Release 4/1/05
Tosco #6380
Bellingham
DATE: February 16, 2006
UST # 8394

ConocoPhillips

GROUNDWATER MONITORING REPORT

Facility No.: 256380 Address: 200 South 36th Street, Bellingham, Washington
ConocoPhillips Site Manager: Kipp W. Eckert
Consultant / Contact Person: SECOR International Inc. / Alice Larsen
Primary Agency/Regulatory ID No.: Washington State Department of Ecology / Site ID No. 8394
SECOR Project No: 01CP.06380.07

WORK PERFORMED THIS QUARTER(S) [4th - 2005]:

- On December 15, 2005, SECOR personnel monitored, purged and sampled four of the existing network of four groundwater monitoring wells (MW-1 through MW-4). 4/4
- Groundwater samples were collected using a peristaltic pump, with dedicated polyethylene tubing in the well casing and a new section of silicon tubing in the pump head. Complete groundwater purging and sampling procedures are provided in Attachment B.
- Samples were submitted to Lancaster Laboratories for analysis of gasoline-range hydrocarbons (TPH-g) per Ecology Method NWTPH-Gx, diesel (TPH-d) and motor-oil (TPH-o) range hydrocarbons per Ecology Method NWTPH-Dx modified with an acid/silica gel cleanup, benzene, tolulene, ethylbenzene, total xylenes (BTEX) per United States Environmental Protection Agency (USEPA) Method 5030/8260B; and dissolved lead per USEPA Method 6010. The laboratory analytical report is presented in Attachment A.

WORK PROPOSED FOR NEXT QUARTER [1st - 2006]:

- Four groundwater monitoring wells will be installed at the site prior to next quartesr sampling event. Measure depth to water, purge, and sample the four existing groundwater monitoring wells (MW-1 through MW-4) and the four newly installed groundwater monitoring wells (MW-5 through MW-8). Submit groundwater samples for analysis for NWTPH-Gx, NWTPH-Dx, BTEX and dissolved lead.

DATA SUMMARY THIS QUARTER:

Frequency of Sampling Events:	Quarterly	(03/06,06/06,09/06,12/06)
Depth to Groundwater:	5.09 ft. (MW-3)	(Measured Feet Below
	8.44 ft. (MW-2)	Top of Well Casing)
Groundwater Gradient:	North-Northwest	(Apparent Flow Direction)
	0.002 ft/ft	(Approximate Magnitude)
Maximum TPH-G Concentrations:	None Detected	(ppb / well ID)
Maximum TPH-D Concentrations:	180 µg/L (MW-4)	(ppb / well ID)
Maximum TPH-O Concentrations:	110 µg/L (MW-4)	(ppb / well ID)
Maximum Benzene Concentration:	None Detected	(ppb / well ID)
Maximum Dissolved Lead Concentration:	None Detected	(ppb / well ID)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	None	(Gallons)
Cumulative Free Product Recovered to Date:	None	(Gallons)
Water Wells or	i.) One Water Well	(Type)
Surface Waters w/in 2,000 ft:	ii.) Connelly Creek	
Radius and Respective	i.) 1600 ft. West	(Respective Distance
Direction From Site:	ii.) 1000 ft. Southwest	& Direction)
Current Remedial Action:	NA	(SVE/AS/P&T/NA etc.)
Permits for Discharge:	None	(NPDES, POTW, etc.)

Permits for Discharge: None (NPDES, POTW, etc.)

DISCUSSION:

- The groundwater samples were received by Lancaster Laboratories on December 17, 2005. Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times and that Lancaster followed their appropriate quality assurance/quality control (QA/QC) procedures during analysis.

- Diesel range-hydrocarbons (TPH-d) were detected at concentrations less than the Model Toxics Control Act Method A Groundwater Cleanup Levels (MTCA A), but greater than the laboratory reporting limits (RLs) in groundwater samples collected from MW-1 and MW-4 at 170 micrograms per liter (µg/L) and 180 µg/L, respectively.

- Heavy oil range-hydrocarbons (TPH-o) were detected at concentrations greater than the RLs but less than MTCA A cleanup levels in the groundwater sample collected from MW-1 at 110 µg/L.

- No gasoline range hydrocarbons (TPH-g) were detected at concentrations greater than the RLs in any of the groundwater samples collected this quarter.

- No BTEX constituents were detected at concentrations greater than the RLs in any of the groundwater samples collected this quarter.

- Total lead was not detected at concentrations greater than the RLs in any of the groundwater samples collected this quarter.

- No drums were left on site.

ATTACHMENTS:

Figure 1: Site Location Map
Figure 2: Site Plan with Groundwater Elevations (12/15/05) and Analytical Results (03/04/05 – 12/15/05)
Table 1: Summary of Cumulative Groundwater Elevations and Sample Analytical Results
Attachment A: Laboratory Analytical Report and Chain-of-Custody Record
Attachment B: SECOR Monitoring Well Gauging, Purging and Sampling Procedures; Groundwater Monitoring Field Data Records

Prepared By:
FOR:
Matthew Davis
Assistant Geologist

Reviewed By:
Gregory McCormick, L.G.
Associate Geologist

cc: LUST Coordinator, Washington State Department of Ecology, Northwest Regional Office
Mr. Frank Diehl, Keith Oil Corporation
~~Brian Sato~~, Washington State Department of Ecology, Northwest Regional Office
Mark Adams

MR/MS/bjw

State of Washington 674 Licensed Geologist GREGORY A. McCORMICK

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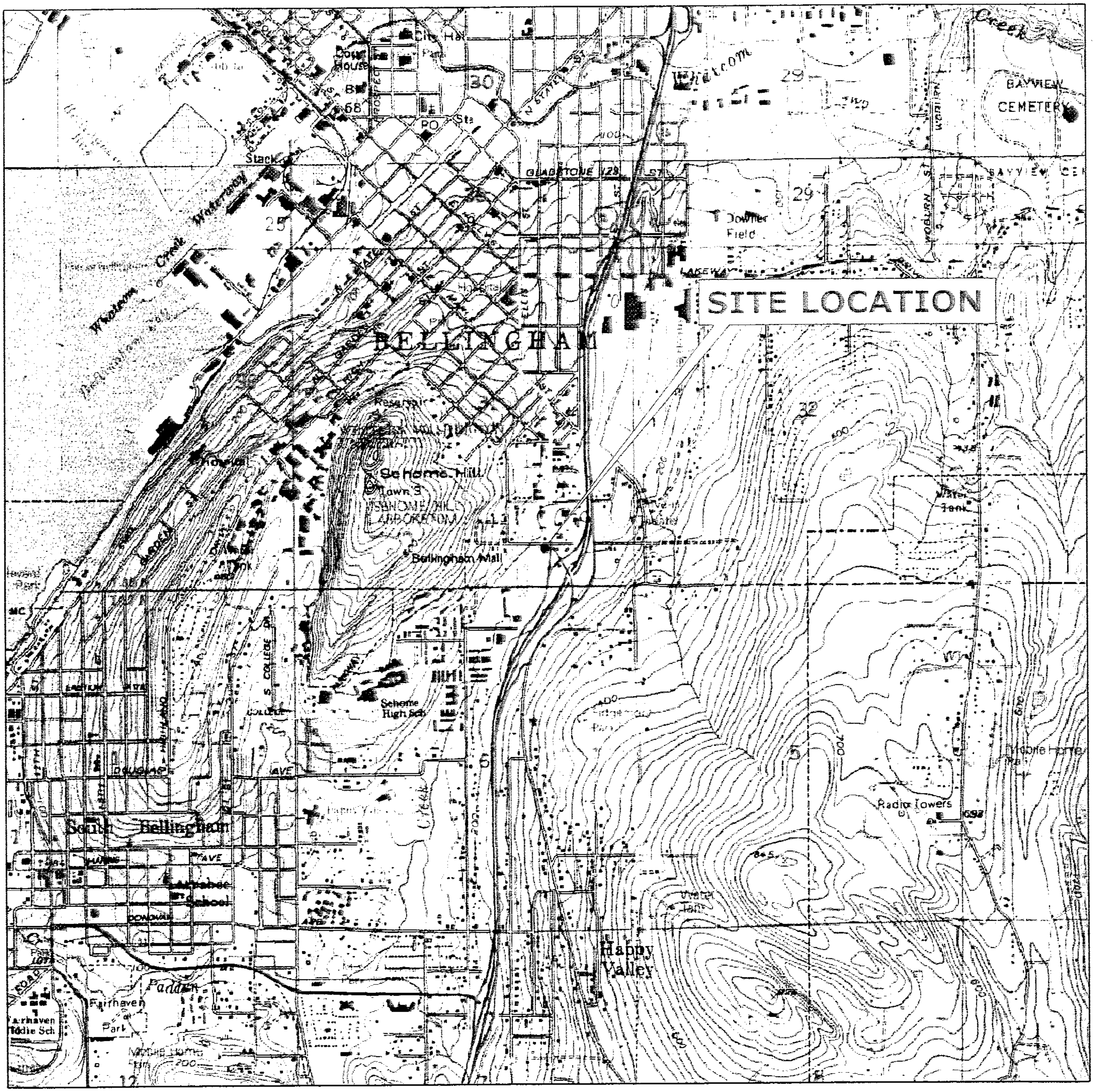
FIGURES



North

MAP LOCATION

WASHINGTON

1 1/2 0 1

SCALE (MILES)

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE (FEET)

REFERENCE: USGS 7.5 MINUTE QUADRANGLE; BELLINGHAM SOUTH, WASHINGTON; 1972

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

PREPARED FOR: ConocoPhillips
FACILITY NO 256380
200 SOUTH 36th STREET
BELLINGHAM, WASHINGTON

SITE LOCATION MAP

FIGURE: **1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
01CP.06380.11	S. SIMMONS			1/31/06

FILEPATH: Q:\CADD-01\Cad_Files\Projects\CONOCO\WASHINGTON\6380\6380(M).dwg modified by ctorres at Feb 02, 2006 - 7:58

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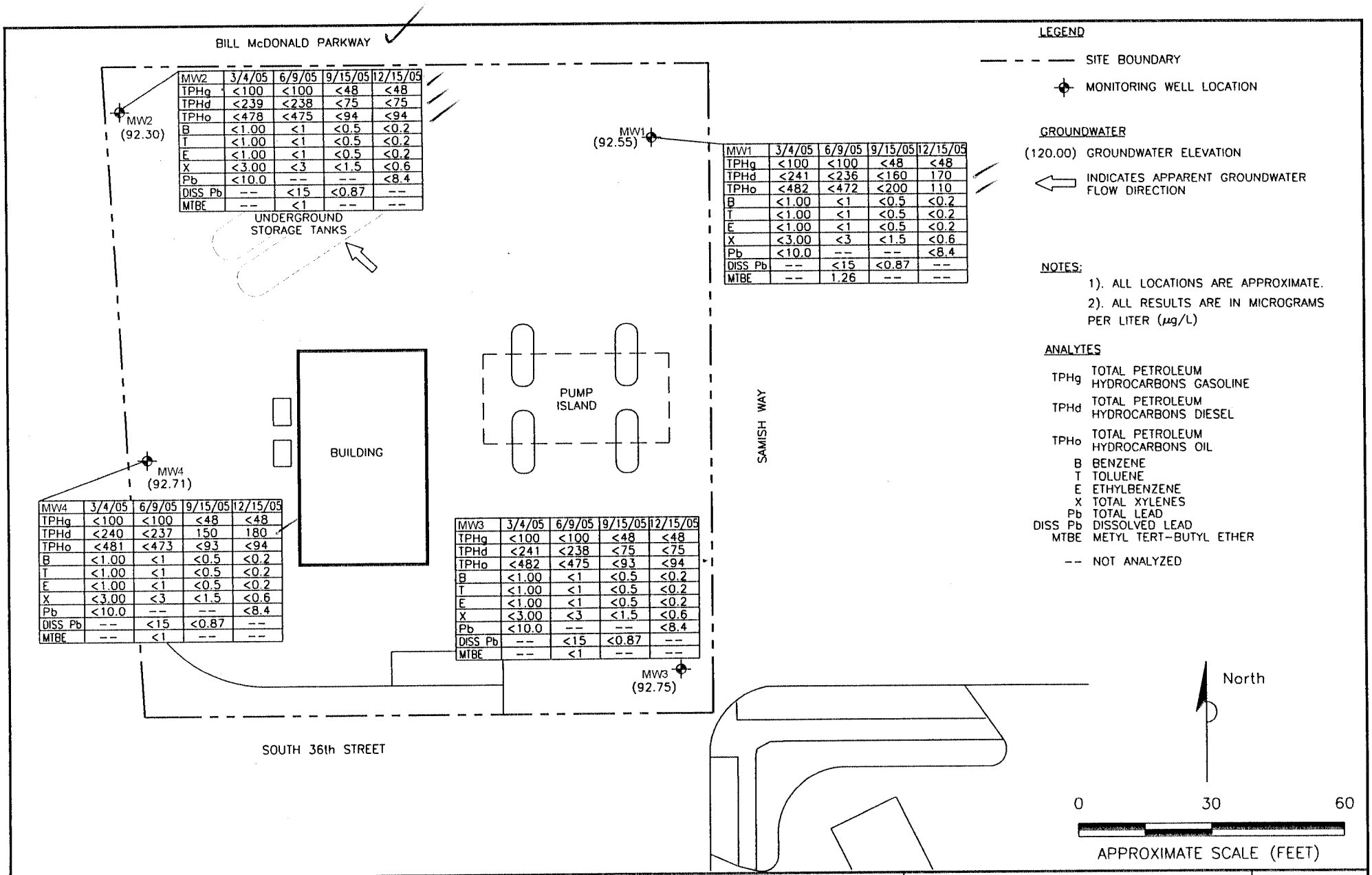

MW2	3/4/05	6/9/05	9/15/05	12/15/05
TPHg	<100	<100	<48	<48
TPHd	<239	<238	<75	<75
TPHo	<478	<475	<94	<94
B	<1.00	<1	<0.5	<0.2
T	<1.00	<1	<0.5	<0.2
E	<1.00	<1	<0.5	<0.2
X	<3.00	<3	<1.5	<0.6
Pb	<10.0	--	--	<8.4
DISS Pb	--	<15	<0.87	--
MTBE	--	<1	--	--

MW1	3/4/05	6/9/05	9/15/05	12/15/05
TPHg	<100	<100	<48	<48
TPHd	<241	<236	<160	170
TPHo	<482	<472	<200	110
B	<1.00	<1	<0.5	<0.2
T	<1.00	<1	<0.5	<0.2
E	<1.00	<1	<0.5	<0.2
X	<3.00	<3	<1.5	<0.6
Pb	<10.0	--	--	<8.4
DISS Pb	--	<15	<0.87	--
MTBE	--	1.26	--	--

MW4	3/4/05	6/9/05	9/15/05	12/15/05
TPHg	<100	<100	<48	<48
TPHd	<240	<237	150	180
TPHo	<481	<473	<93	<94
B	<1.00	<1	<0.5	<0.2
T	<1.00	<1	<0.5	<0.2
E	<1.00	<1	<0.5	<0.2
X	<3.00	<3	<1.5	<0.6
Pb	<10.0	--	--	<8.4
DISS Pb	--	<15	<0.87	--
MTBE	--	<1	--	--

MW3	3/4/05	6/9/05	9/15/05	12/15/05
TPHg	<100	<100	<48	<48
TPHd	<241	<238	<75	<75
TPHo	<482	<475	<93	<94
B	<1.00	<1	<0.5	<0.2
T	<1.00	<1	<0.5	<0.2
E	<1.00	<1	<0.5	<0.2
X	<3.00	<3	<1.5	<0.6
Pb	<10.0	--	--	<8.4
DISS Pb	--	<15	<0.87	--
MTBE	--	<1	--	--

LEGEND

SITE BOUNDARY

MONITORING WELL LOCATION

GROUNDWATER

(120.00) GROUNDWATER ELEVATION

INDICATES APPARENT GROUNDWATER FLOW DIRECTION

NOTES:

1). ALL LOCATIONS ARE APPROXIMATE.

2). ALL RESULTS ARE IN MICROGRAMS PER LITER (µg/L)

ANALYTES

TPHg TOTAL PETROLEUM HYDROCARBONS GASOLINE

TPHd TOTAL PETROLEUM HYDROCARBONS DIESEL

TPHo TOTAL PETROLEUM HYDROCARBONS OIL

B BENZENE

T TOLUENE

E ETHYLBENZENE

X TOTAL XYLENES

Pb TOTAL LEAD

DISS Pb DISSOLVED LEAD

MTBE METYL TERT-BUTYL ETHER

-- NOT ANALYZED

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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PREPARED FOR:
ConocoPhillips
FACILITY NO. 256380
200 SOUTH 36th STREET
BELLINGHAM, WASHINGTON

SITE PLAN WITH GROUNDWATER ELEVATIONS (12/15/05) AND ANALYTICAL RESULTS (3/4/05-12/15/05)

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
01CP.06380.07	SS/ARA	MJR		1/12/06

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TABLE

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

Well Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X	MTBE	Total Pb	Diss Pb
MW1	3/4/2005	5.73	92.76	<100	<241	<482	<1.00	<1.00	<1.00	<3.00	--	<10.0	--
TOC Elevation	6/9/2005	6.10	92.39	<100	<236	<472	<1	<1	<1	<3	1.26	--	<15
98.49	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	--	<8.4	--
MW2	3/4/2005	8.34	92.40	<100	<239	<478	<1.00	<1.00	<1.00	<3.00	--	<10.0	--
TOC Elevation	6/9/2005	8.66	92.08	<100	<238	<475	<1	<1	<1	<3	<1	--	<15
100.74	9/15/2005	9.32	91.42	<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	--	<8.4	--
MW3	3/4/2005	5.02	92.82	<100	<241	<482	<1.00	<1.00	<1.00	<3.00	--	<10.0	--
TOC Elevation	6/9/2005	5.25	92.59	<100	<238	<475	<1	<1	<1	<3	<1	--	<15
97.84	9/15/2005	5.71	92.13	<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	--	<8.4	--
MW4	3/4/2005	6.65	92.79	<100	<240	<481	<1.00	<1.00	<1.00	<3.00	--	<10.0	--
TOC Elevation	6/9/2005	6.91	92.53	<100	<237	<473	<1	<1	<1	<3	<1	--	<15
99.44	9/15/2005	7.58	91.86	<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	--	<8.4	--
Waste Water	3/4/2005	--	--	<100	--	--	<1.00	<1.00	<1.00	<3.00	--	--	--
Effluent	6/9/2005	--	--	<100	--	--	<1	<1	<1	<3	--	--	--
	9/15/2005	--	--	<48	<75	<94	<0.5	<0.5	<0.5	<1.5	--	--	<0.87
	12/15/2005	Waste water barrelled and taken offsite.											
MTCA Method A Cleanup Levels				1000/800[a]	500	500	5	1000	700	1000	20	15	15

EXPLANATION:
TOC = Top of Casing
All concentrations are in micrograms per liter ug/L (ppb).
Wellhead elevations were taken from prior consultants reports.
DTW = Depth to water in feet below top of casing
GW Elev. = Groundwater elevation 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.
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
Bolded 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.

ATTACHMENT A
LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY RECORD

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips c/o Shaw Env.
19909 120th Ave. NE
Suite 101
Bothell WA 98011

206-706-2341

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 971632. Samples arrived at the laboratory on Saturday, December 17, 2005. The PO# for this group is 1571SEC007 and the release number is ECKERT.

Client Description	Lancaster Labs Number
MW-1 Grab Water Sample	4673462
MW-2 Grab Water Sample	4673463
MW-3 Grab Water Sample	4673464
MW-4 Grab Water Sample	4673465
Trip Blank Grab Water Sample	4673466

1 COPY TO	SECOR International	Attn: August Welch
ELECTRONIC COPY TO	SECOR International	Attn: Meredith Redmon

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Analysis Report

Questions? Contact your Client Services Representative
Teresa L Cunningham at (717) 656-2300

Respectfully Submitted,

Jenifer E. Hess
Manager

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4673462

MW-1 Grab Water Sample
Site# 1571 (2556380)
200 S 36th St-Bellingham, WA
Collected:12/15/2005 13:24 by MD

Account Number: 11817

Submitted: 12/17/2005 10:30
Reported: 12/28/2005 at 11:43
Discard: 01/28/2006

ConocoPhillips c/o Shaw Env.
19909 120th Ave. NE
Suite 101
Bothell WA 98011

BLGM1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07055	Lead	7439-92-1	N.D.	8.4	ug/l	1
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	170.	75.	ug/l	1
02096	Heavy Range Organics	n.a.	110.	94.	ug/l	1
	The observed sample pattern is not typical of #2 fuel/diesel. It elutes in the DRO range later than #2 fuel.					
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
08274	TPH by NWTPH-Gx waters					
01648	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1

State of Washington Lab Certification No. C259

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	12/20/2005 03:23	Eric L Eby	1
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/22/2005 20:06	Matthew E Barton	1
08213	BTEX (8021)	SW-846 8021B	1	12/20/2005 17:23	Martha L Seidel	1
08274	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/20/2005 17:23	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/20/2005 17:23	Martha L Seidel	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	12/19/2005 19:50	James L Mertz	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	12/22/2005 03:15	Sherry L Morrow	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4673463

MW-2 Grab Water Sample
Site# 1571 (2556380)
200 S 36th St-Bellingham, WA
Collected:12/15/2005 12:45 by MD

Account Number: 11817

Submitted: 12/17/2005 10:30
Reported: 12/28/2005 at 11:43
Discard: 01/28/2006

ConocoPhillips c/o Shaw Env.
19909 120th Ave. NE
Suite 101
Bothell WA 98011

BLGM2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07055	Lead	7439-92-1	N.D.	8.4	ug/l	1
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	N.D.	75.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	94.	ug/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
08274	TPH by NWTPH-Gx waters					
01648	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1

State of Washington Lab Certification No. C259

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	12/20/2005 05:07	Eric L Eby	1
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/22/2005 20:30	Matthew E Barton	1
08213	BTEX (8021)	SW-846 8021B	1	12/20/2005 17:53	Martha L Seidel	1
08274	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/20/2005 17:53	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/20/2005 17:53	Martha L Seidel	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	12/19/2005 19:50	James L Mertz	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	12/22/2005 03:15	Sherry L Morrow	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4673464

MW-3 Grab Water Sample
Site# 1571 (2556380)
200 S 36th St-Bellingham, WA
Collected:12/15/2005 11:40 by MD

Account Number: 11817

Submitted: 12/17/2005 10:30
Reported: 12/28/2005 at 11:43
Discard: 01/28/2006

ConocoPhillips c/o Shaw Env.
19909 120th Ave. NE
Suite 101
Bothell WA 98011

BLGM3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07055	Lead	7439-92-1	N.D.	8.4	ug/l	1
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	N.D.	75.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	94.	ug/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
08274	TPH by NWTPH-Gx waters					
01648	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1

State of Washington Lab Certification No. C259

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	12/20/2005 20:44	John P Hook	1
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/22/2005 20:54	Matthew E Barton	1
08213	BTEX (8021)	SW-846 8021B	1	12/20/2005 18:24	Martha L Seidel	1
08274	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/20/2005 18:24	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/20/2005 18:24	Martha L Seidel	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	12/20/2005 03:15	Helen L Schaeffer	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	12/22/2005 03:15	Sherry L Morrow	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4673465

MW-4 Grab Water Sample
Site# 1571 (2556380)
200 S 36th St-Bellingham, WA
Collected:12/15/2005 12:15 by MD

Account Number: 11817

Submitted: 12/17/2005 10:30
Reported: 12/28/2005 at 11:43
Discard: 01/28/2006

ConocoPhillips c/o Shaw Env.
19909 120th Ave. NE
Suite 101
Bothell WA 98011

BLGM4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07055	Lead	7439-92-1	N.D.	8.4	ug/l	1
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	180.	75.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	94.	ug/l	1
	The observed sample pattern is not typical of #2 fuel/diesel. The reported result is due to an individual peak(s) eluting in the DRO range.					
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
08274	TPH by NWTPH-Gx waters					
01648	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1

State of Washington Lab Certification No. C259

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	12/20/2005 21:07	John P Hook	1
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/22/2005 21:18	Matthew E Barton	1
08213	BTEX (8021)	SW-846 8021B	1	12/20/2005 18:54	Martha L Seidel	1
08274	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/20/2005 18:54	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/20/2005 18:54	Martha L Seidel	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	12/20/2005 03:15	Helen L Schaeffer	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	12/22/2005 03:15	Sherry L Morrow	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4673466

Trip Blank Grab Water Sample
Site# 1571 (2556380)
200 S 36th St-Bellingham, WA
Collected: n.a.

Account Number: 11817

Submitted: 12/17/2005 10:30
Reported: 12/28/2005 at 11:43
Discard: 01/28/2006

ConocoPhillips c/o Shaw Env.
19909 120th Ave. NE
Suite 101
Bothell WA 98011

BLGTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
08274	TPH by NWTPH-Gx waters					
01648	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1

State of Washington Lab Certification No. C259

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/20/2005 16:52	Martha L Seidel	1
08274	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/20/2005 16:52	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/20/2005 16:52	Martha L Seidel	1

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips c/o Shaw Env.
Reported: 12/28/05 at 11:43 AM

Group Number: 971632

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 053531848007	Sample number(s): 4673462-4673463							
Lead	N.D.	0.0084	mg/l	102		80-120		
Batch number: 053540016A	Sample number(s): 4673462-4673465							
Diesel Range Organics	N.D.	0.080	mg/l	74	70	51-113	5	20
Heavy Range Organics	N.D.	0.10	mg/l					
Batch number: 053541848002	Sample number(s): 4673464-4673465							
Lead	N.D.	0.0084	mg/l	101		80-120		
Batch number: 05354A54A	Sample number(s): 4673462-4673466							
Benzene	N.D.	0.2	ug/l	100	105	86-119	5	30
Toluene	N.D.	0.2	ug/l	103	110	82-119	6	30
Ethylbenzene	N.D.	0.2	ug/l	104	110	81-119	5	30
Total Xylenes	N.D.	0.6	ug/l	107	112	82-120	5	30
TPH by NWTPH-Gx waters	N.D.	48.	ug/l	95	96	70-130	0	30

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 053531848007	Sample number(s): 4673462-4673463								
Lead	100	102	75-125	2	20	N.D.	N.D.	24* (1)	20
Batch number: 053541848002	Sample number(s): 4673464-4673465								
Lead	98	99	75-125	1	20	N.D.	N.D.	25* (1)	20
Batch number: 05354A54A	Sample number(s): 4673462-4673466								
Benzene	110		78-131						
Toluene	115		78-129						
Ethylbenzene	117		75-133						
Total Xylenes	117		80-134						
TPH by NWTPH-Gx waters	93		63-154						

Surrogate Quality Control

Analysis Name: TPH by NWTPH-Dx(water) w/SiGel
Batch number: 053540016A

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips c/o Shaw Env. Group Number: 971632
Reported: 12/28/05 at 11:43 AM

Surrogate Quality Control

	Orthoterphenyl
4673462	93
4673463	95
4673464	92
4673465	99
Blank	97
LCS	94
LCSD	106
Limits:	52-141

Analysis Name: BTEX (8021)
Batch number: 05354A54A

	Trifluorotoluene-P	Trifluorotoluene-F
4673462	89	84
4673463	90	86
4673464	89	85
4673465	87	86
4673466	88	80
Blank	88	83
LCS	90	75
LCSD	90	83
MS	91	84
Limits:	69-129	63-135

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

001038

For Lancaster Laboratories use only
Acct. #: 11817 Group # 971632 Sample #: 4673467-6
SCR#: 22901

Site #: 256380 WNO #: WNo. 1571
Site Address: Bellingham WA
ConocoPhillips PM: Marc Sanzc Company Code: SEC
Core Work Order#: 1571SEC007 Total Lab Budget:
Consultant/Office:
Consultant Prj. Mgr:
Consultant Phone #: 925-372-1600 Fax #: 925-372-1650
Sampler: Matt DAVIS

Analyses Requested: List total number of containers in the box under each analysis.

Preservation Codes: H, H, H, N

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Oil ☐ Air ☐	TPH-G	TPH-BTX	TPH-DX	Total Pb									Remarks
MW-1	12-15-05	1324	↓			↓		↓	↓	↓	↓									
MW-2	↓	1245	↓			↓		↓	↓	↓	↓									
MW-3	↓	1140	↓			↓		↓	↓	↓	↓									
MW-4	↓	1215	↓			↓		↓	↓	↓	↓									
TBlanks						↓		↓	↓											

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Turnaround Time Requested in Business Days (TAT) (please circle):
STD. TAT (circled) 5 day 48 hour
24 hour other ______

Reporting Requirements (please circle)
NJ Reduced NY ASP Cat. A Raw Data Diskette
NY ASP Cat. B Full Type I Other ______

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	12-20-05	1435			
[signature]	12-15-05	1611			
			[signature]	12-21-05	1030

Relinquished by Commercial Carrier:
UPS ______ FedEx ✓ ______ Other ______

Temperature Upon Receipt 2.9 C°

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

4531.01

Lancaster Laboratories
2425 New Holland Pike • Lancaster, PA 17601

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

001038

For Lancaster Laboratories use only

Acct. #: _____ Group # _____ Sample #: _____

SCR#: 22901

Site #: 25620 WNO #: VIN2-571

Site Address: [illegible]

ConocoPhillips PM: [illegible] Company Code: [illegible]

Core Work Order#: [illegible] Total Lab Budget: _____

Consultant/Office: _____

Consultant Prj. Mgr: _____

Consultant Phone #: [illegible] Fax #: _____

Sampler [illegible]

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water	Oil	Air	Potable	NPDES	Preservation Codes	Analyses Requested (List total number of containers in the box under each analysis.)	Remarks
[illegible]-1	[illegible]	[illegible]											
[illegible]-2													
[illegible]-3													
[illegible]-4													
[illegible]													

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Turnaround Time Requested in Business Days (TAT) (please circle):

STD. TAT 5 day 48 hour

24 hour other _____

Reporting Requirements (please circle)

NJ Reduced NY ASP Cat. A Raw Data Diskette

NY ASP Cat. B Full Type I Other _____

Relinquished by:	Date	Time	Received by:	Date	Time
[illegible]	2-9-05	1145	[illegible]		
Relinquished by:	Date	Time	Received by:	Date	Time
[illegible]			[illegible]		
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature Upon Receipt _____ C°

4531.01

ATTACHMENT B
SECOR MONITORING WELL GAUGING, PURGING AND SAMPLING PROCEDURES
GROUNDWATER MONITORING FIELD DATA RECORDS

SECOR 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.

SECOR

DAILY FIELD LOG

Page: 1 of 1
Date: 12-15-05

Client: ConocoPhillips	Site No: 6360	Project No:

Scope of Work: x Quarter Monitoring/Sampling W/O #:

Describe Daily Activities:

Gauged 4 monitoring wells.
Purged 4 monitoring wells.
Sampled 4 monitoring wells.

Number of drums left on site: 0

Field Notes:

1100- MO onsite. did Hasp and setup.

1140 - SAMPLED MW-3.

1215- SAMPLED MW-4.

1245 - SAMPLED MW-2.

1329- SAMPLED MW-1.

1353- MO offsite.

Arrived on Site: 1100 Departed Site: 1353

Decontamination Procedures: **3-Stage (Alconox Wash, Tap Water Rinse, & Distilled Water Rinse)**

Daily Health and Safety Log Completed?: Y Utility Locations Checked?:

Important Conversations:

Important Changes in Scope of Work:

Weather Conditions: Sunny Subcontractors On Site:

SECOR Personnel On Site: MO

Signed: Matthew Yanis Date: 12-15-05

SECOR
GROUNDWATER SAMPLING FIELD DATA SHEET

SECOR PN: _____ DATE: 12-15-05 WELL NO. MW-1

FACILITY NAME: 6360 TEMPERATURE: 303 °F or °C

FIELD PERSONNEL: MJ WEATHER: Sunny

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 5.94 FT. or IN.

B. Thickness of Free Product, if present: ——— Inches _____ FT. or IN.

C. Total Depth of well (TD) from top of casing/piezometer: 21.8 FT. or IN.

D. Height of Water Column in casing (h = TD - SWL): _____ FT. or IN.

E. **Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:**

	3 Well Vols.	5 Well Vols.		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x feet of water_____ =	_____PV (Gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x feet of water_____ =	_____PV (Gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x feet of water_____ =	_____PV (Gal)

PURGING METHOD: Low Flow DURATION: Start 1314

OBSERVATIONS:

	Time	Turbidity	Color	~~Sheen~~ ORP	pH	Temp.	Conduct.	SWL
1st Volume:	1319	↓	C	3	5.21	14.00	.793	6.40
2nd Volume:	1321		↓	2	5.22	14.12	.794	6.41
3rd Volume:	1323	↓	↓	2	5.22	14.00	.790	6.41
4th Volume:								
Addl. Volumes:								

TOTAL VOLUME OF WATER PURGED FROM WELL: 1.25 g

PURGE WATER STORED/DISPOSED OF WHERE/HOW: ~~Sycamore~~ Barrel

SAMPLES COLLECTED: Depth to Water at time of sample collection: 6.91

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
MW-1	1324	3 voas \ 1 Amber \ 1 Poly	HCl

COMMENTS:

Water continued To Rise After cap was Removed

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Total Depth of Well:
Original Water Column: _____ x 0.80 = --(_____)
Collect sample when Depth to Water measures
Less than or equal to:

SECOR
GROUNDWATER SAMPLING FIELD DATA SHEET

SECOR PN: _____ DATE: 12-15-05 WELL NO. MW-2

FACILITY NAME: 6380 TEMPERATURE: 30's °F or °C

FIELD PERSONNEL: MD WEATHER: Sunny

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 8.44 FT. or IN.

B. Thickness of Free Product, if present: ~~_____~~ Inches _____ FT. or IN.

C. Total Depth of well (TD) from top of casing/piezometer: 20.6 FT. or IN.

D. Height of Water Column in casing (h = TD - SWL): _____ FT. or IN.

E. **Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:**

	3 Well Vols.	5 Well Vols.		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x feet of water_____ =	_____PV (Gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x feet of water_____ =	_____PV (Gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x feet of water_____ =	_____PV (Gal)

PURGING METHOD: Low Flow DURATION: START: 1235

OBSERVATIONS:

	Time	Turbidity	Color	ORP ~~Shcon~~	pH	Temp.	Conduct.	SWL
1st Volume:	1240	<	C	98	5.29	13.80	.644	8.52
2nd Volume:	1292	↓	↓	47	5.22	13.76	.644	8.52
3rd Volume:	1244	↓	↓	50	5.19	13.80	.643	8.52
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Addl. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: .25 gal

PURGE WATER STORED/DISPOSED OF WHERE/HOW: Barrel

SAMPLES COLLECTED: Depth to Water at time of sample collection: 8.52

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
MW-2	1245	3 VOAS / 1 AMBER	HCl
		1 Poly	HNO_3

COMMENTS:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Total Depth of Well:
Original Water Column: _____ x 0.80 = --(_____)
Collect sample when Depth to Water measures
Less than or equal to:

SECOR
GROUNDWATER SAMPLING FIELD DATA SHEET

SECOR PN: _____ DATE: 12-15-05 WELL NO. MW-4

FACILITY NAME: 6380 TEMPERATURE: 2c3 °F or °C

FIELD PERSONNEL: MD WEATHER: Sunny

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 6.73 FT. or IN.

B. Thickness of Free Product, if present: ——— Inches _____ FT. or IN.

C. Total Depth of well (TD) from top of casing/piezometer: 20.3 FT. or IN.

D. Height of Water Column in casing (h = TD - SWL): _____ FT. or IN.

E. **Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:**

	3 Well Vols.	5 Well Vols.		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x feet of water_____ =	_____PV (Gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x feet of water_____ =	_____PV (Gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x feet of water_____ =	_____PV (Gal)

PURGING METHOD: Low Flow DURATION: 1205 - START

OBSERVATIONS:

	Time	Turbidity	Color	~~Sheen~~ OAP	pH	Temp.	Conduct.	SWL
1st Volume:	1210	↓	↓	56	5.15	12.59	.712	6.81
2nd Volume:	1212			59	5.14	12.56	.711	6.81
3rd Volume:	1214			62	5.14	12.61	.710	6.82
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Addl. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: .258

PURGE WATER STORED/DISPOSED OF WHERE/HOW: Barrel

SAMPLES COLLECTED: Depth to Water at time of sample collection: 6.82

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
MW-4	1215	3 VOAs | 1 Amber | 1 Poly	HCl

COMMENTS:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Total Depth of Well:
Original Water Column: _____ x 0.80 = --(_____)
Collect sample when Depth to Water measures
Less than or equal to:

SECOR
GROUNDWATER SAMPLING FIELD DATA SHEET

SECOR PN: _____ DATE: 12-15-05 WELL NO. MW-3

FACILITY NAME: 6380 TEMPERATURE: 30's °F or °C

FIELD PERSONNEL: MD WEATHER: sunny

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 5.09 FT. or IN.

B. Thickness of Free Product, if present: ——— Inches _____ FT. or IN.

C. Total Depth of well (TD) from top of casing/piezometer: 20.8 FT. or IN.

D. Height of Water Column in casing (h = TD - SWL): _____ FT. or IN.

E. **Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:**

	3 Well Vols.	5 Well Vols.		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x feet of water_____ =	_____PV (Gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x feet of water_____ =	_____PV (Gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x feet of water_____ =	_____PV (Gal)

PURGING METHOD: Low Flow DURATION: START 1130

OBSERVATIONS:

	Time	Turbidity	Color	~~Sheen~~ ORP	pH	Temp.	Conduct.	SWL
1st Volume:	1135	L	C	-50	5.31	11.84	.919	5.13
2nd Volume:	1137			-48	5.29	11.48	.921	5.13
3rd Volume:	1139	↓	↓	-46	5.28	11.19	.922	5.13
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Addl. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: .25 g

PURGE WATER STORED/DISPOSED OF WHERE/HOW: 1 Barrel

SAMPLES COLLECTED: Depth to Water at time of sample collection: 5.13

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
~~Dup~~ MW-3	1140	3 VOAs | 1 Amber | 1 Poly	HCl
_____	_____	_____	_____
_____	_____	_____	_____

COMMENTS:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Total Depth of Well:
Original Water Column: _____ x 0.80 = --(_____)
Collect sample when Depth to Water measures
Less than or equal to: