.3	0.13 U	0.32 J	0.11 U	0.12 U	1.2	1.1 B	0.22 U	0.32 J	
12/04/03		2.5	0.12 U	0.15 U	0.12 U	0.13 U	3.1	27	0.096 U	6.4	0.13 U	0.24 J	0.11 U	0.12 U	0.48 J	0.88	0.21 J	0.22 U	
03/16/04		0.79	0.39 J	0.15 U	0.12 U	0.13 U	0.98	2.2	0.096 U	14	0.13 U	0.2 U	0.11 U	0.12 U	11	0.24 J	0.22 U	0.23 J	
09/23/04		1.9	0.12 U	0.15 U	0.12 U	0.13 U	2.0	18	0.096 U	2.5	0.13 U	0.27 J	0.11 U	0.12 U	0.16 J	0.71	0.15 J	0.49 J	
04/05/05		1.2	0.18 J	0.15 U	0.12 U	0.14 U	2.1	0.42 J	0.14 U	13	0.13 U	0.2 U	0.13 U	0.12 U	1.5	0.78	0.22 U	1.6	
09/20/05		1.9	0.13 U	0.15 U	0.12 U	0.14 U	2.2	15	0.14 U	1.1	0.13 U	0.25 J	0.13 U	0.12 U	0.14 U	0.86	0.13 J	0.35 J	
03/14/06		0.63	0.13 U	0.15 U	0.12 U	0.14 U	0.4 J	0.23 U	0.14 U	5.7	0.13 U	0.2 U	0.13 U	0.12 U	7.7	0.12 J	0.22 U	0.96	
09/13/06		1.6	0.13 U	0.15 U	0.12 U	0.14 U	2.0	12	0.14 U	1.1	0.13 U	0.22 J	0.13 U	0.12 U	0.19 J	0.63	0.22 U	0.59	
04/05/07		0.31 J	0.23 J	0.15 U	0.12 U	0.14 U	0.3 J	0.23 U	0.14 U	9.9	0.13 U	0.2 U	0.13 U	0.12 U	7.6	0.11 U	0.22 U	0.78	
09/26/07		1.3	0.13 U	0.15 U	0.12 U	0.14 U	1.8	4.5	0.14 U	0.62	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.53	0.22 U	0.43 J	
05/01/08		0.43 J	0.22 J	0.037 U	0.073 U	0.042 U	1.2	0.13 U	0.042 U	13	0.042 U	0.23 U	0.077 U	0.05 U	0.57	0.39 JB	0.18 J	2.7	
09/30/08		1.0	0.1 U	0.037 U	0.073 U	0.042 U	2.0	2.7	0.042 U	0.46 J	0.08 J	0.23 U	0.077 U	0.05 U	0.061 U	0.63	0.27 J	0.38 J	
03/26/09		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.2	0.5 U	1.0 U	4.0	0.5 U	0.5 U	0.5 U	0.5 U	1.3	0.5 U	0.5 U	0.5 U	

Table D-2
 Indicator Hazardous Substances in Groundwater
 Univar USA, Inc.
 Kent, Washington

Sample Location	Date Collected	1,1-DCA		1,2,4-TMB	1,2-DCA		1,2-Dichloro-propane	Benzene	Chloro-ethane	Chloro- form	cis-1,2-DCE	Ethyl- benzene	Methylene Chloride	PCE	1,1,1-TCA	TCE	Toluene	Total Xylenes	Vinyl Chloride	
		Solubility in Water: Final Cleanup Levels	5,100,000	3,350,000	LNAPL	8,690,000	0.8	LNAPL	8,200,000	3,500,000	700	20,000,000	200,000	720,000	1,100,000	1,000	LNAPL	LNAPL	LNAPL	
MW-10 (continued)	03/20/03	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	06/10/03	0.091 U	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	0.37 J	0.13 U	0.2 U	0.11 U	0.12 U	0.12 U	0.12 U	0.43 JB	0.22 U	0.22 U	
	09/10/03	0.091 U	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	0.47 J	0.13 U	0.2 U	0.11 U	0.12 U	0.12 U	0.12 U	0.22 JB	0.22 U	0.22 U	
	12/04/03	0.091 U	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	0.46 J	0.13 U	0.2 U	0.11 U	0.12 U	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	03/16/04	0.091 U	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	0.45 J	0.13 U	0.2 U	0.11 U	0.12 U	0.12 U	0.12 U	0.17 J	0.22 U	0.22 U	
	09/22/04	0.091 U	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	0.34 J	0.13 U	0.2 U	0.11 U	0.12 U	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	04/05/05	0.091 U	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	0.23 U	0.096 U	0.33 J	0.13 U	0.2 U	0.11 U	0.12 U	0.14 U	0.14 U	0.42 J	0.22 U	0.22 U	
	09/20/05	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.41 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.14 U	0.16	0.22 U	0.042 U	
	03/15/06	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.26 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.14 U	0.16 J	0.22 U	0.042 U	
	09/12/06	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.3 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.14 U	0.11 U	0.22 U	0.042 U	
	04/03/07	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.2 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.14 U	0.11 U	0.22 U	0.042 U	
	09/24/07	0.11 U	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.14 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.14 U	0.11 U	0.22 U	0.042 U	
	05/01/08	0.042 U	0.1 U	0.037 U	0.073 U	0.042 U	0.045 U	0.13 U	0.042 U	0.17 J	0.042 U	0.23 U	0.077 U	0.05 U	0.061 U	0.061 U	0.15 JB	0.078 U	0.071 U	
	10/01/08	0.042 U	0.1 U	0.037 U	0.073 U	0.042 U	0.045 U	0.13 U	0.042 U	0.22 J	0.042 U	0.23 U	0.077 U	0.05 U	0.061 U	0.061 U	0.14 JB	0.078 U	0.071 U	
	03/24/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	09/30/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	03/30/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	09/28/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	MW-11	07/12/01	0.91 U	1.2 U	NA	1.2 U	1.3 U	NA	1.8 U	0.96 U	19	NA	2 U	2,000	1.2 U	78	NA	NA	2.5 J	5 U
		08/27/01	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	19	5 U	10 U	1,600	5 U	69	5 U	5 U	5 U	5 U
09/24/01		5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	22	5 U	10 U	1,900	5 U	84	5 U	5 U	5 U	5 U	
10/15/01		1.4	0.53	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	28	0.5 U	1 U	1,600	0.5 U	83	0.5 U	0.5 U	1.2	1.2	
10/15/01		1.4	0.54	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	29	0.5 U	1 U	1,700	0.5 U	86	0.5 U	0.5 U	1.2	1.2	
10/22/01		5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	25	5 U	10 U	2,000	5 U	92	5 U	5 U	5 U	5 U	
10/22/01		2.5 U	2.5 U	NA	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	25	2.5 U	5 U	2,000	2.5 U	92	2.5 U	2.5 U	2.5 U	2.5 U	
10/29/01		5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	25	5 U	10 U	1,700	5 U	91	5 U	5 U	5 U	5 U	
10/29/01		5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	25	5 U	10 U	1,800	5 U	92	5 U	5 U	5 U	5 U	
11/19/01		5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	20	5 U	10 U	1,900	5 U	78	5 U	5 U	5 U	5 U	
01/02/02		0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	18	0.49 U	0.97 U	1,900	0.56 U	78	0.49 U	0.93 U	1.1 U	1.1 U	
03/27/02		0.91 U	1.2 U	1.5 U	1.2 U	1.3 U	1.1 U	2.3 U	0.96 U	19	1.3 U	4 J	1,800	1.2 U	67	0.98 U	2.2 U	2.2 U	2.2 U	
06/11/02		0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	19	0.49 U	0.97 U	1,500	0.57 U	64	0.49 U	1.5 U	1.1 U	1.1 U	
09/17/02		0.91 U	1.2 U	1.5 U	1.2 U	1.3 U	1.1 U	2.3 U	0.96 U	16	1.3 U	2 U	2,000	1.2 U	67	0.98 U	2.2 U	2.2 U	2.2 U	
12/16/02		2.2	1 U	4.0 U	1.0 U	1.0 U	1.1 U	1 U	1.0 U	7.9	1.0 U	4 U	680	1.0 U	40	1.0 U	1.0 U	1.0 U	1.7	
03/17/03		1.0 J	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	7.5	0.65 U	1.3 J	1,100	0.57 U	46	0.49 U	1.1 U	1.1 U	1.0 U	
03/17/03		1.0 J	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	7.5	0.65 U	1.3 J	1,100	0.57 U	45	0.49 U	1.1 U	1.1 U	1.0 U	
06/10/03		0.9 J	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.5 J	7.4	0.65 U	0.97 U	1,500	0.57 U	53	0.85 JB	1.1 U	1.5 J		
09/10/03		0.46 U	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.5 J	6.0	0.65 U	0.97 U	1,700	0.75 J	62	0.49 U	1.1 U	1.6 J		
12/05/03		2.9	0.4 J	0.29 U	0.23 U	0.25 U	0.86 J	0.46 U	0.2 J	8.8	0.26 U	0.39 U	1,100	0.3 J	58	0.2 U	0.44 U	2.1	2.1	
03/16/04		0.55 J	0.6 U	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.55 J	5.2	0.65 U	0.97 U	1,500	0.65 J	47	0.49 U	1.5 U	1.1 U	1.1 U	
09/22/04		0.7 J	0.3 U	0.36 U	0.29 U	0.31 U	0.27 U	0.57 U	0.43 J	6.3	0.33 U	0.49 U	1,300	0.58 J	47	0.25 U	0.55 U	0.78 J		
04/04/05		0.68 J	0.31 U	0.36 U	0.29 U	0.35 U	0.34 U	0.67 U	0.34 U	13	0.33 U	0.49 U	1,300	0.50 J	48	0.58 J	0.55 U	0.53 U		
09/20/05		0.45 J	0.19 J	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.21 J	29	0.13 U	0.2 U	1,400	0.61	52	0.17 J	0.22 U	0.35 J		
03/14/06		0.65 J	0.61 U	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	51	0.65 U	0.97 U	1,000	0.60 J	50	0.54 U	1.1 U	0.8 J		
09/13/06		0.51 U	0.61 U	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	28	0.65 U	0.97 U	1,100	0.58 U	50	0.54 U	1.1 U	0.7 J		
04/04/07		0.51 U	0.61 U	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	50	0.65 U	0.97 U	1,200	0.58 U	38	0.54 U	1.1 U	2.1 U		
09/26/07		0.51 U	0.61 U	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	41	0.65 U	0.97 U	1,200	0.58 U	42	0.54 U	1.1 U	2.1 U		
05/01/08		0.11 U	0.25 U	0.093 U	0.19 U	0.11 U	0.12 U	0.33 U	0.2 J	26	0.11 U	0.58 U	910	0.28 J	35	0.13 JB	0.2 U	0.18 U		
09/30/08		0.21 U	0.5 U	0.19 U	0.37 U	0.21 U	0.23 U	0.65 U	0.21 U	27	0.21 U	1.2 U	1,000	0.25 J	41	0.25 JB	0.39 U	0.36 U		
04/01/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	16	0.5 U	0.5 U	290	0.5 U	44	0.5 U	0.5 U	0.2 U			
04/09/10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	10 U	850	10 U	35	10 U	10 U	4.0 U			
04/16/10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	22	10 U	10 U	500	10 U	66	10 U	10 U	4.0			
05/06/10	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U	20 U	24	10 U	10 U	530	10 U	43	10 U	10 U	1.0 J			
06/09/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	11	0.5 U	0.5 U	680	0.5 U	33	0.5 U	0.5 U	0.28			
06/09/10 (LAB DUP)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	9.3	0.5 U	0.5 U	580	0.5 U	31	0.5 U	0.5 U	0.21			
07/06/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	19	0.5 U	0.5 U	470	0.5 U	34	0.5 U	0.5 U	0.2 U			
MW-12	07/12/01	2.3 U	3 U	NA	2.9 U	3.1 U	NA	4.4 U	2.4 U	170	NA	4.9 U	6,100	2.8 U	200	NA U	NA	5.3 U		
	08/27/01	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	150	25 U	25 U	2,000	25 U	160	25 U	25 U	25 U		
	09/24/01	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	52	5 U	0.5 U	2,400	5 U	86	5 U	5 U	5 U		
	10/15/01	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	23	5 U	10 U	1,500	5 U	43	5 U	5 U	5 U		
	10/15/01 (DUP)	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	22	5 U	10 U	1,600	5 U	40	5 U	5 U	5 U		
	10/22/01	5 U	5 U																	

Table D-2
 Indicator Hazardous Substances in Groundwater
 Univar USA, Inc.
 Kent, Washington

Sample Location	Date Collected	1,1-DCA		1,1-DCE		1,2,4-TMB		1,2-DCA		1,2-Dichloropropane		Benzene		Chloro-ethane		Chloro-form		cis-1,2-DCE		Ethyl-benzene		Methylene Chloride		PCE		1,1,1-TCA		TCE		Toluene		Total Xylenes		Vinyl Chloride				
		Solubility in Water:	5,100,000	3,350,000	LNAPL	8,690,000	LNAPL	8,690,000	0.8	LNAPL	8,200,000	3,500,000	LNAPL	8,200,000	3,500,000	LNAPL	20,000,000	200,000	720,000	1,100,000	1,000	1,000	1,600	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL			
MW-12 (continued)	03/17/03	0.46 U	5.5	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	2,500	0.65 U	1.5 J	460	0.57 U	1,200	0.49 U	1.1 U	1.1 U																				
	06/10/03	0.91 U	4.8 J	1.5 U	1.2 U	1.3 U	1.1 U	2.3 U	0.96 U	2,200	1.3 U	2 U	2,100	1.2 U	1,500	0.98 U	2.2 U	2.2 U																				
	09/10/03	0.91 U	4.5 J	1.5 U	1.2 U	1.3 U	1.1 U	2.3 U	0.96 U	2,400	1.3 U	2 U	900	1.2 U	3,500	1.0 JB	2.2 U	1.2 U																				
	12/05/03	0.46 U	4.7	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	2,000	0.65 U	1.3 J	1,500	0.57 U	2,100	0.49 U	1.1 U	1.1 U																				
	03/16/04	0.37 U	4.8	0.57 U	0.46 U	0.5 U	0.42 U	0.91 U	0.39 U	2,500	0.52 U	0.78 U	2,100	0.46 U	1,200	0.39 U	1.2 U	1.2 U																				
	09/22/04	0.46 U	4.1	0.71 U	0.57 U	0.62 U	0.53 U	1.2 U	0.48 U	2,300	0.65 U	0.97 U	880	0.57 U	1,700	0.49 U	1.1 U	1.1 U																				
	04/04/05	0.51 U	3.2	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	2,200	0.65 U	0.97 U	760	0.58 U	1,000	0.54 U	1.1 U	1.1 U																				
	09/20/05	1.1 U	4.4 J	1.5 U	1.2 U	1.4 U	1.4 U	2.3 U	1.4 U	2,800	1.3 U	2 U	390	1.2 U	1,500	1.1 U	2.2 U	2.2 U																				
	03/14/06	0.51 U	2.4 J	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	1,700	0.65 U	0.97 U	1,100	0.58 U	500	0.54 U	1.1 U	1.1 U																				
	09/13/06	0.15 J	4.2	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	2,600	0.13 U	0.2 U	400	0.12 U	1,400	0.11 U	0.22 U	0.22 U																				
	04/04/07	0.51 U	1.5 J	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	1,200	0.65 U	0.97 U	1,200	0.58 U	450	0.54 U	1.1 U	1.1 U																				
	09/26/07	0.51 U	3.0	0.71 U	0.57 U	0.7 U	0.68 U	1.2 U	0.68 U	1,700	0.65 U	0.97 U	470	0.58 U	1,100	0.54 U	1.1 U	1.1 U																				
	05/01/08	0.11 U	1.4	0.093 U	0.19 U	0.11 U	0.15 J	0.33 U	0.15 J	1,000	0.11 U	0.58 U	850	0.13 U	390	0.18 JB	0.2 U	5.9																				
	09/30/08	0.42 U	2.7 J	0.37 U	0.73 U	0.42 U	0.45 U	1.3 U	0.42 U	1,500	0.42 U	2.3 U	580	0.5 U	780	0.48 U	0.78 U	5.4																				
	03/26/09	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	843	25 U	25 U	710	25 U	600	25 U	25 U	93																				
	09/29/09	5.0 U	4.5 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2,200	5.0 U	5.0 U	320	5.0 U	1,400	5.0 U	5.0 U	150																				
	04/01/10	0.5 U	1.0	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	400	0.5 U	170	0.5 U	0.5 U	9.4																				
	09/28/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	377	0.5 U	377	0.5 U	0.5 U	17.2																				
	MW-23	09/13/06	0.36 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.96	0.13 U	0.2 U	0.28 J	0.12 U	0.14 U	0.11 U	0.22 U	0.09 J																			
04/04/07		0.14 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	3.2	0.13 U	0.2 U	1.8	0.12 U	0.22 J	0.11 U	0.22 U	0.09 J																				
09/25/07		0.25 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	2.4	0.13 U	0.2 U	1.7	0.12 U	0.17 J	0.11 U	0.22 U	0.13 J																				
09/25/07 (DUP)		0.26 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	2.1	0.13 U	0.2 U	1.9	0.12 U	0.17 J	0.11 U	0.22 U	0.12 J																				
05/01/08		0.18 J	0.18 J	0.037 U	0.073 U	0.12 J	0.045 U	0.13 U	0.042 U	3.2	0.042 U	0.23 U	2.9	0.05 U	0.25 J	0.07 JB	0.078 U	0.08 J																				
10/01/08		0.26 J	0.1 U	0.037 U	0.073 U	0.042 U	0.045 U	0.13 U	0.042 U	1.7	0.042 U	0.23 U	3.3	0.05 U	0.23 J	0.17 JB	0.078 U	0.10 J																				
03/24/09		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.9	0.5 U	0.5 U	1.2	0.5 U	0.5 U	0.5 U	1.0	1.0																				
09/29/09		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.1	0.5 U	0.5 U	2.2	0.5 U	0.5 U	0.5 U	0.5 U	0.20 J																				
04/01/10		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5	0.5 U	0.5 U	2.9	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U																				
09/28/10		0.31 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.63	0.5 U	0.5 U	1.17	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U																				
Shallow On-Site Injection Wells																																						
INJ-1	07/09/01	9.3	0.65 J	NA	0.58 U	0.62 U	0.5 U	25	0.48 U	29	NA	U	620	0.56 U	97	NA	NA	2.9																				
	11/20/01	1.2	0.5 U	NA	0.5 U	0.5 U	0.21 U	2.8	0.5 U	8.1	0.5 U	1 U	17	0.5 U	30	0.5 U	0.5 U	0.50 U																				
	06/11/02	0.60 J	1.9	0.29 U	0.23 U	0.26 U	NA	0.46 U	0.2 U	520	0.26 U	0.39 U	8.5	0.23 U	3.7	0.2 U	0.6 U	0.44 J																				
INJ-2	07/09/01	< 2.3 U	3 U	NA	2.9 U	3.1 U	0.5 U	4.4 U	2.4 U	200	NA	4.9 U	6,300	2.8 U	240	NA	NA	5.5 J																				
	10/15/01	<0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.1	1.6	1 U	33	0.5 U	1.8	0.5 U	6	0.5 U																				
	10/22/01	<0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2	2.9	1 U	57	0.5 U	2.8	0.53	11.3	0.5 U																				
	10/29/01	<0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.9	1.4	1 U	68	0.5 U	4.3	0.65	6.8	0.5 U																				
	11/19/01	<0.5 U	0.5 U	NA	0.5 U	0.5 U	1.1 U	0.50 U	0.5 U	7.3	0.89	1 U	230	0.5 U	9.2	0.5 U	4.4	0.5 U																				
	06/11/02	< 0.91 U	5.4	1.5 U	1.2 U	1.3 U	1.1 U	2.3 U	0.96 U	2,100	1.3 U	2 U	1,000	1.2 U	600	0.98 U	2.9 U	2.2 U																				
06/10/03	< 0.91 U	5.3	1.5 U	1.2 U	1.3 U	NA	2.3 U	0.96 U	2,100	1.3 U	2 U	2,700	1.2 U	610	1.1 JB	2.9 U	2.2 U																					
07/09/01	3.4	0.95 J	NA	0.58 U	0.62 U	1 U	5.9	0.48 U	39	NA	0.97 U	520	0.56 U	250	NA	NA	7.3																					
11/20/01	1.0 U	1.0 U	NA	1.0 U	1.0 U	0.53 U	1.0 U	1.0 U	49	1.0 U	2 U	670	1.0 U	130	1.0 U	1.0 U	1.8																					
06/11/02	1.2 J	3.4	0.71 U	0.57 U	0.62 U																																	

Table D-2
Indicator Hazardous Substances in Groundwater
Univar USA, Inc.
Kent, Washington

Sample Location	Date Collected	1,1-DCA		1,2,4-TMB	1,2-DCA		1,2-Dichloro-propane	Benzene	Chloro-ethane	Chloro-rom	cis-1,2-DCE		Ethyl-benzene	Methylene Chloride	PCE	1,1,1-TCA		TCE	Toluene	Total Xylenes	Vinyl Chloride	
		Solubility in Water: Final Cleanup Levels	5,100,000	3,350,000	LNAPL	8,690,000		0.8	LNAPL	8,200,000	3,500,000	LNAPL	LNAPL	20,000,000	200,000	720,000	1,100,000	1,000	LNAPL	LNAPL	LNAPL	LNAPL
MW-17	10/30/03	4.3	0.24 U	22	2.1	0.25 U	15	190	0.34 J	2.8	260	1.5 J	0.22 U	0.23 U	0.24 U	5.8	1,616	5.8	1,616	0.5	9.1	
	12/04/03	4.1	0.24 U	17	1.4	0.25 U	11	140	0.2 U	0.24 U	180	0.68 J	0.22 U	0.23 U	0.24 U	5.8	1,412	5.8	1,412	0.54 J		
	03/15/04	5.3	0.12 U	29	2.5	0.13 U	21	230	0.34 J	13	170	2.7	0.11 U	0.12 U	0.12 U	9.6	1,428	9.6	1,428	57		
	06/10/04	4.1	0.12 U	22	1.9	0.13 U	14	180	0.096 U	0.32 J	190	1.4 J	0.11 U	0.12 U	0.12 U	5.4	2,114	5.4	2,114	0.93		
	09/23/04	3.6	0.6 U	21	1.8 J	0.62 U	12	170	0.48 U	0.58 U	220	1.8 J	0.55 U	0.57 U	0.59 U	4.1	1,616	4.1	1,616	1.1 U		
	09/23/04 (DUP)	3.7	0.6 U	22	2.0 J	0.62 U	13	180	0.48 U	0.58 U	230	1.8 J	0.55 U	0.57 U	0.59 U	4.2	1,617	4.2	1,617	1.1 U		
	04/05/05	2.9	0.31 U	16	1.4	0.35 U	11	140	0.34 U	0.29 U	120	0.95 J	0.32 U	0.29 U	0.34 U	4.6	1,200	4.6	1,200	0.53 U		
	09/21/05	3.4	0.13 U	26	1.5	0.14 U	13	180	0.14 U	0.12 J	150	0.84 J	0.13 U	0.12 U	0.14 U	4.9	1,413	4.9	1,413	0.24 J		
	03/15/06	4.1	0.61 U	22 J	2.6	0.70 U	19	280	2.5 U	0.58 U	200 J	1.7 J	0.63 U	0.58 U	0.67 U	3.1	1,614 J	3.1	1,614 J	0.55 J		
	09/12/06	3.2	0.13 U	9.6	1.4	0.14 U	12	170	0.14 U	2.1	63	0.78 J	0.13 U	0.12 U	0.14 U	1.4	448	1.4	448	10		
	04/04/07	2.9	0.31 U	23	2.6	0.35 U	20	230	0.34 U	0.7 J	75	1.4 J	0.32 U	0.29 U	0.34 U	2.1	1,013	2.1	1,013	2.3		
	09/24/07	2.7	0.31 U	19	2.2	0.14 U	14	150	0.14 U	0.12 U	8.1	0.99 J	0.13 U	0.12 U	0.14 U	0.93	377	0.93	377	0.13 J		
	05/01/08	2.7	0.1 U	12	1.1 U	0.042 U	7.9	77	0.042 U	0.05 J	50	0.33 J	0.077 U	0.05 U	0.08 J	1.4	206	1.4	206	0.10 J		
	09/29/08	2.6	0.1 U	18	2.0	0.042 U	16	170	0.042 U	0.07 J	0.91	1 J	0.077 U	0.05 U	0.08 J	1.0	337	1.0	337	0.11 J		
	03/24/09	2.8	0.5 U	20	0.5 U	0.5 U	14	140	1.0 U	0.5 U	270	0.5 U	0.5 U	0.5 U	0.5 U	1.0	350	1.0	350	1.0		
	09/30/09	9.6 J	10 U	24	10 U	10 U	54	990	20 U	10 U	10 U	10 U	10 U	10 U	10 U	2.8 J	580	2.8 J	580	20		
	03/30/10	1.7	0.5 U	7.7	1.3	0.5 U	9.0	110	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	75	0.5 U	0.5 U	75	0.2	
	10/01/10	1.79	0.5 U	8.82	0.5 U	0.5 U	5.84	54.6	1.0 U	0.5 U	0.55	0.57 J	0.5 U	0.5 U	0.5 U	0.76	68.7	0.5 U	0.5 U	0.2 U	0.2 U	
MW-18	10/30/03	12	6.2 J	2.9 U	2.3 U	2.5 U	2.1 U	14	2 U	5,400	14	3.9 U	2.2 U	2.3 U	2.4 U	120	93	120	93	7,900		
	12/04/03	15	3.7 J	1.5 U	1.2 U	1.3 U	1.6 J	23	0.96 U	3,500	9	2 U	1.1 U	1.2 U	1.2 U	71	50	71	50	4,700		
	12/04/03 (DUP)	14	3.7 J	1.5 U	1.2 U	1.3 U	1.6 J	20	0.96 U	3,700	8.5	2 U	1.1 U	1.2 U	1.2 U	68	48	68	48	5,400		
	03/16/04	4.9	0.12 U	0.28 J	0.12 U	0.13 U	0.17 J	1.8	0.096 U	16	1.7	0.2 U	0.11 U	0.12 U	0.12 U	1.4	6.4	1.4	6.4	23		
	06/10/04	2.7	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	0.91	0.096 U	5	0.83	0.2 U	0.11 U	0.12 U	0.12 U	0.42 J	3.6	0.42 J	3.6	6.6		
	09/23/04	2.4	0.12 U	0.15 U	0.12 U	0.13 U	0.11 U	1.2	0.096 U	4.5	0.86	0.2 U	0.16 J	0.12 U	0.13 J	0.24 J	3.6	0.24 J	3.6	4.4		
	04/05/05	1.8	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	1.4	0.14 U	7.2	0.49 J	0.2 U	0.13 U	0.12 U	0.44 J	0.33 J	1.4	0.33 J	1.4	5.1		
	04/05/05 (DUP)	1.7	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	1.3	0.14 U	6	0.46 J	0.2 U	0.13 U	0.12 U	0.37 J	0.65	1.3	0.37 J	0.65	4.3		
	09/20/05	0.37 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.36 J	62	0.13 U	0.2 U	2.2	0.12 U	2.1	0.35 J	0.22 U	2.1	0.35 J	0.22 U	5.3	
	03/15/06	0.92	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.66	0.14 U	6.6	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.18 J	1.12	0.13 U	0.18 J	1.12	0.85	
	09/12/06	0.48 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	1.0	0.14 U	0.77	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.11 U	0.8 J	0.11 U	0.8 J	1.3		
	04/03/07	0.31 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.23 U	0.14 U	0.36 J	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.15 J	0.71 J	0.13 U	0.15 J	0.36 J		
	09/24/07	0.21 J	0.13 U	0.15 U	0.12 U	0.14 U	0.14 U	0.46 J	0.14 U	0.52	0.13 U	0.2 U	0.13 U	0.12 U	0.14 U	0.11 U	0.93 J	0.13 U	0.11 U	0.93 J	0.55	
	05/01/08	0.27 J	0.1 U	0.10 J	0.073 U	0.042 U	0.042 U	0.27 J	0.042 U	0.36 J	0.042 U	0.23 U	0.077 U	0.05 U	0.061 U	0.25 J	0.79 J	0.05 U	0.25 J	0.79 J	0.34 J	
	10/01/08	0.26 J	0.1 U	0.04 J	0.073 U	0.042 U	0.06	0.85	0.042 U	0.49 J	0.06 J	0.23 U	0.09 J	0.05 U	0.14 J	0.61 B	1.03 J	0.05 U	0.61 B	1.03 J	0.42 J	
	03/24/09	2.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.0	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.2	1.1	0.5 U	0.5 U	1.2	1.1	
	09/30/09	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J
	03/30/10	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6	4.5	1.0 U	0.2 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.7	0.5 U	0.5 U	0.7	0.09 J	
09/28/10	0.34 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.39	1.0 U	4.40	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.26 J	0.62	0.5 U	0.26 J	0.62	5.33		
MW-19	02/20/04	11	0.12 U	1.3 J	0.12 U	0.13 U	3.1 J	11	0.096 U	0.51	13	0.23 J	0.11 U	0.12 U	180	73	180	73	3			
	03/16/04	9.2	0.12 U	0.9 J	0.12 U	0.13 U	3.0	5.8	0.096 U	0.32 J	9.5	0.2 U	0.11 U	0.12 U	110	42	110	42	12			
	03/16/04 (DUP)	9.6	0.12 U	1.0 J	0.12 U	0.13 U	3.0	6.1	0.096 U	0.39 J	10	0.2 U	0.11 U	0.12 U	99	44	99	44	12			
	06/10/04	1.4	0.12 U	0.15 U	0.12 U	0.13 U	1.6	0.23 U	0.096 U	2.7	0.47 J	0.2 U	0.11 U	0.12 U	1.3	2.06	1.3	2.06	42			
	09/23/04	3.4	0.12 U	0.19 J	0.12 U	0.13 U	1.2	2.7	0.096 U	4.1	2.4	0.2 U	0.11 U	0.12 U	17	10.4	17	10.4	38			
	04/05/05	1.9	0.13 U	0.15 U	0.12 U	0.14 U	1.2	0.28 J	0.14 U	11	0.27 J	0.2 U	0.13 U	0.12 U	1.4 U	1.2	0.49 J	1.2	0.49 J	44		
	09/21/05	2.2	0.79	0.47 J	0.12 U	0.14 U	1.4	1.2	0.14 U	74	2.4	0.2 U	0.13 U	0.12 U	1.3	1.1	6.9	1.1	6.9	47		
	03/15/06	1.6	0.13 U	0.15 U	0.12 U	0.14 U	1.1	0.34 J	0.14 U	9.7	0.39 J	0.2 U	0.13 U	0.12 U	1.1	0.55	1.92	0.55	1.92	30		
	09/12/06	2.6	0.13 U	1.1 J	0.12 U	0.14 U	1.4	4.5	0.14 U	18	7.9	0.2 U	0.13 U	0.12 U	1.4 U	1.1	18.2	1.1	18.2	20		
	04/03/07	2.0	0.13 U	0.71 J	0.12 U	0.14 U	1.1	0.90	0.14 U	39	1.4	0.2 U	0.13 U	0.12 U	0.14 U	0.58	12.6	0.58	12.6	72		
	09/24/07	1.1	0.13 U	0.84 J	0.12 U	0.14 U	0.9	0.92	0.14 U	3.9	0.97	0.2 U	0.13 U	0.12 U	0.14 U	0.62 J	11.5	0.62 J	11.5	37		
	05/02/08	1.9	0.1 U	1.8 J	0.073 U	0.042 U	1.0	1.6	0.042 U	0.18 J	0.58	0.23 U	0.077 U	0.05 U	0.061 U	0.59 B	21.4	0.05 U	0.59 B	21.4	1.6	
	10/01/08	0.84	0.1 U	0.49 J	0.073 U	0.042 U	0.77	0.96	0.042 U	30	0.1 J	0.23 U	0.077 U	0.05 U	0.10 J	0.44 JB	4.17	0.05 U	0.44 JB	4.17	7.5	
	03/23/09	0.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.5	2.3	0.5 U	0.5 U	1.5	2.3	
	09/29/09	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.9	3.2	1.0 U	2.3	3.0	0.5 U	0.5 U	0.5 U	4.1	18	0.5 U	0.5 U	4.1	18	
	03/30/10	0.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.7	2.4	1.0 U	1.1	0.5 U	0.5 U	0.5 U	0.5 U	1.2	5.0	0.5 U	0.5 U	1.2	5.0	
	03/30/10 (LAB DUP)	0.9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.7	2.4	1.0 U	1.2	0.5 U	0.5 U	0.5 U	0.5 U	1.6	4.4	0.5 U	0.5 U	1.6	4.4	
	09/28/10	1.06	0.5 U	2.00	0.5 U	0.5																

Table D-2
 Indicator Hazardous Substances in Groundwater
 Univar USA, Inc.
 Kent, Washington

Sample Location	Date Collected	1,1-DCA		1,2,4-TMB	1,2-DCA		1,2-Dichloropropane	Benzene	Chloroethane	Chloroform	cis-1,2-DCE	Ethylbenzene	Methylene Chloride	PCE	1,1,1-TCA	TCE	Toluene	Total Xylenes	Vinyl Chloride	
		Solubility in Water: Final Cleanup Levels	5,100,000	3,350,000	LNAPL	8,690,000		0.8	LNAPL	8,200,000	3,500,000	LNAPL	20,000,000	200,000	720,000	1,100,000	1,000	LNAPL	LNAPL	
MW-22	09/14/06	1,500	14 J	130	5.7 U	7 U	6.8 U	1,700	6.8 U	1,900	70	700	5.0	0.86	200	4.0	1,000	1,600	0.5	
	04/04/07	3,700	22 J	330	5.7 U	7 U	6.8 U	610	6.8 U	3,300	2,300	9.7 U	6.3 U	5.8 U	6.7 U	17,000	9,900	4,800		
	04/04/07 (DUP)	3,600	22 J	330	5.7 U	7 U	6.8 U	610	6.8 U	3,100	2,300	9.7 U	6.3 U	5.8 U	6.7 U	17,000	9,900	4,600		
	09/26/07	370	18	130	1.2 U	5 U	3 J	1,800	1.4 U	1,600	920	2.2 J	1.3 U	8.2	1.4 U	4,000	3,650	1,100		
	05/02/08	780	7.2 J	200	1.5 U	0.84 U	3.6 J	2,100	0.84 U	540	1,400	7.6 J	1.6 U	1 U	1.3 U	7,000	5,600	1,400		
	10/01/08	12	0.5 U	52	0.85 J	0.21 U	1.6 J	1,100	0.21 U	7.9	610	1.5 J	0.39 U	0.25 U	0.31 U	38	2,170	30		
	10/01/08 (DUP)	12	1 U	61	1.0 J	0.42 U	1.7	1,100	0.42 U	6.9	650	2.3 U	0.77 U	0.5 U	0.61 U	34	2,290	27		
	03/25/09	72	0.5 U	140	0.5 U	0.5 U	19	1,400	1.0 U	11	960	0.5 U	0.5 U	0.5 U	0.5 U	1,600	3,700	160		
	09/30/09	17 J	25 U	39	25 U	25 U	25 U	1,100	50 U	17 J	730	25 U	25 U	25 U	25 U	170	3,100	960		
	03/29/10	24	0.5 U	44	0.5 U	0.5 U	0.5 U	480	1.0 U	0.5 U	650	10 U	25 U	0.5 U	0.5 U	840	1,500	7.4		
09/30/10	10 U	0.5 U	45.2	10 U	10 U	10 U	611	20 U	2.6 J	296	10.8	5.0 U	10 U	5.0 U	24.4	751	2.0 U			
MW-24	03/26/10	540	17	230	0.5 U	0.5 U	0.9	160	4.5	4,100	1,900	0.5 U	0.5 U	680	160	4,800	3,600	1,200		
	04/16/10	260	10 U	18	10 U	10 U	10 U	1,100	20 U	80	1,300	10 U	10 U	10 U	5.0 U	3,800	3,300	320		
	05/06/10	820	5.0 U	72	10 U	10 U	10 U	900	20 U	930	1,800	10 U	5.0 U	10 U	5.0 U	6,200	4,000	1,900		
	05/06/10 (LAB DUP)	850	5.0 U	71	10 U	10 U	10 U	970	20 U	980	1,800	10 U	5.0 U	10 U	5.0 U	6,800	4,400	2,000		
	06/09/10	1,300	22	130	10 U	10 U	10 U	89	20 U	2,200	1,600	10 U	2.2 J	97	5.2	5,900	3,600	3,400		
	07/06/10	940	14	180	10 U	10 U	10 U	1,200	20 U	2,100	1,200 J	10 U	5.0 U	120	5.0 U	7,300	2,900	4,200		
	7/6/10 (DUP)	1,100	14	140	10 U	10 U	10 U	1,100	20 U	2,400	830 J	10 U	5.0 U	130	5.0 U	6,600	2,300	3,400		
	03/29/10	25	0.5 U	160	0.9	0.5 U	1.9	410	1.1	2.2	940	0.5 U	0.5 U	0.5 U	0.4	1,200	1,600	2.7		
MW-25	04/07/10	48	10 U	180	10 U	10 U	10 U	730	20 U	10 U	1,700	10 U	10 U	10 U	10 U	3,100	2,900	12		
	04/16/10	74	10 U	310	10 U	10 U	10 U	1,900	20 U	10 U	2,200	10 U	10 U	10 U	4,100	5,100	10			
	4/16/10 (LAB DUP)	70	10 U	290	10 U	10 U	10 U	1,800	20 U	10 U	2,100	10 U	10 U	10 U	4,000	5,000	9.2			
	05/06/10	32	5.0 U	130	10 U	10 U	10 U	1,100	20 U	5.0 U	1,200	10 U	5.0 U	10 U	2,900	3,200	2.0			
	06/09/10	29	5.0 U	110	10 U	10 U	10 U	820	20 U	5.0 U	680	10 U	21	10 U	1,200	1,700	2.0 U			
	07/06/10	25	0.5 U	79	0.5 U	0.5 U	0.5 U	640	1.0 U	0.5 U	480	0.5 U	2.9	0.5 U	800	980	4.0			
	04/01/10	0.5 U	1.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	20	0.5 U	0.5 U	380	0.5 U	37	0.5 U	0.5 U	0.2 U		
	04/09/10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	10 U	10 U	570	10 U	28	10 U	10 U	6.4		
MW-26	4/9/10 (LAB DUP)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	550	10 U	27	10 U	10 U	6.2		
	04/16/10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	16	10 U	10 U	320	10 U	32	10 U	10 U	8.8		
	05/06/10	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	11	10 U	10 U	300	10 U	28	10 U	10 U	5.2		
	06/09/10	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	14	10 U	10 U	350	10 U	31	10 U	10 U	12		
	07/06/10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	12	0.5 U	0.5 U	300	0.5 U	29	0.5 U	0.5 U	9.0		
	P-1	09/24/04	0.28 J	0.12 U	0.15 U	0.12 U	0.13 U	NA	0.23 U	0.096 U	1.2	0.13 U	0.2 U	0.11 U	0.12 U	0.12 U	0.098 U	0.22 U	0.22 U	
	Deep Off-Site Monitoring Well																			
	MW-20	07/28/05	1.6	0.5 U	2 U	0.5 U	0.5 U	18	140	0.5 U	0.5	4.3	2 U	0.5 U	0.5 U	0.5 U	1.7	124	0.5 U	
09/20/05		0.39 J	0.13 U	1.1 J	0.12 U	0.14 U	16	130	0.14 U	0.14 U	1.4	0.57 J	0.13 U	0.12 U	0.14 U	1.5	92	0.14 J		
9/20/05 (DUP)		0.35 J	0.13 U	1.0 J	0.12 U	0.14 U	16	130	0.14 U	0.15 J	1.5	0.57 J	0.13 U	0.12 U	0.14 U	1.4	91.9	0.16 J		
03/15/06		1.7 J	0.13 U	0.87 J	0.12 U	0.14 U	16	140	0.14 U	0.12 J	3.0	0.86 J	0.13 U	0.12 U	0.14 U	1.5	144	0.23 J		
09/12/06		0.12 J	0.13 U	0.44 J	0.12 U	0.14 U	15	140	0.14 U	0.15 J	0.17 J	0.56 J	0.13 U	0.12 U	0.14 U	0.86	35	0.22 J		
04/05/07		0.93 J	0.13 U	1.2 J	0.12 U	0.14 U	15	88	0.14 U	0.15 J	0.57	0.74 J	0.13 U	0.12 U	0.14 U	1.6	114	0.21 J		
09/26/07		0.11 U	0.13 U	0.96 J	0.12 U	0.14 U	13	85	0.14 U	0.12 J	0.22 J	0.46 J	0.13 U	0.12 U	0.14 U	1.2	22.7	0.13 J		
05/02/08		0.19 J	0.1 U	0.81 J	0.34 U	0.042 U	11	76	0.042 U	0.16 J	0.26 J	0.46 J	0.077 U	0.05 U	0.07 J	0.93	71	0.14 J		
5/2/08 (DUP)		0.18 J	0.1 U	0.85 J	0.34 U	0.042 U	12	72	0.042 U	0.11 J	0.29 J	0.46 J	0.077 U	0.05 U	0.061 U	1.0	75.2	0.15 J		
09/29/08		0.04 U	0.1 U	0.47	0.073 U	0.042 U	15	110	0.042 U	0.13 J	0.17 J	0.53 J	0.077 U	0.05 U	0.061 U	1.2	8.9	0.13 J		
03/23/09		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	13	89	1.0 U	0.5 U	65	0.5 U	0.5 U	0.5 U	0.5 U	1.3	86	1.0		
09/30/09		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	14	190	1.0 U	0.5 U	1.3	0.5 U	0.5 U	0.5 U	0.5 U	0.7	4.0	0.31 J		
03/29/10		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	18 J	140	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0	7.1	0.2		
10/01/10		0.5 U	0.5 U	1.27	0.5 U	0.5 U	15.2	195	1.0 U	0.5 U	0.5 U	0.73 J	0.5 U	0.5 U	0.5 U	0.94	4.26	0.12 J		

Notes:

All results in ug/L.
 1995 analyses performed using EPA Method 8240A.
 Analyses since 1996 performed using EPA Method 8260A.
 Only indicator hazardous substances shown.
 Detections shown in bold.
 Shaded results above their respective cleanup level.
 U = not detected above associated method reporting limit.
 NA = not analyzed or not quantitated
 DUP = duplicate sample collected in the field and blind labeled.
 LAB DUP = laboratory duplicate sample.
 B = the analyte was also detected in an associated blank.
 J = the associated numerical value is an estimated quantity based on data review or laboratory estimate above the MDL but below the MRL.

E = laboratory estimated concentration.
 Results from June 2000 and from December 2000 to September 2008 are reported relative to the method detection limits (MDLs).
 1,2,4-TMB = 1,2,4-trimethylbenzene.
 1,1-DCA = 1,1-dichloroethane.
 1,2-DCA = 1,2-dichloroethane.
 1,1-DCE = 1,1-dichloroethane.
 cis-1,2-DCE = cis-1,2-dichloroethane.
 TCA = 1,1,1-trichloroethane.
 TCE = trichloroethane.
 PCE = tetrachloroethane.

Table D3
General Chemistry Parameters in Groundwater
Univar USA, Inc. Facility
Kent, Washington

Sample Location	Date Collected	Anions (EPA Method 300.0)				Sulfide	Total Alkalinity		Total Organic Carbon	Total Manganese	Total Iron		Ferrous Iron	TDS
		Chloride	Bromide	Nitrate as Nitrogen	Sulfate	Hach Method 8131 or SM 4500-S2-F	Hach Method AL AP MG-L	SM 2320B	EPA Method 415.1 or SM 5310B	EPA Method 6010A/6010B	EPA Method 6010A/6010B	Hach Method 8008	Hach Method 8146	EPA Method 160.1
Shallow On-Site Monitoring Wells														
MW-1	09/04/96	130	NA	NA	88.0	NA	NA	NA	NA	2.1	29.6	NA	NA	990
	12/15/98	68.5	NA	< 0.2	4.3	0.070	500	NA	47.0	NA	NA	23.4	24.6	NA
	03/02/99	64.5	NA	0.2	5.8	0.266	540	NA	37.0	NA	NA	29.4	18.2	NA
	06/17/99	49	NA	0.3	6.7	0.110	460	NA	40.5	NA	NA	24.0	20.8	NA
	09/16/99	59.8	NA	< 0.2	7.2	0.249	400	NA	42.1	NA	NA	11.0	18.8	NA
	09/18/02	NA	NA	NA	NA	NA	NA	NA	37	NA	NA	NA	NA	NA
MW-2	09/04/96	18.0	NA	NA	0.3	NA	NA	NA	NA	3.21	112	NA	NA	576
	12/15/98	13.6	NA	0.3	5.3	0.017	260	NA	26.4	NA	NA	23.9	30.4	NA
	03/02/99	14.3	NA	0.9	13.1	0.037	360	NA	22.8	NA	NA	46.4	23.0	NA
	06/16/99	13	NA	1.0	7.5	0.054	420	NA	24.2	NA	NA	86.5	66.7	NA
	06/16/99 (DUP)	12.2	NA	1.3	12.8	NA	NA	NA	25.1	NA	NA	NA	NA	NA
	09/16/99	14.6	NA	< 0.2	< 0.2	0.037	400	NA	27.2	NA	NA	94.6	61.9	NA
MW-3	09/18/02	NA	NA	NA	NA	NA	NA	NA	33	NA	NA	NA	NA	NA
	09/04/96	26.0	NA	NA	0.9	NA	NA	NA	NA	3.17	36.3	NA	NA	952
	09/04/96 (DUP)	26.0	NA	NA	1.1	NA	NA	NA	NA	3.13	38.5	NA	NA	976
	12/14/98	29.8	NA	< 0.2	< 0.2	< 0.001	660	NA	44.5	NA	NA	34.4	34.2	NA
	03/03/99	25.6	NA	< 0.2	0.3	0.013	640	NA	52.8	NA	NA	33.0	31.7	NA
	06/17/99	17.1	NA	< 0.2	< 0.2	0.013	640	NA	57.9	NA	NA	59.7	38.0	NA
MW-4	09/17/99	14.5	NA	< 0.2	< 0.2	0.047	520	NA	62.4	NA	NA	100.1	47.7	NA
	09/04/96	110	NA	NA	37.0	NA	NA	NA	NA	9.89	83.9	NA	NA	796
	12/14/98	89.7	NA	< 0.2	15.6	0.026	840	NA	23.4	NA	NA	59.8	59.1	NA
	03/03/99	45.0	NA	< 0.2	183	0.880	900	NA	12.8	NA	NA	12.9	7.5	NA
	06/17/99	60.9	NA	0.3	61.7	0.159	840	NA	18.2	NA	NA	6.99	4.75	NA
	09/17/99	77.3	NA	< 0.2	2.0	0.071	870	NA	18.4	NA	NA	24.3	13.4	NA
MW-5	09/18/02	NA	NA	NA	NA	NA	NA	NA	19	NA	NA	NA	NA	NA
	09/04/96	17.0	NA	NA	32	NA	NA	NA	NA	0.34	0.107	NA	NA	332
	12/15/98	17.5	NA	< 0.2	17.3	0	200	NA	7.8	NA	NA	0.090	0.024	NA
	03/02/99	6.9	NA	2.4	22.0	0.002	145	NA	4.8	NA	NA	0.137	0.060	NA
	06/16/99	6.2	NA	2.5	20.5	0.002	180	NA	6.0	NA	NA	0.125	0.042	NA
	09/16/99	6.8	NA	1.5	20.7	0.001	160	NA	5.9	NA	NA	0.052	0.008	NA
	09/16/99 (DUP)	6.2	NA	1.5	20.4	NA	NA	NA	5.9	NA	NA	NA	NA	NA
	09/18/02	NA	NA	NA	NA	NA	NA	NA	7.2	NA	NA	NA	NA	NA
	09/13/06	NA	NA	0.6	34.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	04/01/10	NA	< 0.1	NA	NA	NA	NA	NA	6.3	NA	NA	NA	NA	NA
	04/09/10	NA	< 0.1	NA	NA	NA	NA	NA	5.7	NA	NA	NA	NA	NA
	04/16/10	NA	< 0.1	NA	NA	NA	NA	NA	6.0	NA	NA	NA	NA	NA
	04/16/10 (LAB DUP)	NA	< 0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	05/06/10	NA	< 2.0	NA	NA	NA	NA	NA	5.9	NA	NA	NA	NA	NA
06/09/10	NA	< 0.1	NA	NA	NA	NA	NA	5.0	NA	NA	NA	NA	NA	
07/06/10	NA	< 0.1	NA	NA	NA	NA	NA	4.8	NA	NA	NA	NA	NA	
07/06/10	NA	NA	NA	NA	NA	NA	NA	5.6	NA	NA	NA	NA	NA	
MW-6	09/04/96	340	NA	NA	0.6	NA	NA	NA	NA	9.28	222	NA	NA	1,260
	12/15/98	199	NA	< 0.2	11.7	0.014	460	NA	22.6	NA	NA	114	125	NA
	03/02/99	213	NA	0.6	19.8	0.015	500	NA	15.8	NA	NA	170	63	NA
	03/02/99 (DUP)	208	NA	0.6	46.6	NA	NA	NA	15.9	NA	NA	NA	NA	NA

Table D3
 General Chemistry Parameters in Groundwater
 Univar USA, Inc. Facility
 Kent, Washington

Sample Location	Date Collected	Anions (EPA Method 300.0)				Sulfide		Total Alkalinity		Total Organic Carbon		Total Manganese		Total Iron		Ferrous Iron	TDS
		Chloride	Bromide	Nitrate as Nitrogen	Sulfate	Hach Method 8131 or SM 4500-S2-F	Hach Method AL AP MG-L SM 2320B	EPA Method 415.1 or SM 5310B	EPA Method 6010A/6010B	EPA Method 6010A/6010B	Hach Method 8008	Hach Method 8146	EPA Method 160.1				
MW-6 (continued)	06/16/99	232	NA	0.3	11.6	0.009	520	NA	21	NA	NA	192	120	NA	NA		
	09/16/99	130	NA	< 0.5	27.3	0.047	480	NA	18.5	NA	NA	169	95	NA	NA		
	09/18/02	NA	NA	NA	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA		
MW-7	12/14/98	5.4	NA	< 0.2	1.6	0.003	260	NA	9.4	NA	NA	3.36	3.17	NA	NA		
	03/03/99	5.7	NA	1.3	12.7	0.010	180	NA	6.5	NA	NA	1.79	1.72	NA	NA		
	06/17/99	6.8	NA	2.3	25.1	0.005	200	NA	9.2	NA	NA	2.21	1.86	NA	NA		
	09/17/99	8.1	NA	0.3	21.4	0.004	240	NA	10.6	NA	NA	3.58	2.98	NA	NA		
MW-8	12/14/98	9.2	NA	< 0.2	20.4	NA	260	NA	10.0	NA	NA	1.13	0.98	NA	NA		
	12/14/98 (DUP)	9.3	NA	< 0.2	20.4	NA	NA	NA	10.1	NA	NA	NA	NA	NA	NA		
	03/02/99	12.7	NA	0.3	29.7	0.023	260	NA	8.9	NA	NA	2.03	0.77	NA	NA		
	06/16/99	12.8	NA	< 0.2	29.1	0.009	240	NA	9.6	NA	NA	0.70	0.50	NA	NA		
	09/16/99	10.5	NA	< 0.2	21.1	0.007	260	NA	10.5	NA	NA	1.02	0.45	NA	NA		
	09/18/02	NA	NA	NA	NA	NA	NA	NA	11.4	NA	NA	NA	NA	NA	NA		
MW-11	04/01/10	NA	< 0.1	NA	NA	NA	NA	NA	5.8	NA	NA	NA	NA	NA	NA		
	04/09/10	NA	0.35	NA	NA	NA	NA	NA	4.9	NA	NA	NA	NA	NA	NA		
	04/16/10	NA	0.35	NA	NA	NA	NA	NA	5.7	NA	NA	NA	NA	NA	NA		
	05/06/10	NA	2.6	NA	NA	NA	NA	NA	5.4	NA	NA	NA	NA	NA	NA		
	05/06/10 (LAB DUP)	NA	2.6	NA	NA	NA	NA	NA	6.4	NA	NA	NA	NA	NA	NA		
	06/09/10	NA	3.9	NA	NA	NA	NA	NA	5.2	NA	NA	NA	NA	NA	NA		
	06/09/10 (LAB DUP)	NA	3.9	NA	NA	NA	NA	NA	5.0	NA	NA	NA	NA	NA	NA		
	07/06/10	NA	8.1	NA	NA	NA	NA	NA	5.6	NA	NA	NA	NA	NA	NA		
MW-23	09/13/06	NA	NA	< 0.1	29.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Deep On-Site Monitoring Wells and Piezometer																	
MW-13	09/24/04	56.1	NA	< 0.2	0.6	0.05	260	NA	40.3	1.40	37.1	NA	1.5	NA	NA		
	04/05/05	4.3	NA	< 0.1	6.1	< 0.01	50	NA	5.8	0.145	3.3	NA	2.4	NA	NA		
	09/14/06	NA	NA	< 0.1	< 0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	03/29/10	NA	0.45	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA	NA		
	03/29/10 (LAB DUP)	NA	0.48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	04/07/10	NA	0.44	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA		
	04/07/10 (LAB DUP)	NA	0.46	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA		
	04/16/10	NA	0.47	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA		
	05/06/10	NA	< 2.0	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA		
MW-14	09/24/04	6.2	NA	< 0.2	< 0.2	< 0.01	240	NA	11.8	1.12	32.7	NA	2.0	NA	NA		
	04/05/05	6.3	NA	< 0.1	< 0.2	< 0.01	215	NA	12.8	1.24	35.7	NA	1.8	NA	NA		
MW-15	09/24/04	6.6	NA	< 0.2	< 0.2	< 0.01	240	NA	7.9	1.33	34.8	NA	1.6	NA	NA		
	04/05/05	7.5	NA	< 0.1	< 0.2	< 0.01	190	NA	8.0	1.41	35.9	NA	2.0	NA	NA		
	09/13/06	NA	NA	< 0.1	< 0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
MW-16	09/23/04	33.5	NA	< 0.2	8.1	< 0.01	420	NA	24.1	3.71	108	NA	2.0	NA	NA		
	04/05/05	36.2	NA	< 0.1	1.1	< 0.01	295	NA	23.6	3.92	114	NA	2.2	NA	NA		
MW-17	09/23/04	49.7	NA	< 0.2	< 0.2	< 0.01	1,320	NA	32.9	1.77	55.7	NA	2.4	NA	NA		
	09/23/04 (DUP)	46.9	NA	< 0.2	< 0.2	NA	NA	NA	32.8	1.75	54.9	NA	NA	NA	NA		
	04/05/05	50.0	NA	< 0.1	< 0.2	< 0.01	230	NA	32.7	0.92	40.1	NA	2.5	NA	NA		
MW-17	09/12/06	NA	NA	< 0.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		

Table D3
General Chemistry Parameters in Groundwater
Univar USA, Inc. Facility
Kent, Washington

Sample Location	Date Collected	Anions (EPA Method 300.0)				Sulfide	Total Alkalinity		Total Organic Carbon	Total Manganese	Total Iron		Ferrous Iron	TDS
		Chloride	Bromide	Nitrate as Nitrogen	Sulfate	Hach Method 8131 or SM 4500-S2-F	Hach Method AL AP MG-L	SM 2320B	EPA Method 415.1 or SM 5310B	EPA Method 6010A/6010B	EPA Method 6010A/6010B	Hach Method 8008	Hach Method 8146	EPA Method 160.1
MW-18	09/23/04	8.7	NA	< 0.2	< 0.2	< 0.01	380	NA	17.1	1.64	54.4	NA	2.3	NA
	04/05/05	8.9	NA	< 0.1	< 0.2	< 0.01	295	NA	17.7	1.62	50.2	NA	2.4	NA
	04/05/05 (DUP)	8.8	NA	< 0.1	< 0.2	NA	NA	NA	17.2	1.61	50.0	NA	NA	NA
MW-19	09/23/04	23.0	NA	< 0.2	0.3	< 0.01	340	NA	19.2	1.44	64.0	NA	1.8	NA
	04/05/05	18.9	NA	< 0.100	3.7	< 0.01	250	NA	19.9	1.31	65.8	NA	2.6	NA
MW-20	09/20/05	50.7	NA	< 0.1	1.4	< 0.01	355	NA	29.1	3.60	88	NA	2.2	NA
MW-21	09/14/06	NA	NA	< 0.1	4.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09/14/06 (DUP)	NA	NA	< 0.1	3.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	03/26/10	NA	< 0.1	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA
	04/07/10	NA	20	NA	NA	NA	NA	NA	2,400	NA	NA	NA	NA	NA
	04/16/10	NA	0.59	NA	NA	NA	NA	NA	33	NA	NA	NA	NA	NA
	05/06/10	NA	2.7	NA	NA	NA	NA	NA	69	NA	NA	NA	NA	NA
	05/06/10 (DUP)	NA	2.6	NA	NA	NA	NA	NA	67	NA	NA	NA	NA	NA
	06/09/10	NA	8.5	NA	NA	NA	NA	NA	82	NA	NA	NA	NA	NA
	07/06/10	NA	8.4	NA	NA	NA	NA	NA	150	NA	NA	NA	NA	NA
MW-24	03/26/10	NA	< 0.1	NA	NA	NA	NA	NA	27	NA	NA	NA	NA	NA
	04/07/10	NA	50	NA	NA	NA	NA	NA	2,200	NA	NA	NA	NA	NA
	04/16/10	NA	0.46	NA	NA	NA	NA	NA	23	NA	NA	NA	NA	NA
	05/06/10	NA	< 2.0	NA	NA	NA	NA	NA	58	NA	NA	NA	NA	NA
	06/09/10	NA	6.3	NA	NA	NA	NA	NA	68	NA	NA	NA	NA	NA
	07/06/10	NA	8.6	NA	NA	NA	NA	NA	74	NA	NA	NA	NA	NA
	07/06/10 (DUP)	NA	8.9	NA	NA	NA	NA	NA	72	NA	NA	NA	NA	NA
MW-25	03/29/10	NA	0.45	NA	NA	NA	NA	NA	23	NA	NA	NA	NA	NA
	04/07/10	NA	0.43	NA	NA	NA	NA	NA	24	NA	NA	NA	NA	NA
	04/16/10	NA	0.37	NA	NA	NA	NA	NA	23	NA	NA	NA	NA	NA
	05/06/10	NA	< 2.0	NA	NA	NA	NA	NA	26	NA	NA	NA	NA	NA
	06/09/10	NA	1.2	NA	NA	NA	NA	NA	33	NA	NA	NA	NA	NA
	07/06/10	NA	2.5	NA	NA	NA	NA	NA	43	NA	NA	NA	NA	NA
MW-26	04/01/10	NA	< 0.1	NA	NA	NA	NA	NA	3.7	NA	NA	NA	NA	NA
	04/01/10 (LAB DUP)	NA	NA	NA	NA	NA	NA	NA	3.7	NA	NA	NA	NA	NA
	04/09/10	NA	< 0.1	NA	NA	NA	NA	NA	4.0	NA	NA	NA	NA	NA
	04/16/10	NA	0.43	NA	NA	NA	NA	NA	3.8	NA	NA	NA	NA	NA
	05/06/10	NA	< 2.0	NA	NA	NA	NA	NA	4.2	NA	NA	NA	NA	NA
	06/09/10	NA	< 0.1	NA	NA	NA	NA	NA	4.6	NA	NA	NA	NA	NA
	07/06/10	NA	< 0.1	NA	NA	NA	NA	NA	7.0	NA	NA	NA	NA	NA
	07/06/10 (LAB DUP)	NA	< 0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P-1	09/24/04	8.8	NA	< 0.2	< 0.2	< 0.01	220	NA	20.7	1.10	38.1	NA	2.0	NA
Deep Off-Site Monitoring Well														
MW-22	09/14/06	NA	NA	0.4	49.9	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
All results in mg/L.
< = less than the method reporting limit shown.
DUP = duplicate sample collected in the field and blind labeled.

E = The result exceeded calibration curve.
J = the associated numerical value is an estimated quantity based on data review or laboratory estimate above the MDL but below the MRL.

LAB DUP = laboratory duplicate sample.
NA = not analyzed.
TDS = Total Dissolved Solids

**Table D4
Dissolved Gases in Groundwater
Univar USA, Inc. Facility
Kent, Washington**

Sample Location	Date Collected	Modified RSK Method 175 (µg/L)		
		Methane	Ethane	Ethene
Shallow On-Site Monitoring Wells				
MW-1	12/15/98	18,000	110	310
	03/02/99	15,000	75	270
	06/17/99	8,400	44	170
	09/17/99	14,000	83	230
MW-2	12/15/98	13,000	1.1	0.5 U
	03/02/99	8,600	0.88	0.5 U
	06/16/99	13,000	1.0	0.5 U
	06/16/99 (DUP)	13,000	0.97	0.5 U
MW-3	09/16/99	17,000	1.2	0.5 U
	12/14/98	10,000	6.9	0.95
	03/03/99	5,700	9.3	1.2
	06/17/99	3,800	3.2	0.93
MW-4	09/17/99	4,300	6.8	0.88
	12/14/98	16,000	130	1,500
	03/03/99	10,000	110	730
	06/17/99	12,000	110	1,300
MW-5	09/17/99	14,000	150	1,000
	12/15/98	0.5 U	0.5 U	0.5 U
	03/02/99	66	0.5 U	0.5 U
	06/16/99	7.8	0.5 U	0.5 U
MW-6	09/16/99	28	0.5 U	0.5 U
	09/16/99 (DUP)	26	0.5 U	0.5 U
	12/15/98	14,000	130	31
	03/02/99	9,800	94	15
MW-7	03/02/99 (DUP)	12,000	120	16
	06/16/99	11,000	100	10
	09/16/99	13,000	98	8.2
	12/14/98	1.9	0.5 U	0.5 U
MW-8	03/03/99	34	0.5 U	0.5 U
	06/17/99	7.9	0.5 U	0.5 U
	09/17/99	15	0.5 U	0.5 U
	12/14/98	23	0.5 U	0.5 U
MW-8	12/14/98 (DUP)	25	0.5 U	0.5 U
	03/02/99	12	0.5 U	0.5 U
	06/16/99	5.2	0.5 U	0.5 U
	09/16/99	18	0.5 U	0.5 U
Deep On-Site Monitoring Wells and Piezometer				
MW-13	09/24/04	13,000	15	680
	04/05/05	520	1.9	27
MW-14	09/24/04	5,800	2.2	1.2
	04/05/05	5,900	0.41	0.55 U
MW-15	09/24/04	7,700	1.7	0.8 U
	04/05/05	6,500	1.5	0.55 U
MW-16	09/23/04	16,000	3.2	1.3
	04/05/05	17,000	3.7	2.0
MW-17	09/23/04	13,000	290	61
	09/23/04 (DUP)	13,000	290	60
	04/05/05	13,000	290	70
MW-18	09/23/04	4,500	25	3.2
	04/05/05	4,800	16	1.5
	04/05/05 (DUP)	5,700	19	1.8
MW-19	09/23/04	5,600	32	870
	04/05/05	5,400	40	97
P-1	09/24/04	5,100	3.0	0.8 U
Deep Off-Site Monitoring Well				
MW-20	09/20/05	13,000	240	10

Notes:

Analyses prior to 2011 performed using Modified RSK Method 175.

µg/L = micrograms per liter

U = not detected, the associated value is the quantification limit.

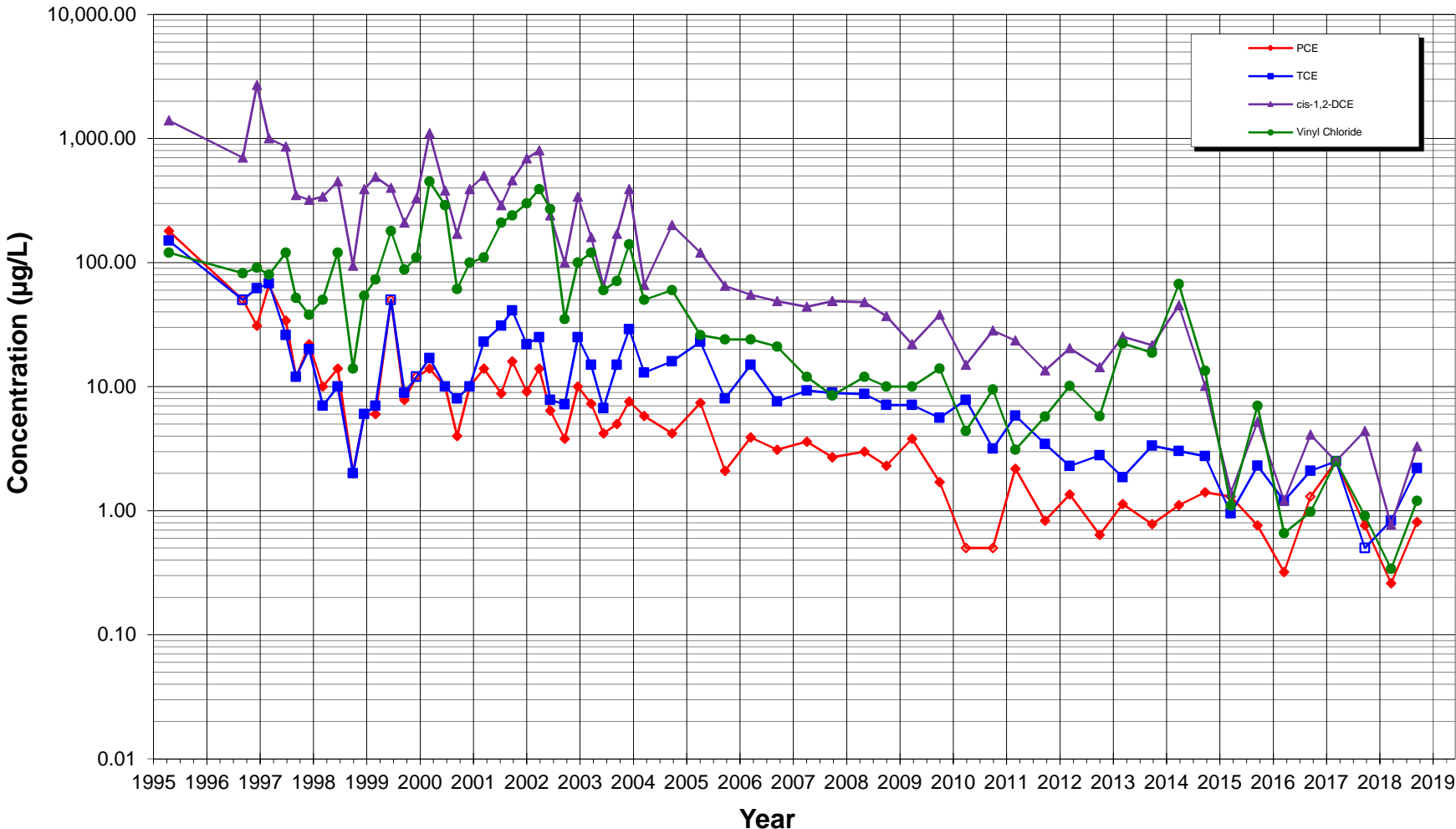
J = estimated concentration between the method detection and reporting limits.

(DUP) = duplicate sample collected in the field and blind labeled.

APPENDIX E TREND CHARTS

March 2019

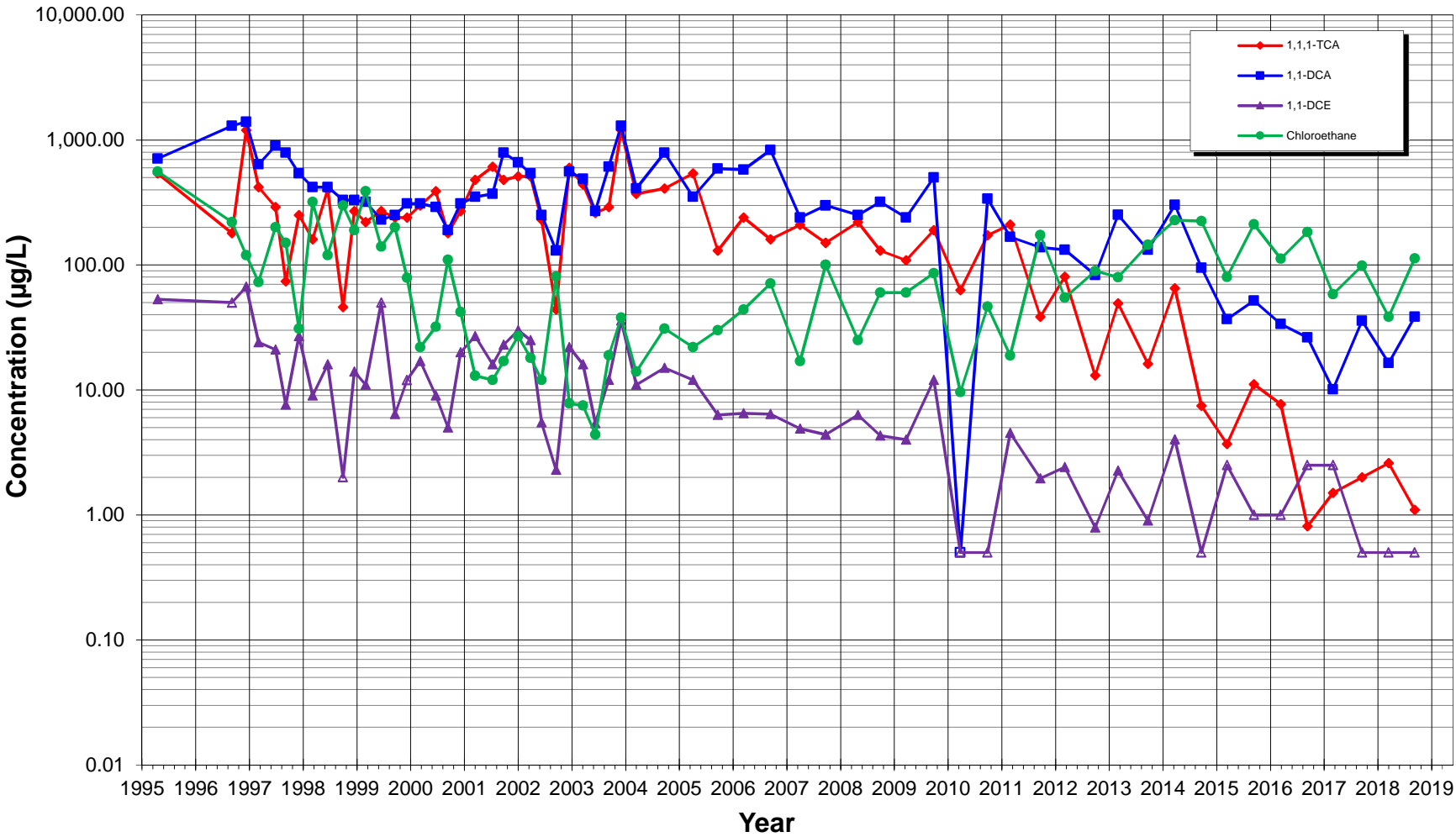
**Figure E1. Constituent vs Time
Monitoring Well MW-1
Univar USA Inc., Kent, Washington**



Notes:

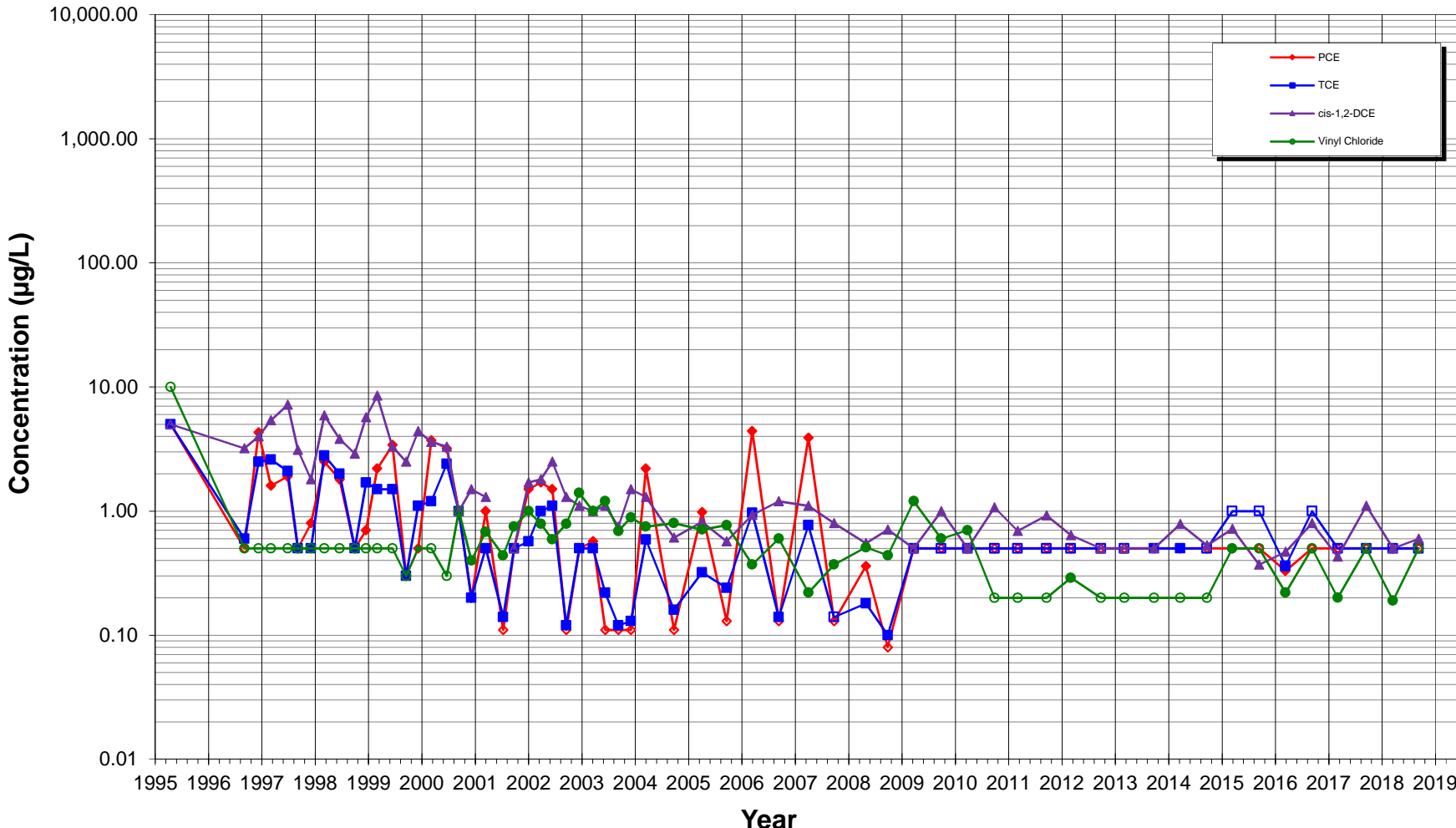
- 1) Shallow and deep injection conducted March - May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E2. Constituent vs Time
Monitoring Well MW-1
Univar USA Inc., Kent, Washington**



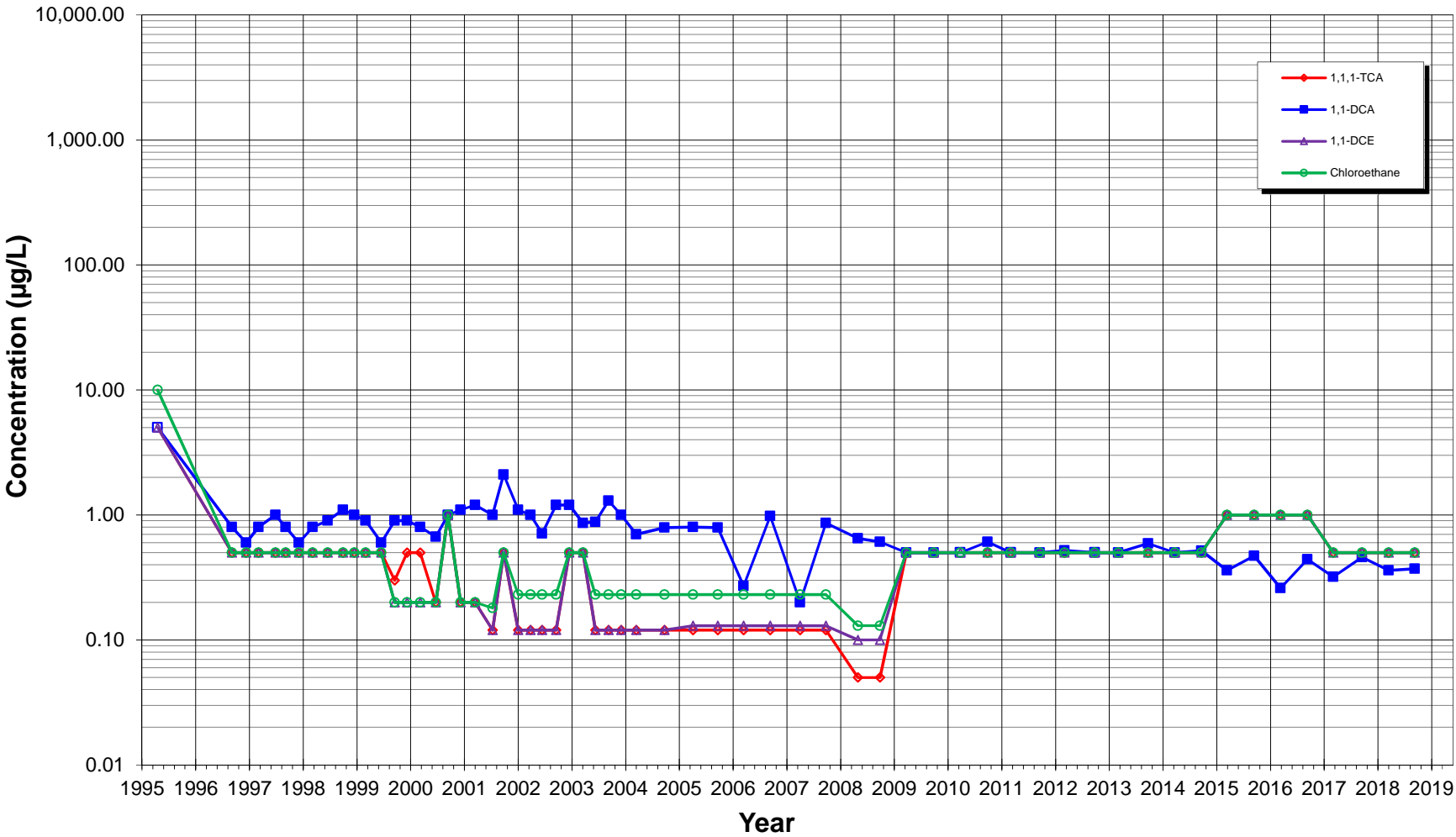
Notes:
 1) Shallow and deep injection conducted March - May 2011
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E3. Constituent vs Time
Monitoring Well MW-2
Univar USA Inc., Kent, Washington**



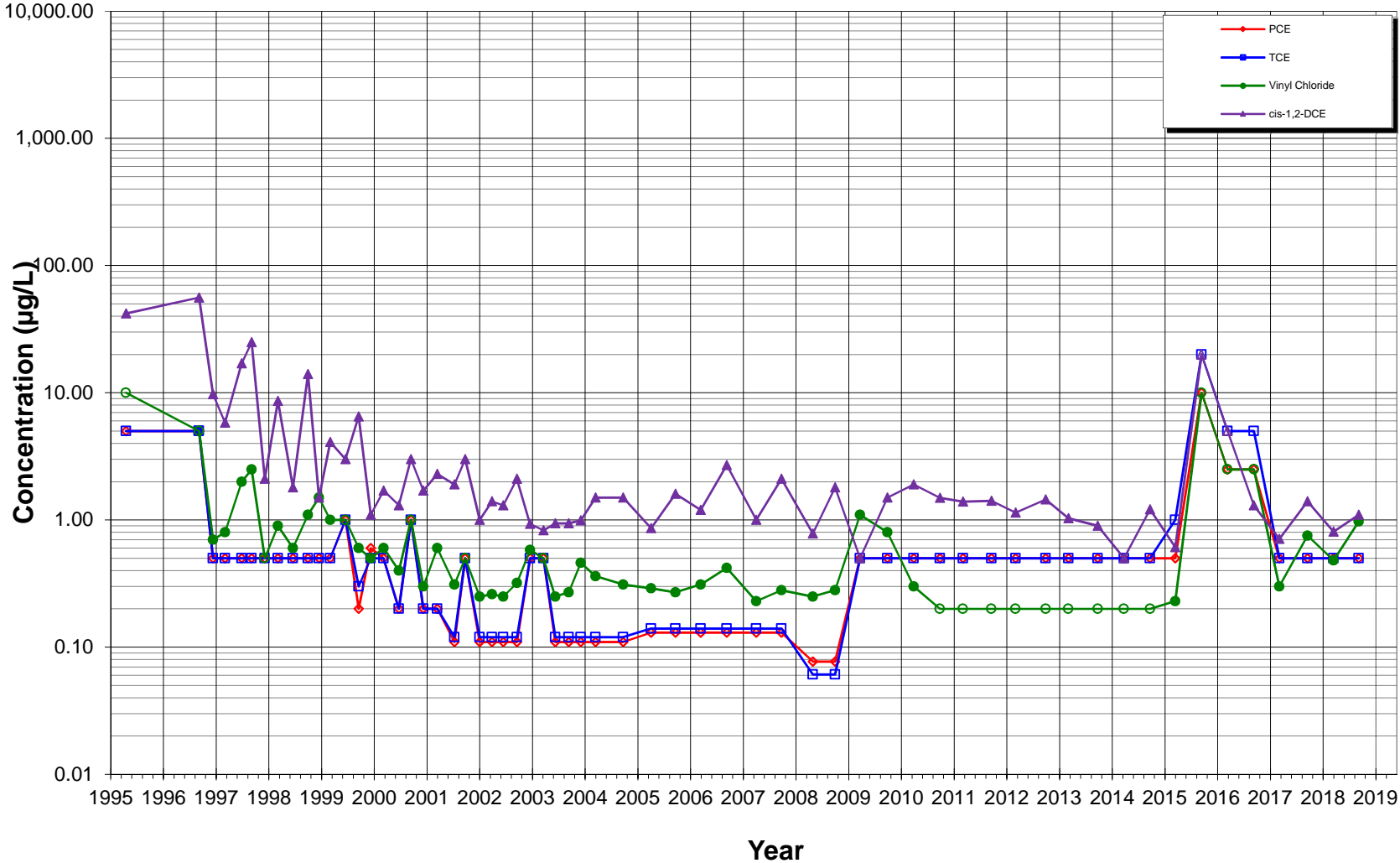
- Notes:**
- 1) Shallow and deep injection conducted March - May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E4. Constituent vs Time
Monitoring Well MW-2
Univar USA Inc., Kent, Washington**



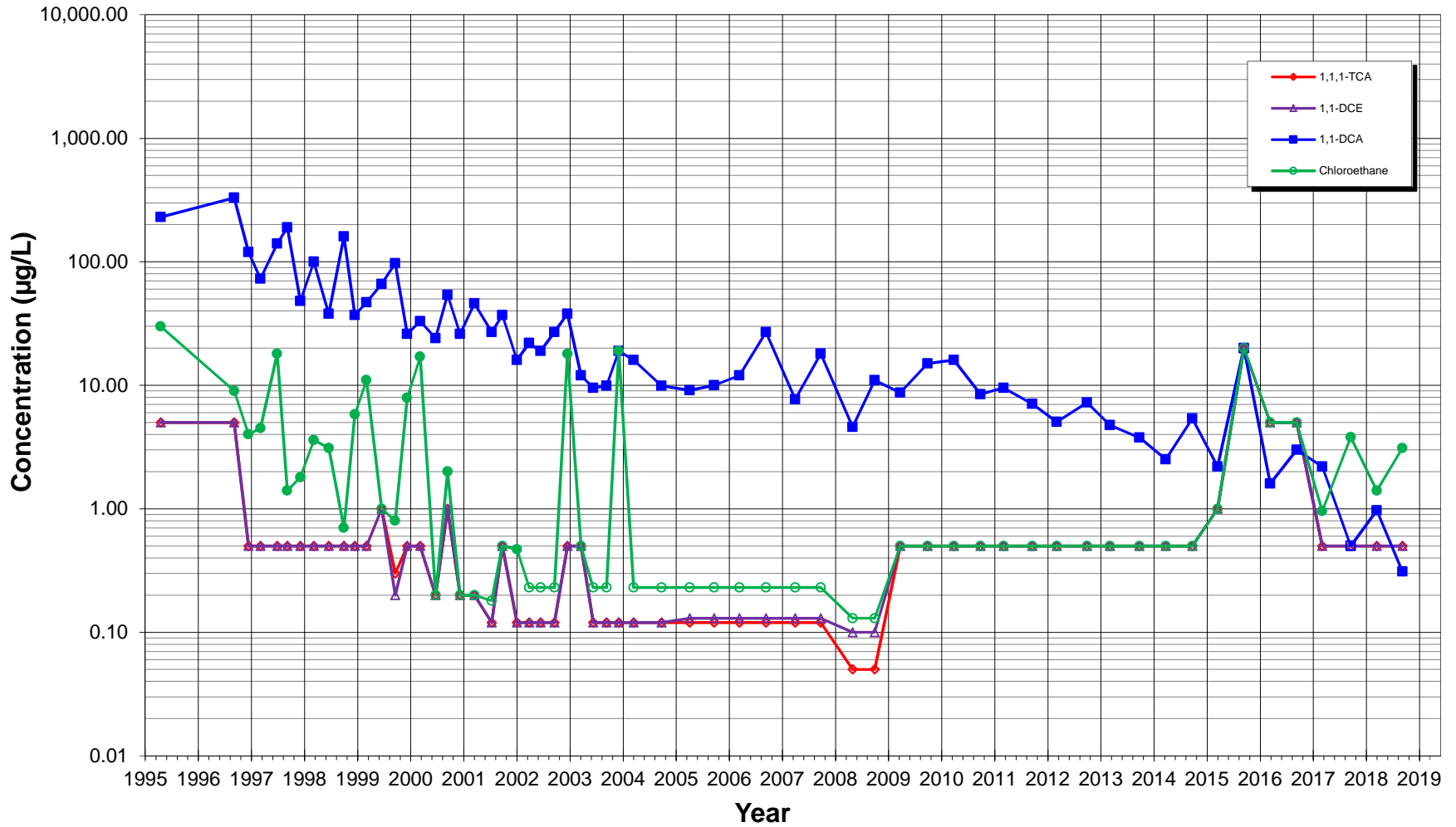
Notes:
 1) Shallow and deep injection conducted March - May 2011
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E5. Constituent vs Time
Monitoring Well MW-3
Univar USA Inc., Kent, Washington**



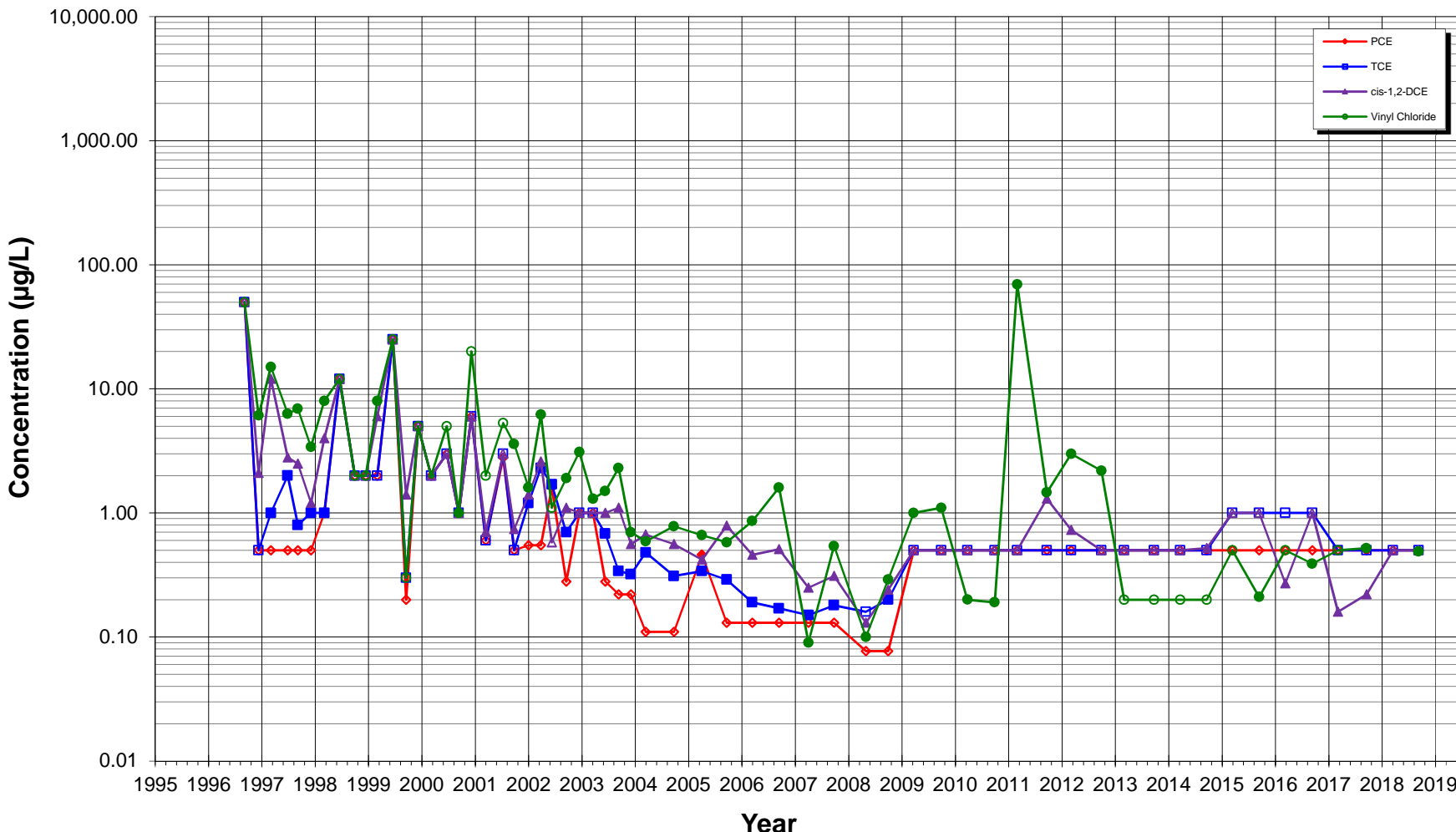
- Notes:**
- 1) Shallow and deep injection conducted March - May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E6. Constituent vs Time
Monitoring Well MW-3
Univar USA Inc., Kent, Washington**



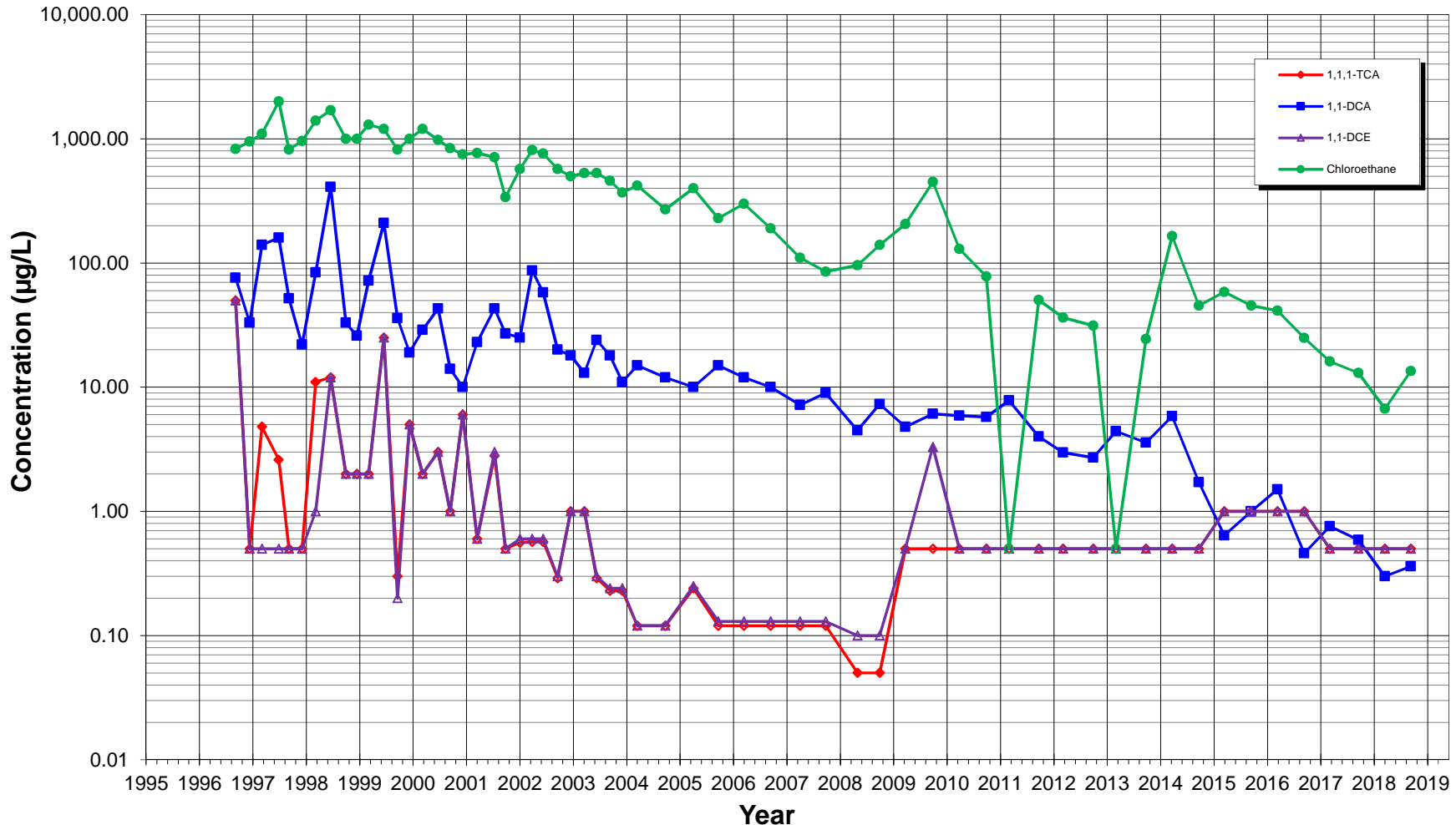
Notes:
 1) Shallow and deep injection conducted March - May 2011
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E7. Constituent vs Time
Monitoring Well MW-4
Univar USA Inc., Kent, Washington**



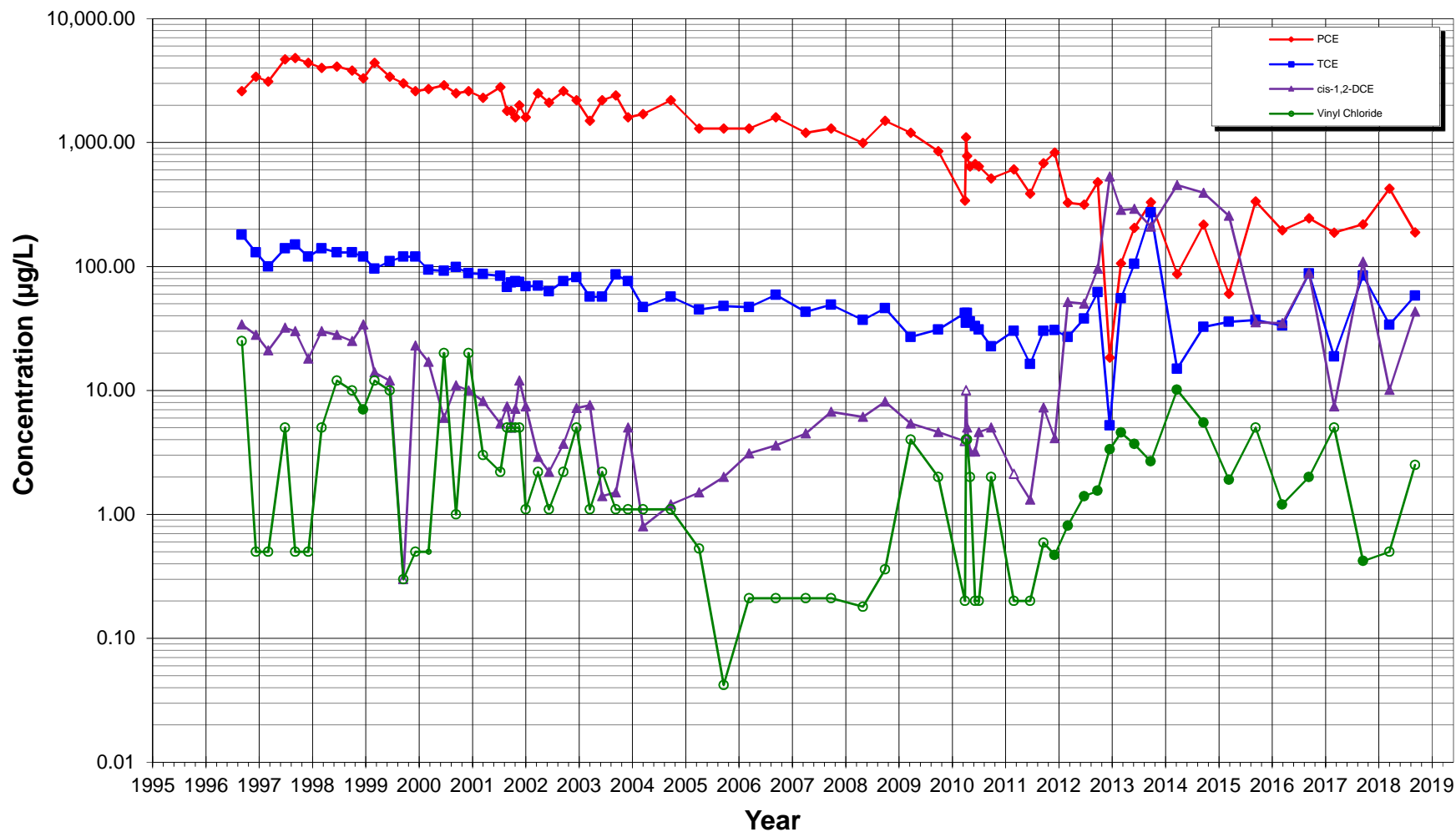
- Notes:**
- 1) Shallow and deep injection conducted March - May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E8. Constituent vs Time
Monitoring Well MW-4
Univar USA Inc., Kent, Washington**



- Notes:**
- 1) Shallow and deep injection conducted March - May 2011
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

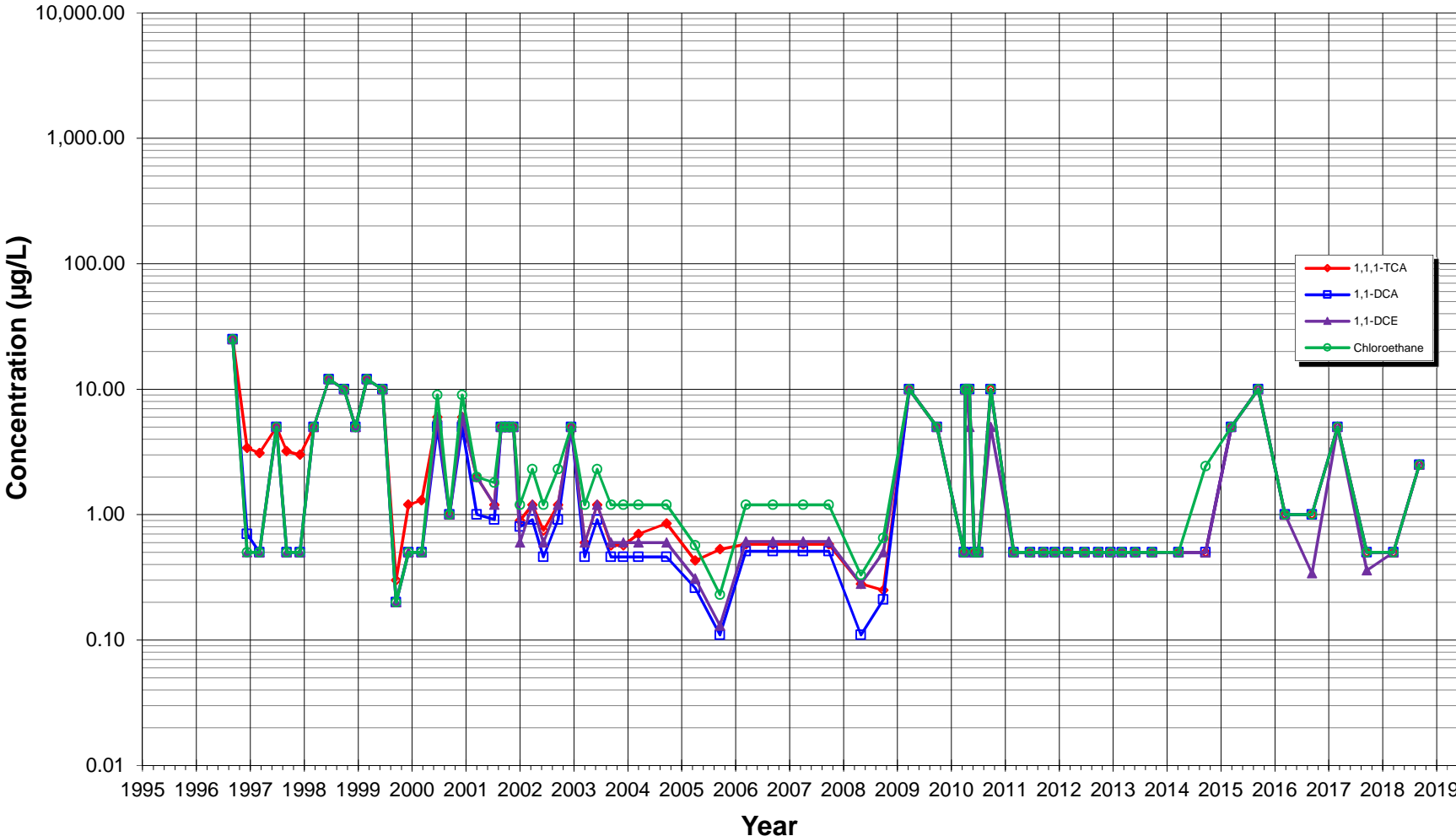
**Figure E9. Constituent vs Time
Monitoring Well MW-5
Univar USA Inc., Kent, Washington**



Notes:

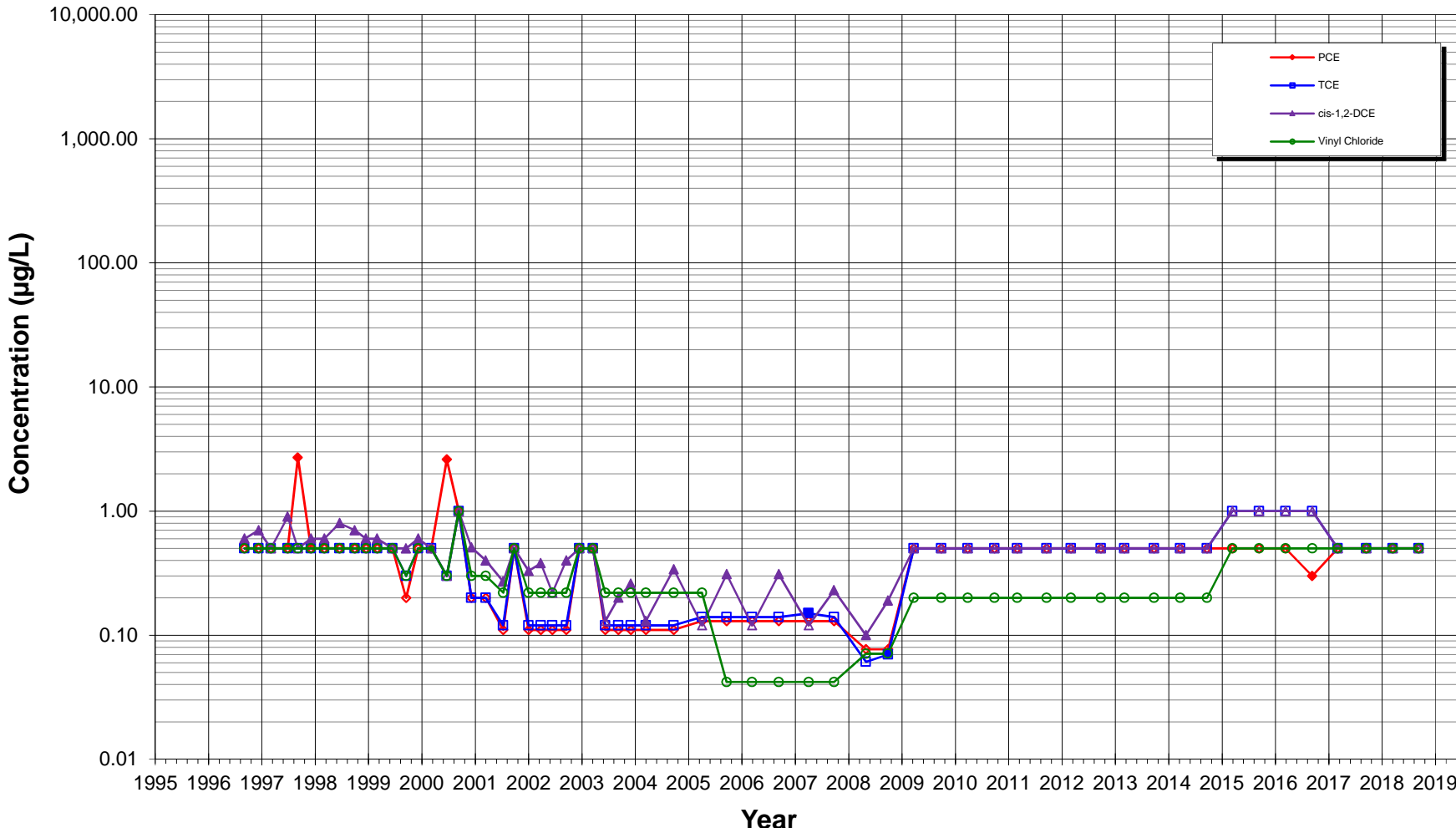
- 1) Shallow injection conducted in March and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E10. Constituent vs Time
Monitoring Well MW-5
Univar USA Inc., Kent, Washington**



Notes:
 1) Shallow injection conducted in March and May 2011.
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

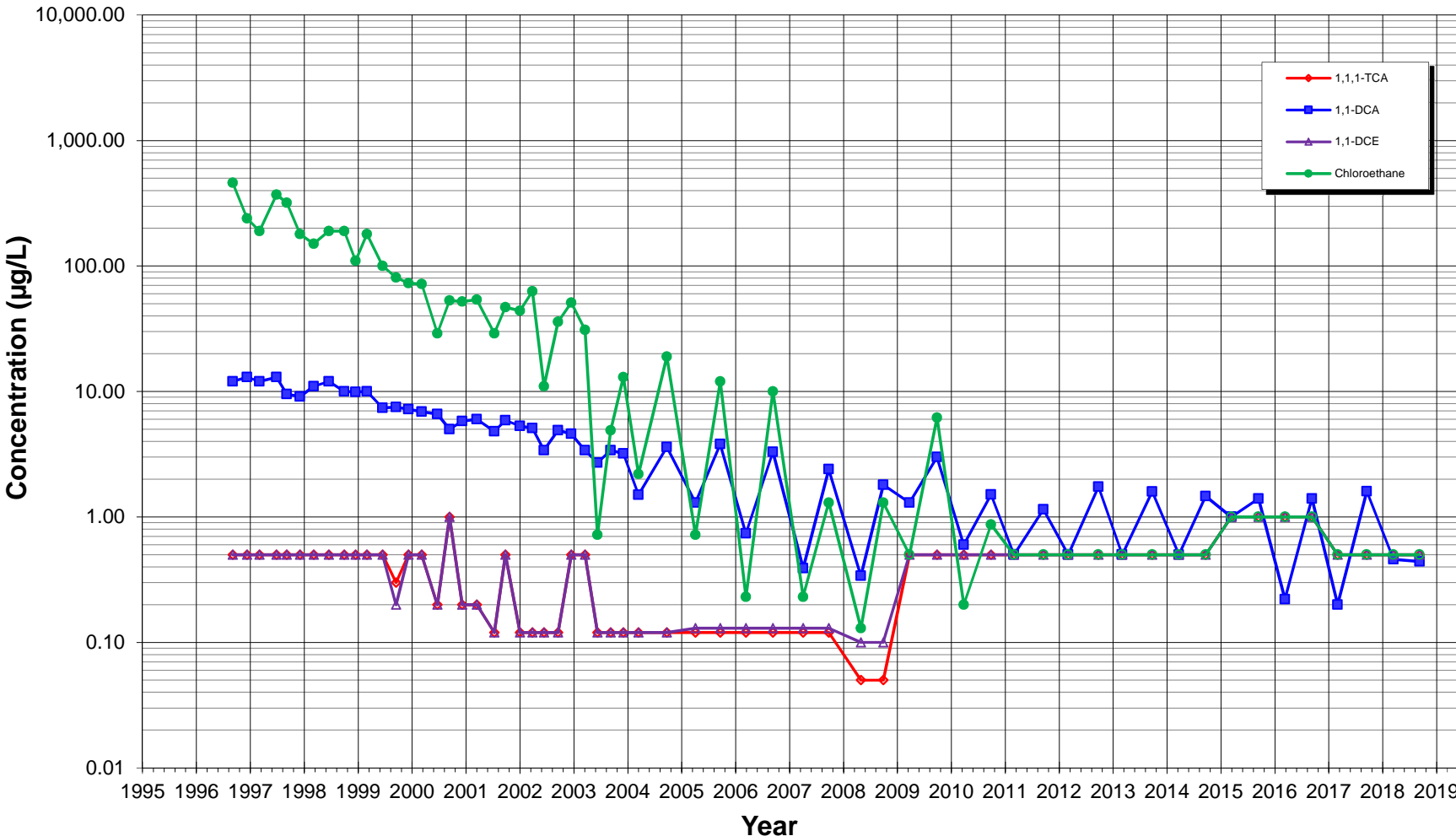
**Figure E11. Constituent vs Time
Monitoring Well MW-6
Univar USA Inc., Kent, Washington**



Notes:

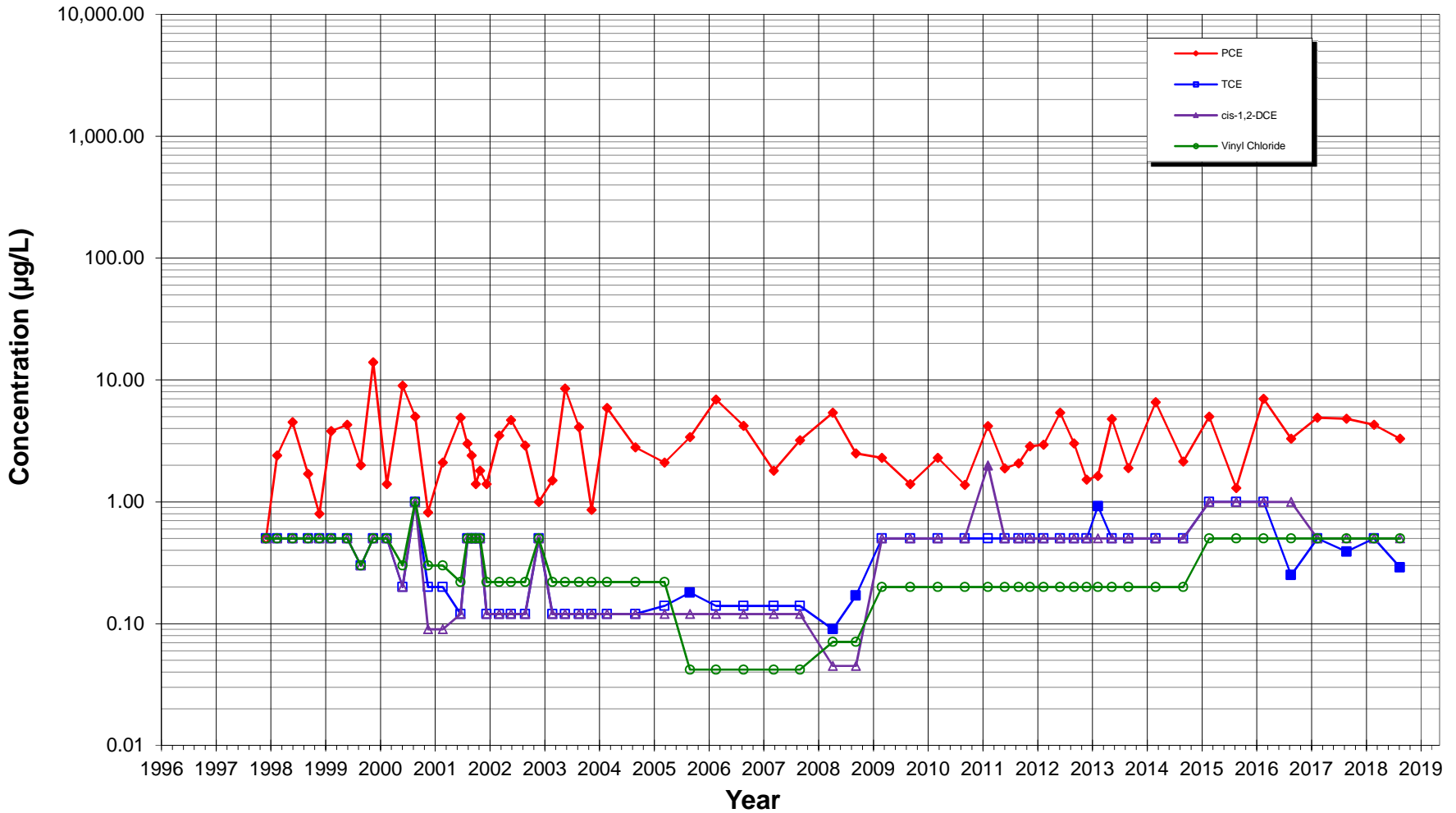
- 1) Shallow injection conducted in March and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E12. Constituent vs Time
Monitoring Well MW-6
Univar USA Inc., Kent, Washington**



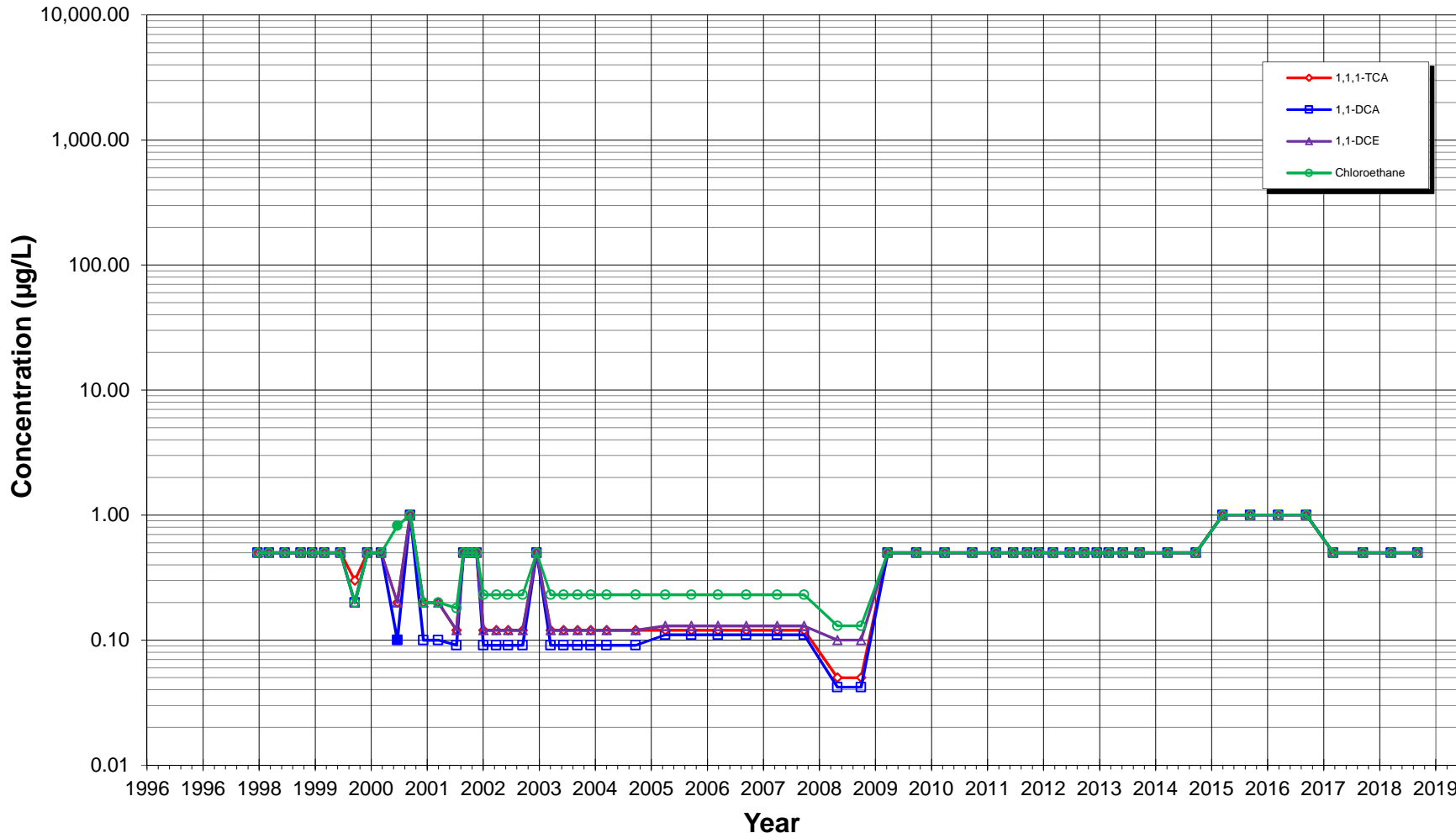
Notes:
 1) Shallow injection conducted in March and May 2011.
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E13. Constituent vs Time
Monitoring Well MW-7
Univar USA Inc., Kent, Washington**



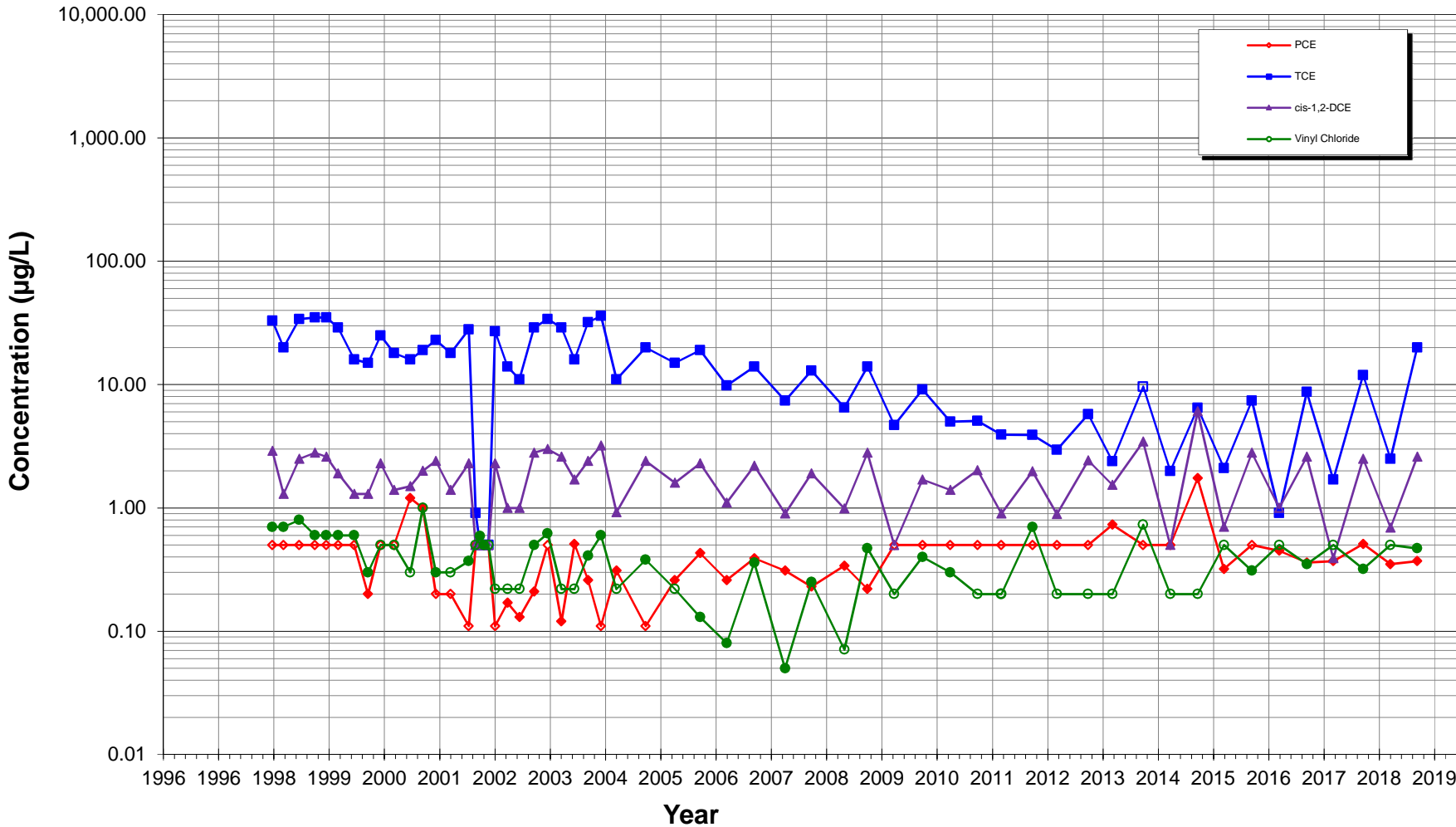
- Notes:**
- 1) Shallow injection conducted in March and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E14. Constituent vs Time
Monitoring Well MW-7
Univar USA Inc., Kent, Washington**



- Notes:**
- 1) Shallow injection conducted in March and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

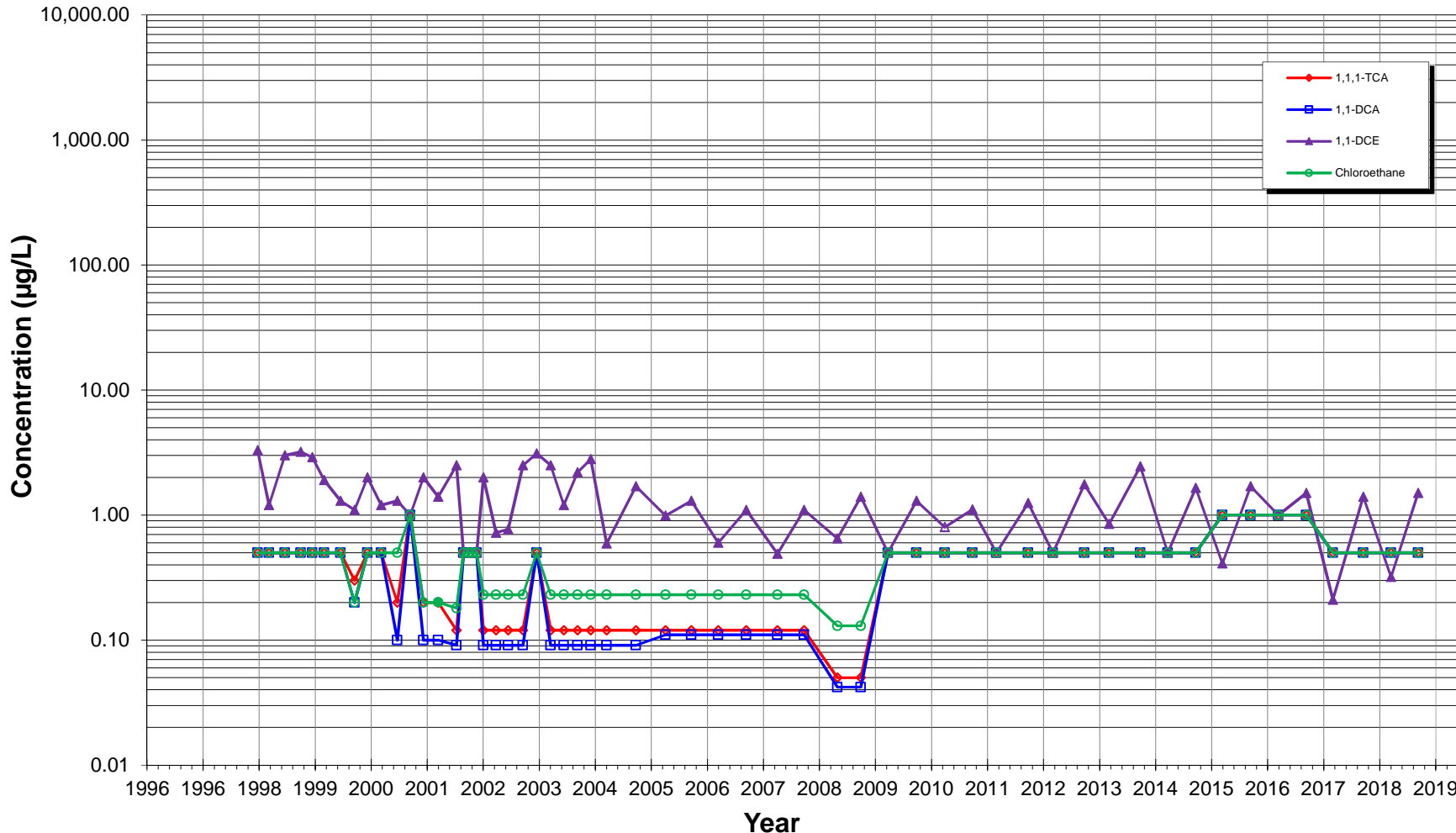
**Figure E15. Constituent vs Time
Monitoring Well MW-8
Univar USA Inc., Kent, Washington**



Notes:

- 1) Shallow injection conducted in March and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

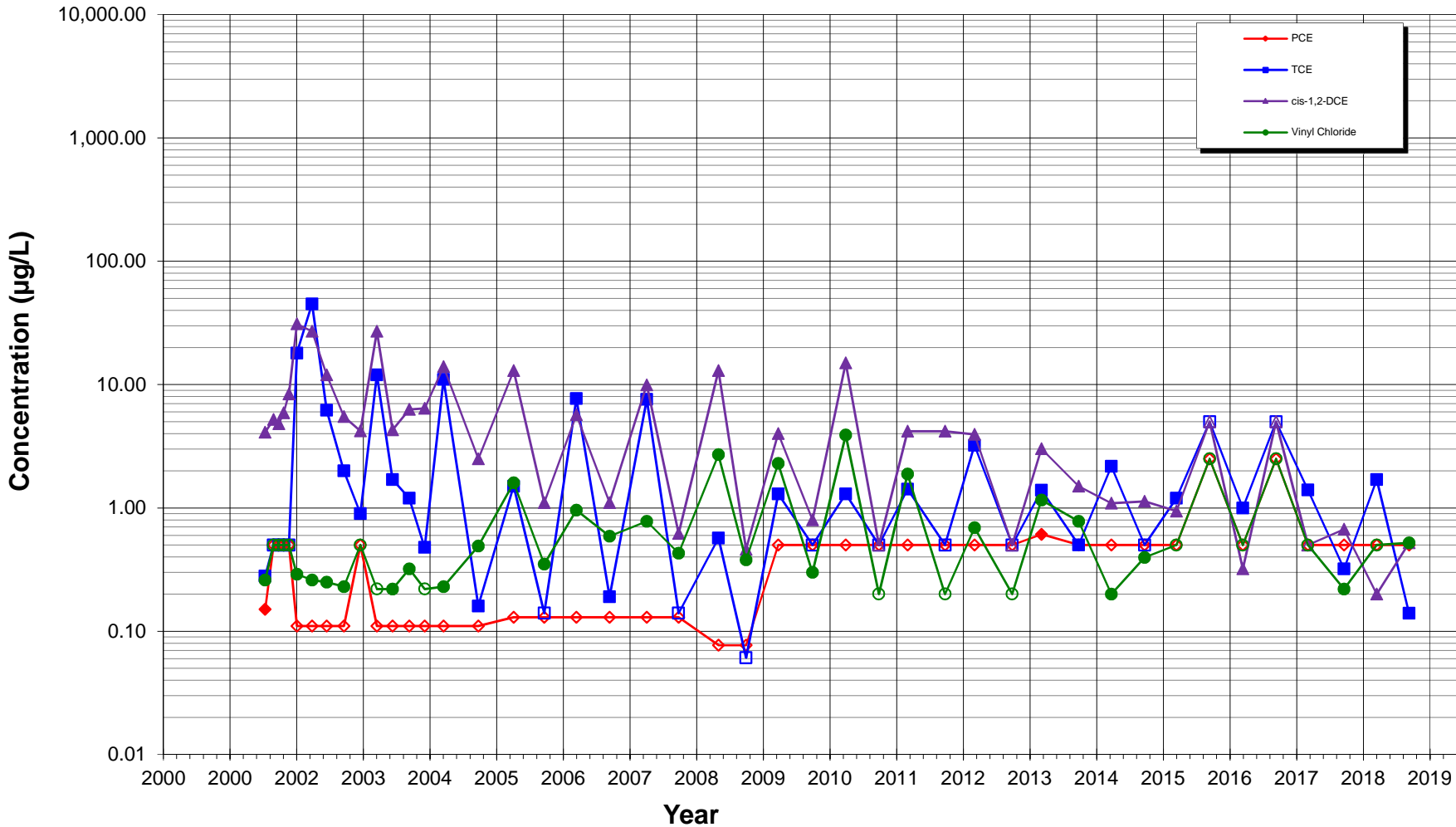
**Figure E16. Constituent vs Time
Monitoring Well MW-8
Univar USA Inc., Kent, Washington**



Notes:

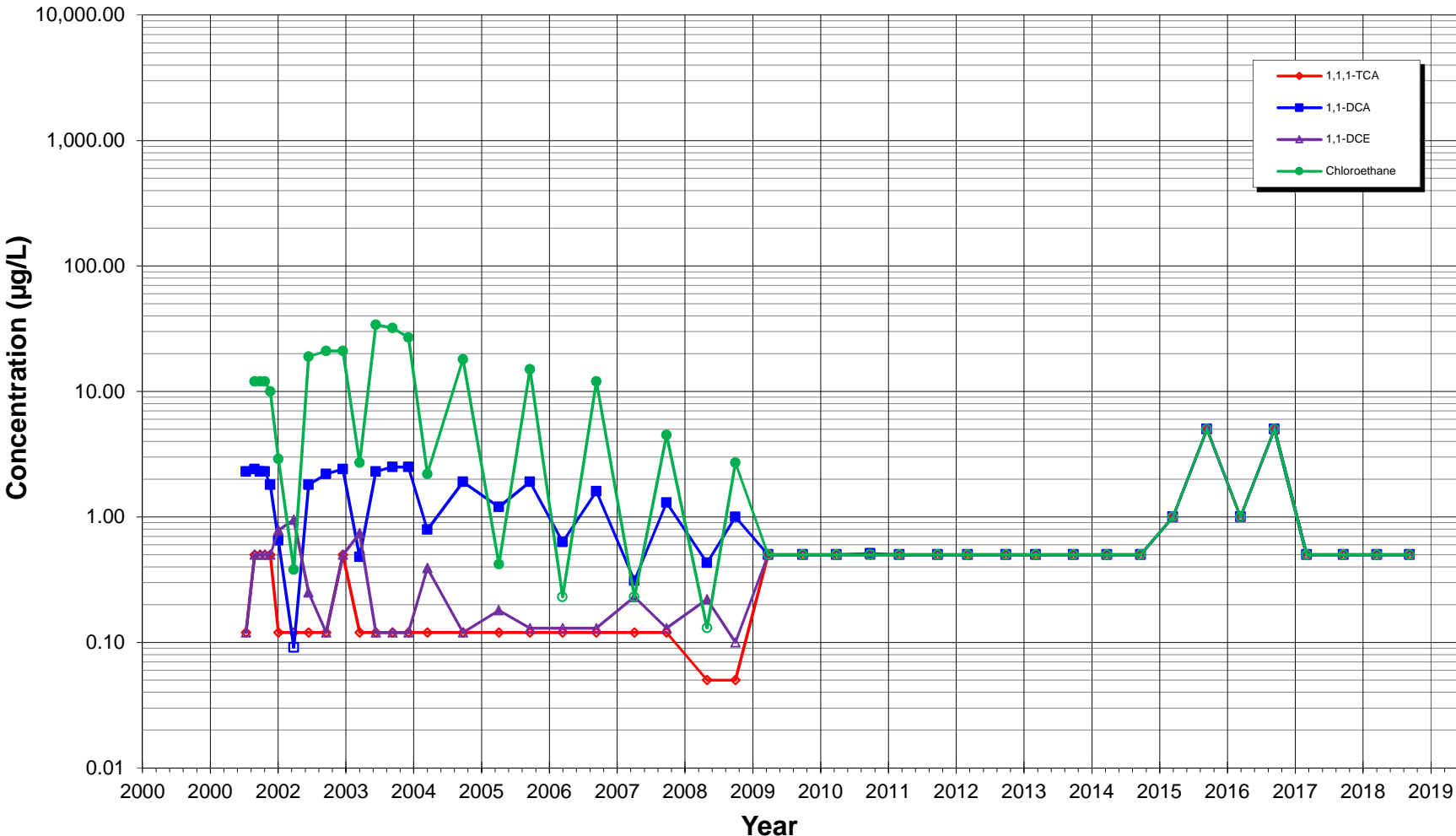
- 1) Shallow injection conducted in March and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E17. Constituent vs Time
Monitoring Well MW-9
Univar USA Inc., Kent, Washington**



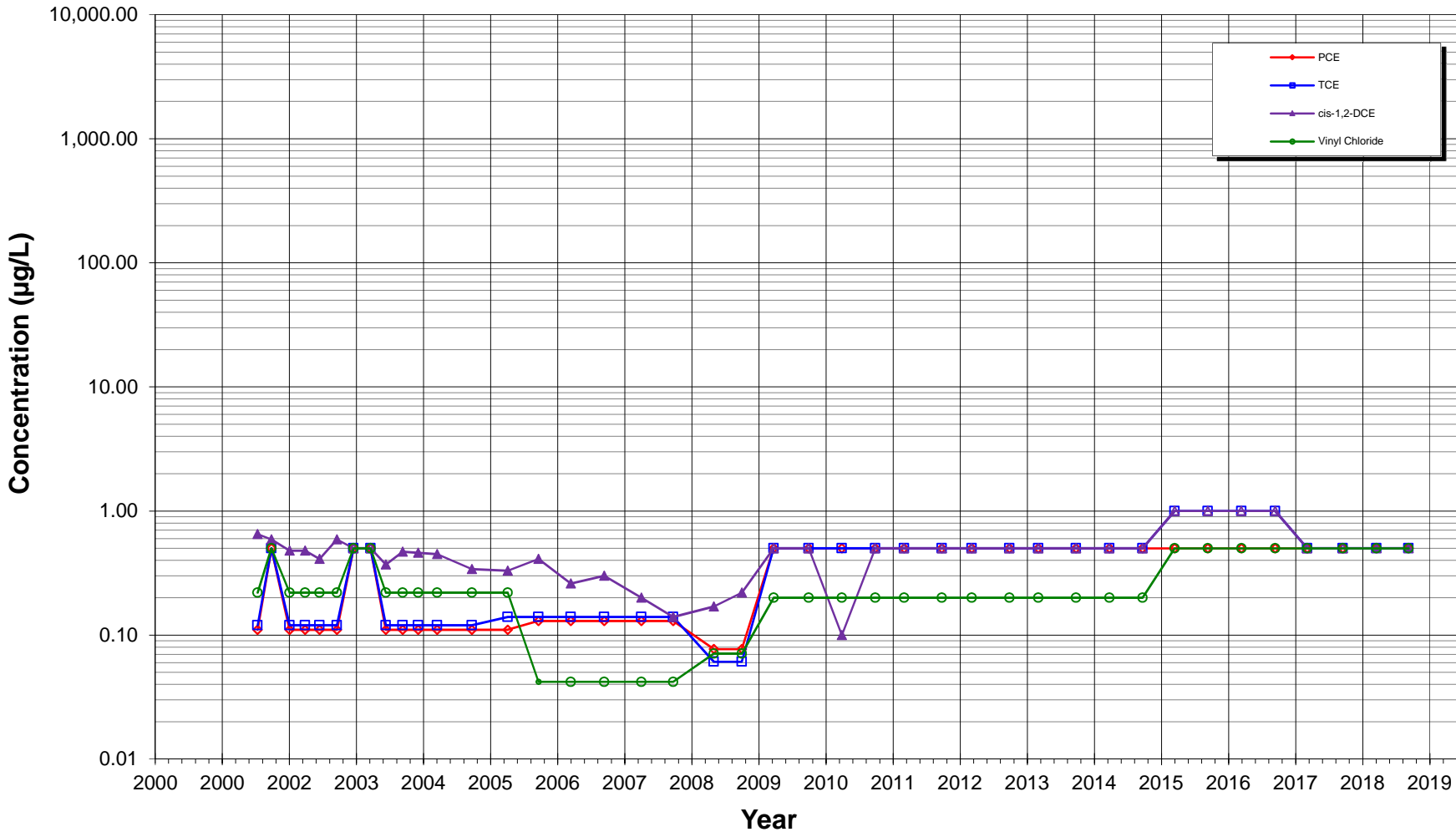
- Notes:**
- 1) Shallow injection conducted in March and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E18. Constituent vs Time
Monitoring Well MW-9
Univar USA Inc., Kent, Washington**



Notes:
 1) Shallow injection conducted in March and May 2011.
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

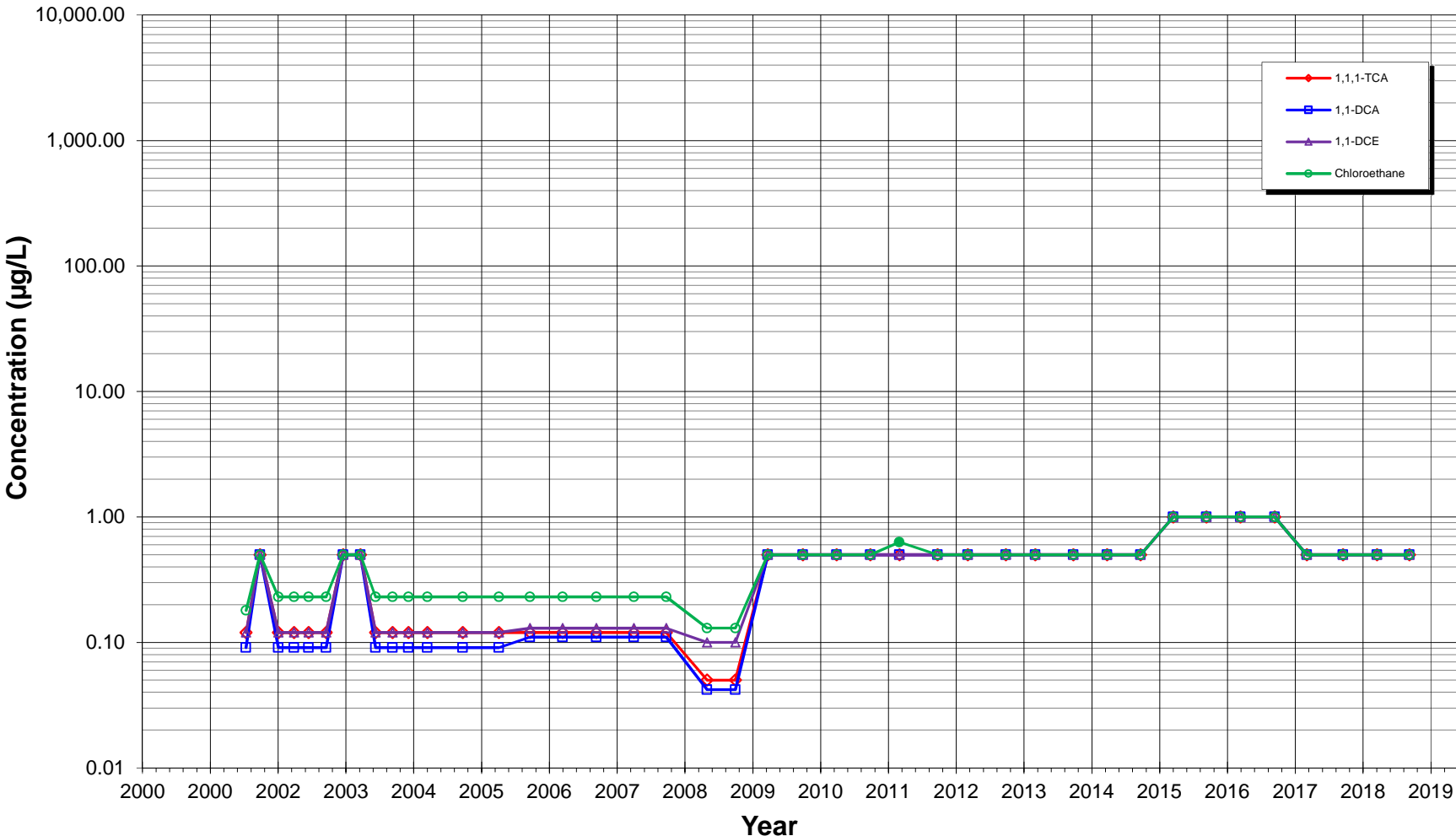
**Figure E19. Constituent vs Time
Monitoring Well MW-10
Univar USA Inc., Kent, Washington**



Notes:

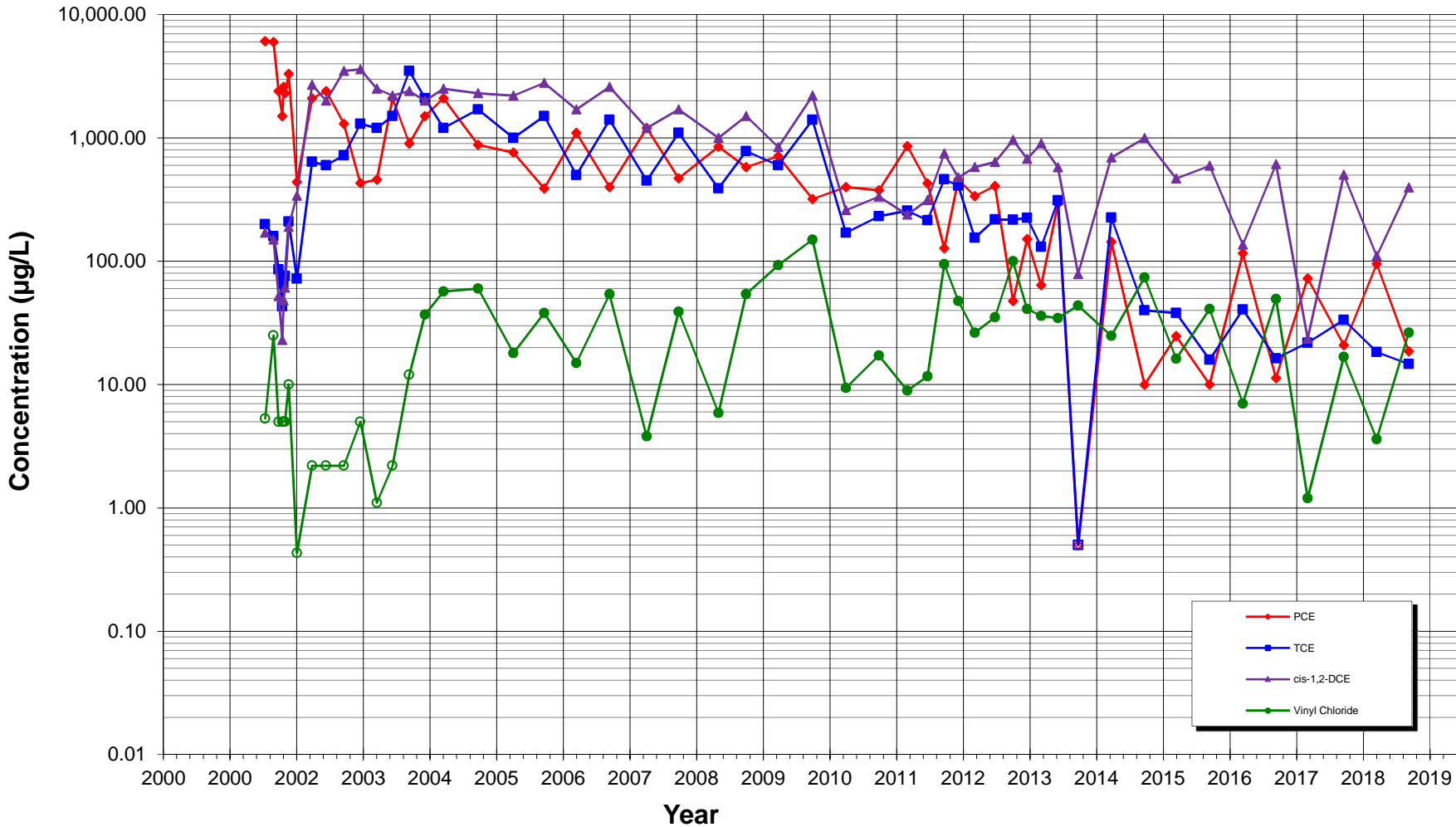
- 1) Shallow injection conducted in March and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E20. Constituent vs Time
Monitoring Well MW-10
Univar USA Inc., Kent, Washington**



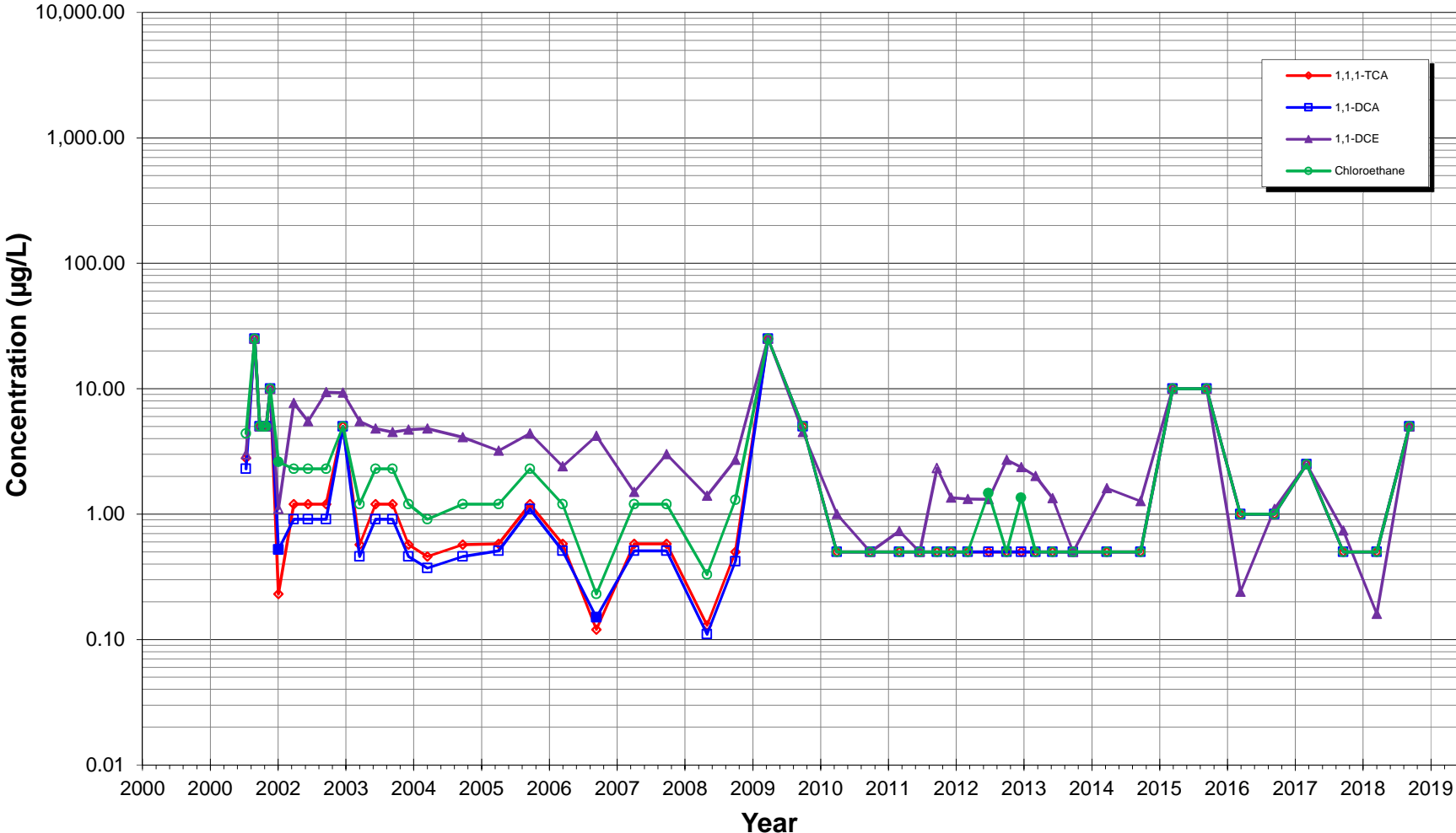
- Notes:**
- 1) Shallow injection conducted in March and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E21. Constituent vs Time
Monitoring Well MW-12
Univar USA Inc., Kent, Washington**



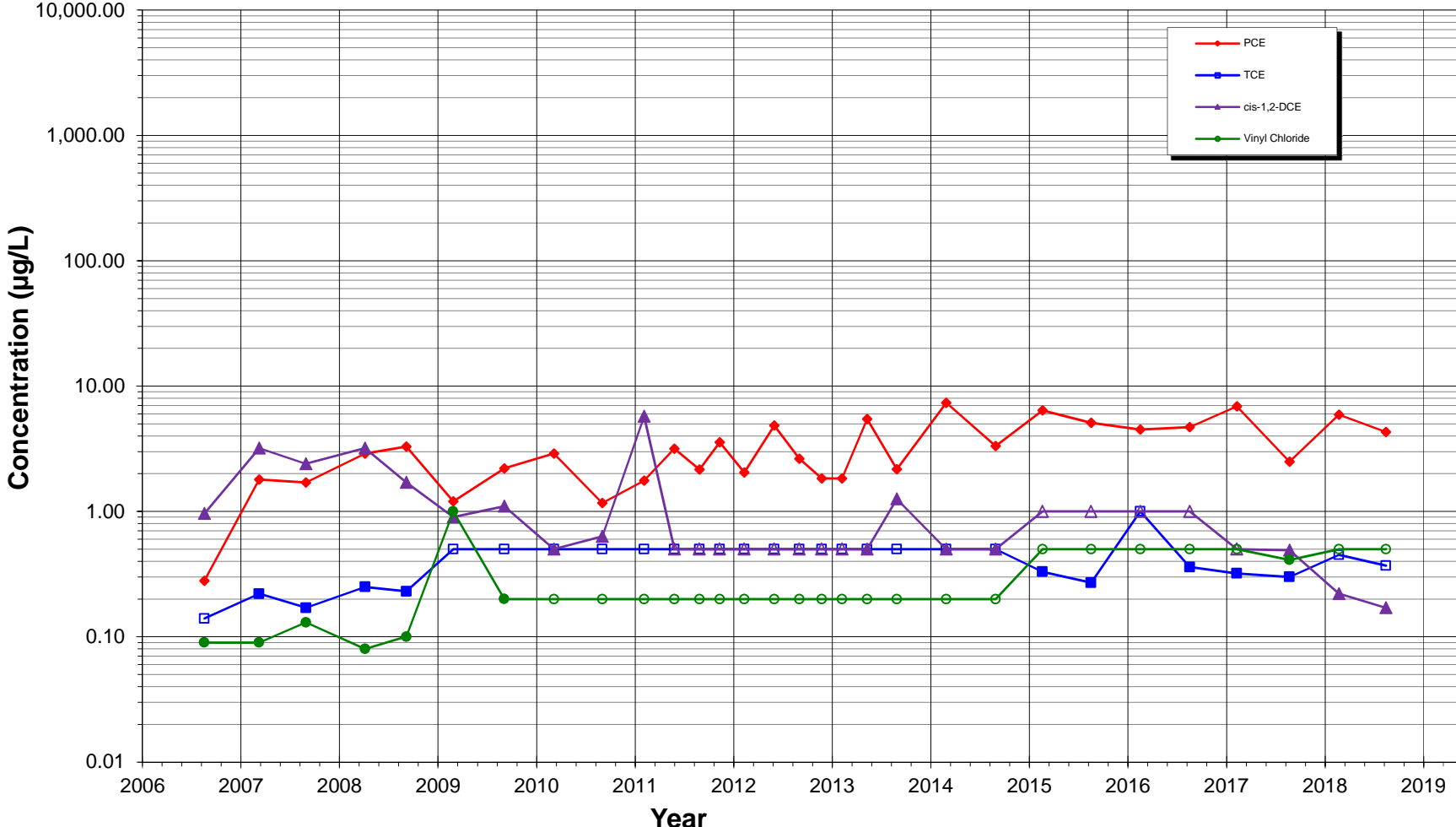
- Notes:**
- 1) Shallow injection conducted in March and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E22. Constituent vs Time
Monitoring Well MW-12
Univar USA Inc., Kent, Washington**



Notes:
 1) Shallow injection conducted in March and May 2011.
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

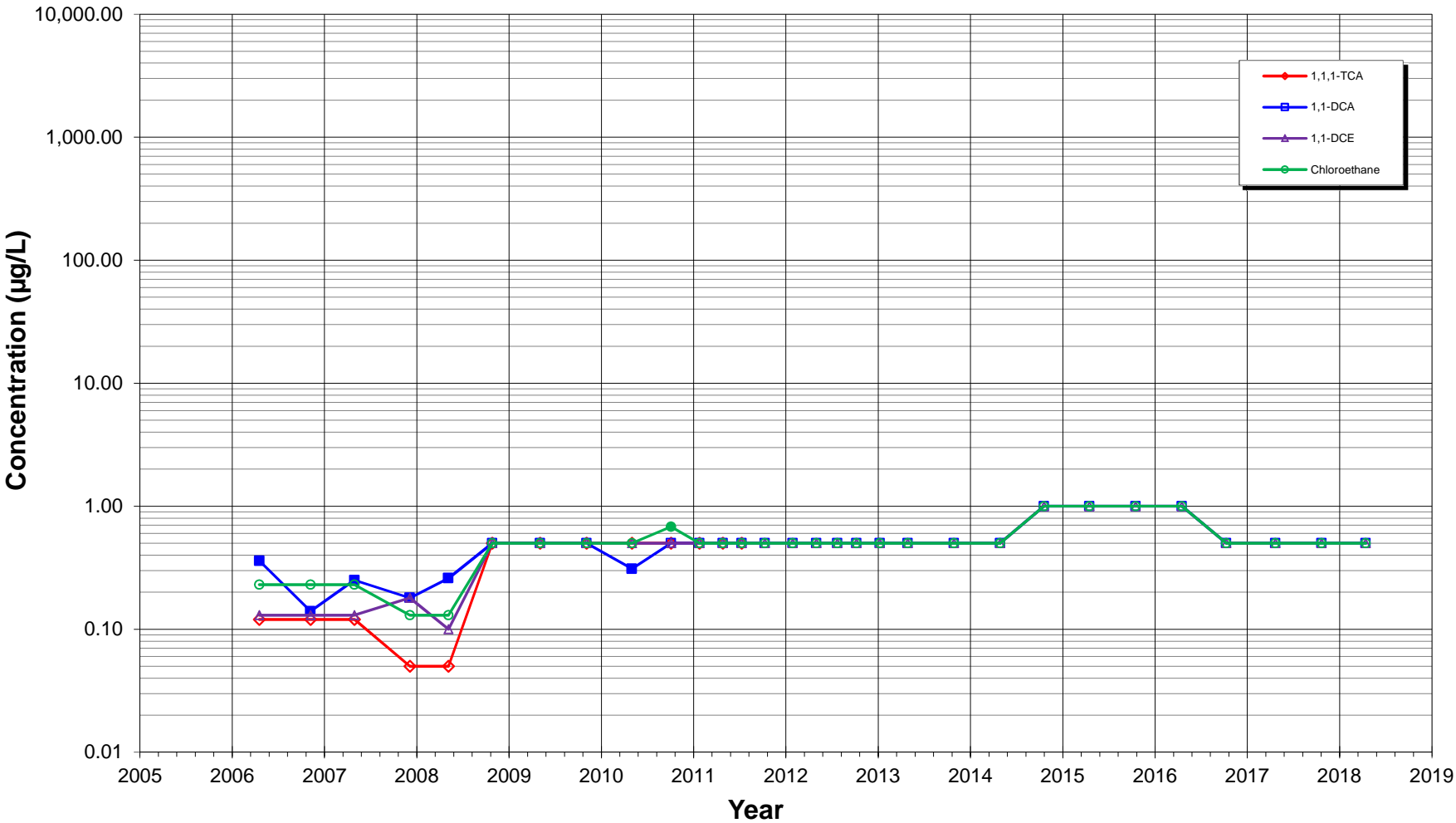
**Figure E23. Constituent vs Time
Monitoring Well MW-23
Univar USA Inc., Kent, Washington**



Notes:

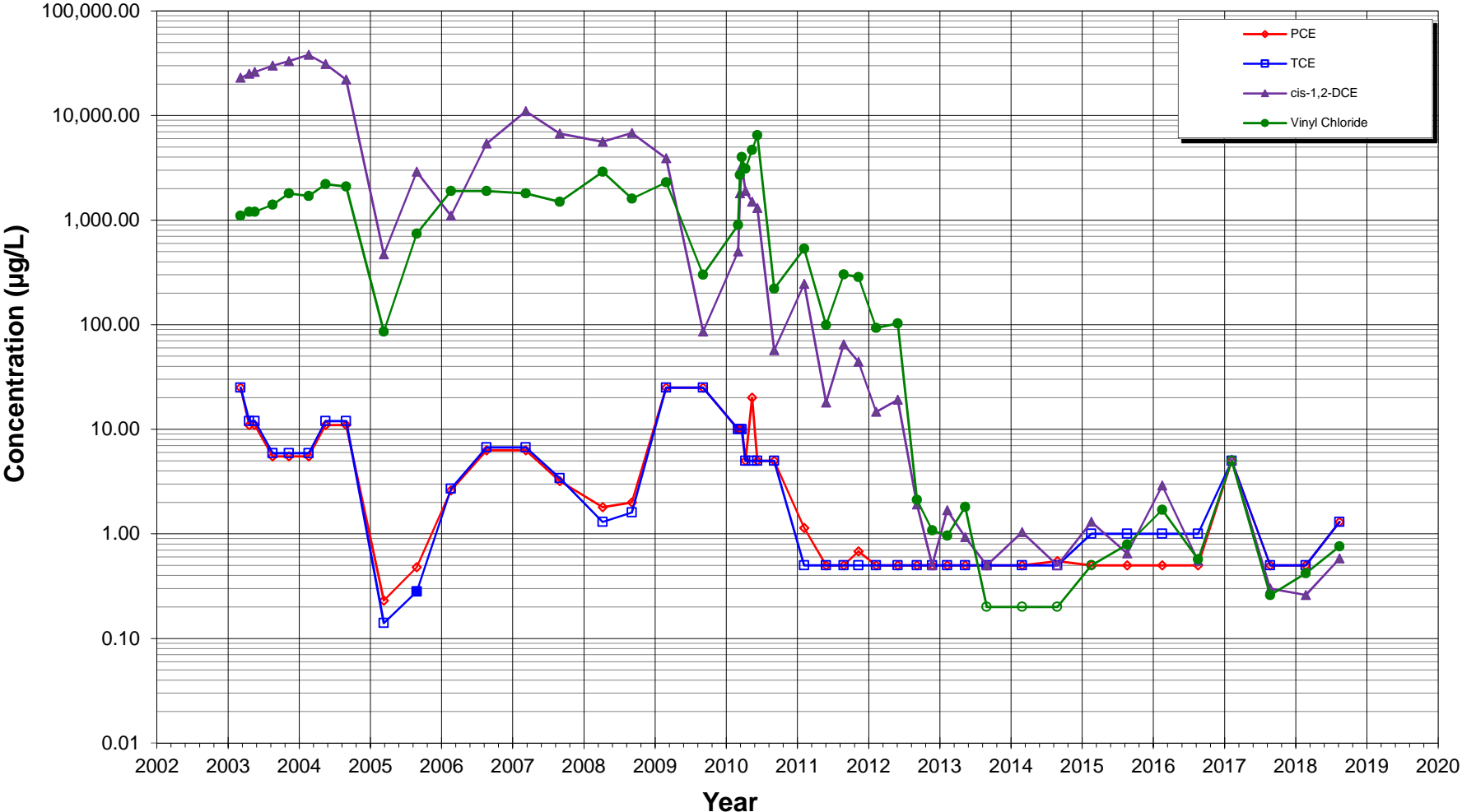
- 1) Shallow injection conducted in March and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L and Vinyl Chloride = 0.5 µg/L.

**Figure E24. Constituent vs Time
Monitoring Well MW-23
Univar USA Inc., Kent, Washington**



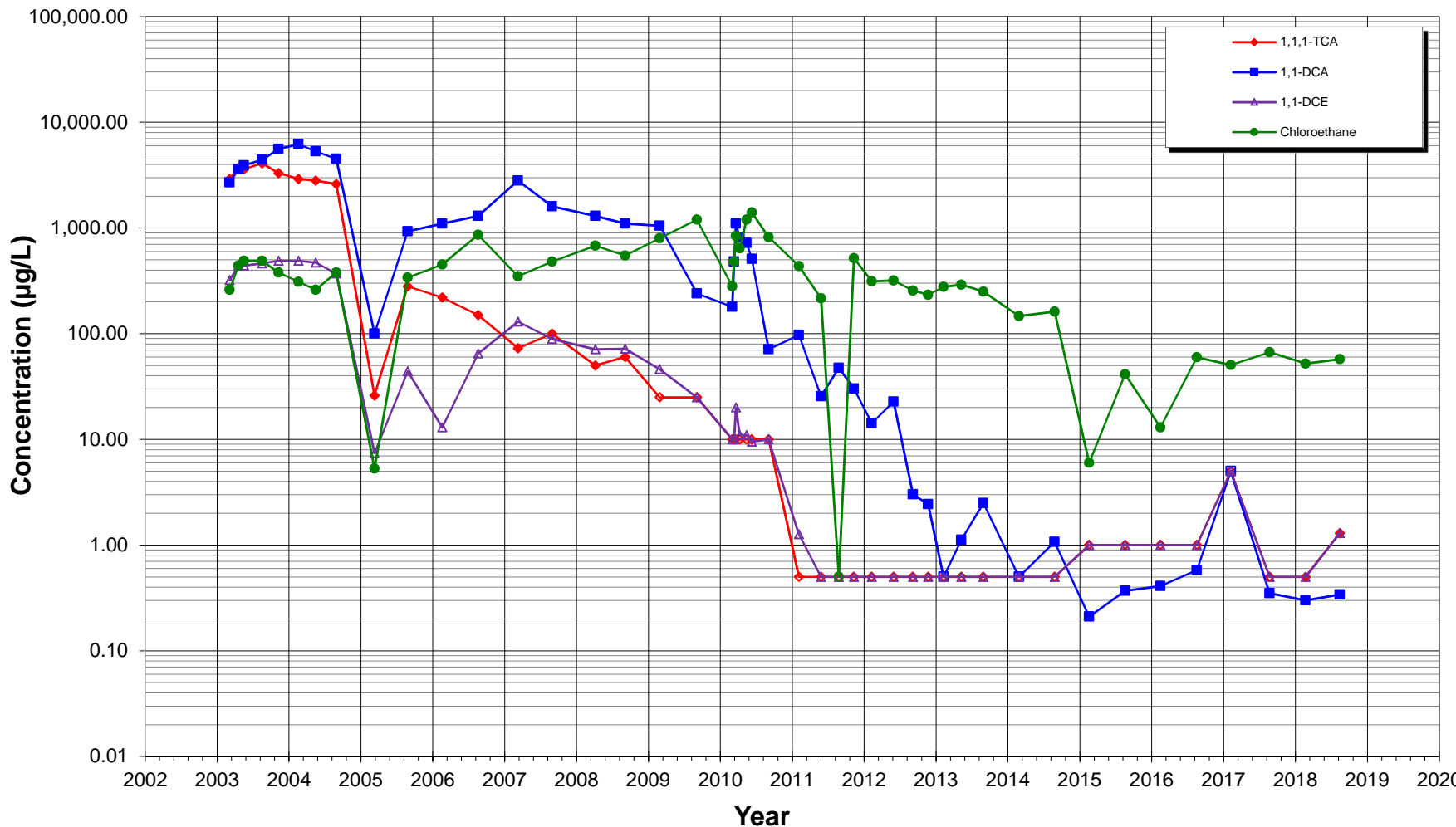
- Notes:**
- 1) Shallow injection conducted in March and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E25. Constituent vs Time
Monitoring Well MW-13
Univar USA Inc., Kent, Washington**



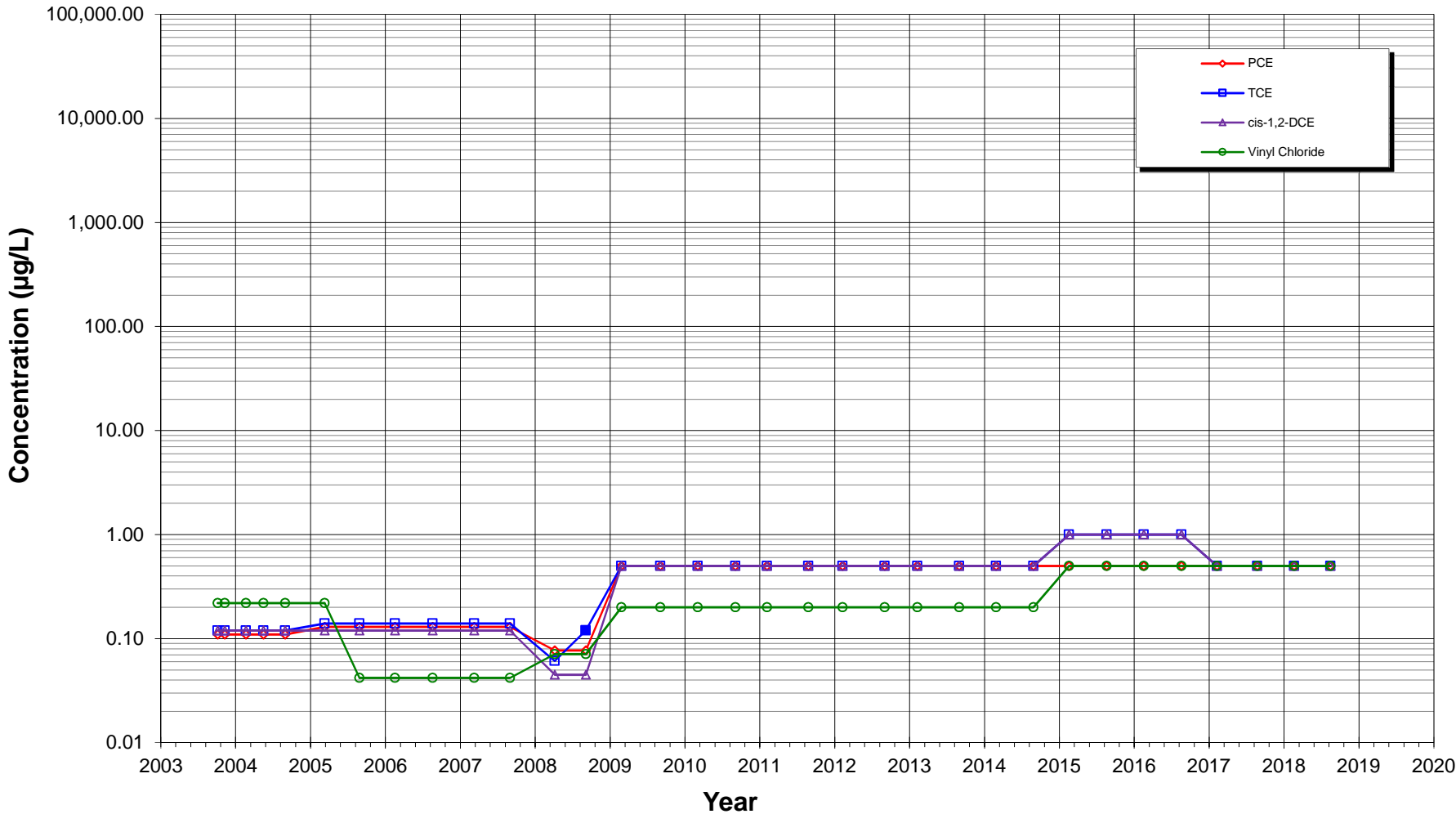
- Notes:**
- 1) Deep injection conducted in April and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, and Vinyl Chloride = 0.5 µg/L.

**Figure E26. Constituent vs Time
Monitoring Well MW-13
Univar USA Inc., Kent, Washington**



- Notes:**
- 1) Deep injection conducted in April and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

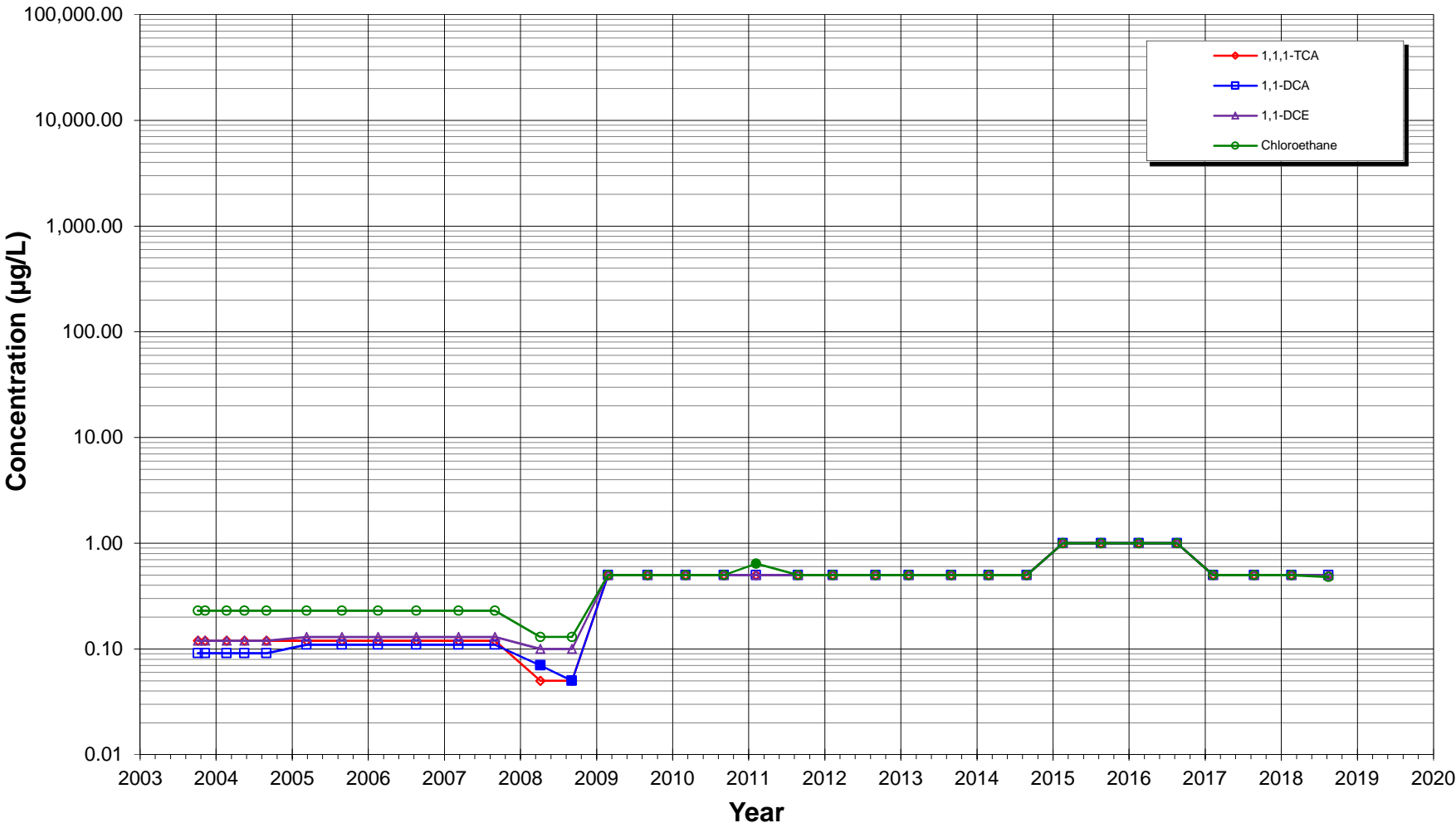
**Figure E27. Constituent vs Time
Monitoring Well MW-14
Univar USA Inc., Kent, Washington**



Notes:

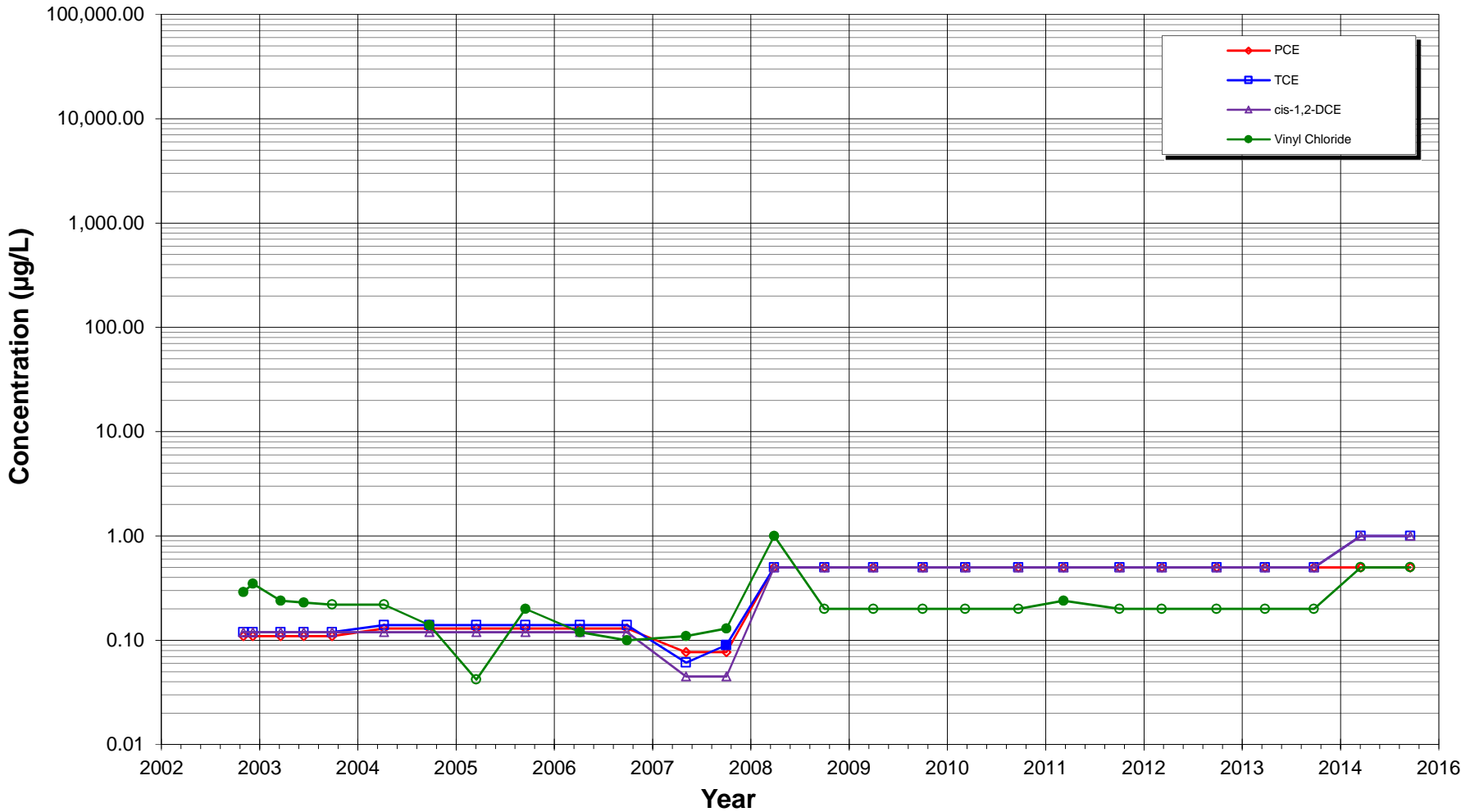
- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, and Vinyl Chloride = 0.5 µg/L.

**Figure E28. Constituent vs Time
Monitoring Well MW-14
Univar USA Inc., Kent, Washington**



Notes:
 1) Deep injection conducted in April and May 2011.
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

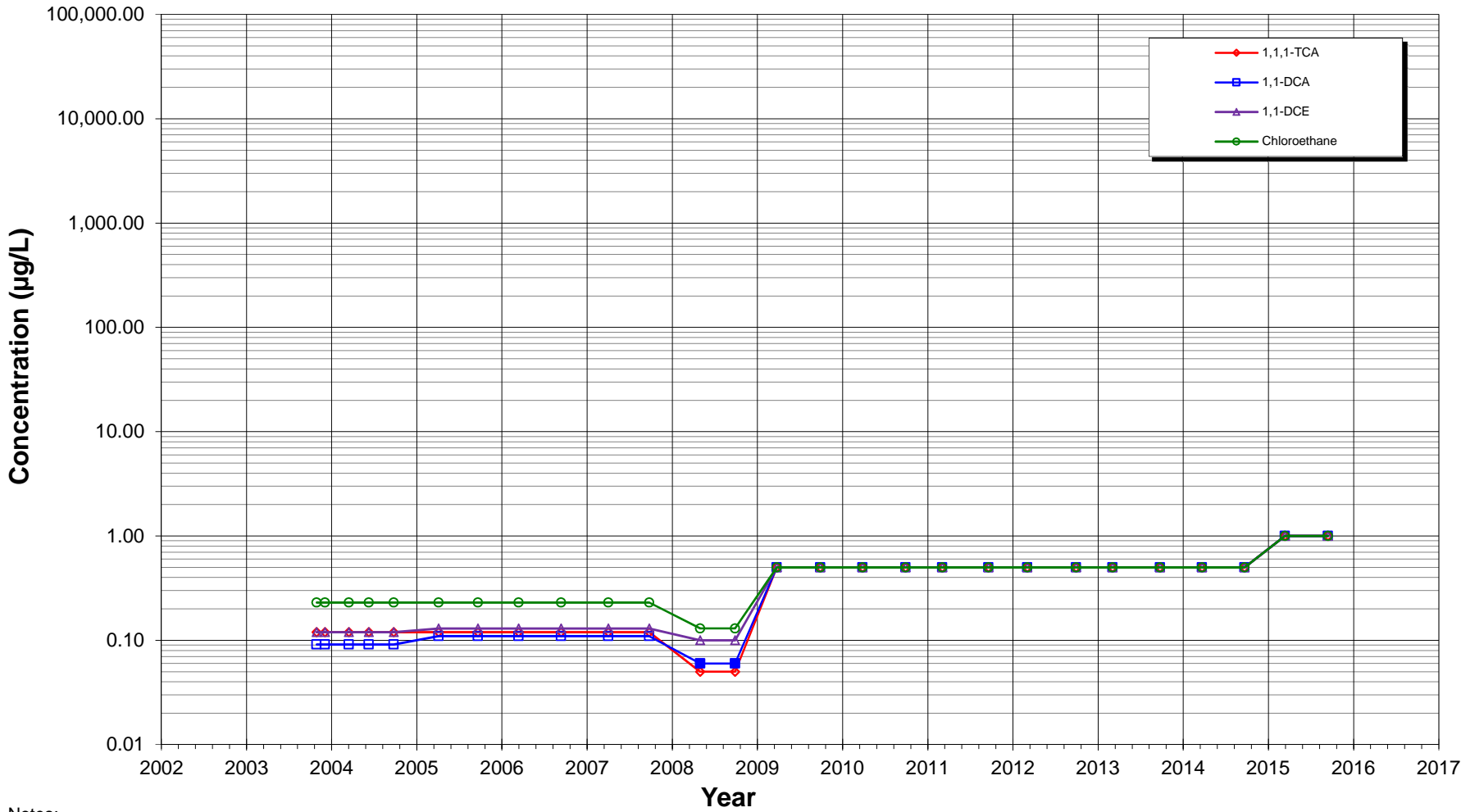
**Figure E29. Constituent vs Time
Monitoring Well MW-15
Univar USA Inc., Kent, Washington**



Notes:

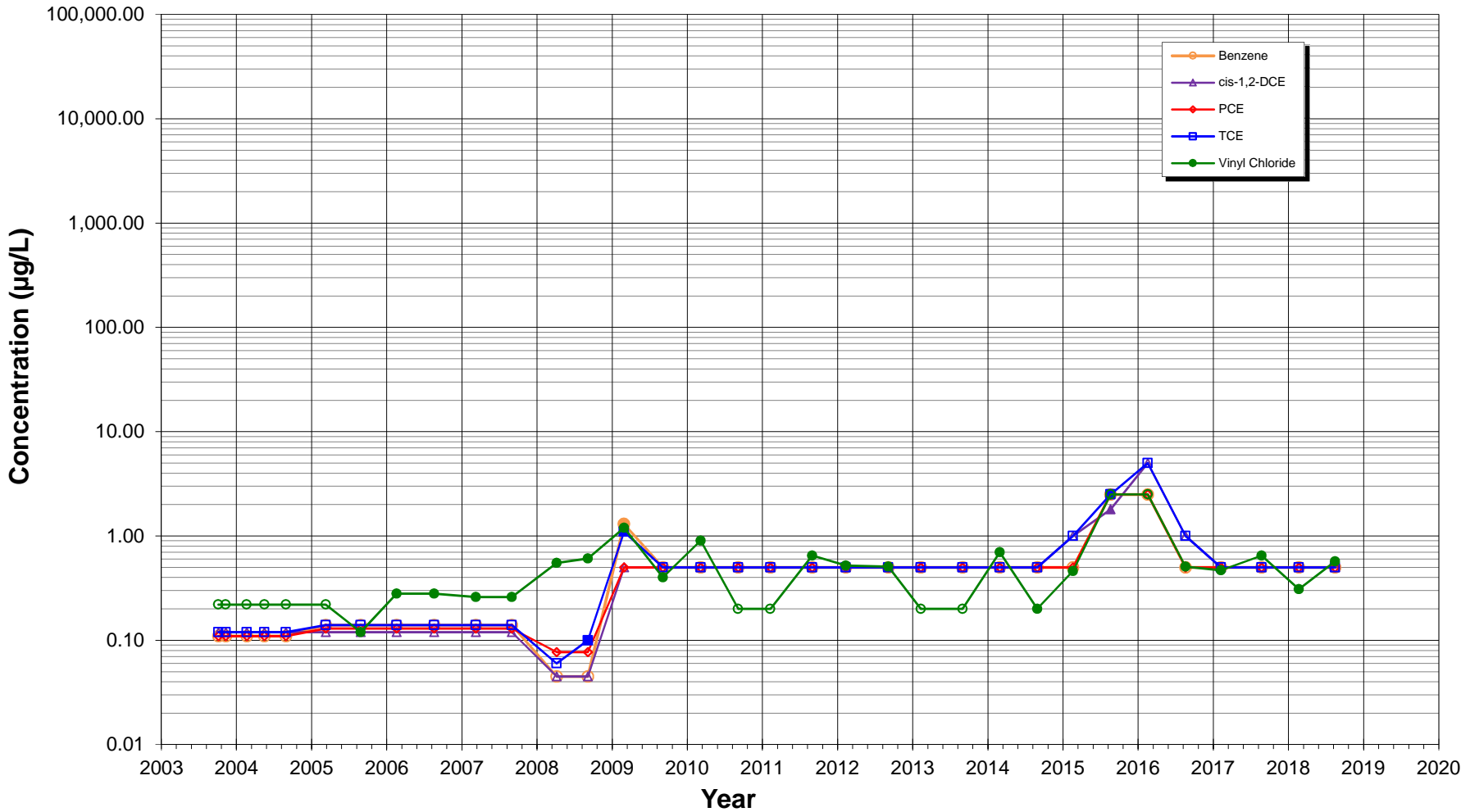
- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, and Vinyl Chloride = 0.5 µg/L.

**Figure E30. Constituent vs Time
Monitoring Well MW-15
Univar USA Inc., Kent, Washington**



- Notes:**
- 1) Deep injection conducted in April and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.
 - 4) Monitoring well decommissioned in February 2016.

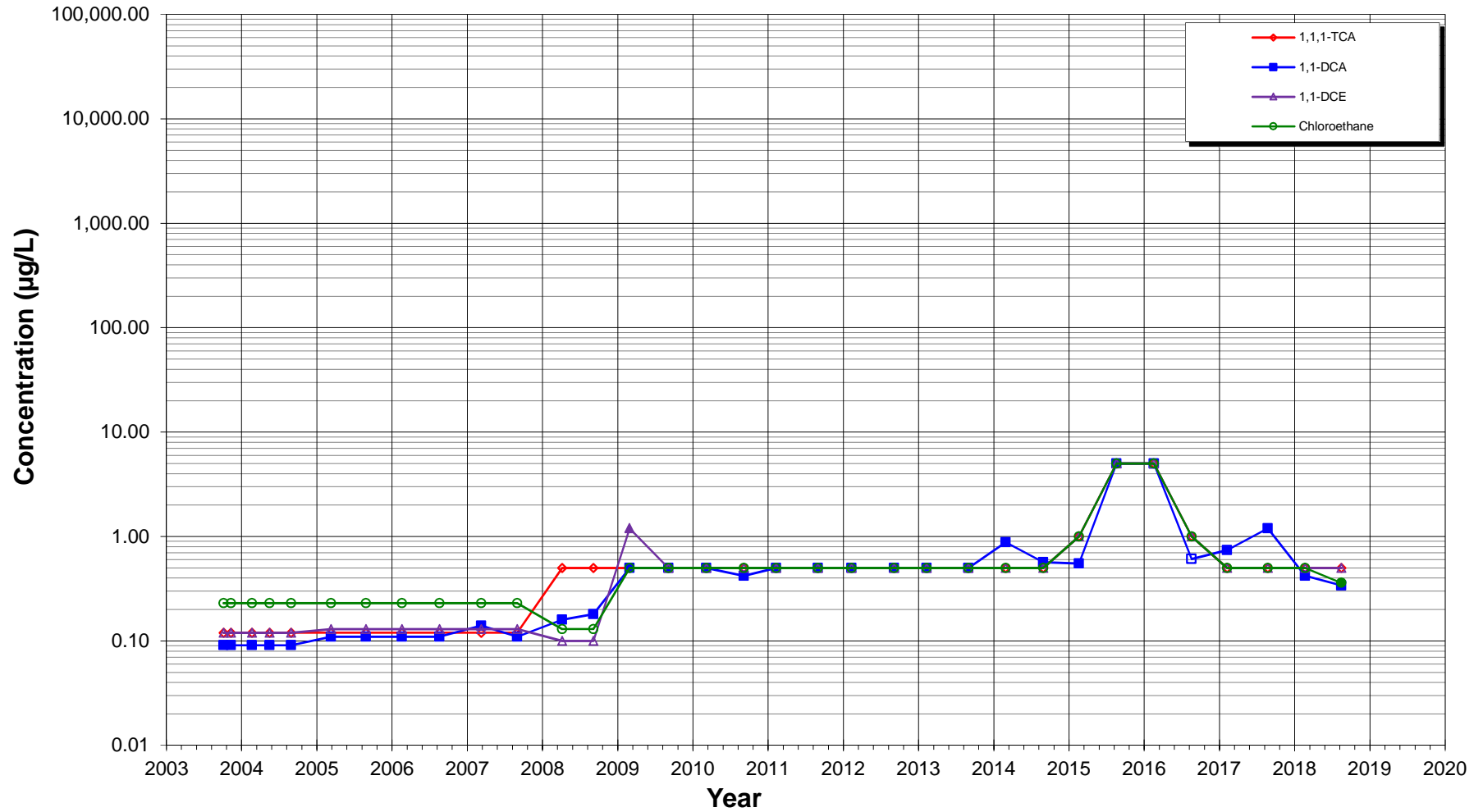
**Figure E31. Constituent vs Time
Monitoring Well MW-16
Univar USA Inc., Kent, Washington**



Notes:

- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, Vinyl Chloride = 0.5 µg/L, and Benzene = 0.8 µg/L.

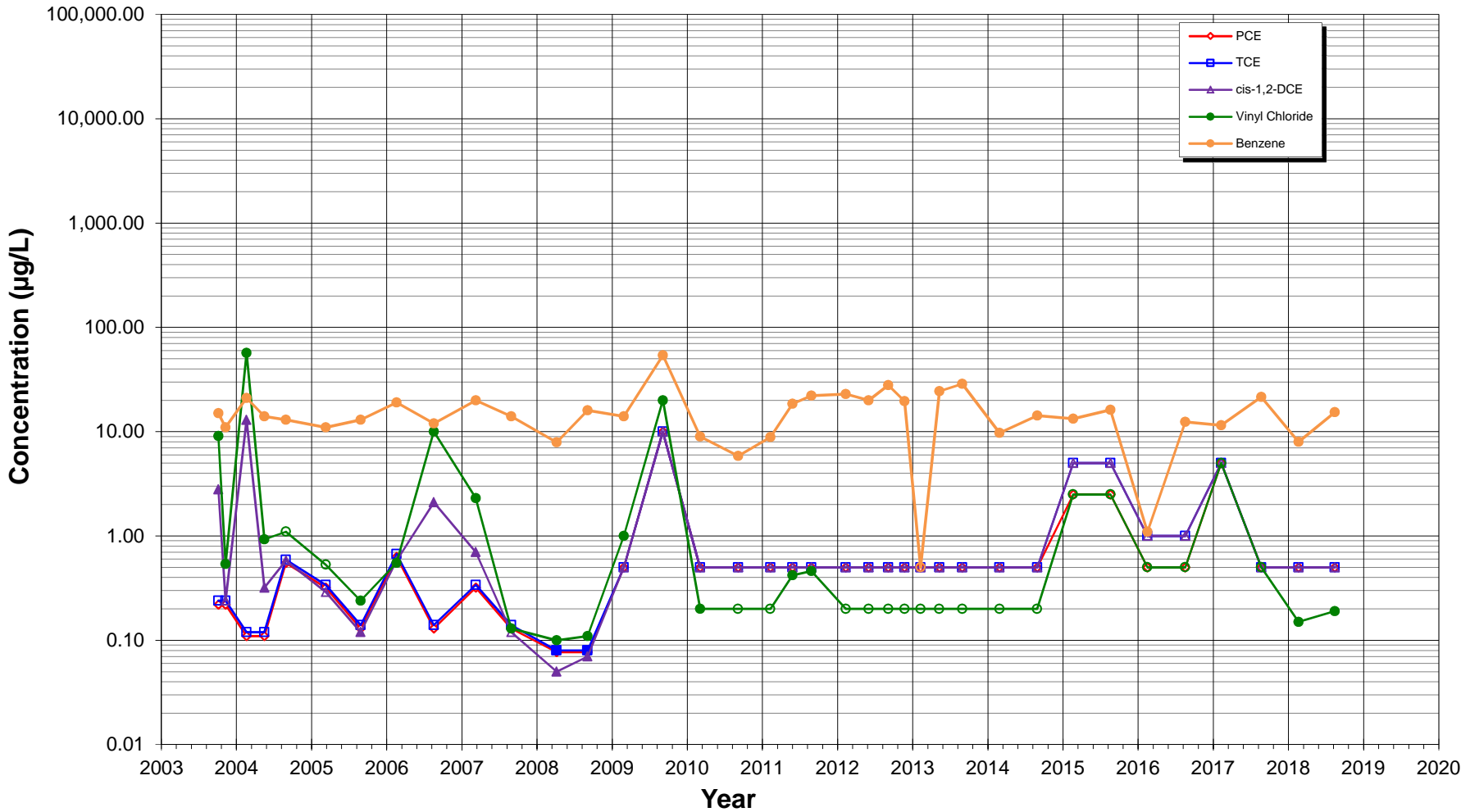
**Figure E32. Constituent vs Time
Monitoring Well MW-16
Univar USA Inc., Kent, Washington**



Notes:

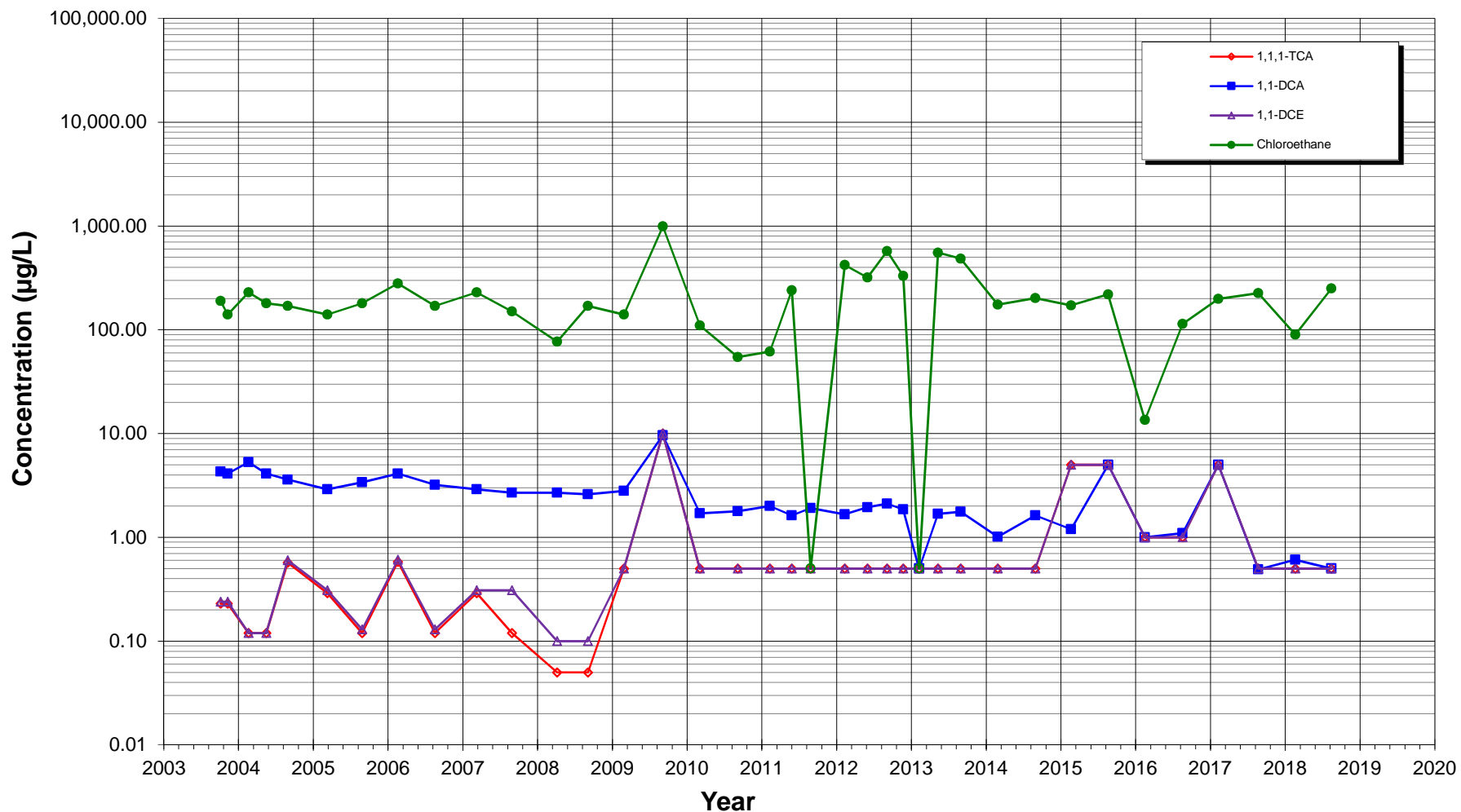
- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E33. Constituent vs Time
Monitoring Well MW-17
Univar USA Inc., Kent, Washington**



Notes:
 1) Deep injection conducted in April and May 2011.
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, Vinyl Chloride = 0.5 µg/L, and Benzene = 0.8 µg/L.

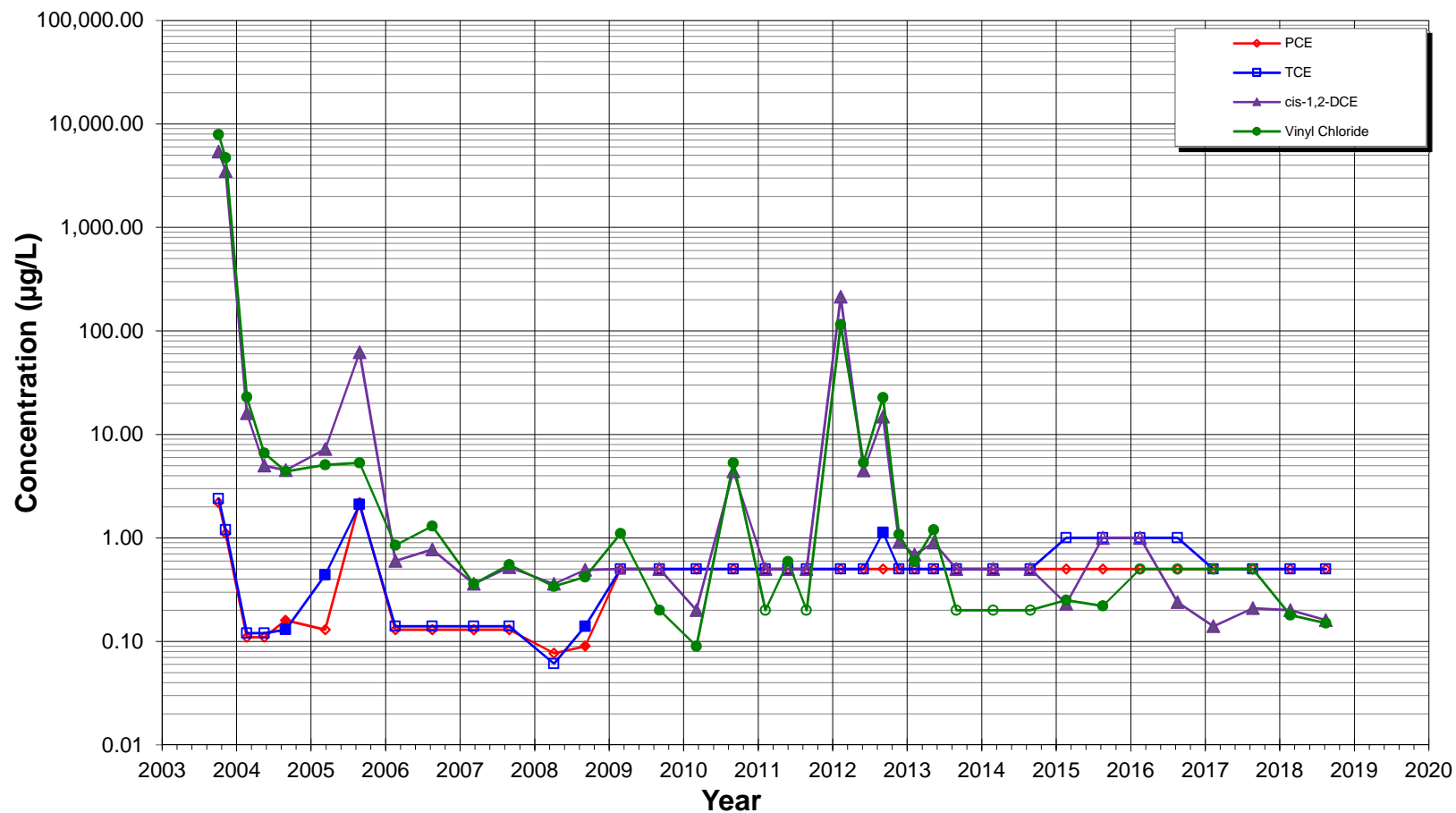
**Figure E34. Constituent vs Time
Monitoring Well MW-17
Univar USA Inc., Kent, Washington**



Notes:

- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

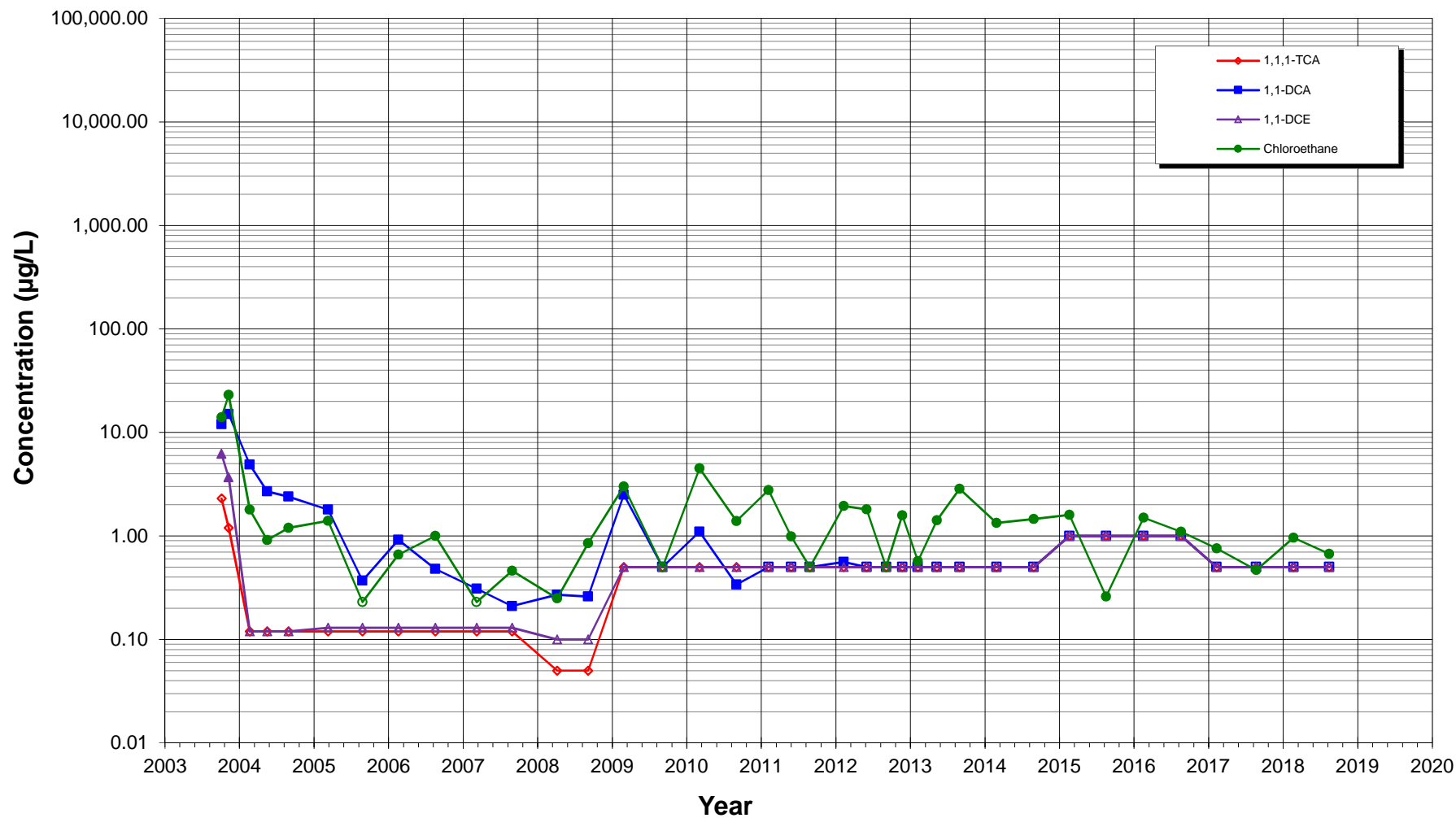
**Figure E35. Constituent vs Time
Monitoring Well MW-18
Univar USA Inc., Kent, Washington**



Notes:

- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, and Vinyl Chloride = 0.5 µg/L.

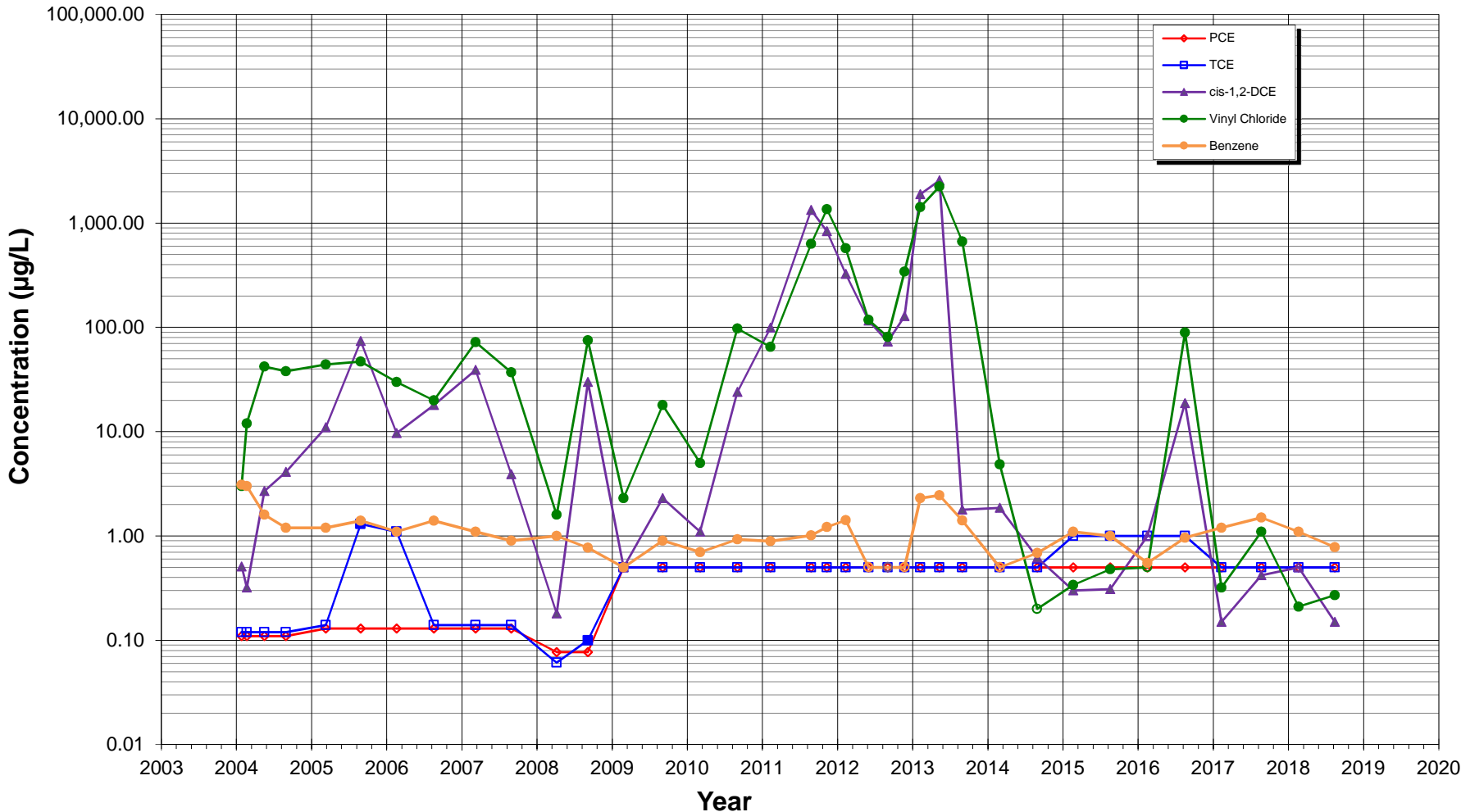
**Figure E36. Constituent vs Time
Monitoring Well MW-18
Univar USA Inc., Kent, Washington**



Notes:

- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit are shown as hollow data points.
- 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

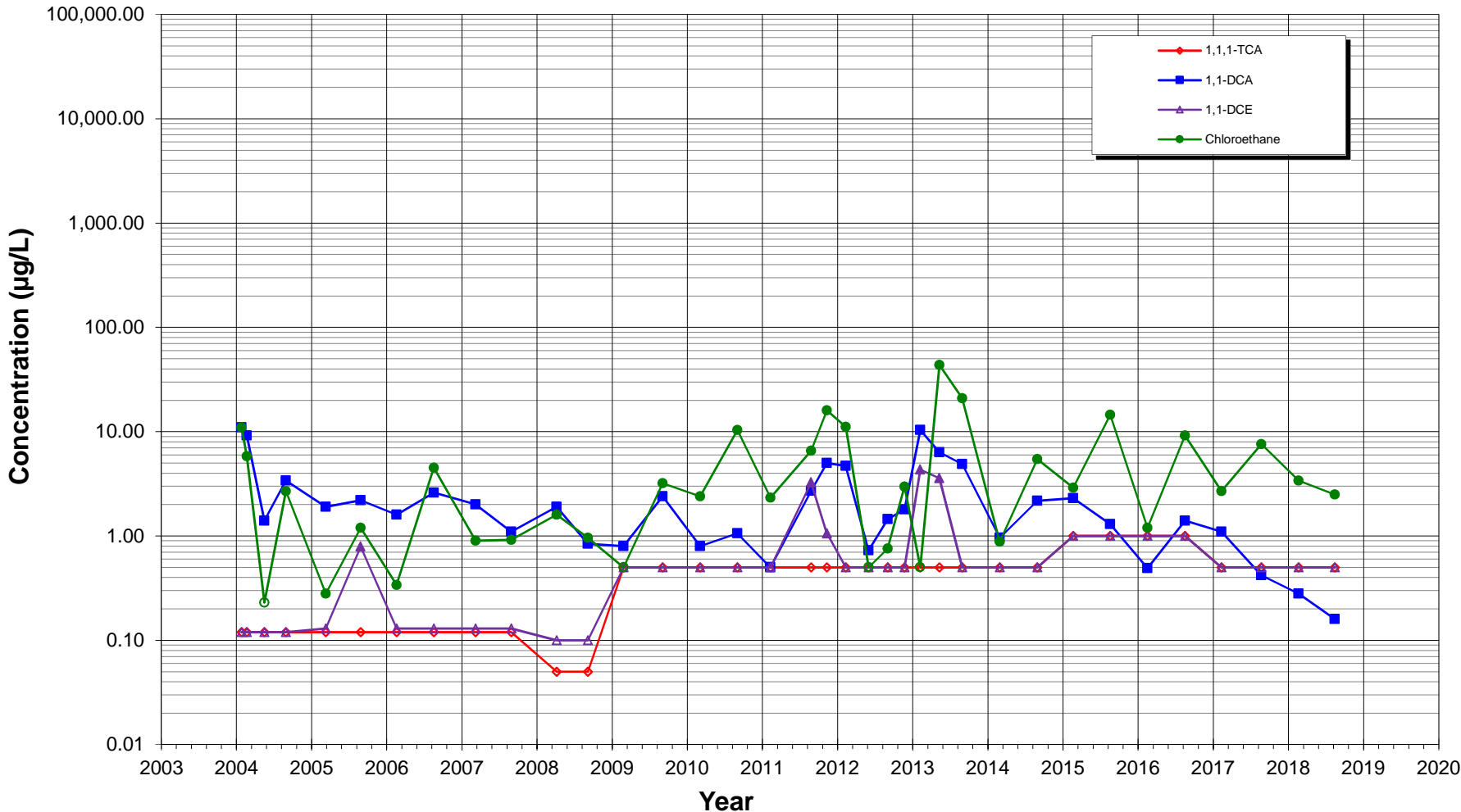
**Figure E37. Constituent vs Time
Monitoring Well MW-19
Univar USA Inc., Kent, Washington**



Notes:

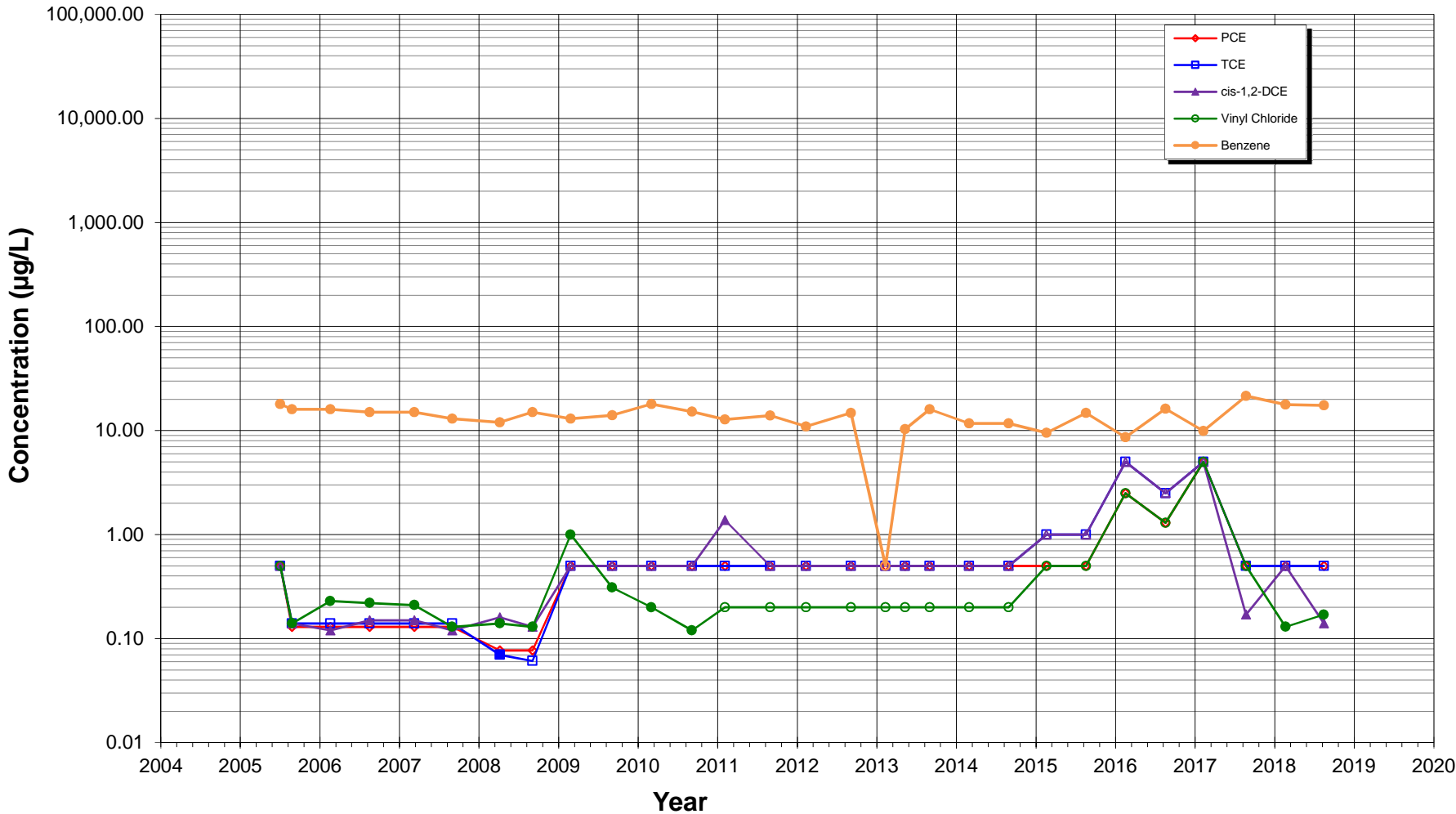
- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, Vinyl Chloride = 0.5 µg/L, and Benzene = 0.8 µg/L.

**Figure E38. Constituent vs Time
Monitoring Well MW-19
Univar USA Inc., Kent, Washington**



Notes:
 1) Deep injection conducted in April and May 2011.
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

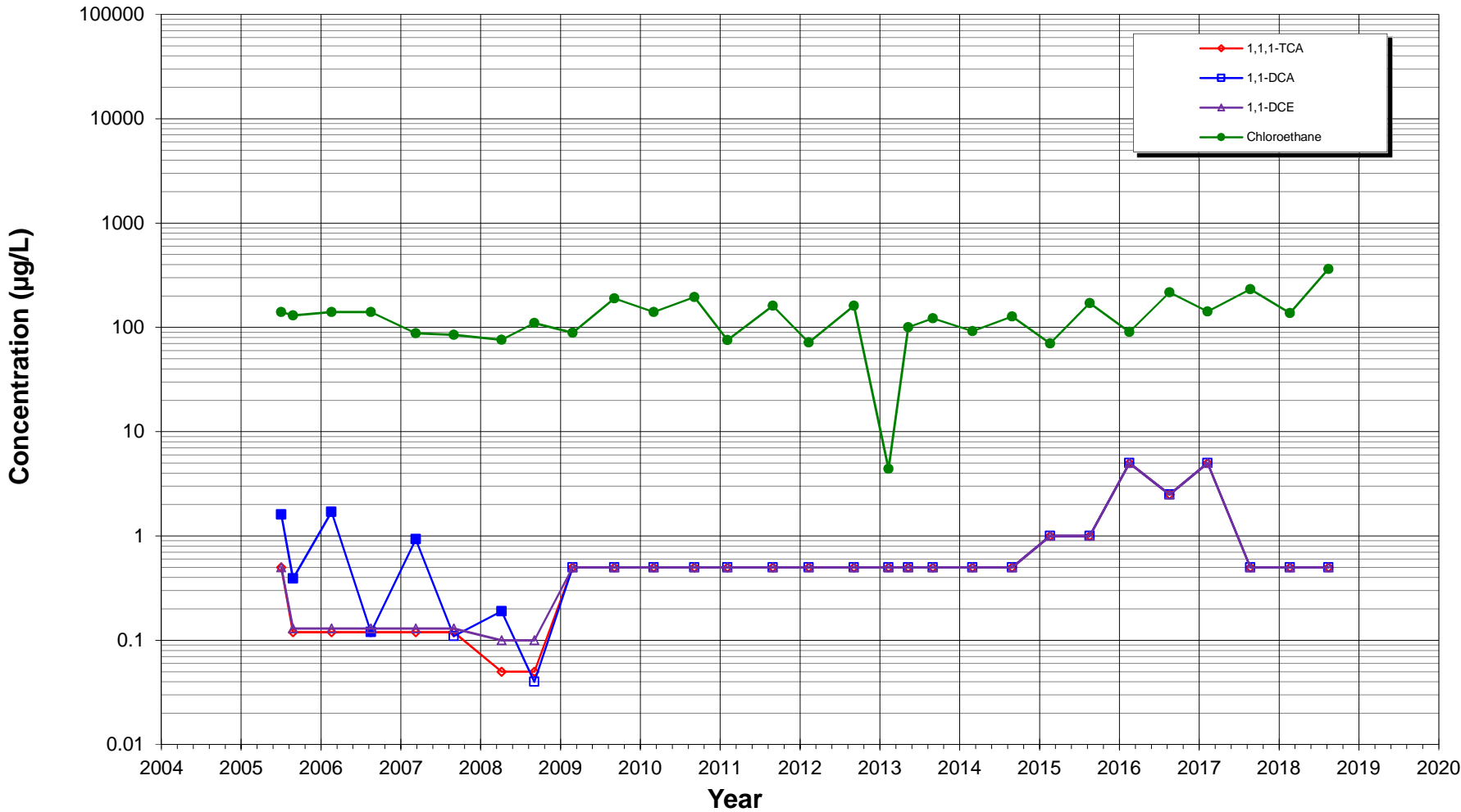
**Figure E39. Constituent vs Time
Monitoring Well MW-20
Univar USA Inc., Kent, Washington**



Notes:

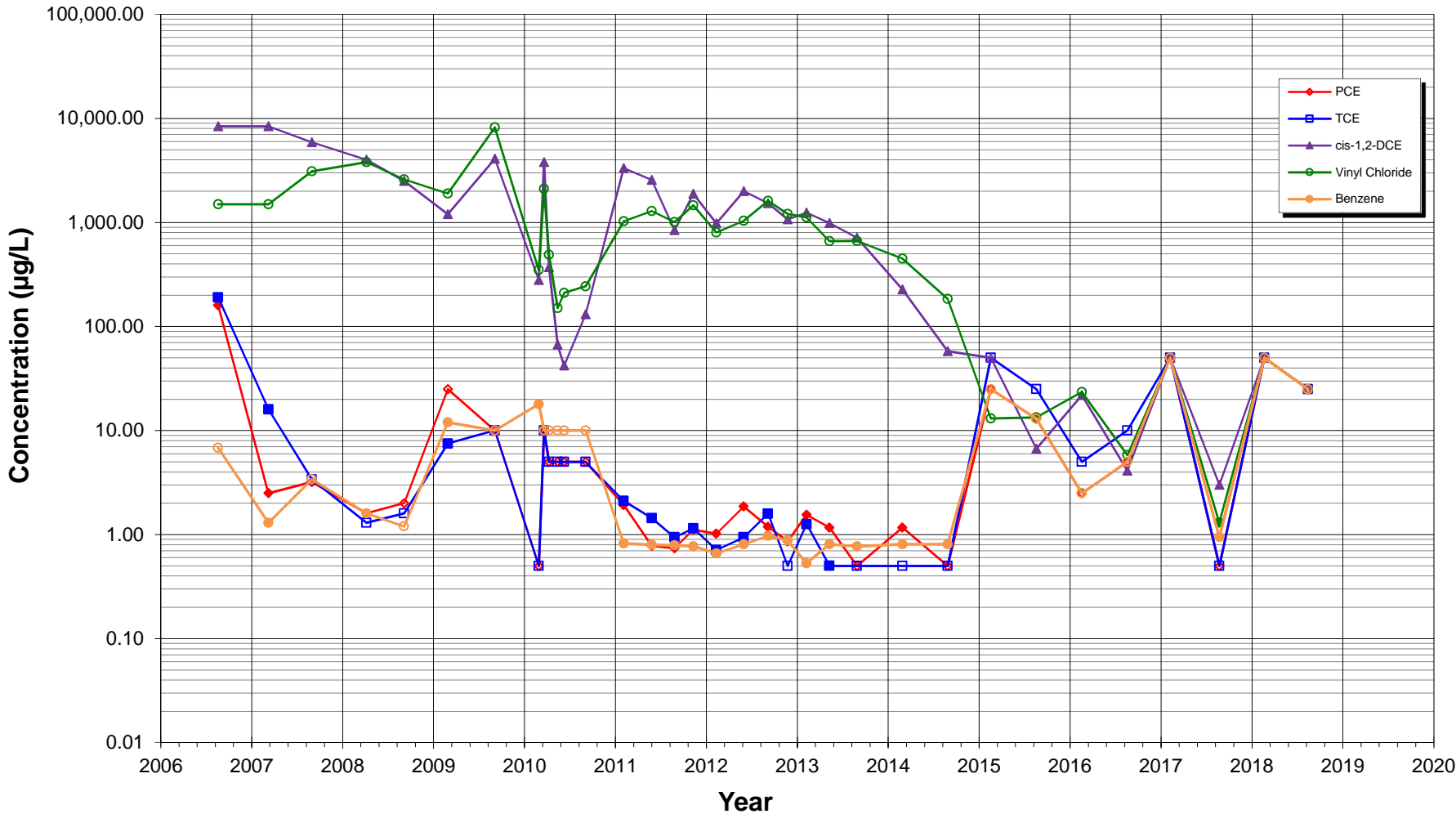
- 1) Deep injection conducted in April and May 2011.
- 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, Vinyl Chloride = 0.5 µg/L, and Benzene = 0.8 µg/L.

**Figure E40. Constituent vs Time
Monitoring Well MW-20
Univar USA Inc., Kent, Washington**



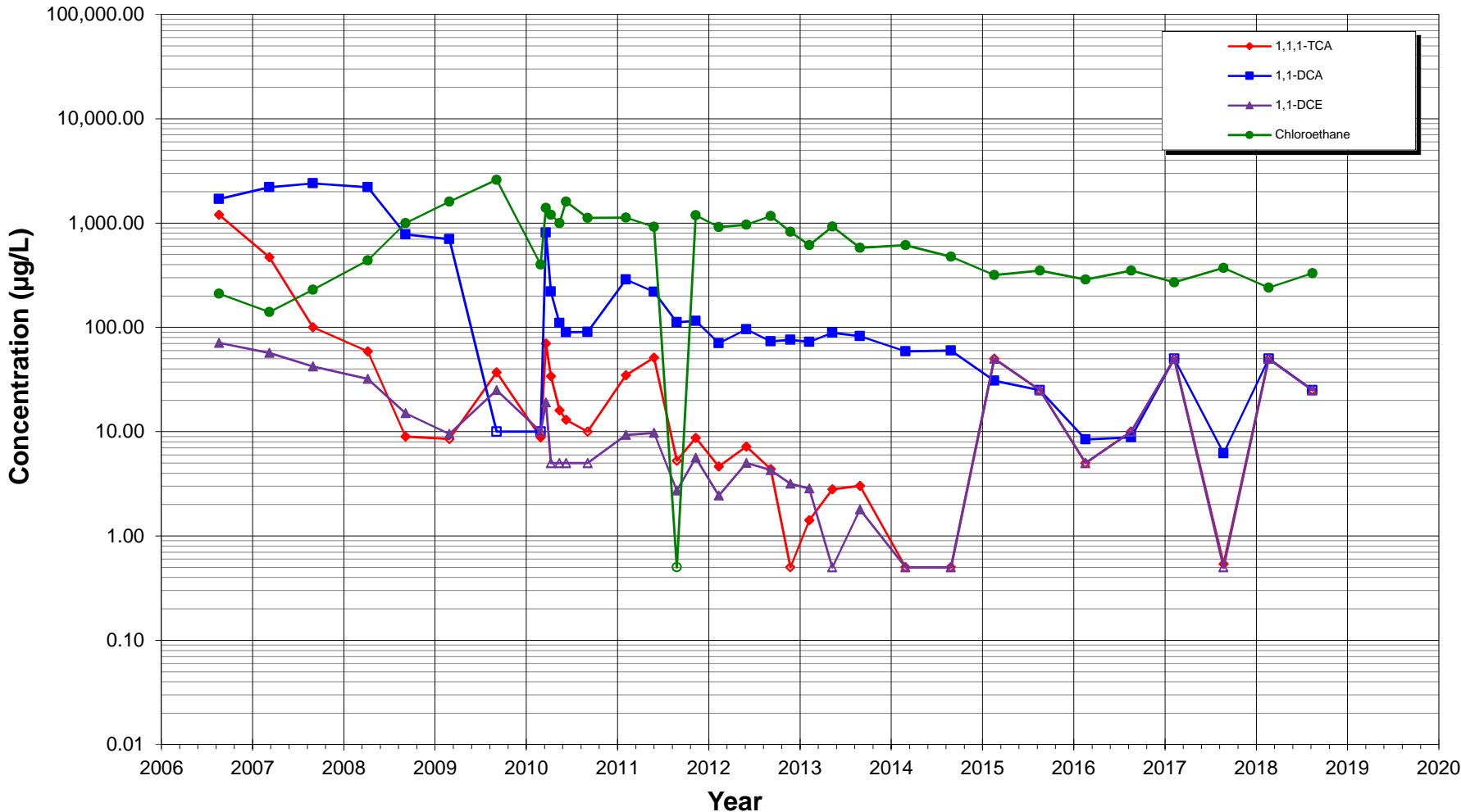
Notes:
 1) Deep injection conducted in April and May 2011.
 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E41. Constituent vs Time
Monitoring Well MW-21
Univar USA Inc., Kent, Washington**



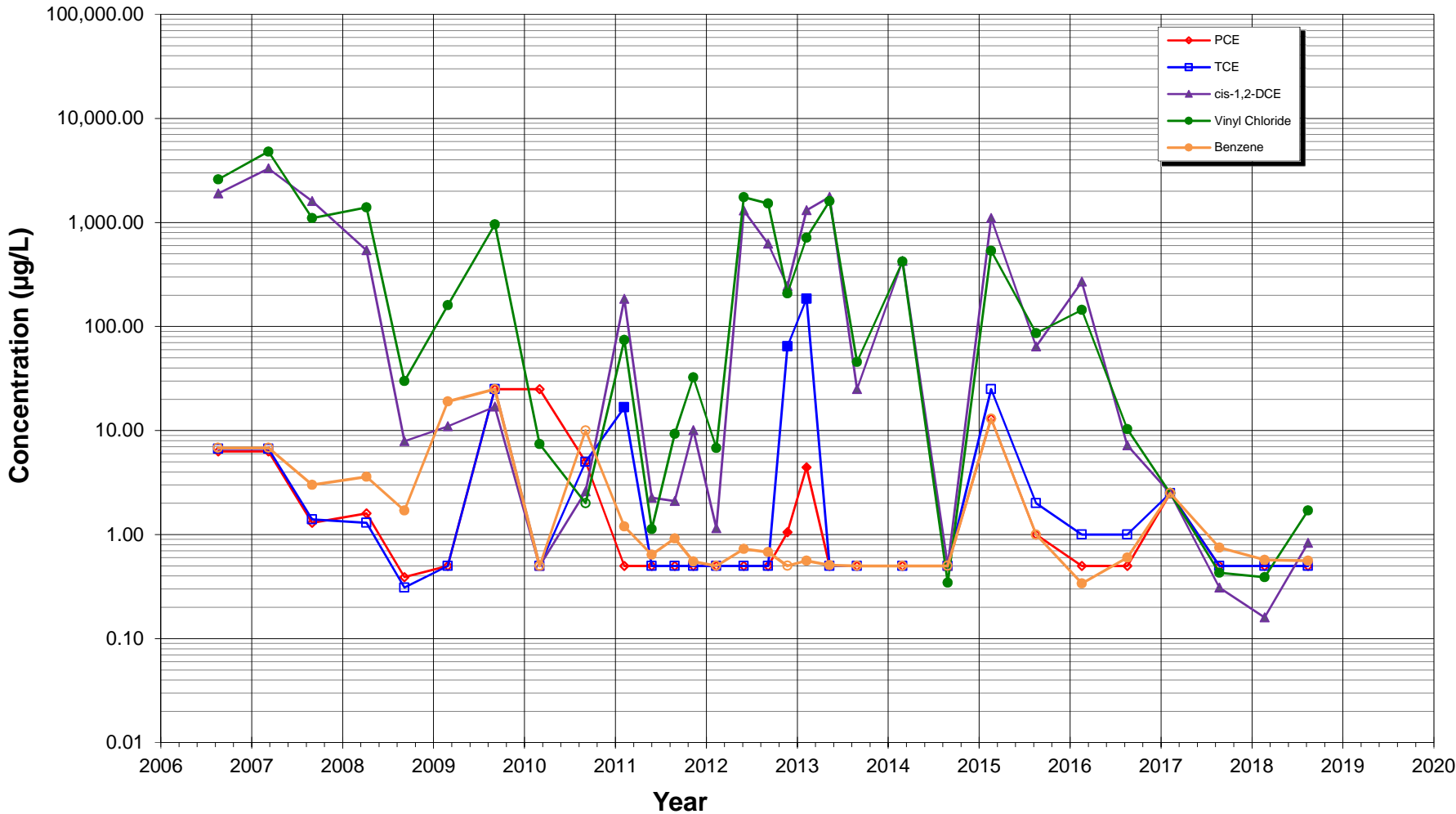
- Notes:**
- 1) Deep injection conducted in April and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, Vinyl Chloride = 0.5 µg/L, and Benzene = 0.8 µg/L.

**Figure E42. Constituent vs Time
Monitoring Well MW-21
Univar USA Inc., Kent, Washington**



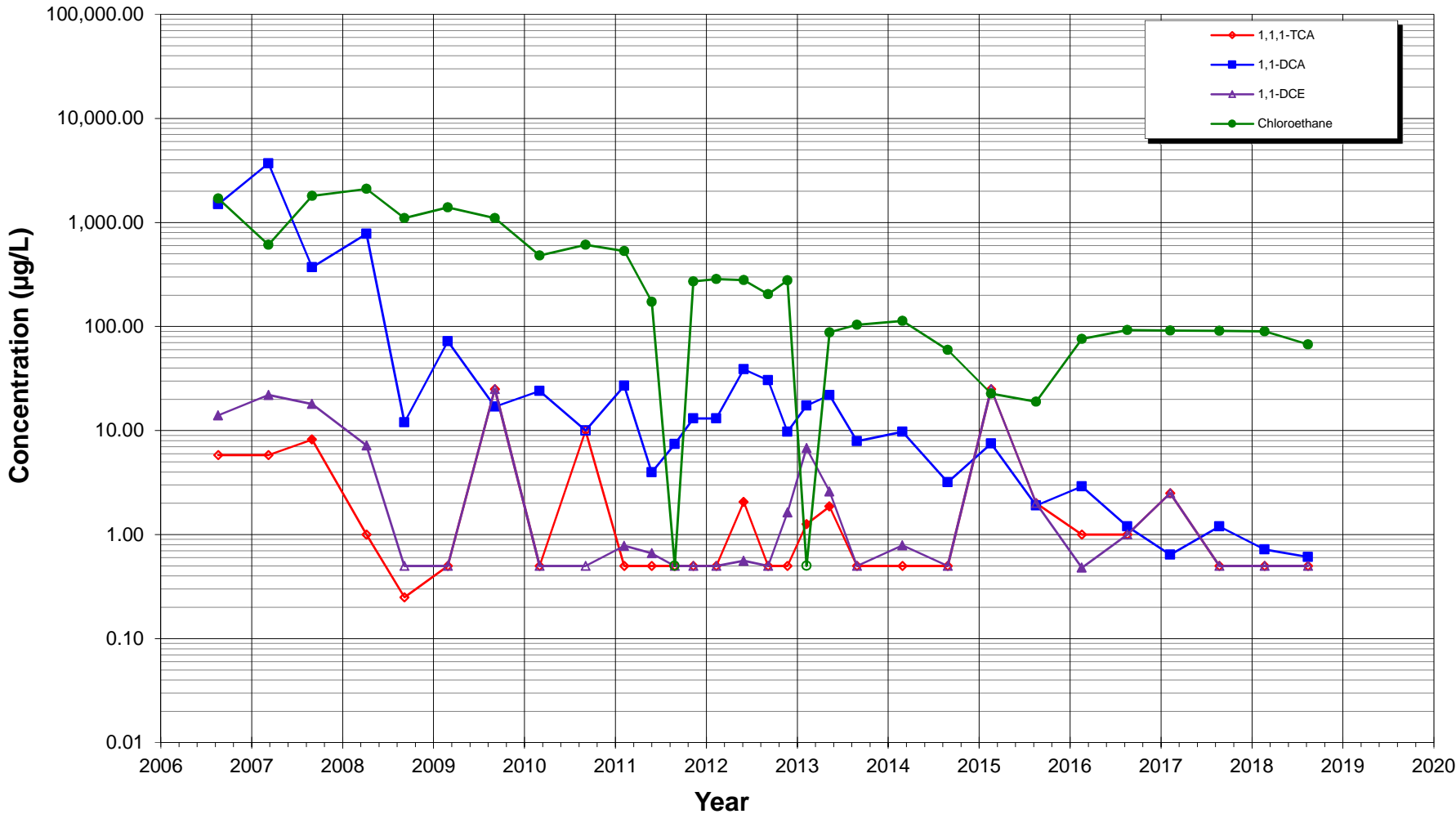
- Notes:**
- 1) Deep injection conducted in April and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E43. Constituent vs Time
Monitoring Well MW-22
Univar USA Inc., Kent, Washington**



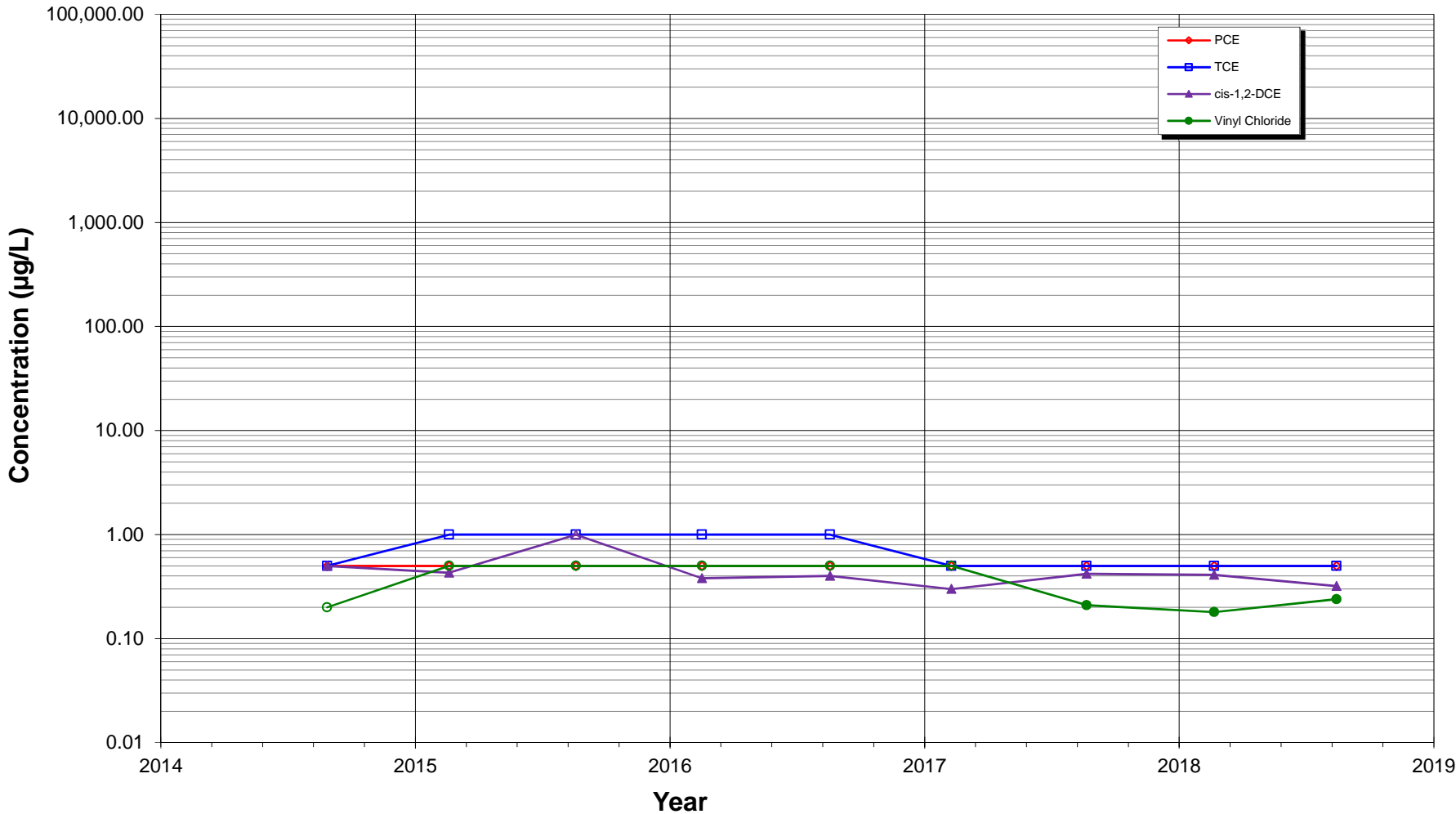
- Notes:**
- 1) Deep injection conducted in April and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, Vinyl Chloride = 0.5 µg/L, and Benzene = 0.8 µg/L.

**Figure E44. Constituent vs Time
Monitoring Well MW-22
Univar USA Inc., Kent, Washington**



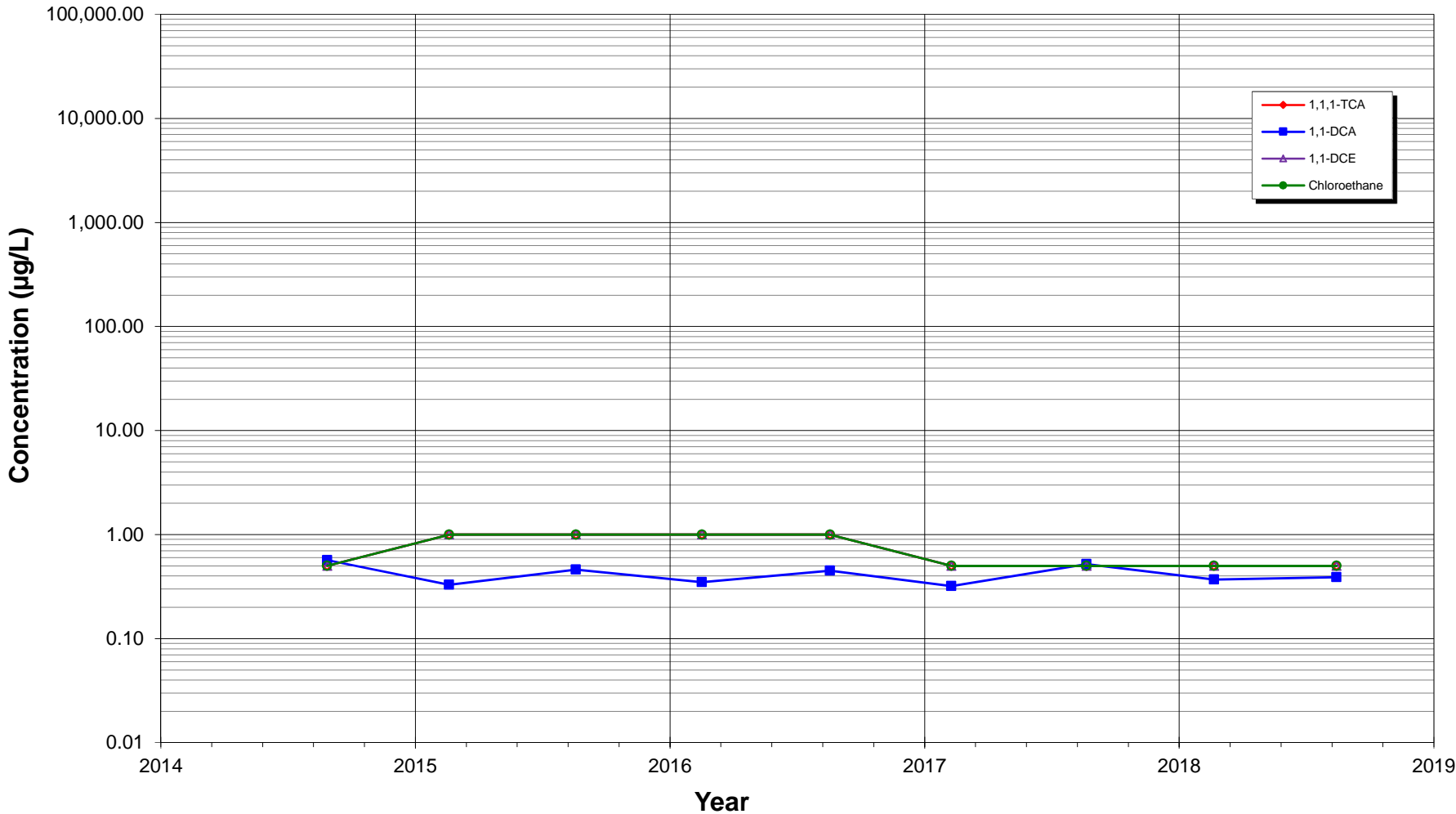
- Notes:**
- 1) Deep injection conducted in April and May 2011.
 - 2) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 - 3) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

**Figure E45. Constituent vs Time
Monitoring Well MW-27
Univar USA Inc., Kent, Washington**



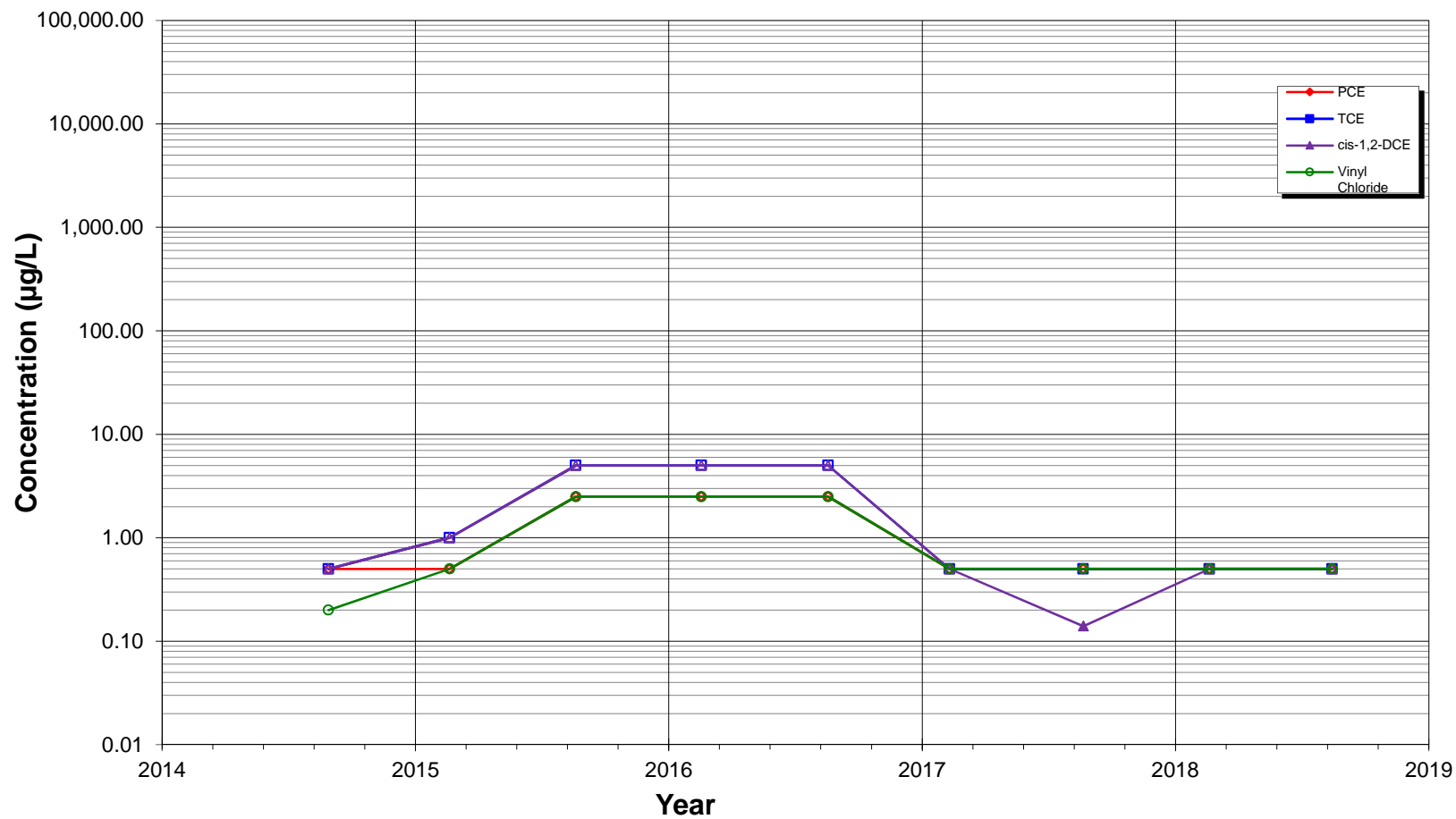
Notes:
 1) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
 2) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, and Vinyl Chloride = 0.5 µg/L.

Figure E46. Constituent vs Time
Monitoring Well MW-27
Univar USA Inc., Kent, Washington



Notes:
1) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
2) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

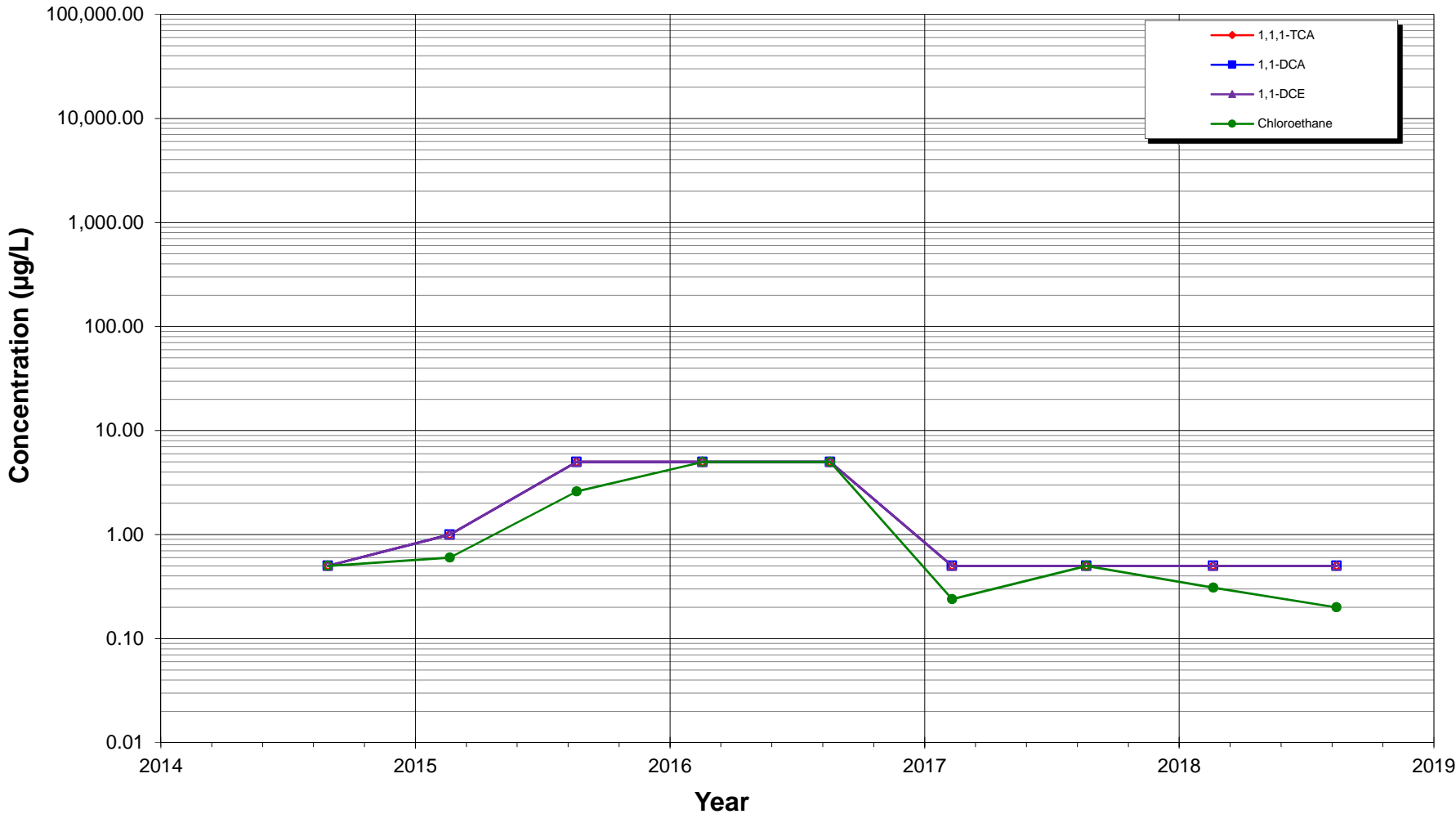
**Figure E47. Constituent vs Time
Monitoring Well MW-28
Univar USA Inc., Kent, Washington**



Notes:

- 1) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
- 2) Final Site Cleanup Levels: PCE = 0.86 µg/L, TCE = 4.0 µg/L, cis-1,2-DCE = 70 µg/L, and Vinyl Chloride = 0.5 µg/L.

Figure E48. Constituent vs Time
Monitoring Well MW-28
Univar USA Inc., Kent, Washington



Notes:
1) All results that were not detected at the lowest reported limit (MDL or MRL) are shown as hollow data points.
2) Final Site Cleanup Levels: 1,1,1-TCA = 200 µg/L, 1,1-DCA = 800 µg/L, and 1,1-DCE = 7 µg/L.

Figure E49. Microbial and Vinyl Chloride Concentrations Well MW-13

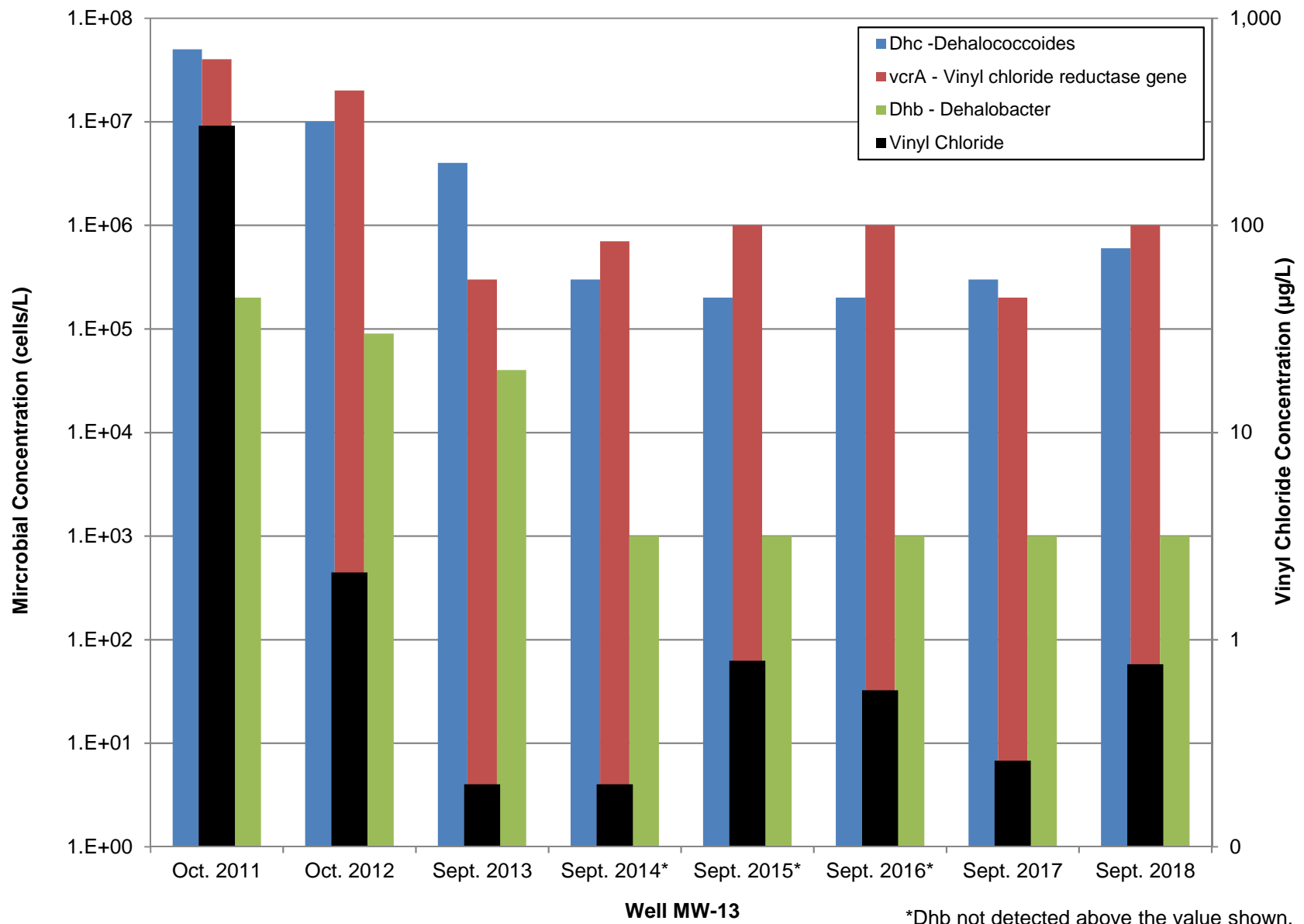


Figure E50. Microbial and Vinyl Chloride Concentrations Well MW-21

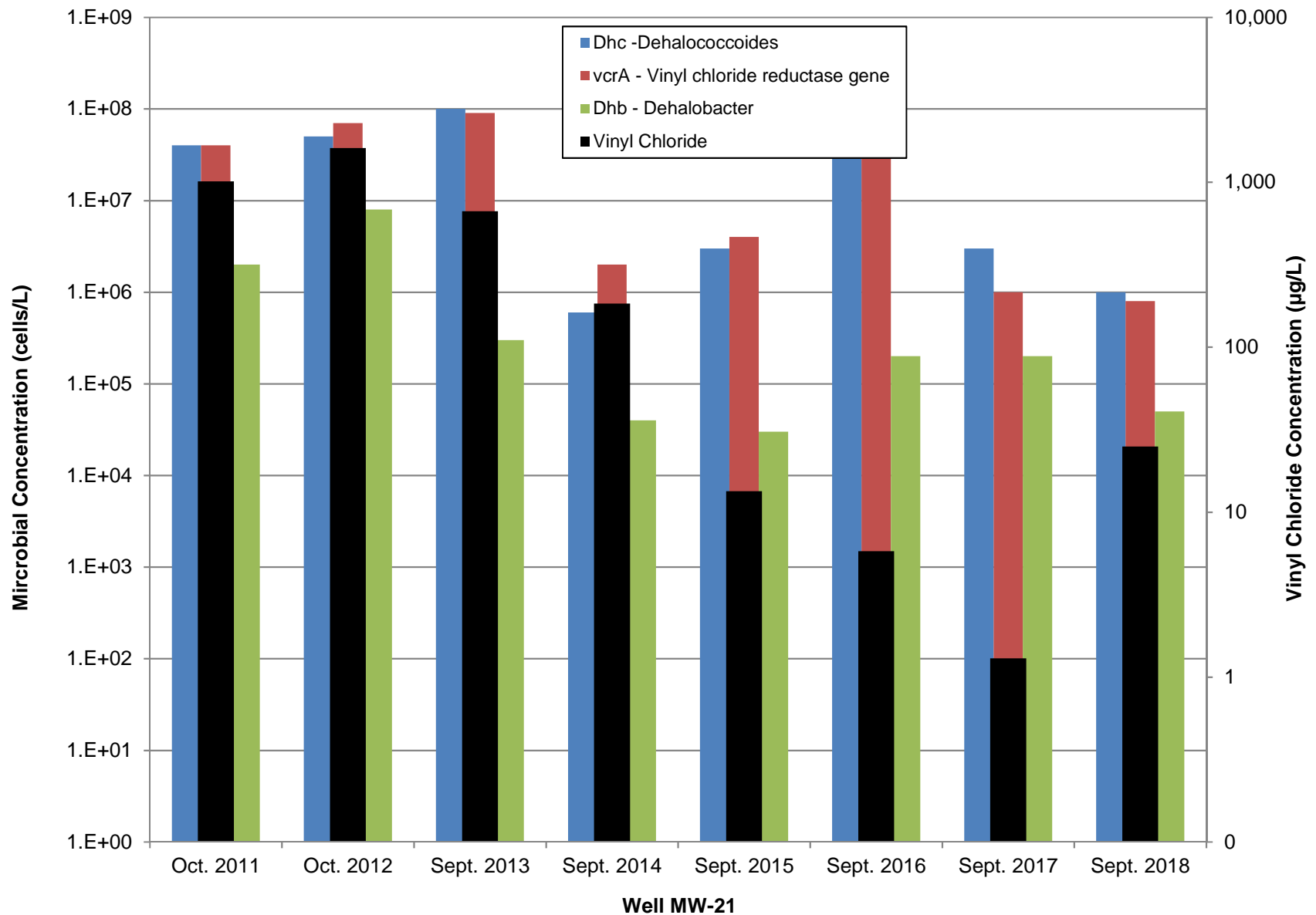
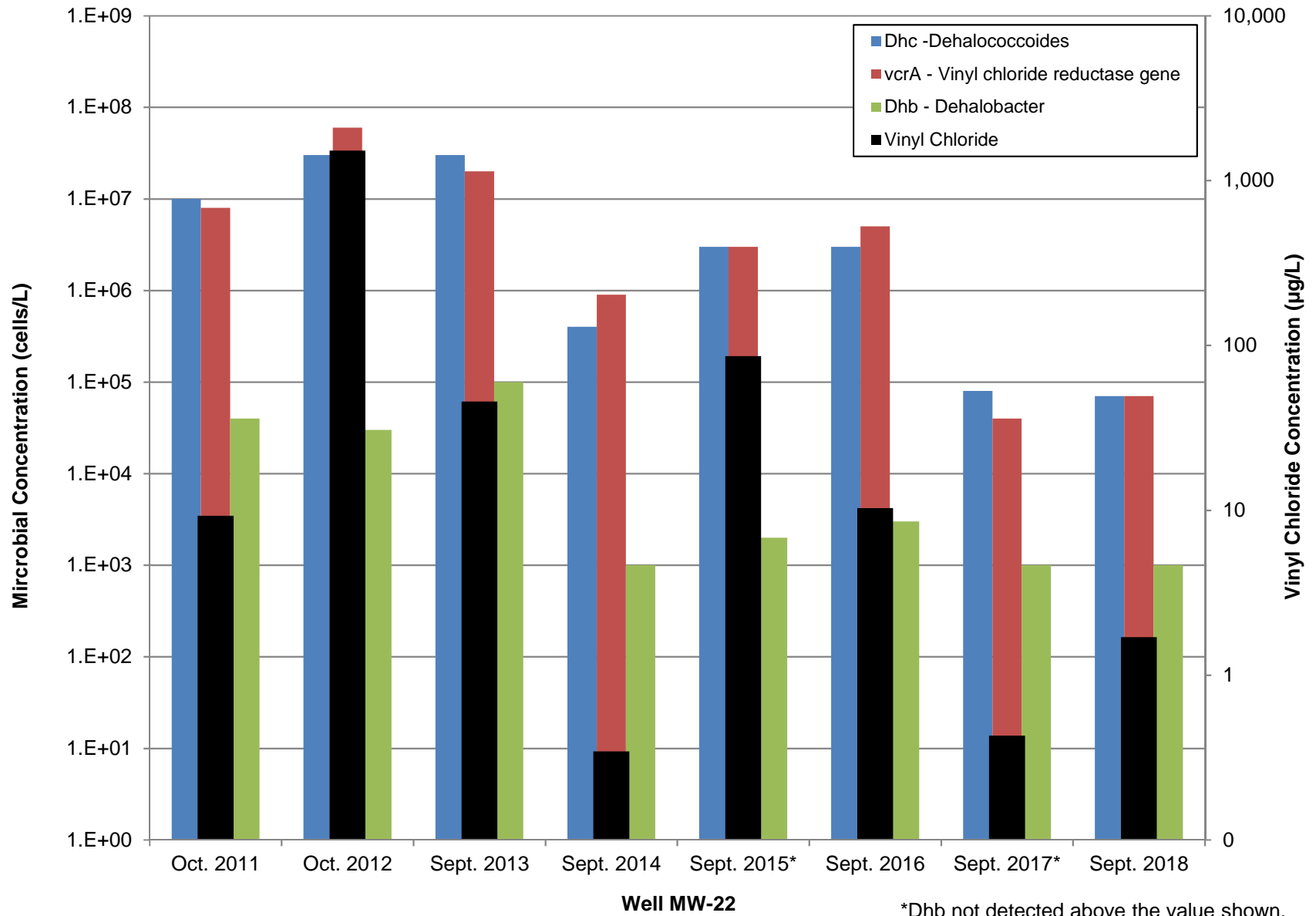


Figure E51. Microbial and Vinyl Chloride Concentrations Well MW-22



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