Release 471259
Tosco 6380
Bellingham

DATE: December 6, 2004

UST # 8394

ConocoPhillips

GROUNDWATER MONITORING REPORT

Site No.: 6380 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
SECOR Project No: 01CP.06380.04

WORK PERFORMED THIS QUARTER(S) [3rd - 2004]:

- On 9/23/04, SECOR personnel monitored, purged, and sampled four of the existing network of four groundwater monitoring wells (MW-1 through MW-4). Samples were submitted to Severn Trent Laboratories, Inc. (STL) for analysis of gasoline-range hydrocarbons per NWTPH-Gx Method, diesel and motor oil-range hydrocarbons per NWTPH-Dx Method modified with an acid/silica gel cleanup, BTEX per USEPA Method 8260B and total lead per ICP-USEPA Method 6010.

WORK PROPOSED FOR NEXT QUARTER [4th - 2004]:

- Measure depth to water, purge, and sample 4 groundwater monitoring wells (MW-1 through MW-4). Submit groundwater samples to STL for analysis for NWTPH-Gx, NWTPH-Dx, BTEX and total lead.

SUMMARY:

Frequency of Sampling Events:	Quarterly	(03/04,06/04,09/04,10/04)
Depth to Groundwater:	5.03 ft. (MW-3)	(Measured Feet Below
	8.33 ft. (MW-2)	Top of Well Casing)
Groundwater Gradient:	Northwest and South	(Direction)
	0.009 ft./ft. and 0.003 ft./ft.	(Magnitude)
Maximum TPH-G Concentrations:	190 µg/L (MW-1)	(ppb / well ID)
Maximum TPH-D Concentrations:	None Detected	(ppb / well ID)
Maximum TPH-O Concentrations:	None Detected	(ppb / well ID)
Maximum Benzene Concentration:	None Detected	(ppb / well ID)
Maximum Total 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:	MNA	(SVE/AS/P&T/MNA etc.)
Permits for Discharge:	None	(NPDES, POTW, etc.)

DISCUSSION:

- Gasoline-range hydrocarbon concentrations were detected above the laboratory reporting limits (RLs) in MW-1 and MW-3 at concentrations of 190 µg/L and 140 µg/L, respectively. No gasoline-range hydrocarbons were detected above the RLs in any of the other wells sampled.
- No diesel or motor-oil-range hydrocarbons were detected above the RLs in any of the wells sampled.
- No benzene, toluene, ethylbenzene or xylene (BTEX) constituents were detected above the RLs.

- No total lead was detected above the RIs in any of the wells sampled.
- A groundwater divide creating two groundwater gradients is present on the site. The divide extends along a line oriented approximately northeast-southwest in the vicinity of MW-1 and MW-4. Two gradients are reported as 0.009 ft./ft. to the northwest and 0.003 ft./ft. to the south.
- No drums were left on site.

ATTACHMENTS:

Figure 1: Site Location Map
Figure 2: Site Plan with Groundwater Elevation Contours (9/23/04)
Figure 3: Site Plan with and Analytical Results (9/03/03– 9/23/04)
Table 1: Summary of Cumulative Groundwater Elevations and Sample Analytical Results
Laboratory Analytical Report and Chain of Custody Record
Groundwater Monitoring Field Data Records

Prepared By:

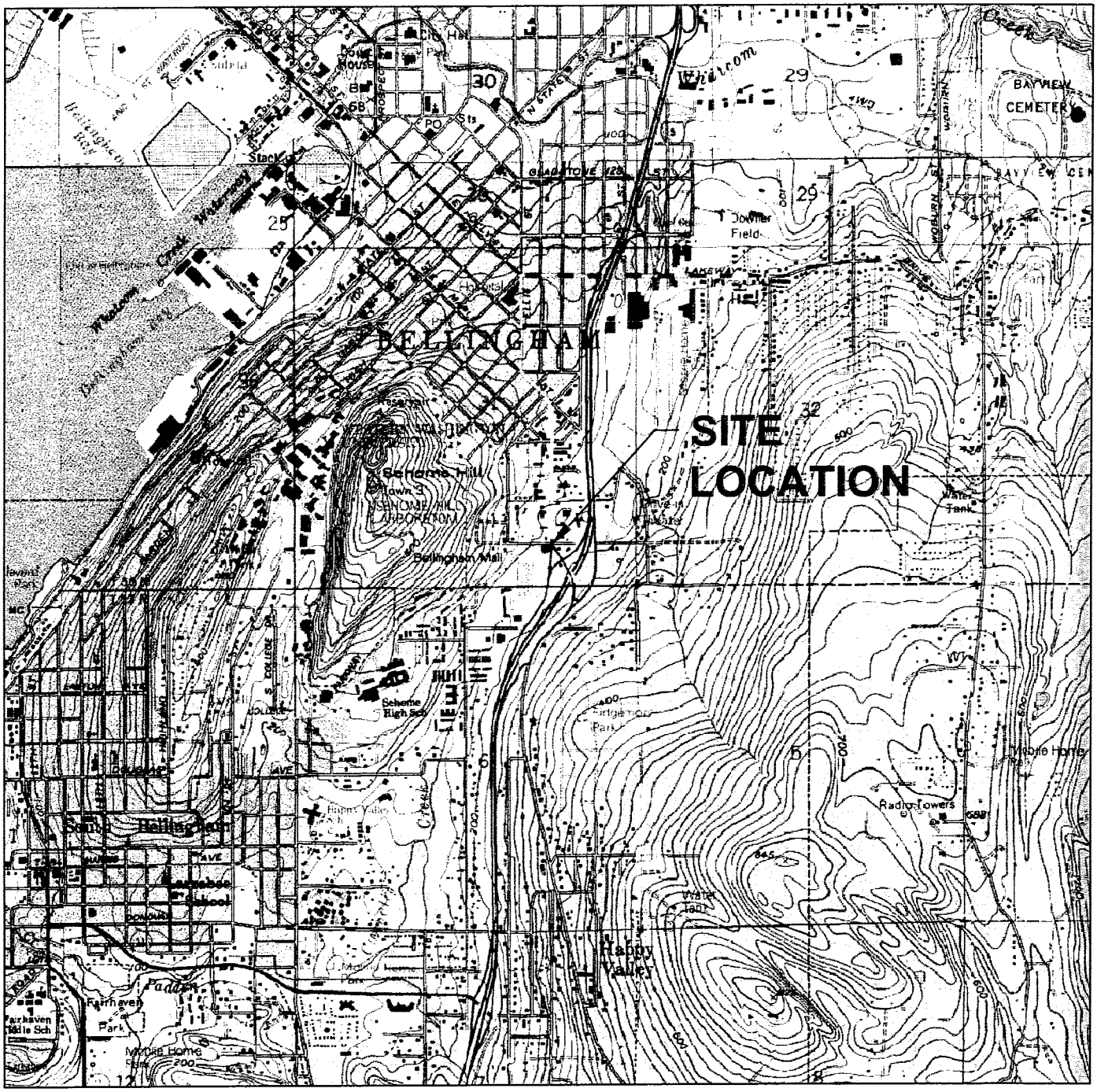
August Welch
Staff Scientist

Doane E. Cafferty

Reviewed By:

Doane E. Cafferty, L.G.
Project Geologist

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



North

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

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

PREPARED FOR:
ConocoPhillips
FACILITY NO 6380
200 SOUTH 36th STREET
BELLINGHAM, WASHINGTON

SITE LOCATION MAP

FIGURE: **1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
01CP.06380.04	S. SIMMONS	AW	DEC	2/5/04

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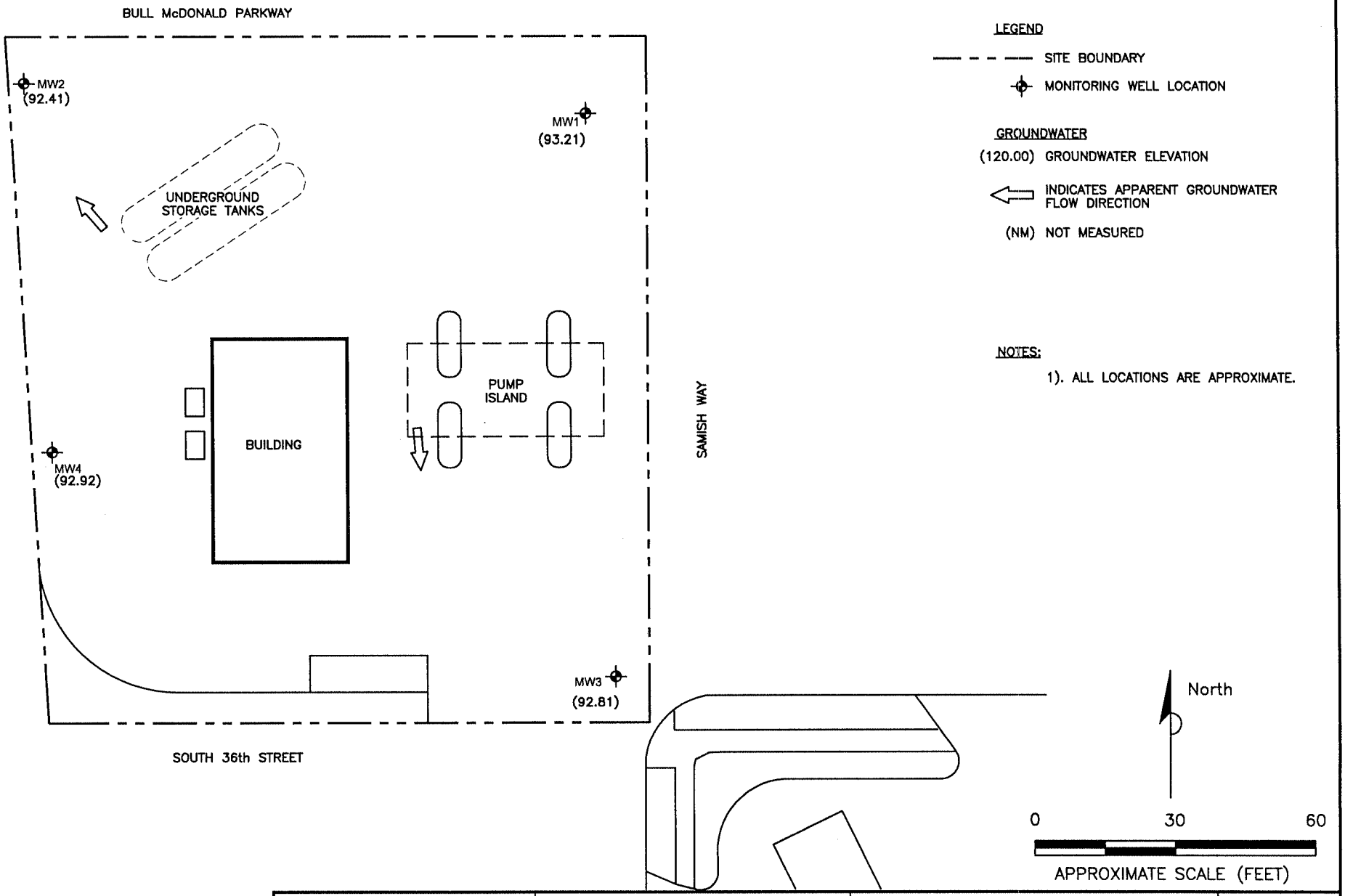

SOURCE:
BASE MAP FROM; ENVIRONMENTAL RESOLUTIONS, INC. (ERI) TITLED GROUNDWATER SAMPLE ANALYSIS MAP– 06/10/03, PLATE 1, DATED 07/08/03, PROJECT NO. 31065. CADD FILE 31065.13.DWG

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BELLINGHAM, WASHINGTON

SITE PLAN WITH GROUNDWATER ELEVATIONS (9/23/04)

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
01CP.06380.04	S. SIMMONS	AW	DEC	11/30/04

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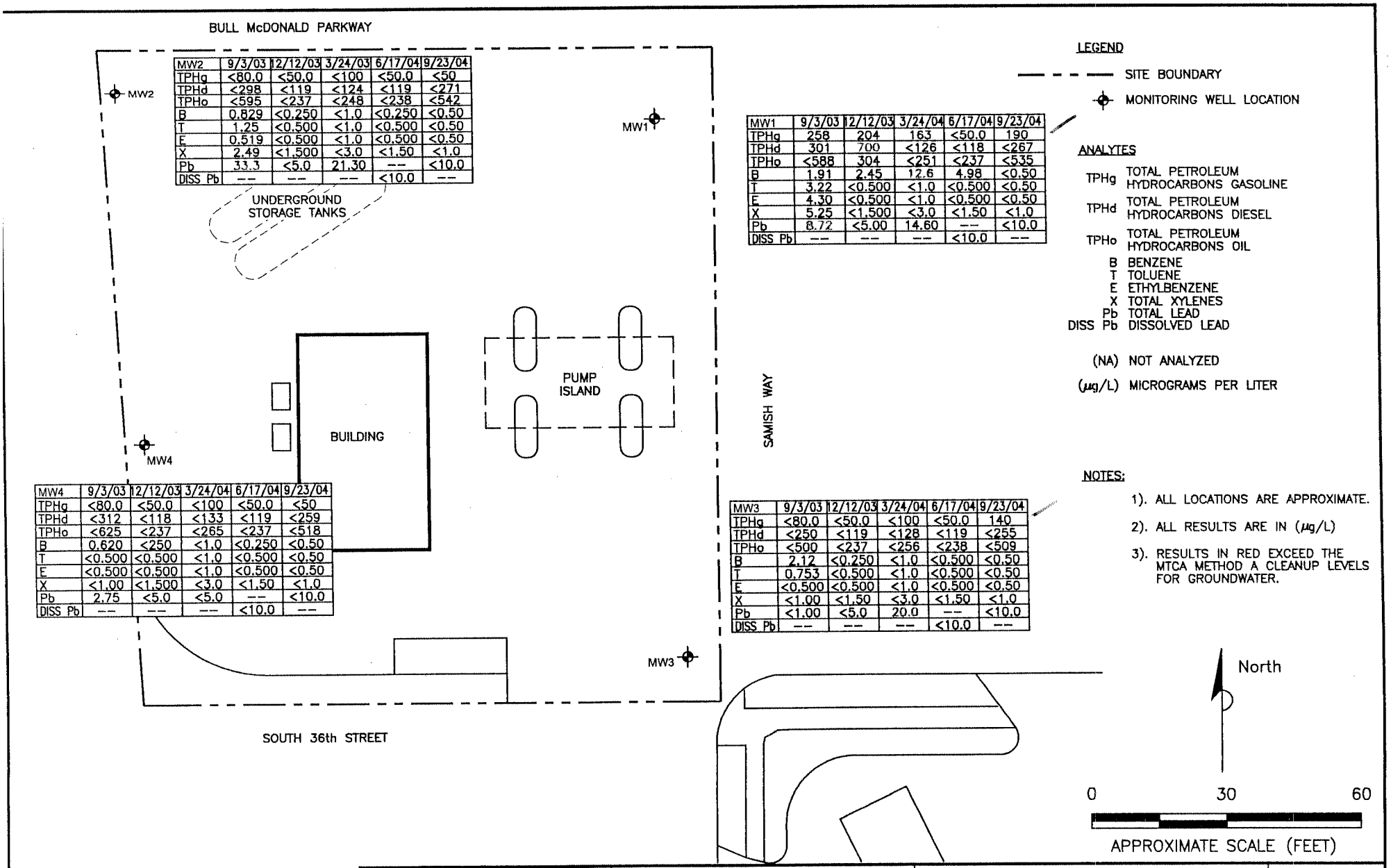

MW2	9/3/03	12/12/03	3/24/03	6/17/04	9/23/04
TPHg	<80.0	<50.0	<100	<50.0	<50
TPHd	<298	<119	<124	<119	<271
TPHo	<595	<237	<248	<238	<542
B	0.829	<0.250	<1.0	<0.250	<0.50
T	1.25	<0.500	<1.0	<0.500	<0.50
E	0.519	<0.500	<1.0	<0.500	<0.50
X	2.49	<1.500	<3.0	<1.50	<1.0
Pb	33.3	<5.0	21.30	--	<10.0
DISS Pb	--	--	--	<10.0	--

MW1	9/3/03	12/12/03	3/24/04	6/17/04	9/23/04
TPHg	258	204	163	<50.0	190
TPHd	301	700	<126	<118	<267
TPHo	<588	304	<251	<237	<535
B	1.91	2.45	12.6	4.98	<0.50
T	3.22	<0.500	<1.0	<0.500	<0.50
E	4.30	<0.500	<1.0	<0.500	<0.50
X	5.25	<1.500	<3.0	<1.50	<1.0
Pb	8.72	<5.00	14.60	--	<10.0
DISS Pb	--	--	--	<10.0	--

MW4	9/3/03	12/12/03	3/24/04	6/17/04	9/23/04
TPHg	<80.0	<50.0	<100	<50.0	<50
TPHd	<312	<118	<133	<119	<259
TPHo	<625	<237	<265	<237	<518
B	0.620	<250	<1.0	<0.250	<0.50
T	<0.500	<0.500	<1.0	<0.500	<0.50
E	<0.500	<0.500	<1.0	<0.500	<0.50
X	<1.00	<1.500	<3.0	<1.50	<1.0
Pb	2.75	<5.0	<5.0	--	<10.0
DISS Pb	--	--	--	<10.0	--

MW3	9/3/03	12/12/03	3/24/04	6/17/04	9/23/04
TPHg	<80.0	<50.0	<100	<50.0	140
TPHd	<250	<119	<128	<119	<255
TPHo	<500	<237	<256	<238	<509
B	2.12	<0.250	<1.0	<0.500	<0.50
T	0.753	<0.500	<1.0	<0.500	<0.50
E	<0.500	<0.500	<1.0	<0.500	<0.50
X	<1.00	<1.50	<3.0	<1.50	<1.0
Pb	<1.00	<5.0	20.0	--	<10.0
DISS Pb	--	--	--	<10.0	--

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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BELLINGHAM, WASHINGTON

SITE PLAN
WITH ANALYTICAL RESULTS
(9/3/03 - 9/23/04)

FIGURE: **3**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
01CP.06380.04	S. SIMMONS	AW	DEC	11/30/04

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TABLE 1
CUMMULATIVE SUMMARY OF GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
ConocoPhillips Site No. 6380
200 South 36th Street
Bellingham, Washington

Well Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X	Total Pb	Diss Pb
MW1	03/11/99	4.96	93.53	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	2.41	--
TOC Elevation	05/25/99	5.33	93.16	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--	--
98.49	08/12/99	6.66	91.83	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--
	12/07/99	6.10	92.39	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	6.18	--
	02/10/00	6.10	92.39	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	1.75	--
	02/02/01	5.17	93.32	<50.0	588	<750	12.4	1.02	1.10	2.77	--	<1.00
	02/08/02	5.77	92.72	838	1,600	<500	128	2.15	85.4	6.55	7.70	<1.00
	09/20/02	6.27	92.22	197	1,320	<588	1.82	<0.500	33.0	<1.00	<1.00	--
	12/04/02	7.05	91.44	373	511	<568	106	1.32	1.39	5.41	4.65	--
	03/05/03	5.70	92.79	168	<250	<500	28.3	1.70	3.55	5.87	4.90	--
	06/10/03	5.92	92.57	400	<250	<500	36.9	2.43	30.5	6.97	17.1	--
	09/03/03	6.30	92.19	258	301	<588	1.91	3.22	4.30	5.25	8.72	--
	12/12/03	5.530	92.960	204	700	304	2.45	<0.500	<0.500	<1.500	<5.0	--
	03/24/04	6.11	92.38	163	<126	<251	12.6	<1.00	<1.00	<3.00	14.6	--
	6/17/2004	5.10	93.39	<50.0	<118	<237	4.98	<0.500	<0.500	<1.50	--	<10.0
	9/23/2004	5.28	93.21	190	<267	<535	<0.50	<0.50	<0.50	<1.0	<10.0	--
MW2	03/11/99	7.93	92.81	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	162	--
TOC Elevation	05/25/99	8.18	92.56	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--	--
100.74	08/12/99	8.94	91.80	<50.0	281	<750	<0.500	<0.500	<0.500	<1.00	--	--
	12/07/99	8.04	92.70	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	17.0	--
	02/10/00	8.32	92.42	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	49.1	--
	02/02/01	6.40	94.34	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--	<1.00
	02/08/02	7.77	92.97	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	40.6	<1.00
	09/20/02	9.23	91.51	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<1.00	--
	12/04/02	9.15	91.59	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	2.89	--
	03/05/03	8.28	92.46	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	19.8	--
	06/10/03	8.56	92.18	<50.0	<284	<568	<0.500	1.36	<0.500	2.53	40.1	--
	09/03/03	9.13	91.61	<80.0	<298	<595	0.829	1.25	0.519	2.49	33.3	--
	12/12/03	8.120	92.620	<50.0	<119	<237	<0.250	<0.500	<0.500	<1.500	<5.0	--
	03/24/04	8.13	92.61	<100	<124	<248	<1.00	<1.00	<1.00	<3.00	21.3	
	6/17/2004	8.13	92.61	<50.0	<119	<238	<0.250	<0.500	<0.500	<1.50	--	<10.0
	9/23/2004	8.33	92.41	<50	<271	<542	<0.50	<0.50	<0.50	<1.0	<10.0	--
MW3	03/11/99	4.93	92.91	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	6.35	--
TOC Elevation	05/25/99	5.19	92.65	210	383	<750	<0.500	<0.500	3.04	3.93	--	--
97.84	08/12/99	5.70	92.14	56.3	<250	<750	<0.500	<0.500	0.732	1.84	--	--
	12/07/99	5.03	92.81	94.7	<250	<750	<0.500	0.598	<0.500	<1.00	4.40	--
	02/10/00	4.92	92.92	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	17.6	--
	02/02/01	4.76	93.08	63.0	413	<750	<0.500	<0.500	0.503	<1.00	--	<1.00
	02/08/02	4.59	93.25	91.5	410	<500	<0.500	<0.500	<0.500	<1.00	22.3	<1.00
	09/20/02	5.88	91.96	129	372	<500	<0.500	<0.500	<0.500	<1.00	<1.00	--
	12/04/02	5.26	92.58	147	371	<500	<0.500	<0.500	<0.500	<1.00	4.60	--
	03/05/03	4.70	93.14	62.2	<250	<500	<0.500	<0.500	<0.500	<1.00	12.5	--
	06/10/03	5.31	92.53	<50.0	<250	<500	<0.500	0.562	<0.500	<1.00	6.90	--
	09/03/03	5.66	92.18	<80.0	<250	<500	2.12	0.753	<0.500	<1.00	<1.00	--
	12/12/03	4.785	93.055	<50.0	<119	<237	<0.250	<0.500	<0.500	<1.500	<5.0	--
	03/24/04	4.81	93.03	<100	<128	<256	<1.00	<1.00	<1.00	<3.00	20.0	--
	6/17/2004	4.97	92.87	<50.0	<119	<238	<0.250	<0.500	<0.500	<1.50	--	<10.0
	9/23/2004	5.03	92.81	140	<255	<509	<0.50	<0.50	<0.50	<1.0	<10.0	--
MTCA Method A Cleanup Levels				1000/800[a]	500	500	5	1000	700	1000	15	15

TABLE 1
SUMMARY OF CUMMULATIVE GROUNDWATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
ConocoPhillips Site No. 6380
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Bellingham, Washington

Well Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X	Total Pb	Diss Pb
MW4	03/11/99	6.39	93.05	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	29.0	--
TOC Elevation	05/25/99	6.62	92.82	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--	--
99.44	08/12/99	7.31	92.13	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--	--
	12/07/99	6.37	93.07	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	10.2	--
	02/10/00	6.48	92.96	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	23.6	--
	02/02/01	6.37	93.07	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--	<1.00
	02/08/02	6.03	93.41	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	3.30	<1.00
	09/20/02	7.37	92.07	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<1.00	--
	12/04/02	7.03	92.41	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<1.00	--
	03/05/03	6.33	93.11	<50.0	<284	<568	<0.500	<0.500	<0.500	<1.00	6.81	--
	06/10/03	6.99	92.45	<50.0	<250	<500	<0.500	0.687	<0.500	1.26	10.5	--
	09/03/03	7.60	91.84	<80.0	<312	<625	0.620	<0.500	<0.500	<1.00	2.75	--
	12/12/03	6.485	92.955	<50.0	<118	<237	<0.250	<0.500	<0.500	<1.500	<5.0	--
	03/24/04	6.54	92.90	<100	<133	<265	<1.00	<1.00	<1.00	<3.00	<5.0	--
	6/17/2004	5.91	93.53	<50.0	<119	<237	<0.250	<0.500	<0.500	<1.50	--	<10.0
	9/23/2004	6.52	92.92	<50	<259	<518	<0.50	<0.50	<0.50	<1.0	<10.0	--
Waste Water Effluent	12/12/03	--	--	<50.0	--	--	<0.250	<0.500	<0.500	<1.500	--	--
	03/24/04	--	--	<50.0	--	--	<0.500	<0.500	<0.500	<1.500	--	--
	6/17/2004	--	--	<50.0	--	--	<0.250	<0.500	<0.500	<1.50	--	--
	9/23/2004	--	--	66	--	--	<0.50	<0.50	<0.50	<1.0	--	--
MTCA Method A Cleanup Levels				1000/800[a]	500	500	5	1000	700	1000	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
Prior to 12/12/03 and on 6/17/04 BTEX = Aromatic compounds by EPA Method 8020 and 8021B, refer to laboratory reports.
12/12/03, 3/24/04 and 9/23/04 BTEX = Aromatic compounds by EPA Method 5030/8260B, 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 MTCA Method A Cleanup Levels.
[a] Concentration levels stated by MTCA Method A for TPH-G are 1000 µg/L when no benzene is present and 800 µg/L when benzene is present.
Data collected before 12/12/03 are taken from prior consultants.

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

TRANSMITTAL MEMORANDUM

DATE: October 7, 2004

TO: Alice Larsen
SECOR International Inc.
12034 134th Ct. NE, Suite 102
Redmond, WA 98052

PROJECT: 6380-Bellingham

REPORT NUMBER: 123848

TOTAL NUMBER OF PAGES: 24

Enclosed are the test results for five samples received at STL Seattle on September 24, 2004.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Tom Coyner
Project Manager

STL Seattle

Sample Identification:

Lab. No.	Client ID	Date/Time Sampled	Matrix
123848-1	MW-1	09-23-04 12:50	Liquid
123848-2	MW-2	09-23-04 12:27	Liquid
123848-3	MW-3	09-23-04 12:38	Liquid
123848-4	MW-4	09-23-04 12:15	Liquid
123848-5	6380Eff	09-23-04 13:15	Liquid

STL Seattle

Client Name:	SECOR International Inc.
Client ID:	MW-1
Lab ID:	123848-01
Date Received:	9/24/2004
Date Prepared:	9/28/2004
Date Analyzed:	9/30/2004
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	88.1		50	150

Analyte		**Result (mg/L)**	**RL**	**Flags**
#2 Diesel	ND		0.267	
Motor Oil	ND		0.535	

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle

Attn.: Tom Coyner

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310 Fax: (253) 922-5047

Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-1	Lab ID:	2004-09-0818 - 1
Sampled:	09/23/2004 12:50	Extracted:	10/5/2004 22:51
Matrix:	Water	QC Batch#:	2004/10/05-1A.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	190	50	ug/L	1.00	10/05/2004 22:51	
Benzene	ND	0.50	ug/L	1.00	10/05/2004 22:51	
Toluene	ND	0.50	ug/L	1.00	10/05/2004 22:51	
Ethylbenzene	ND	0.50	ug/L	1.00	10/05/2004 22:51	
Total xylenes	ND	1.0	ug/L	1.00	10/05/2004 22:51	
Surrogate(s)						
1,2-Dichloroethane-d4	94.0	72-128	%	1.00	10/05/2004 22:51	
Toluene-d8	101.2	80-113	%	1.00	10/05/2004 22:51	

STL Seattle

Client Name:	SECOR International Inc.
Client ID:	MW-2
Lab ID:	123848-02
Date Received:	9/24/2004
Date Prepared:	9/28/2004
Date Analyzed:	9/30/2004
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	106		50	150

Analyte		**Result (mg/L)**	**RL**	**Flags**
#2 Diesel	ND		0.271	
Motor Oil	ND		0.542	

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle
Attn.: Tom Coyner

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310 Fax: (253) 922-5047

Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-2	Lab ID:	2004-09-0818 - 2
Sampled:	09/23/2004 12:27	Extracted:	10/5/2004 23:58
Matrix:	Water	QC Batch#:	2004/10/05-1A.62

Analysis Flag: gx (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/05/2004 23:58	
Benzene	ND	0.50	ug/L	1.00	10/05/2004 23:58	
Toluene	ND	0.50	ug/L	1.00	10/05/2004 23:58	
Ethylbenzene	ND	0.50	ug/L	1.00	10/05/2004 23:58	
Total xylenes	ND	1.0	ug/L	1.00	10/05/2004 23:58	
Surrogate(s)						
1,2-Dichloroethane-d4	84.4	72-128	%	1.00	10/05/2004 23:58	
Toluene-d8	101.0	80-113	%	1.00	10/05/2004 23:58	

STL Seattle

Client Name:	SECOR International Inc.
Client ID:	MW-3
Lab ID:	123848-03
Date Received:	9/24/2004
Date Prepared:	9/28/2004
Date Analyzed:	10/1/2004
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	99.6		50	150

Analyte	**Result (mg/L)**	**RL**	**Flags**
#2 Diesel	ND	0.255	
Motor Oil	ND	0.509	

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle
Attn.: Tom Coyner

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310 Fax: (253) 922-5047

Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-3	Lab ID:	2004-09-0818 - 3
Sampled:	09/23/2004 12:38	Extracted:	10/6/2004 00:21
Matrix:	Water	QC Batch#:	2004/10/05-1A.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	140	50	ug/L	1.00	10/06/2004 00:21	
Benzene	ND	0.50	ug/L	1.00	10/06/2004 00:21	
Toluene	ND	0.50	ug/L	1.00	10/06/2004 00:21	
Ethylbenzene	ND	0.50	ug/L	1.00	10/06/2004 00:21	
Total xylenes	ND	1.0	ug/L	1.00	10/06/2004 00:21	
Surrogate(s)						
1,2-Dichloroethane-d4	84.6	72-128	%	1.00	10/06/2004 00:21	
Toluene-d8	101.3	80-113	%	1.00	10/06/2004 00:21	

STL Seattle

Client Name:	SECOR International Inc.
Client ID:	MW-4
Lab ID:	123848-04
Date Received:	9/24/2004
Date Prepared:	9/28/2004
Date Analyzed:	10/1/2004
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	102		50	150

Analyte	**Result (mg/L)**	**RL**	**Flags**
#2 Diesel	ND	0.259	
Motor Oil	ND	0.518	

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle

Attn.: Tom Coyner

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310 Fax: (253) 922-5047

Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Prep(s): 5030B
Test(s): 8260BAB
Sample ID: **MW-4**
Lab ID: 2004-09-0818-4
Sampled: 09/23/2004 12:15
Extracted: 10/6/2004 00:43
Matrix: Water
QC Batch#: 2004/10/05-1A.62
Analysis Flag: gx (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/06/2004 00:43	
Benzene	ND	0.50	ug/L	1.00	10/06/2004 00:43	
Toluene	ND	0.50	ug/L	1.00	10/06/2004 00:43	
Ethylbenzene	ND	0.50	ug/L	1.00	10/06/2004 00:43	
Total xylenes	ND	1.0	ug/L	1.00	10/06/2004 00:43	
Surrogate(s)						
1,2-Dichloroethane-d4	83.8	72-128	%	1.00	10/06/2004 00:43	
Toluene-d8	95.8	80-113	%	1.00	10/06/2004 00:43	

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle

Attn.: Tom Coyner

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310 Fax: (253) 922-5047

Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	6380 EFF	Lab ID:	2004-09-0818 - 5
Sampled:	09/23/2004 13:15	Extracted:	10/6/2004 01:05
Matrix:	Water	QC Batch#:	2004/10/05-1A.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	66	50	ug/L	1.00	10/06/2004 01:05	g
Benzene	ND	0.50	ug/L	1.00	10/06/2004 01:05	
Toluene	ND	0.50	ug/L	1.00	10/06/2004 01:05	
Ethylbenzene	ND	0.50	ug/L	1.00	10/06/2004 01:05	
Total xylenes	ND	1.0	ug/L	1.00	10/06/2004 01:05	
Surrogate(s)						
1,2-Dichloroethane-d4	87.8	72-128	%	1.00	10/06/2004 01:05	
Toluene-d8	98.4	80-113	%	1.00	10/06/2004 01:05	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-1
Lab ID:	123848-01
Date Received:	9/24/04
Date Prepared:	9/27/04
Date Analyzed:	9/27/04
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	Flags
Lead	ND	0.01	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-2
Lab ID:	123848-02
Date Received:	9/24/04
Date Prepared:	9/27/04
Date Analyzed:	9/27/04
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	Flags
Lead	ND	0.01	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-3
Lab ID:	123848-03
Date Received:	9/24/04
Date Prepared:	9/27/04
Date Analyzed:	9/27/04
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	Flags
Lead	ND	0.01	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-4
Lab ID:	123848-04
Date Received:	9/24/04
Date Prepared:	9/27/04
Date Analyzed:	9/27/04
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	Flags
Lead	ND	0.01	

STL Seattle

Lab ID:	Method Blank - DW0676S
Date Received:	-
Date Prepared:	9/28/2004
Date Analyzed:	9/30/2004
% Solids	-
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	102		50	150

	Result		
Analyte	**(mg/L)**	**RL**	**Flags**
#2 Diesel	ND	0.25	
Motor Oil	ND	0.5	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	DW0676S
Date Prepared:	9/28/2004
Date Analyzed:	9/30/2004
QC Batch ID:	DW0676S

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

Compound Name	Blank Result (mg/L)	Spike Amount (mg/L)	BS Result (mg/L)	BS % Rec.	BSD Result (mg/L)	BSD % Rec.	RPD	Flag
#2 Diesel	0.039	5	5.53	110	6.05	120	8.7	
Motor Oil	0.057	5	5.46	108	5.97	118	8.8	

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle
Attn.: Tom Coyner

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310 Fax: (253) 922-5047

Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2004/10/05-1A.62-048

Water

Test(s): 8260FAB
QC Batch #: 2004/10/05-1A.62
Date Extracted: 10/05/2004 17:48

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	10/05/2004 17:48	
Benzene	ND	0.5	ug/L	10/05/2004 17:48	
Toluene	ND	0.5	ug/L	10/05/2004 17:48	
Ethylbenzene	ND	0.5	ug/L	10/05/2004 17:48	
Total xylenes	ND	1.0	ug/L	10/05/2004 17:48	
Surrogates(s)					
1,2-Dichloroethane-d4	97.6	72-128	%	10/05/2004 17:48	
Toluene-d8	106.4	80-113	%	10/05/2004 17:48	

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle
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Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

Laboratory Control Spike — **Water** — **QC Batch #: 2004/10/05-1A.62**

LCS 2004/10/05-1A.62-035 — Extracted: 10/05/2004 — Analyzed: 10/05/2004 15:35

LCSD 2004/10/05-1A.62-058 — Extracted: 10/05/2004 — Analyzed: 10/05/2004 15:58

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	22.2	22.9	25	88.8	91.6	3.1	69-129	20		
Toluene	23.8	25.2	25	95.2	100.8	5.7	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	381	400	500	76.2	80.0		72-128			
Toluene-d8	444	492	500	88.8	98.4		80-113			

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle
Attn.: Tom Coyner

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310 Fax: (253) 922-5047

Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Matrix Spike (MS / MSD) **Water** **QC Batch # 2004/10/05-1A.62**

MW-1 >> MS

MS: 2004/10/05-1A.62-013 Extracted: 10/05/2004 Lab ID: 2004-09-0818-091

Analyzed: 10/05/2004 23:13

Dilution: 1.00

MSD: 2004/10/05-1A.62-035 Extracted: 10/05/2004 Analyzed: 10/05/2004 23:36

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	22.9	23.6	ND	25	91.6	94.4	3.0	69-129	20		
Toluene	25.3	26.4	ND	25	101.2	105.6	4.3	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	415	401		500	83.0	80.2		72-128			
Toluene-d8	497	484		500	99.4	96.8		80-113			

STL Seattle

Lab ID:	Method Blank - TP548
Date Received:	-
Date Prepared:	9/27/04
Date Analyzed:	9/27/04
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Analyte	Result (mg/L)	RL	Flags
Lead	ND	0.01	

STL Seattle

Matrix Spike Report

Client Sample ID:	9/20-COMP-OUTFALL #001
Lab ID:	123740-01
Date Prepared:	9/27/04
Date Analyzed:	9/27/04
QC Batch ID:	TP548

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/L)	Spike Amount (mg/L)	MS Result (mg/L)	MS % Rec.	Flag
Lead	0	1	1	100	

STL Seattle

Duplicate Report

Client Sample ID:	9/20-COMP-OUTFALL #001
Lab ID:	123740-01
Date Prepared:	9/27/04
Date Analyzed:	9/27/04
QC Batch ID:	TP548

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD %	Flag
Lead	0	0.017	-200.0	X4a

Gas/BTEX Fuel Oxygenates by 8260B

STL Seattle

Attn.: Tom Coyner

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310 Fax: (253) 922-5047

Project: 123848
Secor / ConocoPhillips

Received: 09/28/2004 09:20

Legend and Notes

Sample Comment

Lab ID: 2004-09-0818 -2

gx - Siloxane peaks were found in the sample which are not believed to be gasoline related. If they were quantitated as gasoline, the concentration would be120 ug/L.

Lab ID: 2004-09-0818 -4

gx - Siloxane peaks were found in the sample which are not believed to be gasoline related. If they were quantitated as gasoline, the concentration would be130 ug/L.

Analysis Flag

gx

Result Flag

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be < 40%.

C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted.

C3: Second analysis confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be ≤ 30%.

C4: Second analysis confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 30%. The original analysis was reported unless anomalies were noted.

M: GC/MS confirmation was performed. The result derived from the original analysis was reported.

D: The reported result for this analyte was calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

RL: Reporting Limit

N: See analytical narrative

ND: Not Detected

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.

X2: Contaminant does not appear to be "typical" product.

X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.

X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike recovery was not determined due to the required dilution.

X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.

X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.

X8: Surrogate recovery was not determined due to the required dilution.

X9: Surrogate recovery outside advisory QC limits due to matrix interference.

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL

Client: SECOR for ConocoPhillips	Project Manager: Alice Lursen	Date: 9/23/04	Chain of Custody Number: 04076
Address	Telephone Number (Area Code)/Fax Number: 425-372-1600	Lab Number: 123848	Page 1 of 1
City / State / Zip Code	Site Contact	Lab Contact	
Project Name and Location (State): 6380 - Bellingham	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: 1571 SEC001			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: TPH-Gx	TPH-Dx	BTEX	Total Pb	Special Instructions/ Conditions of Receipt
MW-1	9/23/04	1250		X					1	4			X	X	X	X	NWTPH-Dx w/ acid-silica gel cleanup.
MW-2	↓	1227		↓					↓	↓			↓	↓	↓	↓	
MW-3		1238															
MW-4		1215															
6380 eff	↓	1315		↓					↓	↓			↓		↓		

Cooler: X Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ~~X~~ Disposal By Lab ☐ Return To Client ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ~~X~~ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: August Wold	9/24/04	0847	1. Received By: Kiesl	9/24/04	847
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

SECOR

DAILY FIELD LOG

Page: 1 of 1
Date: 9/23/2004

Client: ConocoPhillips	Site No: 6380 - Bellingham	Project No: 01CP.06380.04

Scope of Work: x Quarter Monitoring/Sampling **1571SEC001**

Describe Daily Activities:

Gauged _____ monitoring wells.
Purged _____ monitoring wells.
Sampled _____ monitoring wells.

Number of drums left on site: _____

Field Notes:
935 August Weld (AW) on-site. Set up down. Conduct HASP mtg.
950 Measure DTW of MW-1 through MW-4
1030 Go to Avocet Labs to get 1L amber bottles.
1100 Purge MW-1 through MW-4 of 3 well volumes
1210 Sample all wells w/ peristaltic Pump.
1315 Collect effluent sample from Carbon Canister.
1345 AW off-site

Arrived on Site: 935 Departed Site: _____

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

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

Important Conversations: —

Important Changes in Scope of Work: —

Weather Conditions: Cloudy high 60's Subcontractors On Site: N/A

SECOR Personnel On Site: August Weld

Signed: August Weld Date: 9/23/04

SECOR

INTERNATIONAL INCORPORATED

MONITORING & SAMPLING LOG

Page ___1___ of____1__

Project Name: 6380 - Bellingham

Date: 9/23/2004

Project Number: 01CP.06380.04

No. of Monitoring Wells Gauge:

SECOR Rep: August Welch

Checked by:

No. of Monitoring Wells Sampled:

MONITORING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist #

Dissolved Oxygen Meter Type/ID: YSI Model 55 # _____ Calibration:_____ ft above mean sea level

Sampling Method: _____Teflon Bailer _____Disposable Bailer ___X___Other: Dedicated Pump Tubing; Peristaltic Pump

Decontamination Method: _____Steam / High Pressure Wash ___X_3 Stage (Alconox, Tap & DI rinse) _____Other:_____

MONITORING / SAMPLING DATA

Well I.D.	Previous Quarter DTW	Previous Quarter Gas/Benz (µg/L)	Depth to Floating Product (ft)	Current DTW (ft)	Floating Product Thickness	Total Depth	Meas. Time	Casing Elevation[1]	Groundwater Elevation	Corrected Groundwater Elevation[2]	Comments
MW-1				5.28		21.8					
MW-2				6.33		20.6					
MW-3				5.03		20.8					
MW-4				6.52		20.3					

SAMPLING INFORMATION

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
3 VOAs	N	HCL & Ice	TPH-Gx / BTEX
1 L Amber	N	HCL & Ice	TPH-Dx
16 oz. Plastic	N	HNO3	Total Pb

Notes: 1 = feet from mean sea level

2 = elevation adjusted by adding (.75 x product thickness) to measured water elevation

SECOR
INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	6380 Bellingham
Project Number:	01CP.06380.04
SECOR Rep: August Welch	Checked by:
Well No:	MW-1
Date:	9/23/2004
Sample Time:	1250
Sample No:	MW-1

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist #

Purging Equipment / Method: ___ Vac Truck ___ Bailer _X_ Submersible Pump ___ Peristaltic

pH Temp/Conductivity Meter Type / ID:

Sampling Method: _____ Teflon Bailer _____ Disposable Bailer ___x__ Other: Peristaltic

Decontamination Method: ___ Steam / High Pressure Wash _x__ 3 Stage (Alconox, Tap & DI rinse) Other:

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 10 12

Casing Diameter (in): (2) 4 6

Depth to Water (DTW_1) (ft): 5.28

Total Well Depth 21.8 (DTB) (ft):

Water Column: 16.52

Floating Product:

Thickness (in):

Casing Volume (gal): 2.6

3 Casing Volumes (gal): 8

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	ORP	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1136	Started Purging						
		2.5	7.05	19.1	52	629.5	NO, M, grey
		5	6.86	19.3	48	655.1	
		7.5	6.71	19.4	22	646.3	

Maximum Drawdown (DTW_2) (ft) =

Pump Rate (GPM) =

___ Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives		Analytical Parameters
3 VOAs	N	HCl & Ice		TPH-Gx
1 L Amber	N	HCl & Ice		TPH-Dx
16 oz. Plastic	N	HNO3		Total Pb

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Casing Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\%\ of\ Recovery = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\%\ of\ Recovery = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_\_\_$$

$$= \_\_\_\_\ \%$$

80% Recharge = _____

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	6380 Bellingham	Well No:	MW-2
Project Number:	01CP.06380.04	Date:	9/23/2004
SECOR Rep: August Welch	Checked by:	Sample Time:	1227
		Sample No:	MW-2

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist #

Purging Equipment / Method: ___ Vac Truck ___Bailer __X_Submersible Pump ___Peristaltic

pH Temp/Conductivity Meter Type / ID:

Sampling Method: _____Teflon Bailer _____Disposable Bailer ___x__ Other:___Peristaltic_____

Decontamination Method: ___Steam / High Pressure Wash _x__3 Stage (Alconox, Tap & DI rinse) Other:

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 10 12

Casing Diameter (in): (2) 4 6

Depth to Water (DTW_1) (ft): 8.33

Total Well Depth 20.6 (DTB) (ft):

Water Column: 12.27

Floating Product:

Thickness (in):

Casing Volume (gal): 1.96

3 Casing Volumes (gal): 5.9

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	ORP	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1105	Started Purging						
		2	6.60	17.3	111	591.3	no, M, grey
		4	6.45	17.3	119	588.9	
		6	6.52	17.1	123	601.8	

Maximum Drawdown (DTW_2) (ft) =

Pump Rate (GPM) =

____Fast Recharging Well

____Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives		Analytical Parameters
3 VOAs	N	HCl & Ice		TPH-Gx
1 L Amber	N	HCl & Ice		TPH-Dx
16 oz. Plastic	N	HNO3		Total Pb

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Casing Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\%\ of\ Recovery = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\%\ of\ Recovery = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_\_\_$$

$$= \_\_\_\_\ \%$$

80% Recharge = _____

SECOR
INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	6380 Bellingham
Project Number:	01CP.06380.04
SECOR Rep: August Welch	Checked by:

Well No: MW-3
Date: 9/23/2004
Sample Time: 1238
Sample No: MW-3

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist #

Purging Equipment / Method: ___Vac Truck ___Bailer _X_Submersible Pump ___Peristaltic

pH Temp/Conductivity Meter Type / ID:

Sampling Method: _____Teflon Bailer _____Disposable Bailer ___x__Other: Peristaltic

Decontamination Method: ___Steam / High Pressure Wash _x__3 Stage (Alconox, Tap & DI rinse) Other:

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 10 12

Casing Diameter (in): (2) 4 6

Depth to Water (DTW_1) (ft): 5.03

Total Well Depth (DTB) (ft): 20.8

Water Column: 15.77

Floating Product:

Thickness (in):

Casing Volume (gal): 2.5

3 Casing Volumes (gal): 7.5

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	ORP	Elect. Cond. (µ mhos)	Water Description (odor, turbidity, color)
1125	Started Purging						Slight HC, M-L, grey
		2.5	6.70	16.3	105	760.5	
		5	6.72	16.2	77	755.9	
		7.5	6.71	15.8	36	783.8	

Maximum Drawdown (DTW_2) (ft) =

Pump Rate (GPM) =

____Fast Recharging Well

____Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives		Analytical Parameters
3 VOAs	N	HCl & Ice		TPH-Gx
1 L Amber	N	HCl & Ice		TPH-Dx
16 oz. Plastic	N	HNO3		Total Pb

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Casing Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_\_\_$$

$$= \_\_\_\_\ \%$$

80% Recharge = _____

SECOR
INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Well No: MW-4
Project Name: 6380 Bellingham
Date: 9/23/2004
Project Number: 01CP.06380.04
Sample Time: 1215
SECOR Rep: August Welch
Checked by:
Sample No: MW-4

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist #

Purging Equipment / Method: ___ Vac Truck ___ Bailer _X_ Submersible Pump ___ Peristaltic

pH Temp/Conductivity Meter Type / ID:

Sampling Method: _____ Teflon Bailer _____ Disposable Bailer ___x__ Other: Peristaltic

Decontamination Method: ___ Steam / High Pressure Wash _x_ 3 Stage (Alconox, Tap & DI rinse) Other:

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 10 12

Casing Diameter (in): (2) 4 6

Depth to Water (DTW_1) (ft): 6.52

Total Well Depth 20.3 (DTB) (ft):

Water Column: 13.78

Floating Product:

Thickness (in):

Casing Volume (gal): 2.2

3 Casing Volumes (gal): 6.6

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	ORP	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1115	Started Purging						
		2	6.71	16.9	124	539.3	no, m, grey
		4	6.64	17.3	126	500.3	
		6	6.54	17.2	128	542.5	

Maximum Drawdown (DTW_2) (ft) =

Pump Rate (GPM) =

____ Fast Recharging Well

____ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives		Analytical Parameters
3 VOAs	N	HCl & Ice		TPH-Gx
1 L Amber	N	HCl & Ice		TPH-Dx
16 oz. Plastic	N	HNO3		Total Pb

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Casing Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_\_\_$$

$$= \_\_\_\_ \%$$

80% Recharge = _____