AECOM

Environment

Prepared for
Port of Vancouver USA
3103 NW Lower River Road
Vancouver, Washington 98660

Submitted to
Washington Department of Ecology

Submitted by
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Portland, Oregon 97201

60410261
May 2016

First Semi-Annual 2016 Groundwater Monitoring Letter Report

Former Fort Vancouver Plywood Site
Port of Vancouver USA
Vancouver, Washington

AECOM

May 24, 2016

Mr. Matt Graves
Environmental Manager
Port of Vancouver USA
3103 NW Lower River Road
Vancouver, Washington 98660

Re: First Semi-Annual 2016 Groundwater Monitoring Letter Report
Former Fort Vancouver Plywood Site
Port of Vancouver USA
Vancouver, Washington
AECOM Job No. 60410261

Dear Mr. Graves:

AECOM has prepared this Groundwater Monitoring Letter Report on behalf of the Port of Vancouver USA (the Port). This letter report summarizes the results of the first semi-annual 2016 groundwater monitoring conducted at Cell 1 and Cell 2 of the Former Fort Vancouver Plywood (FVP) Site (herein referred to as the Site). This monitoring event is referenced as the March 2016 monitoring event.

1 Site Location and Background

The Site is located at West Eighth Street and Port Way, in an industrial-zoned area adjacent to the Columbia River, at the Port in Vancouver, Washington (Figure 1). The Site consists of approximately 13 acres of nearly level paved and unpaved land. The unpaved land exists along the shoreline of the Columbia River, and the remainder of the Site is paved. The northern portion of the Site is leased by the Great Western Malting Company, and the rest of the Site is leased by Pacific Coast Shredding, a metal recycling/processing facility (see Figure 2).

Great Western Malting Company is also located on the north adjacent property, and the former Brazier Forest Industries leasehold is located on the northeast adjacent property. The Site is bordered by Port Way to the southeast and the Columbia River to the southwest (see Figure 2).

The Site was occupied by plywood manufacturers and other lumber-related operations from the mid-1920s to the mid-1990s. FVP operated at the Site from 1955 until July 1996, when site operations terminated and the leasehold reverted to the Port. Former facilities at the Site included a wood processing and plywood manufacturing plant, chemical storage, a boiler house, a maintenance shop, fuel storage areas, a log yard, a retail store/warehouse, an oil/water separator, diesel underground storage tanks (USTs), and an office building. In July 1997, the Port demolished all structures associated with the plywood mill and consolidated wood debris from the former log yard. In September 1997, the Port installed a riprap wall along the Site boundary to protect the shoreline from further erosion by the Columbia River (ERM, 2008a and 2008b).

From 2012 to 2014, the Port constructed the West Vancouver Freight Access Project through the Site. The locations of the rail track centerline, retaining walls, and trench structure for the West Vancouver Freight Access Project are indicated on Figure 2.

2 Site Hydrogeology

Two groundwater-bearing zones are present within the upper 65 feet of soils explored beneath the Site. These include a shallow water table unit (shallow zone) and a deeper, confined aquifer referred to herein as the Unconsolidated Aquifer (USGS 1993). The two saturated zones are separated by a lower-permeability confining layer that ranges in thickness from approximately 14 to 40 feet. The Unconsolidated Aquifer was encountered below the confining layer at depths ranging from 49 to 55 feet below ground surface (bgs) (Ecology, 1999 and 2000).

The general direction of the hydraulic gradient (and presumed direction of groundwater flow) in the shallow zone is to the south, toward the Columbia River. According to the Cleanup Action Plans (CAP), the shallow zone horizontal hydraulic gradient at the Site was calculated to range from approximately 0.016 to 0.019 feet per foot (ft/ft) at Cell 1 and 0.01 to 0.02 feet per foot (ft/ft) at Cell 2 (Ecology, 1999 and 2000). The direction of the hydraulic gradient and presumed groundwater flow in the deeper Unconsolidated Aquifer appears to be toward the west in response to groundwater pumping by the Port and the Port's tenants. A net downward vertical gradient exists between the shallow zone and the deeper Unconsolidated Aquifer (Ecology, 1999).

Near-surface (upper 10 feet) soils beneath the Site consist predominantly of sand with varying amounts of silt. Considerable amounts of anthropogenic debris, including rubble (brick and concrete), wood ash, and trash, have been identified in the upper 10 feet of soil (Ecology, 1999).

3 Compliance Monitoring Plan

3.1 Agreed Orders

Presently the Site is separated into two areas designated as Cell 1 (C1) and Cell 2 (C2).Two Agreed Orders between the Port and Washington State Department of Ecology (Ecology) are in place for this Site:

- Agreed Order No. 99TC-S108 applies to Cell 1
- Agreed Order No. 99TCPSR-93 applies to Cell 2

In accordance with Agreed Orders, the Port completed a remedial investigation and feasibility study (RI/FS) in 1998. The RI/FS identified lead, total petroleum hydrocarbons (TPH), and polycyclic aromatic hydrocarbons (PAHs) concentrations above Ecology Model Toxics Control Act (MTCA) Method A or Method C industrial soil cleanup levels. The RI/FS also indicated that the area adjacent to the Columbia River contained buried anthropogenic debris and concentrations of soluble metals that could leach to the Columbia River. Pursuant to the conditions of the Agreed Orders, the Port completed Interim Actions at Cell 1 from November 1998 to February 1999 and at Cell 2 from October 2000 to December 2000 (ERM, 2008a and 2008b).

A total of 26 monitoring wells were originally located in Cells 1 and 2. These monitoring wells (MWs) are listed below and on Table 1 along with two replacement wells which are discussed in Section 3.3.

- Deeper Unconsolidated Aquifer
  - C1-MW-6B
  - C2-MW-12B and C2-MW-13B

- Shallow zone
  - C1-MW-1 through C1-MW-9
  - C2-MW-1 through C2-MW-11 and C2-MW-14 through C2-MW-16

The groundwater cleanup levels and chemicals of concern (COCs) as determined by the Agreed Orders are described in the following subsections.

3.2 Groundwater Cleanup Levels

3.2.1 Deeper Unconsolidated Aquifer

Groundwater in the deeper Unconsolidated Aquifer is used as a potable and industrial water supply source; consequently, Ecology's MTCA Method A and B groundwater cleanup levels are used to assess potential adverse impacts to the Unconsolidated Aquifer.

In accordance with the Agreed Orders, the conditional point of compliance (POC) for groundwater within the Unconsolidated Aquifer is throughout the Site as represented by the following wells:

- C1-MW-6B
- C2-MW-12B and C2-MW-13B

3.2.2 Shallow Zone

The shallow zone groundwater cannot be used for drinking water due to low yield. However, the shallow groundwater discharges to the Columbia River at the Site. Consequently, the shallow zone cleanup levels are based on protection of surface water and are derived from the lowest of the following screening criteria for each analyte:

- Ecology's MTCA Method B surface water cleanup levels in accordance with Washington Administrative Code (WAC) 173-340-730
- Ecology's acute freshwater surface water quality criteria in accordance with WAC 173-201A-240
- US Environmental Protection Agency (EPA)'s National Toxics Rule human health criteria for surface water based on 40 Code of Federal Regulations (CFR) 131.36

In addition to shallow groundwater discharges to the Columbia River, there are indications that the shallow zone is hydraulically connected with the deeper Unconsolidated Aquifer. Because the deeper aquifer is a water supply source, groundwater occurring in the shallow zone is also compared to Ecology's MTCA Method A and B groundwater cleanup levels.

For the shallow zone groundwater, the conditional POC was established as the point where the groundwater discharges to surface water. Therefore, in the Agreed Orders, the shallow zone conditional POC wells for the Site included the following seven shoreline wells.

- C1-MW-3, C1-MW-4, C1-MW-5, and C1-MW-8
- C2-MW-9, C2-MW-10, and C2-MW-11

3.3 Monitoring Schedule and Chemicals of Concern

From September 2001 until March 2011, groundwater monitoring was conducted tri-annually (first, second, and fourth quarters) at each Cell in accordance with the Agreed Orders and the groundwater monitoring schedule proposed in a letter from Kennedy/Jenks Consultants (Kennedy/Jenks, 2011) to Mr. Dan Alexanian of Ecology dated September 17, 2001. Mr. Alexanian approved the monitoring schedule in an email to the Port dated October 4, 2001 (ERM, 2008a and 2008b).

Since September 2001, the monitoring plan included the collection of groundwater samples from 14 of the 26 monitoring wells listed in Section 3.1 and depth to groundwater measurements at all 26 wells during each event. The 14 sampled well included the 10 conditional POC wells and C1-MW-6, C1-MW-7, C2-MW-3, and C2-MW-7. Following approval from Ecology in 2004, conditional POC wells C1-MW-5 and C1-MW-8 were no longer required to be sampled.

The COCs for both Cells 1 and 2 in September 2001 originally included volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals. Gasoline-range hydrocarbons (gasoline) and diesel- and oil-range hydrocarbons (diesel and oil) were also included as COCs for Cell 2.

By 2007, following multiple correspondences between Ecology and the Port, monitoring of VOCs and total and dissolved metals was discontinued for both cells, and the VOC suite was reduced for a portion of the wells in Cell 1 to benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tert-butyl ether (MTBE) (ERM, 2008a and 2008b).

In April 2011, Ecology approved: a reduction in monitoring frequency from tri-annual to semi-annual (first and third quarters), the discontinuation of VOC analysis for C2-MW-3 and C2-MW-10, and the removal of the following eight monitoring wells from the groundwater monitoring plan (Ecology, 2011).

- C1-MW-6
- C1-MW-6B
- C2-MW-4
- C2-MW-5
- C2-MW-7
- C2-MW-8
- C2-MW-13B
- C2-MW-16

Ecology requested in the April 2011 letter that the monitoring of C1-MW-3 continue to determine if any contaminant migration occurs as a result of the West Vancouver Freight Access Project.

In 2012 and 2013, monitoring wells C1-MW-6, C1-MW-6B, C2-MW-5, C2-MW-8 and C2-MW-13B were decommissioned. An attempt was made to locate and decommission monitoring wells C2-MW-4, C2-MW-7, and C2-MW-16 in September 2012; however, these monitoring wells were inadvertently paved over and not locatable.

The construction of the West Vancouver Freight Access Project required the relocation of monitoring wells C1-MW-3, C1-MW-5, and C1-MW-8. The Port submitted a request to Ecology for the relocation of the three monitoring wells, and in a letter dated April 16, 2012, Ecology approved the relocations. In 2012, the three monitoring wells were decommissioned, and C1-MW-3 and C1-MW-5 were re-installed in the same approximate configuration and depths as the original monitoring wells (with the same designations). C1-MW-8 was reinstalled in July 2014 with the same approximate configuration and depth; however, the replacement is labeled C1-MW-8(R).

In July 2014, monitoring well C2-MW-11 was abandoned due to construction activities at the Site. It was reinstalled with the same approximate configuration and depth; the replacement well is labeled C2-MW-11(R).

Additionally, monitoring well C2-MW-10 may have been inadvertently destroyed during the construction of the West Vancouver Freight Access Project or paved over, as it has not been located since March 2013. It was reinstalled in August 2015 with the same approximate configuration and depth; the replacement well is labeled C2-MW-10(R2).

4 Activities Conducted Since the Last Monitoring Event

Groundwater monitoring activities completed during the March 2016 event were conducted in accordance with the following three documents.

- EPA guidance document titled Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures (EPA, 1996)

- Ecology letter titled Re: Former Fort Vancouver Plywood Proposed Groundwater Sampling Procedures (Ecology, 2002)

- Kennedy/Jenks Second Semi-Annual 2013 Groundwater Monitoring Report (Kennedy/Jenks, 2014)

The sampling plan and previous activities are summarized below and on Table 1.

- On March 28, 2016, AECOM collected depth to groundwater measurements at 14 of the 16 monitoring wells; C2-MW-1 and C2-MW-15 were covered with steel plates and debris. AECOM measured the depth to groundwater in the monitoring wells using an electronic water level meter. The depth to groundwater was measured from the northern side of top of casing (TOC), and recorded on the Groundwater Level Form (Appendix A). The depth to groundwater measurements and corresponding groundwater elevations are presented on Table 2.

- On March 28 and 29, 2016, AECOM collected groundwater samples from all eight monitoring wells in the groundwater monitoring program. The eight sampled monitoring wells are listed below.

- C1-MW-3
- C1-MW-4
- C1-MW-7
- C2-MW-3
- C2-MW-9
- C2-MW-10(R2)
- C2-MW-11(R)
- C2-MW-12B

- AECOM collected the groundwater samples following purging and stabilization of temperature, pH, conductivity, dissolved oxygen, and oxidation reduction potential (ORP). A peristaltic pump was used for the purging at all the monitoring wells with the exception of C2-MW-12B where a decontaminated bladder pump was utilized, as C2-MW-12B is screened at the deeper Unconsolidated Aquifer, which is too deep for use of the peristaltic pump (Tables 1 and 2). AECOM collected the groundwater samples at each monitoring well using a disposable double check valve bailer. The peristaltic pump tubing, bladder pump, and disposable bailers were all lowered and retrieved gently, and set at the center of the screen interval. Monitoring Well Sampling Field Logs for this monitoring event are included in Appendix A, and the field parameters are listed on Table 3.

- On March 29, 2016, under strict chain-of-custody, AECOM delivered the samples to Apex Laboratories of Tigard, Oregon for one or more of the analyses listed below in accordance with Table 1.

    - BTEX and MTBE by EPA Method 5030B/8260B
    - Full list of VOCs by EPA Method 8260B
    - Diesel and oil by NWTPH-Dx
    - Gasoline by NWTPH-Gx

- The sample containers were stored in a cooler with ice from sample collection until delivery to the laboratory. The chain-of-custody form is included in Appendix B with the laboratory analytical report. In addition, a field duplicate sample from monitoring well C2-MW-9 and a trip blank were submitted for analysis.

- AECOM placed the purge and decontamination water into a labeled aboveground polyethylene tank, which is temporarily staged under the 26th Avenue overpass pending characterization and disposal. Disposable sampling equipment (including tubing and nitrile gloves) was managed as solid waste and disposed of as municipal waste.

5 Results of the March 2016 Monitoring Event

The results of groundwater level measurements are summarized in Table 2. Field parameters are provided in Table 3. The groundwater analytical results are summarized in Tables 4 through 7. A copy of the laboratory analytical report is included in Appendix B.

5.1 Groundwater Elevation Monitoring

All but one of the 16 existing monitoring wells listed on Table 1 are constructed with screened intervals intercepting the shallow zone (shallower than 35 feet bgs); C2-MW-12B is the only exception and is constructed with the screened interval intercepting the deeper Unconsolidated Aquifer (at 40 to 50 feet bgs).

On March 28, 2016, groundwater in C2-MW-12B, which is screened in the deeper Unconsolidated Aquifer, was measured at an elevation of 10.48 feet above mean sea level (AMSL).

On March 28, 2016, groundwater elevations in the shallow zone ranged from 8.70 feet AMSL at C1-MW-5 to 21.24 feet AMSL at C2-MW-3. The hydraulic gradient was calculated at 0.02 ft/ft to the south-southwest, consistent with previous sampling events. Groundwater elevation contours and the inferred direction of groundwater flow from March 28, 2016 are shown on Figure 3.

5.2 Groundwater Analytical Results

Analytical results in this section are compared to Ecology's MTCA Method A groundwater cleanup levels. Where MTCA Method A groundwater cleanup levels are not established, MTCA Method B groundwater cleanup levels are used.

5.2.1 Volatile Organic Compounds

During the March 2016 monitoring event, the following groundwater samples were submitted for VOCs.

- Groundwater samples from C1-MW-3 and C1-MW-7 were submitted for BTEX and MTBE only.
- Groundwater samples from C1-MW-4, C2-MW-9, C2-MW-11(R), and C2-MW-12B were submitted for the full list of VOCs.

The VOC analytical results for the groundwater samples collected from C2-MW-12B (deeper Unconsolidated Aquifer) are presented on Table 4, and the VOC analytical results for the groundwater samples collected from well screened in the shallow zone are presented on Table 5. Both Tables 4 and 5 include the same list of VOCs: the BTEX compounds, MTBE, and any other VOCs that have been detected at least once since February 2009.

The VOC analytical results from the March 2016 monitoring event were similar to previous results, as described below.

5.2.1.1 Deeper Unconsolidated Aquifer

No VOCs were detected above the method detection limits (MDLs) in the sample (C2-MW-12B) collected from the well screened in the deeper Unconsolidated Aquifer.

5.2.1.2 Shallow Zone

Toluene, MTBE, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, and vinyl chloride were detected in the one or more of the samples collected from the wells screened in the shallow zone; these detections were compared to the following screening criteria, described further in Section 3.2.2, above.

- Ecology's MTCA Method B surface water cleanup levels
- Ecology's acute freshwater surface water quality criteria
- EPA's National Toxics Rule human health criteria for surface water
- Ecology's MTCA Method A and B groundwater cleanup levels

1,1-Dichloroethene and vinyl chloride were the only VOCs detected in the groundwater samples from the shallow zone wells at concentrations above the screening criteria.

- The concentration of 1,1-dichloroethene in the groundwater sample collected from C1-MW-4 (0.51 micrograms per liter [µg/L]) exceeded the EPA's National Toxics Rule human health criterion for surface water of 0.057 µg/L. The other samples collected from wells C2-MW-9 and C2-MW-11(R) were non-detect for 1,1-dichloroethene; however the detection limit of 0.25 µg/L is above this screening criterion.
- Concentrations of vinyl chloride in the groundwater samples collected from C2-MW-4 (0.49 µg/L), C2-MW-9 (0.63 µg/L) and C2-MW-11(R) (0.94 µg/L) exceeded both the MTCA Method A and B groundwater cleanup levels of 0.20 µg/L and 0.029 µg/L, respectively.

5.2.2 Total Petroleum Hydrocarbons

During the March 2016 monitoring event, groundwater samples from C2-MW-3, C2-MW-9, C2-MW-10(R2), C2-MW-11(R), and C2-MW-12B) were submitted for NWTPH-Dx and NWTPH-Gx analysis. Tables 6 and 7 present the TPH analytical results with the MTCA groundwater cleanup levels.

- Diesel was not detected above the MDLs in the five groundwater samples.

- Oil was detected in the groundwater samples collected from C2-MW-12B (0.23 mg/L), C2-MW-9 (0.31 mg/L), C2-MW-10(R2) (5.3 mg/L), and C2-MW-11(R) (0.26 mg/L); however, only the concentration of oil in the sample from C2-MW-10(R2) exceeded the MTCA Method A groundwater cleanup level of 0.50 mg/L.

- Gasoline was detected above the MDLs, at 0.385 mg/L, in the groundwater sample from C2-MW-10(R2) only. This does not exceed the MTCA Method A groundwater cleanup level of 1.0 mg/L when benzene is not present.

6 Data Quality and Management

Based on a review of the laboratory report, the analyses and results conformed to quality assurance standards, and the analytical data are of acceptable quality for their intended use. A data quality review is included in Appendix C.

The data from the March 2016 monitoring event will be uploaded into Ecology's Environmental Information Management (EIM) database. Data from 2009 through the 2015 have been uploaded onto the EIM database. Under WAC 173-340-840(5), environmental sampling data for all cleanup sites must be submitted in both printed and electronic form.

7 Conclusions and Future Sampling Activities

Groundwater monitoring was conducted at Cell 1 and Cell 2 of the Former FVP Site during the March 2016 event. The analytical results were generally consistent with previous monitoring events. Vinyl chloride in the groundwater samples from C2-MW-4, C2-MW-9, and C2-MW-11(R), and 1,1-dichloroethene from C1-MW-4 were the only VOC detections above the screening criteria. The oil-range TPH level from C2- MW-10(R2) was the only TPH detection above the screening criteria.

Groundwater monitoring will continue semi-annually, with the next monitoring event scheduled for September 2016. A letter summarizing the sampling activities and analytical results will be provided to the Port after the receipt of analytical results for each monitoring event.

8 References

Ecology, 1999. *Cleanup Action Plan.* Former Fort Vancouver Plywood Site – Cell 1. January.

Ecology, 2000. *Cleanup Action Plan.* Former Fort Vancouver Plywood Site – Cell 2. January.

Ecology, 2002. Letter from the Washington State Department of Ecology to Century West Engineering Corporation. *Re: Former Fort Vancouver Plywood Proposed Groundwater Sampling Procedures.* November 4.

Ecology, 2011. Letter from Washington State Department of Ecology to Kennedy/Jenks Consultants. *Ecology Response to Recommendations for Modification of the Groundwater Monitoring Program Former Fort Vancouver Plywood Site.* April 6.

ERM, 2008a. *Cell 1 September 2007 Groundwater Monitoring Report and 5-Year Review.* Former Fort Vancouver Plywood, Port of Vancouver USA, Vancouver, Washington. May.

ERM, 2008b. *Cell 2 September 2007 Groundwater Monitoring Report and 5-Year Review.* Former Fort Vancouver Plywood, Port of Vancouver USA, Vancouver, Washington. May.

EPA, 1996. *Ground Water Issue. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures.* By Robert W. Puls and Michael J. Barcelona. EPA/540/S-95/504. April.

Kennedy/Jenks, 2011. Letter from Kennedy/Jenks Consultants to the Washington State Department of Ecology. *Subject: Recommendation for Modification of the Groundwater Monitoring Program, Former Fort Vancouver Plywood Site, Port of Vancouver USA.* March 29.

Kennedy/Jenks, 2014. *Second Semi-Annual 2013 Groundwater Monitoring Report*. Port of Vancouver USA, Fort Vancouver Plywood Site. February 11.

U.S. Geological Survey (USGS), 1993. *A Description of Hydrogeologic Units in the Portland Basin, Oregon and Washington.* U.S. Geological Survey Water-Resources Investigations Report 90-4196. Prepared in cooperation with City of Portland Bureau of Water Works, Intergovernmental Resource Center, and Oregon Water Resources Department.

9 Limitations

AECOM has prepared this report for use by the Port. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with accepted environmental science practices in this area at the time this report was prepared. No other warranty or conditions, expressed or implied, should be understood.

We appreciate the opportunity to be of service to the Port on this project. Please call Nicky Moody at (503) 478-2765 with any questions regarding this or any other referenced submittals.

AECOM

Sincerely,

Nicky Moody
Project Manager

Steve Wesley, PE
Environmental Engineer

cc: Craig Rankine, RG, LHG, Cleanup Project Manager/Hydrogeologist, Washington Department of Ecology, Toxics Cleanup Program, 2108 Grand Blvd, Vancouver, WA 98661-4662

Attachments

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Table 1. Sampling Plan
Former Fort Vancouver Plywood Site

Cell #	Well ID	Aquifer	Screen Interval (feet)	Depth to Water Measurement	Groundwater Sampling				Comments for the Monitoring Event
				Semi-Annually (March/Sept)	Semi-Annually (March/September)				
					Analytes	Containers		Pump	
Cell 1	C1-MW-1	Shallow	18-33	X	Sampling **not** required				
	C1-MW-2	Shallow	11-21	X	Sampling **not** required				
	C1-MW-3	Shallow	15-32	X	BTEX, MTBE	6 VOAs	-	Peristaltic	
	C1-MW-4	Shallow	17-32	X	VOCs	6 VOAs	-	Peristaltic	
	C1-MW-5	Shallow	16-32	X	Sampling **not** required since 2004				
	C1-MW-6	Shallow	15-25	Abandoned in 2013 after approval from Ecology in 2011 Sampling previously required					
	C1-MW-6B	Deeper	52.5-62.5	Abandoned in 2013 after approval from Ecology in 2011 - Sampling previously required					
	C1-MW-7	Shallow	15-30	X	BTEX, MTBE	6 VOAs	-	Peristaltic	Monument Replaced
	C1-MW-8	Shallow	16-31	Abandoned in 2012 after approval from Ecology - Sampling **not** required since 2004					
	C1-MW-8(R)	Shallow	15-30	X	Sampling **not** required since 2004				
	C1-MW-9	Shallow	20-30	X	Sampling **not** required				
Cell 2	C2-MW-1	Shallow	5-15	X	Sampling **not** required				Inaccessible
	C2-MW-2	Shallow	6-16	Abandoned in August 2010 - Sampling **not** previously required					
	C2-MW-3	Shallow	6-16	X	TPH-Gx, TPH-Dx	6 VOAs	2 Ambers	Peristaltic	
	C2-MW-4	Shallow	9-19	Abandonment approved by Ecology in 2011; the well was not locatable - Sampling **not** previously required					
	C2-MW-5	Shallow	6-16	Abandoned in 2012 after approval from Ecology in 2011 - Sampling **not** previously required					
	C2-MW-6	Shallow	15-20	X	Sampling **not** required				
	C2-MW-7	Shallow	15-25	Abandonment approved by Ecology in 2011; the well was not locatable - Sampling previously required					
	C2-MW-8	Shallow	6-16	Abandoned in 2012 following approval from Ecology in 2011 - Sampling **not** previously required					
	C2-MW-9**	Shallow	25-35	X	VOCs, TPH-Gx, TPH-Dx	6 VOAs	2 Ambers	Peristaltic	
	C2-MW-10(R)	Shallow	18-33	Well not locatable - Sampling required					
	C2-MW-10(R2)	Shallow	20-35	X	TPH-Gx, TPH-Dx	6 VOAs	2 Ambers	Peristaltic	Installed August 2015
	C2-MW-11	Shallow	15-30	Abandoned in 2014 due to construction activities - Sampling required					
	C2-MW-11(R)	Shallow	15-30	X	VOCs, TPH-Gx, TPH-Dx	6 VOAs	2 Ambers	Peristaltic	
	C2-MW-12B	Deeper	40-50	X	VOCs, TPH-Gx, TPH-Dx	6 VOAs	2 Ambers	Bladder	
	C2-MW-13B	Deeper	47-57	Abandoned in 2012 following approval from Ecology in 2011 - Sampling previously required					
	C2-MW-14	Shallow	Unknown	Abandoned in 2002 following approval from Ecology - Sampling **not** previously required					
	C2-MW-15	Shallow	7-22	X	Sampling **not** required				Inaccessible
	C2-MW-16	Shallow	5-20	Abandonment approved by Ecology in 2011; the well was not locatable - Sampling **not** previously required					

Notes:
X = indicates that depth to groundwater measurements will be collected.
Red = indicates conditional Point of Compliance (POC) well in the Agreed Orders
BTEX = benzene, toluene, ethylbenzene, and total xylenes
TPH-Dx = diesel and heavy oil range organics
TPH-Gx = gasoline range organics
MTBE = methyl tert-butyl ether
(R) = C1-MW-8 and C2-MW-11 were replaced in July 2014.
VOA = volatile organic analysis
VOC = volatile organic carbon
** = Collect field duplicate on C2-MW-9. If not accessible, collect the field duplicate on C2-MW-11 or C2-MW-12B.

Table 2. Groundwater Elevation Results
Former Fort Vancouver Plywood Site

Well Designation	Date	Top of Casing Elevation [a] (feet)	Depth to Groundwater [b] (feet)	Total Well Depth (feet)	Groundwater Elevation (feet)	Well Screened Interval (feet)
Deeper Unconsolidated Aquifer						
Cell 1						
C1-MW-6B	02/26/09	30.96	NM	NM	NA	52.5-62.5
	05/11/09	30.96	21.89	65.3	9.07	
	12/17/09	30.96	24.23	64.9	6.73	
	03/29/10	30.96	24.87	64.5	6.09	
	05/25/10	30.96	NM	NM	NA	
	11/29/10	30.96	NM	NM	NA	
	03/24/11	30.96	20.74	64.3	10.22	
	10/11/11	30.96	NM	NM	NA	
Deeper Unconsolidated Aquifer						
Cell 2						
C2-MW-12B	02/26/09	32.45	25.40	47.6	7.05	40-50
	05/11/09	32.45	21.81	46.7	10.64	
	12/17/09	32.45	24.73	47.4	7.72	
	03/29/10	32.45	25.39	46.8	7.06	
	05/25/10	32.45	22.82	46.7	9.63	
	11/29/10	32.45	25.21	46.8	7.24	
	03/24/11	32.45	21.02	46.8	11.43	
	10/11/11	32.45	26.24	46.8	6.21	
	02/29/12	32.45	24.05	46.8	8.40	
	09/20/12	32.45	26.39	46.8	6.06	
	03/21/13	32.45	25.82	NM	6.63	
	09/20/13	32.45	26.34	NM	6.11	
	03/20/14	32.45	20.12	NM	12.33	
	09/02/14	32.45	27.04	NM	5.41	
	04/07/15	32.45	23.00	NM	9.45	
	09/28/15	32.45	26.87	NM	5.58	
	03/28/16	32.45	21.97	NM	10.48	
C2-MW-13B	02/26/09	32.38	NM	NM	NA	47-57
	05/11/09	32.38	NM	NM	NA	
	12/17/09	32.38	NM	NM	NA	
	03/29/10	32.38	NM	NM	NA	
	05/25/10	32.38	NM	NM	NA	
	11/29/10	32.38	NM	NM	NA	
	03/24/11	32.38	21.35	54.98	11.03	
	10/11/11	32.38	NM	NM	NA	
Shallow Zone						
Cell 1						
C1-MW-1	02/26/09	30.23	NM	NM	NA	18-33
	05/11/09	30.23	21.06	33.5	9.17	
	12/17/09	30.23	23.47	33.3	6.76	
	03/29/10	30.23	24.32	33.5	5.91	
	05/25/10	30.23	21.72	33.4	8.51	
	11/29/10	30.23	24.58	33.4	5.65	
	03/24/11	30.23	20.08	33.4	10.15	
	10/11/11	30.23	24.87	33.4	5.36	
	02/29/12	30.23	23.20	33.4	7.03	
	09/20/12	30.23	25.05	33.4	5.18	
	03/21/13	30.23	24.97	NM	5.26	
	09/23/13	30.23	25.62	NM	4.61	
	03/20/14	30.23	19.25	NM	10.98	
	09/02/14	30.23	26.02	NM	4.21	
	04/07/15	30.23	22.05	33.6	8.18	
	09/28/15	30.23	25.80	NM	4.43	
	03/28/16	30.23	21.19	NM	9.04	

Table 2. Groundwater Elevation Results
Former Fort Vancouver Plywood Site

Well Designation	Date	Top of Casing Elevation [a] (feet)	Depth to Groundwater [b] (feet)	Total Well Depth (feet)	Groundwater Elevation (feet)	Well Screened Interval (feet)
C1-MW-2	02/26/09	31.03	14.53	20.8	16.50	
	05/11/09	31.03	14.26	20.3	16.77	
	12/17/09	31.03	13.29	20.4	17.74	
	03/29/10	31.03	14.05	NM	16.98	
	05/25/10	31.03	14.27	20.4	16.76	
	11/29/10	31.03	13.57	NM	17.46	
	03/24/11	31.03	13.02	20.4	18.01	
	10/11/11	31.03	14.83	20.4	16.20	
	02/29/12	31.03	13.91	20.4	17.12	11-21
	09/20/12	31.03	15.15	20.4	15.88	
	03/21/13	31.03	14.38	NM	16.65	
	09/23/13	31.03	NM	NM	NA	
	03/20/14	31.03	14.66	NM	16.37	
	09/02/14	31.03	15.02	NM	16.01	
	04/07/15	31.03	14.26	NM	16.77	
	09/28/15	31.03	15.56	NM	15.47	
	03/28/16	31.03	13.59	NM	17.44	
C1-MW-3	02/26/09	29.89	23.11	32.1	6.78	
	05/11/09	29.89	20.45	31.5	9.44	
	12/17/09	29.89	22.78	31.5	7.11	
	03/29/10	29.89	23.17	31.6	6.72	
	05/25/10	29.89	21.12	31.1	8.77	
	11/29/10	29.89	NM	NM	NA	
	03/24/11	29.89	19.42	31.4	10.47	
	10/11/11	29.89	23.71	31.4	6.18	
	02/29/12	29.89	22.06	31.4	7.83	15-32
	09/20/12	29.89	24.00	31.4	5.89	
	03/22/13	29.10	23.20	NM	5.90	
	09/23/13	29.10	NM	NM	NA	
	03/20/14	29.10	17.55	NM	11.55	
	09/02/14	29.10	23.93	NM	5.17	
	04/07/15	29.10	20.52	NM	8.58	
	09/28/15	29.10	24.02	NM	5.08	
	03/28/16	29.10	19.69	NM	9.41	
C1-MW-4	02/26/09	29.07	22.86	29.4	6.21	
	05/11/09	29.07	19.69	29.4	9.38	
	12/17/09	29.07	22.29	29.3	6.78	
	03/29/10	29.07	23.01	29.4	6.06	
	05/25/10	29.07	20.54	29.4	8.53	
	11/29/10	29.07	22.83	29.4	6.24	
	03/24/11	29.07	18.75	29.3	10.32	
	10/11/11	29.07	23.33	29.3	5.74	
	02/29/12	29.07	22.11	NM	6.96	17-32
	09/20/12	29.07	23.47	NM	5.60	
	03/22/13	29.07	23.75	NM	5.32	
	09/23/13	29.07	NM	NM	NA	
	03/20/14	29.07	17.92	NM	11.15	
	09/02/14	29.07	24.36	NM	4.71	
	04/07/15	29.07	20.45	NM	8.62	
	09/28/15	29.07	24.33	NM	4.74	
	03/28/16	29.07	19.65	NM	9.42	

Table 2. Groundwater Elevation Results
Former Fort Vancouver Plywood Site

Well Designation	Date	Top of Casing Elevation [a] (feet)	Depth to Groundwater [b] (feet)	Total Well Depth (feet)	Groundwater Elevation (feet)	Well Screened Interval (feet)
C1-MW-5	02/26/09	30.71	DRY	31.2	NA	16-32
	05/11/09	30.71	21.37	31.2	9.34	
	12/17/09	30.71	23.89	31.2	6.82	
	03/29/10	30.71	24.72	33.2	5.99	
	05/25/10	30.71	22.15	31.2	8.56	
	11/29/10	30.71	24.93	31.2	5.78	
	03/24/11	30.71	20.49	31.2	10.22	
	10/11/11	30.71	25.27	31.2	5.44	
	02/29/12	30.71	23.53	31.2	7.18	
	03/21/13	29.84	24.93	NM	4.91	
	09/23/13	29.84	25.49	NM	4.35	
	03/20/14	29.84	19.16	NM	10.68	
	09/02/14	29.84	NM	NM	NA	
	04/07/15	29.84	21.96	31.0	7.88	
	09/28/15	29.84	25.71	NM	4.13	
	03/28/16	29.84	21.14	NM	8.70	
C1-MW-6	02/26/09	31.66	NM	NM	NA	15-25
	05/11/09	31.66	12.13	27.1	19.53	
	12/18/09	31.66	12.19	26.9	19.47	
	03/29/10	31.66	NM	NM	NA	
	05/25/10	31.66	NM	NM	NA	
	11/29/10	31.66	11.29	26.7	20.37	
	03/24/11	31.66	10.75	26.6	20.91	
	10/11/11	31.66	NM	NM	NA	
C1-MW-7	02/26/09	30.05	17.85	29.1	12.20	15-30
	05/11/09	30.05	17.74	28.5	12.31	
	12/17/09	30.05	17.87	28.5	12.18	
	03/29/10	30.05	17.41	28.5	12.64	
	05/25/10	30.05	17.41	28.5	12.64	
	11/29/10	30.05	17.56	28.5	12.49	
	03/24/11	30.05	16.92	28.5	13.13	
	10/11/11	30.05	17.59	28.5	12.46	
	02/29/12	30.05	17.48	28.5	12.57	
	09/20/12	30.05	17.57	28.5	12.48	
	03/21/13	30.05	17.50	NM	12.55	
	09/23/13	30.05	17.76	NM	12.29	
	03/20/14	30.05	17.02	NM	13.03	
	09/02/14	30.05	17.53	NM	12.52	
	04/07/15	30.05	17.24	NM	12.81	
	09/28/15	29.29	17.54	NM	11.75	
	03/28/16	29.29	16.77	NM	12.52	
C1-MW-8	02/26/09	30.43	23.54	32.7	6.89	16-31
	05/11/09	30.43	20.74	31.9	9.69	
	12/17/09	30.43	22.84	31.9	7.59	
	03/29/10	30.43	25.63	36.2	4.80	
	05/25/10	30.43	21.10	31.9	9.33	
	11/29/10	30.43	23.91	31.9	6.52	
	03/24/11	30.43	19.78	31.2	10.65	
	10/11/11	30.43	23.93	31.2	6.50	
	02/29/12	30.43	22.03	31.2	8.40	
	09/20/12	30.43	24.02	31.2	6.41	
C1-MW-8(R)	09/02/14	27.58	22.72	NM	4.86	15-30
	04/07/15	27.58	18.85	NM	8.73	
	09/28/15	27.58	22.68	NM	4.90	
	03/28/16	27.58	18.49	NM	9.09	

Table 2. Groundwater Elevation Results
Former Fort Vancouver Plywood Site

Well Designation	Date	Top of Casing Elevation [a] (feet)	Depth to Groundwater [b] (feet)	Total Well Depth (feet)	Groundwater Elevation (feet)	Well Screened Interval (feet)
C1-MW-9	02/26/09	30.55	19.78	27.5	10.77	
	05/11/09	30.55	19.83	27.0	10.72	
	12/17/09	30.55	21.10	27.0	9.45	
	03/29/10	30.55	19.47	27.0	11.08	
	05/25/10	30.55	19.61	27.0	10.94	
	11/29/10	30.55	19.88	27.1	10.67	
	03/24/11	30.55	18.96	27.0	11.59	
	10/11/11	30.55	19.75	26.7	10.80	
	02/29/12	30.55	19.76	26.7	10.79	20-30
	09/20/12	30.55	19.86	26.7	10.69	
	03/21/13	30.55	18.95	NM	11.60	
	09/23/13	30.55	19.92	NM	10.63	
	03/20/14	30.55	19.37	NM	11.18	
	09/02/14	30.55	19.75	NM	10.80	
	04/07/15	30.55	19.77	NM	10.78	
	09/28/15	30.55	19.95	NM	10.60	
	03/28/16	30.55	18.80	NM	11.75	
Shallow Zone						
Cell 2						
C2-MW-1	02/26/09	34.51	28.57	32.4	5.94	
	05/11/09	34.51	NM	NM	NA	
	12/17/09	34.51	25.40	32.5	9.11	
	03/29/10	34.51	26.37	32.3	8.14	
	05/25/10	34.51	NM	NM	NA	
	11/29/10	34.51	NM	NM	NA	
	03/24/11	34.51	22.11	32.5	12.40	5-15
	10/11/11	34.51	27.50	32.5	7.01	
	02/29/12	34.51	NM	NM	NA	
	09/23/13	34.51	NM	NM	NA	
	03/20/14	34.51	NM	NM	NA	
	09/02/14	34.51	NM	NM	NA	
	04/07/15	34.51	NM	NM	NA	
	09/28/15	NM	NM	NM	NM	
C2-MW-2	02/26/09	33.20	13.04	16.8	20.16	
	05/11/09	33.20	13.45	16.5	19.75	
	12/17/09	33.20	NM	NM	NA	6-16
	03/29/10	33.20	NM	NM	NA	
	05/25/10	33.20	NM	NM	NA	
	11/29/10	33.20	NM	NM	NA	
C2-MW-3	02/26/09	32.43	12.70	15.4	19.73	
	05/11/09	32.43	13.04	15.0	19.39	
	12/17/09	32.43	13.12	15.3	19.31	
	03/29/10	32.43	12.22	15.1	20.21	
	05/25/10	32.43	12.08	15.1	20.35	
	11/29/10	32.43	12.20	15.1	20.23	
	03/24/11	32.43	11.32	15.0	21.11	
	10/11/11	32.43	12.56	15.0	19.87	
	02/29/12	32.43	11.99	15.0	20.44	6-16
	09/20/12	32.43	12.91	15.0	19.52	
	03/21/13	32.43	11.86	NM	20.57	
	09/20/13	32.43	12.52	NM	19.91	
	03/20/14	32.43	11.86	NM	20.57	
	09/02/14	32.43	12.40	NM	20.03	
	04/07/15	32.43	11.82	NM	20.61	
	09/28/15	32.43	12.81	NM	19.62	
	03/28/16	32.43	11.19	NM	21.24	

Table 2. Groundwater Elevation Results
Former Fort Vancouver Plywood Site

Well Designation	Date	Top of Casing Elevation [a] (feet)	Depth to Groundwater [b] (feet)	Total Well Depth (feet)	Groundwater Elevation (feet)	Well Screened Interval (feet)
C2-MW-4	02/26/09	34.20	NM	NM	NA	9-19
	05/11/09	34.20	NM	NM	NA	
	12/17/09	34.20	NM	NM	NA	
	03/29/10	34.20	NM	NM	NA	
	05/25/10	34.20	NM	NM	NA	
	11/29/10	34.20	NM	NM	NA	
	03/24/11	34.20	NM	NM	NA	
	10/11/11	34.20	NM	NM	NA	
C2-MW-5	02/26/09	32.43	12.46	16.4	19.97	6-16
	05/11/09	32.43	12.86	14.9	19.57	
	12/17/09	32.43	13.22	15.2	19.21	
	03/29/10	32.43	12.00	14.8	20.43	
	05/25/10	32.43	11.92	14.9	20.51	
	11/29/10	32.43	11.99	14.9	20.44	
	03/24/11	32.43	11.17	14.9	21.26	
	10/11/11	32.43	NM	NM	NA	
C2-MW-6	02/26/09	33.46	NM	NM	NA	15-20
	05/11/09	33.46	NM	NM	NA	
	12/17/09	33.46	DRY	19.9	NA	
	03/29/10	33.46	DRY	19.7	NA	
	05/25/10	33.46	DRY	19.9	NA	
	11/29/10	33.46	NM	NM	NA	
	03/24/11	33.46	NM	NM	NA	
	10/11/11	33.46	19.48	19.9	13.98	
	02/29/12	33.46	19.61	19.9	13.85	
	03/21/13	33.46	18.66	NM	14.80	
	09/20/13	33.46	19.35	NM	14.11	
	03/20/14	33.46	18.19	NM	15.27	
	09/02/14	33.46	18.19	NM	15.27	
	04/07/15	33.46	14.81	NM	18.65	
	09/28/15	33.46	19.51	NM	13.95	
	03/28/16	33.46	15.39	NM	18.07	
C2-MW-7	02/26/09	34.55	NM	NM	NA	15-25
	05/11/09	34.55	19.22	28.2	15.33	
	12/17/09	34.55	NM	NM	NA	
	03/29/10	34.55	NM	NM	NA	
	05/25/10	34.55	NM	NM	NA	
	11/29/10	34.55	NM	NM	NA	
	03/24/11	35.55	NM	NM	NA	
	10/11/11	35.55	NM	NM	NA	
C2-MW-8	02/26/09	31.90	NM	NM	NA	6-16
	05/11/09	31.90	NM	NM	NA	
	12/17/09	31.90	DRY	14.9	NA	
	03/29/10	31.90	NM	NM	NA	
	05/25/10	31.90	DRY	NM	NA	
	11/29/10	31.90	NM	NM	NA	
	03/24/11	31.90	DRY	14.6	NA	
	10/11/11	31.90	NM	NM	NA	

Table 2. Groundwater Elevation Results
Former Fort Vancouver Plywood Site

Well Designation	Date	Top of Casing Elevation [a] (feet)	Depth to Groundwater [b] (feet)	Total Well Depth (feet)	Groundwater Elevation (feet)	Well Screened Interval (feet)
C2-MW-9	02/26/09	33.00	NM	NM	NA	
	05/11/09	33.00	21.89	34.5	11.11	
	12/17/09	33.00	24.69	33.8	8.31	
	03/29/10	33.00	NM	NM	NA	
	05/25/10	33.00	NM	NM	NA	
	11/29/10	33.00	NM	NM	NA	
	03/24/11	33.00	NM	NM	NA	
	10/11/11	33.00	24.97	33.8	8.03	
	02/29/12	33.00	18.81	33.8	14.19	25-35
	09/20/12	33.00	24.51	33.8	8.49	
	03/22/13	33.00	24.48	NM	8.52	
	09/23/13	33.00	25.50	NM	7.50	
	03/20/14	33.00	19.54	NM	13.46	
	09/02/14	32.25	24.49	NM	7.76	
	04/07/15	32.25	21.29	NM	10.96	
	09/28/15	32.25	25.68	NM	6.57	
	03/28/16	32.25	21.30	NM	10.95	
C2-MW-10(R)	02/26/09	34.18	25.72	36.2	8.46	
	05/11/09	34.18	22.61	36.1	11.57	
	12/17/09	34.18	25.39	36.4	8.79	
	03/29/10	34.18	25.63	36.2	8.55	
	05/25/10	34.18	23.60	36.1	10.58	
	11/29/10	34.18	25.93	36.2	8.25	
	03/24/11	34.18	21.95	36.1	12.23	
	10/11/11	34.18	25.99	36.1	8.19	15-30
	02/29/12	34.18	24.29	36.1	9.89	
	09/20/12	34.18	26.00	36.1	8.18	
	03/22/13	34.18	26.20	NM	7.98	
	09/23/13	34.18	NM	NM	NA	
	03/20/14	34.18	NM	NM	NA	
	09/02/14	34.18	NM	NM	NA	
	04/07/15	34.18	NM	NM	NA	
C2-MW-10(R2)	09/28/15	33.57	28.38	35.45	5.19	20-35
	03/28/16	33.57	24.39	NM	9.18	
C2-MW-11	02/26/09	34.26	25.60	36.0	8.66	
	05/11/09	34.26	22.63	36.1	11.63	
	12/17/09	34.26	25.33	36.3	8.93	
	03/29/10	34.26	25.67	36.1	8.59	
	05/25/10	34.26	23.45	36.1	10.81	
	11/29/10	34.26	25.81	36.1	8.45	
	03/24/11	34.26	21.94	36.1	12.32	15-30
	10/11/11	34.26	25.91	36.1	8.35	
	02/29/12	34.26	24.17	36.1	10.09	
	09/20/12	34.26	25.85	36.1	8.41	
	03/22/13	34.26	25.95	NM	8.31	
	09/23/13	34.26	26.52	NM	7.74	
	03/20/14	34.26	21.15	NM	13.11	
C2-MW-11(R)	09/02/14	30.80	25.23	NM	5.57	
	04/07/15	30.80	21.90	NM	8.90	15-30
	09/28/15	30.80	25.62	NM	5.18	
	03/28/16	30.80	21.58	NM	9.22	

Table 2. Groundwater Elevation Results
Former Fort Vancouver Plywood Site

Well Designation	Date	Top of Casing Elevation [(a)] (feet)	Depth to Groundwater [(b)] (feet)	Total Well Depth (feet)	Groundwater Elevation (feet)	Well Screened Interval (feet)
C2-MW-15	02/26/09	33.06	21.56	24.3	11.50	7-22
	05/11/09	33.06	20.72	23.9	12.34	
	12/17/09	33.06	21.92	23.9	11.14	
	03/29/10	33.06	NM	NM	NA	
	05/25/10	33.06	NM	NM	NA	
	11/29/10	33.06	NM	NM	NA	
	03/24/11	34.06	NM	NM	NA	
	10/11/11	34.06	NM	NM	NA	
	02/29/12	34.06	NM	NM	NA	
	09/20/12	34.06	21.22	NM	12.84	
	03/21/13	34.06	20.21	NM	13.85	
	09/23/13	34.06	21.08	NM	12.98	
	03/20/14	34.06	18.50	NM	15.56	
	09/02/14	34.06	NM	NM	NA	
	04/07/15	34.06	18.70	NM	15.36	
	09/28/15	NM	NM	NM	NM	
C2-MW-16	02/26/09	33.76	NM	NM	NA	5-20
	05/11/09	33.76	19.68	23.5	14.08	
	12/17/09	33.76	NM	NM	NA	
	03/29/10	33.76	NM	NM	NA	
	05/25/10	33.76	NM	NM	NA	
	11/29/10	33.76	NM	NM	NA	
	03/24/11	33.76	NM	NM	NA	
	10/11/11	33.76	NM	NM	NA	

Notes:
= Indicates a monitoring well that was either abandoned or paved over.
NM = Not measured because the well was inaccessible.
NA = Not applicable.
(a) = Elevation in feet relative to mean sea level based on ties to a local W&H Pacific Co. benchmark, vertical datum NGVD29(47).
(b) = Measured in feet below the top of the well casing.

Table 3. Groundwater Field Parameter Measurements
Former Fort Vancouver Plywood Site

Sample Location	Sample Date	Field Parameters				
		Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	pH	ORP (mV)
Deeper Unconsolidated Aquifer						
Cell 1						
C1-MW-6B	02/26/09	NS	NS	NS	NS	-
	05/12/09	13.33	0.255	2.47	6.84	-
	12/18/09	12.85	0.281	0.71	6.85	-
	03/29/10	12.43	0.116	11.22	7.1	-
	05/26/10	NS	NS	NS	NS	-
	11/30/10	NS	NS	NS	NS	-
	03/25/11	11.90	0.260	7.21	7.00	-
Deeper Unconsolidated Aquifer						
Cell 2						
C2-MW-12B	02/26/09	14.24	0.324	1.73	8.48	-
	05/12/09	15.03	0.325	1.79	7.20	-
	12/17/09	14.46	0.395	0.68	6.97	-
	03/29/10	14.47	0.167	8.57	7.09	-
	05/26/10	15.23	0.350	4.49	6.70	-
	11/30/10	11.05	0.186	8.47	7.08	-
	03/25/11	14.55	0.310	0.86	7.13	-
	10/11/11	14.69	0.281	4.11	7.30	-
	02/29/12	13.01	0.360	1.93	6.83	-
	09/21/12	14.02	0.311	33.60	5.73	-
	03/21/13	13.25	0.380	2.04	7.32	-
	09/20/13	15.10	0.340	3.10	7.60	-
	03/21/14	14.31	0.249	3.06	6.92	150.4
	09/03/14	17.09	0.263	1.61	6.95	43.4
	04/07/15	15.36	0.237	0.62	7.10	104.3
	09/29/15	14.94	0.256	0.70	7.10	37.9
	03/29/16	14.19	0.184	3.67	7.01	39.4
C2-MW-13B	02/26/09	NS	NS	NS	NS	-
	05/12/09	NS	NS	NS	NS	-
	12/17/09	NS	NS	NS	NS	-
	03/29/10	NS	NS	NS	NS	-
	05/26/10	NS	NS	NS	NS	-
	11/30/10	NS	NS	NS	NS	-
	03/25/11	14.37	0.256	2.55	6.71	-
Shallow Zone						
Cell 1						
C1-MW-3	02/27/09	14.38	1.057	0.34	9.12	-
	05/12/09	14.84	1.123	1.43	7.02	-
	12/18/09	14.91	1.198	0.50	6.42	-
	03/30/10	13.5	0.455	0.93	6.45	-
	05/26/10	14.67	0.994	2.32	6.27	-
	11/30/10	NS	NS	NS	NS	-
	03/24/11	13.24	1.211	0.84	6.55	-
	10/12/11	14.5	0.920	1.62	7.56	-
	03/01/12	14.21	1.991	0.49	6.79	-
	09/20/12	15.27	0.944	0.91	6.44	-
	03/22/13	14.39	1.630	2.01	8.23	-
	09/23/13	NS	NS	NS	NS	-
	03/21/14	13.83	0.774	0.28	6.61	15.8
	09/03/14	20.28	1.094	1.16	6.10	-41.1
	04/07/15	14.79	1.103	0.57	6.41	-107.4
	09/29/15	16.96	0.855	0.30	6.19	-73.3
	03/29/16	12.41	0.701	3.31	6.49	59.1

Table 3. Groundwater Field Parameter Measurements
Former Fort Vancouver Plywood Site

Sample Location	Sample Date	Field Parameters				
		Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	pH	ORP (mV)
C1-MW-4	02/27/09	15.05	1.057	0.45	8.39	-
	05/12/09	15.52	1.217	1.32	6.92	-
	12/18/09	15.32	1.294	0.50	6.35	-
	03/30/10	14.71	0.515	0.88	6.36	-
	05/26/10	15.37	1.109	1.36	6.28	-
	11/30/10	14.2	1.366	1.10	6.54	-
	03/24/11	14.85	1.577	0.63	6.24	-
	10/11/11	15.19	1.149	1.39	7.93	-
	03/01/12	14.77	1.857	0.54	6.66	-
	09/20/12	15.48	1.262	0.97	6.33	-
	03/22/13	15.1	1.798	1.12	7.38	-
	09/23/13	NS	NS	NS	NS	-
	03/21/14	15.48	1.173	1.51	6.34	-54.2
	09/03/14	18.01	1.188	0.75	6.26	-45.1
	04/07/15	15.48	1.193	6.44	6.44	-92.2
	09/29/15	16.94	1.164	0.34	6.31	-53.4
	03/29/16	15.31	1.419	1.82	6.30	-58.1
C1-MW-6	02/26/09	NS	NS	NS	NS	-
	05/12/09	11.17	0.402	3.35	6.40	-
	12/18/09	11.80	0.540	0.61	6.65	-
	3/30/2010	NS	NS	NS	NS	-
	05/26/10	NS	NS	NS	NS	-
	11/30/10	NS	NS	NS	NS	-
	03/25/11	10.78	0.302	0.29	6.86	-
C1-MW-7	02/27/09	15.82	0.501	0.63	7.37	-
	05/12/09	15.63	0.877	1.64	6.78	-
	12/18/09	16.16	1.025	0.54	6.26	-
	03/30/10	15.45	0.383	0.79	6.35	-
	05/26/10	15.70	0.610	3.32	6.00	-
	11/30/10	14.46	0.973	1.18	6.59	-
	03/25/11	15.05	1.048	1.26	6.44	-
	10/12/11	16.01	0.906	1.48	7.43	-
	02/29/12	14.44	0.599	1.66	6.65	-
	09/20/12	16.14	0.772	0.93	6.28	-
	03/22/13	15.17	1.331	0.91	7.80	-
	09/23/13	16.10	1.300	7.00	8.20	-
	03/21/14	15.75	1.056	0.38	6.55	-130.5
	09/04/14	17.29	1.003	4.55	6.35	-80.1
	04/07/15	17.36	1.138	0.70	6.42	-127.0
	09/29/15	19.24	1.078	0.60	6.45	-94.4
	03/29/16	16.33	1.103	2.06	6.36	32.1

Table 3. Groundwater Field Parameter Measurements
Former Fort Vancouver Plywood Site

Sample Location	Sample Date	Field Parameters				
		Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	pH	ORP (mV)
Shallow Zone						
Cell 2						
C2-MW-3	02/26/09	14.22	0.284	1.64	7.21	-
	05/12/09	14.61	0.316	1.75	6.62	-
	12/17/09	14.92	0.404	0.53	6.39	-
	03/29/10	13.02	0.102	10.60	6.7	-
	05/26/10	14.15	0.216	1.59	6.21	-
	11/30/10	14.8	0.240	12.00	6.72	-
	03/25/11	13.58	0.236	1.04	6.56	-
	10/11/11	16.11	0.173	1.39	7.07	-
	02/29/12	12.84	0.242	2.10	6.55	-
	09/21/12	16.14	0.200	14.90	6.23	-
	03/21/13	14.04	0.257	2.92	7.49	-
	09/20/13	16.90	0.220	3.30	6.90	-
	03/21/14	14.02	0.157	2.28	6.49	80.1
	09/03/14	18.13	0.193	1.28	6.08	25.1
	04/07/15	16.26	0.190	2.33	6.36	4.0
	09/29/15	17.98	0.219	0.61	6.65	99.9
	03/29/16	12.66	0.162	3.09	6.79	67.4
C2-MW-7	02/26/09	NS	NS	NS	NS	-
	05/12/09	14.47	0.549	1.62	6.81	-
	12/17/09	NS	NS	NS	NS	-
	03/30/10	NS	NS	NS	NS	-
	05/26/10	NS	NS	NS	NS	-
	11/30/10	NS	NS	NS	NS	-
	03/25/11	13.44	0.885	0.30	6.72	-
C2-MW-9	02/26/09	NS	NS	NS	NS	-
	05/12/09	14.24	0.974	2.18	7.05	-
	12/18/09	14.07	0.903	0.72	6.49	-
	03/30/10	NS	NS	NS	NS	-
	05/26/10	NS	NS	NS	NS	-
	11/30/10	NS	NS	NS	NS	-
	03/25/11	13.71	0.879	0.37	6.61	-
	10/11/11	14.14	0.785	1.48	8.13	-
	05/22/12	12.91	0.870	0.71	8.00	-
	09/20/12	14.76	0.998	0.94	6.70	-
	03/22/13	12.52	1.239	1.41	6.84	-
	09/23/13	14.40	0.790	4.50	8.20	-
	03/21/14	14.41	0.697	1.11	6.49	-66.3
	09/03/14	16.34	0.726	0.82	6.33	-90.3
	04/07/15	14.14	0.720	0.69	6.39	-100.8
	09/28/15	17.08	0.744	0.44	6.49	-89.4
	03/28/16	14.15	0.179	4.27	6.62	-35.1

Table 3. Groundwater Field Parameter Measurements
Former Fort Vancouver Plywood Site

Sample Location	Sample Date	Field Parameters				
		Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	pH	ORP (mV)
C2-MW-10(R)	02/27/09	15.1	1.045	0.28	9.10	-
	05/12/09	14.71	1.065	1.71	6.72	-
	12/17/09	14.98	1.298	0.79	6.44	-
	03/29/10	14.98	0.480	8.24	6.75	-
	05/25/10	15.21	1.080	2.29	6.43	-
	11/30/10	14.4	1.253	16.00	6.78	-
	03/25/11	14.12	1.217	0.36	6.63	-
	10/12/11	14.77	0.966	1.37	7.30	-
	03/01/12	13.84	1.371	0.40	7.21	-
	09/20/12	14.30	0.992	0.86	6.47	-
	03/22/13	13.50	1.204	1.59	6.42	-
	09/23/13	NS	NS	NS	NS	-
	03/21/14	NS	NS	NS	NS	-
	09/03/14	NS	NS	NS	NS	-
	04/07/15	NS	NS	NS	NS	-
C2-MW-10(R2)	09/28/15	16.89	0.814	0.34	6.57	-91.1
	03/28/16	16.28	0.788	1.06	6.44	-75.1
C2-MW-11	02/27/09	14.44	0.931	0.41	8.41	-
	05/12/09	14.18	0.401	1.80	6.88	-
	12/18/09	14.28	1.108	0.50	6.5	-
	03/29/10	14.25	0.458	7.15	6.71	-
	05/26/10	14.23	0.893	2.18	6.31	-
	11/30/10	13.83	0.990	2.39	6.79	-
	03/25/11	13.33	1.184	0.45	6.60	-
	10/12/11	14.30	0.909	1.59	7.89	-
	03/01/12	13.36	1.342	0.33	7.07	-
	09/20/12	14.57	0.932	0.77	6.42	-
	03/22/13	13.23	1.073	1.23	6.36	-
	09/23/13	14.10	0.930	8.80	8.60	-
	03/21/14	14.14	0.597	0.52	6.65	-14.8
C2-MW-11(R)	09/03/14	20.03	0.760	1.59	6.10	-43.8
	04/07/15	13.87	0.709	0.42	6.70	-131.8
	09/28/15	16.61	0.723	0.43	6.60	-86.8
	3/28/2016	15.26	0.776	1.06	6.49	-126.3

Notes:

= Indicates a monitoring well that was either abandoned or paved over.

- = not available to AECOM for this report.

°C = Degrees Celsius.

mS/cm = millisiemens per centimeter.

mg/l = milligrams per liter

mv = millivolts

NS = Not sampled because well was not accessible.

ORP = oxidation reduction potential

Table 4. Volatile Organic Compounds in the Deeper Unconsolidated Aquifer
Former Fort Vancouver Plywood Site

Well Location	Sample ID	Date Sampled	BTEX Compoounds and MTBE							Historically Site Detected VOCs (Since 2009)										
			Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	m,p-Xylene µg/l	o-Xylene µg/l	Total Xylenes µg/l	Methyl Tertiary Butyl Ether µg/l	Acetone µg/l	Chloroethane µg/l	Chloromethane µg/l	1,1-Dichloroethane µg/l	1,1-Dichloroethene µg/l	cis-1,2-Dichloroethene µg/l	Isopropylbenzene (Cumene) µg/l	Naphthalene µg/l	1,2,4-Trimethylbenzene µg/l	Trichlorofluoromethane µg/l	Vinyl Chloride µg/l
Deeper Unconsolidated Aquifer																				
Ecology's MTCA Method A Groundwater Cleanup Levels			5.0	1,000	700	1,000	1,000	1,000	20	NE	NE	NE	NE	NE	NE	NE	160	NE	NE	0.20
Ecology's MTCA Method B Groundwater Cleanup Levels			0.795	640	800	1,600	1,600	1,600	24	7,200	NE	NE	7.68	400	16	800	160	NE	2,400	0.029
Cell 1																				
C1-MW-6B	NS	02/27/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C1-MW-6B	05/12/09	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-6B	12/18/09	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-6B	03/29/10	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	NS	05/26/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	11/30/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C1-MW-6B	03/25/11	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
Cell 2																				
C2-MW-12B	C2-MW-12B	02/26/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-12B	05/12/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	**1.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-12B	12/17/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-12B	03/29/10	1.0 U	**6.8**	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	0.20 U
	C2-MW-12B-DUP	03/29/10	1.0 U	**13**	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	0.20 U
	C2-MW-12B	05/26/10	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-12B	11/30/10	1.0 U	**1.0**	1.0 U	2.0 U	1.0 U	---	1.0 U	**5.9**	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	0.20 U
	C2-MW-12B	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	1.0 U	0.20 U
	C2-MW-12B	10/11/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	1.0 U	0.20 U
	C2-MW-12B	02/29/12	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	1.0 U	0.20 U
	C2-MW-12B	09/20/12	0.10 U	0.10 U	0.10 U	0.20 U	0.10 U	---	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
	C2-MW-12B	03/21/13	0.10 U	0.10 U	0.10 U	0.20 U	0.10 U	3.0 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
	C2-MW-12B	09/20/13	0.24 U	0.23 U	0.24 U	0.48 U	0.24 U	---	0.50 U	10 U	0.50 U	2.0 U	0.50 U	0.24 U	0.23 U	0.50 U	2.0 U	0.50 U	0.13 U	0.14 U
	C2-MW-12B	03/21/14	0.060 U	0.11 U	0.10 U	0.25 U	0.13 U	---	0.18 U	5.0 U	0.17 U	1.0 U	0.14 U	0.14 U	0.16 U	0.50 U	0.20 U	0.16 U	0.10 U	0.11 U
	C2-MW-12B	09/03/14	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	0.50 U	0.50 U	10 U	5.0 U	2.5 UJ	0.25 U	0.25 U	0.25 U	0.50 U	1.0 U	0.50 U	1.0 U	0.10 U
	C2-MW-12B	04/07/15	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	---	0.50 U	10 U	5.0 U	2.5 U	0.25 U	0.25 U	0.25 U	0.50 U	1.0 U	0.50 U	1.0 U	0.20 U
	C2-MW-12B	09/29/15	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	---	0.50 U	10 U	5.0 U	2.5 UJ	0.25 U	0.25 U	0.25 U	0.50 U	1.0 U	0.50 U	1.0 U	0.10 U
	C2-MW-12B	03/29/16	0.13 U	0.50 U	0.25 U	0.50 U	0.20 U	---	0.50 U	10 U	5.0 U	2.5 U	0.25 U	0.25 U	0.25 U	0.50 U	1.0 U	0.50 U	1.0 U	0.25 U
C2-MW-13B	C2-MW-13B	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	0.20 U

Notes:
--- = Sample not analyzed for constituent
BTEX = benzene, toluene, ethylbenzene, and total xylenes
DUP = Duplicate sample.
J = Constituent was not positively identified; the associated value is estimated.
MTBE = methyl tertiary butyl ether
MTCA = Washington State Department of Ecology Model Toxics Control Act
NE = Not established
NS = Not sampled because well was not accessible.
µg/l = micrograms per liter
R = The sample results were rejected based on the data quality review.
U = Constituent not detected at or above noted limit.
UJ = Constitient was not detected above the noted limit; the limit is approximate.
VOCs = volatile organic compounds
Values in **bold** were detected above the laboratory reporting limit.
= Indicates a monitoring well that was either abandoned or paved over.
Ecology's MTCA values were obtained from the Washington State Department of Ecology Cleanup Level and Risk Calculations (CLARC) web site. The lower of the carcinogen and noncarcinogen MTCA Method B value is presented. https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx

Table 5. Volatile Organic Compounds in the Shallow Zone
Former Fort Vancouver Plywood Site

Well Location	Sample ID	Date Sampled	BTEX Compoounds and MTBE							Historically Site Detected VOCs (Since 2009)										
			Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	m,p-Xylene µg/l	o-Xylene µg/l	Total Xylenes µg/l	Methyl Tertiary Butyl Ether µg/l	Acetone µg/l	Chloroethane µg/l	Chloromethane µg/l	1,1-Dichloroethane µg/l	1,1-Dichloroethene µg/l	cis-1,2-Dichloroethene µg/l	Isopropylbenzene (Cumene) µg/l	Naphthalene µg/l	1,2,4-Trimethylbenzene µg/l	Trichlorofluoromethane µg/l	Vinyl Chloride µg/l
Shallow Zone																				
Ecology's MTCA Method B Surface Water Cleanup Levels			23	18,900	6,820	NE	NE	NE	NE	NE	NE	NE	NE	23,100	NE	NE	4,710	NE	NE	3.7
Ecology's Acute Freshwater Surface Water Quality Criteria			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
EPA's National Toxics Rule Human Health Criteria for Surface Water			1.2	6,800	3,100	NE	NE	NE	NE	NE	NE	NE	NE	0.057	NE	NE	NE	NE	NE	2
Ecology's MTCA Method A Groundwater Cleanup Levels			5.0	1,000	700	1,000	1,000	1,000	20	NE	NE	NE	NE	NE	NE	NE	160	NE	NE	0.20
Ecology's MTCA Method B Groundwater Cleanup Levels			0.795	640	800	1,600	1,600	1,600	24	7,200	NE	NE	7.68	400	16	800	160	NE	2,400	0.029
Cell 1																				
C1-MW-3	C1-MW-3	02/27/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	05/12/09	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	12/18/09	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	03/30/10	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	05/26/10	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	11/30/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C1-MW-3	03/24/11	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	10/12/11	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	03/01/12	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	09/20/12	0.10 U	0.10 U	0.10 U	---	---	0.30 U	0.10 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3-Dup	09/20/12	0.10 U	0.10 U	0.10 U	---	---	0.30 U	0.10 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	03/22/13	1.0 U	1.0 U	1.0 U	---	---	3.0 U	1.0 U	---	---	---	---	---	---	---	---	---	---	---
	NS	09/23/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C1-MW-3	03/21/14	0.060 U	0.11 U	0.10 U	---	---	0.33 U	0.18 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	09/03/14	0.13 U	0.50 U	0.25 U	---	---	0.75 U	0.50 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	04/08/15	0.13 U	0.50 U	0.25 U	---	---	0.75 U	0.50 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	09/29/15	0.13 U	0.50 U	0.25 U	---	---	0.75 U	0.50 U	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-3	03/29/16	0.10 U	0.50 U	0.25 U	---	---	0.75 U	0.50 U	---	---	---	---	---	---	---	---	---	---	---
C1-MW-4	C1-MW-4	02/27/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	**1.7**	**1.7**	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	**0.37**
	C1-MW-4-Dup	02/27/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	**1.9**	**1.9**	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	**0.35**
	C1-MW-4	05/12/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	1.0 U	**2.1**	1.0 U	**1.8**	1.0 U	1.0 U	1.0 U	1.0 U	**0.34**
	C1-MW-4	12/18/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	**1.5**	**1.5**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.46**
	C1-MW-4	03/30/10	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	---	1.0 U	**1.6**	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.44**
	C1-MW-4-DUP	03/30/10	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	---	1.0 U	**1.6**	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.41**
	C1-MW-4	05/26/10	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	**1.6**	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.37**
	C1-MW-4	11/30/10	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	**1.5**	1.0 U	**1.3**	1.0 U	1.0 U	1.0 U	1.0 U	**0.62**
	C1-MW-4-Dup	11/30/10	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	**6.9**	**1.1**	**1.8**	**1.2**	1.0 U	**1.0**	1.0 U	1.0 U	1.0 U	1.0 U	**0.61**
	C1-MW-4	03/24/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	**2.1**	1.0 U	**2.2**	1.0 U	1.0 U	1.0 U	1.0 U	**1.0**
	C1-MW-4	10/11/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	C1-MW-4-Dup	10/11/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	**1.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	C1-MW-4	03/01/12	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	**1.6**	1.0 U	**1.5**	1.0 U	1.0 U	1.0 U	1.0 U	**0.25**
	C1-MW-4-Dup	03/01/12	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	**1.6**	1.0 U	**1.4**	1.0 U	**3.3**	1.0 U	1.0 U	**0.25**
	C1-MW-4	09/20/12	0.10 U	0.10 U	0.10 U	0.20 U	0.10 U	---	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	**1.1**	0.10 U	0.10 U	0.10 U	0.10 U	**0.39**
	C1-MW-4	03/22/13	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	1.0 U	20 U	1.0 U	1.0 U	**1.7**	1.0 U	**2.0**	1.0 U	4.0 U	1.0 U	1.0 U	**0.21**
	C1-MW-4-Dup	03/22/13	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	1.0 U	20 U	1.0 U	1.0 U	**1.9**	1.0 U	**2.1**	1.0 U	4.0 U	1.0 U	1.0 U	**0.23**
	NS	09/23/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C1-MW-4	03/21/14	0.060 U	0.11 U	0.10 U	0.25 U	0.13 U	---	0.18 U	5.0 U	0.17 U	1.0 U	**1.5**	**0.63**	**2.8**	0.50 U	0.20 U	0.16 U	0.10 U	0.11 U
	C1-MW-4	09/03/14	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	0.50 U	0.50 U	10.0 U	5.0 U	2.5 UJ	**1.1**	**0.38 J**	**1.7**	0.50 U	1.0 U	0.50 U	1.0 U	**0.24**
	C1-MW-4	04/08/15	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	---	0.50 U	10.0 U	5.0 U	2.5 U	**1.7**	**0.54**	**2.7**	0.50 U	1.0 U	0.50 U	1.0 U	**0.45**
	C1-MW-4	09/29/15	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	---	0.50 U	10.0 U	5.0 U	2.5 UJ	**0.8**	**0.29 J**	**1.5**	0.50 U	1.0 U	0.50 U	1.0 U	0.25 U
	C1-MW-4	03/29/16	0.13 U	**0.81 J**	0.25 U	0.50 U	0.20 U	---	0.50 U	10.0 U	5.0 U	2.5 U	**1.27**	**0.51**	**2.3**	0.50 U	1.0 U	0.50 U	1.0 U	**0.49 J**

Table 5. Volatile Organic Compounds in the Shallow Zone
Former Fort Vancouver Plywood Site

Well Location	Sample ID	Date Sampled	BTEX Compoounds and MTBE							Historically Site Detected VOCs (Since 2009)										
			Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	m,p-Xylene µg/l	o-Xylene µg/l	Total Xylenes µg/l	Methyl Tertiary Butyl Ether µg/l	Acetone µg/l	Chloroethane µg/l	Chloromethane µg/l	1,1-Dichloroethane µg/l	1,1-Dichloroethene µg/l	cis-1,2-Dichloroethene µg/l	Isopropylbenzene (Cumene) µg/l	Naphthalene µg/l	1,2,4-Trimethylbenzene µg/l	Trichlorofluoromethane µg/l	Vinyl Chloride µg/l
Shallow Zone																				
Ecology's MTCA Method B Surface Water Cleanup Levels			23	18,900	6,820	NE	NE	NE	NE	NE	NE	NE	NE	23,100	NE	NE	4,710	NE	NE	3.7
Ecology's Acute Freshwater Surface Water Quality Criteria			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
EPA's National Toxics Rule Human Health Criteria for Surface Water			1.2	6,800	3,100	NE	NE	NE	NE	NE	NE	NE	NE	0.057	NE	NE	NE	NE	NE	2
Ecology's MTCA Method A Groundwater Cleanup Levels			5.0	1,000	700	1,000	1,000	1,000	20	NE	NE	NE	NE	NE	NE	NE	160	NE	NE	0.20
Ecology's MTCA Method B Groundwater Cleanup Levels			0.795	640	800	1,600	1,600	1,600	24	7,200	NE	NE	7.68	400	16	800	160	NE	2,400	0.029
C1-MW-6	C1-MW-6	05/12/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	1.0 U	**10**	**1.7**	1.0 U	1.0 U	1.0 U	1.0 U	**4.2**	0.20 U
	C1-MW-6-DUP	05/12/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	1.0 U	**10**	**1.8**	1.0 U	1.0 U	1.0 U	1.0 U	**4.3**	0.20 U
	C1-MW-6	12/18/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	1.0 U	**8.8**	**1.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	C1-MW-6-DUP	12/18/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	1.0 U	**8.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	NS	05/26/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	11/30/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C1-MW-6	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.3**	0.20 U
	C1-MW-6-DUP	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.3**	0.20 U
C1-MW-7	C1-MW-7	02/27/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	**26**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	05/12/09	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**24**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	12/18/09	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**23**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	03/30/10	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**24**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	05/26/10	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**16**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7-DUP	05/26/10	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**14**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	11/30/10	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**28**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	03/25/11	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**24**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	10/12/11	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**25**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	02/29/12	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**3.2**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	09/20/12	0.10 U	0.10 U	0.10 U	---	---	0.30 U	**13**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	03/22/13	1.0 U	1.0 U	1.0 U	---	---	3.0 U	**12**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	09/23/13	0.24 U	0.23 U	0.24 U	---	---		**16**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	03/21/14	0.12 U	0.22 U	0.20 U	---	---	0.66 U	**14**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	09/04/14	0.13 U	0.50 U	0.25 U	---	---	0.75 U	**12**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	04/08/15	0.13 U	0.50 U	0.25 U	---	---	0.75 U	**17**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	09/29/15	0.13 U	0.50 U	0.25 U	---	---	0.75 U	**18**	---	---	---	---	---	---	---	---	---	---	---
	C1-MW-7	03/29/16	0.10 U	0.50 U	0.25 U	---	---	0.75 U	**19**	---	---	---	---	---	---	---	---	---	---	---
Cell 2																				
C2-MW-3	C2-MW-3	02/26/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-3-DUP	02/26/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-3	05/11/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-3-DUP	05/11/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-3	12/17/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-3-DUP	12/17/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-3	03/29/10	1.0 U	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	0.20 U
	C2-MW-3	05/26/10	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-3-DUP	05/26/10	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-3	11/30/10	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	0.20 U
	C2-MW-3-Dup	11/30/10	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	0.20 U
	C2-MW-3	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	0.20 U
	C2-MW-3-Dup	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	0.20 U

Table 5. Volatile Organic Compounds in the Shallow Zone
Former Fort Vancouver Plywood Site

Well Location	Sample ID	Date Sampled	BTEX Compoounds and MTBE							Historically Site Detected VOCs (Since 2009)										
			Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Total Xylenes	Methyl Tertiary Butyl Ether	Acetone	Chloroethane	Chloromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Isopropylbenzene (Cumene)	Naphthalene	1,2,4-Trimethylbenzene	Trichlorofluoromethane	Vinyl Chloride
			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
Shallow Zone																				
Ecology's MTCA Method B Surface Water Cleanup Levels			23	18,900	6,820	NE	NE	NE	NE	NE	NE	NE	NE	23,100	NE	NE	4,710	NE	NE	3.7
Ecology's Acute Freshwater Surface Water Quality Criteria			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
EPA's National Toxics Rule Human Health Criteria for Surface Water			1.2	6,800	3,100	NE	NE	NE	NE	NE	NE	NE	NE	0.057	NE	NE	NE	NE	NE	2
Ecology's MTCA Method A Groundwater Cleanup Levels			5.0	1,000	700	1,000	1,000	1,000	20	NE	NE	NE	NE	NE	NE	NE	160	NE	NE	0.20
Ecology's MTCA Method B Groundwater Cleanup Levels			0.795	640	800	1,600	1,600	1,600	24	7,200	NE	NE	7.68	400	16	800	160	NE	2,400	0.029
C2-MW-7	NS	02/27/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C2-MW-7	05/12/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-7	12/17/09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	NS	03/29/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	05/26/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	11/29/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C2-MW-7	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	0.20 U
C2-MW-9	C2-MW-9	02/27/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C2-MW-9	05/12/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	**3.7**
	C2-MW-9	12/18/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.5**	1.0 U	1.0 U	1.0 U	1.0 U	**0.61**
	C2-MW-9	03/29/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C2-MW-9	05/26/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C2-MW-9	11/29/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	C2-MW-9	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**4.1**	1.0 U	1.0 U	1.0 U	1.0 U	**1.2**
	C2-MW-9	09/20/12	0.10 U	0.10 U	0.10 U	0.20 U	0.10 U	---	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**1.3**	0.10 U	0.10 U	0.10 U	0.10 U	**1.0**
	C2-MW-9	03/22/13	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	**0.83**
	C2-MW-9	09/23/13	0.24 U	0.23 U	0.24 U	0.48 U	0.24 U	---	0.50 U	10 U	0.50 U	2.0 U	0.50 U	0.24 U	**2.5**	0.50 U	2.0 U	0.50 U	0.13 U	0.14 U	
	C2-MW-9-Dup	09/23/13	0.24 U	0.23 U	0.24 U	0.48 U	0.24 U	---	0.50 U	10 U	0.50 U	2.0 U	0.50 U	0.24 U	**2.8**	0.50 U	2.0 U	0.50 U	0.13 U	0.14 U	
	C2-MW-9	03/21/14	0.060 U	0.11 U	0.10 U	0.25 UJ	0.13 UJ	---	0.18 UJ	**8.3 J**	0.17 UJ	1.0 UJ	0.14 UJ	0.14 UJ	**0.79 J**	0.50 UJ	0.20 UJ	0.16 UJ	0.10 UJ	**1.3 J**
	C2-MW-9-DUP	03/21/14	0.060 U	0.11 U	0.10 U	0.25 U	0.13 U	---	0.18 U	**33**	0.17 U	1.0 U	0.14 U	0.14 U	**1.1**	0.50 U	0.20 U	0.16 U	0.10 U	**1.1**	
	C2-MW-9	09/03/14	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	0.50 U	0.50 U	10 U	5.0 U	2.5 UJ	0.25 U	0.25 U	0.25 U	0.50 U	1.00 U	0.50 U	1.0 U	**0.55**	
	C2-MW-9-DUP	09/03/14	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	0.50 U	0.50 U	10 U	5.0 U	2.5 UJ	0.25 U	0.25 U	0.25 U	0.50 U	1.00 U	0.50 U	1.0 U	**0.60**	
	C2-MW-9	04/08/15	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	---	0.50 U	10 U	5.0 U	2.5 U	0.25 U	0.25 U	**0.93**	0.50 U	1.00 U	0.50 U	1.0 U	**0.41**	
	C2-MW-9 DUP	04/08/15	--- R	--- R	--- R	--- R	--- R	---	--- R	--- R	--- R	--- R	--- R	--- R	--- R	--- R	--- R	--- R	--- R	--- R	
	C2-MW-9	09/28/15	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	---	0.50 U	10 U	5.0 U	2.5 UJ	0.25 U	0.25 U	**1.84**	0.50 U	1.00 U	0.50 U	1.0 U	**0.37**	
	C2-MW-9 DUP	09/28/15	0.125 U	0.5 U	0.25 U	0.5 U	0.25 U	---	0.5 U	10.0 U	5.0 U	2.5 UJ	0.25 U	0.25 U	**1.81**	0.5 U	1.0 U	0.5 U	1.0 U	**0.38**	
	C2-MW-9	03/28/2016	0.13 U	0.50 U	0.25 U	0.50 U	0.20 U	---	0.50 U	10 U	5.0 U	2.5 U	0.25 U	0.25 U	**0.52**	0.50 U	1.00 U	0.50 U	1.0 U	**0.63**	
	C2-MW-9 (DUP)	03/28/2016	0.13 U	0.50 U	0.25 U	0.50 U	0.20 U	---	0.50 U	10 U	5.0 U	2.5 U	0.25 U	0.25 U	**1.0**	0.50 U	1.00 U	0.50 U	1.0 U	**0.50**	
C2-MW-10(R)	C2-MW-10	02/27/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	**0.27**
	C2-MW-10	05/12/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-10	12/17/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-10	03/29/10	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-10	05/25/10	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	0.20 U
	C2-MW-10	11/30/10	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	0.20 U
	C2-MW-10	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	**0.94**
	C2-MW-10	10/12/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	**0.28**

Table 5. Volatile Organic Compounds in the Shallow Zone
Former Fort Vancouver Plywood Site

Well Location	Sample ID	Date Sampled	BTEX Compoounds and MTBE							Historically Site Detected VOCs (Since 2009)										
			Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	m,p-Xylene µg/l	o-Xylene µg/l	Total Xylenes µg/l	Methyl Tertiary Butyl Ether µg/l	Acetone µg/l	Chloroethane µg/l	Chloromethane µg/l	1,1-Dichloroethane µg/l	1,1-Dichloroethene µg/l	cis-1,2-Dichloroethene µg/l	Isopropylbenzene (Cumene) µg/l	Naphthalene µg/l	1,2,4-Trimethylbenzene µg/l	Trichlorofluoromethane µg/l	Vinyl Chloride µg/l
Shallow Zone																				
Ecology's MTCA Method B Surface Water Cleanup Levels			23	18,900	6,820	NE	NE	NE	NE	NE	NE	NE	NE	23,100	NE	NE	4,710	NE	NE	3.7
Ecology's Acute Freshwater Surface Water Quality Criteria			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
EPA's National Toxics Rule Human Health Criteria for Surface Water			1.2	6,800	3,100	NE	NE	NE	NE	NE	NE	NE	NE	0.057	NE	NE	NE	NE	NE	2
Ecology's MTCA Method A Groundwater Cleanup Levels			5.0	1,000	700	1,000	1,000	1,000	20	NE	NE	NE	NE	NE	NE	NE	160	NE	NE	0.20
Ecology's MTCA Method B Groundwater Cleanup Levels			0.795	640	800	1,600	1,600	1,600	24	7,200	NE	NE	7.68	400	16	800	160	NE	2,400	0.029
C2-MW-11	C2-MW-11	02/27/09	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**12**	1.0 U	1.0 U	**1.4**
	C2-MW-11	05/12/09	1.0 U	1.0 U	1.0 U	2.0 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	1.0 U	1.0 U	1.0 U	**0.50**
	C2-MW-11	12/18/09	1.0 U	1.0 U	**1.6**	**4.0**	**2.0**	---	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.0**	**101**	**2.7**	1.0 U	**0.74**
	C2-MW-11	03/29/10	1.0 U	1.0 U	1.0 U	1.0 U	2.0 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	**51**	**1.3**	1.0 U	**0.73**
	C2-MW-11	05/26/10	1.0 U	1.0 U	1.0 U	2.0 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	**64**	**2.3**	1.0 U	**0.57**
	C2-MW-11	11/30/10	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**4.9**	1.0 U	1.0 U	**1.5**
	C2-MW-11	03/25/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**16**	1.0 U	1.0 U	**1.4**
	C2-MW-11	10/12/11	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 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	**1.6**
	C2-MW-11	03/01/12	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	---	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**5.7**	1.0 U	1.0 U	**1.1**
	C2-MW-11	09/20/12	0.10 U	0.10 U	0.10 U	0.20 U	0.10 U	---	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**1.8**
	C2-MW-11	03/22/13	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	**1.1**
	C2-MW-11	09/23/13	0.24 U	0.23 U	0.24 U	0.48 U	0.24 U	---	0.50 U	10 U	0.50 U	2.0 U	0.50 U	0.24 U	0.23 U	0.50 U	2.0 U	0.50 U	0.13 U	**1.2**
	C2-MW-11	03/21/14	**0.24**	**0.23 J**	**0.61**	**1.5**	**1.2**	---	0.18 U	5.0 U	0.17 U	1.0 U	0.14 U	0.14 U	0.16 U	**0.87 J**	**130**	**4.8**	0.10 U	**0.28 J**
C2-MW-11(R)	C2-MW-11R	09/03/14	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	0.50 U	0.50 U	10 U	5.0 U	2.5 UJ	0.25 U	0.25 U	0.25 U	0.50 U	1.0 U	0.50 U	1.0 U	**1.1**
	C2-MW-11R	04/08/15	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	---	0.50 U	10 U	5.0 U	2.5 U	0.25 U	0.25 U	0.25 U	0.50 U	1.0 U	0.50 U	1.0 U	**1.3**
	C2-MW-11R	09/28/15	0.13 U	0.50 U	0.25 U	0.50 U	0.25 U	---	0.50 U	10 U	5.0 U	2.5 UJ	0.25 U	0.25 U	0.25 U	0.50 U	1.0 U	0.50 U	1.0 U	**1.4**
	C2-MW-11R	03/28/16	0.13 U	0.50 U	0.25 U	0.50 U	0.20 U	---	0.50 U	10 U	5.0 U	2.5 U	0.25 U	0.25 U	0.25 U	0.50 U	1.0 U	0.50 U	1.0 U	**0.94**

Notes:
--- = Sample not analyzed for constituent
BTEX = benzene, toluene, ethylbenzene, and total xylenes
DUP = Duplicate sample.
J = Constituent was not positively identified; the associated value is estimated.
MTBE = methyl tertiary butyl ether
MTCA = Washington State Department of Ecology Model Toxics Control Act
NE = Not established
NS = Not sampled because well was not accessible.
µg/l = micrograms per liter
R = The sample results were rejected based on the data quality review.
U = Constituent not detected at or above noted limit.
UJ = Constitient was not detected above the noted limit; the limit is approximate.
VOCs = volatile organic compounds
Values in **bold** were detected above the laboratory reporting limit.
= Indicates a monitoring well that was either abandoned or paved over.
= Indicates a monitoring well that is no longer sampled for volatile organic compounds as approved by Ecology in 2011.
= Indicates an exceedance of a screening criteria.
Ecology's MTCA values were obtained from the Washington State Department of Ecology Cleanup Level and Risk Calculations (CLARC) web site. The lower of the carcinogen and noncarcinogen MTCA Method B value is presented. https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx
Ecology's Acute Freshwater Surface Water Quality Criteria were obtained from the Washington State Legistlature Washington Adminstrative Code web site. http://apps.leg.wa.gov/WAC/default.aspx?cite=173-201A-240
EPA's National Toxics Rule Human Health Criteria for Surface Water were obtained throught the Washington State Department of Ecology web site for Toxics Standards and Criteria. http://www.ecy.wa.gov/programs/wq/swqs/toxics.html

Table 6. Total Petroleum Hydrocarbons in the Deeper Unconsolidated Aquifer
Former Fort Vancouver Plywood Site

Well ID	Sample ID	Date Sampled	TPH-Dx Diesel-Range mg/l	TPH-Dx Oil-Range mg/l	TPH-Gx Gasoline-Range mg/l
Deeper Unconsolidated Aquifer					
Ecology's MTCA Method A Groundwater Cleanup Levels			0.50	0.50	1.0 [(a)]
Ecology's MTCA Method B Groundwater Cleanup Levels			NE	NE	NE
Cell 2					
C2-MW-12B	C2-MW-12B	02/26/09	0.091 U	0.45 U	0.025 U
	C2-MW-12B	05/12/09	0.082 U	0.41 U	0.050 U
	C2-MW-12B	12/17/09	**0.13**	0.42 U	0.050 U
	C2-MW-12B	03/29/10	**2.3**	**2.6**	0.050 U
	C2-MW-12B	03/29/10	**1.3**	**1.4**	0.050 U
	C2-MW-12B	05/26/10	**0.10**	**0.44**	0.050 U
	C2-MW-12B	11/30/10	**4.0**	**6.6**	0.050 U
	C2-MW-12B	03/25/11	**0.55**	**0.66**	0.050 U
	C2-MW-12B	10/11/11	**1.6**	**2.4**	0.050 U
	C2-MW-12B	02/29/12	0.077 U	0.38 U	0.050 U
	C2-MW-12B	09/20/12	0.16 U	0.80 U	0.025 U
	C2-MW-12B	03/21/13	0.40 U	0.40 U	0.10 U
	C2-MW-12B	09/20/13	0.011 U	0.018 U	0.10 U
	C2-MW-12B	03/21/14	**0.080 J**	**0.18 J**	0.019 U
	C2-MW-12B	09/03/14	0.094 U	**0.50**	0.050 U
	C2-MW-12B	04/07/15	0.095 U	0.19 U	0.050 U
	C2-MW-12B	09/29/15	0.094 U	0.19 U	0.050 U
	C2-MW-12B	03/29/16	0.098 U	**0.23 J**	0.050 U
C2-MW-13B	C2-MW-13B	03/25/11	**0.41**	**0.47**	0.050 U

Notes:
B = Constituent was detected above the laboratory reporting limit in the method blank.
DUP = Duplicate sample.
J = Constituent was not positively identified; the associated value is estimated.
mg/l = milligrams per liter
MTCA = Washington State Department of Ecology Model Toxics Control Act
NA = Not analyzed
NE = Not established
NS = Not sampled because well was not accessible.
U = Constituent not detected at or above noted limit.
TPH = Total Petroleum Hydrocarbons
TPH-Gx = Total Petroleum Hydrocarbons gasoline-range
TPH-Dx = Total Petroleum Hydrocarbons diesel- and oil-range
Values in **bold** were detected above the laboratory reporting limit.
= Indicates a monitoring well that was either abandoned or paved over.
= Indicates an exceedance of a screening criteria.
Ecology's MTCA values were obtained from the Washington State Department of Ecology Cleanup Level and Risk Calculations (CLARC) web site. The lower of the carcinogen and noncarcinogen MTCA Method B value is presented. https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx
(a) = Value is for gasoline concentration when benzene is not present.

Table 7. Total Petroleum Hydrocarbons in the Shallow Zone
Former Fort Vancouver Plywood Site

Well ID	Sample ID	Date Sampled	TPH-Dx Diesel-Range mg/l	TPH-Dx Oil-Range mg/l	TPH-Gx Gasoline-Range mg/l
Shallow Zone					
Ecology's MTCA Method B Surface Water Cleanup Levels			NE	NE	NE
Ecology's Acute Freshwater Surface Water Quality Criteria			NE	NE	NE
EPA's National Toxics Rule Human Health Criteria for Surface Water			NE	NE	NE
Ecology's MTCA Method A Groundwater Cleanup Levels			0.50	0.50	1.0 [(a)]
Ecology's MTCA Method B Groundwater Cleanup Levels			NE	NE	NE
Cell 2					
C2-MW-3	C2-MW-3	02/26/09	0.086 U	0.43 U	0.025 U
	C2-MW-3	02/26/09	**0.089 B**	0.41 U	0.025 U
	C2-MW-3	05/11/09	0.083 U	0.42 U	0.050 U
	C2-MW-3	05/11/09	0.094 U	0.47 U	0.050 U
	C2-MW-3	12/17/09	**0.093**	0.38 U	0.050 U
	C2-MW-3	12/17/09	**0.089**	0.39 U	0.050 U
	C2-MW-3	03/29/10	0.078 U	0.39 U	0.050 U
	C2-MW-3	05/26/10	0.078 U	0.39 U	0.050 U
	C2-MW-3	05/26/10	0.076 U	0.38 U	0.050 U
	C2-MW-3	11/30/10	0.082 U	0.41 U	0.050 U
	C2-MW-3-Dup	11/30/10	0.078 U	0.39 U	0.050 U
	C2-MW-3	03/25/11	0.078 U	0.39 U	0.050 U
	C2-MW-3-Dup	03/25/11	0.078 U	0.39 U	0.050 U
	C2-MW-3	10/11/11	0.076 U	0.38 U	0.050 U
	C2-MW-3-Dup	10/11/11	0.076 U	0.38 U	0.050 U
	C2-MW-3	02/29/12	0.076 U	0.38 U	0.050 U
	C2-MW-3-Dup	02/29/12	0.086 U	0.43 U	0.050 U
	C2-MW-3	09/20/12	0.16 U	0.81 U	0.025 U
	C2-MW-3	03/21/13	0.40 U	0.40 U	NA
	C2-MW-3-Dup	03/21/13	0.40 U	0.40 U	NA
	C2-MW-3	09/20/13	0.011 U	0.018 U	0.10 U
	C2-MW-3-Dup	09/20/13	0.011 U	0.018 U	0.10 U
	C2-MW-3	03/21/14	0.028 U	0.038 U	0.019 U
	C2-MW-3	09/03/14	0.094 U	**0.71 J**	0.050 U
	C2-MW-3	04/07/15	0.094 U	0.19 U	0.050 U
	C2-MW-3	09/29/15	0.094 U	**0.27 J**	0.050 U
	C2-MW-3	03/29/16	0.095 U	0.19 U	0.050 U
C2-MW-7	C2-MW-7	02/26/09	NS	NS	NS
	C2-MW-7	05/12/09	0.080 U	0.40 U	0.050 U
	C2-MW-7	12/17/09	NS	NS	NS
	C2-MW-7	03/29/10	NS	NS	NS
	C2-MW-7	05/26/10	NS	NS	NS
	C2-MW-7	11/30/10	NS	NS	NS
	C2-MW-7	03/25/11	**0.19**	**0.84**	0.050 U

Table 7. Total Petroleum Hydrocarbons in the Shallow Zone
Former Fort Vancouver Plywood Site

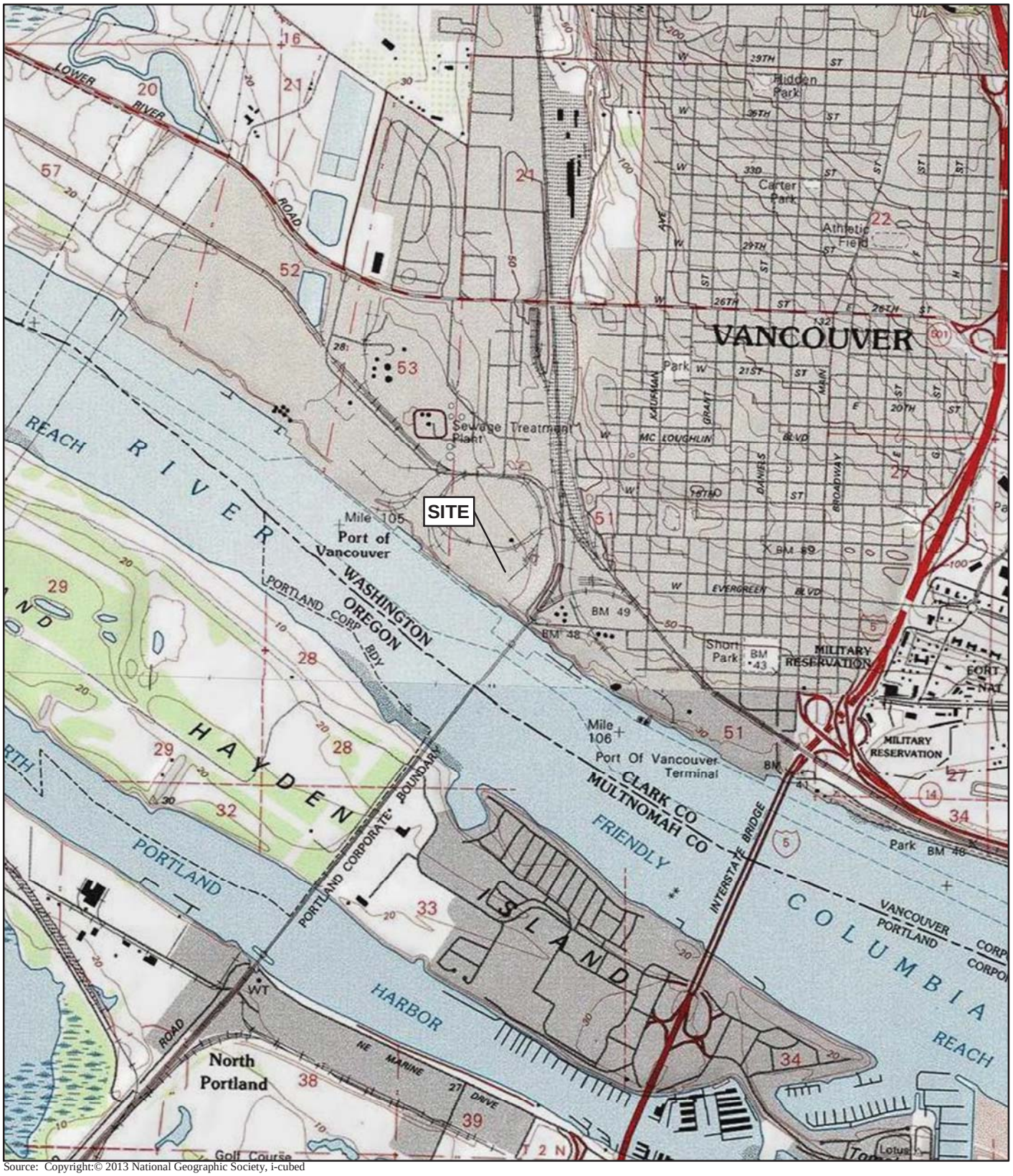
Well ID	Sample ID	Date Sampled	TPH-Dx Diesel-Range mg/l	TPH-Dx Oil-Range mg/l	TPH-Gx Gasoline-Range mg/l
Shallow Zone					
Ecology's MTCA Method B Surface Water Cleanup Levels			NE	NE	NE
Ecology's Acute Freshwater Surface Water Quality Criteria			NE	NE	NE
EPA's National Toxics Rule Human Health Criteria for Surface Water			NE	NE	NE
Ecology's MTCA Method A Groundwater Cleanup Levels			0.50	0.50	1.0 [(a)]
Ecology's MTCA Method B Groundwater Cleanup Levels			NE	NE	NE
C2-MW-9	C2-MW-9	02/26/09	NS	NS	NS
	C2-MW-9	05/12/09	0.088 U	0.44 U	0.050 U
	C2-MW-9	12/18/09	**0.17**	0.40 U	0.050 U
	C2-MW-9	03/29/10	NS	NS	NS
	C2-MW-9	05/26/10	NS	NS	NS
	C2-MW-9	11/30/10	NS	NS	NS
	C2-MW-9	03/25/11	**0.12**	0.40 U	0.050 U
	C2-MW-9	10/11/11	**0.13**	0.38 U	0.050 U
	C2-MW-9	09/20/12	0.16 U	0.80 U	0.025 U
	C2-MW-9	03/22/13	0.41 U	0.41 U	0.10 U
	C2-MW-9	09/23/13	0.011 U	0.018 U	0.10 U
	C2-MW-9-Dup	09/23/13	0.011 U	0.018 U	0.10 U
	C2-MW-9	03/21/14	**0.12**	**0.16 J**	0.019 U
	C2-MW-9-DUP	03/21/14	**0.099**	**0.096 J**	0.019 U
	C2-MW-9	09/03/14	0.10 U	**0.52 J**	0.050 U
	C2-MW-9-DUP	09/03/14	0.10 U	0.20 U	0.050 U
	C2-MW-9	04/08/15	0.094 U	0.19 U	0.050 U
	C2-MW-9-DUP	04/08/15	NA	NA	NA
	C2-MW-9	09/28/15	0.094 U	0.19 U	0.050 U
	C2-MW-9	03/28/16	0.095 U	**0.31 J**	0.050 U
	C2-MW-9 (DUP)	03/28/16	0.095 U	**0.34 J**	0.050 U
C2-MW-10(R)	C2-MW-10	02/27/09	**0.82 B**	**1.6**	0.025 U
	C2-MW-10	05/12/09	**1.1**	**0.85**	0.050 U
	C2-MW-10	12/17/09	**1.5**	**1.8**	0.050 U
	C2-MW-10	03/29/10	**0.82**	**1.0**	0.050 U
	C2-MW-10	05/25/10	**0.77**	**0.99**	0.050 U
	C2-MW-10	11/30/10	**1.7**	**1.9**	0.050 U
	C2-MW-10	03/25/11	**1.4**	**1.1**	0.050 U
	C2-MW-10	10/12/11	**0.70**	**0.90**	0.050 U
	C2-MW-10	03/01/12	**1.2**	**1.1**	0.050 U
	C2-MW-10	09/20/12	**1.2**	**0.92**	0.025 U
	C2-MW-10-Dup	09/20/12	**1.1**	**0.99**	0.025 U
	C2-MW-10	03/21/13	**0.90**	**1.6**	NA
	C2-MW-10	09/23/13	NS	NS	NS
	C2-MW-10	03/21/14	NS	NS	NS
	C2-MW-10	09/03/14	NS	NS	NS
	C2-MW-10	09/03/14	NS	NS	NS
C2-MW-10(R2)	C2-MW-10(R)	09/29/15	0.094 U	**1.6**	0.050 U
	C2-MW-10R2	03/28/16	0.096 U	**5.3**	**0.385**

Table 7. Total Petroleum Hydrocarbons in the Shallow Zone
Former Fort Vancouver Plywood Site

Well ID	Sample ID	Date Sampled	TPH-Dx Diesel-Range mg/l	TPH-Dx Oil-Range mg/l	TPH-Gx Gasoline-Range mg/l
Shallow Zone					
Ecology's MTCA Method B Surface Water Cleanup Levels			NE	NE	NE
Ecology's Acute Freshwater Surface Water Quality Criteria			NE	NE	NE
EPA's National Toxics Rule Human Health Criteria for Surface Water			NE	NE	NE
Ecology's MTCA Method A Groundwater Cleanup Levels			0.50	0.50	1.0 [(a)]
Ecology's MTCA Method B Groundwater Cleanup Levels			NE	NE	NE
C2-MW-11	C2-MW-11	02/27/09	**1.2 B**	**0.73**	0.025 U
	C2-MW-11	05/12/09	0.085 U	0.43 U	0.050 U
	C2-MW-11	12/18/09	**0.78**	**0.88**	**0.11**
	C2-MW-11	03/29/10	**0.56**	**0.61**	0.050 U
	C2-MW-11	05/26/10	**0.68**	**0.77**	**0.069**
	C2-MW-11	11/30/10	**0.27**	**0.39**	0.050 U
	C2-MW-11	03/25/11	**0.74**	**0.58**	**0.053**
	C2-MW-11	10/12/11	**0.19**	0.38 U	0.050 U
	C2-MW-11	03/01/12	**0.51**	**0.58**	0.050 U
	C2-MW-11	09/20/12	**0.27**	0.80 U	0.025 U
	C2-MW-11	03/22/13	0.40 U	**0.53**	0.10 U
	C2-MW-11	09/23/13	0.011 U	0.018 U	0.10 U
	C2-MW-11	03/21/14	**0.39**	**0.12 J**	**0.21**
C2-MW-11(R)	C2-MW-11(R)	09/03/14	**0.11 J**	0.20 U	0.050 U
	C2-MW-11(R)	04/08/15	0.10 U	0.19 U	0.050 U
	C2-MW-11(R)	09/28/15	0.094 U	**0.29 J**	0.050 U
	C2-MW-11R	03/28/16	0.096 U	**0.26 J**	0.050 U

Notes:
B = Constituent was detected above the laboratory reporting limit in the method blank.
DUP = Duplicate sample.
J = Constituent was not positively identified; the associated value is estimated.
mg/l = milligrams per liter
MTCA = Washington State Department of Ecology Model Toxics Control Act
NA = Not analyzed
NE = Not established
NS = Not sampled because well was not accessible.
U = Constituent not detected at or above noted limit.
TPH = Total Petroleum Hydrocarbons
TPH-Gx = Total Petroleum Hydrocarbons gasoline-range
TPH-Dx = Total Petroleum Hydrocarbons diesel- and oil-range
Values in **bold** were detected above the laboratory reporting limit.
= Indicates a monitoring well that was either abandoned or paved over.
= Indicates an exceedance of a screening criteria.
Ecology's MTCA values were obtained from the Washington State Department of Ecology Cleanup Level and Risk Calculations (CLARC) web site. The lower of the carcinogen and noncarcinogen MTCA Method B value is presented. https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx
Ecology's Acute Freshwater Surface Water Quality Criteria were obtained from the Washington State Legistlature Washington Adminstrative Code web site. http://apps.leg.wa.gov/WAC/default.aspx?cite=173-201A-240
EPA's National Toxics Rule Human Health Criteria for Surface Water were obtained throught the Washington State Department of Ecology web site for Toxics Standards and Criteria. http://www.ecy.wa.gov/programs/wq/swqs/toxics.html
(a) = Value is for gasoline concentration when benzene is not present.

Figures



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SCALE IN FEET

AECOM

VICINITY MAP

FORMER FORT VANCOUVER PLYWOOD SITE
PORT OF VANCOUVER USA
VANCOUVER, WA

MAY 2016
60410261

FIGURE 1

K:\125698089_POV\MXD\1Q2016\Figure 1 Viciniy Map.mxd

Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation

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SCALE IN FEET

AECOM

SITE MAP

FORMER FORT VANCOUVER PLYWOOD SITE
PORT OF VANCOUVER USA
VANCOUVER, WA

MAY 2016
60410261

FIGURE 2

K:\25698089_POVIMXD\1Q2016\Figure 2 Site Map.mxd

Map Features

- Active Former Fort Vancouver Monitoring Well Location
- Abandoned Former Fort Vancouver Monitoring Well Location
- Paved Over Former Fort Vancouver Monitoring Well Location
- Former Brazier Industries Site Monitoring Well Location
- **(12.51)** Groundwater Elevation (NAVD88)
- Groundwater Contours
- Approximate Groundwater Flow Direction
- Approximate (Site) Cell Boundary

(NM) Groundwater elevations were not measured for C2-MW-1 and C2-MW-15 as they were inaccessible.
* Groundwater elevations for C2-MW-12B and C1-MW-9 were not used for contouring.

Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation

200 0 200 400
SCALE IN FEET

AECOM

GROUNDWATER ELEVATION, CONTOURS, AND FLOW DIRECTION – MARCH 2016

MAY 2016
60410261

FORMER FORT VANCOUVER PLYWOOD SITE
PORT OF VANCOUVER USA
VANCOUVER, WA

FIGURE 3

K:\25698089_POV\MXD\1Q2016\Figure 3 GW Contours.mxd

Appendix A
Field Forms

Groundwater Level Form

(Page 1)

URS

Project Information	
Project Name: PoV - FVP	JOHN BAKER, MARGI RUSCHER
URS Project Number: ~~6048~~ 60410261	MARCH 28, 2016

Measurements

Well Number	Time	Depth to Water	Total Depth	Comments
C1-MW-5	0850	21.14	–	
C1-MW-1	0855	21.19	–	
C1-MW-2	0905	13.59	–	
C1-MW-3	0915	19.69	–	
C1-MW-4	0930	19.65	–	
C1-MW-7	0940	16.77	–	
C1-MW-9	0950	18.80	–	
C2-MW-3	1025	11.19	–	
C2-MW-12B	1030	21.97	–	
C2-MW-6	1035	15.39	–	
C2-MW-9	1045	20.31	–	VACUUM UPON OPENING, WATER LEVEL DROPPING
C2-MW-10R	1040	24.39		
C1-MW-8R	1050	18.49		
C2-MW-11R	1055	21.58		
C2-MW-9	1115	21.30		STABILIZED

Monitoring Well Sampling Field Log - Low Flow

URS

Well Number: CI-MW-3

Date: 3-29-16

Project Information

Project Name: POV - FVP

URS Project Number:

Sampling Information

Field Team: JOHN BAKER

Purge Method: P. PUMP

Sampling Method: BAILER

Water Quality Meter: Model:

Serial Number:

Purge Water Disposition:

Comments

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	32	15-32

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
19.80	20-32	26

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	40ml VOA	HCl	BTEX	
3	40ml VOA	HCl	MTBE	

Well Purge Data

Time	Volume Purged (Cumulative) ml	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Comments (i.e. odor, sediment, color)	
1010	Pump On		Initial	-	±3%	±10%	±0.1	±10mv	<= Stabilization Criteria	
1020	1000		19.92	12.31	668	4.45	6.52	47.6		
1025	1200		19.92	12.22	683	3.64	6.52	48.2		
1030	1400		19.92	12.17	685	3.62	6.51	50.2		
1035	1600		19.92	12.17	688	3.30	6.51	52.9		
1040	1800		19.92	12.27	691	3.08	6.50	55.2		
1045	1900		19.92	12.33	697	3.14	6.52	57.7		
1050	2100		19.92	12.41	701	3.31	6.49	59.1		

	Start Sampling 1052	Sample ID: CI-MW-3	Sample Time: 1055
	End Sampling 1057	QA/QC Sample ID: —	QA/QC Sample Time: —

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

URS

Well Number: C1-MW-4

Date: 3/29/16

Project Information	
Project Name:	POV FVP
URS Project Number:	60410261

Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	LOW FLOW
Sampling Method:	BAILER
Water Quality Meter:	Model: YSI 556
	Serial Number:
Purge Water Disposition:	on site drum

Comments

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	32	17-32

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
19.89	19.89 - 32	28

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	VOA	HCL	VOC	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Comments (i.e. odor, sediment, color)	
1010	Pump On		Initial	-	±3%	±10%	±0.1	±10mv	<= Stabilization Criteria	
1015	Flow Through	200	20.12	15.24	1310	10.89	6.54	-15.9	AC	
1020	1	200	20.09	15.78	1398	5.80	6.45	-35.3	AC	
1025	2	200	20.07	15.49	1407	4.47	6.38	-47.0	clear	
1030	3	200	20.06	15.39	1407	3.16	6.35	-49.2	clear	
1035	4	200	20.06	15.66	1421	2.39	6.34	-52.4	clear	slowed pump
1040	4.5	100	19.97	14.73	1397	2.15	6.31	-53.3	clear	
1045	5	100	19.98	14.92	1405	2.00	6.31	-55.4	clear	
1050	55	100	19.97	15.17	1418	1.91	6.31	-56.6	clear	
1055	6	100		15.31	1419	1.82	6.30	-58.1	clear	
1100	SAMPLE									
						NA				

Start Sampling	1100	Sample ID: C1-MW-4	Sample Time: 1100
End Sampling	1104	QA/QC Sample ID: -	QA/QC Sample Time: -

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

URS

Well Number: C1-MW-7

Date: 3/29/16

Project Information

Project Name: PoV FVP

URS Project Number: 60410261

Sampling Information

Field Team: M TAUSCHER / J BAKER

Purge Method: LOW FLOW

Sampling Method: ~~PUMP~~ BAILER

Water Quality Meter: Model: YSI-556

Serial Number:

Purge Water Disposition: ON SITE DRUM

Comments

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	30	15-30

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
16.75	16.75-30	25

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	VOA	HCL	BTEX	N
3	VOA	HCL	MTBE	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Comments (i.e. odor, sediment, color)	
1145	Pump On		16.75 Initial	-	±3%	±10%	±0.1	±10mv	<= Stabilization Criteria	
1150	FLOW THROUGH	100	17.65	15.72	1088	7.37	6.51	-94.5	clear	
1155	0.5	100	18.12	15.67	1087	4.17	6.45	-101.9	clear	
1200	1	100	18.85	15.81	1089	3.11	6.41	-105.2	clear	
1205	1.30	60	19.28	16.03	1095	2.38	6.39	27.0	clear	slowed pump
1210	1.60	40	19.32	16.21	1101	2.11	6.38	31.2	clear	"
1215	2.0	40	19.42	16.07	1101	2.04	6.37	31.6	clear	
1220	2.2	40	19.48	16.33	1103	2.06	6.36	32.1	clear	
1225	SAMPLE									

MH

Start Sampling	1225	Sample ID:	C1-MW-7	Sample Time: 1225
End Sampling	1230	QA/QC Sample ID:	—	QA/QC Sample Time: —

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

URS

Well Number: C2-MW-3

Date: 3-29-16

Project Information	
Project Name:	PoV - FVP
URS Project Number:	60410261

Sampling Information	
Field Team:	JOHN BAKER
Purge Method:	P. PUMP
Sampling Method:	BAILER
Water Quality Meter: Model:	YSI 556 MPS
Serial Number:	0360005
Purge Water Disposition:	

Comments

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	~~15~~ 15.3	6 - 16

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
11.23	11 - 15	13

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	40ml VOA	HCl	NWTPH-Gx	
2	1L AMBER	HCl	NWTPH-Dx	

Well Purge Data (Temperature)

Time	Volume Purged (mL)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Comments (i.e. odor, sediment, color)
815	Pump On		Initial	-	±3%	±10%	±0.1	±10mv	<= Stabilization Criteria
820	1000		11.25	12.64	175	7.1	7.36	645	
825	1350		11.23	12.87	169	~~3.77~~	6.90	68.5	
830	1700		11.23	12.78	164	3.12	6.83	67.5	
835	2050		11.23	12.62	162	3.05	6.80	64.9	
840	2350		11.23	12.66	162	3.09	6.79	67.4	

Start Sampling	843	Sample ID: C2-MW-3	Sample Time: 0845
End Sampling	848	QA/QC Sample ID: -	QA/QC Sample Time: -

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

URS

Well Number: C2-MW-9

Date: 3-28-16

Project Information	
Project Name:	PoV - FVP
URS Project Number:	60410261

Sampling Information	
Field Team:	JOHN BAKER
Purge Method:	P. PUMP
Sampling Method:	BAILER
Water Quality Meter: Model:	YSI 556 MPS
Serial Number:	03C0005
Purge Water Disposition:	ON SITE TANK

Comments

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	35	25-35

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
21-30	25-35	30

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3x2	40ml VOA	HCl	VOC's	
3x2	40ml VOA	HCl	TPH-G	
2x2	1L AMBER	HCl	TPH-Dx	

Well Purge Data

Time	Volume Purged (ml) (cumulative)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Comments (i.e. odor, sediment, color)	
1130	Pump On		Initial	-	±3%	±10%	±0.1	±10mv	<= Stabilization Criteria	
1135	1000		21.60	14.06	105	6.16	7.02	-20.1		
1140	1300		21.82	14.11	193	4.51	6.67	-33.2		
11:45	1650		21.96	14.14	188	4.12	6.66	-31.5		
1150	2000		22.05	14.19	183	4.10	6.66	-32.3		
1155	2350		22.10	14.14	181	4.22	6.62	-34.3		
1200	2700		22.12	14.15	179	4.27	6.62	-35.1		

Start Sampling	1205	Sample ID: C2-MW-9	Sample Time: 1205
End Sampling	1230	QA/QC Sample ID: C2-MW-9 (DUP)	QA/QC Sample Time: 1205

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

URS

Well Number: C2-MW-10 (R2)

Date: 3/28/16

Project Information	
Project Name:	PoV FVP
URS Project Number:	60410261

Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	LOW FLOW
Sampling Method:	BAILER
Water Quality Meter:	Model: YSI-556
	Serial Number:
Purge Water Disposition:	on site Drum.

Comments

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	35	20-35

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
24.35	24.35-35	30

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
~~3~~	~~VOA~~	~~HCL~~	~~VOC~~ MT	N
3	VOA	HCL	6TX	N
2	1L AMBER	HCL	DX	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Comments (i.e. odor, sediment, color)	
1250	Pump On		Initial	-	±3%	±10%	±0.1	±10mv	<= Stabilization Criteria	
1300	Flow Through	150	24.47	16.64	830	4.94	6.65	-81.2	clear	Pump issues to start
1305	.750	100	24.45	16.64	821	3.24	6.53	-83.7	clear	
1310	1.25	100	24.43	16.28	812	2.33	6.52	-84.0	clear	
1315	1.75	100	24.43	16.42	810	1.93	6.50	-85.0	clear	
1320	2.25	100	24.44	16.34	803	1.65	6.50	-85.1	clear	
1325	2.75	100	24.44	15.97	792	1.43	6.45	-83.8	clear	
1330	3.25	100	24.45	16.03	789	1.21	6.45	-83.1	clear	
1335	3.75	100	24.46	16.00	786	1.06	6.43	-81.2	clear	
1340	4.25	100	24.46	16.28	790	1.05	6.45	-76.0	clear	
1345	4.75	100	24.47	16.28	788	1.06	6.44	-75.1	clear	
1350	SAMPLE									

	Start Sampling	1350	Sample ID:	C2-MW-10(R2)	Sample Time: 1350
	End Sampling	1357	QA/QC Sample ID:	—	QA/QC Sample Time: —

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

URS

Well Number: CZ-MW-11(R)

Date: 3/28/16

Project Information

Project Name: PoV FVP

URS Project Number: 60410261

Sampling Information

Field Team: MARK TAUSCHER

Purge Method: LOW FLOW

Sampling Method: BAILER

Water Quality Meter: Model: YSI 55C

Serial Number:

Purge Water Disposition: On site Drum

Comments

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	30	15-30

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
21.58	21.58-30	26

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	VOA	HCL	VOC	N
3	VOA	HCL	GX	N
2	1L AMB	HCL	DX	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Comments (i.e. odor, sediment, color)	
1110	Pump On		21.58 (Initial)	-	±3%	±10%	±0.1	±10mv	<= Stabilization Criteria	
1115	Flow Through	120	21.65	14.69	782	1.94	6.57	-108.4	clear	NO ODOR
1120	0.6L	120	21.65	14.41	773	7.29	6.56	-116.0	clear	BUBBLE ON DO SENSOR
1125	1.2	120	21.65	14.66	770	4.68	6.55	-120.9	clear	
1130	1.8	120	21.65	14.73	768	2.91	6.54	-123.5	clear	
1135	2.4	120	21.65	14.93	772	2.30	6.54	-125.5	clear	
1140	3.0	120	21.65	15.07	773	1.75	6.53	-127.2	clear	
1145	3.5	100	21.65	15.14	775	1.47	6.55	-111.1	clear	
1150	4	100	21.65	15.35	780	1.26	6.51	-114.8	clear	
1155	4.5	100	21.65	15.25	780	1.11	6.50	-119.9	clear	
1200	5.0	100	21.65	15.18	776	1.09	6.50	-124.6	clear	
1205	5.5	100	21.65	15.26	776	1.06	6.49	-126.3	clear	
1210	SAMPLE									

Start Sampling 1210	Sample ID: CZ-MW-11(R)	Sample Time: 1210
End Sampling 1215	QA/QC Sample ID: —	QA/QC Sample Time: —

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

URS

Well Number: CZ-MW-1213

Date: 3/29/16

Project Information

Project Name: PoV FVR

URS Project Number: 60410261

Sampling Information

Field Team: MARK TAUSCHER

Purge Method: LOW FLOW

Sampling Method: BAILER

Water Quality Meter: Model: YSI 556

Serial Number:

Purge Water Disposition: on site drum

Comments

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	50	40-50

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
22.32	40-50	45'

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	VOA	HCL	VOC	N
3	VOA	HCL	GX	N
2	1L AMB	HCL	DX	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Comments (i.e. odor, sediment, color)	
0805	Pump On		Initial	-	±3%	±10%	±0.1	±10mv	<= Stabilization Criteria	
0810	Flow-through	200	22.32	13.81	213	12.61	7.56	11.6	cloudy	Turbid
0815	1	200	22.31	14.16	188	8.84	7.25	23.7	cloudy	
0820	2	200	22.31	13.91	185	4.98	7.13	30.0	cloudy	
0825	3	200	22.32	13.80	184	4.48	7.07	34.5	cloudy	
0830	4	200	22.32	13.83	183	4.26	7.03	37.3	cloudy	clearing up slowly.
0835	5	200	22.32	14.09	186	3.84	7.03	38.2	AC	
0840	6	200	22.32	14.18	184	3.68	7.01	38.5	AC	
0845	7	200	22.32	14.19	184	3.67	7.01	39.4	AC	
0850	SAMPLE									
						NT				

Start Sampling	0850	Sample ID: CZ-MW-1213	Sample Time: 0850
End Sampling	0905	QA/QC Sample ID: —	QA/QC Sample Time: —

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Appendix B
Laboratory Report and Chain-of-Custody Form

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Wednesday, April 13, 2016

Nicky Moody
AECOM
111 SW Columbia St. Ste. 1500
Portland, OR 97201

RE: POV FVP / 60410261

Enclosed are the results of analyses for work order A6C1113, which was received by the laboratory on 3/30/2016 at 3:30:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Darrell Auvil For Darwin Thomas, Business Development Director

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C2-MW-9	A6C1113-01	Water	03/28/16 12:05	03/30/16 15:30
C2-MW-9 (DUP)	A6C1113-02	Water	03/28/16 12:05	03/30/16 15:30
C2-MW-11R	A6C1113-03	Water	03/28/16 12:10	03/30/16 15:30
C2-MW-10R2	A6C1113-04	Water	03/28/16 13:50	03/30/16 15:30
C2-MW-3	A6C1113-05	Water	03/29/16 08:45	03/30/16 15:30
C2-MW-12B	A6C1113-06	Water	03/29/16 08:50	03/30/16 15:30
C1-MW-3	A6C1113-07	Water	03/29/16 10:55	03/30/16 15:30
C1-MW-4	A6C1113-08	Water	03/29/16 11:00	03/30/16 15:30
C1-MW-7	A6C1113-09	Water	03/29/16 12:25	03/30/16 15:30
Trip Blank	A6C1113-10	Water	03/28/16 00:00	03/30/16 15:30

Apex Laboratories

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-9 (A6C1113-01)			**Matrix: Water**		**Batch: 6040021**			
Diesel	ND	0.0952	0.190	mg/L	1	04/01/16 21:48	NWTPH-Dx	
Oil	**0.311**	0.190	0.381	"	"	"	"	J, F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-9 (DUP) (A6C1113-02)			**Matrix: Water**		**Batch: 6040021**			
Diesel	ND	0.0952	0.190	mg/L	1	04/01/16 22:10	NWTPH-Dx	
Oil	**0.342**	0.190	0.381	"	"	"	"	J, F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-11R (A6C1113-03)			**Matrix: Water**		**Batch: 6040021**			
Diesel	ND	0.0962	0.192	mg/L	1	04/01/16 22:32	NWTPH-Dx	
Oil	**0.262**	0.192	0.385	"	"	"	"	J, F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-10R2 (A6C1113-04)			**Matrix: Water**		**Batch: 6040021**			
Diesel	ND	0.0962	0.192	mg/L	1	04/01/16 22:54	NWTPH-Dx	
Oil	**5.25**	0.192	0.385	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-3 (A6C1113-05)			**Matrix: Water**		**Batch: 6040021**			
Diesel	ND	0.0952	0.190	mg/L	1	04/01/16 23:16	NWTPH-Dx	
Oil	ND	0.190	0.381	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-12B (A6C1113-06)			**Matrix: Water**		**Batch: 6040021**			
Diesel	ND	0.0980	0.196	mg/L	1	04/01/16 23:38	NWTPH-Dx	
Oil	**0.230**	0.196	0.392	"	"	"	"	J, F-17
Surrogate: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	

Apex Laboratories

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-9 (A6C1113-01)			**Matrix: Water**		**Batch: 6040013**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	04/01/16 21:48	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*99 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-9 (DUP) (A6C1113-02)			**Matrix: Water**		**Batch: 6040013**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	04/01/16 22:16	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*98 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-11R (A6C1113-03)			**Matrix: Water**		**Batch: 6040013**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	04/01/16 22:44	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*100 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-10R2 (A6C1113-04)			**Matrix: Water**		**Batch: 6031001**			
Gasoline Range Organics	**0.385**	0.0500	0.100	mg/L	1	03/31/16 16:47	NWTPH-Gx (MS)	F-12
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*93 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-3 (A6C1113-05)			**Matrix: Water**		**Batch: 6031001**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	03/31/16 17:15	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*93 %*	*Limits: 50-150 %*	"	"	"	
C2-MW-12B (A6C1113-06)			**Matrix: Water**		**Batch: 6040013**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	04/01/16 23:13	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*100 %*	*Limits: 50-150 %*	"	"	"	

Apex Laboratories

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Labs

12232 S.W. Garden Place
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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

RBDM Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C1-MW-3 (A6C1113-07RE1)			**Matrix: Water**		**Batch: 6040083**			
Benzene	ND	0.100	0.200	ug/L	1	04/05/16 15:39	EPA 8260B	
Toluene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Xylenes, total	ND	0.750	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 117 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	
C1-MW-7 (A6C1113-09RE1)			**Matrix: Water**		**Batch: 6040083**			
Benzene	ND	0.100	0.200	ug/L	1	04/05/16 16:07	EPA 8260B	
Toluene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Xylenes, total	ND	0.750	1.50	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**19.3**	0.500	1.00	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 118 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*103 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	

Apex Laboratories

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Labs

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503-718-2323 Phone
503-718-0333 Fax

AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-9 (A6C1113-01)			**Matrix: Water**		**Batch: 6040013**			
Acetone	ND	10.0	20.0	ug/L	1	04/01/16 21:48	EPA 8260B	
Benzene	ND	0.125	0.250	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.250	0.500	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	**0.520**	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	

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Darrell Auvil For Darwin Thomas, Business Development Director

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503-718-2323 Phone
503-718-0333 Fax

AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-9 (A6C1113-01)			**Matrix: Water**		**Batch: 6040013**			
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	Q-31
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	2.50	5.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	Q-31
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	**0.630**	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.200	0.200	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 120 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*110 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*97 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*95 %*	*Limits: 80-120 %*	"	"	"	

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Labs

12232 S.W. Garden Place
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503-718-0333 Fax

AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-9 (DUP) (A6C1113-02RE1)			**Matrix: Water**		**Batch: 6040043**			
Acetone	ND	10.0	20.0	ug/L	1	04/04/16 13:29	EPA 8260B	
Benzene	ND	0.125	0.250	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.250	0.500	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	Q-31
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	**1.04**	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-9 (DUP) (A6C1113-02RE1)			**Matrix: Water**		**Batch: 6040043**			
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	"	EPA 8260B	Q-31
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	Q-30
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	2.50	5.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	Q-30
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	**0.500**	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.200	0.200	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)		*Recovery: 118 %*	*Limits: 80-120 %*		"	"	"	
1,4-Difluorobenzene (Surr)		*108 %*	*Limits: 80-120 %*		"	"	"	
Toluene-d8 (Surr)		*99 %*	*Limits: 80-120 %*		"	"	"	
4-Bromofluorobenzene (Surr)		*97 %*	*Limits: 80-120 %*		"	"	"	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-11R (A6C1113-03RE1)			**Matrix: Water**		**Batch: 6040043**			
Acetone	ND	10.0	20.0	ug/L	1	04/04/16 13:57	EPA 8260B	
Benzene	ND	0.125	0.250	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.250	0.500	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	Q-31
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-11R (A6C1113-03RE1)			**Matrix: Water**		**Batch: 6040043**			
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	"	EPA 8260B	Q-31
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	Q-30
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	2.50	5.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	Q-30
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	**0.940**	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.200	0.200	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 119 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*106 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*95 %*	*Limits: 80-120 %*	"	"	"	

Apex Laboratories

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-12B (A6C1113-06)			**Matrix: Water**		**Batch: 6040013**			
Acetone	ND	10.0	20.0	ug/L	1	04/01/16 23:13	EPA 8260B	
Benzene	ND	0.125	0.250	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.250	0.500	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C2-MW-12B (A6C1113-06)			**Matrix: Water**		**Batch: 6040013**			
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	Q-31
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	2.50	5.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	Q-31
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.200	0.200	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 122 %*	*Limits: 80-120 %*	"	"	"	*S-06*
1,4-Difluorobenzene (Surr)			*111 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*93 %*	*Limits: 80-120 %*	"	"	"	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C1-MW-4 (A6C1113-08)			**Matrix: Water**		**Batch: 6040043**			
Acetone	ND	10.0	20.0	ug/L	1	04/04/16 15:22	EPA 8260B	
Benzene	ND	0.125	0.250	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.250	0.500	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	Q-31
1,1-Dichloroethane	**1.27**	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	**0.510**	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	**2.32**	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
C1-MW-4 (A6C1113-08)			**Matrix: Water**		**Batch: 6040043**			
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	"	EPA 8260B	Q-31
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	Q-30
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	2.50	5.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	Q-30
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	**0.810**	0.500	1.00	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	**0.350**	0.250	0.500	"	"	"	"	J
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	**0.490**	0.250	0.500	"	"	"	"	J
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.200	0.200	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)		*Recovery: 120 %*	*Limits: 80-120 %*	"	"	"		
1,4-Difluorobenzene (Surr)		*108 %*	*Limits: 80-120 %*	"	"	"		
Toluene-d8 (Surr)		*97 %*	*Limits: 80-120 %*	"	"	"		
4-Bromofluorobenzene (Surr)		*95 %*	*Limits: 80-120 %*	"	"	"		

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Trip Blank (A6C1113-10)			**Matrix: Water**		**Batch: 6040013**			
Acetone	ND	10.0	20.0	ug/L	1	04/01/16 21:20	EPA 8260B	
Benzene	ND	0.125	0.250	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.250	0.500	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
Trip Blank (A6C1113-10)			**Matrix: Water**		**Batch: 6040013**			
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	Q-31
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	2.50	5.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	Q-31
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.200	0.200	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 120 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*97 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040021 - EPA 3510C (Fuels/Acid Ext.)									**Water**			
Blank (6040021-BLK1)					Prepared: 04/01/16 10:07 Analyzed: 04/01/16 20:43							
NWTPH-Dx												
Diesel	ND	0.0909	0.182	mg/L	1	---	---	---	---	---	---	
Oil	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 99 %*	*Limits: 50-150 %*		*Dilution: 1x*						
LCS (6040021-BS1)					Prepared: 04/01/16 10:07 Analyzed: 04/01/16 21:05							
NWTPH-Dx												
Diesel	1.08	0.100	0.200	mg/L	1	1.25	---	86	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*		*Dilution: 1x*						
LCS Dup (6040021-BSD1)					Prepared: 04/01/16 10:07 Analyzed: 04/01/16 21:26							**Q-19**
NWTPH-Dx												
Diesel	1.10	0.100	0.200	mg/L	1	1.25	---	88	58-115%	2	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*		*Dilution: 1x*						

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6031001 - EPA 5030B									Water			
Blank (6031001-BLK1)					Prepared: 03/31/16 11:55 Analyzed: 03/31/16 14:53							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*93 %*	*50-150 %*			*"*					
LCS (6031001-BS2)					Prepared: 03/31/16 11:55 Analyzed: 03/31/16 14:25							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.458	0.0500	0.100	mg/L	1	0.500	---	92	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 88 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*94 %*	*50-150 %*			*"*					

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040013 - EPA 5030B									Water			
Blank (6040013-BLK1)					Prepared: 04/01/16 11:25 Analyzed: 04/01/16 14:15							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*		*Limits: 50-150 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Sur)			*96 %*		*50-150 %*				*"*			
LCS (6040013-BS2)					Prepared: 04/01/16 11:25 Analyzed: 04/01/16 13:47							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.456	0.0500	0.100	mg/L	1	0.500	---	91	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 89 %*		*Limits: 50-150 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Sur)			*96 %*		*50-150 %*				*"*			

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

RBDM Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B								**Water**				
Blank (6040043-BLK1)					Prepared: 04/04/16 09:21 Analyzed: 04/04/16 12:32							
EPA 8260B												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	Q-30
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 116 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*107 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*98 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*			*"*				
LCS (6040043-BS1)					Prepared: 04/04/16 09:21 Analyzed: 04/04/16 11:35							
EPA 8260B												
Benzene	21.5	0.100	0.200	ug/L	1	20.0	---	108	70-130%	---	---	
Toluene	21.5	0.500	1.00	"	"	"	---	107	"	---	---	
Ethylbenzene	21.8	0.250	0.500	"	"	"	---	109	"	---	---	
Xylenes, total	64.5	0.750	1.50	"	"	60.0	---	107	"	---	---	
Naphthalene	12.4	1.00	2.00	"	"	20.0	---	62	"	---	---	Q-30
Methyl tert-butyl ether (MTBE)	18.5	0.500	1.00	"	"	"	---	92	"	---	---	
Isopropylbenzene	21.4	0.500	1.00	"	"	"	---	107	"	---	---	
n-Propylbenzene	21.6	0.250	0.500	"	"	"	---	108	"	---	---	
1,2,4-Trimethylbenzene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
1,3,5-Trimethylbenzene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
1,2-Dibromoethane (EDB)	21.4	0.250	0.500	"	"	"	---	107	"	---	---	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

RBDM Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B												**Water**
LCS (6040043-BS1)					Prepared: 04/04/16 09:21		Analyzed: 04/04/16 11:35					
1,2-Dichloroethane (EDC)	20.9	0.250	0.500	ug/L	"	"	---	104	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 104 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*99 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*94 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*		*"*					
Duplicate (6040043-DUP1)					Prepared: 04/04/16 10:39		Analyzed: 04/04/16 16:18					
QC Source Sample: C1-MW-7 (A6C1113-09)												
EPA 8260B												
Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Xylenes, total	ND	0.750	1.50	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	Q-30
Methyl tert-butyl ether (MTBE)	**15.0**	0.500	1.00	"	"	---	16.2	---	---	8	30%	
Isopropylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 121 %*		*Limits: 80-120 %*		*Dilution: 1x*					*S-06*
1,4-Difluorobenzene (Surr)			*110 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*96 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*		*"*					

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

RBDM Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040083 - EPA 5030B									**Water**			
Blank (6040083-BLK1)					Prepared: 04/05/16 10:07 Analyzed: 04/05/16 12:24							
EPA 8260B												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 112 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*100 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*101 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*			*"*				
LCS (6040083-BS1)					Prepared: 04/05/16 10:07 Analyzed: 04/05/16 11:28							
EPA 8260B												
Benzene	19.5	0.100	0.200	ug/L	1	20.0	---	98	70-130%	---	---	
Toluene	19.3	0.500	1.00	"	"	"	---	97	"	---	---	
Ethylbenzene	20.2	0.250	0.500	"	"	"	---	101	"	---	---	
Xylenes, total	63.1	0.750	1.50	"	"	60.0	---	105	"	---	---	
Naphthalene	18.7	1.00	2.00	"	"	20.0	---	94	"	---	---	
Methyl tert-butyl ether (MTBE)	21.6	0.500	1.00	"	"	"	---	108	"	---	---	
Isopropylbenzene	19.7	0.500	1.00	"	"	"	---	99	"	---	---	
n-Propylbenzene	19.6	0.250	0.500	"	"	"	---	98	"	---	---	
1,2,4-Trimethylbenzene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
1,3,5-Trimethylbenzene	21.5	0.500	1.00	"	"	"	---	108	"	---	---	
1,2-Dibromoethane (EDB)	20.0	0.250	0.500	"	"	"	---	100	"	---	---	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

RBDM Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040083 - EPA 5030B											**Water**	
LCS (6040083-BS1)					Prepared: 04/05/16 10:07 Analyzed: 04/05/16 11:28							
1,2-Dichloroethane (EDC)	22.9	0.250	0.500	ug/L	"	"	---	114	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 99 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*96 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*95 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*		*"*					

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040013 - EPA 5030B							**Water**					
Blank (6040013-BLK1)					Prepared: 04/01/16 11:25 Analyzed: 04/01/16 14:15							
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040013 - EPA 5030B							**Water**					
Blank (6040013-BLK1)					Prepared: 04/01/16 11:25 Analyzed: 04/01/16 14:15							
cis-1,2-Dichloroethene	ND	0.250	0.500	ug/L	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	"	"	---	---	---	---	---	---	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	Q-31
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	1.50	3.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	Q-31
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040013 - EPA 5030B									**Water**			
Blank (6040013-BLK1)					Prepared: 04/01/16 11:25 Analyzed: 04/01/16 14:15							
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	0.200	0.200	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 114 %*		*Limits: 80-120 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Surr)			*106 %*		*80-120 %*				*"*			
Toluene-d8 (Surr)			*96 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*				*"*			
LCS (6040013-BS1)					Prepared: 04/01/16 11:25 Analyzed: 04/01/16 13:19							
EPA 8260B												
Acetone	32.7	10.0	20.0	ug/L	1	40.0	---	82	70-130%	---	---	
Benzene	21.3	0.100	0.200	"	"	20.0	---	107	"	---	---	
Bromobenzene	22.1	0.250	0.500	"	"	"	---	111	"	---	---	
Bromochloromethane	19.5	0.500	1.00	"	"	"	---	98	"	---	---	
Bromodichloromethane	21.1	0.500	1.00	"	"	"	---	106	"	---	---	
Bromoform	20.0	0.500	1.00	"	"	"	---	100	"	---	---	
Bromomethane	19.2	5.00	5.00	"	"	"	---	96	"	---	---	
2-Butanone (MEK)	32.6	5.00	10.0	"	"	40.0	---	82	"	---	---	
n-Butylbenzene	20.6	0.500	1.00	"	"	20.0	---	103	"	---	---	
sec-Butylbenzene	23.2	0.500	1.00	"	"	"	---	116	"	---	---	
tert-Butylbenzene	20.6	0.500	1.00	"	"	"	---	103	"	---	---	
Carbon tetrachloride	22.4	0.250	0.500	"	"	"	---	112	"	---	---	
Chlorobenzene	23.6	0.250	0.500	"	"	"	---	118	"	---	---	
Chloroethane	22.2	5.00	5.00	"	"	"	---	111	"	---	---	
Chloroform	20.7	0.500	1.00	"	"	"	---	104	"	---	---	
Chloromethane	22.6	2.50	5.00	"	"	"	---	113	"	---	---	
2-Chlorotoluene	22.7	0.500	1.00	"	"	"	---	113	"	---	---	
4-Chlorotoluene	20.9	0.500	1.00	"	"	"	---	105	"	---	---	
1,2-Dibromo-3-chloropropane	16.2	2.50	5.00	"	"	"	---	81	"	---	---	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040013 - EPA 5030B							**Water**					
LCS (6040013-BS1)					Prepared: 04/01/16 11:25 Analyzed: 04/01/16 13:19							
Dibromochloromethane	21.8	0.500	1.00	ug/L	"	"	---	109	"	---	---	
1,2-Dibromoethane (EDB)	21.7	0.250	0.500	"	"	"	---	108	"	---	---	
Dibromomethane	23.6	0.500	1.00	"	"	"	---	118	"	---	---	
1,2-Dichlorobenzene	21.7	0.250	0.500	"	"	"	---	108	"	---	---	
1,3-Dichlorobenzene	22.7	0.250	0.500	"	"	"	---	114	"	---	---	
1,4-Dichlorobenzene	22.5	0.250	0.500	"	"	"	---	113	"	---	---	
Dichlorodifluoromethane	18.8	0.500	1.00	"	"	"	---	94	"	---	---	
1,1-Dichloroethane	21.0	0.250	0.500	"	"	"	---	105	"	---	---	
1,2-Dichloroethane (EDC)	20.1	0.250	0.500	"	"	"	---	100	"	---	---	
1,1-Dichloroethene	22.3	0.250	0.500	"	"	"	---	111	"	---	---	
cis-1,2-Dichloroethene	19.2	0.250	0.500	"	"	"	---	96	"	---	---	
trans-1,2-Dichloroethene	20.4	0.250	0.500	"	"	"	---	102	"	---	---	
1,2-Dichloropropane	20.0	0.250	0.500	"	"	"	---	100	"	---	---	
1,3-Dichloropropane	20.0	0.500	1.00	"	"	"	---	100	"	---	---	
2,2-Dichloropropane	14.7	0.500	1.00	"	"	"	---	74	"	---	---	
1,1-Dichloropropene	20.6	0.500	1.00	"	"	"	---	103	"	---	---	
cis-1,3-Dichloropropene	15.0	0.500	1.00	"	"	"	---	75	"	---	---	
trans-1,3-Dichloropropene	16.0	0.500	1.00	"	"	"	---	80	"	---	---	
Ethylbenzene	22.3	0.250	0.500	"	"	"	---	112	"	---	---	
Hexachlorobutadiene	19.4	2.50	5.00	"	"	"	---	97	"	---	---	
2-Hexanone	20.5	5.00	10.0	"	"	40.0	---	51	"	---	---	Q-31
Isopropylbenzene	22.2	0.500	1.00	"	"	20.0	---	111	"	---	---	
4-Isopropyltoluene	21.9	0.500	1.00	"	"	"	---	110	"	---	---	
4-Methyl-2-pentanone (MiBK)	27.1	5.00	10.0	"	"	40.0	---	68	"	---	---	Q-31
Methyl tert-butyl ether (MTBE)	17.7	0.500	1.00	"	"	20.0	---	88	"	---	---	
Methylene chloride	22.7	1.50	3.00	"	"	"	---	113	"	---	---	
Naphthalene	11.8	1.00	2.00	"	"	"	---	59	"	---	---	Q-31
n-Propylbenzene	22.3	0.250	0.500	"	"	"	---	112	"	---	---	
Styrene	22.2	0.500	1.00	"	"	"	---	111	"	---	---	
1,1,1,2-Tetrachloroethane	22.8	0.250	0.500	"	"	"	---	114	"	---	---	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040013 - EPA 5030B									**Water**			
LCS (6040013-BS1)					Prepared: 04/01/16 11:25 Analyzed: 04/01/16 13:19							
1,1,2,2-Tetrachloroethane	22.0	0.250	0.500	"	"	"	---	110	"	---	---	
Tetrachloroethene (PCE)	25.6	0.250	0.500	"	"	"	---	128	"	---	---	
Toluene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
1,2,3-Trichlorobenzene	16.1	1.00	2.00	"	"	"	---	80	"	---	---	
1,2,4-Trichlorobenzene	15.6	1.00	2.00	"	"	"	---	78	"	---	---	
1,1,1-Trichloroethane	21.5	0.250	0.500	"	"	"	---	107	"	---	---	
1,1,2-Trichloroethane	22.6	0.250	0.500	"	"	"	---	113	"	---	---	
Trichloroethene (TCE)	23.5	0.250	0.500	"	"	"	---	117	"	---	---	
Trichlorofluoromethane	25.7	1.00	2.00	"	"	"	---	129	"	---	---	
1,2,3-Trichloropropane	21.2	0.500	1.00	"	"	"	---	106	"	---	---	
1,2,4-Trimethylbenzene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
1,3,5-Trimethylbenzene	22.7	0.500	1.00	"	"	"	---	113	"	---	---	
Vinyl chloride	22.5	0.250	0.500	"	"	"	---	113	"	---	---	
m,p-Xylene	45.2	0.500	1.00	"	"	40.0	---	113	"	---	---	
o-Xylene	20.3	0.200	0.200	"	"	20.0	---	101	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 103 %*	*Limits: 80-120 %*	*Dilution: 1x*	
1,4-Difluorobenzene (Surr)	*99 %*	*80-120 %*	*"*	
Toluene-d8 (Surr)	*96 %*	*80-120 %*	*"*	
4-Bromofluorobenzene (Surr)	*97 %*	*80-120 %*	*"*	

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Darrell Auvil For Darwin Thomas, Business Development Director

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B							**Water**					
Blank (6040043-BLK1)					Prepared: 04/04/16 09:21 Analyzed: 04/04/16 12:32							
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	Q-31
1,1-Dichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	

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Darrell Auvil For Darwin Thomas, Business Development Director

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B							**Water**					
Blank (6040043-BLK1)					Prepared: 04/04/16 09:21 Analyzed: 04/04/16 12:32							
cis-1,2-Dichloroethene	ND	0.250	0.500	ug/L	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	Q-31
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	"	"	---	---	---	---	---	---	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	Q-30
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	1.50	3.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	Q-30
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	

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Darrell Auvil For Darwin Thomas, Business Development Director

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B									**Water**			
Blank (6040043-BLK1)					Prepared: 04/04/16 09:21 Analyzed: 04/04/16 12:32							
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	0.200	0.200	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 116 %*		*Limits: 80-120 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Surr)			*107 %*		*80-120 %*				*"*			
Toluene-d8 (Surr)			*98 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*				*"*			
LCS (6040043-BS1)					Prepared: 04/04/16 09:21 Analyzed: 04/04/16 11:35							
EPA 8260B												
Acetone	31.9	10.0	20.0	ug/L	1	40.0	---	80	70-130%	---	---	
Benzene	21.5	0.100	0.200	"	"	20.0	---	108	"	---	---	
Bromobenzene	21.9	0.250	0.500	"	"	"	---	109	"	---	---	
Bromochloromethane	20.5	0.500	1.00	"	"	"	---	102	"	---	---	
Bromodichloromethane	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
Bromoform	19.5	0.500	1.00	"	"	"	---	97	"	---	---	
Bromomethane	18.6	5.00	5.00	"	"	"	---	93	"	---	---	
2-Butanone (MEK)	31.0	5.00	10.0	"	"	40.0	---	78	"	---	---	
n-Butylbenzene	20.4	0.500	1.00	"	"	20.0	---	102	"	---	---	
sec-Butylbenzene	22.5	0.500	1.00	"	"	"	---	112	"	---	---	
tert-Butylbenzene	19.9	0.500	1.00	"	"	"	---	100	"	---	---	
Carbon tetrachloride	22.5	0.250	0.500	"	"	"	---	112	"	---	---	
Chlorobenzene	23.3	0.250	0.500	"	"	"	---	117	"	---	---	
Chloroethane	23.3	5.00	5.00	"	"	"	---	116	"	---	---	
Chloroform	21.1	0.500	1.00	"	"	"	---	106	"	---	---	
Chloromethane	24.6	2.50	5.00	"	"	"	---	123	"	---	---	
2-Chlorotoluene	22.1	0.500	1.00	"	"	"	---	111	"	---	---	
4-Chlorotoluene	20.8	0.500	1.00	"	"	"	---	104	"	---	---	
1,2-Dibromo-3-chloropropane	16.2	2.50	5.00	"	"	"	---	81	"	---	---	

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Darrell Auvil For Darwin Thomas, Business Development Director

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B							**Water**					
LCS (6040043-BS1)					Prepared: 04/04/16 09:21 Analyzed: 04/04/16 11:35							
Dibromochloromethane	21.8	0.500	1.00	ug/L	"	"	---	109	"	---	---	
1,2-Dibromoethane (EDB)	21.4	0.250	0.500	"	"	"	---	107	"	---	---	
Dibromomethane	24.3	0.500	1.00	"	"	"	---	121	"	---	---	
1,2-Dichlorobenzene	21.6	0.250	0.500	"	"	"	---	108	"	---	---	
1,3-Dichlorobenzene	22.9	0.250	0.500	"	"	"	---	114	"	---	---	
1,4-Dichlorobenzene	22.4	0.250	0.500	"	"	"	---	112	"	---	---	
Dichlorodifluoromethane	18.6	0.500	1.00	"	"	"	---	93	"	---	---	Q-31
1,1-Dichloroethane	21.5	0.250	0.500	"	"	"	---	107	"	---	---	
1,2-Dichloroethane (EDC)	20.9	0.250	0.500	"	"	"	---	104	"	---	---	
1,1-Dichloroethene	22.1	0.250	0.500	"	"	"	---	110	"	---	---	
cis-1,2-Dichloroethene	18.5	0.250	0.500	"	"	"	---	92	"	---	---	
trans-1,2-Dichloroethene	20.2	0.250	0.500	"	"	"	---	101	"	---	---	
1,2-Dichloropropane	20.1	0.250	0.500	"	"	"	---	100	"	---	---	
1,3-Dichloropropane	20.2	0.500	1.00	"	"	"	---	101	"	---	---	
2,2-Dichloropropane	16.5	0.500	1.00	"	"	"	---	82	"	---	---	
1,1-Dichloropropene	20.3	0.500	1.00	"	"	"	---	101	"	---	---	
cis-1,3-Dichloropropene	14.6	0.500	1.00	"	"	"	---	73	"	---	---	Q-31
trans-1,3-Dichloropropene	16.2	0.500	1.00	"	"	"	---	81	"	---	---	
Ethylbenzene	21.8	0.250	0.500	"	"	"	---	109	"	---	---	
Hexachlorobutadiene	18.4	2.50	5.00	"	"	"	---	92	"	---	---	
2-Hexanone	19.8	5.00	10.0	"	"	40.0	---	50	"	---	---	Q-31
Isopropylbenzene	21.4	0.500	1.00	"	"	20.0	---	107	"	---	---	
4-Isopropyltoluene	21.6	0.500	1.00	"	"	"	---	108	"	---	---	
4-Methyl-2-pentanone (MiBK)	26.7	5.00	10.0	"	"	40.0	---	67	"	---	---	Q-30
Methyl tert-butyl ether (MTBE)	18.5	0.500	1.00	"	"	20.0	---	92	"	---	---	
Methylene chloride	23.3	1.50	3.00	"	"	"	---	116	"	---	---	
Naphthalene	12.4	1.00	2.00	"	"	"	---	62	"	---	---	Q-30
n-Propylbenzene	21.6	0.250	0.500	"	"	"	---	108	"	---	---	
Styrene	21.6	0.500	1.00	"	"	"	---	108	"	---	---	
1,1,1,2-Tetrachloroethane	23.0	0.250	0.500	"	"	"	---	115	"	---	---	

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Darrell Auvil For Darwin Thomas, Business Development Director

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B									**Water**			
LCS (6040043-BS1)					Prepared: 04/04/16 09:21		Analyzed: 04/04/16 11:35					
1,1,2,2-Tetrachloroethane	22.3	0.250	0.500	"	"	"	---	111	"	---	---	
Tetrachloroethene (PCE)	24.8	0.250	0.500	"	"	"	---	124	"	---	---	
Toluene	21.5	0.500	1.00	"	"	"	---	107	"	---	---	
1,2,3-Trichlorobenzene	16.3	1.00	2.00	"	"	"	---	81	"	---	---	
1,2,4-Trichlorobenzene	15.6	1.00	2.00	"	"	"	---	78	"	---	---	
1,1,1-Trichloroethane	21.6	0.250	0.500	"	"	"	---	108	"	---	---	
1,1,2-Trichloroethane	22.4	0.250	0.500	"	"	"	---	112	"	---	---	
Trichloroethene (TCE)	22.8	0.250	0.500	"	"	"	---	114	"	---	---	
Trichlorofluoromethane	25.5	1.00	2.00	"	"	"	---	127	"	---	---	
1,2,3-Trichloropropane	21.3	0.500	1.00	"	"	"	---	106	"	---	---	
1,2,4-Trimethylbenzene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
1,3,5-Trimethylbenzene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
Vinyl chloride	22.5	0.250	0.500	"	"	"	---	112	"	---	---	
m,p-Xylene	44.6	0.500	1.00	"	"	40.0	---	111	"	---	---	
o-Xylene	19.9	0.200	0.200	"	"	20.0	---	100	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 104 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*99 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*94 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				
Duplicate (6040043-DUP1)					Prepared: 04/04/16 10:39		Analyzed: 04/04/16 16:18					
QC Source Sample: C1-MW-7 (A6C1113-09)												
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	ND	---	---	---	30%	
Benzene	ND	0.100	0.200	"	"	---	ND	---	---	---	30%	
Bromobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Bromochloromethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Bromodichloromethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Bromoform	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Bromomethane	ND	5.00	5.00	"	"	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	ND	---	---	---	30%	
n-Butylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B												**Water**
Duplicate (6040043-DUP1)						Prepared: 04/04/16 10:39 Analyzed: 04/04/16 16:18						
QC Source Sample: C1-MW-7 (A6C1113-09)												
sec-Butylbenzene	ND	0.500	1.00	ug/L	"	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Chlorobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	5.00	5.00	"	"	---	ND	---	---	---	30%	
Chloroform	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	2.50	5.00	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	Q-31
1,1-Dichloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	Q-31
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	

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Darrell Auvil For Darwin Thomas, Business Development Director

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B							**Water**					
Duplicate (6040043-DUP1)					Prepared: 04/04/16 10:39 Analyzed: 04/04/16 16:18							
QC Source Sample: C1-MW-7 (A6C1113-09)												
Hexachlorobutadiene	ND	2.50	5.00	ug/L	"	---	ND	---	---	---	30%	
2-Hexanone	ND	5.00	10.0	"	"	---	ND	---	---	---	30%	Q-31
Isopropylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	ND	---	---	---	30%	Q-30
Methyl tert-butyl ether (MTBE)	**15.0**	0.500	1.00	"	"	---	16.2	---	---	8	30%	
Methylene chloride	ND	1.50	3.00	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	Q-30
n-Propylbenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Styrene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Trichlorofluoromethane	**1.28**	1.00	2.00	"	"	---	1.27	---	---	0.8	30%	J
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Vinyl chloride	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
m,p-Xylene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
o-Xylene	ND	0.200	0.200	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 121 %*		*Limits: 80-120 %*		*Dilution: 1x*					*S-06*
1,4-Difluorobenzene (Surr)			*110 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*96 %*		*80-120 %*		*"*					

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Apex Labs

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040043 - EPA 5030B												**Water**
Duplicate (6040043-DUP1)												Prepared: 04/04/16 10:39 Analyzed: 04/04/16 16:18
QC Source Sample: C1-MW-7 (A6C1113-09)												
Surr: 4-Bromofluorobenzene (Surr)	*Recovery: 96 %*		*Limits: 80-120 %*		*Dilution: 1x*							

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6040021							
A6C1113-01	Water	NWTPH-Dx	03/28/16 12:05	04/01/16 10:07	1050mL/5mL	1000mL/5mL	0.95
A6C1113-02	Water	NWTPH-Dx	03/28/16 12:05	04/01/16 10:07	1050mL/5mL	1000mL/5mL	0.95
A6C1113-03	Water	NWTPH-Dx	03/28/16 12:10	04/01/16 10:07	1040mL/5mL	1000mL/5mL	0.96
A6C1113-04	Water	NWTPH-Dx	03/28/16 13:50	04/01/16 10:07	1040mL/5mL	1000mL/5mL	0.96
A6C1113-05	Water	NWTPH-Dx	03/29/16 08:45	04/01/16 10:07	1050mL/5mL	1000mL/5mL	0.95
A6C1113-06	Water	NWTPH-Dx	03/29/16 08:50	04/01/16 10:07	1020mL/5mL	1000mL/5mL	0.98

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6031001							
A6C1113-04	Water	NWTPH-Gx (MS)	03/28/16 13:50	03/31/16 15:01	5mL/5mL	5mL/5mL	1.00
A6C1113-05	Water	NWTPH-Gx (MS)	03/29/16 08:45	03/31/16 15:01	5mL/5mL	5mL/5mL	1.00
Batch: 6040013							
A6C1113-01	Water	NWTPH-Gx (MS)	03/28/16 12:05	04/01/16 12:44	5mL/5mL	5mL/5mL	1.00
A6C1113-02	Water	NWTPH-Gx (MS)	03/28/16 12:05	04/01/16 12:44	5mL/5mL	5mL/5mL	1.00
A6C1113-03	Water	NWTPH-Gx (MS)	03/28/16 12:10	04/01/16 12:44	5mL/5mL	5mL/5mL	1.00
A6C1113-06	Water	NWTPH-Gx (MS)	03/29/16 08:50	04/01/16 12:44	5mL/5mL	5mL/5mL	1.00

RBDM Compounds (BTEX+) by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6040083							
A6C1113-07RE1	Water	EPA 8260B	03/29/16 10:55	04/05/16 13:09	5mL/5mL	5mL/5mL	1.00
A6C1113-09RE1	Water	EPA 8260B	03/29/16 12:25	04/05/16 13:09	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6040013							
A6C1113-01	Water	EPA 8260B	03/28/16 12:05	04/01/16 12:44	5mL/5mL	5mL/5mL	1.00
A6C1113-06	Water	EPA 8260B	03/29/16 08:50	04/01/16 12:44	5mL/5mL	5mL/5mL	1.00

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6C1113-10	Water	EPA 8260B	03/28/16 00:00	04/01/16 12:44	5mL/5mL	5mL/5mL	1.00
Batch: 6040043							
A6C1113-02RE1	Water	EPA 8260B	03/28/16 12:05	04/04/16 10:39	5mL/5mL	5mL/5mL	1.00
A6C1113-03RE1	Water	EPA 8260B	03/28/16 12:10	04/04/16 10:39	5mL/5mL	5mL/5mL	1.00
A6C1113-08	Water	EPA 8260B	03/29/16 11:00	04/04/16 10:39	5mL/5mL	5mL/5mL	1.00

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

Notes and Definitions

Qualifiers:

F-03	The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
F-12	The result for this hydrocarbon range is primarily due to the presence of individual analyte peaks in the quantitation range. No fuel pattern detected.
F-17	No fuel pattern detected. The Diesel result represents carbon range C12 to C24, and the Oil result represents >C24 to C40.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
Q-30	Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.
Q-31	Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
S-06	Surrogate recovery is outside of established control limits.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
---	QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

Apex Laboratories

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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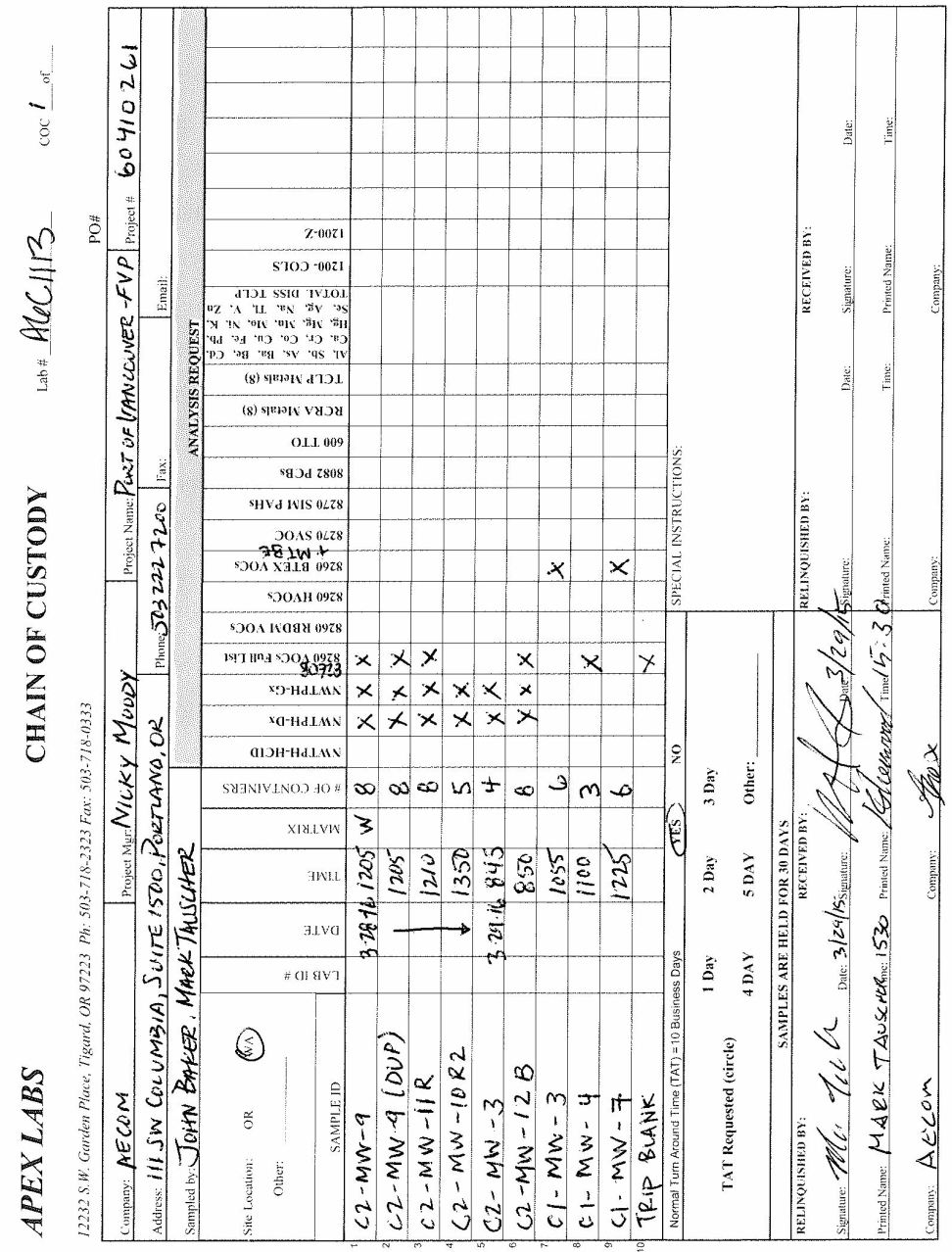
AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04



APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY

Lab # MaC413 COC 1 of

PO#

Company: AECOM | Project Mgr: Nicky Moody | Project Name: Port of Vancouver FVP | Project #: 60410261

Address: 111 SW Columbia, Suite 1500, Portland, OR | Phone: 503 222 7200 | Fax: | Email:

Sampled by: John Baker, Mark Thuscher

ANALYSIS REQUEST

Site Location: OR (WA) Other:

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOCs Full List	8260 RBDM VOCs	8260 HVOCs	8260 BTEX VOCs + MTBE	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200- COLS	1200-Z
1	C2-MW-9		3/28/16	1205	W	8		X	X	X											
2	C2-MW-9 (DUP)			1205		8		X	X	X											
3	C2-MW-11R			1210		8		X	X	X											
4	C2-MW-10R2		↓	1350		5		X	X												
5	C2-MW-3		3/29/16	845		4		X	X												
6	C2-MW-12B			850		8		X	X	X											
7	C1-MW-3			1055		6							X								
8	C1-MW-4			1100		3			X												
9	C1-MW-7			1225		6							X								
10	TRIP BLANK								X												

Normal Turn Around Time (TAT) = 10 Business Days — SPECIAL INSTRUCTIONS: — YES / NO

TAT Requested (circle): 1 Day | 2 Day | 3 Day | 4 DAY | 5 DAY | Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: [illegible] Date: 3/29/16

RECEIVED BY: Signature: [illegible] Date: 3/29/16

RELINQUISHED BY: Signature: [illegible] Date: 3/29/16 Time: 1530 Printed Name: Mark Thuscher Company: AECOM

RECEIVED BY: Signature: [illegible] Date: 3/29/16 Time: 15:30 Printed Name: [illegible] Company: [illegible]

Apex Laboratories

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AECOM	Project: **POV FVP**	
111 SW Columbia St. Ste. 1500	Project Number: 60410261	**Reported:**
Portland, OR 97201	Project Manager: Nicky Moody	04/13/16 18:04

APEX LABS COOLER RECEIPT FORM

Client: Aecom Element WO#: A6 C1113

Project/Project #: Port of Vancouver - FVP / 60410261

Delivery info:

Date/Time Received: 3/29/16 @ 15:30 By: [illegible]

Delivered by: Apex Courier___Client_X_FedEx___UPS___Swift____Senvoy ___SDS___Other_____

Cooler Inspection Inspected by: [illegible] : 3/29/16 @ 15:31

Chain of Custody Included? Yes X No ___

Signed/Dated by Client? Yes X No ___

Signed/Dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (deg. C)	2.7	4.5					
Received on Ice? (Y/N)							
Temp. Blanks? (Y/N)							
Ice Type: (Gel/Real/Other)							
Condition:	good	—					

Cooler out of temp? (Y/N) Possible reason why:

If some coolers are in temp and some out, were green dot applied to out of temperature samples Yes/No/NA

Samples Inspection: Inspected by: [illegible] : 3/30/16 @ 17:50

All Samples Intact? Yes X No ___ Comments:

Bottle Labels/COCs agree? Yes X No ___ Comments:

Containers Appropriate for Analysis? Yes X No ___ Comments:

Cl-MW-7 6/4 Sed MW-10 R2 3/3 Sed

Do VOA Vials have Visible Headspace? Yes ___ No X NA ___

Comments

Water Samples: pH Checked and Appropriate (except VOAs): Yes X No___NA_____

Comments:

Additional Information:

Labeled by: Cooler Inspected by: COB See Project Contact Form: Y

Appendix C
Data Quality Review Report

AECOM
111 SW Columbia
Suite 1500
Portland, OR 97201
www.aecom.com

503 222 7200 tel
503 222 4292 fax

Data Quality Review Report

The data quality review of the eight primary groundwater samples, one field duplicate groundwater sample, and one trip blank collected March 28 and 29, 2016 at the Former Fort Vancouver Plywood Site in Vancouver, Washington has been completed. Samples were submitted to Apex Laboratories (Apex) of Tigard, Oregon. The samples submitted were analyzed for one or more of the following: volatile organic compounds (VOCs) and RBDM compounds (benzene, toluene, ethylbenzene, total xylenes, and methyl tert-butyl ether) (US Environmental Protection Agency [EPA] Method 8260B), gasoline-range hydrocarbons (Method NWTPH-Gx), and diesel- and oil hydrocarbons (Method NWTPH-Dx).

The review included the analytical data presented in Apex report A6C1113. The data was reviewed based on *National Functional Guidelines for Superfund Organic Methods Data Review*, August 2014, and laboratory quality control criteria. Items reviewed included: chain-of-custody (COC) records and sample condition, hold times, surrogate recoveries, laboratory control and laboratory control duplicate results, laboratory duplicate results, field duplicate results, method blank results and trip blank results. Qualifiers assigned as a result of this review are included in Table 1. The following criteria were evaluated during the review:

- COC Records – Acceptable with the following notes:

  The laboratory noted that sediment was visible in the sample containers associated C1-MW-7 (A6C1113-09) and C2-MW-10R2 (A6C1113-04). Any observed matrix interferences associated with the analysis are addressed below. No further qualification is necessary.

- Temperature – Acceptable

- Preservation – Acceptable

- Hold Times – Acceptable

- Trip Blanks – Acceptable

- Method Blanks – Acceptable

- Surrogates – Acceptable with the following exceptions:

  VOCs by EPA Method 8260B – The dibromofluoromethane recovery associated with sample C2-MW-12B (A6C1113-06) was above the upper laboratory limit of 120% at 122%. The potential bias is high and the associated results were non-detect, therefore; no qualification is necessary.

- Laboratory Control Samples (LCS) – Acceptable with the following exceptions:

  RBCA compounds Method 8260B - The LCS recovery of naphthalene in batch 6040043 was below the laboratory limit of 70% at 62%. Naphthalene was not reported with RBDM compounds therefore no action is necessary.

  VOCs by EPA Method 8260B – The LCS recoveries of 2-hexanone (51%), 4-Methyl-2-pentanone (68%), and Naphthalene (59%) in batch 6040013 and 2-Hexanone (50%), 4-Methyl-2-pentanone (67%), and Naphthalene (62%) in batch 6040043 were below the lower laboratory limit of 70%. Some of the low recoveries are associated with a continuing

calibration verification (CCV) which was recovered below the lower control limit (see below). All other associated results were qualified as estimated and flagged 'UJ' for the potential low bias.

- Laboratory Duplicate – Acceptable
- Field Duplicate – Sample C2-MW-9 (DUP) (A6C1113-02) was submitted as a field duplicate of sample C2-MW-9 (A6C1113-01). Relative percent difference calculations were not performed as all sample results were less than five times the method reporting limit.
- Reporting Limits – Acceptable
- Laboratory Notes and Qualifiers –
    - The laboratory noted that the oil result reported for samples C2-MW-9 (A6C1113-01), C2-MW-9 (DUP) (A6C1113-02), and C2-MW-11R (A6C1113-03) were elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported and flagged the result 'F-03'. In addition, the laboratory flagged the oil result reported for sample C2-MW-12B (A6C1113-06) 'F-17' to indicate the oil result represents carbon range >C24 to C40 and no fuel pattern was detected. All of these oil results were detected between the MDL and the MRL and qualified 'J' by the laboratory; no further qualification is necessary.
    - The laboratory noted the gasoline result for sample C2-MW-10R2 (A6C1113-04) is primarily due to the presence of individual analyte peaks in the quantitation range and no fuel pattern detected. The laboratory flagged the result 'F-12'. The result was qualified as estimated and flagged 'J' to remain consistent with project qualifiers.
    - The CCV sample recoveries were below the lower laboratory control criteria for: 2-hexanone, 4-methyl-2-pentanone, and naphthalene in client samples C2-MW-9 (A6C1113-01) and C2-MW-12B (A6C1113-06), and dichlorodifluoromethane, cis-1,3-dichloropropene, and 2-hexanone in client samples C2-MW-9 (DUP) (A6C1113-02RE1), C2-MW-11R (A6C1113-03RE1) and C1-MW-4 (A6C1113-08). In addition, the CCV sample recoveries were also below the lower laboratory criteria for: 2-hexanone, 4-methyl-2-pentanone, and naphthalene in QC samples Trip Blank (A6C1113-10), Blank (6040013-BLK1), and LCS (6040013-BS1), dichlorodifluoromethane, cis-1,3-dichloropropene, 2-hexanone in QC samples Blank (6040043-BLK1), LCS (6040043-BS1), and Duplicate (6040043-DUP1). The laboratory noted the samples results were estimated (biased low) and flagged the results 'Q-31'. The affected client sample results were all non-detect; the results were qualified as estimated and flagged 'UJ' to account for the potential low bias.

Overall Assessment of Data

The completeness of the analytical reports for this groundwater monitoring event is 100%. The usefulness of the data is based on the EPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, with the exception of the field duplicate results, the data are considered usable. The data qualifiers assigned by the laboratory are shown on the laboratory reports.

Data Qualifier Definitions

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.

DNR Do Not Report. Another result is available that is more reliable.

References

EPA, 2014. National Functional Guidelines for Superfund Organic Methods Data Review. August 2014.

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Table 1. Sample Qualification Summary

AECOM Sample ID	Laboratory Sample ID	Analyte	Qualifier	Rationale
C2-MW-9	A6C1113-01	2-Hexanone	UJ	CCV recovery
		4-Methyl-2-pentanone		
		Naphthalene		
C2-MW-9 (DUP)	A6C1113-02RE1	Dichlorodifluoromethane		
		cis-1,3-Dichloropropene		
		2-Hexanone		
		4-Methyl-2-pentanone	UJ	LCS recovery
		Naphthalene		
C2-MW-11R	A6C1113-03RE1	Dichlorodifluoromethane	UJ	CCV recovery
		cis-1,3-Dichloropropene		
		2-Hexanone		
		4-Methyl-2-pentanone	UJ	LCS recovery
		Naphthalene		
C2-MW-12B	A6C1113-06	2-Hexanone	UJ	CCV recovery
		4-Methyl-2-pentanone		
		Naphthalene		
C1-MW-4	A6C1113-08	Dichlorodifluoromethane		
		cis-1,3-Dichloropropene		
		2-Hexanone		
		4-Methyl-2-pentanone	UJ	LCS recovery
		Naphthalene		
C2-MW-10R2	A6C1113-04	Gasoline	J	Compound identification

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