

Station # 256380
 Vol # NW1487

RELEASE # 471254
 TOSCO # 6380
 BELLINGHAM
 DATE: January 23, 2007
 USA # 8394



GROUNDWATER MONITORING REPORT

FS# 11191596

Facility No.: 256380 Address: 200 South 36th Street, Bellingham, Washington
 ConocoPhillips Site Manager: Michael Noll
 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.01571.02

WORK PERFORMED THIS QUARTER(S) [4th - 2006]:

- On December 13, 2006 SECOR personnel monitored, purged and sampled eight of the existing network of eight groundwater monitoring wells (MW-1 through MW-8). Groundwater monitoring wells MW-5 through MW-8 were installed on January 9, 2006.
- 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 monitoring, 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, toluene, ethylbenzene, total xylenes (BTEX), and methyl tert butyl ether (MTBE), per United States Environmental Protection Agency (USEPA) Method 8260B. The laboratory analytical report is presented in Attachment A.

WORK PROPOSED FOR NEXT QUARTER [1st - 2007]:

- Measure depth to water, purge, and sample eight groundwater monitoring wells (MW-1 through MW-8). Submit groundwater samples for analysis for NWTPH-Gx, NWTPH-Dx, BTEX and MTBE.

DATA SUMMARY THIS QUARTER:

Frequency of Sampling Events:	Quarterly	(03/06,06/06,09/06,12/06)
Depth to Groundwater:	4.75 ft. (MW-3)	(Measured Feet Below)
	7.80 ft. (MW-2)	Top of Well Casing
Groundwater Gradient:	East	(Apparent Flow Direction)
	0.03 feet per foot.	(Approximate Magnitude)
Maximum TPH-G Concentrations:	290 µg/L (MW-7)	(ppb / well ID)
X Maximum TPH-D Concentrations:	1,300 µg/L (MW-7)	(ppb / well ID)
Maximum TPH-O Concentrations:	130 µg/L (MW-7)	(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
	ii.) 1000 ft. Southwest	& Direction)
Direction From Site:	NA	(SVE/AS/P&T/NA etc.)
Current Remedial Action:		(NPDES, POTW, etc.)
Permits for Discharge:	None	

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DISCUSSION:

- The groundwater samples were received by Lancaster Laboratories on December 14, 2006. 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.
- X • TPH-d was detected at concentrations greater than the Model Toxics Control Act Method A Cleanup Levels for groundwater (MTCA A) in the groundwater sample collected from MW-7 at 1,300 micrograms per liter ($\mu\text{g/L}$). TPH-d was detected at concentrations less than MTCA A but greater than the laboratory reporting limits (RLs) in the groundwater sample collected from MW-1, MW-4, and MW-5 at 84 $\mu\text{g/L}$, 120 $\mu\text{g/L}$, and 83 $\mu\text{g/L}$, respectively. TPH-d was not detected at concentrations greater than the RLs in any of the remaining samples collected this quarter.
- TPH-o was detected at concentrations greater than the RLs in the groundwater sample collected from MW-7 at 130 $\mu\text{g/L}$. TPH-o was not detected at concentrations greater than the RLs in any of the remaining samples collected this quarter.
- TPH-g was detected at concentrations greater than the RLs in the groundwater sample collected from MW-7 at 290 $\mu\text{g/L}$. TPH-g was not detected at concentrations greater than the RLs in any of the remaining samples collected this quarter.
- BTEX constituents were not detected at concentrations greater than the RLs in any of the groundwater samples collected this quarter.
- MTBE was detected at concentrations greater than the RLs but less than MTCA A in the groundwater samples collected from MW-1 and MW-7 at 1 $\mu\text{g/L}$ and 0.7 $\mu\text{g/L}$, respectively. None of the remaining samples collected this quarter contained MTBE concentrations greater than the RLs.
- No drums were left on site.

ATTACHMENTS:

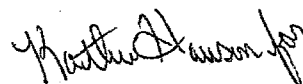
Figure 1: Site Location Map
Figure 2: Site Plan with Groundwater Elevations (12/13/06)
Figure 3: Site Plan with Groundwater Analytical Results (03/10/06-12/13/06)
Table 1: Summary of Cumulative Groundwater Elevations and Sample Analytical Results
Attachment A: Laboratory Analytical Report and Chain of Custody Record
Attachment B: SECOR Monitoring Well Gauging, Purging and Sampling Procedures; Groundwater Monitoring Field Data Records

Prepared By:



Tammy Parise
Staff Geologist

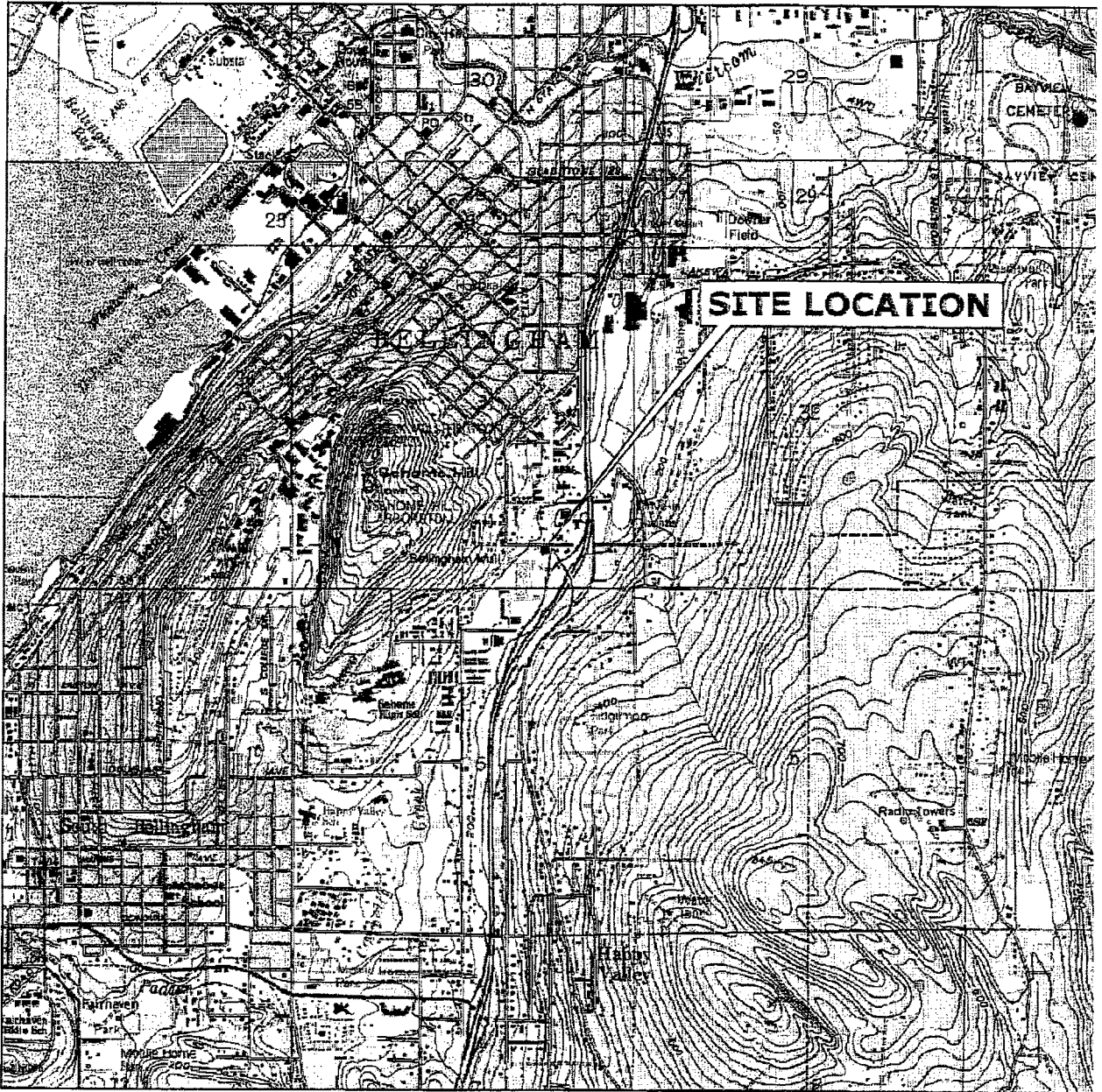
Reviewed By:



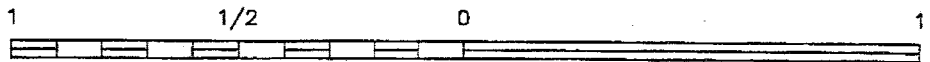
Marc Sauze, P.E.
Senior Project Engineer

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

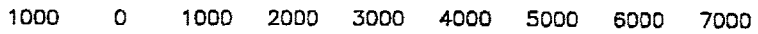
FIGURES



WASHINGTON




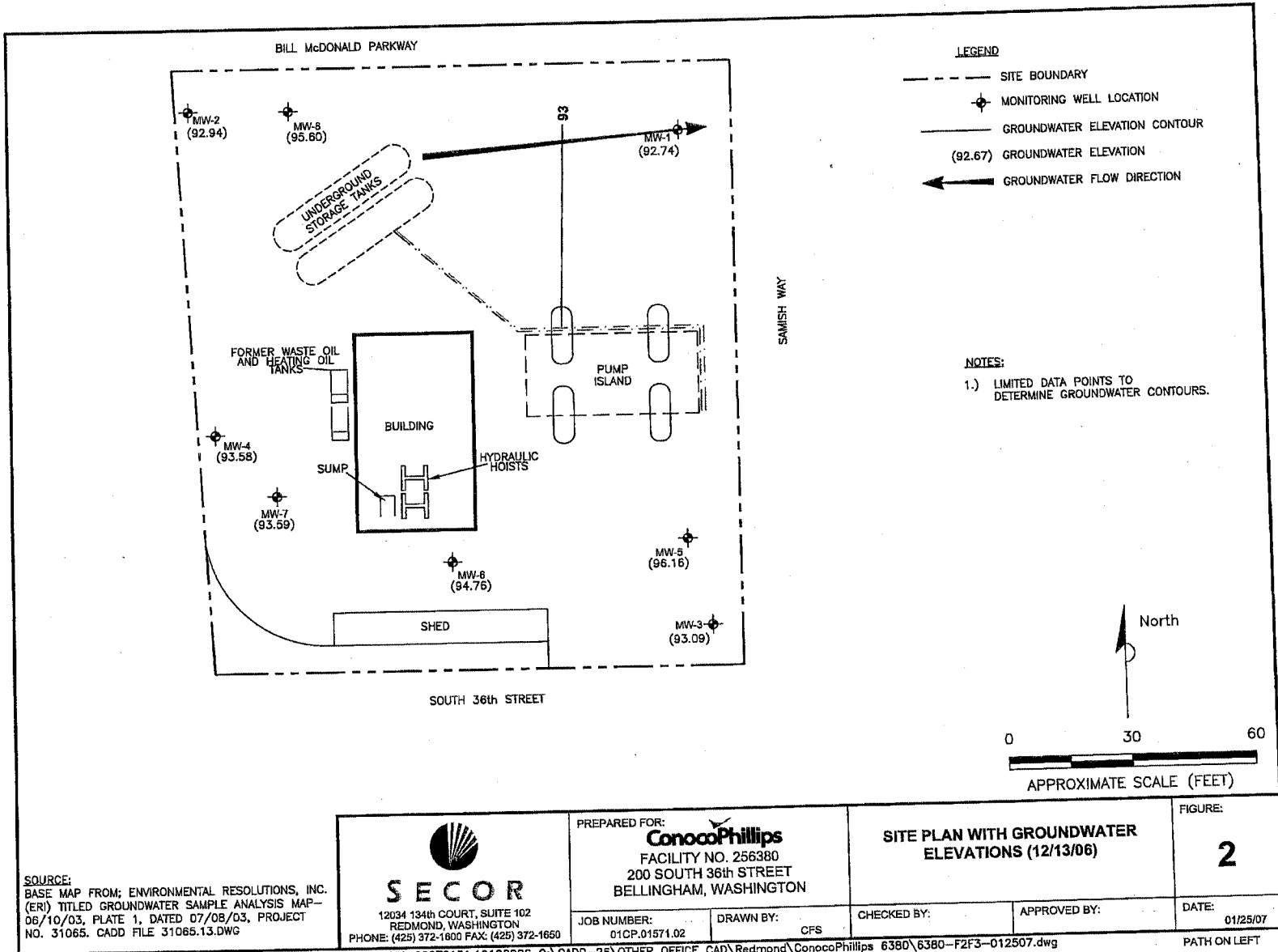
SCALE (MILES)



SCALE (FEET)

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

 SECOR 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: 01CP_06380.11	DRAWN BY: S. SIMMONS	CHECKED BY:	APPROVED BY:	DATE: 1/31/06



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

SECOR
 12034 134th COURT, SUITE 102
 REDMOND, WASHINGTON
 PHONE: (425) 372-1800 FAX: (425) 372-1650

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

**SITE PLAN WITH GROUNDWATER
 ELEVATIONS (12/13/06)**

FIGURE:
2
 DATE: 01/25/07

JOB NUMBER: 01CP.01571.02 DRAWN BY: CFS CHECKED BY: APPROVED BY:

FILEPATH: 20070131.19102206 Q:\CADD-26\OTHER OFFICE CAD\Redmond\ConocoPhillips 6380\6380-F2F3-012507.dwg

PATH ON LEFT

LEGEND

- - - SITE BOUNDARY
- ⊕ MONITORING WELL LOCATION

ANALYTES

TPH1G	TOTAL PETROLEUM HYDROCARBONS GASOLINE
TPH1D	TOTAL PETROLEUM HYDROCARBONS DIESEL
TPH1O	TOTAL PETROLEUM HYDROCARBONS OIL
B	BENZENE
T	TOLUENE
E	ETHYL BENZENE
X	TOTAL XYLENES
MTBE	METHYL TERTIARY BUTYL ETHER

ND NOT DETECTED AT OR ABOVE THE LABORATORY METHOD REPORTING LIMIT
 - NOT ANALYZED OR NOT APPLICABLE
BOLD ABOVE WASHINGTON STATE MTCA CLEANUP LEVEL

NOTES
 ALL LOCATIONS ARE APPROXIMATE
 ALL UNITS ARE IN MICROGRAMS PER LITER (µg/L)

DATE	3/10/06	6/30/06	9/21/06	12/13/06
MW-2	µg/L	µg/L	µg/L	µg/L
TPH1G	<48	<48	<48	<48
TPH1D	<76	<76	<76	<76
TPH1O	<85	<85	<85	<84
B	<0.2	<0.2	<0.5	<0.5
T	<0.2	<0.2	<0.7	<0.7
E	<0.2	<0.2	<0.8	<0.8
X	<0.6	<0.6	<0.8	<0.8
MTBE	---	<0.3	<0.5	<0.5

DATE	3/10/06	6/30/06	9/21/06	12/13/06
MW-8	µg/L	µg/L	µg/L	µg/L
TPH1G	<48	<48	<48	<48
TPH1D	<76	<76	<76	<76
TPH1O	<84	<86	<86	<85
B	<0.2	<0.2	<0.5	<0.5
T	<0.2	<0.2	<0.7	<0.7
E	<0.2	<0.2	<0.8	<0.8
X	<0.6	<0.6	<0.8	<0.8
MTBE	---	<0.3	<0.5	<0.5

DATE	3/10/06	6/30/06	9/21/06	12/13/06
MW-4	µg/L	µg/L	µg/L	µg/L
TPH1G	<48	<48	<48	<48
TPH1D	<76	130	270	120
TPH1O	<84	<85	<86	<85
B	<0.2	<0.2	<0.5	<0.5
T	<0.2	<0.2	<0.7	<0.7
E	<0.2	<0.2	<0.8	<0.8
X	<0.6	<0.6	<0.8	<0.8
MTBE	---	0.9	0.8	<0.5

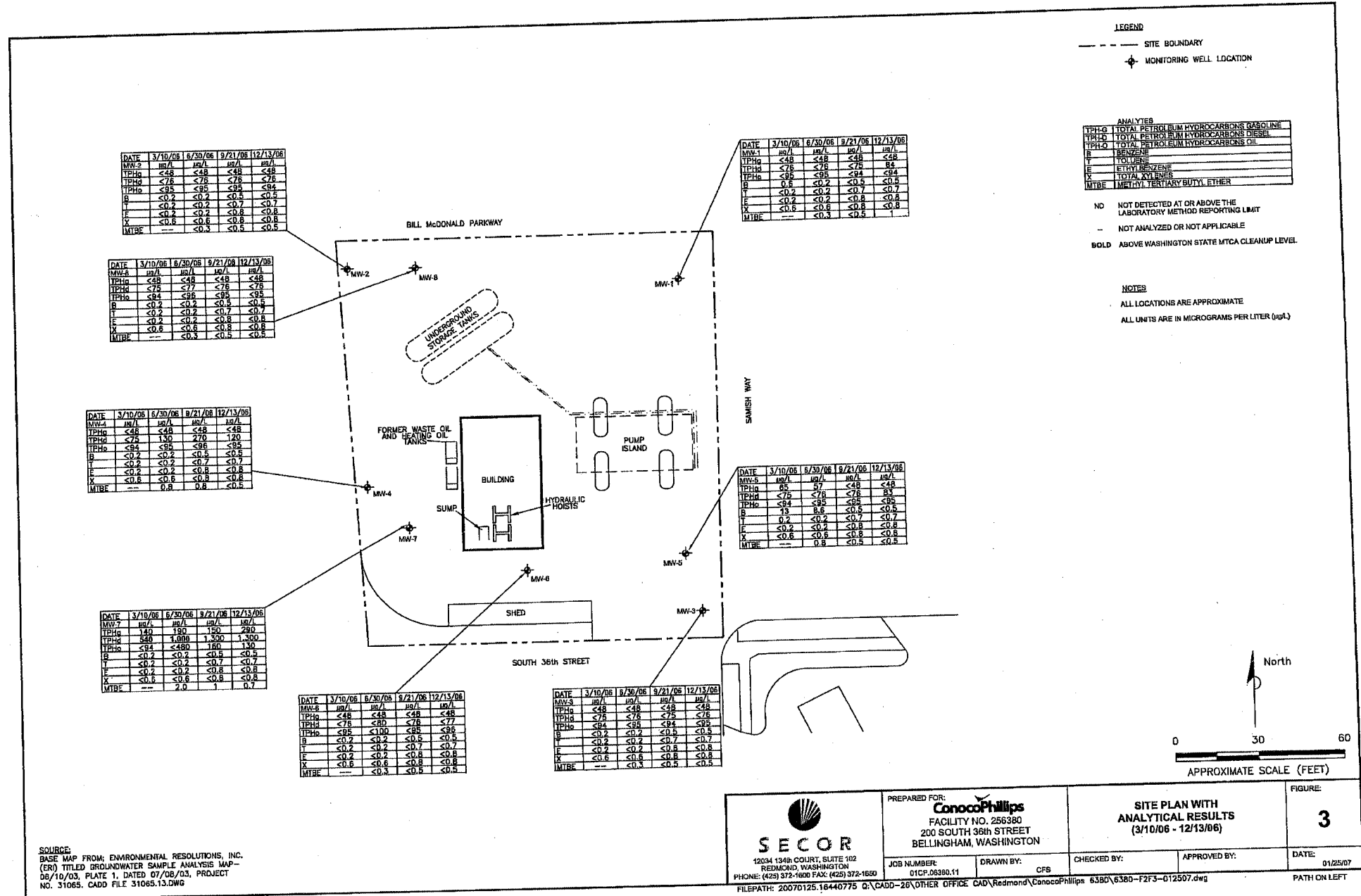
DATE	3/10/06	6/30/06	9/21/06	12/13/06
MW-7	µg/L	µg/L	µg/L	µg/L
TPH1G	140	190	150	280
TPH1D	540	1,000	1,300	1,300
TPH1O	<84	<80	160	130
B	<0.2	<0.2	<0.5	<0.5
T	<0.2	<0.2	<0.7	<0.7
E	<0.2	<0.2	<0.8	<0.8
X	<0.6	<0.6	<0.8	<0.8
MTBE	---	2.0	1	0.7

DATE	3/10/06	6/30/06	9/21/06	12/13/06
MW-6	µg/L	µg/L	µg/L	µg/L
TPH1G	<48	<48	<48	<48
TPH1D	<76	<76	<76	<76
TPH1O	<85	<100	<85	<85
B	<0.2	<0.2	<0.5	<0.5
T	<0.2	<0.2	<0.7	<0.7
E	<0.2	<0.2	<0.8	<0.8
X	<0.6	<0.6	<0.8	<0.8
MTBE	---	<0.3	<0.5	<0.5

DATE	3/10/06	6/30/06	9/21/06	12/13/06
MW-5	µg/L	µg/L	µg/L	µg/L
TPH1G	<48	<48	<48	<48
TPH1D	<76	<76	<76	<76
TPH1O	<84	<85	<84	<82
B	<0.2	<0.2	<0.5	<0.5
T	<0.2	<0.2	<0.7	<0.7
E	<0.2	<0.2	<0.8	<0.8
X	<0.6	<0.6	<0.8	<0.8
MTBE	---	<0.3	<0.5	<0.5

DATE	3/10/06	6/30/06	9/21/06	12/13/06
MW-1	µg/L	µg/L	µg/L	µg/L
TPH1G	<48	<48	<48	<48
TPH1D	<76	<76	<76	84
TPH1O	<85	<85	<84	<84
B	0.5	<0.2	<0.5	<0.5
T	<0.2	<0.2	<0.7	<0.7
E	<0.2	<0.2	<0.8	<0.8
X	<0.6	<0.6	<0.8	<0.8
MTBE	---	<0.3	<0.5	1

DATE	3/10/06	6/30/06	9/21/06	12/13/06
MW-3	µg/L	µg/L	µg/L	µg/L
TPH1G	<76	<76	<76	83
TPH1D	<84	<85	<85	<85
B	13	8.8	<0.5	<0.5
T	0.2	<0.2	<0.7	<0.7
E	<0.2	<0.2	<0.8	<0.8
X	<0.6	<0.6	<0.8	<0.8
MTBE	---	0.9	<0.5	<0.5



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

 1234 13th COURT, SUITE 102 REDMOND, WASHINGTON PHONE: (425) 372-1600 FAX: (425) 372-1650 FILEPATH: 20070125.16440775 G:\CADD-26\OTHER OFFICE CAD\Redmond\ConocoPhillips 6380\6380-F2F3-012507.dwg	PREPARED FOR: ConocoPhillips FACILITY NO. 256380 200 SOUTH 36th STREET BELLINGHAM, WASHINGTON	SITE PLAN WITH ANALYTICAL RESULTS (3/10/06 - 12/13/06)		FIGURE: 3
	JOB NUMBER: DTCP.06380.11	DRAWN BY: CFS	CHECKED BY:	APPROVED BY:

TABLES

TABLE 1
GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
 ConocoPhillips Facility No. 25638D
 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 TOC Elevation 98.49	03/10/06	5.82	92.67	<48	<76	<95	0.6	<0.2	<0.2	<0.6	-	-	-
	06/30/06	8.88	89.81	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	1.3	-	-
	09/21/06	6.13	92.36	<48	<75	<94	<0.5	<0.7	<0.8	<0.8	<0.5	<6.9	-
	12/13/06	5.75	92.74	<48	84	<94	<0.5	<0.7	<0.8	<0.8	1	-	-
MW2 TOC Elevation 100.74	3/10/2006	8.28	92.46	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	-	-	-
	6/30/2006	8.71	92.03	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	<0.3	-	-
	9/21/2006	9.00	91.74	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	<6.9	-
	12/13/2006	7.80	92.94	<48	<76	<94	<0.5	<0.7	<0.8	<0.8	<0.5	-	-
MW3 TOC Elevation 97.84	3/10/2006	4.75	93.09	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	-	-	-
	6/30/2006	5.40	92.44	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	<0.3	-	-
	9/21/2006	5.51	92.33	<48	<75	<94	<0.5	<0.7	<0.8	<0.8	<0.5	<6.9	-
	12/13/2006	4.75	93.09	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	-	-
MW4 TOC Elevation 99.44	3/10/2006	6.28	93.16	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	-	-	-
	6/30/2006	6.80	92.64	<48	130	<95	<0.2	<0.2	<0.2	<0.6	0.8	-	-
	9/21/2006	7.20	92.24	<48	270	<96	<0.5	<0.7	<0.8	<0.8	0.8	<6.9	-
	12/13/2006	5.86	-5.86	<48	120	<95	<0.5	<0.7	<0.8	<0.8	<0.5	-	-
MW-5 TOC Elevation 101.14	3/10/2006	3.81	95.63	65	<75	<94	13	0.2	<0.2	<0.6	-	-	-
	6/30/2006	4.46	94.98	57	<76	<95	8.6	<0.2	<0.2	<0.6	<5.0	-	-
	9/21/2006	4.85	94.59	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	<6.9	-
	12/13/2006	4.98	96.16	<48	83	<95	<0.5	<0.7	<0.8	<0.8	<0.5	-	-
MW-6 TOC Elevation 99.74	3/10/2006	5.47	94.27	<48	<76	<95	<0.2	<0.2	<0.2	<0.6	-	-	-
	6/30/2006	6.50	93.24	<48	<80	<100	<0.2	<0.2	<0.2	<0.6	<0.3	-	-
	9/21/2006	6.39	93.35	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	<6.9	-
	12/13/2006	4.98	94.76	<48	<77	<96	<0.5	<0.7	<0.8	<0.8	<0.5	-	-
MW-7 TOC Elevation 99.64	3/10/2006	6.71	92.93	140	540	<94	<0.2	<0.2	<0.2	<0.6	-	-	-
	6/30/2006	7.31	92.33	190	1,000	<480	0.2	<0.2	<0.2	<0.6	2.0	-	-
	9/21/2006	7.56	92.08	150	1,300	160	<0.5	<0.7	<0.8	<0.8	1	<6.9	-
	12/13/2006	6.05	93.59	290	1,300	130	<0.5	<0.7	<0.8	<0.8	0.7	-	-
MW-8 TOC Elevation 102.7	3/10/2006	7.50	95.20	<48	<75	<94	<0.2	<0.2	<0.2	<0.6	-	-	-
	6/30/2006	7.97	94.73	<48	<77	<96	<0.2	<0.2	<0.2	<0.6	<0.3	-	-
	9/21/2006	8.42	94.26	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	<6.9	-
	12/13/2006	7.10	95.60	<48	<76	<95	<0.5	<0.7	<0.8	<0.8	<0.5	-	-
MTC A 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 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.
 Prior to 12/12/03 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 MTC A Method A Cleanup Levels.
^a Concentration levels stated by MTC A Method A for TPH-G are 1000 ug/L when no benzene is present and 800 ug/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. The observed sample pattern includes #2 fuel/diesel and individual peaks eluting in the diesel organic range (DRO)

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



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2881 • www.lancasterlabs.com

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
1230 West Washington Street
Suite 212
Tempe AZ 85281

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1018202. Samples arrived at the laboratory on Thursday, December 14, 2006. The PO# for this group is 4506583796 and the release number is TROTTER.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
MW-8 Grab Water Sample	4939821
MW-2 Grab Water Sample	4939822
MW-4 Grab Water Sample	4939823
MW-7 Grab Water Sample	4939824
MW-6 Grab Water Sample	4939825
MW-5 Grab Water Sample	4939826
MW-3 Grab Water Sample	4939827
MW-1 Grab Water Sample	4939828
Trip Blank Water Sample	4939829

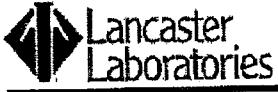
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ELECTRONIC COPY TO

SECOR International

SECOR International

Attn: Meredith Redmon

Attn: Marc Sauze



Analysis Report

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

Questions? Contact your Client Services Representative
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

A handwritten signature in cursive script that reads "Melissa A. McDermott".

Melissa A. McDermott
Senior Chemist



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2881 • www.lancasterlabs.com

Page 1 of 1

Lancaster Laboratories Sample No. WW 4939821

MW-8 Grab Water Sample
 Site# 1571 (256380)
 200 S 36th St-Bellingham, WA
 Collected: 12/13/2006 10:40

by TP

Account Number: 11817

Submitted: 12/14/2006 10:20
 Reported: 12/29/2006 at 09:19
 Discard: 01/29/2007

ConocoPhillips
 1230 West Washington Street
 Suite 212
 Tempe AZ 85281

380-8

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	N.D.	76.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	95.	ug/l	1
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
02300	GC/MS Volatiles					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	106-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Dilution Factor
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/22/2006 23:06	Robert I Pusch	1
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/15/2006 16:16	Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260E	1	12/16/2006 17:21	Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030E	1	12/15/2006 16:16	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030E	1	12/16/2006 17:21	Kerri E Koch	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	12/19/2006 07:00	Tracy L Schickel	1



Analysis Report

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Lancaster Laboratories Sample No. WW 4939822

MW-2 Grab Water Sample

Site# 1571 (256380)

200 S 36th St-Bellingham, WA

Collected: 12/13/2006 11:11 by TP

Account Number: 11817

Submitted: 12/14/2006 10:20

Reported: 12/29/2006 at 09:19

Discard: 01/29/2007

ConocoPhillips

1230 West Washington Street

Suite 212

Tempe AZ 85281

380-2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	N.D.	76.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	94.	ug/l	1
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
02300	GC/MS Volatiles					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/22/2006 23:30		Robert I Pusch	1
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/15/2006 16:48		Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260B	1	12/16/2006 18:29		Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/15/2006 16:48		Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/16/2006 18:29		Kerri E Koch	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	12/19/2006 07:00		Tracy L Schickel	1



Analysis Report

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Lancaster Laboratories Sample No. WW 4939823

MW-4 Grab Water Sample

Site# 1571 (256380)

200 S 36th St-Bellingham, WA

Collected: 12/13/2006 11:43 by TP

Account Number: 11817

Submitted: 12/14/2006 10:20

Reported: 12/29/2006 at 09:19

Discard: 01/29/2007

ConocoPhillips

1230 West Washington Street

Suite 212

Tempe AZ 85281

380-4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	120.	76.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	95.	ug/l	1
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
02300	GC/MS Volatiles					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/23/2006 00:18		Robert I Pusach	1
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/15/2006 17:21		Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260B	1	12/16/2006 18:52		Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/15/2006 17:21		Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/16/2006 18:52		Kerri E Koch	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	12/19/2006 07:00		Tracy L Schickel	1



Analysis Report

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Lancaster Laboratories Sample No. WW 4939824

MW-7 Grab Water Sample

Site# 1571 (256380)

200 S 36th St-Bellingham, WA

Collected: 12/13/2006 12:13 by TP

Account Number: 11817

Submitted: 12/14/2006 10:20

Reported: 12/29/2006 at 09:19

Discard: 01/29/2007

ConocoPhillips

1230 West Washington Street

Suite 212

Tempe AZ 85281

380-7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02211	TPH by NWTPE-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	1,300.	76.	ug/l	1
02096	Heavy Range Organics	n.a.	130.	96.	ug/l	1
08273	TPH by NWTPE-Gx waters					
01645	TPH by NWTPE-Gx waters	n.a.	290.	48.	ug/l	1
02300	GC/MS Volatiles					
02010	Methyl Tertiary Butyl Ether	1634-04-4	0.7	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
02211	TPH by NWTPE-Dx(water) w/SiGel	ECY 97-602 NWTPE-Dx modified	1	12/23/2006 00:42	Robert I Pusch	1
08273	TPH by NWTPE-Gx waters	ECY 97-602 NWTPE-Gx modified	1	12/15/2006 17:54	Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260B	1	12/16/2006 19:14	Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/15/2006 17:54	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/16/2006 19:14	Kerri E Koch	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPE-Dx 06/97	1	12/19/2006 07:00	Tracy L Schickel	1



Analysis Report

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Lancaster Laboratories Sample No. WW 4939825

MW-6 Grab Water Sample

Site# 1571 (256380)

200 S 36th St-Bellingham, WA

Collected: 12/13/2006 12:44 by TP

Account Number: 11817

Submitted: 12/14/2006 10:20

Reported: 12/29/2006 at 09:19

Discard: 01/29/2007

ConocoPhillips

1230 West Washington Street

Suite 212

Tempe AZ 85281

380-6

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	N.D.	77.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	96.	ug/l	1
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
02300	GC/MS Volatiles					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/23/2006 01:06	Robert I Pusch	1
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/15/2006 18:26	Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260B	1	12/16/2006 19:37	Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/15/2006 18:26	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/16/2006 19:37	Kerri E Koch	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	12/19/2006 07:00	Tracy L Schickel	1



Analysis Report

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Lancaster Laboratories Sample No. WW 4939826

MW-5 Grab Water Sample
 Site# 1571 (256380)
 200 S 36th St-Bellingham, WA
 Collected: 12/13/2006 13:13

by TP

Account Number: 11817

Submitted: 12/14/2006 10:20
 Reported: 12/29/2006 at 09:19
 Discard: 01/29/2007

ConocoPhillips
 1230 West Washington Street
 Suite 212
 Tempe AZ 85281

380-5

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02211	TPH by NWTPEH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	83.	76.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	95.	ug/l	1
08273	TPH by NWTPEH-Gx waters					
01645	TPH by NWTPEH-Gx waters	n.a.	N.D.	48.	ug/l	1
02300	GC/MS Volatiles					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	106-86-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02211	TPH by NWTPEH-Dx(water) w/SiGel	ECY 97-602 NWTPEH-Dx modified	1	12/23/2006 06:43	Robert I Pusch	1
08273	TPH by NWTPEH-Gx waters	ECY 97-602 NWTPEH-Gx modified	1	12/15/2006 18:59	Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260B	1	12/16/2006 19:59	Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/15/2006 18:59	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/16/2006 19:59	Kerri E Koch	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPEH-Dx 06/97	1	12/19/2006 07:00	Tracy L Schickel	1



Analysis Report

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Lancaster Laboratories Sample No. WW 4939827

MW-3 Grab Water Sample

Site# 1571 (256380)

200 S 36th St-Bellingham, WA

Collected: 12/13/2006 13:46 by TP

Account Number: 11817

Submitted: 12/14/2006 10:20

Reported: 12/29/2006 at 09:19

Discard: 01/29/2007

ConocoPhillips

1230 West Washington Street

Suite 212

Tempe AZ 85281

380-3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02211	TPH by NWTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	N.D.	76.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	95.	ug/l	1
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
02300	GC/MS Volatiles					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
02211	TPH by NWTPH-Dx(water) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	12/23/2006 07:06	Robert I Pusch	1
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/15/2006 20:37	Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260B	1	12/16/2006 20:22	Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/15/2006 20:37	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/16/2006 20:22	Kerri E Koch	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/87	1	12/19/2006 07:00	Tracy L Schickel	1



Analysis Report

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Lancaster Laboratories Sample No. WW 4939828

MW-1 Grab Water Sample
 Site# 1571 (256380)
 200 S 36th St-Bellingham, WA
 Collected: 12/13/2006 14:25

by TP

Account Number: 11817

Submitted: 12/14/2006 10:20
 Reported: 12/29/2006 at 09:19
 Discard: 01/29/2007

ConocoPhillips
 1230 West Washington Street
 Suite 212
 Tempe AZ 85281

380-1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02211	TPH by NWTTPH-Dx(water) w/SiGel					
02095	Diesel Range Organics	n.a.	84.	75.	ug/l	1
02096	Heavy Range Organics	n.a.	N.D.	94.	ug/l	1
08273	TPH by NWTTPH-Gx waters					
01645	TPH by NWTTPH-Gx waters	n.a.	N.D.	46.	ug/l	1
02300	GC/MS Volatiles					
02010	Methyl Tertiary Butyl Ether	1634-04-4	1.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	106-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Dilution Factor
02211	TPH by NWTTPH-Dx(water) w/SiGel	ECY 97-602 NWTTPH-DX modified	1	12/23/2006 07:30	Robert I Pusch	1
08273	TPH by NWTTPH-Gx waters	ECY 97-602 NWTTPH-Gx modified	1	12/15/2006 21:10	Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260B	1	12/16/2006 20:44	Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/15/2006 21:10	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/16/2006 20:44	Kerri E Koch	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTTPH-DX 06/97	1	12/19/2006 07:00	Tracy L Schickel	1



Analysis Report

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Lancaster Laboratories Sample No. WW 4939829

Trip Blank Water Sample
Site# 1571 (256380)
200 S 36th St-Bellingham, WA
Collected: n.a.

Account Number: 11817

Submitted: 12/14/2006 10:20
Reported: 12/29/2006 at 09:19
Discard: 01/29/2007

ConocoPhillips
1230 West Washington Street
Suite 212
Tempe AZ 85281

380TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
08273	TPH by NWTPE-Gx waters						
01645	TPH by NWTPE-Gx waters	n.a.	N.D.		48.	ug/l	1
02300	GC/MS Volatiles						
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	ug/l	1
05401	Benzene	71-43-2	N.D.		0.5	ug/l	1
05407	Toluene	108-88-3	N.D.		0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.		0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.		0.8	ug/l	1

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08273	TPH by NWTPE-Gx waters	ECY 97-602 NWTPE-Gx modified	1	12/15/2006 14:05	Steven A Skiles	1
02300	GC/MS Volatiles	SW-846 8260B	1	12/16/2006 15:29	Kerri E Koch	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/15/2006 14:05	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/16/2006 15:29	Kerri E Koch	1

Quality Control Summary

 Client Name: ConocoPhillips
 Reported: 12/29/06 at 09:19 AM

Group Number: 1018202

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: 06349A07A TPH by NWTPH-Gx waters	N.D.	48.	ug/l	96	107	70-130	11	30
Batch number: 063520025A Diesel Range Organics Heavy Range Organics	N.D.	80.	ug/l	111	99	51-113	12	20
Batch number: 063520026A Diesel Range Organics Heavy Range Organics	N.D.	80.	ug/l	98	94	51-113	4	20
Batch number: L063501AA Methyl Tertiary Butyl Ether Benzene Toluene Ethylbenzene Xylene (Total)	N.D.	0.5	ug/l	78		73-119		
	N.D.	0.5	ug/l	98		85-117		
	N.D.	0.7	ug/l	96		85-115		
	N.D.	0.8	ug/l	95		82-119		
	N.D.	0.8	ug/l	94		83-113		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
 Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limite	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 06349A07A TPH by NWTPH-Gx waters									
				UNSPK: P939797					
Batch number: L063501AA Methyl Tertiary Butyl Ether Benzene Toluene Ethylbenzene Xylene (Total)	86	82	69-127	5	30				
	102	98	83-128	4	30				
	97	94	83-127	2	30				
	99	95	82-129	4	30				
	97	93	82-130	4	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx waters
 Batch number: 06349A07A

*- 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.

Quality Control Summary

Client Name: ConocoPhillips
Reported: 12/29/06 at 09:19 AM

Group Number: 1018202

Surrogate Quality Control

Trifluorotoluene-F

4939821	105
4939822	101
4939823	97
4939824	104
4939825	98
4939826	100
4939827	99
4939828	102
4939829	96
Blank	105
LCS	104
LCS D	105
MS	105

Limits: 63-135

Analysis Name: TPH by NWTPH-Dx(water) w/SiGel
Batch number: 063520025A
Orthoterphenyl

4939821	115
4939822	114
4939823	115
4939824	118
4939825	116
Blank	112
LCS	131
LCS D	117

Limits: 50-150

Analysis Name: TPH by NWTPH-Dx(water) w/SiGel
Batch number: 063520026A
Orthoterphenyl

4939826	110
4939827	108
4939828	109
Blank	110
LCS	127
LCS D	114

Limits: 50-150

Analysis Name: UST-Unleaded Waters by 8260B
Batch number: L063501AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4939821	95	98	95	84
4939822	95	96	95	85
4939823	95	96	95	86
4939824	94	96	94	84
4939825	95	98	94	85
4939826	94	95	96	84
4939827	94	96	95	84
4939828	96	96	94	84

*- 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.

Quality Control Summary

Client Name: ConocoPhillips
Reported: 12/29/06 at 09:19 AM

Group Number: 1018202

Surrogate Quality Control

4939829	95	96	94	84
Blank	94	96	95	84
LCS	93	95	97	88
MS	94	99	96	89
MSD	94	96	97	86
Limits:	80-116	77-113	80-113	78-113

*- 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



04421

Acct. # 11817 For Lancaster Laboratories use only
 Group # 1018202 Sample #: 4939821-29

SCR#: 36452

Site #: 256380 PO # 4506583796
 Site Address: Bellingham, WA
 ConocoPhillips PM: Jim Trotter Company Code: SEC
 Core Work Order#: _____ Total Lab Budget: _____
 Consultant/Office: Redmond, WA
 Consultant Prj. Mgr: MARC SAUZE
 Consultant Phone #: 425 372-1600 Fax #: 1650
 Sampler: Tammy Parise

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

Matrix	Preservation Codes									
	1	2	3	4	5	6	7	8	9	10
Soil										
Water										
Oil										
Air										
Composite										
Portable										
NPDES										
Matrix										
Matrix										
Matrix										

Preservative Codes
 H = HCl T = Thiosulfate
 N = HNO₃ B = NaOH
 S = H₂SO₄ O = Other

Sample Identification	Date Collected	Time Collected	Grab	Composite
MW-8	12/13/06	10:40		
MW-2		11:11		
MW-4		11:43		
MW-7		12:13		
MW-6		12:44		
MW-5		1:13		
MW-3		1:46		
MW-1		2:14		
Trip blanks		2:25		

Relinquished by: <u>K. Hunt</u>	Date: <u>12/13/06</u>	Time: <u>0900</u>	Received by:	Date:	Time:
Relinquished by: <u>Tammy Parise</u>	Date: <u>12/13/06</u>	Time: <u>3:00</u>	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by: <u>Paul Zook</u>	Date: <u>12/14/06</u>	Time: <u>10:20</u>
Relinquished by Commercial Carrier:	Date:	Time:	Received by: <u>3.974.12</u>	Date:	Time:
UPS <input type="checkbox"/> FedEx <input checked="" type="checkbox"/> Other <input type="checkbox"/>	Temperature Upon Receipt _____ °C				

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 _____

Lancaster Laboratories 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
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml

< 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

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.

U.S. EPA 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
J	Estimated value
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 amount 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.

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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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: 12/13/06

Client: ConocoPhillips	Site No: 256380	Project No: 01CP.01571.02
Scope of Work: <input checked="" type="checkbox"/> Quarter Monitoring/Sampling		
Describe Daily Activities:		
Gauged <u>8</u> monitoring wells.	Number of drums left on site: <u>0</u>	
Purged <u>8</u> monitoring wells.		
Sampled <u>8</u> monitoring wells.		
<u>Field Notes:</u>		
9:20 Arrive on site, check in w/ Meredith, apply PPE, go over HAZOP + check in w/ station employee		
Set up decon + begin gauging wells, when finished gauging		
Unload equipment + begin sampling		
10:40 sampled MW-8		
11:11 sampled MW-2		
11:43 sampled MW-4		
12:13 sampled MW-7		
12:44 sampled MW-6		
1:13 sampled MW-5		
1:46 sampled MW-3		
2:25 sampled MW-1		
Decon equipment + pack up, pack coolers on ice for shipping, empty purge H ₂ O		
Fill out COC + FedEx ship, check in w/ station employee + Meredith		
Stop by local FedEx to drop off coolers		
Arrived on Site: <u>9:20</u>	Departed Site: <u>3:20</u>	
Decontamination Procedures: 3-Stage (Alconox Wash, Tap Water Rinse, & Distilled Water Rinse)		
Daily Health and Safety Log Completed?: <u>Yes</u>	Utility Locations Checked?: <u>N/A</u>	
Important Conversations: <u>NO</u>		
Important Changes in Scope of Work: <u>NO</u>		
Weather Conditions: <u>40° cloudy/windy/rain/sun</u>	Subcontractors On Site: <u>NO</u>	
SECOR Personnel On Site: <u>Tammie Parise</u>		
Signed: <u>Tammie Parise</u>	Date: <u>12/13/06</u>	

SECOR
GROUNDWATER SAMPLING FIELD DATA SHEET

SECOR PN: _____ DATE: 12/13/06 WELL NO: MW-1

FACILITY NAME: 256380 TEMPERATURE: 40 °F or °C

FIELD PERSONNEL: Tammy Parise WEATHER: Windy, partly sunny

FIELD MEASUREMENTS:

- A. Static Water Level (SWL) below top of casing/piezometer: 5.75 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: _____ 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.	x feet of water	=	PV (Gal)
2" Diameter =	0.5 gals/ft	0.82 gals/ft	_____	=	_____ PV (Gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	_____	=	_____ PV (Gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	_____	=	_____ PV (Gal)

PURGING METHOD: LOW FLOW DURATION: START: 2:07 END: 2:39

OBSERVATIONS:

	Time	Turbidity	Color	ORP	pH	Temp.	Conduct	SWL
1st Volume:	<u>2:12</u>	<u>L</u>	<u>C</u>	<u>-25</u>	<u>6.76</u>	<u>12.21</u>	<u>0.318</u>	<u>5.02</u>
2nd Volume:	<u>2:15</u>	<u>I</u>	<u>I</u>	<u>-28</u>	<u>6.81</u>	<u>12.39</u>	<u>0.346</u>	<u>4.93</u>
3rd Volume:	<u>2:18</u>	<u>NA</u>	<u>↓</u>	<u>-36</u>	<u>6.75</u>	<u>12.84</u>	<u>0.615</u>	<u>4.92</u>
4th Volume:	<u>2:21</u>	<u>M</u>	<u>↓</u>	<u>-37</u>	<u>6.89</u>	<u>12.85</u>	<u>0.675</u>	<u>4.91</u>
Addl. Volumes:	<u>2:24</u>	<u>M</u>	<u>↓</u>	<u>-36</u>	<u>6.95</u>	<u>12.96</u>	<u>0.698</u>	<u>4.90</u>

TOTAL VOLUME OF WATER PURGED FROM WELL: 25 gallons
 PURGE WATER STORED/DISPOSED OF WHERE/HOW: Taken offsite

SAMPLES COLLECTED: Depth to Water at time of sample collection: ~~4.93~~ 4.90

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
<u>MW-1</u>	<u>2:25</u>	<u>6 VOAS/1 Amber</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____

COMMENTS:

Yellow chunk of debris was pulled up towards end of observations. Took additional readings due to change in cond.

Recharge Calculation at Time of Sample Collection:

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

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: 12/13/06 WELL NO. MW-2
 FACILITY NAME: 256380 TEMPERATURE: 40 °F or °C
 FIELD PERSONNEL: Tammy Parise WEATHER: Monday, windy

FIELD MEASUREMENTS:

- A. Static Water Level (SWL) below top of casing/piezometer: 7.80 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: _____ 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:
- | | | | |
|---------------|---------------------|---------------------|--|
| | <u>3 Well Vols.</u> | <u>5 Well Vols.</u> | |
| 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: 10:59 END: 11:26

OBSERVATIONS:

	Time	Turbidity	Color	ORP	pH	Temp	Conduct	SWL
1st Volume:	<u>11:04</u>	<u>L</u>	<u>C</u>	<u>76</u>	<u>7.42</u>	<u>12.19</u>	<u>0.557</u>	<u>7.78</u>
2nd Volume:	<u>11:07</u>	<u>J</u>	<u>J</u>	<u>7</u>	<u>7.48</u>	<u>12.12</u>	<u>0.557</u>	<u>7.78</u>
3rd Volume:	<u>11:10</u>	<u>J</u>	<u>J</u>	<u>16</u>	<u>7.25</u>	<u>12.26</u>	<u>0.576</u>	<u>7.78</u>
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Addl. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: 25 gallons
 PURGE WATER STORED/DISPOSED OF WHERE/HOW: Taken offsite

SAMPLES COLLECTED: Depth to Water at time of sample collection: 7.78

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
<u>MW-2</u>	<u>11:11</u>	<u>6 VOAS/1 Amber</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____

COMMENTS:

- Casing Capacities:
 2-inch hole.....0.16 gal/in ft.
 4-inch hole.....0.65 gal/in ft.
 6.5-inch hole.....1.70 gal/in ft.
 8-inch hole.....2.60 gal/in ft.
 10-inch hole.....4.10 gal/in 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: 12/13/06 WELL NO. MW-3
 FACILITY NAME: 256380 TEMPERATURE: 40 °F or °C
 FIELD PERSONNEL: Tammy Parise WEATHER: windy

FIELD MEASUREMENTS:

- A. Static Water Level (SWL) below top of casing/piezometer: 4.75 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: _____ 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:

	<u>3 Well Vols.</u>	<u>5 Well Vols.</u>	x feet of water	=	_____ PV (Gal)
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			

PURGING METHOD: LOW FLOW DURATION: START: 1:34 END: 1:58

OBSERVATIONS:

	Time	Turbidity	Color	ORP	pH	Temp.	Conduct.	SWL
1st Volume:	<u>1:39</u>	<u>L</u>	<u>C</u>	<u>-66</u>	<u>7.57</u>	<u>10.73</u>	<u>0.782</u>	<u>4.53</u>
2nd Volume:	<u>1:42</u>	<u>↓</u>	<u>↓</u>	<u>-67</u>	<u>7.54</u>	<u>10.74</u>	<u>0.789</u>	<u>4.50</u>
3rd Volume:	<u>1:45</u>	<u>↓</u>	<u>↓</u>	<u>-67</u>	<u>7.48</u>	<u>10.76</u>	<u>0.801</u>	<u>4.50</u>
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Add. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: 25 gallons
 PURGE WATER STORED/DISPOSED OF WHERE/HOW: Taken offsite

SAMPLES COLLECTED: Depth to Water at time of sample collection: 4.50

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
<u>MW-3</u>	<u>1:46</u>	<u>6 VOAS/1 Amber</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____

COMMENTS:

- Casing Capacities:
 2-inch hole.....0.16 gal/in ft.
 4-inch hole.....0.65 gal/in ft.
 6.5-inch hole.....1.70 gal/in ft.
 8-inch hole.....2.60 gal/in ft.
 10-inch hole.....4.10 gal/in 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: 12/13/06 WELL NO. MW-4
 FACILITY NAME: 256380 TEMPERATURE: 40 °F or °C
 FIELD PERSONNEL: Tammy Parise WEATHER: windy-cloudy

FIELD MEASUREMENTS:

- A. Static Water Level (SWL) below top of casing/piezometer: 5.86 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: _____ 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:
- | | | | |
|---------------|---------------------|---------------------|--|
| | <u>3 Well Vols.</u> | <u>5 Well Vols.</u> | |
| 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: 11:31 END: 11:57

OBSERVATIONS:

	Time	Turbidity	Color	ORP	pH	Temp.	Conduct.	SWL
1st Volume:	<u>11:30</u>	<u>L</u>	<u>e</u>	<u>19</u>	<u>7.14</u>	<u>11.54</u>	<u>0.670</u>	<u>5.85</u>
2nd Volume:	<u>11:39</u>	<u>↓</u>	<u>↓</u>	<u>30</u>	<u>7.23</u>	<u>11.61</u>	<u>0.651</u>	<u>5.85</u>
3rd Volume:	<u>11:42</u>	<u>↓</u>	<u>↓</u>	<u>36</u>	<u>7.21</u>	<u>11.56</u>	<u>0.645</u>	<u>5.85</u>
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Add. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: .25 gallons
 PURGE WATER STORED/DISPOSED OF WHERE/HOW: Taken offsite

SAMPLES COLLECTED: Depth to Water at time of sample collection: 5.85

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
<u>MW-4</u>	<u>11:43</u>	<u>6 VOAS/1 Amber</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____

COMMENTS:

- Casing Capacities:
 2-inch hole.....0.16 gal/in ft.
 4-inch hole.....0.65 gal/in ft.
 6.5-inch hole.....1.70 gal/in ft.
 8-inch hole.....2.60 gal/in ft.
 10-inch hole.....4.10 gal/in 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: 4/13/06 WELL NO. MW-5
 FACILITY NAME: 256380 TEMPERATURE: 40 °F or °C
 FIELD PERSONNEL: Tammy Parise WEATHER: windy, sunny

FIELD MEASUREMENTS:

- A. Static Water Level (SWL) below top of casing/piezometer: 4.98 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: _____ 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:

	<u>3 Well Vols.</u>	<u>5 Well Vols.</u>	
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: 1:01 END: 1:23

OBSERVATIONS:

	<u>Time</u>	<u>Turbidity</u>	<u>Color</u>	<u>ORP</u>	<u>pH</u>	<u>Temp.</u>	<u>Conduct</u>	<u>SWL</u>
1st Volume:	<u>1:06</u>	<u>L</u>	<u>C</u>	<u>-35</u>	<u>7.18</u>	<u>12.33</u>	<u>0.761</u>	<u>4.24</u>
2nd Volume:	<u>1:09</u>	<u>J</u>	<u>J</u>	<u>-30</u>	<u>7.14</u>	<u>12.28</u>	<u>0.769</u>	<u>4.19</u>
3rd Volume:	<u>1:12</u>	<u>↓</u>	<u>↓</u>	<u>-25</u>	<u>7.15</u>	<u>12.07</u>	<u>0.777</u>	<u>4.16</u>
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Addl. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: .25 gallons
 PURGE WATER STORED/DISPOSED OF WHERE/HOW: Taken offsite

SAMPLES COLLECTED: Depth to Water at time of sample collection: 4.16

<u>Sample Number(s)</u>	<u>Time</u>	<u>Size/Number of Container(s)</u>	<u>Preservative</u>
<u>MW-5</u>	<u>1:13</u>	<u>6 VOAS/1 Amber</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____

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: 12/13/06 WELL NO. MW-6
 FACILITY NAME: 256380 TEMPERATURE: 40 °F or °C
 FIELD PERSONNEL: Tammy Parise WEATHER: Windy, raining

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 4.98 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: _____ 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: 10:32 END: 12:56

OBSERVATIONS:

	Time	Turbidity	Color	ORP	pH	Temp.	Conduct.	SWL
1st Volume:	<u>12:37</u>	<u>L</u>	<u>C</u>	<u>-64</u>	<u>7.47</u>	<u>11.35</u>	<u>0.820</u>	<u>5.07</u>
2nd Volume:	<u>12:40</u>	<u>↓</u>	<u>↓</u>	<u>-62</u>	<u>7.65</u>	<u>11.41</u>	<u>0.821</u>	<u>5.07</u>
3rd Volume:	<u>12:43</u>	<u>↓</u>	<u>↓</u>	<u>-63</u>	<u>7.65</u>	<u>11.43</u>	<u>0.827</u>	<u>5.07</u>
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Addl. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: .25 gallons
 PURGE WATER STORED/DISPOSED OF WHERE/HOW: Taken offsite

SAMPLES COLLECTED: Depth to Water at time of sample collection: 5.07

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
<u>MW-B</u>	<u>12:44</u>	<u>6 VOAS/1 Amber</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____

COMMENTS:

Casing Capacities:
 2-inch hole.....0.16 gal/in ft.
 4-inch hole.....0.65 gal/in ft.
 6.5-inch hole.....1.70 gal/in ft.
 8-inch hole.....2.60 gal/in ft.
 10-inch hole.....4.10 gal/in 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: 12/13/06 WELL NO. MW-7
 FACILITY NAME: 256380 TEMPERATURE: 40 °F or °C
 FIELD PERSONNEL: Tammy Parise WEATHER: Windy + Cloudy

FIELD MEASUREMENTS:

- A. Static Water Level (SWL) below top of casing/piezometer: 6.05 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: _____ 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:

	<u>3 Well Vols.</u>	<u>5 Well Vols.</u>	x feet of water = _____ PV (Gal)
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	

PURGING METHOD: LOW FLOW DURATION: START: 12:01 END: 12:26

OBSERVATIONS:

	<u>Time</u>	<u>Turbidity</u>	<u>Color</u>	<u>ORP</u>	<u>pH</u>	<u>Temp.</u>	<u>Conduct.</u>	<u>SWL</u>
1st Volume:	<u>12:06</u>	<u>L</u>	<u>C</u>	<u>95</u>	<u>7.49</u>	<u>11.40</u>	<u>0.761</u>	<u>6.13</u>
2nd Volume:	<u>12:04</u>	<u>↓</u>	<u>↓</u>	<u>-108</u>	<u>7.27</u>	<u>11.50</u>	<u>0.787</u>	<u>6.13</u>
3rd Volume:	<u>12:12</u>	<u>↓</u>	<u>↓</u>	<u>-113</u>	<u>7.33</u>	<u>11.59</u>	<u>0.789</u>	<u>6.13</u>
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Add. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: .25 gallons
 PURGE WATER STORED/DISPOSED OF WHERE/HOW: Taken offsite

SAMPLES COLLECTED: Depth to Water at time of sample collection: 6.13

<u>Sample Number(s)</u>	<u>Time</u>	<u>Size/Number of Container(s)</u>	<u>Preservative</u>
<u>MW-7</u>	<u>12:13</u>	<u>6 VOAS/1 Amber</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____

COMMENTS:

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

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

SECOR
GROUNDWATER SAMPLING FIELD DATA SHEET

SECOR PN: _____ DATE: 12/13/06 WELL NO. MW-8

FACILITY NAME: 256380 TEMPERATURE: 40 °F or °C

FIELD PERSONNEL: Tammv Parise WEATHER: raining/windy

FIELD MEASUREMENTS:

- A. Static Water Level (SWL) below top of casing/piezometer: 7.10 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: _____ 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:

	<u>3 Well Vols.</u>	<u>5 Well Vols.</u>		
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: 10:28 END: 10:53

OBSERVATIONS:

	Time	Turbidity	Color	ORP	pH	Temp.	Conduct.	SWL
1st Volume:	<u>10:33</u>	<u>L</u>	<u>C</u>	<u>24</u>	<u>7.20</u>	<u>12.18</u>	<u>0.756</u>	<u>7.17</u>
2nd Volume:	<u>10:36</u>	<u>↓</u>	<u>↓</u>	<u>14</u>	<u>7.30</u>	<u>12.67</u>	<u>0.773</u>	<u>7.17</u>
3rd Volume:	<u>10:39</u>	<u>↓</u>	<u>↓</u>	<u>7</u>	<u>7.36</u>	<u>12.94</u>	<u>0.776</u>	<u>7.19</u>
4th Volume:	_____	_____	_____	_____	_____	_____	_____	_____
Addl. Volumes:	_____	_____	_____	_____	_____	_____	_____	_____

TOTAL VOLUME OF WATER PURGED FROM WELL: 25 gallons
PURGE WATER STORED/DISPOSED OF WHERE/HOW: Taken offsite

SAMPLES COLLECTED: Depth to Water at time of sample collection: 7.19

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
<u>MW-8</u>	<u>10:40</u>	<u>6 VOAS/1 Amber</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____

COMMENTS:

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

ConocoPhillips Analysis Request/Chain of Custody



04421

For Lancaster Laboratories use only

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

SCR#: 36452

Site #: <u>256380</u> -VNO #: <u>4506583796</u> Site Address: <u>Bellingham, WA</u> ConocoPhillips PM: <u>Jim Trotter</u> Company Code: <u>SEC</u> Core Work Order#: _____ Total Lab Budget: _____ Consultant/Office: <u>Redmond, WA</u> Consultant Prj. Mgr: <u>MARC SANZE</u> Consultant Phone #: <u>125 372-1600</u> Fax #: <u>1650</u> Sampler: <u>Tammy Parise</u>		Matrix <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/> Air	Analyses Requested <small>List total number of containers in the box under each analysis.</small> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Preservation Codes</th> <th colspan="10">Preservative Codes</th> </tr> <tr> <th>IT</th> <th>#</th> <th>H</th> <th>N</th> <th>S</th> <th>T</th> <th>B</th> <th>O</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>IT</td> <td>9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>IT</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>#</td> <td>82605</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Preservation Codes		Preservative Codes										IT	#	H	N	S	T	B	O							IT	9													IT	1													#	82605													Preservative Codes H = HCl T = Thiosulfate N = HNO ₃ B = NaOH S = H ₂ SO ₄ O = Other
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Turnaround Time Requested in Business Days (TAT) (please circle): STD. TAT 5 day 48 hour 24 hour other _____		Relinquished by: <u>T. Sant</u> Date: <u>12/30/06</u> Time: <u>0900</u> Relinquished by: <u>Tammy Parise</u> Date: <u>11/3/06</u> Time: <u>3:00</u> Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____																																																																				
Reporting Requirements (please circle) NJ Reduced NY ASP Cat. A Raw Data Diskette NY ASP Cat. B Full Type I Other _____		Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____		Temperature Upon Receipt _____ C°																																																																				



Sample Container Record

Order Number: 36452
Order Date: 11/28/2006
Page 1 of 1
Standard Frm#: 69950

Client: 11817
ConocoPhillips
256380 - Bellingham, WA

Ship To:
SECOR International
12034 134th Court NE
Ste 102
Redmond, WA 98052
425-372-1600
Attn: Tammy Parise

Group: 1

Number of Sample Locations: 9

One complete set of bottles listed below must be filled for each of the 9 sample location(s).
QC type

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
3	26	40 ml glass vial	HCl	TPH by NWTPH-Gx waters	14 days
2	29	1000 ml round amber glass	HCl	TPH by NWTPH-Dx(water) w/SIGel	14 days
3	38	40 ml glass vial (GC/MS)	HCl	UST-Unleaded Waters by 8260B	14 days

Group: 2

Number of Sample Locations: 1

Sample Description
Trip Blank

QC type
Trip Blank

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
1	26	40 ml glass vial	HCl	TPH by NWTPH-Gx waters	14 days
1	38	40 ml glass vial (GC/MS)	HCl	UST-Unleaded Waters by 8260B	14 days

If you have any questions, please contact your Client Service Representative, Megan Moeller at (717) 656-2300 X 1246

Date Needed:

12/01/2006

Shipping Method

2nd Day

This order is:

Per your Request