Reference # 471259

ConocoPhillips

DATE: August 4, 2004

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) [2nd - 2004]:

- On 6/17/04, 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, BTEX per USEPA Method 8021B, and dissolved lead per ICP-USEPA Method 6010.

WORK PROPOSED FOR NEXT QUARTER [3rd - 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:	4.97 ft. (MW-3)	(Measured Feet Below
	to 8.13 ft. (MW-2)	Top of Well Casing)
Groundwater Gradient:	Northwest and Southeast	(Direction)
	0.01 ft./ft. and 0.006 ft./ft.	(Magnitude)
Maximum TPH-G Concentrations:	None Detected	(ppb / well ID)
Maximum TPH-D Concentrations:	None Detected	(ppb / well ID)
Maximum TPH-O Concentrations:	None Detected	(ppb / well ID)
Maximum Benzene Concentration:	4.98 µg/L / MW-1	(ppb / well ID)
Maximum Dissolved Lead Concentration:	None Detected	(ppb / well ID)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	None	(Gallons)
Cumulative Free Product Recovered to Date:	None	(Gallons)
Water Wells or	i.) One Water Well	(Type)
Surface Waters w/in 2,000 ft:	ii.) Connelly Creek	
Radius and Respective	i.) 1600 ft. West	(Respective Distance
Direction From Site:	ii.) 1000 ft. Southwest	& Direction)
Current Remedial Action:	MNA	(SVE/AS/P&T/MNA etc.)
Permits for Discharge:	None	(NPDES, POTW, etc.)

DISCUSSION:

- No gasoline-range hydrocarbons were detected above the laboratory method reporting limits (MRLs) in any of the wells sampled.
- No diesel or motor oil-range hydrocarbons were detected above the MRLs in any of the wells sampled.
- Benzene was detected in MW-1 above the MRLs at a concentration of 4.98 µg/L. The concentration of Benzene in MW-1 is very near the Model Toxics Control Act Method A Cleanup Levels for Groundwater

(MTCA A) of 5 µg/L. None of the other wells sampled contained any Benzene, Toluene, Ethylbenzene or Total Xylenes above the MRLs.

- No dissolved lead was detected above the MRls in any of the wells sampled.
- No drums were left on site.

ATTACHMENTS:

Figure 1: Site Location Map
Figure 2: Site Plan with Groundwater Elevation Contours (6/17/04)
Figure 3: Site Plan with and Analytical Results (6/10/03– 6/17/04)
Table 1: Summary of Cumulative Groundwater Elevations and Sample Analytical Results
Laboratory Analytical Report and Chain of Custody Record
Groundwater Monitoring Field Data Records

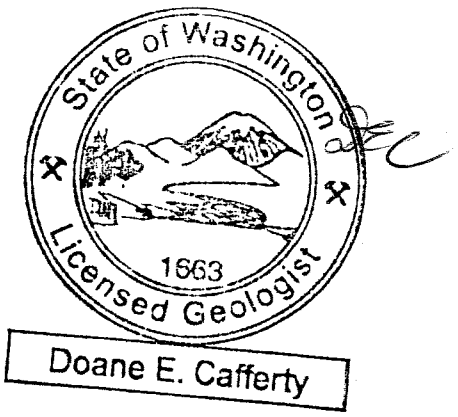
Prepared By:

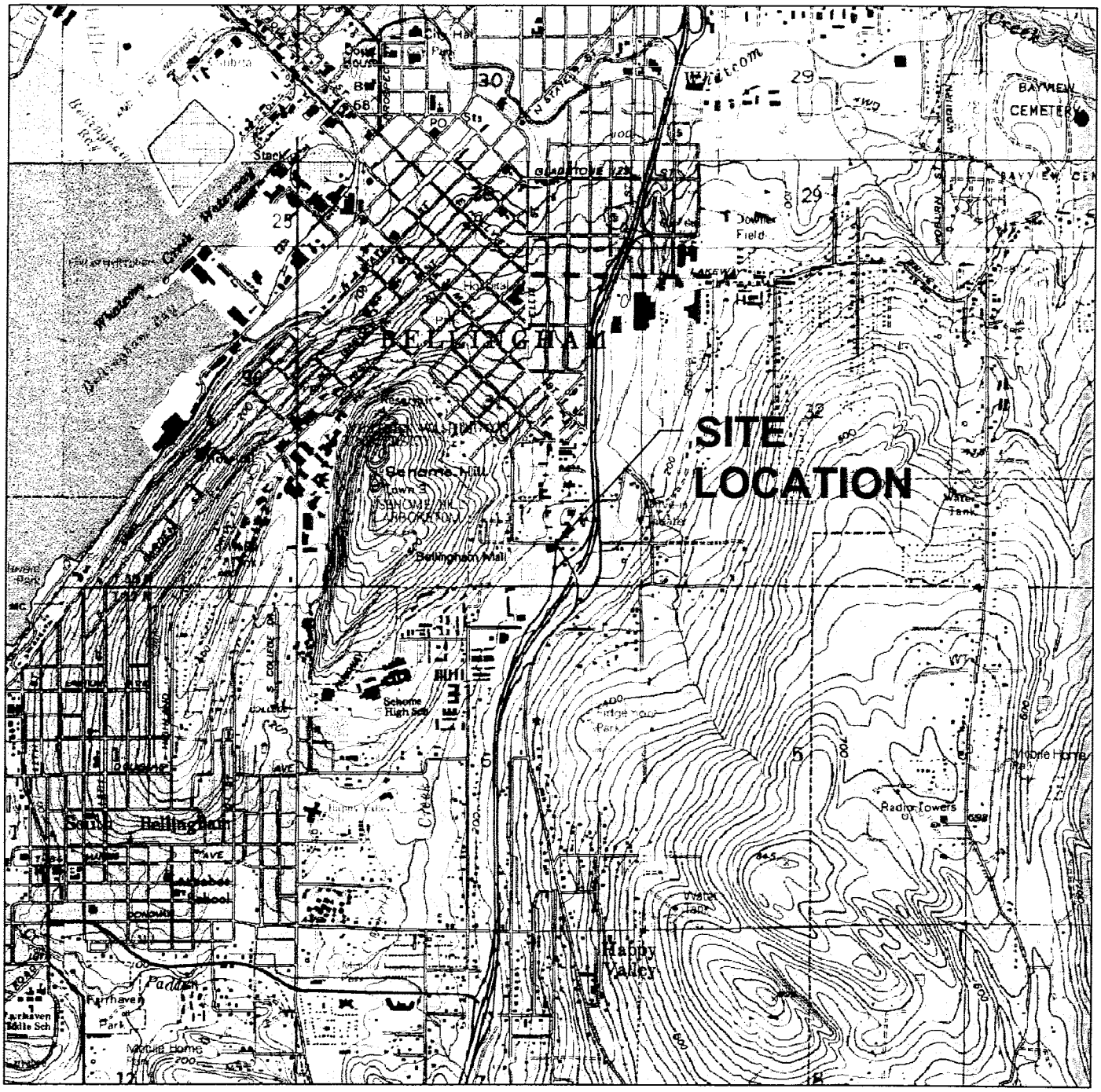
August Welch
Staff Scientist

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





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

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

PREPARED FOR:
ConocoPhillips
FACILITY NO 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			2/5/04

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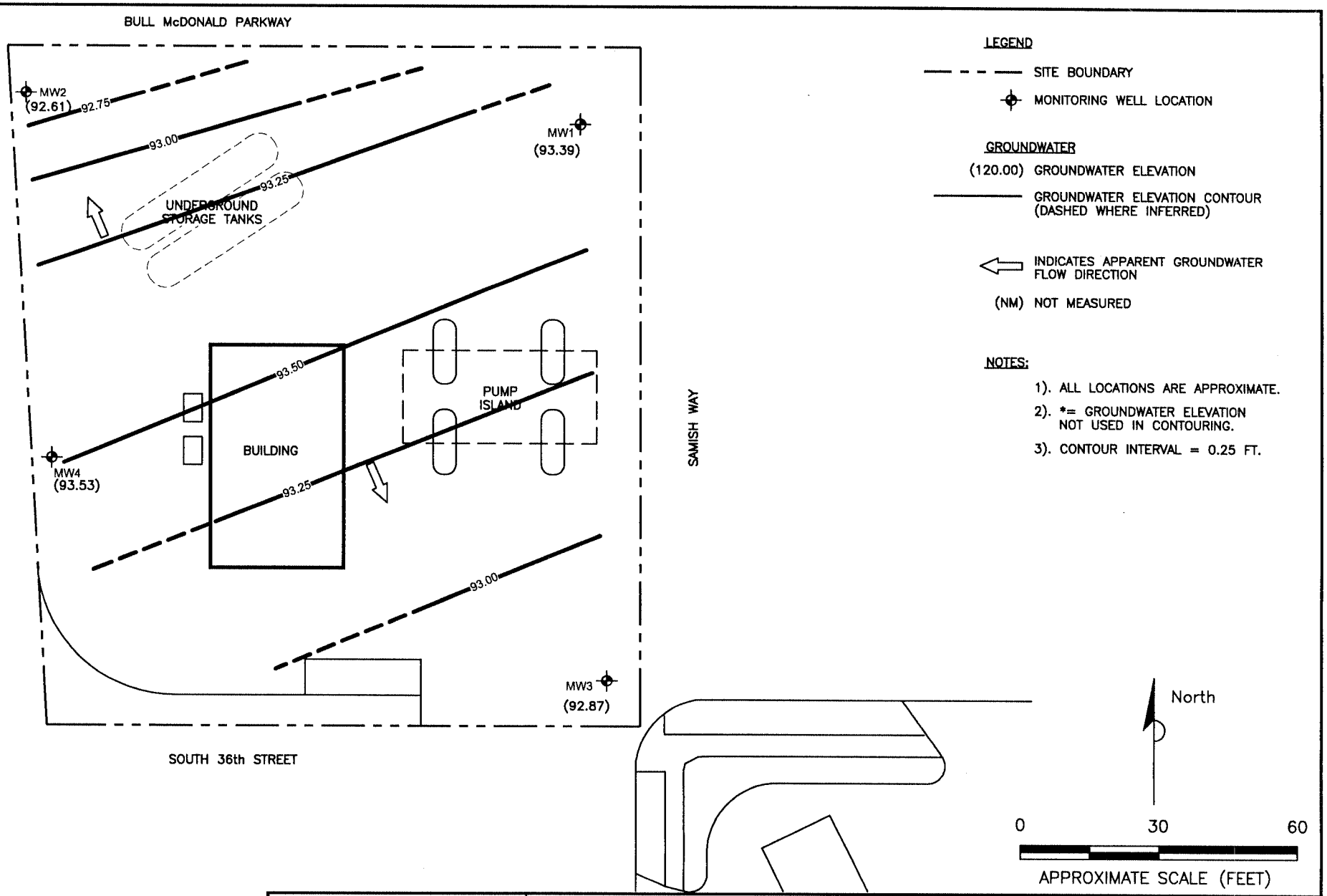

SOURCE:
BASE MAP FROM; ENVIRONMENTAL RESOLUTIONS, INC. (ERI) TITLED GROUNDWATER SAMPLE ANALYSIS MAP– 06/10/03, PLATE 1, DATED 07/08/03, PROJECT NO. 31065. CADD FILE 31065.13.DWG

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SITE PLAN WITH GROUNDWATER ELEVATION CONTOURS (6/17/04)

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
01CP.06380.04	S. SIMMONS			7/26/04

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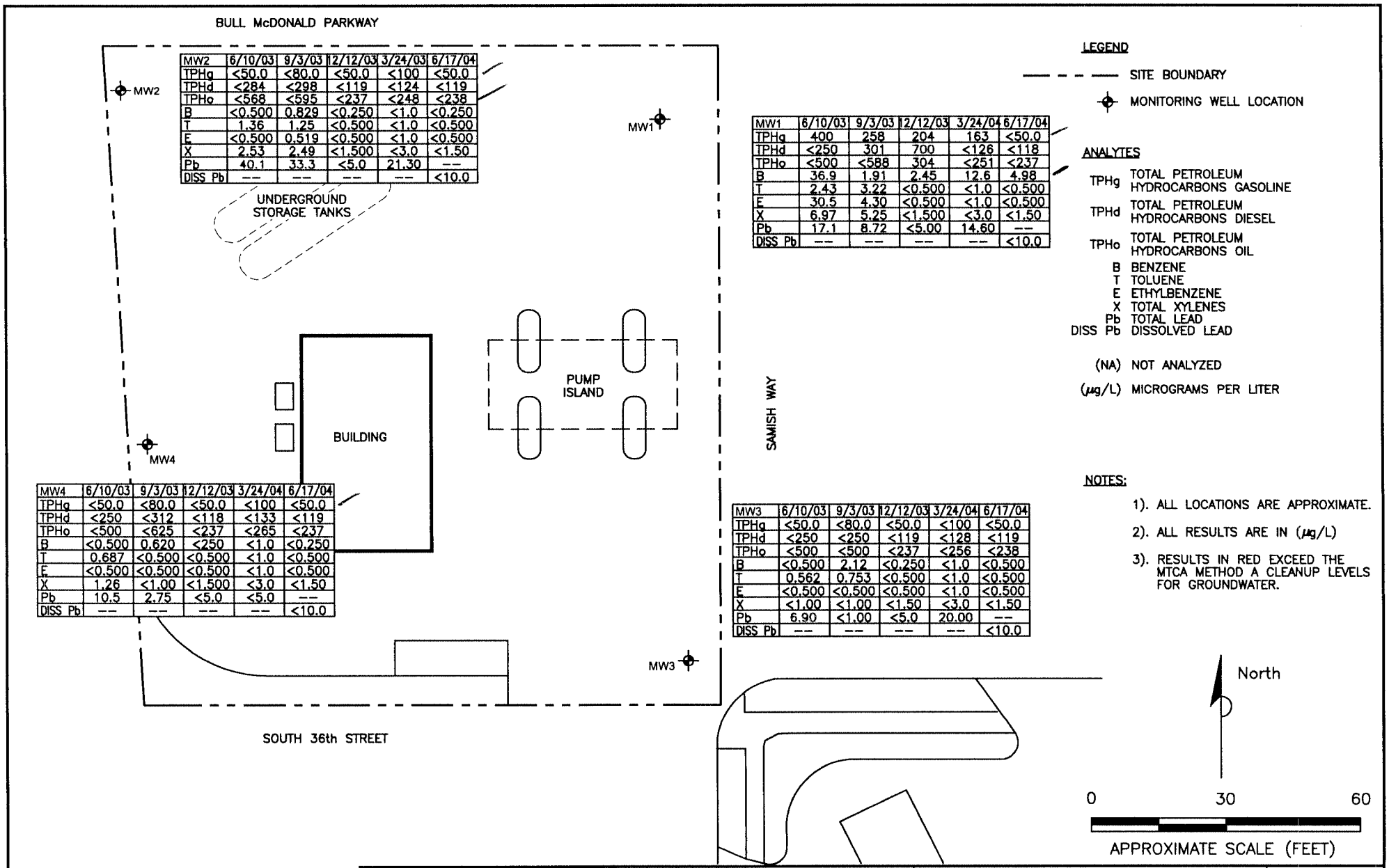

MW2	6/10/03	9/3/03	12/12/03	3/24/03	6/17/04
TPHg	<50.0	<80.0	<50.0	<100	<50.0
TPHd	<284	<298	<119	<124	<119
TPHo	<568	<595	<237	<248	<238
B	<0.500	0.829	<0.250	<1.0	<0.250
T	1.36	1.25	<0.500	<1.0	<0.500
E	<0.500	0.519	<0.500	<1.0	<0.500
X	2.53	2.49	<1.500	<3.0	<1.50
Pb	40.1	33.3	<5.0	21.30	--
DISS Pb	--	--	--	--	<10.0

MW1	6/10/03	9/3/03	12/12/03	3/24/04	6/17/04
TPHg	400	258	204	163	<50.0
TPHd	<250	301	700	<126	<118
TPHo	<500	<588	304	<251	<237
B	36.9	1.91	2.45	12.6	4.98
T	2.43	3.22	<0.500	<1.0	<0.500
E	30.5	4.30	<0.500	<1.0	<0.500
X	6.97	5.25	<1.500	<3.0	<1.50
Pb	17.1	8.72	<5.00	14.60	--
DISS Pb	--	--	--	--	<10.0

MW4	6/10/03	9/3/03	12/12/03	3/24/04	6/17/04
TPHg	<50.0	<80.0	<50.0	<100	<50.0
TPHd	<250	<312	<118	<133	<119
TPHo	<500	<625	<237	<265	<237
B	<0.500	0.620	<250	<1.0	<0.250
T	0.687	<0.500	<0.500	<1.0	<0.500
E	<0.500	<0.500	<0.500	<1.0	<0.500
X	1.26	<1.00	<1.500	<3.0	<1.50
Pb	10.5	2.75	<5.0	<5.0	--
DISS Pb	--	--	--	--	<10.0

MW3	6/10/03	9/3/03	12/12/03	3/24/04	6/17/04
TPHg	<50.0	<80.0	<50.0	<100	<50.0
TPHd	<250	<250	<119	<128	<119
TPHo	<500	<500	<237	<256	<238
B	<0.500	2.12	<0.250	<1.0	<0.500
T	0.562	0.753	<0.500	<1.0	<0.500
E	<0.500	<0.500	<0.500	<1.0	<0.500
X	<1.00	<1.00	<1.50	<3.0	<1.50
Pb	6.90	<1.00	<5.0	20.00	--
DISS Pb	--	--	--	--	<10.0

LEGEND

SITE BOUNDARY

MONITORING WELL LOCATION

ANALYTES

TPHg TOTAL PETROLEUM HYDROCARBONS GASOLINE

TPHd TOTAL PETROLEUM HYDROCARBONS DIESEL

TPHo TOTAL PETROLEUM HYDROCARBONS OIL

B BENZENE

T TOLUENE

E ETHYLBENZENE

X TOTAL XYLENES

Pb TOTAL LEAD

DISS Pb DISSOLVED LEAD

(NA) NOT ANALYZED

(µg/L) MICROGRAMS PER LITER

NOTES:

1). ALL LOCATIONS ARE APPROXIMATE.

2). ALL RESULTS ARE IN (µg/L)

3). RESULTS IN RED EXCEED THE MTCA METHOD A CLEANUP LEVELS FOR GROUNDWATER.

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

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PREPARED FOR:
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200 SOUTH 36th STREET
BELLINGHAM, WASHINGTON

SITE PLAN WITH ANALYTICAL RESULTS (6/10/03 - 6/17/04)

FIGURE: **3**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
01CP.06380.04	S. SIMMONS			7/26/04

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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
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
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
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
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
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
Waste Water	12/12/03	--	--	<50.0	--	--	<0.250	<0.500	<0.500	<1.500	--	--
Effluent	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	--	--
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 after 3/24/04 BTEX = Aromatic compounds by EPA Method 8020 and 8021B, refer to laboratory reports.

12/12/03 and 3/24/04 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: June 30, 2004

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

PROJECT: 6380 Bellingham

REPORT NUMBER: 121805

TOTAL NUMBER OF PAGES: _____

Enclosed are the test results for five samples received at STL Seattle on June 18, 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
121805-1	MW-1	06-17-04 17:00	Liquid
121805-2	MW-2	06-17-04 16:30	Liquid
121805-3	MW-3	06-17-04 15:55	Liquid
121805-4	MW-4	06-17-04 16:15	Liquid
121805-5	eff 6380	06-17-04 17:20	Liquid

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-1
Lab ID:	121805-01
Date Received:	6/18/2004
Date Prepared:	6/21/2004
Date Analyzed:	6/24/2004
% Solids	-
Dilution Factor	1

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

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	110		50	150

Analyte	**Result (mg/L)**	**PQL**	**MRL**	**Flags**
#2 Diesel	ND	0.237	0.118	
Motor Oil	ND	0.474	0.237	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-2
Lab ID:	121805-02
Date Received:	6/18/2004
Date Prepared:	6/21/2004
Date Analyzed:	6/24/2004
% Solids	-
Dilution Factor	1

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

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	108		50	150

Analyte	**Result (mg/L)**	**PQL**	**MRL**	**Flags**
#2 Diesel	ND	0.238	0.119	
Motor Oil	ND	0.476	0.238	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-3
Lab ID:	121805-03
Date Received:	6/18/2004
Date Prepared:	6/21/2004
Date Analyzed:	6/24/2004
% Solids	-
Dilution Factor	1

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

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
o-terphenyl	108		50	150

Analyte	Result (mg/L)	PQL	MRL	Flags
#2 Diesel	ND	0.238	0.119	
Motor Oil	ND	0.476	0.238	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-4
Lab ID:	121805-04
Date Received:	6/18/2004
Date Prepared:	6/21/2004
Date Analyzed:	6/24/2004
% Solids	-
Dilution Factor	1

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

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	113		50	150

Analyte	**Result (mg/L)**	**PQL**	**MRL**	**Flags**
#2 Diesel	ND	0.237	0.119	
Motor Oil	ND	0.474	0.237	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-1
Lab ID:	121805-01
Date Received:	6/18/04
Date Prepared:	6/23/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	83.7		50	150
1-Chloro-3-fluorobenzene	87.4		50	150
Bromofluorobenzene	85.1		50	150
Pentafluorobenzene	84		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-1
Lab ID:	121805-01
Date Received:	6/18/04
Date Prepared:	6/22/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8021B Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	117		84	122
1-Chloro-3-fluorobenzene	116		80	120
Bromofluorobenzene	113		80	120
Pentafluorobenzene	125		81	126

Analyte	**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	0.0498	0.0005	0.00025	
Toluene	ND	0.001	0.0005	
Ethylbenzene	ND	0.001	0.0005	
m&p-Xylene	ND	0.002	0.001	
o-Xylene	ND	0.001	0.0005	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-2
Lab ID:	121805-02
Date Received:	6/18/04
Date Prepared:	6/23/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	76.8		50	150
1-Chloro-3-fluorobenzene	80.8		50	150
Bromofluorobenzene	78.4		50	150
Pentafluorobenzene	72.3		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

60000

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-2
Lab ID:	121805-02
Date Received:	6/18/04
Date Prepared:	6/22/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8021B Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	93		84	122
1-Chloro-3-fluorobenzene	93		80	120
Bromofluorobenzene	91.6		80	120
Pentafluorobenzene	93.5		81	126

Analyte	**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND	0.0005	0.00025	
Toluene	ND	0.001	0.0005	
Ethylbenzene	ND	0.001	0.0005	
m&p-Xylene	ND	0.002	0.001	
o-Xylene	ND	0.001	0.0005	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-3
Lab ID:	121805-03
Date Received:	6/18/04
Date Prepared:	6/23/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	88.3		50	150
1-Chloro-3-fluorobenzene	97.7		50	150
Bromofluorobenzene	95.3		50	150
Pentafluorobenzene	80.5		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-3
Lab ID:	121805-03
Date Received:	6/18/04
Date Prepared:	6/22/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8021B Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	124	X9	84	122
1-Chloro-3-fluorobenzene	122	X9	80	120
Bromofluorobenzene	120		80	120
Pentafluorobenzene	122		81	126

Analyte	**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND	0.0005	0.00025	
Toluene	ND	0.001	0.0005	
Ethylbenzene	ND	0.001	0.0005	
m&p-Xylene	ND	0.002	0.001	
o-Xylene	ND	0.001	0.0005	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-4
Lab ID:	121805-04
Date Received:	6/18/04
Date Prepared:	6/23/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	90.1		50	150
1-Chloro-3-fluorobenzene	97.8		50	150
Bromofluorobenzene	94.7		50	150
Pentafluorobenzene	80.8		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-4
Lab ID:	121805-04
Date Received:	6/18/04
Date Prepared:	6/22/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8021B Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	123	X9	84	122
1-Chloro-3-fluorobenzene	123	X9	80	120
Bromofluorobenzene	120		80	120
Pentafluorobenzene	124		81	126

Analyte		**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND		0.0005	0.00025	
Toluene	ND		0.001	0.0005	
Ethylbenzene	ND		0.001	0.0005	
m&p-Xylene	ND		0.002	0.001	
o-Xylene	ND		0.001	0.0005	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	EFF 6380
Lab ID:	121805-05
Date Received:	6/18/04
Date Prepared:	6/23/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	88.5		50	150
1-Chloro-3-fluorobenzene	96.8		50	150
Bromofluorobenzene	93.8		50	150
Pentafluorobenzene	80.2		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	EFF 6380
Lab ID:	121805-05
Date Received:	6/18/04
Date Prepared:	6/22/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8021B Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	127	N	84	122
1-Chloro-3-fluorobenzene	126	N	80	120
Bromofluorobenzene	123	N	80	120
Pentafluorobenzene	126		81	126

Analyte	**Result (mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND	0.0005	0.00025	
Toluene	ND	0.001	0.0005	
Ethylbenzene	ND	0.001	0.0005	
m&p-Xylene	ND	0.002	0.001	
o-Xylene	ND	0.001	0.0005	

STL Seattle

Client Name	SECOR International Inc.
Client ID:	MW-1
Lab ID:	121805-01
Date Received:	6/18/04
Date Prepared:	6/25/04
Date Analyzed:	6/25/04
Dilution Factor	1

Dissolved 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:	121805-02
Date Received:	6/18/04
Date Prepared:	6/25/04
Date Analyzed:	6/25/04
Dilution Factor	1

Dissolved 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:	121805-03
Date Received:	6/18/04
Date Prepared:	6/25/04
Date Analyzed:	6/25/04
Dilution Factor	1

Dissolved 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:	121805-04
Date Received:	6/18/04
Date Prepared:	6/25/04
Date Analyzed:	6/25/04
Dilution Factor	1

Dissolved Metals by ICP - USEPA Method 6010

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

STL Seattle

Lab ID:	Method Blank - DW0632
Date Received:	-
Date Prepared:	6/21/2004
Date Analyzed:	6/24/2004
% Solids	-
Dilution Factor	1

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

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	108		50	150

Analyte	**Result (mg/L)**	**PQL**	**MRL**	**Flags**
#2 Diesel	ND	0.25	0.125	
Motor Oil	ND	0.5	0.25	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	DW0632
Date Prepared:	6/21/2004
Date Analyzed:	6/25/2004
QC Batch ID:	DW0632

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel 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	5	6.19	124	6.11	122	-1.6	
Motor Oil	0	5	5.82	116	6.27	125	7.5	

STL Seattle

Lab ID:	Method Blank - GB3839
Date Received:	-
Date Prepared:	6/22/04
Date Analyzed:	6/22/04
% Solids	-
Dilution Factor	1

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8021B Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	108		84	122
1-Chloro-3-fluorobenzene	105		80	120
Bromofluorobenzene	103		80	120
Pentafluorobenzene	105		81	126

	Result			
Analyte	**(mg/L)**	**PQL**	**MRL**	**Flags**
Benzene	ND	0.0005	0.00025	
Toluene	ND	0.001	0.0005	
Ethylbenzene	ND	0.001	0.0005	
m&p-Xylene	ND	0.002	0.001	
o-Xylene	ND	0.001	0.0005	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	GB3839
Date Prepared:	6/22/04
Date Analyzed:	6/22/04
QC Batch ID:	GB3839

Volatile Aromatic Hydrocarbons by USEPA Method 5030/8021B Modified

Compound Name	Blank Result (mg/L)	Spike Amount (mg/L)	BS Result (mg/L)	BS % Rec.	BSD Result (mg/L)	BSD % Rec.	RPD	Flag
Benzene	0	0.0184	0.0195	106	0.02	108	1.9	
Toluene	0	0.0869	0.101	116	0.104	120	3.4	N
Ethylbenzene	0	0.0205	0.0203	99.4	0.021	103	3.6	
m&p-Xylene	0	0.0705	0.0783	111	0.0807	114	2.7	
o-Xylene	0	0.0284	0.0284	99.9	0.0299	105	5	

STL Seattle

Lab ID:	Method Blank - GB3840
Date Received:	-
Date Prepared:	6/23/04
Date Analyzed:	6/23/04
% Solids	-
Dilution Factor	1

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	85.3		50	150
1-Chloro-3-fluorobenzene	93.5		50	150
Bromofluorobenzene	92.1		50	150
Pentafluorobenzene	79.1		50	150

Analyte	**Result (mg/L)**	**PQL**	**Flags**
Gasoline by NWTPH-G	ND	0.1	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	GB3840
Date Prepared:	6/23/04
Date Analyzed:	6/23/04
QC Batch ID:	GB3840

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

Compound Name	Blank Result (mg/L)	Spike Amount (mg/L)	BS Result (mg/L)	BS % Rec.	BSD Result (mg/L)	BSD % Rec.	RPD	Flag
Gasoline by NWTPH-G	0	1.25	1.15	92.4	1.17	93.4	1.1	

STL Seattle

Lab ID:	Method Blank - DP097
Date Received:	-
Date Prepared:	6/25/04
Date Analyzed:	6/25/04
Dilution Factor	1

Dissolved Metals by ICP - USEPA Method 6010

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

STL Seattle

Matrix Spike Report

Client Sample ID:	LAI-2
Lab ID:	121809-02
Date Prepared:	6/25/04
Date Analyzed:	6/25/04
QC Batch ID:	DP097

Dissolved 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	0.943	94	

STL Seattle

Duplicate Report

Client Sample ID:	LAI-2
Lab ID:	121809-02
Date Prepared:	6/25/04
Date Analyzed:	6/25/04
QC Batch ID:	DP097

Dissolved Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD %	Flag
Lead	0	0	NC	

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

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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 presence of this analyte was not verified per WAC 246-290-010. 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

MRL: Method Reporting Limit

N: See analytical narrative

ND: Not Detected

PQL: Practical Quantitation Limit

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

121805

SEVERN TRENT STL 00031

Client	Project Manager	Date	Chain of Custody Number
SECOR for ConocoPhillips	Alice Larsen	6/17/04	10880
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 1
12034 134th Ct. NE	425-372-1600		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Redmond / WA / 98052			
Project Name and Location (State)	**Carrier/Waybill Number**		
6380 - Bellingham			
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: NWTPH-Gx	BTEX	NWTPH-Dx	Dis. Pb
-1 MW-1	6/17/04	1700		X			1			4			X	X	X	X
-2 MW-2		1630														
-3 MW-3		1555														
-4 MW-4		1615														
-5 eff6380		1720														

Special Instructions/ Conditions of Receipt

Dx w/ silica gel cleanup.
Pb samples not field filtered.

Cooler	Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 1 month)
☒ Yes ☐ No Cooler Temp:_____	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months	

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

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Angela Wells	6/18/04	1000	1. Received By: C Leach	6/18/04	1005
2. Relinquished By: C Leach	6/18/04	1230	2. Received By: D Schiller	6/18/04	1230
3. Relinquished By:	Date	Time	3. Received By:	Date	Time

Comments

SECOR

DAILY FIELD LOG

Page: 1 of 1
Date: 6/17/04

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

Scope of Work: x Quarter Monitoring/Sampling 1571SEC001

Describe Daily Activities:

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

Number of drums left on site: 0

Field Notes:

1345 August Weck (Aw) on-site. Conduct H&S mtg. Set up decon & equipment.

1355 Measure DTW of MW-1 through MW-4.

1420 Purge MW-1 through MW-4 of 3 well volumes using a submersible pump.

1550 Sample MW-1 — MW-4 w/ a peristaltic pump.

1710 Discharge Purge water to grass on W side of site. Collect eff. Sample

1730 Aw off-site.

Arrived on Site: 1345 Departed Site: 1730

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: Sunny ~80° Subcontractors On Site: N/A

SECOR Personnel On Site: August Weck

Signed: _____ Date: _____

SECOR	MONITORING & SAMPLING LOG		Page 1 of 1
	Project Name:	6380 - Bellingham	Date: 6/17/04
	Project Number:	01CP.06380.04	No. of Monitoring Wells Gauge:
INTERNATIONAL INCORPORATED	SECOR Rep:	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	5.53			5.10		21.8					
MW-2	8.12			8.13		20.6					
MW-3	4.79			4.97		20.8					
MW-4	6.49			5.91		20.3					

SAMPLING INFORMATION

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
4 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

Well No: MW-1

Project Name: 6380 Bellingham

Date: 6/17/04

Project Number: 01CP.06380.04

Sample Time: 1700

SECOR Rep: Checked by:

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): 5.10

Total Well Depth 21.8 (DTB) (ft):

Water Column: 16.7

Floating Product:

Thickness (in):

Casing Volume (gal): 2.7

3 Casing Volumes (gal): 8.1

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	ORP	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1520	Started Purging						
		2.5	6.48	18.6	-21	885.8	odor, lt gray
		5	6.48	17.1	-34	947.4	m, gray
		7.5	6.48	16.7	-16	957.3	

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
4 VOAa	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

Well No: MW-2
Project Name: 6380 Bellingham
Date: 6/17/04
Project Number: 01CP.06380.04
Sample Time: 1630
SECOR Rep:
Checked by:
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): 8.13

Total Well Depth (DTB) (ft): 20.6

Water Column: 12.47

Floating Product:

Thickness (in):

Casing Volume (gal): 2

3 Casing Volumes (gal): 6

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	ORP	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging						
		2	6.95	16.6	96	530.1	
		4	6.84	15.5	79	536.4	
		6	6.75	15.0	83	545.5	no, m, gray

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
4 VOAa	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-3
Project Number:	01CP.06380.04	Date: 6/17/04
SECOR Rep:	Checked by:	Sample Time: 1555
		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): 4.97

Total Well Depth 20.8 (DTB) (ft):

Water Column: 15.83

Floating Product:

Thickness (in):

Casing Volume (gal): 2.5

3 Casing Volumes (gal): 7.6

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	ORP	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging						
		2.5	6.90	14.9	3	690.9	Slight, M, Gray, L, D
		5	6.75	14.6	-20	725.3	
		7.5	6.79	14.3	-32	734.4	

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
4 VOAa	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:
Checked by:

Well No: MW-4
Date: 6/17/04
Sample Time: 1615
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): 5.91
Total Well Depth (DTB) (ft): 20.3
Water Column: 14.39
Floating Product:
Thickness (in):
Casing Volume (gal): 2.3
3 Casing Volumes (gal): 6.9

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	ORP	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging						
1450		2	6.86	15.7	69	461.3	
		4	6.56	15.0	74	481.1	
		6	6.45	14.6	55	563.7	
		7	6.43	14.0	90	564.2	

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
4 VOAa	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

SECOR INTERNATIONAL INCORPORATED

12034 134th Ct. NE, Ste. 102
Redmond, WA, 98052
PH: (425) 372-1600
FX: (425) 372-1650

www.secor.com

letter of transmittal

attention: LUST Coordinator

date: August 17, 2004

company: Washington Department of Ecology

address: Washington Department of Ecology
ATTN: LUST Coordinator
3190 160th Ave SE
Bellevue, WA 98008-5452

Release # 471259
Tosco # 6380
Bellingham
UST # 8394

project: 6380 Bellingham

job no.: 01CP.06380.04

re: ConocoPhillips Quarterly Groundwater Monitoring Report

enclosed:

( )	Proposal	( )	As Requested
( )	Contract	( )	Review
(X)	Report	(X)	Your Information
( )	Letter	( )	Approval
( )	Other:	( )	Signature
		( )	Return
		( )	Other:

comments: Please find one copy of the second quarter groundwater monitoring report for ConocoPhillips facility number 256380 located at 200 South 36th Street, Bellingham, Washington

August Welch

signator: August Welch
title: Staff Scientist

cc: Marc Sauze, SECOR
Washington Department of Ecology

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