

Release 4938
Car Wash ent 15th W
Seattle

DATE: January 23, 2003

**CONOCOPHILLIPS CORPORATION
GROUNDWATER MONITORING REPORT**

Site No.: 5516 Address: 1800 15th Avenue West, Seattle, Washington
ConocoPhillips Site Manager: Timothy D. Johnson
Consultant/Contact Person: Environmental Resolutions, Inc./James S. Matthiessen
Primary Agency/Regulatory ID No.: Washington State Department of Ecology

WORK PERFORMED THIS QUARTER(S) [Fourth - 2002]:

- Monitored, purged, and sampled 6 groundwater monitoring wells

WORK PROPOSED FOR NEXT QUARTER [Second - 2003]:

- Monitor, purge, and sample 7 groundwater monitoring wells

SUMMARY:

Frequency of Sampling Events:	Semiannually	(Quarterly, etc.)
Approximate Depth to Groundwater:	5 to 8 ft	(Measured Feet)
Groundwater Gradient:	Southerly and Westerly	(Direction)
	0.01 ft/ft	(Magnitude)
Maximum TPH-G/Benzene Concentrations:	1,730/95.8	(ppb)
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)
Bulk Soil Removed This Quarter:	None	(cubic yards)
Water Wells or Surface Waters w/in 2,000 ft:	Puget Sound, 1,000 ft	(Distance &
Radius and Respective Direction:	Southwest	Direction)
Current Remedial Action:	DPE	(SVE/AS/P&T, etc.)
Permits for Discharge:	Metro, PSAPCA, City of Seattle	(NPDES, POTW, etc.)

DISCUSSION:

- 2 of 6 wells sampled contained hydrocarbon concentrations exceeding MTCA Method A Cleanup Levels.
- The groundwater samples arrived at the laboratory at 8.2 degrees C slightly above the recommended range of 2 - 6 degrees.

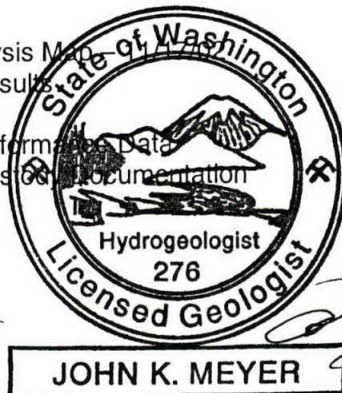
ATTACHMENTS:

Plate 1: Groundwater Sample Analysis Map
Table 1: Groundwater Analytical Results
Table 2: Effluent Sample Results
Table 3: GW Extraction System Performance Data
Laboratory Reports and Chain of Custody Documentation
Field Data Records

Prepared By:

Amanda R. Graves

Amanda R. Graves
Environmental Technician



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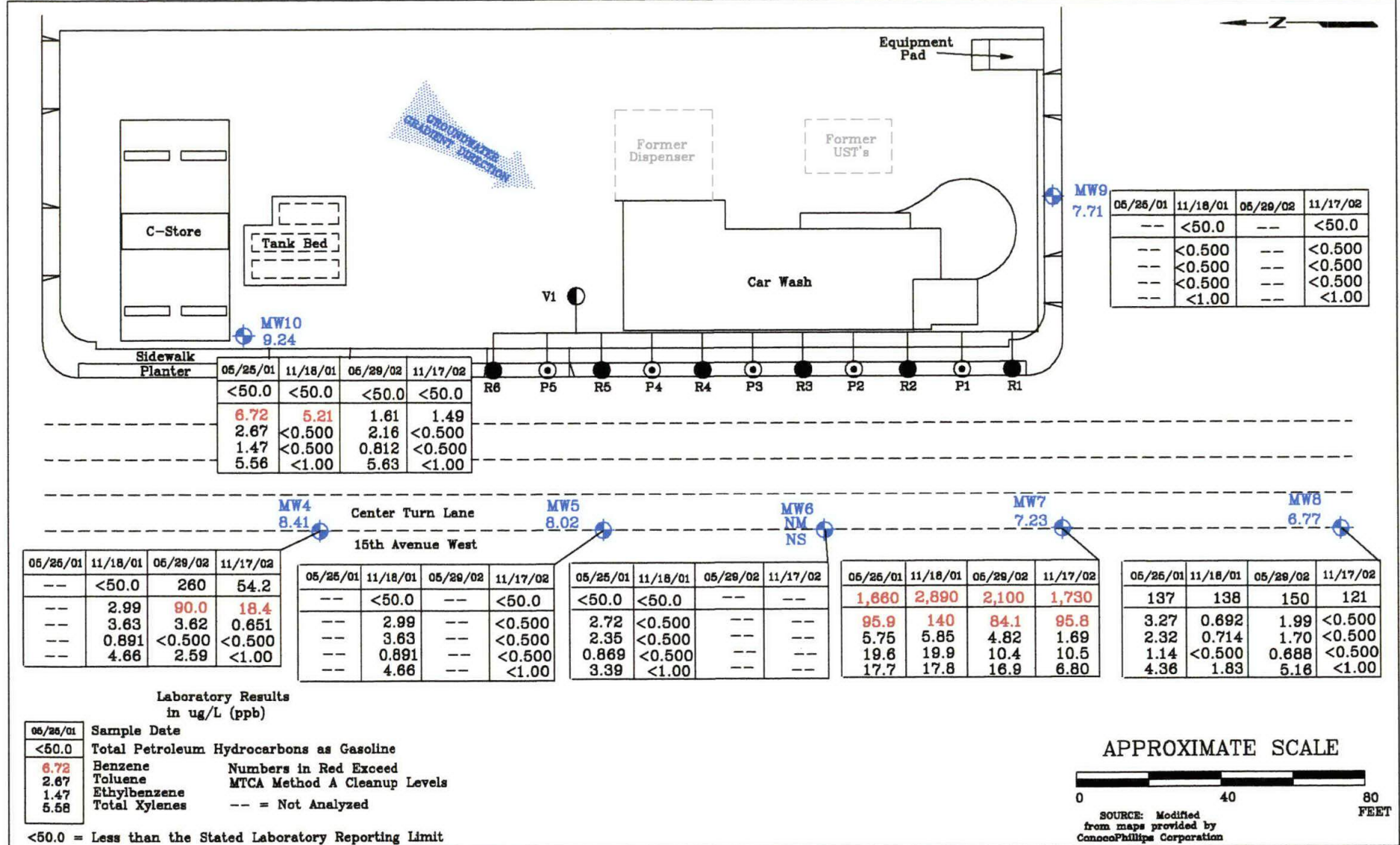
Reviewed By:

John K. Meyer
John K. Meyer, R.G.
Branch Manager

cc: Mr. Ben Amoah-Forsen, Washington State Department of Ecology, Northwest Regional Office
Mr. Victor Odermat, Car Wash Enterprises
Mr. Christian Houck, Environmental Partners, Inc.

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FN 31144.13



GROUNDWATER SAMPLE ANALYSIS MAP - 11/17/02

TOSCO SITE NO. 5516
1800 15th Avenue West
Seattle, Washington

EXPLANATION

- MW3 Groundwater Monitoring Well
- 92.65 Relative Groundwater Elevation
- NM Not Measured
- NS Not Sampled
- V1 Vapor Extraction Well
- R1 Groundwater/Vapor Extraction Well
- P1 Passive Venting Well

PROJECT NO.

31144

PLATE

1

ARG: 12/23/02

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5516
1800 15th Avenue West
Seattle, Washington
Page 1 of 3

Well Name	Sample Date	DTW	GW Elev.	TPH-G	B	T	E	X
MW1 13.96	01/07/94	—	—	22,000	2,700	4,300	1,500	7,400
	01/05/95	5.27	8.69	—	—	—	—	—
	01/06/95	—	—	76,000	3,600	6,300	2,700	12,800
	02/07/95	4.88	9.08	—	—	—	—	—
	Abandoned							
MW2	01/07/94	—	—	1,900	190	48	85	241
	Abandoned							
MW3	02/07/95	6.30	—	—	—	—	—	—
	03/01/95	—	—	<50	<1.00	<1.00	<1.00	<50
	Abandoned							
MW4 14.46	01/05/95	5.68	8.78	<300	<1.00	<1.00	<1.00	<1.00
	10/31/95	5.99	8.47	<50	<0.5	<1	<1	<1
	07/25/96	6.11	8.35	—	—	—	—	—
	10/15/96	6.22	8.24	—	—	—	—	—
	12/19/96	5.78	8.68	<50	42.5	<1	<1	<1
	11/03/97	5.75	8.71	<50	1.8	<1	<1	<1
	11/04/98	7.30	7.16	<50	<1	<1	<1	<1
	11/21/99	5.85	8.61	<50	<0.5	<1	<1	<1
	05/21/00	6.18	8.28	—	—	—	—	—
	11/12/00	7.66	6.80	<50	<0.5	<0.5	<0.5	<1
	05/25/01	NM	—	—	—	—	—	—
	11/18/01	Unable to open	—	—	—	—	—	—
	05/29/02	6.19	8.27	260	90.0	3.62	<0.500	2.59
	11/17/02	6.05	8.41	54.2	18.4	0.651	<0.500	<1.00
MW5 14.33	01/05/95	5.45	8.88	<300	<1.00	<1.00	<1.00	<1.00
	10/31/95	5.75	8.58	<50	1.1	<1	<1	<1
	07/25/96	6.19	8.14	—	—	—	—	—
	10/15/96	6.27	8.06	—	—	—	—	—
	12/19/1996	5.75	8.58	<50	<0.5	<1	<1	<1
	11/03/97	5.76	8.57	<50	<0.5	<1	<1	<1
	11/04/98	7.61	6.72	<50	<0.5	<1	<1	<1
	11/21/99	6.04	8.29	<50	<0.5	<1	<1	<1
	05/21/00	6.38	7.95	—	—	—	—	—
	11/12/00	8.18	6.15	<50	<0.5	<1	<1	<1
	05/25/01	Unable to open	—	—	—	—	—	—
	11/18/01	6.15	8.18	<50.0	2.99	3.63	0.891	4.66
	05/29/02	6.37	7.96	—	—	—	—	—
	11/17/02	6.31	8.02	<50.0	<0.500	<0.500	<0.500	<1.00
MTCA Method A Cleanup Levels				1,000*	5	40	30	20

Continued on page 2

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5516
1800 15th Avenue West
Seattle, Washington
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Well Name	Sample Date	DTW	GW Elev.	TPH-G	B	T	E	X
MW6 14.16	01/05/95	5.47	8.69	<300	1.2	<1.00	<1.00	<1.00
	10/31/95	5.57	8.59	6,300	3,100	<1	876	1,340
	03/19/96	5.81	8.35	1,250	198	<1	122	9
	06/18/96	6.11	8.05	250	<0.5	<1	26	1
	07/25/96	6.43	7.73	—	—	—	—	—
	09/25/96	6.70	7.46	130	<0.5	<1	26	1
	10/15/96	6.43	7.73	—	—	—	—	—
	12/19/96	5.85	8.31	<50	<0.5	<1	1	<1
	04/21/97	5.43	8.73	<50	<0.5	<1	<1	<1
	08/21/97	7.41	6.75	90	<0.5	<1	<1	<1
	11/03/97	5.86	8.30	110	<0.5	<1	<1	<1
	02/24/98	6.26	7.90	<250	<0.5	<1	<1	<1
	05/15/98	8.19	5.97	55	<0.5	<1	<1	<1
	07/30/98	8.99	5.17	<50	<1	<1	<1	<1
	11/04/98	7.85	6.31	<50	<0.5	<1	<1	<1
	02/02/99	6.20	7.96	<50	<0.5	<1	<1	<1
	11/21/99	6.25	7.91	<50	<0.5	<1	<1	<1
	05/21/00	6.56	7.60	<50	<0.5	0.626	<0.5	1.87
	11/12/00	8.57	5.59	<50	<0.5	<0.5	<0.5	<1
	05/25/01	7.93	6.23	<50.0	2.72	2.35	0.869	3.39
	11/18/01	6.21	7.95	<50.0	<0.500	<0.500	<0.500	<1.00
	05/29/02	Unable to open	—	—	—	—	—	—
	11/17/02	NM	—	—	—	—	—	—
MW7 14.06	01/05/95	5.73	8.33	820	13	2.2	4.7	3.1
	10/31/95	5.50	8.56	1,920	1,990	3	247	42
	03/19/96	6.09	7.97	3,820	970	29	307	67
	06/18/96	6.45	7.61	5,020	733	16	514	160
	07/25/96	6.80	7.26	—	—	—	—	—
	09/25/96	7.03	7.03	4,500	88	<5	420	87
	10/15/96	6.70	7.36	—	—	—	—	—
	12/19/96	6.06	8.00	970	54	2	9	18
	04/21/97	5.70	8.36	2,160	27	<1	114	8
	08/21/97	7.71	6.35	1,630	56	1	44	8
	11/03/97	6.08	7.98	1,550	59	1	23	6
	02/24/98	6.51	7.55	1,200	60	1	11	4
	05/15/98	8.17	5.89	1,500	130	1	17	13
	07/30/98	9.20	4.86	560	48	1	4	3
	11/04/98	8.06	6.00	1,200	410	5	33	9
	02/02/99	6.55	7.51	<50	<0.5	<1	<1	<1
	05/06/99	7.09	6.97	2,500	390	<10	54	20
	08/13/99	6.74	7.32	340	57	2	4	3
	11/21/99	6.27	7.79	1,400	370	10	16	15
	05/21/00	6.62	7.44	1,770	173	8.04	27	65.7
	11/12/00	8.31	5.75	1,230	41	<6.69	8.08	14.8
	05/25/01	7.63	6.43	1,660	95.9	5.75	19.6	17.7
	11/18/01	6.18	7.88	2,890	140	5.85	19.9	17.8
	05/29/02	6.77	7.29	2,100	84.1	4.82	10.4	16.9
	11/17/02	6.83	7.23	1,730	95.8	1.69	10.5	6.80
MW8 13.83	01/05/95	6.08	7.75	550	280	2.6	1.9	2.7
	10/31/95	6.00	7.83	330	355	1	2	4
	03/19/96	6.29	7.54	610	1,340	5	2	3
	06/18/96	6.69	7.14	1,160	4,400	42	56	42
	07/25/96	7.05	6.78	—	—	—	—	—
	09/25/96	7.24	6.59	1,440	2,200	13	152	96
	10/15/96	6.90	6.93	—	—	—	—	—
	12/19/96	6.34	7.49	2,040	1,410	3	234	175
	04/21/97	5.95	7.88	1,380	257	<1	81	41
	08/21/97	7.45	6.38	910	39.0	<1	19	13
	11/03/97	6.22	7.61	980	19.3	1	8	9
	02/24/98	6.41	7.42	1,000	2.9	<1	<1	7
	05/15/98	7.57	6.26	640	29.0	1	1	7
	07/30/98	8.60	5.23	420	3.0	<1	<1	5
	11/04/98	8.03	5.8	230	1.8	<1	<1	2
	02/02/99	6.50	7.33	<50	<0.5	<1	<1	<1
	11/21/99	6.19	7.64	170	0.9	<1	<1	<1
	05/21/00	6.74	7.09	58	<0.5	<0.5	<0.5	<1
	11/12/00	8.01	5.82	99	0.7	<0.5	<0.5	<1
	05/25/01	7.48	6.35	137	3.27	2.32	1.14	4.36
	11/18/01	6.29	7.54	138	0.692	0.714	<0.500	1.83
	05/29/02	6.90	6.93	150	1.99	1.70	0.688	5.16
	11/17/02	7.06	6.77	121	<0.500	<0.500	<0.500	<1.00
MTCA Method A Cleanup Levels				1,000*	5	40	30	20

Continued on page 3

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5516
1800 15th Avenue West
Seattle, Washington
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Well Name	Sample Date	DTW	GW Elev.	TPH-G	B	T	E	X
MW9 14.95	01/05/95	5.66	9.29	<300	<1.00	<1.00	<1.00	<1.00
	07/25/96	7.31	7.64	—	—	—	—	—
	10/15/96	6.17	8.78	—	—	—	—	—
	11/21/99	6.11	8.84	<50	<0.5	<1	<1	<1
	05/21/00	6.60	8.35	—	—	—	—	—
	11/12/00	8.68	6.27	<50	<0.5	<0.5	<0.5	2.5
	05/25/01	7.68	7.27	—	—	—	—	—
	11/18/01	6.00	8.95	<50.0	<0.500	<0.500	<0.500	<1.00
	05/29/02	6.69	8.26	—	—	—	—	—
	11/17/02	7.24	7.71	<50.0	<0.500	<0.500	<0.500	<1.00
MW10 15.08	07/25/96	5.96	9.12	—	—	—	—	—
	10/15/96	6.17	8.91	—	—	—	—	—
	12/19/96	5.80	9.28	230	366	41	1	3
	04/21/97	4.88	10.20	<50	13.9	<1	<1	<1
	08/21/97	6.08	9.00	50	37.4	2	<1	<1
	11/03/97	5.74	9.34	<50	195.0	<1	1	<1
	02/24/98	6.01	9.07	<250	16.0	<1	<1	<1
	05/15/98	6.63	8.45	<50	10.0	<1	<1	1
	07/30/98	6.51	8.57	<50	430.0	<1	<1	<1
	11/04/98	6.93	8.15	<50	<0.5	<1	<1	<1
	02/02/99	5.65	9.43	<50	6.8	<1	<1	<1
	05/06/99	6.57	8.51	<50	37.0	2	<1	<1
	08/13/99	6.53	8.55	<50	<0.5	<1	<1	<1
	11/21/99	5.72	9.36	<50	0.9	<1	<1	<1
	05/21/00	6.01	9.07	61.3	3.36	1.88	0.664	3.68
	11/12/00	7.07	8.01	<50	0.61	<0.5	<0.5	<1
	05/25/01	6.89	8.19	<50.0	6.72	2.67	1.47	5.56
	11/18/01	6.07	9.01	<50.0	5.24	<0.500	<0.500	<1.00
	05/29/02	5.98	9.10	<50.0	1.61	2.16	0.812	5.63
	11/17/02	5.84	9.24	<50.0	1.49	<0.500	<0.500	<1.00

MTCA Method A Cleanup Levels

1,000*

5

40

30

20

EXPLANATION:

All concentrations are in ug/L (ppb).

Wellhead elevations were taken from prior consultant's reports.

DTW = Depth to water in feet below top of casing

GW Elev. = Groundwater elevation relative to top of casing elevations

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Ecology Method NWTPH-Gx

B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes

BTEX = Aromatic compounds by EPA Method 8020 or EPA 8021B; refer to official laboratory reports

< = Less than the stated laboratory reporting limit

— = Not Analyzed or Sampled

Shaded values equal or exceed MTCA Method A Cleanup Levels.

* Total Petroleum Hydrocarbons

Data collected before 05/25/01 were taken from prior consultants.

TABLE 2
EFFLUENT SAMPLE RESULTS
BROWN BEAR CAR WASH--15TH
TOSCO SITE NO. 5516

ENVIRONMENTAL RESOLUTIONS, INC.

Sample Number	Date Sampled	Total Lead (ug/L)	WTPH-G (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
Batch Tank (Pre-Treatment)							
14881155	7/15/1996	--	25,100	668	125	1,450	4,490
Calculated	1997	--	76,000	1,000	7,000	3,000	13,000
14881184	3/4/1998	--	1,000	130	9	17	160
14881194	6/24/1998	--	260	45	< 1	6	20
148811201	11/4/1998	--	< 50	< 0.5	< 1	< 1	< 1
148811212	2/8/1999	--	200	29	2	10	24
55160001	1/21/2000	--	< 50	< 0.5	< 1	< 1	< 1
55160007	9/27/2000	--	< 50	0.55	< 0.5	< 0.5	< 1
55160101	4/26/2001	--	< 50	< 0.5	< 0.5	< 0.5	< 1
Weff	1/24/2002	--	< 50	< 0.5	< 0.5	< 0.5	< 1
Weff	4/30/2002	--	< 50	< 0.5	< 0.5	< 0.5	< 1
Eff	5/29/2002	--	< 50	1.09	< 0.5	< 0.5	< 1
Weff	6/27/2002	--	< 50	< 0.5	< 0.5	< 0.5	< 1
Weff	7/31/2002	--	< 50	< 0.5	< 0.5	< 0.5	< 1
Air Stripper Sump (Post-Treatment)							
14881156	7/15/1996	--	1,400	25	2	40	156
Calculated	1997	--	7,600	100	700	300	1,300
14881185	3/4/1998	--	830	64	10	9	140
Discharge Limits ^a			100,000 ^b	130	1,500	1,400	-- ^c

NOTES:

^a In accordance with Metro discharge authorization No. 524.

^b Discharge limits are for nonpolar fats, oil & grease; WTPH-G is accepted substitute.

^c No discharge limit prescribed for xylenes.

<= Not detected at indicated concentration.

Boldface values exceed discharge limits.

TABLE 3 - GW EXTRACTION SYSTEM PERFORMANCE DATA
BROWN BEAR CAR WASH--15th
TOSCO SITE NO. 5516

Date	Flowmeter Reading (cubic feet)	Flowmeter Reading (gal)	Vol H ₂ O Extracted (gal)	Flowrate (gpm)	Cum. Vol H ₂ O Extr. (gal)
7/15/1996		1,190	1,190	0.00	1,190
7/25/1996		2,500	1,310	0.09	2,500
7/26/1996		4,000	1,500	1.04	4,000
7/29/1996		9,500	5,500	1.27	9,500
7/30/1996		15,890	6,390	4.44	15,890
8/2/1996		28,600	12,710	2.94	28,600
8/8/1996		31,970	3,370	0.39	31,970
8/21/1996		81,230	49,260	2.63	81,230
8/23/1996		90,580	9,350	3.25	90,580
8/26/1996		105,530	14,950	3.46	105,530
8/30/1996		122,360	16,830	2.92	122,360
9/5/1996		141,190	18,830	2.18	141,190
3/14/1997		142,860	1,670	0.01	142,860
8/19/1997		142,860	0	0.00	142,860
12/29/1997	47190		352,981	1.86	495,841
1/7/1998	52721		41,372	3.19	537,213
3/4/1998	97963		338,410	4.20	875,623
4/24/1998	146033		359,564	4.90	1,235,187
6/19/1998	186804		304,967	3.78	1,540,154
7/14/1998	205473		139,644	3.88	1,679,798
9/1/1998	242617		277,837	3.94	1,957,635
9/29/1998	264744		165,510	4.10	2,123,145
11/11/1998	277999		99,147	1.60	2,222,293
11/11/1998		142,860	0	0.00	2,222,293
11/30/1998		333,230	190,370	6.96	2,412,663
12/29/1998		619,810	286,580	6.86	2,699,243
2/3/1999		988,040	368,230	7.10	3,067,473
4/29/1999		1,495,270	507,230	4.14	3,574,703
6/29/1999		1,557,558	62,288	0.71	3,636,991
8/21/1999		1,566,799	9,241	0.12	3,646,232
9/2/1999		1,595,290	28,491	1.65	3,674,723
9/30/1999		1,611,340	16,050	0.40	3,690,773
10/8/1999		1,621,993	10,653	0.92	3,701,426
11/3/1999		1,693,115	71,122	1.90	3,772,548
12/6/1999		1,749,257	56,142	1.18	3,828,690
12/29/1999		1,749,257	0	0.00	3,828,690
1/21/2000		1,791,320	42,063	1.27	3,870,753
2/28/2000		1,833,410	42,090	0.77	3,912,843

TABLE 3 - GW EXTRACTION SYSTEM PERFORMANCE DATA
BROWN BEAR CAR WASH--15th
TOSCO SITE NO. 5516

Date	Flowmeter Reading (cubic feet)	Flowmeter Reading (gal)	Vol H ₂ O Extracted (gal)	Flowrate (gpm)	Cum. Vol H ₂ O Extr. (gal)
3/22/2000		2,039,877	206,467	6.23	4,119,310
4/26/2000		2,107,769	67,892	1.35	4,187,202
5/24/2000		2,160,956	53,187	1.32	4,240,389
6/28/2000		2,246,667	85,711	1.70	4,326,100
7/27/2000		2,247,288	621	0.01	4,326,721
8/22/2000		2,247,435	147	0.00	4,326,868
9/29/2000		2,283,880	36,445	0.67	4,363,313
10/26/2000		2,283,880	0	0.00	4,363,313
11/27/2000		2,368,734	84,854	1.84	4,448,167
12/27/2000		2,483,366	114,632	2.65	4,562,799
2/6/2001		2,834,427	351,061	5.95	4,913,860
2/27/2001		3,023,564	189,137	6.25	5,102,997
3/28/2001		3,191,168	167,604	4.01	5,270,601
4/26/2001		3,191,335	167	0.00	5,270,768
5/18/2001		3,279,604	88,269	2.79	5,359,037
6/25/2001		3,459,076	179,472	3.28	5,538,509
7/26/2001		3,525,559	66,483	1.49	5,604,992
10/31/2001		3,582,705	57,146	0.41	5,662,138
11/27/2001		3,582,705	45,720	1.18	5,707,858
12/27/2001		3,623,489	40,784	0.94	5,748,642
1/23/2002		3,641,516	18,027	0.46	5,766,669
2/22/2002		3,654,342	12,826	0.30	5,779,495
4/30/2002		3,654,814	472	0.00	5,779,967
5/29/2002		3,707,010	52,196	1.25	5,832,163
6/27/2002		3,769,406	62,396	1.49	5,894,559
7/31/2002		3,769,438	32	0.00	5,894,591

Notes:

Sewer Discharge Flowmeter replaced on 8/19/97.

Sewer Discharge Flowmeter replaced on 11/11/98.

System was shut down from July to October 2001 for jet pump repair.

November 2001 flow was estimated.

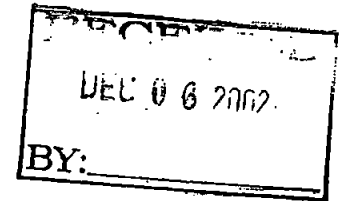
System was shut down after 7/31/02 for reevaluation.



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
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Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

04 December 2002

James Matthiessen
ERI
815 Industry Dr
Tukwila, WA/USA 98188
RE: TOSCO #5516



Enclosed are the results of analyses for samples received by the laboratory on 11/18/02 14:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager



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ERI
815 Industry Dr
Tukwila WA/USA, 98188

Project: TOSCO #5516
Project Number: 31144
Project Manager: James Matthiessen

Reported:
12/04/02 10:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4	B2K0424-01	Water	11/17/02 08:30	11/18/02 14:50
MW-5	B2K0424-02	Water	11/17/02 08:40	11/18/02 14:50
MW-7	B2K0424-03	Water	11/17/02 08:50	11/18/02 14:50
MW-8	B2K0424-04	Water	11/17/02 09:00	11/18/02 14:50
MW-9	B2K0424-05	Water	11/17/02 09:20	11/18/02 14:50
MW-10	B2K0424-06	Water	11/17/02 09:40	11/18/02 14:50

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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ERI
815 Industry Dr
Tukwila WA/USA, 98188

Project: TOSCO #5516
Project Number: 31144
Project Manager: James Matthiessen

Reported:
12/04/02 10:26

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (B2K0424-01) Water Sampled: 11/17/02 08:30 Received: 11/18/02 14:50									
Gasoline Range Hydrocarbons	54.2	50.0	ug/l	1	2K26005	11/26/02	11/26/02	NWTPH-Gx/8021B	
Benzene	18.4	0.500	"	"	"	"	"	"	
Toluene	0.651	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	82.3 %	57-125			"	"	"	"	
Surrogate: 4-BFB (PID)	79.2 %	62-120			"	"	"	"	
MW-5 (B2K0424-02) Water Sampled: 11/17/02 08:40 Received: 11/18/02 14:50									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	2K26005	11/26/02	11/26/02	NWTPH-Gx/8021B	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	83.1 %	57-125			"	"	"	"	
Surrogate: 4-BFB (PID)	80.0 %	62-120			"	"	"	"	
MW-7 (B2K0424-03) Water Sampled: 11/17/02 08:50 Received: 11/18/02 14:50									
Gasoline Range Hydrocarbons	1730	50.0	ug/l	1	2K26005	11/26/02	11/26/02	NWTPH-Gx/8021B	
Benzene	95.8	0.500	"	"	"	"	"	"	
Toluene	1.69	0.500	"	"	"	"	"	"	
Ethylbenzene	10.5	0.500	"	"	"	"	"	"	
Xylenes (total)	6.80	1.00	"	"	"	"	"	"	I-06
Surrogate: 4-BFB (FID)	171 %	57-125			"	"	"	"	S-04
Surrogate: 4-BFB (PID)	97.5 %	62-120			"	"	"	"	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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ERI
815 Industry Dr
Tukwila WA/USA, 98188

Project: TOSCO #5516
Project Number: 31144
Project Manager: James Matthiessen

Reported:
12/04/02 10:26

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-8 (B2K0424-04) Water Sampled: 11/17/02 09:00 Received: 11/18/02 14:50									
Gasoline Range Hydrocarbons	121	50.0	ug/l	1	2K26005	11/26/02	11/26/02	NWTPH-Gx/8021B	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	87.3 %	57-125			"	"	"	"	
Surrogate: 4-BFB (PID)	84.4 %	62-120			"	"	"	"	
MW-9 (B2K0424-05) Water Sampled: 11/17/02 09:20 Received: 11/18/02 14:50									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	2K26005	11/26/02	11/26/02	NWTPH-Gx/8021B	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	76.2 %	57-125			"	"	"	"	
Surrogate: 4-BFB (PID)	81.0 %	62-120			"	"	"	"	
MW-10 (B2K0424-06) Water Sampled: 11/17/02 09:40 Received: 11/18/02 14:50									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	2K26005	11/26/02	11/26/02	NWTPH-Gx/8021B	
Benzene	1.49	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	82.7 %	57-125			"	"	"	"	
Surrogate: 4-BFB (PID)	80.2 %	62-120			"	"	"	"	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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ERI
815 Industry Dr
Tukwila WA/USA, 98188

Project: TOSCO #5516
Project Number: 31144
Project Manager: James Matthiessen

Reported:
12/04/02 10:26

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 2K26005: Prepared 11/26/02 Using EPA 5030B (P/T)

Blank (2K26005-BLK1)

Gasoline Range Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Surrogate: 4-BFB (FID)	39.4		"	48.0		82.1	57-125			
Surrogate: 4-BFB (PID)	38.8		"	48.0		80.8	62-120			

LCS (2K26005-BS1)

Gasoline Range Hydrocarbons	467	50.0	ug/l	502		93.0	80-120			
Benzene	5.88	0.500	"	6.20		94.8	80-120			
Toluene	31.8	0.500	"	38.1		83.5	80-120			
Ethylbenzene	8.06	0.500	"	8.94		90.2	80-120			
Xylenes (total)	38.4	1.00	"	44.0		87.3	80-120			
Surrogate: 4-BFB (FID)	44.7		"	48.0		93.1	57-125			
Surrogate: 4-BFB (PID)	37.1		"	48.0		77.3	62-120			

LCS Dup (2K26005-BSD1)

Gasoline Range Hydrocarbons	479	50.0	ug/l	502		95.4	80-120	2.54	25	
Benzene	6.06	0.500	"	6.20		97.7	80-120	3.02	40	
Toluene	32.6	0.500	"	38.1		85.6	80-120	2.48	40	
Ethylbenzene	8.20	0.500	"	8.94		91.7	80-120	1.72	40	
Xylenes (total)	39.1	1.00	"	44.0		88.9	80-120	1.81	40	
Surrogate: 4-BFB (FID)	43.1		"	48.0		89.8	57-125			
Surrogate: 4-BFB (PID)	36.4		"	48.0		75.8	62-120			

Matrix Spike (2K26005-MS1)

Source: B2K0424-05

Gasoline Range Hydrocarbons	493	50.0	ug/l	502	ND	98.2	70-130			
Benzene	6.19	0.500	"	6.20	ND	99.8	80-134			
Toluene	32.6	0.500	"	38.1	ND	85.6	68-114			
Ethylbenzene	8.16	0.500	"	8.94	ND	91.3	72-128			
Xylenes (total)	39.0	1.00	"	44.0	ND	88.6	67-125			
Surrogate: 4-BFB (FID)	44.3		"	48.0		92.3	57-125			
Surrogate: 4-BFB (PID)	36.5		"	48.0		76.0	62-120			

North Creek Analytical - Bothell

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Amar Gill, Project Manager

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ERI
815 Industry Dr
Tukwila WA/USA, 98188

Project: TOSCO #5516
Project Number: 31144
Project Manager: James Matthiessen

Reported:
12/04/02 10:26

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2K26005: Prepared 11/26/02 Using EPA 5030B (P/T)										
Matrix Spike Dup (2K26005-MSD1)										
Source: B2K0424-05										
Gasoline Range Hydrocarbons	462	50.0	ug/l	502	ND	92.0	70-130	6.49	25	
Benzene	6.19	0.500	"	6.20	ND	99.8	80-134	0.00	40	
Toluene	32.8	0.500	"	38.1	ND	86.1	68-114	0.612	40	
Ethylbenzene	8.16	0.500	"	8.94	ND	91.3	72-128	0.00	40	
Xylenes (total)	39.1	1.00	"	44.0	ND	88.9	67-125	0.256	40	
Surrogate: 4-BFB (FID)	43.4		"	48.0		90.4	57-125			
Surrogate: 4-BFB (PID)	37.1		"	48.0		77.3	62-120			

North Creek Analytical - Bothell

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Amar Gill, Project Manager

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Environmental Laboratory Network



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ERI
815 Industry Dr
Tukwila WA/USA, 98188

Project: TOSCO #5516
Project Number: 31144
Project Manager: James Matthiessen

Reported:
12/04/02 10:26

Notes and Definitions

- I-06 The analyte concentration may be artificially elevated due to coeluting compounds or components.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 6 of 6

TOSCO CHAIN OF CUSTODY REPORT

B2 K0424

TOSCO INFORMATION	
Facility Number:	5516
Site Address:	1800 15 th Ave - W.
City, State, ZIP:	Seattle, WA 98119
Project/AWO Code	
Tosco Manager:	Tim Johnson
FACILITY TYPE: (check one)	☐ BP/☒ ☐ Terminal/Bulk Plant ☒ Brown Bear ☐ Former 76 Site ☐ Other

CONSULTANT INFORMATION	
Firm:	ERI
Project#	31144
Address:	815 Industry Dr. Tukwila, WA 98188
Phone:	206-575-6220
Fax:	206-575-6423
Project Manager:	James Matthiessen
E-mail:	jmatthiessen@eri-us.com
Sample Collection by:	JSM/SMD

Quality Assurance Data Level:

☒ A ☐ B

A: Standard Summary

B: Standard + Chromatograms

Laboratory Turnaround Days:

☒ 10 ☐ 5 ☐ 3 ☐ 2 ☐ 1

10 Day - Standard

SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CON-TAINERS
1. MW4	11/17/02, 0830	W	3
2. MW5	0840		
3. MW7	0850		
4. MW8	0900		
5. MW9	0920		
6. MW10	0940		
7.			
8.			
9.			
10.			

OR	WA	AK	NW Series	ID
TPH-HCID				
TPH-Gas				
BTEX				
EPA 8021/Mod.				
TPH-Gas + BTEX				
TPH-Diesel				
TPH-Diesel				
Extended				
TPH-Diesel-Ext.				
w/SG Cleanup				
Halogen. Volatiles				
EPA 8021				
Pesticides/PCBs				
or PCBs Only				
GC/MS Volatiles				
EPA 8260				
GC/MS SemiVols.				
EPA 8270				
PAH's				
8270 SIM or 8310				
Lead:				
Total or Dissolved				
TC/TP or RCRA				
Metals (8)				

Samples were not @ 2-6C Upon Receipt

NCA SAMPLE NUMBER

01
02
03
04
05
06

Relinquished by:	Firm:	Date & Time	Received by:	Firm:	Date & Time
1. [Signature]	ERI	11/18/02 0800	[Signature]	NCA	11/18/02 13:25
2. [Signature]	NCA	11/18/02 14:56	[Signature]	NCA	11/18/02 14:56
3.					

Comments:

GROUNDWATER SAMPLING - FIELD LOG

Client Name: Tolson SS16
Location: 15th Ave Seattle
Field Crew: 3sm/5md

ERI Job No. 31144 Date: 1/1
Field Cleaning Performed: _____
Analysis: _____ * - c

Date: 11/17/82

Page ____ of ____

* - Case Volume = $(d_{\text{out}} - d_{\text{inner}})_{\text{in}} \times F$ where $F =$
 0.163 for a 2" inside diameter well casing
 0.652 for a 4" inside diameter well casing
 1.467 for a 6" inside diameter well casing

Well No.	Time	Depth Water (ft.)	Depth Well (ft.)	Case Dia. (in)	Case Vol. gal	Purge Vol. (gal)	Conduct. $\mu S/CM$ (X1000)	Temp. Deg F	pH	TURB. NTU	PID PPM	Comments
MW4	0830	6.05	14	2	1	5						
MW5	0840	6.31	14	2	1	3						
MW7	0850	6.83	14	2	1	3						
MW8	0900	7.06	14	2	1	3						
MW9	0920	7.29	14	2	1	3						
MW10	0940	5.84	14	2	1	3						
MW6												Stripped bolt, repair on Dam event

Revised 6/20/94

ENVIRONMENTAL RESOLUTIONS, INC.