



**Stantec Consulting Corporation**  
12034 134<sup>th</sup> Court NE, Suite 102  
Redmond, WA 98052  
Tel: (425) 298-1000  
Fax: (425) 298-1020

**Quarterly Groundwater Monitoring Report - First Quarter 2010**

**ConocoPhillips Facility No. 255028 (RM&R #01344)**

**Washington Department of Ecology Voluntary Cleanup Program ID #NW1290**  
**247 D Street**  
**Blaine, Washington**

**Stantec Project No.:**  
**212302363**

**Submitted to:**  
**Ms. Jing Liu**  
**Washington State Department of Ecology**  
**3190 160<sup>th</sup> Avenue SE**  
**Bellevue, WA 98008-5452**

**Submitted by:**  
**Stantec Consulting Corporation**  
**12034 134<sup>th</sup> Court NE, Suite 102**  
**Redmond, WA 98052**

**Prepared on behalf of:**  
**ConocoPhillips Company**

**March 23, 2010**

Dear Ms. Liu:

Stantec Consulting Corporation (Stantec) is pleased to present this quarterly groundwater monitoring report to the Washington State Department of Ecology (DOE) Voluntary Cleanup Program (VCP) on behalf of the ConocoPhillips Company (ConocoPhillips). This report describes the results of groundwater monitoring activities performed by Stantec during the First Quarter of 2010 (the reporting period) at ConocoPhillips Facility No. 255028 (RM&R #01344; VCP #NW1290) located at 247 D Street in Blaine, Washington (the Site).

### **GROUNDWATER MONITORING ACTIVITIES**

Groundwater monitoring activities during the reporting period were performed on February 25, 2010. Groundwater monitoring activities were performed in accordance with Stantec's protocols for groundwater monitoring events (Attachment A).

Four groundwater monitoring wells were gauged and sampled (MW-3, MW-4, MW-7, and MW-8). These activities are described below.

#### **Monitoring Well Gauging**

Four groundwater monitoring wells were gauged: MW-3, MW-4, MW-7, and MW-8. Monitoring wells were gauged for the presence of liquid phase hydrocarbons (LPH) and depth-to-groundwater prior to purging and sampling. LPH was not measured in the groundwater monitoring wells at thicknesses greater than or equal to 0.01 feet. The depth-to-groundwater ranged from 0.70 feet (MW-7) to 2.55 feet (MW-4) below the top of casing (TOC). Depth-to-groundwater data was used to calculate the groundwater elevation in each well and evaluate the groundwater flow direction and gradient. Historical groundwater gauging data and gauging data from the reporting period are summarized in Table 1. Well locations and groundwater flow direction are shown on Figure 1. Based on these data, the inferred groundwater flow direction was to the southeast at an approximate gradient of 0.03 feet per foot (ft/ft).

#### **Monitoring Well Purging**

Wells intended to be sampled were purged after gauging. Groundwater was purged from the wells using low-flow methods, which included using a peristaltic pump and dedicated polyethylene tubing. Water quality parameters were measured during purging and recorded on field data sheets (Attachment B). Purged groundwater and rinsate/decontamination water were stored on site in a Department of Transportation (DOT)-approved, steel drum pending laboratory characterization and off site disposal.

**Monitoring Well Sampling**

Following purging operations, groundwater samples were collected using a peristaltic pump and placed directly into pre-cleaned sample containers provided by an independent laboratory.

Once the sample containers were filled and sealed, they were labeled with the pertinent sampling information, and placed on ice in an insulated cooler for delivery under chain-of-custody documentation to an independent laboratory.

**CHEMICAL ANALYSES AND RESULTS****Chemical Analyses**

Groundwater samples collected during the reporting period were submitted to Pace Analytical Services, Inc. (Pace) in Seattle, Washington for the following chemical analyses:

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary butyl ether (MTBE) and halogenated volatile organic compounds (HVOCs) using Environmental Protection Agency (EPA) Method 8260B.

Chemical analyses results are described below. A copy of the certified laboratory analytical report and chain-of-custody documentation from Pace are included in Attachment C.

**Chemical Analyses Results**

Historical chemical analyses results and those from the reporting period are summarized in Table 1. Analytical results for total petroleum hydrocarbons as gasoline (TPH-G), as diesel (TPH-D), as oil (TPH-O), BTEX, MTBE, and select HVOCs are illustrated on Figure 2.

A summary of the analytical results exceeding Model Toxics Control Act (MTCA) Method A cleanup levels is provided below. Analytical results not described below did not exceed MTCA Method A cleanup levels.

- Vinyl chloride was detected in MW-4 and MW-7 at concentrations of 0.27 and 2.3 micrograms per liter ( $\mu\text{g/L}$ ), respectively, which exceed the MTCA Method A cleanup level of 0.2  $\mu\text{g/L}$ . These results are generally consistent with data from other recent groundwater monitoring events.

It should be noted that cis-1,2-Dichloroethene (cis-1,2-DCE) was detected in MW-4, MW-7, and MW-8 at concentrations of 13.1, 2.6 and 8.1 µg/L, respectively. There is no default MTCA Method A cleanup level for cis-1,2-DCE.

#### **Laboratory Quality Assurance/Quality Control (QA/QC)**

A copy of the analytical report for the samples collected during the reporting period is included in Appendix C. Please refer to the analytical report for a description of QA/QC methods and potential concerns (if any) that were identified during chemical analysis.

#### **WASTE DISPOSAL**

Purge and rinsate water generated during the monitoring and sampling event were temporarily stored on site in a labeled, DOT-approved, steel drum. The drum and its contents will be transported off-site to a licensed disposal or recycling facility by a licensed ConocoPhillips-approved vendor

#### **CONCLUSIONS**

Concentrations of vinyl chloride in MW-4 and MW-7 exceeded the MTCA Method A cleanup level. Cis-1,2-DCE was detected in MW-4, MW-7, and MW-8; however, there is no default MTCA Method A cleanup level for cis-1,2-DCE. The reported results are generally consistent with data from other recent groundwater monitoring events.

#### **LIMITATIONS AND CERTIFICATIONS**

This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the site. It was prepared for the exclusive use of ConocoPhillips Company for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigations. No other warranties, expressed or implied are made by Stantec.

**Stanlec**

**Quarterly Groundwater Monitoring Report - First Quarter 2010**

March 23, 2010

**Prepared by:**

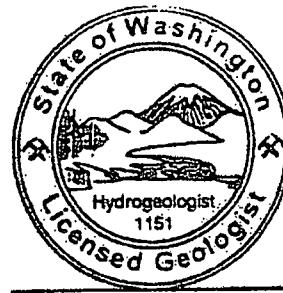
*Jenny Parise for*

Andrea Donnell  
Geologic Staff

**Reviewed by:**

*Mark Trewartha*

Mark Trewartha, R.G.  
Senior Hydrogeologist



Mark A. Trewartha

**ATTACHMENTS**

Figure 1 Site Plan with Groundwater Elevations (February 25, 2010)

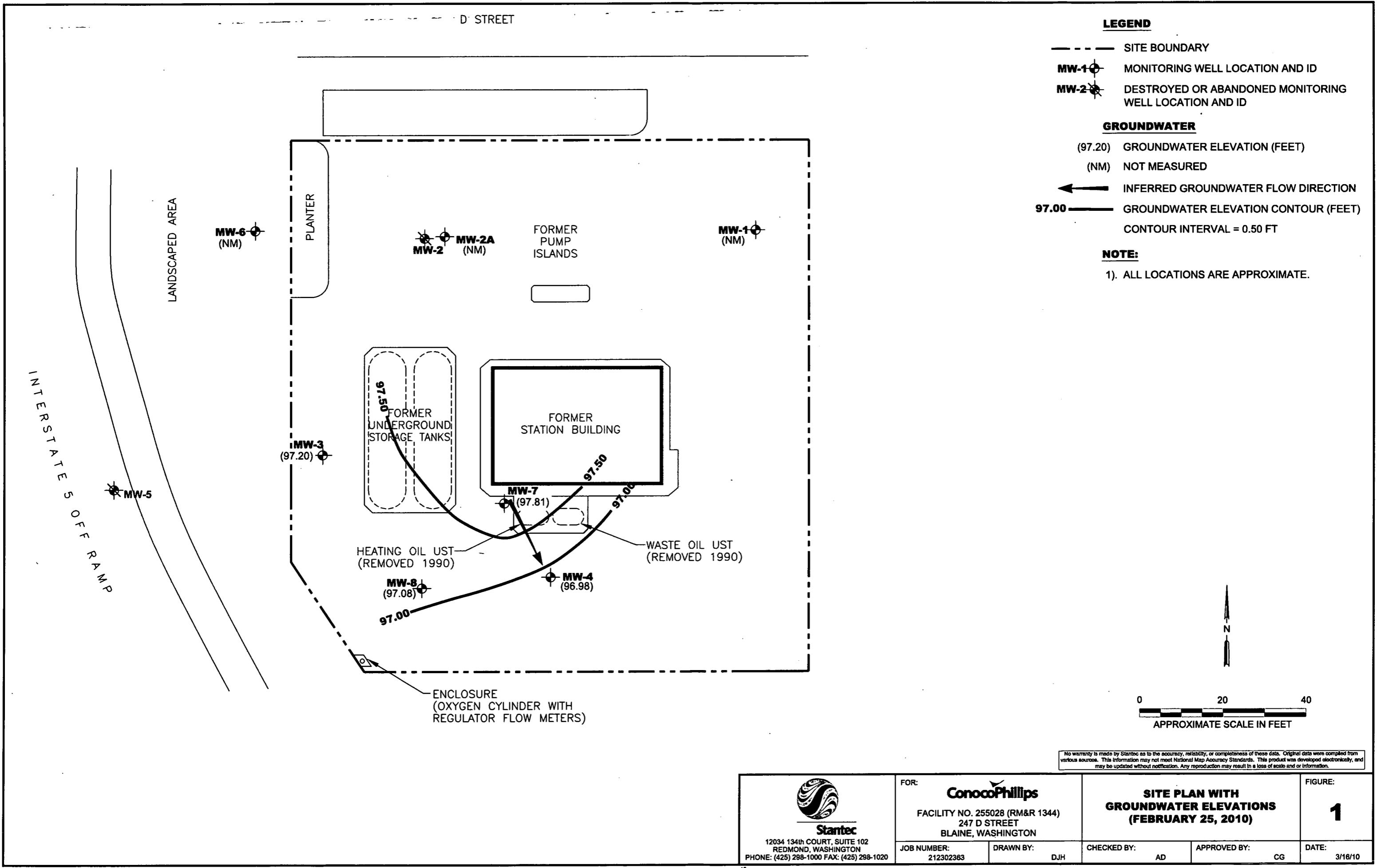
Figure 2 Site Plan with Analytical Results (February 25, 2010)

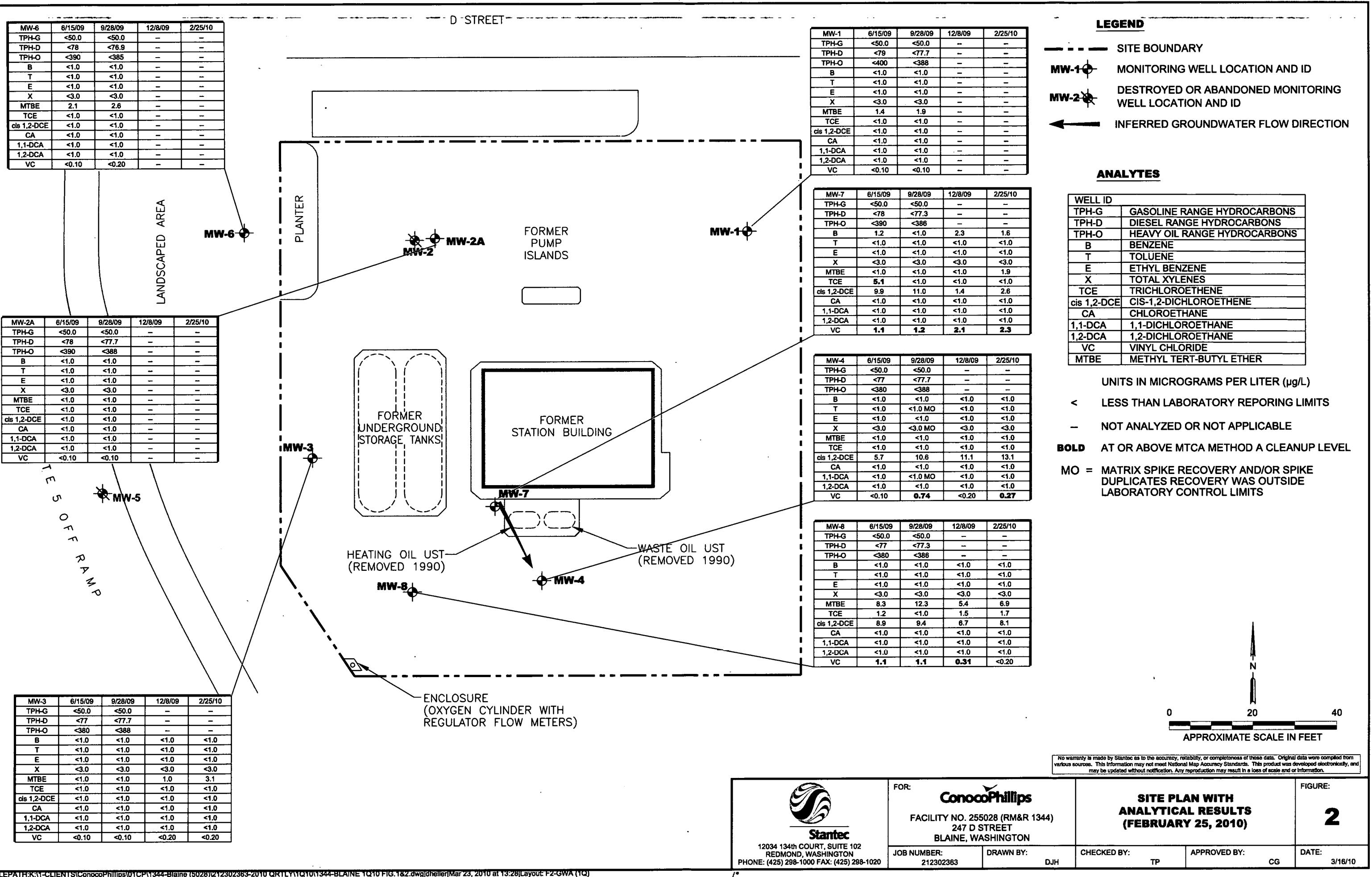
Table 1 Cumulative Summary of Groundwater Elevations and Sample Analytical Results

Attachment A Field and Laboratory Procedures

Attachment B Field Data Sheets

Attachment C Certified Laboratory Analytical Report and Chain-of-Custody Documentation





**TABLE I**  
**CUMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS**  
ConocoPhillips Facility No. 755028 (RM3R 1344)  
247 D Street  
Bainbridge, Washington

Well Name TOC Elevation	Sample Date	Elevation Data (ft)		Total Petroleum Hydrocarbons			Aromatic Hydrocarbons			Halogenated Volatile Organic Compounds						
		Depth to Water	LPH Thickness	TPh-Q (µg/L)	TPh-D (µg/L)	TPh-H (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TCE (µg/L)	de-1,2-DCE (µg/L)	CA (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)
MW-1	07/09/00	4.35	-	95.07	<50	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-
100-42	10/16/4	4.60	-	95.62	<50	<250	<750	<0.5	<0.5	<1.0	-	-	-	-	-	-
	01/7/95	3.60	-	95.62	<50	<250	<750	<0.5	<0.5	<1.0	-	-	-	-	-	-
	04/7/95	3.77	-	95.65	<50	<250	<750	<0.5	<0.5	<1.0	-	-	<1.0	<1.0	<1.0	<1.0
	05/1/95	5.13	-	95.65	<50	<250	<750	<0.5	<0.5	<1.0	-	-	-	-	-	-
	10/2/95	4.28	-	95.14	<50	<250	<750	<0.5	<0.5	<1.0	-	-	-	-	-	-
	01/17/98	2.65	-	97.47	<50	<250	<750	<0.5	<0.5	<1.0	-	-	-	-	-	-
	04/1/98	3.30	-	97.12	-	-	-	-	-	-	-	-	-	-	-	-
	07/2/98	4.13	-	95.29	<50	<250	<750	<0.5	<0.5	<1.0	-	-	-	-	-	-
	07/7/98	4.47	-	95.58	<50	<250	<750	<0.5	<0.5	<1.0	-	-	-	-	-	-
	09/1/98	6.19	-	94.23	-	-	-	-	-	-	-	-	-	-	-	-
	09/7/98	5.65	-	94.77	142	387	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	-	-
	11/2/98	4.02	-	95.40	-	-	-	-	-	-	-	-	-	-	-	-
	07/1/99	4.01	-	95.47	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	<1.00	<1.00	<1.00	<1.00
	05/1/99	3.21	-	95.11	-	-	-	-	-	-	-	-	-	-	-	-
	09/1/99	4.94	-	95.48	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	<1.00	<1.00	<1.00
	11/1/99	4.28	-	95.14	-	-	-	-	-	-	-	-	-	-	-	-
	07/1/99	4.08	-	95.34	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	<1.00	<1.00	<1.00	<1.00
	09/7/99	4.60	-	95.52	138	<250	<750	<0.500	<0.500	<0.500	<1.00	-	<1.00	<1.00	<1.00	<1.00
	09/1/00	4.48	-	95.48	-	-	-	-	-	-	-	-	-	-	-	-
	12/1/00	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/1/00	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/1/00	4.68	-	95.48	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	<1.00	<1.00	<1.00	<1.00
	05/3/00	5.00	-	95.42	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	-	-
	11/1/00	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/1/01	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/1/01	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/1/01	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/1/02	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/1/02	4.16	-	95.74	-	-	-	-	-	-	-	-	-	-	-	-
	05/9/02	4.66	-	95.56	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	-	-
	12/4/02	4.50	-	95.92	<50.0	<267	<757	<0.500	<0.500	<0.500	<1.00	-	-	-	-	-
	03/04/03	3.81	-	95.61	-	-	-	-	-	-	-	-	-	-	-	-
	04/1/03	4.00	-	95.44	-	-	-	-	-	-	-	-	-	-	-	-
	12/1/03	3.97	-	95.63	-	-	-	-	-	-	-	-	-	-	-	-
	02/4/04	3.540	-	95.66	-	-	-	-	-	-	-	-	-	-	-	-
	06/17/04	3.61	-	95.61	-	-	-	-	-	-	-	-	-	-	-	-
	08/2/04	3.46	-	95.68	-	-	-	-	-	-	-	-	-	-	-	-
	12/7/04	3.13	-	97.29	-	-	-	-	-	-	-	-	-	-	-	-
	02/5/05	3.24	-	95.84	-	-	-	-	-	-	-	-	-	-	-	-
	04/6/05	5.57	-	95.85	-	-	-	-	-	-	-	-	-	-	-	-
	09/1/05	3.57	-	95.85	-	-	-	-	-	-	-	-	-	-	-	-
	12/1/05	3.47	-	95.65	-	-	-	-	-	-	-	-	-	-	-	-
	3/7/06	2.65	-	97.57	-	-	-	-	-	-	-	-	-	-	-	-
	02/1/06	3.02	-	95.88	-	-	-	-	-	-	-	-	-	-	-	-
	04/2/06	6.02	-	94.46	-	-	-	-	-	-	-	-	-	-	-	-
	12/7/06	4.98	-	95.44	-	-	-	-	-	-	-	-	-	-	-	-
	03/5/07	4.29	-	95.13	-	-	-	-	-	-	-	-	-	-	-	-
	06/2/07	4.38	-	95.04	-	-	-	-	-	-	-	-	-	-	-	-
	08/1/07	4.60	-	95.41	-	-	-	-	-	-	-	-	-	-	-	-
	12/4/07	3.92	-	95.50	-	-	-	-	-	-	-	-	-	-	-	-
	03/0/08	3.94	-	95.48	-	-	-	-	-	-	-	-	-	-	-	-
	09/1/08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	09/9/08	4.30	-	95.12	-	-	-	-	-	-	-	-	-	-	-	-
	12/1/08	-	-	MCHIT DRILLING WELL WAS NOT GAUGED OR SAMPLED	-	-	-	-	-	-	-	-	-	-	-	-
	03/1/09	4.65	-	95.77	<50.0	479	4400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	09/2/09	5.23	-	95.19	<50.0	<77.7	<388	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/09	4.80	-	95.62	-	-	-	-	-	-	-	-	-	-	-	-
	02/2/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
											Gauged only, not part of the sampling schedule the reporting period.					
											Not gauged or sampled					

**TABLE II**  
CUMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS  
ConocoPhillips Facility No. 250202 (RMAR 134)  
247 D Street  
Bainbridge, Washington

Well Name	Sample Date	Elevation Data (feet)				Total Petroleum Hydrocarbons						Aromatic Hydrocarbons						Halogenated Volatile Organic Compounds					
		Depth to Water	LPH Thickness	EW Elevation (ft.+)	TPh+O (μg/L)	TPh+O (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethylbenzene (μg/L)	Xylenes (μg/L)	M10E (μg/L)	TCE (μg/L)	cis-1,2-DCE (μg/L)	CA (μg/L)	1,1-DCA (μg/L)	1,2-DCA (μg/L)	VC (μg/L)						
MW-2	07/20/05	-	-	94.05	-750	-	650	-100	-100	-100	-	-	-	-	-	-	-						
BB-49	10/11/04	5.50	-	93.20	5,000	380	<750	57	270	320	-	-	-	-	-	-	-						
	01/20/05	4.10	-	94.30	14,000	690	<750	5,400	1,300	800	2,310	-	<10	<10	<10	<10	<10						
	04/21/05	4.23	-	94.26	16,000	680	<750	6,600	650	810	2,600	-	-	-	-	-	-						
	07/24/05	4.71	-	93.78	4,600	690	<750	4,200	85	430	600	-	-	-	-	-	-						
	10/25/05	4.04	-	94.45	12,000	1,200	<750	8,800	300	800	2,000	-	-	-	-	-	-						
	01/26/05	3.87	-	94.02	12,000	750	<750	1,200	350	600	2,600	-	-	-	-	-	-						
	04/16/05	2.67	-	94.02	31,000	670	<750	5,600	1,800	1,100	4,300	-	-	-	-	-	-						
	07/25/05	4.29	-	94.20	5,700	680	<750	7,970	180	403	901	-	-	-	-	-	-						
	10/16/05	3.95	-	94.53	8,800	250	<750	5,240	752	436	1,120	-	-	-	-	-	-						
	02/27/07	3.67	-	94.62	18,000	780	<750	6,780	851	832	2,800	-	-	-	-	-	-						
	02/28/07	3.65	-	94.61	17,500	750	<750	6,600	780	849	2,750	-	-	-	-	-	-						
	02/29/07	2.41	-	94.05	22,500	250	<750	8,820	716	653	2,230	-	-	-	-	-	-						
	11/25/07	3.42	-	95.01	42,400	993	<750	9,070	1,332	1,870	6,870	-	<20	<20	<20	<20	<20						
	02/13/08	3.05	-	95.44	27,600	455	<750	8,020	804	1,540	5,260	-	<100	<100	<100	<100	<100						
	05/19/08	3.71	-	94.76	54,200	1,200	<750	12,200	2,820	2,840	9,870	-	<100	<100	<100	<100	<100						
	05/26/08	3.71	-	94.76	54,200	780	<750	12,110	2,820	2,840	9,870	-	<100	<100	<100	<100	<100						
	11/10/08	4.16	-	94.31	50,100	700	<750	12,150	2,500	5,150	9,870	-	<200	<200	<200	<200	<200						
	02/21/09	2.98	-	92.83	24,200	383	<750	7,250	438	1,840	5,070	-	<200	<200	<200	<200	<200						
	05/21/09	3.18	-	95.33	65,800	2,120	<750	8,960	3,890	3,100	12,000	-	<100	<100	<100	<100	<100						
	05/21/09	3.56	-	94.93	58,100	881	<750	10,600	1,340	3,680	13,500	-	<100	<100	<100	<100	<100						
	12/07/09	3.73	-	95.25	17,700	3,380	<750	8,210	589	1,780	2,200	-	<100	<100	<100	<100	<100						
	02/13/10	3.71	-	94.87	21,400	133	<750	8,510	2,020	2,200	2,500	-	<100	<100	<100	<100	<100						
	05/01/10	3.10	-	94.89	44,700	837	<750	8,930	793	3,230	9,840	-	<100	<100	<100	<100	<100						
	06/21/10	4.05	-	93.64	33,800	1,020	<750	10,400	110	3,120	5,280	-	-	-	-	-	-						
	11/01/10	3.78	-	94.71	33,800	780	<1,330	7,330	677	2,880	6,830	-	<100	<100	<100	<100	<100						
	02/02/11	2.94	-	95.50	14,100	1,040	<750	5,640	145	1,820	2,250	-	<100	<100	<100	<100	<100						
	02/02/11	2.55	-	95.50	14,100	1,180	<750	5,000	1,010	1,820	2,250	-	<400	<400	<400	<400	<400						
	02/02/11	2.55	-	95.50	14,100	1,180	<750	5,000	1,010	1,820	2,250	-	<100	<100	<100	<100	<100						
	12/09/11	2.95	-	93.94	21,600	1,660	<2,603	1,140	451	3,620	8,790	-	<100	<100	<100	<100	<100						
	11/01/01	4.40	-	94.05	29,000	1,430	<750	5,180	149	2,880	3,600	-	<100	<100	<100	<100	<100						
	02/04/02	2.10	-	95.36	20,800	1,170	<500	4,280	341	1,710	2,190	-	-	-	-	-	-						
MONITORING WELL DESTROYED																							
MW-2A	12/14/02*	2.96	-	98.21	<50.0	323	<500	<500	<500	<500	<1.00	-	-	-	-	-	-						
99-17	03/05/03	2.62	-	99.55	<50.0	<501	<502	1.21	<500	<500	<1.00	-	<1.00	<1.00	<1.00	<1.00	<1.						
	05/06/03	3.15	-	98.02	<50.0	<250	<500	<500	<500	<500	<1.00	-	<200	<200	<200	<200	<200						
	12/17/03	1.78	-	97.39	<50.0	<119	<250	<500	<500	<1.50	-	<500	<500	<500	<500	<500	1.63						
	03/24/04	2.00	-	97.01	<100*	<152	<250	<500	<500	<1.00*	<1.00*	<500	<500	<500	<500	<500	<500						
	03/24/04	2.00	-	97.01	<100*	<152	<250	<500	<500	<1.00*	<1.00*	<500	<500	<500	<500	<500	<500						
	04/12/04	1.54	-	97.63	<50	<255	<511	<150	<50	<50	<1.0	-	<50	<50	<50	<50	<50						
	12/29/04	0.68	-	98.29	<100	<241	<451	<100	<100	<100	<300	-	<1.0	<1.0	<1.0	<1.0	<1.						
	03/33/05	3.03	-	98.14	<100	<240	<450	<100	<100	<100	<300	-	<1.0	<1.0	<1.0	<1.0	<1.						
	05/06/05	3.19	-	98.02	<100	<238	<450	<101	<101	<101	<301	-	<1	<1	<1	<1	<1						
	05/06/05	3.19	-	98.01	<100	<238	<450	<101	<101	<101	<301	-	<1	<1	<1	<1	<1						
	12/11/05	2.61	-	99.55	<48	<76	<95	<1.0	<2	<0.2	<0.8	0.4	<1	<0.8	<1	<1	<1						
	02/07/06	2.68	-	99.49	<48	<76	<95	<1.0	<2	<0.2	<0.8	-0.3	<1	<0.8	<1	<1	<1						
	02/07/06	3.5	-	99.67	<48	<75	<94	<1.0	<2	<0.2	<0.8	-0.3	<1	<0.8	<1	<1	<1						
	09/05/06	2.48	-	99.05	<48	<76	<95	<1.0	<2	<0.2	<0.8	-0.5	<1	<0.8	<1	<1	<1						
	12/10/08	-	Removed from sampling schedule this quarter	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
	02/06/09	1.62	-	97.35	<50.0	-	-	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0						
	02/06/09	1.62	-	97.35	<50.0	78	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0						
	02/06/09	1.62	-	97.35	<50.0	78	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0						
	02/06/09	3.43	-	95.74	<50.0	<77.7	<358	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0						
	12/30/09	1.70	-	95.72	-	-	-	-	-	-	-	-	-	-	-	-	-						
	Gauge only - not part of the sampling schedule this reporting period.																						
	02/28/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						

TABLE 1 CUMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS															
Conoco/Philipps Facility No. 250020 (RMER 1344) 247 D Street Bainbridge Island, Washington															

Well Name	Sample Date	Elevation Data (ft)	Total Petroleum Hydrocarbons	Aromatic Hydrocarbons	Halogenated Volatile Organic Compounds										
TOD Elevation	Depth to Water	LPH Thickness	TPH-O (µg/L)	TPH-D (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TCE (µg/L)	o,p-1,2-DCE (µg/L)	C4 (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	VC (µg/L)
MW-3	07/05/05	-	94.18	1,000	-	48	29	77	-	-	-	-	-	-	-
BB-37	10/21/04	3.34	93.03	2,000	1,200	<750	1,130	2,300	<20	-	-	-	-	-	-
	01/29/05	5.54	-	93.03	7,800	2,800	<750	890	<10	210	150	-	-	-	-
	04/21/05	6.63	-	91.04	6,300	1,800	<750	100	11	130	91	-	-	-	-
	07/24/05	6.54	-	92.03	<50	1,700	<750	6	<0.5	0.00	<1.0	-	-	-	-
	10/25/05	5.59	-	93.18	11,000	2,400	<750	840	5.8	130	34	-	-	-	-
	03/15/06	6.39	-	93.18	2,400	1,700	<750	260	11	55	16	-	-	-	-
	04/11/06	3.72	-	94.95	7,600	1,200	<750	380	5.5	61	22	-	-	-	-
	07/25/06	4.74	-	93.63	4,240	997	<750	<1.0	40.2	<10.0	-	-	-	-	-
	10/15/06	5.22	-	93.35	4,040	<750	<750	91	1.85	27.2	5.04	-	-	-	-
	07/27/07	3.79	-	93.78	2,580	<250	<750	281	<2.0	24	6.01	-	-	-	-
	05/17/07	4.35	-	93.08	1,000	3,100	<750	34	<1.0	30	2.2	-	-	-	-
	06/18/07	4.72	-	93.65	1,740	2,900	<750	338	1.98	16.3	4.45	-	-	-	-
	11/25/07	4.19	-	94.36	1,840	733	<750	36.3	1.80	5.03	3.71	-	-	-	-
	07/1/08	4.35	-	94.72	1,850	497	<750	63.6	1.89	4.91	2.99	-	-	-	-
	05/19/08	4.78	-	93.70	2,850	587	<750	83.8	<5.00	9.07	<5.00	-	-	-	-
	07/3/08	5.29	-	93.28	2,980	<250	<750	84.4	3.76	<5.00	<5.00	-	-	-	-
	11/15/08	4.49	-	93.68	1,950	-	-	42.1	<10.0	2.64	<5.00	-	-	-	-
	02/17/09	Observations	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/2/09	4.21	-	94.36	1,100	978	<750	53.8	10.8	4.72	<2.00	-	-	-	-
	06/1/09	4.40	-	94.17	3,030	874	<750	314	23.2	15.0	4.75	-	-	-	-
	12/7/09	4.65	-	93.71	1,910	568	<750	211	12.0	<5.00	<10.0	-	-	-	-
	05/6/10	4.71	-	94.43	2,250	1,030	<750	30	5.5	11.2	3.0	-	-	-	-
	06/1/10	4.62	-	93.95	2,250	450	<750	273	0.08	72.5	7.03	-	-	-	-
	06/3/10	4.97	-	93.90	3,070	622	<750	268	5.68	0.41	<10.0	-	-	-	-
	11/1/10	4.72	-	93.85	2,190	781	<1,670	138	5.98	<2.05	3.75	-	-	-	-
	02/27/11	5.65	-	92.72	<50.0	<750	<750	<500	<0.500	<0.500	<1.00	-	-	-	-
	05/2/11	3.85	-	93.18	1,900	1,620	<750	127	1.41	1.00	<1.0	-	-	-	-
	08/1/11	3.31	-	94.45	2,180	558	<750	313	0.712	1.94	4.54	-	-	-	-
	11/2/11	4.18	-	94.36	774	704	<500	42.5	<0.500	0.556	1.47	-	-	-	-
	02/6/12	3.91	-	94.05	881	491	<500	30.4	<0.500	0.753	1.78	-	-	-	-
	05/6/12	4.32	-	94.25	807	633	<750	42.5	4.87	1.45	1.63	4.48	-	-	-
	11/2/12	5.11	-	93.44	2,170	421	<750	35.1	0.08	1.51	1.67	-	-	-	-
	4/4/13	4.40	-	94.45	354	220	<750	17.9	<0.500	<0.500	<1.00	-	-	-	-
	05/10/13	2.25	-	96.52	372	<287	<750	38.8	<0.500	<0.500	<1.00	-	-	-	-
	05/6/13	5.55	-	93.02	934	483	588	138	5.00	2.47	9.41	-	-	-	-
	12/1/13	7.31	-	96.26	95.4	<119	<237	8.8	<0.500	<0.500	<1.50	-	-	-	-
	03/7/14	3.18	-	95.30	<100	<133	<250	8.7	<1.00	<1.00	<0.50	-	-	-	-
	07/2/14	3.40	-	95.07	<100	<100	<250	0.8	<0.50	<0.50	<1.00	-	-	-	-
	08/2/14	5.06	-	93.52	200	<10	<150	1.3	<0.50	<0.50	<1.0	-	-	-	-
	03/2/15	4.14	-	97.00	<100	<225	<470	477	<1.00	<1.00	<1.00	-	-	-	-
	12/2/15	1.54	-	93.00	<100	<225	<470	478	<1.00	<1.00	<1.00	-	-	-	-
	03/6/16	1.98	-	96.56	<100	<238	<478	478	<1.00	<1.00	<1.00	-	-	-	-
	06/9/16	2.01	-	95.05	<100	<238	<478	483	<1	<1	<3.88	-	-	-	-
	09/1/16	3.97	-	96.66	<100	<238	<478	483	<1	<1	4.1	-	-	-	-
	12/7/16	3.61	-	94.06	448	476	<505	0.3	<0.2	<0.2	<0.8	8.2	<1	<0.6	<1
	03/7/17	2.97	-	95.00	448	475	<505	<0.2	<0.2	<0.2	<0.8	6.5	<1	<0.6	<1
	06/7/17	3.1	-	95.47	448	475	<505	<0.2	<0.2	<0.2	<0.8	1.3	<1	<0.8	<1
	08/6/16	6.78	-	91.79	448	476	<505	<0.5	<0.7	<0.8	<0.8	2	<1	<0.6	<1
	11/1/16	2.47	-	96.44	448	476	<505	0.5	<0.7	<0.8	<0.8	4.1	<1	<0.6	<1
	05/1/17	2.05	-	95.52	448	476	<505	0.5	<0.7	<0.8	<0.8	1.6	2	<0.8	<1
	06/2/17	3.71	-	94.66	<50	476	<505	<0.5	<0.7	<0.8	<0.8	2	<1	<0.6	<1
	08/2/17	5.25	-	93.32	<50	477	<505	<0.5	<0.7	<0.8	<0.8	4	<1	<0.8	<1
	12/4/17	0.76	-	97.61	<50	477	<505	<0.5	<0.7	<0.8	<0.8	3	<1	<0.6	<1
	03/2/18	5.65	-	95.19	<50	476	<505	<0.5	<0.7	<0.8	<0.8	5	<1	<0.6	<1
	05/2/18	3.67	-	96.00	<50	474	<505	<0.5	<0.7	<0.8	<0.8	0.7	<1	<0.8	<1
	06/2/18	3.60	-	94.97	<50	477	<505	<0.5	<0.7	<0.8	<0.8	0.7	<1	<0.8	<1
	12/1/18	3.70	-	94.87	<50.0	-	-	<1.0	<1.0	<1.0	<0	-	-	-	-
	03/6/19	3.61	-	95.52	<50.0	277	<500	-	-	-	-	-	-	-	-
	05/2/19	3.14	-	93.53	<50.0	477.7	<505	413	<1.0	<1.0	<1.0	-	-	-	-
	12/2/19	3.02	-	95.56	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	-	-
	02/25/19	1.37	-	97.70	-	-	-	<1.0	<1.0	<1.0	<3.0	3.1	<1.0	<1.0	<1.0
	Removed from sampling schedule this quarter.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03/6/09	3.70	-	94.87	<50.0	-	-	<1.0	<1.0	<1.0	<0	2.5	<1.0	<1.0	<1.0
	05/4/09	3.60	-	95.52	<50.0	277	<500	-	-	-	-	-	-	-	-
	02/1/09	3.14	-	93.53	<50.0	477.7	<505	413	<1.0	<1.0	<1.0	-	-	-	-
	12/2/09	3.02	-	95.56	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	-	-
	02/25/10	1.37	-	97.70	-	-	-	<1.0	<1.0	<1.0	<3.0	3.1	<1.0	<1.0	<1.0

**TABLES1**  
**CUMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS**  
 ConocoPhillips Facility No. 255028 (RM&R 134)  
 247 D Street  
 Bellingham, Washington

Well Name	Sample Date	Elevation Data (feet)		Total Petroleum Hydrocarbons			Aromatic Hydrocarbons			Halogenated Volatile Organic Compounds							
		Depth to Water	Thickness	TPh-O (µg/L)	TPh-O (µg/L)	TPh-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	CA (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	VC (µg/L)
MW-4	07/09/05	-	94.75	<50	370	<1,000	<1.0	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	<1"
05/11/04	5.50	-	94.05	<50	250	<750	<0.5	<0.5	<0.5	<1.0	-	-	-	9.6	<1.0	<1.0	<1"
05/33	-	-	-	-	250	<750	<0.5	<0.5	<0.5	<1.0	-	-	-	9.6	<1.0	<1.0	<1"
01/20/05	6.53	-	93.00	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	-	-	-	8.9	<1.0	<1.0	<1"
04/21/05	6.67	-	92.91	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	-	-	-	8.6	<1.0	<1.0	<1"
07/24/05	6.63	-	92.70	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	-	-	-	8.6	<1.0	<1.0	<0.5 <1"
10/25/05	6.41	-	93.12	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	-	-	-	1.1	<1.0	<1.0	<0.5 <1"
07/17/05	6.65	-	92.55	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	-	-	-	7.8	<1.0	<1.0	<0.5 <1"
04/18/06	4.13	-	90.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07/7/06	4.88	-	94.85	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	-	-	-	5.15	<1.0	<1.0	<0.5 <1"
10/18/06	6.55	-	92.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/27/07	6.05	-	93.45	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	8.33	<1.00	<1.00	<1.00
05/21/07	5.83	-	93.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05/21/07	6.04	-	93.49	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	10.3	<1.00	<1.00	<1.00
11/2/07	4.68	-	94.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/13/08	4.89	-	94.64	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	7.76	<1.00	<1.00	<1.00
05/19/08	5.11	-	94.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05/26/08	5.20	-	94.00	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	5.38	<1.00	<1.00	<1.00
11/1/08	5.49	-	94.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/17/09	4.72	-	94.81	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	9.01	<1.00	<1.00	<1.00
05/25/09	4.68	-	94.87	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	6.93	<1.00	<1.00	<1.00
05/21/09	4.98	-	94.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/17/09	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03/14/10	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05/1/10	4.78	-	94.75	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	8.11	<1.00	<1.00	<1.00
05/31/10	5.44	-	94.90	<50.0	<983	<1300	<0.500	<0.500	<0.500	<1.00	-	-	-	-	-	-	-
11/1/10	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/2/11	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05/1/11	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/1/11	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/1/12	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05/1/12	NM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07/1/12	3.00	-	94.53	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	-	-	-	-
12/24/12	4.79	-	95.72	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-	-	-	-	-	-	-
03/25/13 <sup>19</sup>	4.80	-	94.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05/26/13	4.98	-	94.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/1/13	4.075	-	95.505	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03/24/14	3.40	-	95.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06/27/14	3.57	-	95.95	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	-	-	-	26	<1.0	<0.50	<0.50 <b>3.8</b>
12/26/04	3.90	-	95.83	<100	<250	<478	<1.00	<1.00	<1.00	<3.00	-	-	-	23.5	<1.0	<1.0	<1.0 <b>2.58</b>
05/4/05	4.57	-	94.95	<100	<250	<482	<1.00	<1.00	<1.00	<3.00	-	-	-	23.8	<1.0	<1.0	<1.0 <b>&lt;1"</b>
05/00/05	3.83	-	95.70	<100	<250	<478	<1	<1	<1	<1	-	-	-	32.5	<1.0	<1.0	<b>2.24</b>
05/2/07	3.67	-	95.60	<100	<250	<478	<0.5	<0.5	<0.5	<1.5	-	-	-	32.5	<1	<1	<1" <b>3.5</b>
12/1/05	3.56	-	95.67	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	-	-	-	14	<1	<1	<1" <b>&lt;1"</b>
03/07/06	3.88	-	95.87	<48	<75	<92	<0.2	<0.2	<0.2	<0.8	-	-	-	14	<1	<1	<1" <b>&lt;1"</b>
05/27/06	3.7	-	95.83	<48	<75	<94	<0.2	<0.2	<0.2	<0.8	-	-	-	15	<1	<1	<1" <b>&lt;1"</b>
08/06/06	6.13	-	93.36	<48	<75	<95	<0.2	<0.2	<0.2	<0.8	-	-	-	34	<1	<1	<1" <b>&lt;1"</b>
12/1/07	2.52	-	97.01	<48	<75	<95	<0.5	<0.5	<0.5	<1.0	-	-	-	24	<1	<1	<1" <b>&lt;1"</b>
05/21/07	4.05	-	95.45	<50	<78	<95	<0.5	<0.7	<0.6	<0.8	-	-	-	15	<1	<1	<1" <b>&lt;1"</b>
05/24/07	5.65	-	93.86	<50	<75	<94	<0.5	<0.5	<0.5	<0.8	-	-	-	26	<1	<1	<b>3</b> <1"
12/04/07	2.20	-	97.33	<50	<75	<94	<0.5	<0.7	<0.6	<0.8	-	-	-	11	<1	<1	<1" <b>&lt;1"</b>
05/1/08	3.62	-	95.98	<50	<75	<95	<0.5	<0.5	<0.5	<0.8	-	-	-	15	<1	<1	<1" <b>&lt;1"</b>
05/17/08	3.45	-	95.95	<50	<75	<95	<0.5	<0.7	<0.6	<0.8	-	-	-	20	<1	<1	<1" <b>&lt;1"</b>
05/20/08	3.85	-	95.85	<50	<77	<97	<0.1	<0.1	<0.1	<0.2	-	-	-	5	<1	<1	<1" <b>0.3</b>
12/1/08	7.52	-	97.01	<50	-	-	<0.1	<0.1	<0.1	<0.1	-	-	-	11	<0.1	<0.1	<0.1 <b>0.1</b>
03/05/09	3.05	-	95.48	<50.0	-	-	<1.0	<1.0	<1.0	<1.0	-	-	-	10	<1.0	<1.0	<1.0 <b>0.40</b>
05/1/09	4.68	-	94.65	<50.0	<77.7	<108	<1.0	<1.0	<1.0	<1.0	-	-	-	10	<1.0	<1.0	<1.0 <b>0.74</b>
12/3/09	7.99	-	95.54	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	-	11.1	<1.0	<1.0	<0.20
02/25/10	2.56	-	95.98	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	-	13.1	<1.0	<1.0	<0.27



TABLE I CUMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS																		
ConocoPhillips Facility No. 250026 (RMAR 1344) 2470 Street Bainbridge Island, Washington																		

Well Name	Sample Date	Elevation Data (feet)			Total Petroleum Hydrocarbons				Aromatic Hydrocarbons				Halogenated Volatile Organic Compounds					
		Depth to Water	LPH Thickness	GW Elevation	TPH-O (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TCE (µg/L)	de-1,2-DCE (µg/L)	CA (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	VC (µg/L)	
TOC Elevation																		
12/04/07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
03/04/08	4.11	-	93.73	<50	<75	<0.4	<0.5	<0.7	<0.6	<0.6	3	<1	<1	<1	<1	<1	<1	
05/07/08	5.93	0.00	93.91	<50	<75	<0.5	<0.5	<0.7	<0.6	<0.6	8	<1	<0.8	<1	<1	<1	<1	
03/08/08	4.70	-	93.14	<50	<77	<0.5	<0.1	<0.1	<0.1	<0.2	4.9	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	
12/10/08	Removed from sampling schedule this quarter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
03/09/09	3.72	-	90.70	<50	-	-	<1.0	2.0	4.1	<1.0	4.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
03/09/09	3.70	-	92.94	<50.0	<78	<360	<1.0	<1.0	<1.0	<3.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
03/09/09	5.98	-	92.75	<50.0	-	<76.9	<0.5	<1.0	<1.0	<1.0	2.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
12/08/09	2.95	-	94.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
02/25/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Gauge only—not part of the sampling schedule this reporting period.

Not gauged or sampled

NW-7	05/09/02	3.15	-	99.35	<100	<720	<478	<1	<1	<1	138	14.8	<1	<1	<1	156	6.34
05/31	4.62	-	99.69	<48	<75	<0.4	2.6	<0.5	<0.5	<1.5	-	230	469	<1	<1	<1	24
12/11/05	2.60	-	95.91	<48	<75	<0.4	<0.2	<0.2	<0.2	<0.6	2	3	<1	<1	<1	<1	
03/07/08	2.63	-	95.95	<48	<75	<0.4	<0.2	<0.2	<0.2	<0.6	4	7	<1	<0.6	<1	<1	
05/27/08	3.40	-	95.11	<48	<75	<0.5	0.5	<0.2	<0.2	<0.6	4.0	180	230	<1	2	<1	16
03/08/00	5.52	-	97.99	<48	<76	<0.5	2	<0.7	<0.8	<0.6	2.0	570	1,100	<1	<1	<1	39
12/27/06	1.01	-	97.50	<48	<76	<0.5	2	<0.7	<0.8	<1.6	0.5	4	6	<1	<1	<1	22
03/28/07	1.30	-	97.21	<48	<76	<0.5	8	<0.7	<1.6	4.0	17	36	<1	<1	<1	<1	17
05/21/07	2.62	-	95.95	<50	<76	<0.5	2	<0.7	<0.8	<0.6	0.8	70	170	<1	<1	<1	13
05/24/07	4.21	-	94.29	<50	<76	<0.5	2	<0.7	<0.8	<0.6	0.8	170	300	<1	<1	<1	20
12/05/05	2.65	-	95.14	<48	<75	<0.4	<0.2	<0.2	<0.2	<0.6	5	32	<1	<1	<1	<1	
03/07/08	2.63	-	95.11	<48	<75	<0.4	0.4	<0.2	<0.2	<0.6	28	3	19	<1	<0.8	<1	3
05/27/08	4.65	-	94.32	<48	<78	<0.5	<0.2	<0.2	<0.2	<0.6	13	2	11	<1	<0.8	<1	1
03/08/00	5.55	-	97.58	<50	<76	<0.5	0.4	<0.1	<0.1	<0.1	2	4	5.0	<1	<1	<1	6.6
12/10/08	0.90	-	97.61	-	-	-	5.5	<0.1	<0.1	<0.1	0.7	1.1	2	<0.1	<0.1	<0.1	6.5
03/09/09	1.86	-	95.95	<50	<76	<0.5	1.3	2.0	4.0	<0.6	1.0	1.0	1.0	<1.0	<1.0	<1.0	1.1
03/09/09	5.55	-	94.98	<50.0	<78	<360	1.1	1.0	1.0	<0.6	5.1	9.6	1.0	1.0	1.0	1.0	1.1
03/09/09	3.48	-	95.03	<50.0	<77.5	<360	<1.0	1.0	1.0	<0.6	1.0	1.0	1.1	<1.0	<1.0	<1.0	1.2
12/08/09	1.78	-	96.73	-	-	-	2.3	<1.0	<1.0	<1.0	<1.0	1.0	1.4	<1.0	<1.0	<1.0	2.1
02/25/10	1.80	-	97.61	-	-	-	1.6	<1.0	<1.0	<0.6	1.9	1.0	1.0	<1.0	<1.0	<1.0	2.3

\*Steel A Cleanup Level = 1,000,000<sup>2</sup> µg/L 500 500 5 1800 700 1000 20 5 MA MA MA 5 0.2

**NOTES:**

Concentrations are in micrograms per liter (µg/L).

LPH = Liquid phase hydrocarbon in feet

TPH-O = Gasoline range hydrocarbons by Ecology Method NWTPH-Q

TPH-O and TPH-D = Diesel and oil range hydrocarbons by Ecology Method NWTPH-D

ca-1,2-DCE = ca-1,2-Dichloroethene; trans-1,2-DCE = trans-1,2-Dichloroethene; CA = Chloroethane; CDE = Trichloroethylene; MTBE = Methyl Tert-Butyl Ether

1,1-DCA = 1,1-Dichloroethane; 1,2-DCA = 1,2-Dichloroethane; VC = Vinyl Chloride

1,2-DCE, CA, 1,1-DCA, 1,2-DCA, CDE, Chloroethane and VC by EPA 6010B (modified) or EPA 6260B; refer to lab reports

BTEX = Benzene, Toluene, Ethylbenzene, Total Kynanes by EPA Method 8020, EPA 8021B or 8260B; refer to official laboratory reports

< = Less than the stated laboratory reporting limit

= Equal values equal or exceed MTCA Method A Cleanup Levels

\*The recovery for the laboratory control sample (0.5S) with this sample is below quality control limits. Since no sample remained for reanalysis the data is reported.

○ The laboratory reporting limits (RL) are above MTCA Method A cleanup levels

○ 1,1-dichloroethane and 1,2-dichloroethene both detected in this sample at a concentration of 3 µg/L

\*TCS = not reported prior to 6/20/05. Data may be available in previous reports.

\*Due to the nature of the sample matrix, a reduced about was used for analysis. The reporting limits were relaxed accordingly.

MD = Matrix spike recovery and/or spike duplicate recovery was outside laboratory control limits

**ATTACHMENT A**  
**FIELD AND LABORATORY PROCEDURES**

## **STANTEC MONITORING WELL GAUGING, PURGING AND SAMPLING PROCEDURES**

Monitoring well purging and sampling was conducted based on USEPA approved (Puls and Barcelona, 1996) low-flow sampling techniques whenever possible.

### **Purging Procedures**

- A. Using a decontaminated instrument (i.e., tape measure, continuity meter, or interface probe) measure the depth to groundwater in reference to the measuring point at the top of the casing. Measure the total depth of the well and diameter of the well casing to calculate the volume of water in the well casing.
- B. Based on previously obtained data, if a monitoring well is suspected of containing LPH concentrations, lower a transparent bailer into the well to evaluate the presence of a hydrocarbon sheen on the water table.
- C. Decontaminate the purge pump and/or PVC bailers by scrubbing in Alconox detergent solution, followed by a tap water rinse and then a de-ionized water rinse.
- D. Purge by low-flow pumping (less than 0.5 liters per minute) for approximately five minutes. Monitor the static water level in the well using a decontaminated instrument and adjust the pumping rate to maintain a minimal drawdown. If low-flow purging is not possible and bailing is used to purge the well, then a minimum of three well volumes will be removed. When purging 3 well volumes, parameters should be measured after each casing volume is removed. If the well goes dry, the procedure listed in step E2 (below) should be followed.
- E. Conduct field measurements (i.e., pH, specific conductivity, temperature, and oxidation-reduction potential) note clarity, color, turbidity, and odor of purge water, and measure depth to groundwater.
  1. If the well has not been purged dry and drawdown is minimal, continue to pump and conduct field measurements (including depth to water) again every three to five minutes during purging.
    - a) If the first through third series of measurements vary by less than 10 percent, the well has been adequately purged. If bailers are used to purge the well, then the water level is allowed to recover to 80 percent of its static condition, or for two hours, whichever comes first prior to beginning the sampling procedure.
    - b) If the measurements vary by 10 percent or greater, repeat Step E1 above.
    - c) If a minimum of three parameters cannot be measured during purging and or drawdown cannot be controlled to minimal, remove three well volumes with a bailer prior to sampling.
  2. If the well has been purged dry, measure the water level and allow the well to recharge to 80 percent, or for two hours, whichever occurs first. Calculate the percent recovery, and begin the sampling procedure.

### **Sampling Procedures**

- Use the pump and a clean, dedicated section of tubing to collect the groundwater sample from the screened interval of the water column. If the pump cannot be used, collect the water sample with a clean, dedicated polyethylene disposable bailer.
- Transfer the groundwater sample into the appropriate container(s). Where applicable, some containers are completely filled to achieve zero headspace. Label the samples according to location and date of collection.
- Enter the samples into Chain-of-Custody and preserve on ice until delivery to the analytical laboratory. Complete the Well Development or Purging/Sampling Log to be stored in the project file.

### **Reference:**

Puls, R.W., and Barcelona M.J., 1996. EPA Ground Water Issue Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures, EPA/540/S-95/504.

**ATTACHMENT B**  
**FIELD DATA SHEETS**

**SITE VISITATION REPORT**  
**CP 255028 (RM&R 01344) Blaine, Washington**

Name(s) D. Reitz  
Arrival Time: 1330

Date: 02/25/10  
Departure Time: 1630

Time of Arrival Call-In: 1330  
Time of Departure Call-In: 1620  
Who did you call? T. Parise

**DRUM INVENTORY**

<u>1</u>	WATER	<u> </u>	CARBON	<u> </u>	TOTAL OPEN TOP	<u>1</u>
<u> </u>	SOIL	<u> </u>	EMPTY	<u> </u>	TOTAL BUNG TOP	<u> </u>

**HEALTH AND SAFETY ASSESSMENT**

Don P. P. E  
Review HASP & J.S.A.  
Set-up Decon. station

**DESCRIPTION OF ACTIVITIES ONSITE AND NOTES**

- 1330 Arrive on site. Call-in to office purchase ice. Set-up decon. station. Perform tailgate safety meeting.  
Initiate 1Q10 GWM sample procedures (gauge & sample of gwm wells).  
1550 Complete 1Q10 GWM sample procedures. Decon. equipment and release purge water/rinse solutions into staged drum. Label drum.  
1600 Pack sample cooler & load equipment into truck.  
1620 Call-in to office. Depart job site.

D. Reitz

02/25/10

**Stantec International Incorporated**

**HYDROLOGIC DATA SHEET**

Gauge Date: 02/25/10

Project Name: CP RM&R 1344 Blaine

Field Technician: David Reitz

Project Number: 212302363

DTP = Depth to Free Product (FP or NAPH) Below TOC  
 DTW = Depth to Groundwater Below TOC  
 DTB = Depth to Bottom of Well Casing Below TOC

Flow through cell calibrated Y X N       

Wells checked for product and gauged prior to commencement of bailing or purging the wells Y X N       

WELL OR LOCATION	WELL SCREEN DEPTH	PROPOSED INTAKE RANGE (feet below TOC)	MEASUREMENTS				PURGE? (Y/N)	SHEEN? (Y/N)	SAMPLE? (Y/N)	COMMENTS / PROBE CALIBRATION
			TIME	DTP (feet)	DTW (feet)	DTB (feet)				
		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.								
		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.								
MW-3		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	1330	—	1.37	12.50	Y	N	Y	
MW-4		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	1335	—	2.55	12.20	Y	N	Y	
		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.								N
MW-7		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	1350	—	0.70	12.60	Y	N	Y	
MW-8		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	1340	—	1.89	12.90	Y	N	Y	

**Stantec Consulting Corporation**

**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 212302363 PURGED BY: DR WELL I.D.: MW - 3  
 CLIENT NAME: COP SAMPLER BY: DR SAMPLE I.D.: MW - 3  
 LOCATION: 247 D Street, Blaine, WA

DATE PURGED 02/25/10 START (2400hr) 1355 END (2400hr) 1420  
 DATE SAMPLED 02/25/10 SAMPLE TIME (2400hr) 1410 LOW-FLOW USED X  
 SAMPLE TYPE: Groundwater X Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER: 2" X 3"  4"  5"  6"  8"  Other \_\_\_\_\_  
 Casing Volume: (liters per foot) (0.64) (1.44) (2.45) (3.86) (5.68) (9.84) ( )

DEPTH TO BOTTOM (feet) = 12.50

DEPTH TO WATER (feet) = 1.37

WATER COLUMN HEIGHT (feet) = 11.13

ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME ML	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)
<u>02/25/10</u>	<u>1400</u>	<u>800</u>	<u>11.0</u>	<u>0.022</u>	<u>6.31</u>	<u>clr</u>
	<u>1403</u>	<u>500</u>	<u>11.0</u>	<u>0.022</u>	<u>6.28</u>	<u>clr</u>
	<u>1406</u>	<u>500</u>	<u>11.0</u>	<u>0.022</u>	<u>6.26</u>	<u>clr</u>
	<u>1409</u>	<u>500</u>	<u>10.7</u>	<u>0.022</u>	<u>6.27</u>	<u>clr</u>
					<u>02/25/10</u>	

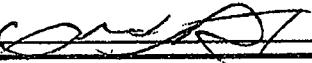
Calculated Variance of Final Three Samples: 0.3 0 0.02  
 Acceptable Variance Limits: ≤ 10% ≤ 3% ≤ 0.1

DEPTH TO PURGE INTAKE DURING PURGE: 8.00 SAMPLE DTW: 3.00

ANTICIPATED PURGE INTAKE DEPTH: 8.00 ANALYSES: HVOCS  
BTEX  
MTBE

SAMPLE VESSEL / PRESERVATIVE: \_\_\_\_\_

PURGING EQUIPMENT:  <u>Haniba water meter</u>  <u>Peristaltic pump Interface probe</u>	SAMPLING EQUIPMENT:	
	<u>Peristaltic pump</u>	
Flow Through Cell Disconnected Prior to Sample Collection?:	YES <u>X</u>	NO _____
WELL PAD CONDITION:	<u>Fair</u>	WELL CASING CONDITION: <u>Fair</u>
WELL VAULT CONDITION:	<u>Fair</u>	SEAL PRESENT?: <u>yes</u>
WELL INTEGRITY:	<u>Fair</u>	WELL TAG: <u>yes</u>
REMARKS:		

SIGNATURE: 

Page 1 of 1

**Stantec Consulting Corporation**

**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 212302363

PURGED BY: DR

WELL I.D.: M(W) - 4

CLIENT NAME: COP

SAMPLED BY: DR

SAMPLE I.D.: M(W) - 4

LOCATION: 247 D Street, Blaine, WA

DATE PURGED 02/25/10 START (2400hr) 1425 END (2400hr) 1450

DATE SAMPLED 02/25/10 SAMPLE TIME (2400hr) 1440 LOW-FLOW USED X

SAMPLE TYPE: Groundwater X Surface Water   Treatment Effluent   Other  

CASING DIAMETER: 2" X 3"   4"   5"   6"   8"   Other    
Casing Volume: (liters per foot) (0.64) (1.44) (2.45) (3.86) (5.68) (9.84) ( )

DEPTH TO BOTTOM (feet) = 12.20

DEPTH TO WATER (feet) = 2.55

WATER COLUMN HEIGHT (feet) = 9.65 ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME ML	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)
<u>02/25/10</u>	<u>1430</u>	<u>800</u>	<u>11.4</u>	<u>0.031</u>	<u>6.33</u>	<u>clr</u>
	<u>1433</u>	<u>500</u>	<u>10.8</u>	<u>0.031</u>	<u>6.35</u>	<u>clr</u>
	<u>1436</u>	<u>500</u>	<u>10.6</u>	<u>0.031</u>	<u>6.34</u>	<u>clr</u>
	<u>1439</u>	<u>500</u>	<u>10.8</u>	<u>0.030</u>	<u>6.34</u>	<u>clr</u>
<u>02/25/10</u>						
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>						
Calculated Variance of Final Three Samples:						
Acceptable Variance Limits:						
<u>0.2</u> <u>0.001</u> <u>0.01</u>						
<u>≤ 10%</u> <u>≤ 3%</u> <u>≤ 0.1</u>						

DEPTH TO PURGE INTAKE DURING PURGE: 8.00 SAMPLE DTW: 3.40

ANTICIPATED PURGE INTAKE DEPTH: 8.00 ANALYSES: HVOCs  
BTEX  
MTBE

SAMPLE VESSEL / PRESERVATIVE: \_\_\_\_\_

*Horiba water meter*  
*Peristaltic pump Interface probe*

SAMPLING EQUIPMENT:

*Peristaltic pump*

Flow Through Cell Disconnected Prior to Sample Collection?: YES X NO \_\_\_\_\_

WELL PAD CONDITION: Fair

WELL CASING CONDITION: Fair

WELL VAULT CONDITION: Fair

SEAL PRESENT?: yes

BOLTS PRESENT?: yes

WELL INTEGRITY: Fair

WELL TAG: yes

LOCK#: yes

REMARKS: \_\_\_\_\_

SIGNATURE: [Signature]

Page 1 of 1

**Stantec Consulting Corporation**

**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 212302363

PURGED BY: DR

WELL I.D.: MLU-8

CLIENT NAME: COP

SAMPLED BY: DR

SAMPLE I.D.: MLU-8

LOCATION: 247 D Street, Blaine, WA

DATE PURGED	<u>02/25/10</u>	START (2400hr)	<u>1455</u>	END (2400hr)	<u>1520</u>		
DATE SAMPLED	<u>02/25/10</u>	SAMPLE TIME (2400hr)	<u>1510</u>	LOW-FLOW USED	<u>X</u>		
SAMPLE TYPE:	Groundwater <u>X</u>	Surface Water		Treatment Effluent			
CASING DIAMETER:	<u>2"</u>	<u>3"</u>	<u>4"</u>	<u>5"</u>	<u>6"</u>	<u>8"</u>	Other _____
Casing Volume: (liters per foot)	<u>(0.64)</u>	<u>(1.44)</u>	<u>(2.45)</u>	<u>(3.86)</u>	<u>(5.68)</u>	<u>(9.84)</u>	

DEPTH TO BOTTOM (feet) = 12.90

DEPTH TO WATER (feet) = 1.89

WATER COLUMN HEIGHT (feet) = 11.01

ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME <u>ml</u>	TEMP. (degrees E)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)
<u>02/25/10</u>	<u>1500</u>	<u>800</u>	<u>10.5</u>	<u>0.030</u>	<u>6.42</u>	<u>clr</u>
	<u>1503</u>	<u>500</u>	<u>10.4</u>	<u>0.030</u>	<u>6.38</u>	<u>clr</u>
	<u>1506</u>	<u>500</u>	<u>10.3</u>	<u>0.030</u>	<u>6.37</u>	<u>clr</u>
	<u>1509</u>	<u>500</u>	<u>10.3</u>	<u>0.030</u>	<u>6.36</u>	<u>clr</u>
						<u>02/25/10</u>

Calculated Variance of Final Three Samples: 0.1

Acceptable Variance Limits: ≤ 10%     ≤ 3%     ≤ 0.1

DEPTH TO PURGE INTAKE DURING PURGE: 8.00     SAMPLE DTW: 2.89

ANTICIPATED PURGE INTAKE DEPTH: 8.00     ANALYSES:     HVOCS  
BTEX  
MTBE

SAMPLE VESSEL / PRESERVATIVE: \_\_\_\_\_

PURGING EQUIPMENT:  
Horiba water meter  
Peristaltic pump Interface probe

SAMPLING EQUIPMENT:

Peristaltic pump

Flow Through Cell Disconnected Prior to Sample Collection?: YES X NO \_\_\_\_\_

WELL PAD CONDITION: Fair

WELL CASING CONDITION: Fair

WELL VAULT CONDITION: Fair

SEAL PRESENT?: yes

BOLTS PRESENT?: yes

WELL INTEGRITY: Fair

WELL TAG: yes

LOCK#: yes

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: Oleff/DT

Page 1 of 1

**Stantec Consulting Corporation**

**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 212302363 PURGED BY: DR WELL I.D.: MW - 7  
 CLIENT NAME: COP SAMPLED BY: DR SAMPLE I.D.: MW - 7  
 LOCATION: 247 D Street, Blaine, WA

DATE PURGED 02/25/10 START (2400hr) 1525 END (2400hr) 1550  
 DATE SAMPLED 02/25/10 SAMPLE TIME (2400hr) 1540 LOW-FLOW USED X  
 SAMPLE TYPE: Groundwater X Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER: 2" X 3"        4"        5"        6"        8"        Other         
 Casing Volume: (liters per foot) (0.64) (1.44) (2.45) (3.86) (5.68) (9.84) (      )

DEPTH TO BOTTOM (feet) = 12.60

DEPTH TO WATER (feet) = 0.70

WATER COLUMN HEIGHT (feet) = 11.90 ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME ML	TEMP. (degrees $\circ$ )	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)
<u>02/25/10</u>	<u>1530</u>	<u>800</u>	<u>11.0</u>	<u>0.027</u>	<u>6.62</u>	<u>Clr</u>
	<u>1533</u>	<u>500</u>	<u>10.9</u>	<u>0.028</u>	<u>6.69</u>	<u>Clr</u>
	<u>1536</u>	<u>500</u>	<u>11.1</u>	<u>0.027</u>	<u>6.76</u>	<u>Clr</u>
	<u>1539</u>	<u>500</u>	<u>11.2</u>	<u>0.027</u>	<u>6.78</u>	<u>Clr</u>
<u>Calculated Variance of Final Three Samples:</u>						<u>02/25/10</u>
<u>Acceptable Variance Limits:</u>						
<u>DEPTH TO PURGE INTAKE DURING PURGE:</u>						
<u>ANTICIPATED PURGE INTAKE DEPTH:</u>						

DEPTH TO PURGE INTAKE DURING PURGE: 8.00 SAMPLE DTW: 8.00 0.75

ANTICIPATED PURGE INTAKE DEPTH: 8.00 ANALYSES: HVOCS  
BTEX  
MTBE

SAMPLE VESSEL / PRESERVATIVE: \_\_\_\_\_

PURGING EQUIPMENT:  <u>Horiba water meter</u> <u>Peristaltic pump</u> <u>Interface probe</u> <u>Peristaltic pump</u>	SAMPLING EQUIPMENT:  <u>Peristaltic pump</u>
---	--

Flow Through Cell Disconnected Prior to Sample Collection?: YES X NO \_\_\_\_\_

WELL PAD CONDITION: Fair WELL Casing CONDITION: Fair

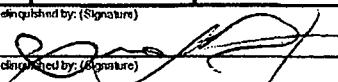
WELL VAULT CONDITION: Fair SEAL PRESENT?: yes BOLTS PRESENT?: yes

WELL INTEGRITY: Fair WELL TAG: yes LOCK#: yes

REMARKS: \_\_\_\_\_

SIGNATURE: D.J. PDT Page 1 of 1

# Chain Of Custody Record

<b>Pace Analytical Laboratories</b> 940 S. Hamey Street, Seattle WA (206) 787-5063			<b>INVOICE REMITTANCE ADDRESS:</b>  Stantec Attn: Chris Gdak 12034 134th Court NE Suite Redmond, WA 98052			<b>Purchase Order #</b> 4512896492		<b>DATE:</b> <u>02/25/10</u> <b>PAGE:</b> <u>1</u> of <u>1</u>						
						<b>ConocoPhillips ACC#</b> 01344								
<b>SAMPLING COMPANY:</b> Stantec		<b>Valid Value ID:</b> CONOCOPHILLIPS SITE NUMBER 255028		<b>GLOBAL ID NO.:</b> CONOCOPHILLIPS SITE NUMBER 255028										
<b>ADDRESS:</b> 12034 134th Court NE, Suite 102, Redmond, WA 98052			<b>SITE ADDRESS (Street and City):</b> 247 D Street, Blaine, WA			<b>ConocoPhillips Manager</b> Myron Smith								
<b>PROJECT CONTACT (Hardcopy or PDF Report to):</b> Chris Gdak			<b>EDF DELIVERABLE TO (RP or Designee):</b>		<b>PHONE NO.:</b>		<b>E-MAIL:</b>		<b>LAB USE ONLY:</b>					
<b>TELEPHONE:</b> (425) 298-1023		<b>FAX:</b> (425) 298-1020		<b>E-MAIL:</b> chris.gdak@stantec.com										
<b>SAMPLER NAME(S) (Print):</b> David Reitz		<b>CONSULTANT PROJECT NUMBER</b> 212302363		<b>REQUESTED ANALYSES</b>										
<b>TURNAROUND TIME (CALENDAR DAYS):</b> <input checked="" type="checkbox"/> 14 DAYS <input type="checkbox"/> 7 DAYS <input type="checkbox"/> 72 HOURS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 24 HOURS <input type="checkbox"/> LESS THAN 24 HOURS										<b>FIELD NOTES:</b>  Container/Preservative or PID Readings or Laboratory Notes				
<b>SPECIAL INSTRUCTIONS OR NOTES:</b> CHECK BOX IF EDD IS NEEDED <input checked="" type="checkbox"/>														
<small>* Field Point name only required if different from Sample ID</small>										<b>TEMPERATURE ON RECEIPT C°</b>				
<small>Field Point Name ONLY</small>	<b>Field Point Name</b>	<b>Sample ID</b>	<b>SAMPLING</b>		<b>MATRIX</b>	<b>NO. OF CONT.</b>	<b>HVOCs by 8260B</b>		<b>BTX by 8260B</b>		<b>MTBE by 8260B</b>			
			<b>DATE</b>	<b>TIME</b>			<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>			
	MW-3	MW-3	<u>02/25/10</u>	<u>1410</u>	GW	6	<b>X</b>	<b>X</b>	<b>X</b>					
	MW-4	MW-4	<u>10</u>	<u>1440</u>	GW	6	<b>X</b>	<b>X</b>	<b>X</b>					
	MW-7	MW-7	<u>11</u>	<u>1540</u>	GW	6	<b>X</b>	<b>X</b>	<b>X</b>					
	MW-8	MW-8	<u>11</u>	<u>1510</u>	GW	6	<b>X</b>	<b>X</b>	<b>X</b>					
	—	TB				6	<b>X</b>	<b>X</b>	<b>X</b>					
<b>Relinquished by: (Signature)</b> 			<b>Received by: (Signature)</b>						<b>Date:</b>	<u>02/26/10</u>		<b>Time:</b>	<u>1500</u>	
<b>Relinquished by: (Signature)</b>			<b>Received by: (Signature)</b>						<b>Date:</b>			<b>Time:</b>		
<b>Relinquished by: (Signature)</b>			<b>Received by: (Signature)</b>						<b>Date:</b>			<b>Time:</b>		

01/07/03 Revision

**ATTACHMENT C**  
**CERTIFIED LABORATORY ANALYTICAL REPORT**  
**AND CHAIN-OF-CUSTODY DOCUMENTATION**

March 10, 2010

Chris Gdak  
Stantec  
12034 134th Ct NE, Suite 102  
Redmond, WA 98052

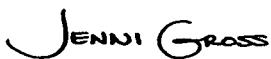
RE: Project: 01344 - Blaine  
Pace Project No.: 253155

Dear Chris Gdak:

Enclosed are the analytical results for sample(s) received by the laboratory on February 26, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross

jennifer.gross@pacelabs.com  
Project Manager

Enclosures

cc: Andrea Donnell, COP\_Stantec Washington  
Tammy Parise, COP\_Stantec Washington  
Linda Rawlins, COP\_Stantec Oregon

#### REPORT OF LABORATORY ANALYSIS

Page 1 of 12

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



## CERTIFICATIONS

Project: 01344 - Blaine

Pace Project No.: 253155

---

### Washington Certification IDs

940 South Harney Street Seattle, WA 98108  
Washington Certification #: C1229  
Oregon Certification #: WA200007  
Alaska CS Certification #: UST-025

California Certification #: 01153CA  
Alaska Drinking Water Micro Certification #: WA01230  
Alaska Drinking Water VOC Certification #: WA01-09  
Florida/NELAP Certification #: E87617

---

## REPORT OF LABORATORY ANALYSIS

Page 2 of 12

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



### SAMPLE ANALYTE COUNT

Project: 01344 - Blaine  
 Pace Project No.: 253155

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
253155001	MW-3	EPA 5030B/8260	LPM	39	PASI-S
253155002	MW-4	EPA 5030B/8260	LPM	39	PASI-S
253155003	MW-7	EPA 5030B/8260	LPM	39	PASI-S
253155004	MW-8	EPA 5030B/8260	LPM	39	PASI-S
253155005	Trip Blank	EPA 5030B/8260	LPM	39	PASI-S

### REPORT OF LABORATORY ANALYSIS

Page 3 of 12

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, Inc..



## ANALYTICAL RESULTS

Project: 01344 - Blaine  
Pace Project No.: 253155

Sample: MW-3	Lab ID: 253155001	Collected: 02/25/10 14:10	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1,1-Trichloroethane	ND ug/L		1.0	1		03/05/10 13:35	71-55-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		03/05/10 13:35	79-34-5	
1,1,2-Trichloroethane	ND ug/L		1.0	1		03/05/10 13:35	79-00-5	
1,1-Dichloroethane	ND ug/L		1.0	1		03/05/10 13:35	75-34-3	
1,1-Dichloroethene	ND ug/L		1.0	1		03/05/10 13:35	75-35-4	L2
1,2-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 13:35	95-50-1	
1,2-Dichloroethane	ND ug/L		1.0	1		03/05/10 13:35	107-06-2	
1,2-Dichloropropane	ND ug/L		1.0	1		03/05/10 13:35	78-87-5	
1,3-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 13:35	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 13:35	106-46-7	
Benzene	ND ug/L		1.0	1		03/05/10 13:35	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		03/05/10 13:35	75-27-4	
Bromoform	ND ug/L		1.0	1		03/05/10 13:35	75-25-2	
Bromomethane	ND ug/L		1.0	1		03/05/10 13:35	74-83-9	
Carbon tetrachloride	ND ug/L		1.0	1		03/05/10 13:35	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		03/05/10 13:35	108-90-7	
Chloroethane	ND ug/L		1.0	1		03/05/10 13:35	75-00-3	
Chloroform	ND ug/L		1.0	1		03/05/10 13:35	67-66-3	
Chloromethane	ND ug/L		1.0	1		03/05/10 13:35	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		03/05/10 13:35	124-48-1	L2
Ethylbenzene	ND ug/L		1.0	1		03/05/10 13:35	100-41-4	
Methyl-tert-butyl ether	3.1 ug/L		1.0	1		03/05/10 13:35	1634-04-4	
Methylene chloride	ND ug/L		4.0	1		03/05/10 13:35	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		03/05/10 13:35	127-18-4	
Toluene	ND ug/L		1.0	1		03/05/10 13:35	108-88-3	
Trichloroethene	ND ug/L		1.0	1		03/05/10 13:35	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		03/05/10 13:35	75-69-4	
Vinyl chloride	ND ug/L		0.20	1		03/05/10 13:35	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		03/05/10 13:35	1330-20-7	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		03/05/10 13:35	156-59-2	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 13:35	10061-01-5	
m&p-Xylene	ND ug/L		2.0	1		03/05/10 13:35	1330-20-7	
o-Xylene	ND ug/L		1.0	1		03/05/10 13:35	95-47-6	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		03/05/10 13:35	156-60-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 13:35	10061-02-6	
4-Bromofluorobenzene (S)	100 %		80-120	1		03/05/10 13:35	460-00-4	
Dibromofluoromethane (S)	96 %		80-122	1		03/05/10 13:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		80-124	1		03/05/10 13:35	17060-07-0	
Toluene-d8 (S)	92 %		80-123	1		03/05/10 13:35	2037-26-5	

Sample: MW-4	Lab ID: 253155002	Collected: 02/25/10 14:40	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1,1-Trichloroethane	ND ug/L		1.0	1		03/05/10 13:57	71-55-6	

Date: 03/10/2010 04:50 PM

### REPORT OF LABORATORY ANALYSIS

Page 4 of 12

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



## ANALYTICAL RESULTS

Project: 01344 - Blaine

Pace Project No.: 253155

Sample: MW-4	Lab ID: 253155002	Collected: 02/25/10 14:40	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		03/05/10 13:57	79-34-5	
1,1,2-Trichloroethane	ND ug/L		1.0	1		03/05/10 13:57	79-00-5	
1,1-Dichloroethane	ND ug/L		1.0	1		03/05/10 13:57	75-34-3	
1,1-Dichloroethene	ND ug/L		1.0	1		03/05/10 13:57	75-35-4	L2
1,2-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 13:57	95-50-1	
1,2-Dichloroethane	ND ug/L		1.0	1		03/05/10 13:57	107-06-2	
1,2-Dichloropropane	ND ug/L		1.0	1		03/05/10 13:57	78-87-5	
1,3-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 13:57	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 13:57	106-46-7	
Benzene	ND ug/L		1.0	1		03/05/10 13:57	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		03/05/10 13:57	75-27-4	
Bromoform	ND ug/L		1.0	1		03/05/10 13:57	75-25-2	
Bromomethane	ND ug/L		1.0	1		03/05/10 13:57	74-83-9	
Carbon tetrachloride	ND ug/L		1.0	1		03/05/10 13:57	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		03/05/10 13:57	108-90-7	
Chloroethane	ND ug/L		1.0	1		03/05/10 13:57	75-00-3	
Chloroform	ND ug/L		1.0	1		03/05/10 13:57	67-66-3	
Chloromethane	ND ug/L		1.0	1		03/05/10 13:57	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		03/05/10 13:57	124-48-1	L2
Ethylbenzene	ND ug/L		1.0	1		03/05/10 13:57	100-41-4	
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/05/10 13:57	1634-04-4	
Methylene chloride	ND ug/L		4.0	1		03/05/10 13:57	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		03/05/10 13:57	127-18-4	
Toluene	ND ug/L		1.0	1		03/05/10 13:57	108-88-3	
Trichloroethene	ND ug/L		1.0	1		03/05/10 13:57	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		03/05/10 13:57	75-69-4	
Vinyl chloride	0.27 ug/L		0.20	1		03/05/10 13:57	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		03/05/10 13:57	1330-20-7	
cis-1,2-Dichloroethene	13.1 ug/L		1.0	1		03/05/10 13:57	156-59-2	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 13:57	10061-01-5	
m&p-Xylene	ND ug/L		2.0	1		03/05/10 13:57	1330-20-7	
o-Xylene	ND ug/L		1.0	1		03/05/10 13:57	95-47-6	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		03/05/10 13:57	156-60-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 13:57	10061-02-6	
4-Bromofluorobenzene (S)	101 %		80-120	1		03/05/10 13:57	460-00-4	
Dibromofluoromethane (S)	96 %		80-122	1		03/05/10 13:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		80-124	1		03/05/10 13:57	17060-07-0	
Toluene-d8 (S)	93 %		80-123	1		03/05/10 13:57	2037-26-5	

Sample: MW-7	Lab ID: 253155003	Collected: 02/25/10 15:40	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1,1-Trichloroethane	ND ug/L		1.0	1		03/05/10 14:21	71-55-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		03/05/10 14:21	79-34-5	

Date: 03/10/2010 04:50 PM

## REPORT OF LABORATORY ANALYSIS

Page 5 of 12

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



## ANALYTICAL RESULTS

Project: 01344 - Blaine  
Pace Project No.: 253155

Sample: MW-7	Lab ID: 253155003	Collected: 02/25/10 15:40	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1,2-Trichloroethane	ND ug/L		1.0	1		03/05/10 14:21	79-00-5	
1,1-Dichloroethane	ND ug/L		1.0	1		03/05/10 14:21	75-34-3	
1,1-Dichloroethene	ND ug/L		1.0	1		03/05/10 14:21	75-35-4	L2
1,2-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 14:21	95-50-1	
1,2-Dichloroethane	ND ug/L		1.0	1		03/05/10 14:21	107-06-2	
1,2-Dichloropropane	ND ug/L		1.0	1		03/05/10 14:21	78-87-5	
1,3-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 14:21	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 14:21	106-46-7	
Benzene	1.6 ug/L		1.0	1		03/05/10 14:21	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		03/05/10 14:21	75-27-4	
Bromoform	ND ug/L		1.0	1		03/05/10 14:21	75-25-2	
Bromomethane	ND ug/L		1.0	1		03/05/10 14:21	74-83-9	
Carbon tetrachloride	ND ug/L		1.0	1		03/05/10 14:21	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		03/05/10 14:21	108-90-7	
Chloroethane	ND ug/L		1.0	1		03/05/10 14:21	75-00-3	
Chloroform	ND ug/L		1.0	1		03/05/10 14:21	67-66-3	
Chloromethane	ND ug/L		1.0	1		03/05/10 14:21	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		03/05/10 14:21	124-48-1	L2
Ethylbenzene	ND ug/L		1.0	1		03/05/10 14:21	100-41-4	
Methyl-tert-butyl ether	1.9 ug/L		1.0	1		03/05/10 14:21	1634-04-4	
Methylene chloride	ND ug/L		4.0	1		03/05/10 14:21	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		03/05/10 14:21	127-18-4	
Toluene	ND ug/L		1.0	1		03/05/10 14:21	108-88-3	
Trichloroethene	ND ug/L		1.0	1		03/05/10 14:21	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		03/05/10 14:21	75-69-4	
Vinyl chloride	2.3 ug/L		0.20	1		03/05/10 14:21	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		03/05/10 14:21	1330-20-7	
cis-1,2-Dichloroethene	2.6 ug/L		1.0	1		03/05/10 14:21	156-59-2	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 14:21	10061-01-5	
m&p-Xylene	ND ug/L		2.0	1		03/05/10 14:21	1330-20-7	
o-Xylene	1.8 ug/L		1.0	1		03/05/10 14:21	95-47-6	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		03/05/10 14:21	156-60-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 14:21	10061-02-6	
4-Bromofluorobenzene (S)	103 %		80-120	1		03/05/10 14:21	460-00-4	
Dibromofluoromethane (S)	95 %		80-122	1		03/05/10 14:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		80-124	1		03/05/10 14:21	17060-07-0	
Toluene-d8 (S)	94 %		80-123	1		03/05/10 14:21	2037-26-5	

Sample: MW-8	Lab ID: 253155004	Collected: 02/25/10 15:10	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1,1-Trichloroethane	ND ug/L		1.0	1		03/05/10 14:44	71-55-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		03/05/10 14:44	79-34-5	
1,1,2-Trichloroethane	ND ug/L		1.0	1		03/05/10 14:44	79-00-5	

Date: 03/10/2010 04:50 PM

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

Page 6 of 12



## ANALYTICAL RESULTS

Project: 01344 - Blaine  
Pace Project No.: 253155

Sample: MW-8	Lab ID: 253155004	Collected: 02/25/10 15:10	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1-Dichloroethane	ND ug/L		1.0	1		03/05/10 14:44	75-34-3	
1,1-Dichloroethene	ND ug/L		1.0	1		03/05/10 14:44	75-35-4	L2
1,2-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 14:44	95-50-1	
1,2-Dichloroethane	ND ug/L		1.0	1		03/05/10 14:44	107-06-2	
1,2-Dichloropropane	ND ug/L		1.0	1		03/05/10 14:44	78-87-5	
1,3-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 14:44	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 14:44	106-46-7	
Benzene	ND ug/L		1.0	1		03/05/10 14:44	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		03/05/10 14:44	75-27-4	
Bromoform	ND ug/L		1.0	1		03/05/10 14:44	75-25-2	
Bromomethane	ND ug/L		1.0	1		03/05/10 14:44	74-83-9	
Carbon tetrachloride	ND ug/L		1.0	1		03/05/10 14:44	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		03/05/10 14:44	108-90-7	
Chloroethane	ND ug/L		1.0	1		03/05/10 14:44	75-00-3	
Chloroform	ND ug/L		1.0	1		03/05/10 14:44	67-66-3	
Chloromethane	ND ug/L		1.0	1		03/05/10 14:44	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		03/05/10 14:44	124-48-1	L2
Ethylbenzene	ND ug/L		1.0	1		03/05/10 14:44	100-41-4	
Methyl-tert-butyl ether	6.9 ug/L		1.0	1		03/05/10 14:44	1634-04-4	
Methylene chloride	ND ug/L		4.0	1		03/05/10 14:44	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		03/05/10 14:44	127-18-4	
Toluene	ND ug/L		1.0	1		03/05/10 14:44	108-88-3	
Trichloroethene	1.7 ug/L		1.0	1		03/05/10 14:44	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		03/05/10 14:44	75-69-4	
Vinyl chloride	ND ug/L		0.20	1		03/05/10 14:44	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		03/05/10 14:44	1330-20-7	
cis-1,2-Dichloroethene	8.1 ug/L		1.0	1		03/05/10 14:44	156-59-2	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 14:44	10061-01-5	
m&p-Xylene	ND ug/L		2.0	1		03/05/10 14:44	1330-20-7	
o-Xylene	ND ug/L		1.0	1		03/05/10 14:44	95-47-6	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		03/05/10 14:44	156-60-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 14:44	10061-02-6	
4-Bromofluorobenzene (S)	102 %		80-120	1		03/05/10 14:44	460-00-4	
Dibromofluoromethane (S)	96 %		80-122	1		03/05/10 14:44	1888-53-7	
1,2-Dichloroethane-d4 (S)	105 %		80-124	1		03/05/10 14:44	17060-07-0	
Toluene-d8 (S)	93 %		80-123	1		03/05/10 14:44	2037-26-5	

Sample: Trip Blank	Lab ID: 253155005	Collected: 02/25/10 00:00	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1,1-Trichloroethane	ND ug/L		1.0	1		03/05/10 12:26	71-55-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		03/05/10 12:26	79-34-5	
1,1,2-Trichloroethane	ND ug/L		1.0	1		03/05/10 12:26	79-00-5	
1,1-Dichloroethane	ND ug/L		1.0	1		03/05/10 12:26	75-34-3	

Date: 03/10/2010 04:50 PM

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



## ANALYTICAL RESULTS

Project: 01344 - Blaine

Pace Project No.: 253155

Sample: Trip Blank	Lab ID: 253155005	Collected: 02/25/10 00:00	Received: 02/26/10 15:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
1,1-Dichloroethene	ND ug/L		1.0	1		03/05/10 12:26	75-35-4	L2
1,2-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 12:26	95-50-1	
1,2-Dichloroethane	ND ug/L		1.0	1		03/05/10 12:26	107-06-2	
1,2-Dichloropropane	ND ug/L		1.0	1		03/05/10 12:26	78-87-5	
1,3-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 12:26	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		03/05/10 12:26	106-46-7	
Benzene	ND ug/L		1.0	1		03/05/10 12:26	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		03/05/10 12:26	75-27-4	
Bromoform	ND ug/L		1.0	1		03/05/10 12:26	75-25-2	
Bromomethane	ND ug/L		1.0	1		03/05/10 12:26	74-83-9	
Carbon tetrachloride	ND ug/L		1.0	1		03/05/10 12:26	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		03/05/10 12:26	108-90-7	
Chloroethane	ND ug/L		1.0	1		03/05/10 12:26	75-00-3	
Chloroform	ND ug/L		1.0	1		03/05/10 12:26	67-66-3	
Chloromethane	ND ug/L		1.0	1		03/05/10 12:26	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		03/05/10 12:26	124-48-1	L2
Ethylbenzene	ND ug/L		1.0	1		03/05/10 12:26	100-41-4	
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/05/10 12:26	1634-04-4	
Methylene chloride	ND ug/L		4.0	1		03/05/10 12:26	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		03/05/10 12:26	127-18-4	
Toluene	ND ug/L		1.0	1		03/05/10 12:26	108-88-3	
Trichloroethene	ND ug/L		1.0	1		03/05/10 12:26	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		03/05/10 12:26	75-69-4	
Vinyl chloride	ND ug/L		0.10	1		03/05/10 12:26	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		03/05/10 12:26	1330-20-7	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		03/05/10 12:26	156-59-2	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 12:26	10061-01-5	
m&p-Xylene	ND ug/L		2.0	1		03/05/10 12:26	1330-20-7	
o-Xylene	ND ug/L		1.0	1		03/05/10 12:26	95-47-6	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		03/05/10 12:26	156-60-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		03/05/10 12:26	10061-02-6	
4-Bromofluorobenzene (S)	101 %		80-120	1		03/05/10 12:26	460-00-4	
Dibromofluoromethane (S)	95 %		80-122	1		03/05/10 12:26	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		80-124	1		03/05/10 12:26	17060-07-0	
Toluene-d8 (S)	91 %		80-123	1		03/05/10 12:26	2037-26-5	

Date: 03/10/2010 04:50 PM

## REPORT OF LABORATORY ANALYSIS

Page 8 of 12

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



**QUALITY CONTROL DATA**

Project: 01344 - Blaine  
Pace Project No.: 253155

---

QC Batch:	MSV/2109	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	253155001, 253155002, 253155003, 253155004, 253155005		

---

METHOD BLANK: 22872 Matrix: Water

Associated Lab Samples: 253155001, 253155002, 253155003, 253155004, 253155005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/05/10 11:34	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/05/10 11:34	
1,1,2-Trichloroethane	ug/L	ND	1.0	03/05/10 11:34	
1,1-Dichloroethane	ug/L	ND	1.0	03/05/10 11:34	
1,1-Dichloroethene	ug/L	ND	1.0	03/05/10 11:34	
1,2-Dichlorobenzene	ug/L	ND	1.0	03/05/10 11:34	
1,2-Dichloroethane	ug/L	ND	1.0	03/05/10 11:34	
1,2-Dichloropropane	ug/L	ND	1.0	03/05/10 11:34	
1,3-Dichlorobenzene	ug/L	ND	1.0	03/05/10 11:34	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/05/10 11:34	
Benzene	ug/L	ND	1.0	03/05/10 11:34	
Bromodichloromethane	ug/L	ND	1.0	03/05/10 11:34	
Bromoform	ug/L	ND	1.0	03/05/10 11:34	
Bromomethane	ug/L	ND	1.0	03/05/10 11:34	
Carbon tetrachloride	ug/L	ND	1.0	03/05/10 11:34	
Chlorobenzene	ug/L	ND	1.0	03/05/10 11:34	
Chloroethane	ug/L	ND	1.0	03/05/10 11:34	
Chloroform	ug/L	ND	1.0	03/05/10 11:34	
Chloromethane	ug/L	ND	1.0	03/05/10 11:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/05/10 11:34	
cis-1,3-Dichloropropene	ug/L	ND	1.0	03/05/10 11:34	
Dibromochloromethane	ug/L	ND	1.0	03/05/10 11:34	
Ethylbenzene	ug/L	ND	1.0	03/05/10 11:34	
m&p-Xylene	ug/L	ND	2.0	03/05/10 11:34	
Methyl-tert-butyl ether	ug/L	ND	1.0	03/05/10 11:34	
Methylene chloride	ug/L	ND	4.0	03/05/10 11:34	
o-Xylene	ug/L	ND	1.0	03/05/10 11:34	
Tetrachloroethene	ug/L	ND	1.0	03/05/10 11:34	
Toluene	ug/L	ND	1.0	03/05/10 11:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/05/10 11:34	
trans-1,3-Dichloropropene	ug/L	ND	1.0	03/05/10 11:34	
Trichloroethene	ug/L	ND	1.0	03/05/10 11:34	
Trichlorofluoromethane	ug/L	ND	1.0	03/05/10 11:34	
Vinyl chloride	ug/L	ND	0.20	03/05/10 11:34	
Xylene (Total)	ug/L	ND	3.0	03/05/10 11:34	
1,2-Dichloroethane-d4 (S)	%	107	80-124	03/05/10 11:34	
4-Bromofluorobenzene (S)	%	102	80-120	03/05/10 11:34	
Dibromofluoromethane (S)	%	97	80-122	03/05/10 11:34	
Toluene-d8 (S)	%	93	80-123	03/05/10 11:34	

Date: 03/10/2010 04:50 PM

**REPORT OF LABORATORY ANALYSIS**

Page 9 of 12

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



**QUALITY CONTROL DATA**

Project: 01344 - Blaine  
Pace Project No.: 253155

LABORATORY CONTROL SAMPLE & LCSD: 22873		22874								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	20	15.8	17.8	79	89	69-135	12	30	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	18.8	94	94	69-123	.03	30	
1,1,2-Trichloroethane	ug/L	20	17.5	17.2	88	86	76-114	2	30	
1,1-Dichloroethane	ug/L	20	15.6	16.9	78	84	74-124	8	30	
1,1-Dichloroethene	ug/L	20	13.6	15.9	68	79	69-139	16	30	L0
1,2-Dichlorobenzene	ug/L	20	17.3	18.5	86	92	74-118	7	30	
1,2-Dichloroethane	ug/L	20	19.4	19.1	97	96	73-127	2	30	
1,2-Dichloropropane	ug/L	20	18.0	18.6	90	93	72-126	3	30	
1,3-Dichlorobenzene	ug/L	20	17.3	18.2	86	91	73-119	5	30	
1,4-Dichlorobenzene	ug/L	20	17.1	17.7	85	89	73-115	4	30	
Benzene	ug/L	20	18.6	19.9	93	100	75-124	7	30	
Bromodichloromethane	ug/L	20	16.7	17.0	84	85	77-126	2	30	
Bromoform	ug/L	20	14.3	14.2	71	71	61-131	.7	30	
Bromomethane	ug/L	20	13.3	15.4	67	77	58-139	15	30	
Carbon tetrachloride	ug/L	20	15.0	16.9	75	84	67-136	12	30	
Chlorobenzene	ug/L	20	16.6	17.4	83	87	78-115	5	30	
Chloroethane	ug/L	20	15.1	17.6	75	88	58-137	16	30	
Chloroform	ug/L	20	18.8	20.3	94	102	75-124	8	30	
Chloromethane	ug/L	20	14.2	17.1	71	85	50-129	19	30	
cis-1,2-Dichloroethene	ug/L	20	17.3	18.8	86	94	78-126	9	30	
cis-1,3-Dichloropropene	ug/L	20	16.6	16.0	83	80	78-159	3	30	
Dibromochloromethane	ug/L	20	14.9	15.2	75	76	81-125	2	30	L0
Ethylbenzene	ug/L	20	17.7	19.5	89	97	76-124	9	30	
m&p-Xylene	ug/L	40	31.6	34.2	79	85	75-124	8	30	
Methyl-tert-butyl ether	ug/L	20	17.4	17.6	87	88	72-130	.9	30	
Methylene chloride	ug/L	20	16.5	17.9	82	90	69-124	8	30	
o-Xylene	ug/L	20	15.7	17.2	78	86	76-121	9	30	
Tetrachloroethene	ug/L	20	15.1	17.1	76	85	70-127	12	30	
Toluene	ug/L	20	16.7	18.0	83	90	75-124	8	30	
trans-1,2-Dichloroethene	ug/L	20	16.4	18.2	82	91	72-129	11	30	
trans-1,3-Dichloropropene	ug/L	20	13.8	13.7	69	69	69-122	.4	30	
Trichloroethene	ug/L	20	17.0	18.8	85	94	78-124	10	30	
Trichlorofluoromethane	ug/L	20	18.5	22.5	93	112	60-147	19	30	
Vinyl chloride	ug/L	20	16.8	19.5	84	98	56-136	15	30	
Xylene (Total)	ug/L	60	47.3	51.4	79	86	76-123	8	30	
1,2-Dichloroethane-d4 (S)	%				106	105	80-124			
4-Bromofluorobenzene (S)	%				97	95	80-120			
Dibromofluoromethane (S)	%				104	106	80-122			
Toluene-d8 (S)	%				91	93	80-123			

## QUALIFIERS

Project: 01344 - Blaine

Pace Project No.: 253155

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

### LABORATORIES

PASI-S Pace Analytical Services - Seattle

### ANALYTE QUALIFIERS

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 01344 - Blaine  
 Pace Project No.: 253155

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
253155001	MW-3	EPA 5030B/8260	MSV/2109		
253155002	MW-4	EPA 5030B/8260	MSV/2109		
253155003	MW-7	EPA 5030B/8260	MSV/2109		
253155004	MW-8	EPA 5030B/8260	MSV/2109		
253155005	Trip Blank	EPA 5030B/8260	MSV/2109		

**Sample Condition Upon Receipt**

Pace Analytical

Client Name: Stantec

Project # 253155

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace Other

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Thermometer Used Horiba 132013

Type of Ice: Wet Blue None

Optional	Print Due Date
Proj. Name	_____

Cooler Temperature 5.3

Biological Tissue is Frozen: Yes No

Comments: \_\_\_\_\_

Temp should be above freezing to 5°C

<input type="checkbox"/> Samples on ice, cooling process has begun
Date and Initials of person examining contents: <u>2/26/10 AR</u>

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/Analysis Matrix:	<u>Water</u>	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2/26/10 AP
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: <u>VOA, coliform, TOC, O&amp;G, WI-DRO (water)</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Pace Trip Blank Lot # (if purchased):		

Field Data Required? Y / N

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review:

Jenni Gross

Date: 2/26/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR office if it is out of hold, incorrect preservative, out of temp, incorrect containers)

# Chain Of Custody Record

Pace Analytical Laboratories  
940 S. Hamey Street, Seattle WA  
(206) 767-5063

INVOICE REMITTANCE ADDRESS:		Purchase Order #		DATE: <u>02/25/10</u>							
		4512896492									
		ConocoPhillips ACC#		PAGE: <u>1</u> of <u>1</u>							
01344											
SAMPLING COMPANY: Stantec		Valid Value ID: CONOCOPHILLIPS SITE NUMBER 255028		GLOBAL ID NO.:							
ADDRESS: 12034 134th Court NE, Suite 102, Redmond, WA 98052		SITE ADDRESS (Street and City): 247 D Street, Blaine, WA		ConocoPhillips Manager Myron Smith							
PROJECT CONTACT (Hardcopy or PDF Report to): Chris Gdak		EDF DELIVERABLE TO (RP or Designee):	PHONE NO.:	E-MAIL:							
TELEPHONE: (425) 298-1023	FAX: (425) 298-1020	E-MAIL: chris.gdak@stantec.com		AS USE ONLY							
SAMPLER NAME(S) (Print): David Reitz	CONSULTANT PROJECT NUMBER 212302363		REQUESTED ANALYSES								
TURNAROUND TIME (CALENDAR DAYS): <input checked="" type="checkbox"/> 14 DAYS <input type="checkbox"/> 7 DAYS <input type="checkbox"/> 72 HOURS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 24 HOURS <input type="checkbox"/> LESS THAN 24 HOURS				FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes  <i>253155</i>							
SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NEEDED <input checked="" type="checkbox"/>											
		HVOCS by 8260B	BTEX by 8260B	MTBE by 8260B	TEMPERATURE ON RECEIPT C° <u>5.3</u>						
		X	X	X							
* Field Point name only required if different from Sample ID											
LABS USE ONLY	Field Point Name	Sample ID	SAMPLING		MATRIX	NO. OF CONT.	HVOCS by 8260B	BTEX by 8260B	MTBE by 8260B	TEMPERATURE ON RECEIPT C° <u>5.3</u>	
	DATE	TIME									
	MW-3	MW-3	<u>02/25/10</u>	<u>1410</u>	GW	6	X	X	X		
	MW-4	MW-4	<u>10</u>	<u>1440</u>	GW	6	X	X	X		
	MW-7	MW-7	<u>11</u>	<u>1540</u>	GW	6	X	X	X		
	MW-8	MW-8	<u>11</u>	<u>1510</u>	GW	6	X	X	X		
	—	TB				6	X	X	X		
Relinquished by: (Signature)			Received by: (Signature)					Date: <u>02/26/10</u>	Time: <u>1500</u>		
								Date: <u>02/26/10</u>	Time: <u>1500</u>		
Relinquished by: (Signature)			Received by: (Signature)					Date: <u>02/26/10</u>	Time: <u>1500</u>		

9/16/03 Revision

# Sample Container Count

CLIENT: Stanpc

253155



COC PAGE 1 of 1

COC ID# \_\_\_\_\_

Sample Line Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU	Comments
1	b											
2	b											
3	b											
4	b											
5	b											Trip blank
6												
7												
8												
9												
10												
11												
12												Trip Blank?

AG1H	1 liter HCL amber glass		BP2S	500mL H <sub>2</sub> SO <sub>4</sub> plastic		JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass		BP2U	500mL unpreserved plastic		R	terra core kit
AG2S	500mL H <sub>2</sub> SO <sub>4</sub> amber glass		BP2Z	500mL NaOH, Zn Ac		U	Summa Can
AG2U	500mL unpreserved amber glass		BP3C	250mL NaOH plastic		VG9H	40mL HCL clear vial
AG3S	250mL H <sub>2</sub> SO <sub>4</sub> amber glass		BP3N	250mL HNO <sub>3</sub> plastic		VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass		BP3S	250mL H <sub>2</sub> SO <sub>4</sub> plastic		VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass		BP3U	250mL unpreserved plastic		VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO <sub>3</sub> plastic		DG9B	40mL Na Bisulfate amber vial		VSG	Headspace septa vial & HCL
BP1S	1 liter H <sub>2</sub> SO <sub>4</sub> plastic		DG9H	40mL HCL amber voa vial		WGFU	4oz clear soll jar
BP1U	1 liter unpreserved plastic		DG9M	40mL MeOH clear vial		WGFX	4oz wide Jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac		DG9T	40mL Na Thio amber vial		ZPLC	Ziploc Bag
BP2N	500mL HNO <sub>3</sub> plastic		DG9U	40mL unpreserved amber vial			
BP2O	500mL NaOH plastic		I	Wipe/Swab			