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

Quarterly Groundwater Monitoring Report - Fourth Quarter 2009
ConocoPhillips Service Station No. 256380 (RM&R #1571)
Washington State Department of Ecology Facility No. 11191596
200 South 36th Street
Bellingham, Washington 98225

Stantec Project No.:
212301495

Submitted to:
Ms. Donna Musa
Toxics Cleanup Program
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

Submitted by:
Stantec Consulting Corporation
12034 134th Court NE, Suite 102
Redmond, WA 98052

Prepared on behalf of:
ConocoPhillips Company

January 11, 2010

Dear Ms. Musa:

Stantec Consulting Corporation (Stantec) is pleased to present this quarterly groundwater monitoring report to the Washington State Department of Ecology (DOE) Toxics Cleanup Program (TCP) on behalf of the ConocoPhillips Company (ConocoPhillips). This report describes the results of groundwater monitoring activities performed by Stantec during the Fourth Quarter of 2009 (the reporting period) at ConocoPhillips Facility No. 256380 (RM&R #1571; DOE Facility No. 11191596) located at 200 South 36th Street in Bellingham, Washington (the Site).

GROUNDWATER MONITORING ACTIVITIES

Groundwater monitoring activities during the reporting period were performed on December 9, 2009. Groundwater monitoring activities were performed in accordance with Stantec's protocols for groundwater monitoring events (see Appendix A).

Eight groundwater monitoring wells were gauged (MW-1 through MW-8) and four groundwater monitoring wells were sampled (MW-4, and MW-6 through MW-8). These activities are described below.

Monitoring Well Gauging

Eight groundwater monitoring wells were gauged: MW-1 through 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 foot. The depth to groundwater ranged from 4.33 feet (MW-5) to 7.99 feet (MW-2) 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. Historic 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 water table at the Site may suggest a depression that transects northeast to southwest through the central portion of the Site. Groundwater flow direction appears to be directed generally to the northeast at an approximate groundwater gradient of 0.003 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 (Appendix B). Purged groundwater and rinsate/decontamination water were stored at the Site in a Department of Transportation (DOT)-approved, steel drum pending laboratory characterization and offsite 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 a certified 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) using Environmental Protection Agency (EPA) Method 8260B;
- Total petroleum hydrocarbons (TPH) gasoline range organics (TPH-G) using DOE Northwest Method NWTPH-Gx; and,
- TPH diesel range organics (TPH-D) and TPH oil range organics (TPH-O) using DOE Northwest Method NWTPH-Dx with silica gel/acid cleanup.

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

Chemical Analyses Results

Historical chemical analyses results and those from the reporting period are summarized in Table 1. Analytical results for TPH-G, TPH-D, TPH-O and BTEX for the reporting period and the three previous reporting periods 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.

- TPH-D was detected in MW-7 at a concentration of 891 micrograms per liter (µg/L), which exceeded the MTCA Method A cleanup level of 500 µg/L.

The results during this reporting period are generally consistent with the results from other recent groundwater monitoring events.

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 that were identified during chemical analysis. It does not appear as though QA/QC concerns were identified in the analytical report.

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 approved by ConocoPhillips. A copy of the signed waste manifest or other disposal documentation will be provided under a separate cover.

CONCLUSIONS

The concentration of TPH-D in MW-7 exceeded the MTCA Method A cleanup level. No other exceedances of MTCA Method A cleanup levels were reported for any of the constituents analyzed at any of the locations sampled during the reporting period. The results during this

reporting period are generally consistent with the results 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.

Prepared by:

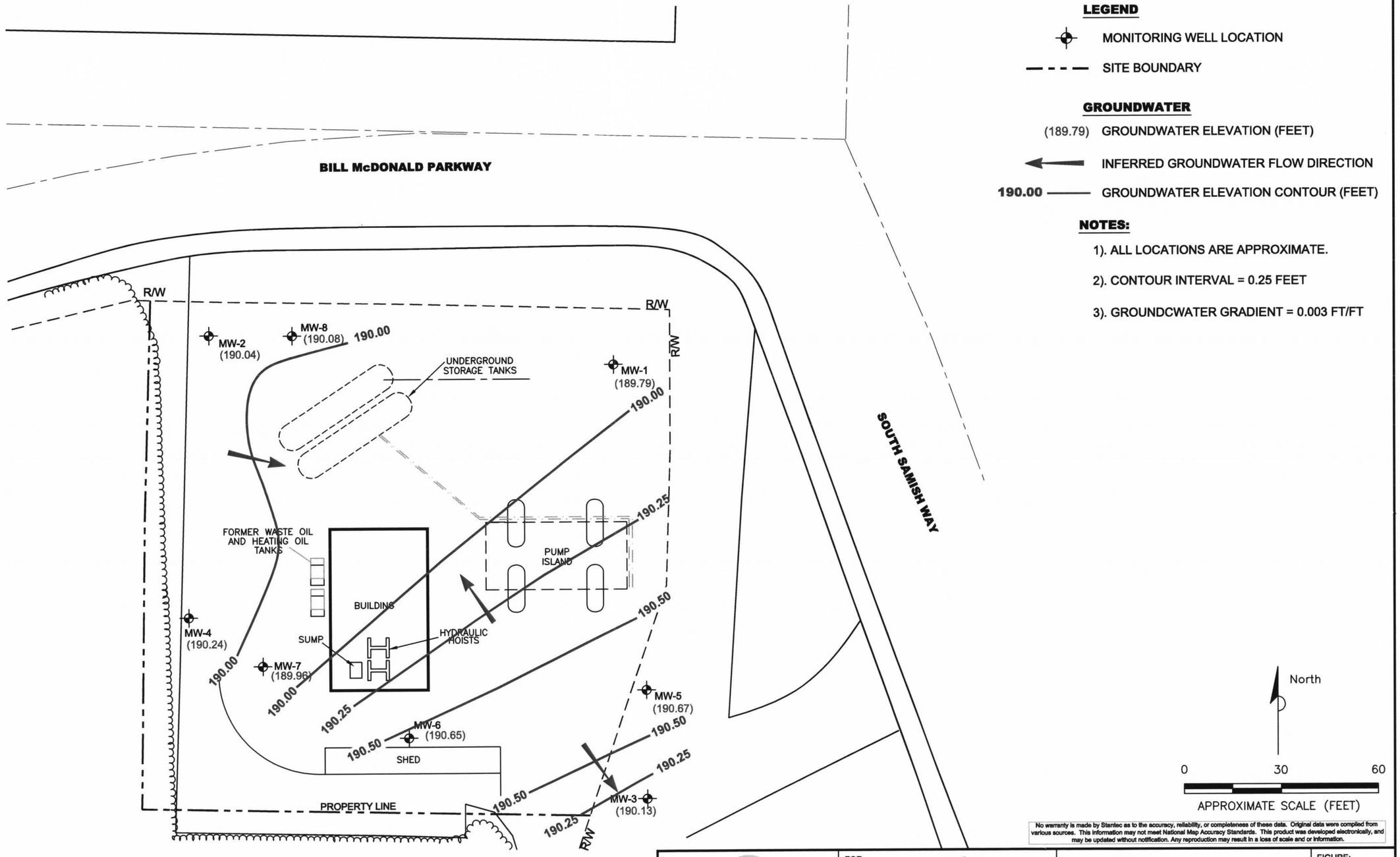
Tammy Parise
Staff Scientist

Reviewed by:

Jeffrey S. Thompson, L.G, L.E.G.
Principal Geologist

ATTACHMENTS

FIGURES



SOURCE:
BASE MAP FROM; ENVIRONMENTAL RESOLUTIONS, INC. (ERI) TITLED GROUNDWATER SAMPLE ANALYSIS MAP– 06/10/03, PLATE 1, DATED 07/08/03, PROJECT NO. 31065. CADD FILE 31065.13.DWG

Stantec
12034 134th COURT, SUITE 102
REDMOND, WASHINGTON
PHONE: (425) 372-1600 FAX: (425) 372-1650

FOR:
ConocoPhillips
FACILITY NO. 256380 (RM&R 1571)
200 SOUTH 36th STREET
BELLINGHAM, WASHINGTON

SITE PLAN WITH GROUNDWATER ELEVATIONS (DECEMBER 9, 2009)

FIGURE: 1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
212301495 (01571)	DJH	TP	JR	12/18/09

MW-8	3/31/09	6/17/09	9/29/09	12/9/09
TPH-G	<50.0	<50.0	<50.0	57.9
TPH-D	<82	<78	88.5	112
TPH-O	<410	<390	<388	<385
B	<1.0	<1.0	<1.0	<1.0
T	<1.0	<1.0	<1.0	<1.0
E	<1.0	<1.0	<1.0	<1.0
X	<1.0	<3.0	<3.0	<3.0

MW-1	3/31/09	6/17/09	9/29/09	12/9/09
TPH-G	<50.0	<50.0	<50.0	--
TPH-D	<83	<78	<77.7	--
TPH-O	<420	<390	<388	--
B	<1.0	<1.0	<1.0	--
T	<1.0	<1.0	<1.0	--
E	<1.0	<1.0	<1.0	--
X	<1.0	<3.0	<3.0	--

MW-2	3/31/09	6/17/09	9/29/09	12/9/09
TPH-G	<50	<50.0	<50.0	--
TPH-D	<800	<78	<77.7	--
TPH-O	<1,000	<390	<388	--
B	<0.5	<1.0	<1.0	--
T	<0.7	<1.0	<1.0	--
E	<0.8	<1.0	<1.0	--
X	<0.8	<3.0	<3.0	--

MW-7	3/31/09	6/16/09	9/29/09	12/9/09
TPH-G	352	240	134	169
TPH-D	220	440	**839**	**891**
TPH-O	<420	<390	**566**	<385
B	<1.0	<1.0	<1.0	<1.0
T	<1.0	<1.0	<1.0	<1.0
E	<1.0	<1.0	<1.0	<1.0
X	<1.0	<3.0	<3.0	<3.0

MW-4	3/31/09	6/17/09	9/29/09	12/9/09
TPH-G	--	<50.0	<50.0	<50.0
TPH-D	--	<78	256	142
TPH-O	--	<390	<396	<385
B	--	<1.0	<1.0	<1.0
T	--	<1.0	<1.0	<1.0
E	--	<1.0	<1.0	<1.0
X	--	<3.0	<3.0	<3.0

MW-6	3/31/09	6/16/09	9/29/09	12/9/09
TPH-G	--	<50.0	<50.0	<50.0
TPH-D	--	<78	<78.4	121
TPH-O	--	<390	<392	<385
B	--	<1.0	<1.0	<1.0
T	--	<1.0	<1.0	<1.0
E	--	<1.0	<1.0	<1.0
X	--	<3.0	<3.0	<3.0

MW-5	3/31/09	6/16/09	9/29/09	12/9/09
TPH-G	--	<50.0	<50.0	--
TPH-D	--	<78	183	--
TPH-O	--	<390	<386	--
B	--	<1.0	<1.0	--
T	--	<1.0	<1.0	--
E	--	<1.0	<1.0	--
X	--	<3.0	<3.0	--

MW-3	3/31/09	6/17/09	9/29/09	12/9/09
TPH-G	--	<50.0	<50.0	--
TPH-D	--	<78	<78.4	--
TPH-O	--	<390	<392	--
B	--	<1.0	<1.0	--
T	--	<1.0	<1.0	--
E	--	<1.0	<1.0	--
X	--	<3.0	<3.0	--

BILL McDONALD PARKWAY

SOUTH SAMISH WAY

R/W

MW-1

MW-2

MW-3

MW-4

MW-5

MW-6

MW-7

MW-8

UNDERGROUND STORAGE TANKS

FORMER WASTE OIL AND HEATING OIL TANKS

BUILDING

SUMP

HYDRAULIC HOISTS

PUMP ISLAND

SHED

PROPERTY LINE

LEGEND

- MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION
- SITE BOUNDARY
- INFERRED GROUNDWATER FLOW DIRECTION

ANALYTES

WELL ID	
TPH-G	GASOLINE RANGE HYDROCARBONS
TPH-D	DIESEL RANGE HYDROCARBONS
TPH-O	HEAVY OIL RANGE HYDROCARBONS
B	BENZENE
T	TOLUENE
E	ETHYL BENZENE
X	TOTAL XYLENES
MTBE	METHYL TERT-BUTYL ETHER

UNITS IN MICROGRAMS PER LITER (µg/L)

BOLD VALUES EQUAL OR EXCEED MTCA METHOD A CLEANUP LEVELS.

< LESS THAN LABORATORY REPORING LIMIT

-- NOT ANALYZED OR NOT APPLICABLE

NOTE:

1). ALL LOCATIONS ARE APPROXIMATE.

North

0 30 60

APPROXIMATE SCALE (FEET)

SOURCE:
BASE MAP FROM; ENVIRONMENTAL RESOLUTIONS, INC. (ERI) TITLED GROUNDWATER SAMPLE ANALYSIS MAP– 06/10/03, PLATE 1, DATED 07/08/03, PROJECT NO. 31065. CADD FILE 31065.13.DWG

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FOR:
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FACILITY NO. 256380 (RM&R 1571)
200 SOUTH 36th STREET
BELLINGHAM, WASHINGTON

SITE PLAN WITH ANALYTICAL RESULTS (DECEMBER 9, 2009)

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
212301495 (01571)	DJH	TP	JT	12/18/09

TABLE

TABLE 1
CULMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
ConocoPhillips Facility No. 256380
200 South 36th Street
Bellingham, Washington

Well Name		Elevation Data (feet)			Total Petroleum Hydrocarbons			Aromatic Hydrocarbons							Lead	
TOC Elevation	Sample Date	Depth to Water	LPH	GW Elevation	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDC (µg/L)	EDB (µg/L)	Total Pb (µg/L)	Dissolved Pb (µg/L)
MW1	03/11/99	4.96	--	93.53	<50	<250	<750[e]	<0.500	<0.500	<0.500	<1.00	--	--	--	2.41	--
98.49	05/25/99	5.33	--	93.16	<50.0	<250	<750[e]	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--
	08/12/99	6.66	--	91.83	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--
	12/07/99	6.10	--	92.39	<50.0	<250	<750[e]	<0.500	<0.500	<0.500	<1.00	--	--	--	6.18	--
	02/10/00	6.10	--	92.39	<50.0	<250	<750[e]	<0.500	<0.500	<0.500	<1.00	--	--	--	1.75	--
	02/02/01	5.17	--	93.32	<50.0	588	<750[e]	**12.4**	1.02	1.10	2.77	--	--	--	--	<1.00
	02/08/02	5.77	--	92.72	**838**	**1,600**	<500	**128**	2.15	85.4	6.55	--	--	--	7.70	<1.00
	09/20/02	6.27	--	92.22	197	**1,320**	<588[e]	1.82	<0.500	33.0	<1.00	--	--	--	<1.00	--
	12/04/02	7.05	--	91.44	373	511	<568[e]	**106**	1.32	1.39	5.41	--	--	--	4.65	--
	03/05/03	5.70	--	92.79	168	<250	<500	**28.3**	1.70	3.55	5.87	--	--	--	4.90	--
	06/10/03	5.92	--	92.57	400	<250	<500	**36.9**	2.43	30.5	6.97	--	--	--	**17.1**	--
	09/03/03	6.30	--	92.19	258	301	<588[e]	1.91	3.22	4.30	5.25	--	--	--	8.72	--
	12/12/03	5.530	--	92.960	204	**700**	304	2.45	<0.500	<0.500	<1.500	--	--	--	<5.0	--
	03/24/04	6.11	--	92.38	163	<126	<251	**12.6**	<1.00	<1.00	<3.00	--	--	--	14.6	--
	6/17/2004	5.10	--	93.39	<50.0	<118	<237	4.98	<0.500	<0.500	<1.50	--	--	--	--	<10.0
	9/23/2004	5.28	--	93.21	190	<267	<535[e]	<0.50	<0.50	<0.50	<1.0	--	--	--	<10.0	--
	12/29/2004	5.42	--	93.07	<100	<241	<482	<1.00	<1.00	<1.00	<3.00	--	--	--	--	<10.0
	3/4/2005	5.73	--	92.76	<100	<241	<482	<1.00	<1.00	<1.00	<3.00	--	--	--	<10.0	--
	6/9/2005	6.10	--	92.39	<100	<236	<472	<1	<1	<1	<3	1.26	--	--	--	<15
	09/15/05	6.60	--	91.89	<48	<160	<200	<0.5	<0.5	<0.5	<1.5	--	--	--	--	<0.87
	12/15/05	5.94	--	92.55	<48	170	110	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	03/10/06	5.34	--	93.15	<48	<76	<95	0.6	<0.2	<0.2	<0.6	--	--	--	--	--
	06/30/06	8.88	--	89.61	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	1.3	--	--	--	--
	03/07/07	UNABLE TO GAUGE OR SAMPLE;PUBLIC WORKS TRUCKS PARKED OVER WELL.														
	06/01/07	5.47	--	93.02	<50	--	--	<0.5	<0.7	<0.8	<0.8	1.0	--	--	--	--
	09/06/07	6.01	--	92.48	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	0.5	--	--	--	--
	12/03/07	6.63	--	91.86	<50	<400[c]	<500[c]	<0.5	<0.7	<0.8	<0.8	0.6	--	--	--	--
	03/05/08	5.34	--	93.15	<50[d]	<800[c,e]	<1,000[c,e]	**11**	<0.7	<0.8	<0.8	1	--	--	--	--
	06/11/08	5.34	0.00	93.15	<50	<800[b,c,e]	<1,000[b,c,e]	**10**	<0.5	<0.5	<0.5	1	--	--	--	--
	09/10/08	5.30	0.00	93.19	<50	<77	<96	<0.5	<0.7	<0.8	<0.8	1	--	--	--	--
	12/10/08	5.62	0.00	92.87	<50	<29	<69	<0.5	<0.7	<0.8	<0.8	--	--	--	--	--
	03/31/09	5.55	0.00	92.94	<50.0	<83	<420	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--
	06/17/09	5.80	0.00	92.69	<50.0	<78	<390	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	<1.0	<1.0
195.79	09/29/09	6.67	0.00	189.12	<50.0	<77.7	<388	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
	12/09/09	6.00	0.00	189.79	Not part of the sampling schedule this reporting period.								--	--	--	--

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200 South 36th Street
Bellingham, Washington

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TOC Elevation	Sample Date	Depth to Water	LPH	GW Elevation	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDC (µg/L)	EDB (µg/L)	Total Pb (µg/L)	Dissolved Pb (µg/L)
MW2	03/11/99	7.93	--	92.81	<50	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	**162**	--
100.74	05/25/99	8.18	--	92.56	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--
	08/12/99	8.94	--	91.80	<50.0	281	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--
	12/07/99	8.04	--	92.70	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	**17.0**	--
	02/10/00	8.32	--	92.42	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	**49.1**	--
	02/02/01	6.40	--	94.34	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	--	<1.00
	02/08/02	7.77	--	92.97	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	**40.6**	<1.00
	09/20/02	9.23	--	91.51	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	<1.00	--
	12/04/02	9.15	--	91.59	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	2.89	--
	03/05/03	8.28	--	92.46	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	**19.8**	--
	06/10/03	8.56	--	92.18	<50.0	<284	<568[a]	<0.500	1.36	<0.500	2.53	--	--	--	**40.1**	--
	09/03/03	9.13	--	91.61	<80.0	<298	<595[a]	0.829	1.25	0.519	2.49	--	--	--	**33.3**	--
	12/12/03	8.120	--	92.62	<50.0	<119	<237	<0.250	<0.500	<0.500	<1.500	--	--	--	<5.0	--
	03/24/04	8.13	--	92.61	<100	<124	<248	<1.00	<1.00	<1.00	<3.00	--	--	--	**21.3**	
	6/17/2004	8.13	--	92.61	<50.0	<119	<238	<0.250	<0.500	<0.500	<1.50	--	--	--	--	<10.0
	9/23/2004	8.33	--	92.41	<50	<271	<542[a]	<0.50	<0.50	<0.50	<1.0	--	--	--	<10.0	--
	12/29/2004	7.82	--	92.92	<100	<239	<478	<1.00	<1.00	<1.00	<3.00	--	--	--	--	<10.0
	3/4/2005	8.34	--	92.40	<100	<239	<478	<1.00	<1.00	<1.00	<3.00	--	--	--	<10.0	--
	6/9/2005	8.66	--	92.08	<100	<238	<475	<1	<1	<1	<3	<1	--	--	--	<15
	9/15/2005	5.40	--	95.34	<48	<75	<94	<0.5	<0.5	<0.5	<1.5	--	--	--	--	<0.87
	12/15/2005	8.44	--	92.30	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	3/10/2006	8.28	--	92.46	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	06/30/06	8.71	--	92.03	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	<0.3	--	--	--	--
	03/07/07	7.80	--	92.94	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/01/07	8.38	--	92.36	<50	--	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	09/06/07	9.06	--	91.68	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/03/07	6.69	--	94.05	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	03/05/08	8.05	--	92.69	<50	<800[c,e]	<1,000[c,e]	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/11/08	8.25	0.00	92.49	<50	<76[b]	<95[b]	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	09/10/08	8.80	0.00	91.94	<50	<78	<97	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/10/08	Removed from sampling event this quarter.				--	--	--	--	--	--	--	--	--	--	--
	03/31/09	7.90	0.00	92.84	--	--	--	--	--	--	--	--	--	--	--	--
	06/17/09	8.53	0.00	92.21	<50.0	<78	<390	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	<1.0	<1.0
198.03	09/29/09	9.38	0.00	188.65	<50.0	<77.7	<388	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
	12/09/09	7.99	0.00	190.04	Not part of the sampling schedule this reporting period.								--	--	--	--

TABLE 1
CULMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
ConocoPhillips Facility No. 256380
200 South 36th Street
Bellingham, Washington

Well Name	Sample Date	Elevation Data (feet)			Total Petroleum Hydrocarbons			Aromatic Hydrocarbons							Lead	
TOC Elevation		Depth to Water	LPH	GW Elevation	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDC (µg/L)	EDB (µg/L)	Total Pb (µg/L)	Dissolved Pb (µg/L)
MW3	03/11/99	4.93	--	92.91	<50	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	6.35	--
97.84	05/25/99	5.19	--	92.65	210	383	<750[a]	<0.500	<0.500	3.04	3.93	--	--	--	--	--
	08/12/99	5.70	--	92.14	56.3	<250	<750[a]	<0.500	<0.500	0.732	1.84	--	--	--	--	--
	12/07/99	5.03	--	92.81	94.7	<250	<750[a]	<0.500	0.598	<0.500	<1.00	--	--	--	4.40	--
	02/10/00	4.92	--	92.92	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	**17.6**	--
	02/02/01	4.76	--	93.08	63.0	413	<750[a]	<0.500	<0.500	0.503	<1.00	--	--	--	--	<1.00
	02/08/02	4.59	--	93.25	91.5	410	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	**22.3**	<1.00
	09/20/02	5.88	--	91.96	129	372	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	<1.00	--
	12/04/02	5.26	--	92.58	147	371	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	4.60	--
	03/05/03	4.70	--	93.14	62.2	<250	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	12.5	--
	06/10/03	5.31	--	92.53	<50.0	<250	<500	<0.500	0.562	<0.500	<1.00	--	--	--	6.90	--
	09/03/03	5.66	--	92.18	<80.0	<250	<500	2.12	0.753	<0.500	<1.00	--	--	--	<1.00	--
	12/12/03	4.785	--	93.06	<50.0	<119	<237	<0.250	<0.500	<0.500	<1.500	--	--	--	<5.0	--
	03/24/04	4.81	--	93.03	<100	<128	<256	<1.00	<1.00	<1.00	<3.00	--	--	--	**20.0**	--
	6/17/2004	4.97	--	92.87	<50.0	<119	<238	<0.250	<0.500	<0.500	<1.50	--	--	--	--	<10.0
	9/23/2004	5.03	--	92.81	140	<255	<509[a]	<0.50	<0.50	<0.50	<1.0	--	--	--	<10.0	--
	12/29/2004	4.53	--	93.31	<100	<239	<478	<1.00	<1.00	<1.00	<3.00	--	--	--	--	<10.0
	3/4/2005	5.02	--	92.82	<100	<241	<482	<1.00	<1.00	<1.00	<3.00	--	--	--	<10.0	--
	6/9/2005	5.25	--	92.59	<100	<238	<475	<1	<1	<1	<3	<1	--	--	--	<15
	9/15/2005	7.20	--	90.64	<48	<75	<93	<0.5	<0.5	<0.5	<1.5	--	--	--	--	<0.87
	12/15/2005	5.09	--	92.75	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	3/10/2006	4.75	--	93.09	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	06/30/06	5.40	--	92.44	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	<0.3	--	--	--	--
	03/07/07	4.42	--	93.42	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/01/07	4.94	--	92.90	<50	--	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	09/06/07	5.43	--	92.41	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/03/07	4.70	--	93.14	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	03/05/08	4.89	--	92.95	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/11/08	5.11	0.00	92.73	<50	100[b]	**560**[b]	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	09/10/08	5.30	0.00	92.54	<50	<78	<98	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/10/08	Removed from sampling event this quarter.				--	--	--	--	--	--	--	--	--	--	--
	03/31/09	4.90	0.00	92.94	--	--	--	--	--	--	--	--	--	--	--	--
	06/17/09	5.57	0.00	92.27	<50.0	<78	<390	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	<1.0	<1.0
195.19	09/29/09	5.91	0.00	189.28	<50.0	<78.4	<392	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
	12/09/09	5.06	0.00	190.13	Not part of the sampling schedule this reporting period.								--	--	--	--

TABLE 1
CULMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
ConocoPhillips Facility No. 256380
200 South 36th Street
Bellingham, Washington

Well Name	Sample Date	Elevation Data (feet)			Total Petroleum Hydrocarbons			Aromatic Hydrocarbons							Lead	
TOC Elevation		Depth to Water	LPH	GW Elevation	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDC (µg/L)	EDB (µg/L)	Total Pb (µg/L)	Dissolved Pb (µg/L)
MW4	03/11/99	6.39	--	93.05	<50	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	**29.0**	--
99.44	05/25/99	6.62	--	92.82	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--
	08/12/99	7.31	--	92.13	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--
	12/07/99	6.37	--	93.07	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	10.2	--
	02/10/00	6.48	--	92.96	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	**23.6**	--
	02/02/01	6.37	--	93.07	<50.0	<250	<750[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	--	<1.00
	02/08/02	6.03	--	93.41	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	3.30	<1.00
	09/20/02	7.37	--	92.07	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	<1.00	--
	12/04/02	7.03	--	92.41	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	<1.00	--
	03/05/03	6.33	--	93.11	<50.0	<284	<568[a]	<0.500	<0.500	<0.500	<1.00	--	--	--	6.81	--
	06/10/03	6.99	--	92.45	<50.0	<250	<500	<0.500	0.687	<0.500	1.26	--	--	--	10.5	--
	09/03/03	7.60	--	91.84	<80.0	<312	<625[a]	0.620	<0.500	<0.500	<1.00	--	--	--	2.75	--
	12/12/03	6.485	--	92.96	<50.0	<118	<237	<0.250	<0.500	<0.500	<1.500	--	--	--	<5.0	--
	03/24/04	6.54	--	92.90	<100	<133	<265	<1.00	<1.00	<1.00	<3.00	--	--	--	<5.0	--
	6/17/2004	5.91	--	93.53	<50.0	<119	<237	<0.250	<0.500	<0.500	<1.50	--	--	--	--	<10.0
	9/23/2004	6.52	--	92.92	<50	<259	<518[a]	<0.50	<0.50	<0.50	<1.0	--	--	--	<10.0	--
	12/29/2004	6.14	--	93.30	<100	<240	<480	<1.00	<1.00	<1.00	<3.00	--	--	--	--	<10.0
	3/4/2005	6.65	--	92.79	<100	<240	<481	<1.00	<1.00	<1.00	<3.00	--	--	--	<10.0	--
	6/9/2005	6.91	--	92.53	<100	<237	<473	<1	<1	<1	<3	<1	--	--	--	<15
	9/15/2005	6.10	--	93.34	<48	150	<93	<0.5	<0.5	<0.5	<1.5	--	--	--	--	<0.87
	12/15/2005	6.73	--	92.71	<48	180	<94	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	3/10/2006	6.28	--	93.16	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	06/03/06	6.80	--	92.64	<48	130	<95	<0.2	<0.2	<0.2	<0.6	0.8	--	--	--	--
	03/07/07	5.81	--	93.63	<48	83	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/01/07	6.60	--	92.84	<50	--	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	09/06/07	7.12	--	92.32	<50	170	<95	<0.5	<0.7	<0.8	<0.8	0.6	--	--	--	--
	12/03/07	6.00	--	93.44	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	03/05/08	6.17	--	93.27	<50	<77	<96	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/11/08	6.02	0.00	93.42	<50	<75[b]	<94[b]	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	09/10/08	6.85	0.00	92.59	<50	<78	<97	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/10/08	Removed from sampling event this quarter.				--	--	--	--	--	--	--	--	--	--	--
	03/31/09	6.17	0.00	93.27	--	--	--	--	--	--	--	--	--	--	--	--
	06/16/09	7.09	0.00	92.35	<50.0	<78	<390	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	<1.0	<1.0
196.77	09/29/09	7.71	0.00	189.06	<50.0	256	<396	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
	12/09/09	6.53	0.00	190.24	<50.0	142	<385	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--

TABLE 1
CULMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
ConocoPhillips Facility No. 256380
200 South 36th Street
Bellingham, Washington

Well Name		Elevation Data (feet)			Total Petroleum Hydrocarbons			Aromatic Hydrocarbons							Lead	
TOC Elevation	Sample Date	Depth to Water	LPH	GW Elevation	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDC (µg/L)	EDB (µg/L)	Total Pb (µg/L)	Dissolved Pb (µg/L)
MW-5	1/11/2006	4.04	--	97.10	<48	<75	<94	1.7	<0.2	<0.2	<0.6	--	--	--	<8.4	--
101.14	3/10/2006	3.81	--	97.33	65	<75	<94	13	0.2	<0.2	<0.6	--	--	--	--	--
	06/30/06	4.46	--	96.68	57	<76	<95	8.6	<0.2	<0.2	<0.6	<5.0	--	--	--	--
	03/07/07	3.48	--	97.66	<48	<76	<94	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/01/07	4.10	--	97.04	<50	--	--	<0.5	<0.7	<0.8	<0.8	0.6	--	--	--	--
	09/06/07	4.43	--	96.71	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/03/07	4.64	--	96.50	<50	99	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	03/05/08	4.36	--	96.78	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/11/08	4.21	0.00	96.93	<50	91	<94	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	09/10/08	4.30	0.00	96.84	<50	<78	<98	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/10/08	Removed from sampling event this quarter.			--	--	--	--	--	--	--	--	--	--	--	--
	03/31/09	4.45	0.00	96.69	--	--	--	--	--	--	--	--	--	--	--	--
	06/16/09	4.80	0.00	96.34	<50.0	<78	<390	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	<1.0	<1.0
195.00	09/29/09	5.53	0.00	189.47	<50.0	183	<386	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
	12/09/09	4.33	0.00	190.67	Not part of the sampling schedule this reporting period.								--	--	--	--
MW-6	1/11/2006	4.89	--	94.85	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	--	--	--	<8.4	--
99.74	3/10/2006	5.47	--	94.27	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	06/30/06	6.50	--	93.24	<48	<80	<100	<0.2	<0.2	<0.2	<0.6	<0.3	--	--	--	--
	03/07/07	5.08	--	94.66	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/10/07	5.73	--	94.01	<50	--	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	09/06/07	6.22	--	93.52	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/03/07	5.46	--	94.28	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	03/05/08	5.46	--	94.28	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/11/08	5.39	0.00	94.35	<50	<76	250	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	09/10/08	5.95	0.00	93.79	<50	<79	<98	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/10/08	Removed from sampling event this quarter.			--	--	--	--	--	--	--	--	--	--	--	--
	03/31/09	5.75	0.00	93.99	--	--	--	--	--	--	--	--	--	--	--	--
	06/16/09	6.50	0.00	93.24	<50.0	<78	<390	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	<1.0	<1.0
196.52	09/29/09	7.04	0.00	189.48	<50.0	<78.4	<392	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
	12/09/09	5.87	0.00	190.65	<50.0	121	<385	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--

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CULMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
ConocoPhillips Facility No. 256380
200 South 36th Street
Bellingham, Washington

Well Name		Elevation Data (feet)			Total Petroleum Hydrocarbons			Aromatic Hydrocarbons							Lead	
TOC Elevation	Sample Date	Depth to Water	LPH	GW Elevation	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDC (µg/L)	EDB (µg/L)	Total Pb (µg/L)	Dissolved Pb (µg/L)
MW-7	1/11/2006	6.07	--	93.57	160	**780**[b]	<94[b]	<0.2	<0.2	<0.2	<0.6	2.5	--	--	<8.4	--
99.64	3/10/2006	6.71	--	92.93	140	**540**	<94	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	06/30/06	7.31	--	92.33	190	1,000	<480	0.2	<0.2	<0.2	<0.6	2	--	--	--	--
	03/07/07	6.00	--	93.64	340	**870**	<94	<0.5	<0.7	<0.8	<0.8	0.7	--	--	--	--
	06/01/07	6.99	--	92.65	210	--	--	<0.5	<0.7	<0.8	<0.8	0.8	--	--	--	--
	09/06/07	7.47	--	92.17	250	**1,000**	160	<0.5	<0.7	<0.8	<0.8	0.8	--	--	--	--
	12/03/07	4.97	--	94.67	400	**970**	140	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	03/05/08	6.47	--	93.17	240	**930**	100	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/11/08	6.13	0.00	93.51	240	**1,300**	**860**	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	09/10/08	7.20	0.00	92.44	250	**580**	<97	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/10/08	6.88	0.00	92.76	260	460	<68	<0.5	<0.7	<0.8	<0.8	--	--	--	--	--
	03/31/09	6.62	0.00	93.02	352	220	<420	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--
	06/16/09	7.49	0.00	92.15	240	440	<390	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	<1.0	<1.0
196.93	09/29/09	7.97	0.00	188.96	134	**839**	**566**	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
	12/09/09	6.97	0.00	189.96	169	**891**	<385	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--
MW-8	1/11/2006	7.00	--	95.70	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	--	--	--	<8.4	--
102.7	3/10/2006	7.50	--	95.20	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	--	--	--	--	--
	06/30/06	7.97	--	94.73	<48	<77	<96	<0.2	<0.2	<0.2	<0.6	<0.3	--	--	--	--
	03/07/07	6.93	--	95.77	<48	<75	<94	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/01/07	7.77	--	94.93	<50	--	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	09/06/07	8.45	--	94.25	<50	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/03/07	7.51	--	95.19	<50	<76	290	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	03/05/08	7.30	--	95.40	<50	<150	**860**	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	06/11/08	7.22	0.00	95.48	<50[d]	240	**1,000**	<0.5[d]	0.7[d]	<0.5[d]	<0.5[d]	<0.5[d]	--	--	--	--
	09/10/08	8.20	0.00	94.50	<50	<79	<99	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--
	12/10/08	7.55	0.00	95.15	<50	<29	180	<0.5	<0.7	<0.8	<0.8	--	--	--	--	--
	03/31/09	7.10	0.00	95.60	<50.0	<82	<410	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--
	06/17/09	8.00	0.00	94.70	<50.0	<78	<390	<1.0	<1.0	<1.0	<3.0	<1.0	2.8	<0.010	1.3	<1.0
197.48	09/29/09	8.89	0.00	188.59	<50.0	88.5	<388	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
	12/09/09	7.40	0.00	190.08	57.9	112	<385	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--
MTCA Method A Cleanup Levels					**1000/800**[a]	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**5**	**0.01**	**15**	**15**

TABLE 1
CULMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
ConocoPhillips Facility No. 256380
200 South 36th Street
Bellingham, Washington

Well Name	Sample Date	Elevation Data (feet)			Total Petroleum Hydrocarbons			Aromatic Hydrocarbons							Lead	
TOC Elevation		Depth to Water	LPH	GW Elevation	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDC (µg/L)	EDB (µg/L)	Total Pb (µg/L)	Dissolved Pb (µg/L)

NOTES:
TOC = Top of Casing in feet
All concentrations are in micrograms per liter (µg/L) (ppb).
Wellhead elevations in feet were taken from prior consultant's reports.
LPH = Liquid phase hydrocarbon
DTW = Depth to water in feet below top of casing
GW Elev. = Groundwater elevation in feet relative to top of casing elevation
TPH-G = Total Petroleum Hydrocarbons as Gasoline by Ecology Method NWTPH-Gx
TPH-D and TPH-O = Total Petroleum Hydrocarbons as Diesel and Oil, respectively, by Ecology Method NWTPH-Dx
B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes
BTEX = Aromatic compounds by EPA Method 8020, 8021B or 8260B, refer to laboratory reports.
EDC = 1,2-Dichloroethane by EPA Method 8260B.
EDB = 1,2-Dibromoethane by EPA Method 8011.
Total Pb by EPA Method 6020; Diss Pb = Dissolved lead by EPA Method 6020
After 9/03/03 Total Pb = Total lead by ICP-USEPA Method 6010; Diss Pb = Dissolved lead by ICP-USEPA Method 6010
-- = Not Analyzed or Sampled
< = Less than the stated laboratory reporting limit
Shaded values equal or exceed MTCA Method A Cleanup Levels.
[a] Concentration levels stated by MTCA Method A for TPH-G are 1000 µg/L when no benzene is present and 800 µg/L when benzene is present.
Data collected before 12/12/03 are taken from prior consultants.
[b] The recovery for the laboratory control sample (LCS) with this sample is below quality control limits. Since no sample remained for a reextraction the data is reported.
[c] Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.
[d] Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analyses. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH=6.
[e] The laboratory reporting limits (RLs) are above current MTCA Method A cleanup levels

APPENDIX 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.

APPENDIX B
FIELD DATA SHEETS

SITE VISITATION REPORT

4Q09 - CP 256380 (RM&R 01571) Bellingham, Washington

Name(s) D. Reitz Date: 12/9/09 Time of Arrival Call-In: 0830

Arrival Time: 0830 Departure Time: 1400 Time of Departure Call-In 1330

Who did you call? C. Gdak

DRUM INVENTORY

1	WATER		CARBON	TOTAL OPEN TOP	
	SOIL		EMPTY	TOTAL BUNG TOP	1

HEALTH AND SAFETY ASSESSMENT

Don P.P.E.
Review HASP & JSA
Set-up Decon. Station.

DESCRIPTION OF ACTIVITIES ONSITE AND NOTES

0830 ~~Arrive~~ on site. Don appropriate p.p.e. Check-in with site-contact. Call-in to office. Purchase ice.
0845 Perform tailgate safety meeting. Set-up decon. station. Conduct preliminary site-walk.
0900 Initiate gauging of physical measurements at 8 g.w.m. wells prior to 4Q09/GWM sample procedures.
1020 Complete gauging procedures & initiate 4Q09 GWM sample procedures at 4 g.w.m. wells.
1240 Complete 4Q09 GWM sample procedures. Decon. equipment and release purge water/decon. rinsates into staged drum. Label drum.
1300 Pack sample coolers & load equipment into truck.
1320 Check-out with site-contact & call-in to office.
1330 Complete daily documentation
1400 Depart job/site.

Stantec Consulting Corporation

HYDROLOGIC DATA SHEET

Gauge Date: 12/09/09 **Project Name:** CP RM&R 1571 Bellingham

Field Technician: David Reitz **Project Number:** 212301495

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)				
MW-1		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	0900	–	6.00	22.60	N	N	N	
MW-2		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen	0910	–	7.99	20.70	N	N	N	
MW-3		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	0920	–	5.06	21.00	N	N	N	
MW-4		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	1000	–	6.53	20.40	Y	N	Y	
MW-5		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	0930	–	4.33	13.60	N	N	N	
MW-6		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	0940	–	5.87	13.90	Y	N	Y	
MW-7		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	1010	–	6.97	17.90	Y	N	Y	
MW-8		Within the top half of the encountered water column. Top of screen interval if DTW < Depth to Screen.	0950	–	7.40	17.60	Y	N	Y	

STANTEC Consulting Corporation

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 212301495 PURGED BY: D. Retz WELL I.D.: MW-6

CLIENT NAME: Conoco Phillips SAMPLED BY: D. Retz SAMPLE I.D.: MW-6

LOCATION: 200 S. 36th St. Bellingham, WA.

DATE PURGED 12/9/09 START (2400hr) 1020 END (2400hr) 1050

DATE SAMPLED 12/9/09 SAMPLE TIME (2400hr) 1035 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) = 13.90

DEPTH TO WATER (feet) = 5.87

WATER COLUMN HEIGHT (feet) = 8.03 ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (mL)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)
12/9/09	1025	500	10.6	0.881	5.65	Clr
	1028	500	11.4	0.878	5.72	Clr
	1031	500	11.6	0.882	5.79	Clr
	1034	500	11.8	0.884	5.82	Clr
					12/9/09	
Calculated Variance of Final Three Samples:			0.4	0.004	0.10	
Acceptable Variance Limits:			≤ 10%	≤ 3%	≤ 0.1	

DEPTH TO PURGE INTAKE DURING PURGE: 9.00 SAMPLE DTW: 6.10

ANTICIPATED PURGE INTAKE DEPTH: 9.00 ANALYSES: TPH-G, TPH-D, BTEX by 8260B

SAMPLE VESSEL / PRESERVATIVE: ____

PURGING EQUIPMENT:	SAMPLING EQUIPMENT:
Horiba water meter Peristaltic pump Interface probe	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]

STANTEC Consulting Corporation

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 212301495 PURGED BY: D. Reitz WELL I.D.: MW-8

CLIENT NAME: Conoco Phillips SAMPLED BY: D. Reitz SAMPLE I.D.: MW-8

LOCATION: 200 S. 36th St. Bellingham, WA.

DATE PURGED 12/9/09 START (2400hr) 1055 END (2400hr) 1125

DATE SAMPLED 12/9/09 SAMPLE TIME (2400hr) 1110 LOW-FLOW USED X

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X (0.64) 3" ____ (1.44) 4" ____ (2.45) 5" ____ (3.86) 6" ____ (5.68) 8" ____ (9.84) Other ____ ( )

Casing Volume: (liters per foot)

DEPTH TO BOTTOM (feet) = 17.60

DEPTH TO WATER (feet) = 7.40

WATER COLUMN HEIGHT (feet) = 10.20 ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (mL)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)
12/9/09	1100	500	12.3	0.824	5.94	Clr
↓	1103	500	12.8	0.808	5.94	Clr
	1106	500	13.0	0.788	5.92	Clr
↓	1109	500	13.3	0.794	5.93	Clr
					12/9/09	
Calculated Variance of Final Three Samples:			0.5	0.020	0.02	
Acceptable Variance Limits:			≤ 10%	≤ 3%	≤ 0.1	

DEPTH TO PURGE INTAKE DURING PURGE: 12.00 SAMPLE DTW: 7.66

ANTICIPATED PURGE INTAKE DEPTH: 12.00 ANALYSES: TPH-G, TPH-D, BTEX by 8260B

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: [signature]

STANTEC Consulting Corporation

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 212301495 PURGED BY: D. Reitz WELL I.D.: MW-4

CLIENT NAME: Conoco Phillips SAMPLED BY: D. Reitz SAMPLE I.D.: MW-4

LOCATION: 200 S. 36th St. Bellingham, WA.

DATE PURGED 12/9/09 START (2400hr) 1135 END (2400hr) 1205

DATE SAMPLED 12/9/09 SAMPLE TIME (2400hr) 1150 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) = 20.40

DEPTH TO WATER (feet) = 6.53

WATER COLUMN HEIGHT (feet) = 13.87 ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (mL)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)
12/9/09	1140	500	10.6	0.676	5.66	Clr
	1143	500	10.5	0.660	5.59	Clr
	1146	500	10.3	0.658	5.58	Clr
	1149	500	10.0	0.645	5.58	Clr
					12/9/09	

Calculated Variance of Final Three Samples: 0.5 0.015 0.01

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

DEPTH TO PURGE INTAKE DURING PURGE: 15.00 SAMPLE DTW: 6.67

ANTICIPATED PURGE INTAKE DEPTH: 15.00 ANALYSES: TPH-G, TPH-D, BTEX by 8260B

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: [signature]

STANTEC Consulting Corporation

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 212301495 PURGED BY: D. Reitz WELL I.D.: MW-7

CLIENT NAME: Conoco Phillips SAMPLED BY: D. Reitz SAMPLE I.D.: MW-7

LOCATION: 200 S. 36th St. Bellingham, WA

DATE PURGED 12/9/09 START (2400hr) 1205 END (2400hr) 1235

DATE SAMPLED 12/9/09 SAMPLE TIME (2400hr) 1220 LOW-FLOW USED X

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X (0.64) 3" ____ (1.44) 4" ____ (2.45) 5" ____ (3.86) 6" ____ (5.68) 8" ____ (9.84) Other ____ ( )

Casing Volume: (liters per foot)

DEPTH TO BOTTOM (feet) = 17.90

DEPTH TO WATER (feet) = 6.97

WATER COLUMN HEIGHT (feet) = 10.93 ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (L)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)
12/9/09	1210	500	11.3	0.921	5.77	Clr
"	1213	500	10.0	0.935	5.71	Clr
"	1216	500	9.7	0.937	5.73	Clr
"	1219	500	9.3	0.939	5.73	Clr
					12/9/09	

Calculated Variance of Final Three Samples: 0.7 0.004 0.02

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

DEPTH TO PURGE INTAKE DURING PURGE: 13.00 SAMPLE DTW: 7.14

ANTICIPATED PURGE INTAKE DEPTH: 13.00 ANALYSES: TPH-G, TPH-D, BTEX by 8260B

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: ____

Chain Of Custody Record

PACE Analytical Laboratory
940 S. Harney Street, Seattle, WA
(206) 767-5060

INVOICE REMITTANCE ADDRESS:
Stantec
Attn: Chris Gdak
12034 134th Court NE, Suite 102
Redmond, WA 98052

Purchase Order #:

ConocoPhillips AOC#: 01571

DATE: 12/09/09
PAGE: 1 of 1

SAMPLING COMPANY: STANTEC	**Valid Value ID:**	**CONOCOPHILLIPS SITE NUMBER:** AOC 01571	**GLOBAL ID NO.:**
ADDRESS: 12034 134th Court NE, Suite 102 Redmond, WA 98052		**SITE ADDRESS (Street and City):** 200 South 36th Street, Bellingham, WA 98225	**ConocoPhillips Manager:** Myron Smith
PROJECT CONTACT (Hardcopy or PDF Report to): Chris Gdak		**EDF DELIVERABLE TO (RP or Designee):**	**PHONE NO.:** / **E-MAIL:** / **LAB USE ONLY**
TELEPHONE: (425) 298-1023 / **FAX:** (425) 298-1020	**E-MAIL:** chris.gdak@stantec.com		
SAMPLER NAME(S) (Print): David Reitz	**CONSULTANT PROJECT NUMBER:** 212301495		

TURNAROUND TIME (CALENDAR DAYS):
☑ 14 DAYS ☐ 7 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

SPECIAL INSTRUCTIONS OR NOTES:

CHECK BOX IF EDD IS NEEDED ☑

REQUESTED ANALYSES

FIELD NOTES:
Container/Preservative or PID Readings or Laboratory Notes

* Field Point name only required if different from Sample ID

LAB USE ONLY	Field Point Name	Sample ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	NWTPH-Gx	NWTPH-Dx	BTEX by 8260B
	MW-4	MW-4	12/09/09	1150	GW	7	X	X	X
	MW-6	MW-6	"	1035	GW	7	X	X	X
	MW-7	MW-7	"	1220	GW	7	X	X	X
	MW-8	MW-8	"	1110	GW	7	X	X	X
	QCTB	QCTB			DI	6	X		X

TEMPERATURE ON RECEIPT C°

40-mL VOAs, preserved with HCl

Relinquished by: (Signature)	Received by: (Signature)	Date: 12/10/09	Time: 930
Relinquished by: (Signature)	Received by: (Signature)	Date: 12/10/09	Time: 10:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

9/19/03 Revision

APPENDIX C
CERTIFIED LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

December 16, 2009

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

RE: Project: 01571 - Bellingham
Pace Project No.: 252643

Dear Chris Gdak:
Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2009. 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.

Two of six VOA vials received for QCTB were received broken. The client was notified via email of the sample acknowledgement form on 12/10/09.

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

Sincerely,

Jenni Gross

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

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

CERTIFICATIONS

Project: 01571 - Bellingham
Pace Project No.: 252643

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

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SAMPLE ANALYTE COUNT

Project: 01571 - Bellingham
Pace Project No.: 252643

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
252643001	**MW-4**	NWTPH-Dx	DMT	4	PASI-S
		NWTPH-Gx	ATH	3	PASI-S
		EPA 5030B/8260	LNH	8	PASI-S
252643002	**MW-6**	NWTPH-Dx	DMT	4	PASI-S
		NWTPH-Gx	ATH	3	PASI-S
		EPA 5030B/8260	LNH	8	PASI-S
252643003	**MW-7**	NWTPH-Dx	DMT	4	PASI-S
		NWTPH-Gx	ATH	3	PASI-S
		EPA 5030B/8260	LNH	8	PASI-S
252643004	**MW-8**	NWTPH-Dx	DMT	4	PASI-S
		NWTPH-Gx	ATH	3	PASI-S
		EPA 5030B/8260	LNH	8	PASI-S
252643005	**QCTB**	NWTPH-Gx	ATH	3	PASI-S
		EPA 5030B/8260	LNH	8	PASI-S

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ANALYTICAL RESULTS

Project: 01571 - Bellingham
Pace Project No.: 252643

Sample: MW-4 **Lab ID: 252643001** Collected: 12/09/09 11:50 Received: 12/10/09 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Range	**142**	ug/L	76.9	1	12/11/09 10:00	12/15/09 14:16		
Motor Oil Range	ND	ug/L	385	1	12/11/09 10:00	12/15/09 14:16	64742-65-0	
n-Octacosane (S)	101	%	50-150	1	12/11/09 10:00	12/15/09 14:16	630-02-4	
o-Terphenyl (S)	95	%	50-150	1	12/11/09 10:00	12/15/09 14:16	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
Gasoline Range Organics	ND	ug/L	50.0	1		12/10/09 21:11		
a,a,a-Trifluorotoluene (S)	110	%	50-150	1		12/10/09 21:11	98-08-8	
4-Bromofluorobenzene (S)	105	%	50-150	1		12/10/09 21:11	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/10/09 18:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/10/09 18:32	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/09 18:32	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/10/09 18:32	1330-20-7	
4-Bromofluorobenzene (S)	97	%	80-120	1		12/10/09 18:32	460-00-4	
Dibromofluoromethane (S)	111	%	80-122	1		12/10/09 18:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	80-124	1		12/10/09 18:32	17060-07-0	
Toluene-d8 (S)	104	%	80-123	1		12/10/09 18:32	2037-26-5	

Sample: MW-6 **Lab ID: 252643002** Collected: 12/09/09 10:35 Received: 12/10/09 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Range	**121**	ug/L	76.9	1	12/11/09 10:00	12/15/09 14:35		
Motor Oil Range	ND	ug/L	385	1	12/11/09 10:00	12/15/09 14:35	64742-65-0	
n-Octacosane (S)	103	%	50-150	1	12/11/09 10:00	12/15/09 14:35	630-02-4	
o-Terphenyl (S)	100	%	50-150	1	12/11/09 10:00	12/15/09 14:35	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
Gasoline Range Organics	ND	ug/L	50.0	1		12/10/09 21:58		
a,a,a-Trifluorotoluene (S)	105	%	50-150	1		12/10/09 21:58	98-08-8	
4-Bromofluorobenzene (S)	96	%	50-150	1		12/10/09 21:58	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/10/09 18:54	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/10/09 18:54	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/09 18:54	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/10/09 18:54	1330-20-7	
4-Bromofluorobenzene (S)	94	%	80-120	1		12/10/09 18:54	460-00-4	
Dibromofluoromethane (S)	109	%	80-122	1		12/10/09 18:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	80-124	1		12/10/09 18:54	17060-07-0	
Toluene-d8 (S)	102	%	80-123	1		12/10/09 18:54	2037-26-5	

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ANALYTICAL RESULTS

Project: 01571 - Bellingham
Pace Project No.: 252643

Sample: MW-7 **Lab ID: 252643003** Collected: 12/09/09 12:20 Received: 12/10/09 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Range	**891**	ug/L	76.9	1	12/11/09 10:00	12/15/09 14:54		
Motor Oil Range	ND	ug/L	385	1	12/11/09 10:00	12/15/09 14:54	64742-65-0	
n-Octacosane (S)	104	%	50-150	1	12/11/09 10:00	12/15/09 14:54	630-02-4	
o-Terphenyl (S)	114	%	50-150	1	12/11/09 10:00	12/15/09 14:54	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
Gasoline Range Organics	**169**	ug/L	50.0	1		12/10/09 22:22		
a,a,a-Trifluorotoluene (S)	109	%	50-150	1		12/10/09 22:22	98-08-8	
4-Bromofluorobenzene (S)	102	%	50-150	1		12/10/09 22:22	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/10/09 19:17	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/10/09 19:17	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/09 19:17	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/10/09 19:17	1330-20-7	
4-Bromofluorobenzene (S)	92	%	80-120	1		12/10/09 19:17	460-00-4	
Dibromofluoromethane (S)	110	%	80-122	1		12/10/09 19:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	80-124	1		12/10/09 19:17	17060-07-0	
Toluene-d8 (S)	101	%	80-123	1		12/10/09 19:17	2037-26-5	

Sample: MW-8 **Lab ID: 252643004** Collected: 12/09/09 11:10 Received: 12/10/09 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Range	**112**	ug/L	76.9	1	12/11/09 10:00	12/15/09 15:13		
Motor Oil Range	ND	ug/L	385	1	12/11/09 10:00	12/15/09 15:13	64742-65-0	
n-Octacosane (S)	103	%	50-150	1	12/11/09 10:00	12/15/09 15:13	630-02-4	
o-Terphenyl (S)	100	%	50-150	1	12/11/09 10:00	12/15/09 15:13	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
Gasoline Range Organics	**57.9**	ug/L	50.0	1		12/10/09 22:45		
a,a,a-Trifluorotoluene (S)	118	%	50-150	1		12/10/09 22:45	98-08-8	
4-Bromofluorobenzene (S)	107	%	50-150	1		12/10/09 22:45	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/10/09 19:39	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/10/09 19:39	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/09 19:39	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/10/09 19:39	1330-20-7	
4-Bromofluorobenzene (S)	93	%	80-120	1		12/10/09 19:39	460-00-4	
Dibromofluoromethane (S)	110	%	80-122	1		12/10/09 19:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	80-124	1		12/10/09 19:39	17060-07-0	
Toluene-d8 (S)	103	%	80-123	1		12/10/09 19:39	2037-26-5	

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ANALYTICAL RESULTS

Project: 01571 - Bellingham
Pace Project No.: 252643

Sample: QCTB **Lab ID: 252643005** Collected: 12/09/09 00:00 Received: 12/10/09 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
Gasoline Range Organics	ND	ug/L	50.0	1		12/10/09 18:27		
a,a,a-Trifluorotoluene (S)	107	%	50-150	1		12/10/09 18:27	98-08-8	
4-Bromofluorobenzene (S)	97	%	50-150	1		12/10/09 18:27	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/10/09 16:08	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/10/09 16:08	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/09 16:08	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/10/09 16:08	1330-20-7	
4-Bromofluorobenzene (S)	95	%	80-120	1		12/10/09 16:08	460-00-4	
Dibromofluoromethane (S)	110	%	80-122	1		12/10/09 16:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	80-124	1		12/10/09 16:08	17060-07-0	
Toluene-d8 (S)	104	%	80-123	1		12/10/09 16:08	2037-26-5	

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QUALITY CONTROL DATA

Project: 01571 - Bellingham
Pace Project No.: 252643

QC Batch: OEXT/1731 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3510 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 252643001, 252643002, 252643003, 252643004

METHOD BLANK: 17171 Matrix: Water
Associated Lab Samples: 252643001, 252643002, 252643003, 252643004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range	ug/L	ND	80.0	12/15/09 10:46	
Motor Oil Range	ug/L	ND	400	12/15/09 10:46	
n-Octacosane (S)	%	92	50-150	12/15/09 10:46	
o-Terphenyl (S)	%	95	50-150	12/15/09 10:46	

LABORATORY CONTROL SAMPLE & LCSD: 17172 17173

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range	ug/L	5000	3900	4100	78	82	51-147	5	30	
Motor Oil Range	ug/L	5000	4300	4550	86	91	20-160	6	30	
n-Octacosane (S)	%				99	102	50-150			
o-Terphenyl (S)	%				90	91	50-150			

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QUALITY CONTROL DATA

Project: 01571 - Bellingham
Pace Project No.: 252643

QC Batch: GCV/1365 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx GCV Water
Associated Lab Samples: 252643001, 252643002, 252643003, 252643004, 252643005

METHOD BLANK: 17169 Matrix: Water
Associated Lab Samples: 252643001, 252643002, 252643003, 252643004, 252643005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	ND	50.0	12/10/09 17:16	
4-Bromofluorobenzene (S)	%	90	50-150	12/10/09 17:16	
a,a,a-Trifluorotoluene (S)	%	95	50-150	12/10/09 17:16	

LABORATORY CONTROL SAMPLE: 17170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	250	318	127	50-163	
4-Bromofluorobenzene (S)	%			104	50-150	
a,a,a-Trifluorotoluene (S)	%			109	50-150	

SAMPLE DUPLICATE: 17174

Parameter	Units	252642001 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	ug/L	ND	ND		
4-Bromofluorobenzene (S)	%	104	104	.2	
a,a,a-Trifluorotoluene (S)	%	117	116	.2	

SAMPLE DUPLICATE: 17175

Parameter	Units	252643001 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	ug/L	ND	ND		
4-Bromofluorobenzene (S)	%	105	104	1	
a,a,a-Trifluorotoluene (S)	%	110	108	1	

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QUALITY CONTROL DATA

Project: 01571 - Bellingham
Pace Project No.: 252643

QC Batch: MSV/1782 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 252643001, 252643002, 252643003, 252643004, 252643005

METHOD BLANK: 17166 Matrix: Water
Associated Lab Samples: 252643001, 252643002, 252643003, 252643004, 252643005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/10/09 12:36	
Ethylbenzene	ug/L	ND	1.0	12/10/09 12:36	
Toluene	ug/L	ND	1.0	12/10/09 12:36	
Xylene (Total)	ug/L	ND	3.0	12/10/09 12:36	
1,2-Dichloroethane-d4 (S)	%	111	80-124	12/10/09 12:36	
4-Bromofluorobenzene (S)	%	94	80-120	12/10/09 12:36	
Dibromofluoromethane (S)	%	107	80-122	12/10/09 12:36	
Toluene-d8 (S)	%	103	80-123	12/10/09 12:36	

LABORATORY CONTROL SAMPLE & LCSD: 17167 17168

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	20.7	20.2	104	101	75-124	3	30	
Ethylbenzene	ug/L	20	19.8	19.2	99	96	76-124	3	30	
Toluene	ug/L	20	20.3	20.1	102	101	75-124	1	30	
Xylene (Total)	ug/L	60	62.5	59.8	104	100	76-123	4	30	
1,2-Dichloroethane-d4 (S)	%				109	109	80-124			
4-Bromofluorobenzene (S)	%				100	103	80-120			
Dibromofluoromethane (S)	%				111	111	80-122			
Toluene-d8 (S)	%				107	107	80-123			

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QUALIFIERS

Project: 01571 - Bellingham
Pace Project No.: 252643

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

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LABORATORIES

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 01571 - Bellingham
Pace Project No.: 252643

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
252643001	**MW-4**	EPA 3510	OEXT/1731	NWTPH-Dx	GCSV/1378
252643002	**MW-6**	EPA 3510	OEXT/1731	NWTPH-Dx	GCSV/1378
252643003	**MW-7**	EPA 3510	OEXT/1731	NWTPH-Dx	GCSV/1378
252643004	**MW-8**	EPA 3510	OEXT/1731	NWTPH-Dx	GCSV/1378
252643001	**MW-4**	NWTPH-Gx	GCV/1365		
252643002	**MW-6**	NWTPH-Gx	GCV/1365		
252643003	**MW-7**	NWTPH-Gx	GCV/1365		
252643004	**MW-8**	NWTPH-Gx	GCV/1365		
252643005	**QCTB**	NWTPH-Gx	GCV/1365		
252643001	**MW-4**	EPA 5030B/8260	MSV/1782		
252643002	**MW-6**	EPA 5030B/8260	MSV/1782		
252643003	**MW-7**	EPA 5030B/8260	MSV/1782		
252643004	**MW-8**	EPA 5030B/8260	MSV/1782		
252643005	**QCTB**	EPA 5030B/8260	MSV/1782		