

DATE: November 4, 1998

**TOSCO MARKETING COMPANY
GROUNDWATER MONITORING REPORT**

Site No.: 5919 Address: 1100 Broadway Avenue, Seattle, WA
Tosco Project Manager: Timothy D. Johnson
Consultant /Contact Person: Environmental Resolutions, Inc./John Meyer
Primary Agency/Regulatory ID No.: Washington State Department of Ecology

WORK PERFORMED THIS QUARTER(S) [Third - 1998]:

- Monitored and sampled 9 groundwater monitoring wells without purging

WORK PROPOSED FOR NEXT QUARTER [Fourth - 1998]:

- Monitor and sample 9 wells without purging

SUMMARY:

Frequency of Sampling Events:	<u>Quarterly</u>	(Quarterly, etc.)
Approximate Depth to Groundwater:	<u>12 to 47 ft</u>	(Measured Feet)
Groundwater Gradient:	<u>Easterly and Northerly</u>	(Direction)
	<u>0.03 ft/ft</u>	(Magnitude)
Maximum TPH-G/Benzene Concentrations:	<u>63.6/ND</u>	(ppb)
Measurable Free Product Detected:	<u>No</u>	(Yes - ID wells(s)/No)
Free Product Recovered This Quarter:	<u>None</u>	(gallons)
Cumulative Free Product Recovered to Date:	<u>Unknown</u>	(gallons)
Bulk Soil Removed This Quarter:	<u>None</u>	(cubic yards)
Water Wells or Surface Waters w/in a 2000'	<u>Unknown</u>	(Distance &
Radius and Respective Direction:	<u>N/A</u>	Direction)
Current Remedial Action:	<u>Passive skimmer in MW-1</u>	(SVE/AS/P&T etc.)
Permits for Discharge:	<u>None</u>	(NPDES, POTW, etc.)

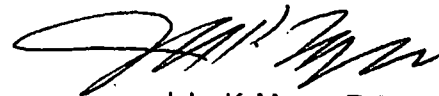
DISCUSSION:

- Hydrocarbon concentrations were below MTCA Method A Cleanup Levels in all 9 wells
- Tetrachloroethene (PCE) concentrations exceeding the MTCA Method A Cleanup Level were detected in 3 wells (MW-2, MW-6, and MW-8)

ATTACHMENTS:

Plate P-1 - Groundwater Sample Analyses Map, 9/23/98
Table 1 - Groundwater Analytical Results
Laboratory Reports and Chain of Custody Records
Field Data Records

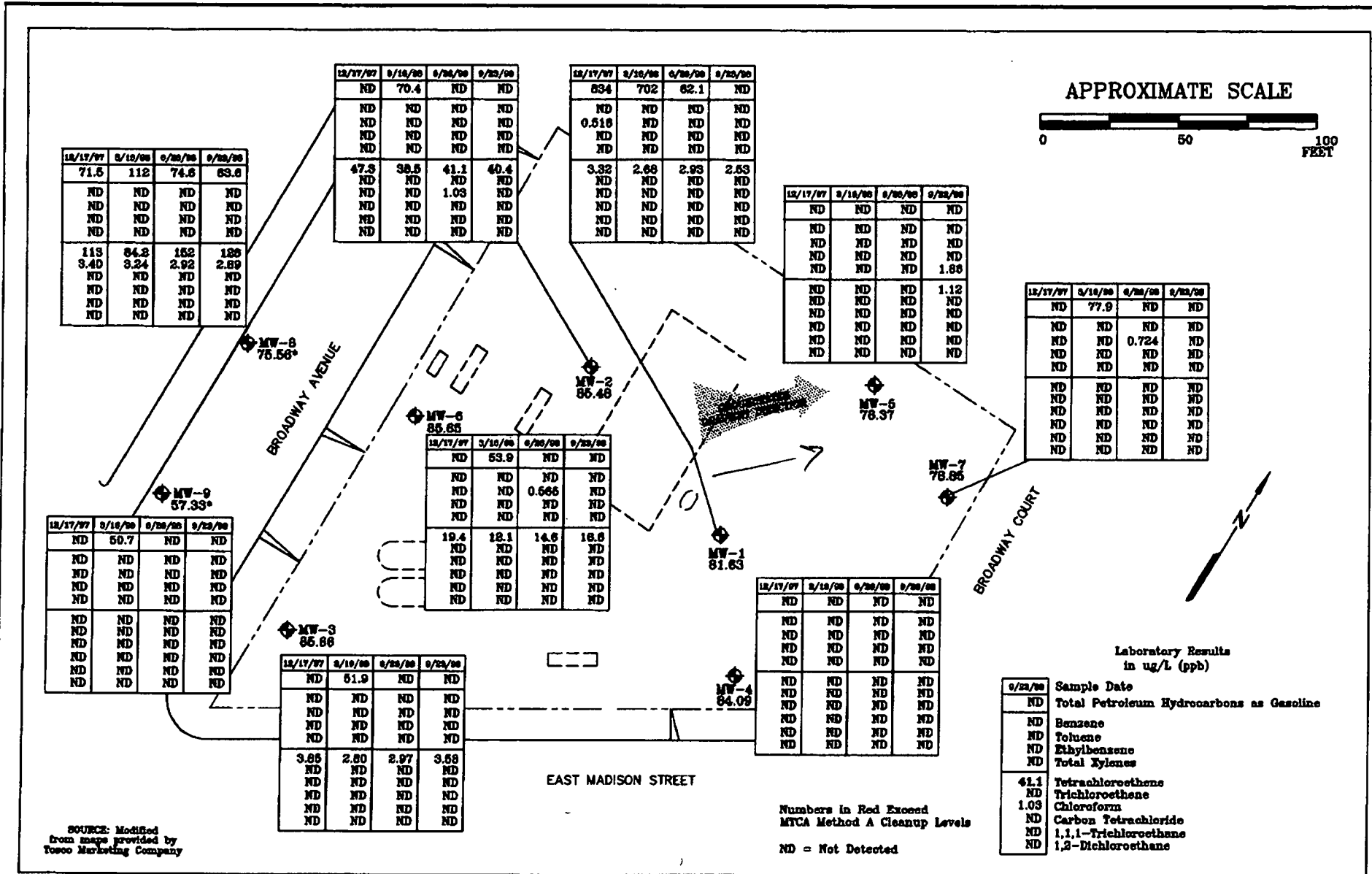
Prepared By:



John K. Meyer, R.G.
Environmental Resolutions, Inc.

cc: Ecology NW Region, Ben Forson
GeoEngineers, Carla Woodworth

To	John Meyer
Co./Dept.	Ecology
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Pages	23
Post-it Fax Note	7671



FN 5919

GROUNDWATER SAMPLE ANALYSES MAP - 9/23/98

TOSCO FACILITY 5919
1100 Broadway Avenue
Seattle, Washington

EXPLANATION

- MW-6 Groundwater Monitoring Well
- 86.12 Groundwater Elevation
- * Data Not Used In Gradient Determination

PROJECT NO.

31022

PLATE

P-1

DATE: 11/4/98

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Facility 5919
1100 Broadway Avenue
Seattle, Washington
Page 1 of 3

Well	Sample Date	DTW	GW Elev.	TPH-G	B	T	E	X	PCE	TCE	Chlor	CCl ₄	TCA	1,2-DCA
MW-1 98.56	10/05/90	18.58	79.98	--	38	1.8	31	47	23	<0.2	<0.2	<0.2	<0.2	<0.2
	02/20/91	18.95	80.88	--	--	--	--	--	1.8	<0.2	<0.2	<0.2	<0.2	<0.2
	05/21/91	17.92	81.41	--	--	--	--	--	--	--	--	--	--	--
	08/20/91	18.11	80.73	--	--	--	--	--	23	<0.2	<0.2	<0.2	<0.2	<0.2
	02/20/92	17.80	80.88	4	712	<0.5	12	18	6.7	<0.2	<0.2	<0.2	<0.2	<0.2
	05/22/92	17.71	80.60	--	--	--	--	--	--	--	--	--	--	--
	08/11/92	18.48	80.58	--	--	--	--	--	--	--	--	--	--	--
	11/20/92	18.35	80.58	--	--	--	--	--	--	--	--	--	--	--
	02/16/98	12.48	88.11	--	--	--	--	--	--	--	--	--	--	--
	05/09/98	13.51	85.08	--	--	--	--	--	--	--	--	--	--	--
	08/08/98	15.63	82.93	--	--	--	--	--	--	--	--	--	--	--
	11/12/98	16.24	82.32	--	--	--	--	--	--	--	--	--	--	--
	03/10/97	13.24	85.32	--	--	--	--	--	--	--	--	--	--	--
	08/02/97	13.73	84.84	--	--	--	--	--	--	--	--	--	--	--
	09/05/97	15.69	82.87	150	<0.500	<0.500	<0.500	<1.00	3.54	<1.00	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	15.78	82.78	834	<0.500	0.516	<0.500	<1.00	3.32	<1.00	<1.00	<1.00	<1.00	<1.00
	3/16/98 ^{NP}	13.60	84.98	702	<0.500	<0.500	<0.500	<1.00	2.68	<1.00	<1.00	<1.00	<1.00	<1.00
	8/28/98 ^{NP}	16.34	82.22	62.1	<0.500	<0.500	<0.500	<1.00	2.93	<1.00	<1.00	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	16.93	81.63	<125	<1.25	<1.25	<1.25	<2.50	2.53	<1.00	<1.00	<1.00	<1.00	<1.00
MW-2 100.16	10/05/90	17.85	82.59	--	<0.5	0.6	<0.5	<0.5	--	--	--	--	--	--
	02/20/91	17.82	82.62	--	<1	<1	<1	<1	170	3.4	0.5	<0.2	<0.2	<0.2
	05/21/91	17.49	82.95	--	--	--	--	--	--	--	--	--	--	--
	08/20/91	17.13	83.31	--	<0.5	0.6	<0.5	<0.5	180	4.7	0.8	<0.2	0.3	<0.2
	02/20/92	16.60	83.84	<1	<0.5	<0.5	<0.5	<0.5	180	5.9	0.9	0.5	0.6	<0.2
	05/22/92	16.81	83.83	--	<0.5	<0.5	<0.5	<0.5	190	4.4	0.6	0.4	0.4	<0.2
	08/11/92	16.80	83.64	--	<0.5	<0.5	<0.5	<0.5	220	5.9	0.8	0.7	0.6	<0.2
	11/12/96	14.85	85.31	--	<0.500	<0.500	<0.500	<1.00	82.7	<1.0	<1.0	<1.0	<1.0	<0.5
	03/10/97	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/02/97	13.70	86.48	<50.0	<0.500	<0.500	<0.500	<1.00	85.7	<1.00	<1.00	<1.00	<1.00	<1.00
	09/05/97	14.24	85.92	<50.0	<0.500	<0.500	<0.500	<1.00	49.9	<1.00	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	14.07	86.09	<50.0	<0.500	<0.500	<0.500	<1.00	47.1	<1.00	<1.00	<1.00	<1.00	<1.00
	3/16/98 ^{NP}	13.80	86.56	70.4	<0.500	<0.500	<0.500	<1.00	39.5	<1.00	<1.00	<1.00	<1.00	<1.00
	8/28/98 ^{NP}	14.35	85.81	<50.0	<0.500	<0.500	<0.500	<1.00	41.1	<1.00	1.03	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	14.68	85.48	<50.0	<0.500	<0.500	<0.500	<1.00	42.2	<1.00	<1.00	<1.00	<1.00	<1.00
MW-3 104.99	10/05/90	21.49	83.50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	02/20/91	21.69	83.30	--	<1	<1	<1	<1	6.6	<0.2	<0.2	0.8	<0.2	<0.2
	05/21/91	20.73	84.28	--	--	--	--	--	--	--	--	--	--	--
	08/20/91	20.16	84.83	--	<0.5	<0.5	<0.5	<0.5	6.6	<0.2	<0.2	<0.2	<0.2	<0.2
	02/20/92	20.35	84.84	<1	<0.5	<0.5	<0.5	<0.5	5.3	<0.2	<0.2	0.3	<0.2	<0.2
	05/22/92	20.48	84.51	--	<0.5	<0.5	<0.5	<0.5	4.7	<0.2	<0.2	<0.2	<0.2	<0.2
	08/11/92	20.54	84.45	--	<0.5	<0.5	<0.5	<0.5	5.3	<0.2	<0.2	<0.2	<0.2	<0.2
	11/20/92	20.78	84.23	<0.1	<0.5	<0.5	<0.5	<0.5	6.4	<0.2	0.3	0.4	<0.2	<0.2
	02/16/98	16.42	88.57	--	<0.5	<0.5	<0.5	<1.0	4.7	<1.0	<1.0	<1.0	<1.0	<0.5
	05/09/98	17.32	87.67	--	<1.0	<1.0	<1.0	<2.0	3.58	<1.0	<1.0	<1.0	<1.0	<0.5
	08/08/98	18.70	86.29	--	<1.0	<1.0	<1.0	<2.0	4.69	<1.0	<1.0	<1.0	<1.0	<0.5
	11/12/98	19.29	85.70	--	<0.500	<0.500	<0.500	<1.00	5.05	<1.00	<1.00	<1.00	<1.00	<0.5
	03/10/97	17.15	87.84	--	<0.500	<0.500	<0.500	<1.00	3.92	<1.00	<1.00	<1.00	<1.00	<1.00
	08/02/97	17.44	87.55	101	<0.500	<0.500	<0.500	<1.00	3.22	<1.00	<1.00	<1.00	<1.00	<1.00
	09/05/97	18.65	86.34	<50.0	<0.500	<0.500	<0.500	<1.00	3.98	<1.00	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	18.67	86.32	<50.0	<0.500	<0.500	<0.500	<1.00	3.85	<1.00	<1.00	<1.00	<1.00	<1.00
	3/16/98 ^{NP}	17.21	87.78	51.9	<0.500	<0.500	<0.500	<1.00	2.80	<1.00	<1.00	<1.00	<1.00	<1.00
	8/28/98 ^{NP}	18.84	86.15	<50.0	<0.500	<0.500	<0.500	<1.00	2.97	<1.00	<1.00	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	19.33	85.68	<50.0	<0.500	<0.500	<0.500	<1.00	3.58	<1.00	<1.00	<1.00	<1.00	<1.00

MTCA Method A Cleanup Level

Continued on Page 2.

1,000* 5 40 30 20 5 5 NA 5 5 5

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Facility 5919
1100 Broadway Avenue
Seattle, Washington
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Well	Sample Date	DTW	GW Elev.	TPH-G	B	T	E	X	PCE	TCE	Chlor	CCl ₄	TCA	1,2-DCA
MW-4 86.70	10/05/90	15.12	81.58	--	2.4	1.4	<0.5	0.6	--	--	--	--	--	--
	02/20/91	14.02	82.88	--	4.3	<1	<1	2.1	0.4	<0.2	<0.2	<0.2	<0.2	<0.2
	05/21/91	13.35	83.35	--	--	--	--	--	--	--	--	--	--	--
	08/20/91	14.18	85.52	--	21	<0.5	<0.5	<0.5	0.7	<0.2	<0.2	<0.2	<0.2	<0.2
	02/20/92	12.65	84.05	1	22	<0.5	<0.5	0.8	1.4	0.7	<0.2	<0.2	0.4	<0.2
	05/22/92	13.42	83.28	--	19	<0.5	<0.5	<0.5	1.7	0.7	<0.2	<0.2	<0.2	0.2
	08/11/92	14.62	79.22	--	41	<0.5	<0.5	<0.5	0.7	0.3	<0.2	<0.2	<0.2	<0.2
	11/20/92	15.36	81.34	<0.1	5.5	0.6	<0.5	1.8	0.6	<0.2	<0.2	<0.2	<0.2	<0.2
	02/18/96	8.74	87.86	--	1.1	1.3	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	05/09/96	9.88	88.84	--	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	08/08/96	11.73	84.97	--	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	11/12/96	12.28	84.44	--	0.869	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.5
	03/10/97	9.40	87.30	--	<0.500	<0.500	0.743	1.34	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	08/02/97	9.98	86.74	<50.0	<0.500	<0.500	<0.500	<1.00	1.15	<1.00	<1.00	<1.00	<1.00	<1.00
	09/05/97	11.50	85.20	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	11.00	85.70	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	3/18/98 ^{NP}	9.57	87.13	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	6/28/98 ^{NP}	11.37	85.33	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	12.61	84.09	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MW-5 95.12	10/05/90	19.77	75.40	--	2.8	<0.5	<0.5	<0.5	--	--	--	--	--	--
	02/20/91	18.81	78.58	--	<1	<1	<1	<1	0.4	<0.2	<0.2	<0.2	<0.2	2.0
	05/21/91	18.43	78.74	--	--	--	--	--	--	--	--	--	--	--
	08/20/91	18.87	78.30	--	<0.5	<0.5	<0.5	<0.5	0.8	<0.2	<0.2	<0.2	<0.2	<0.2
	02/20/92	18.01	77.16	<1	<0.5	<0.5	<0.5	<0.5	0.5	<0.2	<0.2	<0.2	<0.2	1.3
	05/22/92	18.32	78.85	--	<0.5	<0.5	<0.5	<0.5	0.4	<0.2	<0.2	<0.2	<0.2	1.1
	08/11/92	18.79	78.38	--	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	0.9
	11/20/92	18.78	78.39	<0.1	0.8	1.5	<0.5	2.2	0.6	<0.2	<0.2	<0.2	<0.2	1.2
	02/18/96	12.98	82.14	--	0.85	1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	05/09/96	13.54	81.58	--	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	08/08/96	15.31	79.81	--	<1.0	<1.0	<1.0	<2.0	1.01	<1.0	<1.0	<1.0	<1.0	<0.5
	11/12/96	18.35	78.77	--	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.881
	03/10/97	12.99	82.13	--	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	08/02/97	13.30	81.82	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	09/05/97	15.24	79.88	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	15.28	79.84	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	3/18/98 ^{NP}	13.40	81.72	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	6/28/98 ^{NP}	15.29	79.83	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	18.75	78.37	<50.0	<0.500	<0.500	<0.500	1.86	1.12	<1.00	<1.00	<1.00	<1.00	<1.00
MW-6 103.08	08/20/91	18.29	87.78	--	<0.5	<0.5	<0.5	<0.5	58	<0.2	0.4	<0.2	<0.2	<0.2
	02/20/92	18.50	84.58	<1	<0.5	<0.5	<0.5	<0.5	56	<0.2	0.2	0.6	<0.2	<0.2
	05/22/92	18.59	84.49	--	<0.5	<0.5	<0.5	<0.5	57	<0.2	<0.2	0.3	<0.2	<0.2
	08/11/92	17.64	85.44	--	<0.5	<0.5	<0.5	<0.5	58	<0.2	<0.2	0.5	<0.2	<0.2
	11/20/92	18.87	84.21	<0.1	<0.5	<0.5	<0.5	<0.5	57	<0.2	<0.2	<0.2	<0.2	<0.2
	02/18/96	14.98	88.10	--	<0.5	<0.5	<0.5	<1.0	22	<1.0	<1.0	<1.0	<1.0	<0.5
	05/09/96	15.73	87.35	--	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	08/08/96	16.88	88.22	--	<1.0	<1.0	<1.0	<2.0	28.1	<1.0	<1.0	<1.0	<1.0	<0.5
	11/12/96	17.39	85.69	--	<0.500	<0.500	<0.500	<1.00	30.9	<1.00	<1.00	<1.00	<1.00	<0.5
	03/10/97	15.59	87.49	--	<0.500	<0.500	<0.500	<1.00	19.7	<1.00	<1.00	<1.00	<1.00	<1.00
	08/02/97	15.81	87.27	<50.0	0.878	1.48	<0.500	3.93	12.1	<1.00	<1.00	<1.00	<1.00	<1.00
	09/05/97	16.79	88.29	<50.0	<0.500	<0.500	<0.500	<1.00	17.0	<1.00	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	16.79	88.29	<50.0	<0.500	<0.500	<0.500	<1.00	18.4	<1.00	<1.00	<1.00	<1.00	<1.00
	3/18/98 ^{NP}	15.82	87.48	53.9	<0.500	<0.500	<0.500	<1.00	12.1	<1.00	<1.00	<1.00	<1.00	<1.00
	6/28/98 ^{NP}	16.96	86.12	<50.0	<0.500	0.565	<0.500	<1.00	14.8	<1.00	<1.00	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	17.43	85.85	<50.0	<0.500	<0.500	<0.500	<1.00	16.6	<1.00	<1.00	<1.00	<1.00	<1.00
MTCA Method A Cleanup Level				1,000 ^a	5	40	30	20	5	5	NA	5	5	5

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TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Facility 5919
1100 Broadway Avenue
Seattle, Washington
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Well	Sample Date	DTW	GW Elev.	TPH-G	B	T	E	X	PCE	TCE	Chlor	CCl ₄	TCA	1,2-DCA
MW-7 93.50	08/20/91	18.14	77.38	--	<0.5	<0.5	<0.5	<0.5	0.8	<0.2	<0.2	<0.2	<0.2	<0.2
	02/20/92	15.22	78.28	<1	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	05/22/92	15.69	77.81	--	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	08/11/92	18.27	77.23	--	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	11/20/92	18.31	77.19	<0.1	1.4	0.9	0.7	3.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	02/16/98	11.72	81.78	--	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	05/09/98	12.41	81.09	--	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	08/08/98	14.55	78.95	--	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
	11/12/98	14.84	78.66	--	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.5
	03/10/97	11.92	81.58	--	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.5
	08/02/97	12.13	81.37	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	08/05/97	13.67	79.83	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	13.40	80.10	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	3/16/98 ^{NP}	12.47	81.03	77.9	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	6/26/98 ^{NP}	13.17	80.33	<50.0	<0.500	0.724	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	14.85	78.85	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MW-8 100.31	11/12/98	24.40	75.91	--	<0.5	<0.5	<0.5	<1.0	1.94	3.98	<1.00	<1.00	<1.00	<0.5
	03/10/97	24.00	76.31	--	<0.500	<0.500	<0.500	<1.00	1.75	4.52	<1.00	<1.00	<1.00	<1.00
	06/02/97	24.10	76.21	<50.0	<0.500	<0.500	<0.500	<1.00	1.86	4.00	<1.00	<1.00	<1.00	<1.00
	09/05/97	24.49	75.82	79.3	<0.500	<0.500	<0.500	<1.00	1.91	3.84	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	24.54	75.77	71.5	<0.500	<0.500	<0.500	<1.00	1.13	3.40	<1.00	<1.00	<1.00	<1.00
	3/16/98 ^{NP}	24.21	78.10	112	<0.500	<0.500	<0.500	<1.00	64.2	3.24	<1.00	<1.00	<1.00	<1.00
	6/26/98 ^{NP}	24.50	75.81	74.8	<0.500	<0.500	<0.500	<1.00	1.92	2.92	<1.00	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	24.75	75.58	83.6	<0.500	<0.500	<0.500	<1.00	1.26	2.89	<1.00	<1.00	<1.00	<1.00
MW-9 103.99	11/12/98	48.88	57.31	--	<0.5	<0.5	<0.5	<1.0	<1.00	<1.00	<1.00	<1.00	<1.00	<0.5
	03/10/97	48.23	57.76	--	<0.500	<0.500	<0.500	1.43	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	06/02/97	48.28	57.73	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	09/05/97	48.40	57.59	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	12/17/97 ^{NP}	46.80	57.39	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	3/16/98 ^{NP}	48.21	57.78	50.7	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	6/26/98 ^{NP}	48.88	57.31	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	9/23/98 ^{NP}	46.88	57.33	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MTCA Method A Cleanup Level				1,000*	5	40	30	20	5	5	NA	5	5	5

EXPLANATION:

Concentrations in ug/L (ppb).

Wellhead elevations taken from prior consultant's reports.

DTW = Depth to water in feet below top of casing.

LPH = Liquid-phase petroleum hydrocarbon thickness in feet.

GW Elev. = Groundwater elevation relative to top of casing elevations. Corrected for LPH where applicable using a specific gravity of 0.85.

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Ecology Method WTPH-G.

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

BTEX = Aromatic compounds by EPA Method 8020.

PCE = Tetrachloroethene; TCE = Trichloroethene; Chlor = Chloroform; CCl₄ = Carbon Tetrachloride; TCA = 1,1,1-Trichloroethane; 1,2-DCA = 1,2-Dichloroethane;

PCE, TCE, Chloroform, CCl₄, TCA, and 1,2-DCA by EPA Method 8010. Refer to laboratory reports for additional detected compounds.

^{NP} = Well not purged prior to sampling.

< = Less than the stated laboratory reporting limit.

-- = Not analyzed.

Shaded values equal or exceed MTCA Method A Cleanup Levels.

* Total Petroleum Hydrocarbons

NA = Not applicable.

Data collected before 12/17/97 are taken from prior consultants.

ERI 1921 Edmonds Drive SE Renton, WA 98055	Project: TOSCO #5919, Broadway Project Number: 31022 Project Manager: John Meyer	Sampled: 9/23/98 Received: 9/24/98 Reported: 10/7/98 15:15
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ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	B809643-01	Water	9/23/98
MW-2	B809643-02	Water	9/23/98
MW-3	B809643-03	Water	9/23/98
MW-4	B809643-04	Water	9/23/98
MW-5	B809643-05	Water	9/23/98
MW-6	B809643-06	Water	9/23/98
MW-7	B809643-07	Water	9/23/98
MW-8	B809643-08	Water	9/23/98
MW-9	B809643-09	Water	9/23/98



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ERI	Project: TOSCO #5919, Broadway	Sampled: 9/23/98
1921 Edmonds Drive SE	Project Number: 31022	Received: 9/24/98
Renton, WA 98055	Project Manager: John Meyer	Reported: 10/7/98 15:15

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
				B809643-01			Water	
MW-1								
Gasoline Range Hydrocarbons	1080174	10/6/98	10/7/98		125	ND	ug/l	1
Benzene	"	"	"		1.25	ND	"	
Toluene	"	"	"		1.25	ND	"	
Ethylbenzene	"	"	"		1.25	ND	"	
Xylenes (total)	"	"	"		2.50	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		93.8	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		121	"	
				B809643-02			Water	
MW-2								
Gasoline Range Hydrocarbons	1080174	10/6/98	10/6/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		105	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		107	"	
				B809643-03			Water	
MW-3								
Gasoline Range Hydrocarbons	1080174	10/6/98	10/6/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		105	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		109	"	
				B809643-04			Water	
MW-4								
Gasoline Range Hydrocarbons	1080174	10/6/98	10/6/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		101	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		109	"	
				B809643-05			Water	
MW-5								
Gasoline Range Hydrocarbons	1080174	10/6/98	10/6/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	

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*Refer to end of report for text of notes and definitions.


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ERI	Project: TOSCO #5919, Broadway	Sampled: 9/23/98
1921 Edmonds Drive SE	Project Number: 31022	Received: 9/24/98
Renton, WA 98055	Project Manager: John Meyer	Reported: 10/7/98 15:15

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-5 (continued)								
				B809643-05				
								Water
Toluene	1080174	10/6/98	10/6/98		0.500	ND	ug/l	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	1.86	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		81.7	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		107	"	
MW-6								
				B809643-06				
								Water
Gasoline Range Hydrocarbons	1080174	10/6/98	10/6/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		104	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		109	"	
MW-7								
				B809643-07				
								Water
Gasoline Range Hydrocarbons	1080174	10/6/98	10/6/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		98.8	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		107	"	
MW-8								
				B809643-08				
								Water
Gasoline Range Hydrocarbons	1080174	10/6/98	10/6/98		50.0	63.6	ug/l	2
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		104	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		98.8	"	
MW-9								
				B809643-09				
								Water
Gasoline Range Hydrocarbons	1080174	10/6/98	10/6/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	

North Creek Analytical - Bothell

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ERI
1921 Edmonds Drive SE
Renton, WA 98055

Project: TOSCO #5919, Broadway
Project Number: 31022
Project Manager: John Meyer

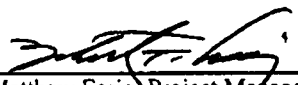
Sampled: 9/23/98
Received: 9/24/98
Reported: 10/7/98 15:15

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-9 (continued)				B809643-09			Water	
Xylenes (total)	1080174	10/6/98	10/6/98		1.00	ND	ug/l	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		102	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		110	"	

North Creek Analytical - Bothell

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ERI	Project: TOSCO #5919, Broadway	Sampled: 9/23/98
1921 Edmonds Drive SE	Project Number: 31022	Received: 9/24/98
Renton, WA 98055	Project Manager: John Meyer	Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1				B809643-01			Water	
Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	2.53	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	50.0-150		93.1	%	

MW-2				B809643-02			Water	
Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	

North Creek Analytical - Bothell

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ER1	Project: TOSCO #5919, Broadway	Sampled: 9/23/98
1921 Edmonds Drive SE	Project Number: 31022	Received: 9/24/98
Renton, WA 98055	Project Manager: John Meyer	Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-2 (continued)				B809643-02			Water	
Chloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	40.4	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	50.0-150		94.5	%	

MW-3				B809643-03			Water	
Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


Matthew Essig, Project Manager

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NORTH CREEK ANALYTICAL

Environmental Laboratory Services

BOTHELL ■ (425) 420-9200 ■ FAX 420-9210
SPOKANE ■ (509) 924-9200 ■ FAX 924-9290
PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

ERI
1921 Edmonds Drive SE
Renton, WA 98055

Project: TOSCO #5919, Broadway
Project Number: 31022
Project Manager: John Meyer

Sampled: 9/23/98
Received: 9/24/98
Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-3 (continued)				B809643-03			Water	
1,1-Dichloroethene	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	3.58	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	50.0-150		93.9	%	
MW-4				B809643-04			Water	
Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	

North Creek Analytical - Bothell

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Matthew Essig, Project Manager

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NORTH CREEK ANALYTICAL

Environmental Laboratory Services

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PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

ERI	Project: TOSCO #5919, Broadway	Sampled: 9/23/98
1921 Edmonds Drive SE	Project Number: 31022	Received: 9/24/98
Renton, WA 98055	Project Manager: John Meyer	Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-4 (continued)				B809643-04			Water	
1,1,2,2-Tetrachloroethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Tetrachloroethene	"	"	"		1.00	ND	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	50.0-150		94.4	%	

MW-5				B809643-05			Water	
Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	1.12	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	

North Creek Analytical - Bothell

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NORTH CREEK ANALYTICAL

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ERI
1921 Edmonds Drive SE
Renton, WA 98055

Project: TOSCO #5919, Broadway
Project Number: 31022
Project Manager: John Meyer

Sampled: 9/23/98
Received: 9/24/98
Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
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MW-5 (continued)

B809643-05

Water

Surrogate: 4-BFB (ELCD)	1080072	10/2/98	10/2/98	50.0-150		94.5	%	
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MW-6

B809643-06

Water

Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	16.6	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	50.0-150		94.6	%	

MW-7

B809643-07

Water

Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	

North Creek Analytical - Bothell

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Matthew Essig, Project Manager

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NORTH CREEK ANALYTICAL

Environmental Laboratory Services

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ERI
1921 Edmonds Drive SE
Renton, WA 98055

Project: TOSCO #5919, Broadway
Project Number: 31022
Project Manager: John Meyer

Sampled: 9/23/98
Received: 9/24/98
Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-7 (continued)				B809643-07			Water	
Chlorobenzene	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	ND	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	50.0-150		97.9	%	

MW-8				B809643-08			Water	
Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


Matthew Essig, Project Manager

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NORTH CREEK ANALYTICAL

Environmental Laboratory Services

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ERI	Project: TOSCO #5919, Broadway	Sampled: 9/23/98
1921 Edmonds Drive SE	Project Number: 31022	Received: 9/24/98
Renton, WA 98055	Project Manager: John Meyer	Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-8 (continued)				B809643-08			Water	
1,4-Dichlorobenzene	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	10/3/98		10.0	126	"	
1,1,1-Trichloroethane	"	"	10/2/98		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	2.89	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	50.0-150		92.2	%	

MW-9				B809643-09			Water	
Bromodichloromethane	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	

North Creek Analytical - Bothell

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NORTH CREEK ANALYTICAL

Environmental Laboratory Services

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ERI
1921 Edmonds Drive SE
Renton, WA 98055

Project: TOSCO #5919, Broadway
Project Number: 31022
Project Manager: John Meyer

Sampled: 9/23/98
Received: 9/24/98
Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-9 (continued)				B809643-09			Water	
cis-1,3-Dichloropropene	1080072	10/2/98	10/2/98		1.00	ND	ug/l	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	ND	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	50.0-150		94.4	%	


Matthew Essig, Project Manager

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ERI
1921 Edmonds Drive SE
Renton, WA 98055

Project: TOSCO #5919, Broadway
Project Number: 31022
Project Manager: John Meyer

Sampled: 9/23/98
Received: 9/24/98
Reported: 10/7/98 15:15

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1080174										
Date Prepared: 10/6/98										
Extraction Method: EPA 5030B (MeOH)										
Blank										
1080174-BLK1										
Gasoline Range Hydrocarbons	10/6/98			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	1.00				
Surrogate: 4-BFB (FID)	"	48.0		51.0	"	50.0-150	106			
Surrogate: 4-BFB (PID)	"	48.0		52.2	"	50.0-150	109			
LCS										
1080174-BS1										
Gasoline Range Hydrocarbons	10/6/98	500		510	ug/l	70.0-130	102			
Surrogate: 4-BFB (FID)	"	48.0		52.5	"	50.0-150	109			
Duplicate										
1080174-DUP1 B809643-02										
Gasoline Range Hydrocarbons	10/6/98		ND	ND	ug/l				25.0	
Surrogate: 4-BFB (FID)	"	48.0		47.7	"	50.0-150	99.4			
Duplicate										
1080174-DUP2 B809643-08										
Gasoline Range Hydrocarbons	10/7/98		63.6	ND	ug/l				25.0	3
Surrogate: 4-BFB (FID)	"	48.0		46.7	"	50.0-150	97.3			
Matrix Spike										
1080174-MS1 B809643-03										
Benzene	10/6/98	10.0	ND	9.19	ug/l	70.0-130	91.9			
Toluene	"	10.0	ND	9.08	"	70.0-130	90.8			
Ethylbenzene	"	10.0	ND	9.02	"	70.0-130	90.2			
Xylenes (total)	"	30.0	ND	26.9	"	70.0-130	89.7			
Surrogate: 4-BFB (PID)	"	48.0		53.0	"	50.0-150	110			
Matrix Spike Dup										
1080174-MSD1 B809643-03										
Benzene	10/6/98	10.0	ND	9.49	ug/l	70.0-130	94.9	15.0	3.21	
Toluene	"	10.0	ND	9.14	"	70.0-130	91.4	15.0	0.659	
Ethylbenzene	"	10.0	ND	9.09	"	70.0-130	90.9	15.0	0.773	
Xylenes (total)	"	30.0	ND	26.6	"	70.0-130	88.7	15.0	1.12	
Surrogate: 4-BFB (PID)	"	48.0		52.5	"	50.0-150	109			

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.

Matthew Essig, Project Manager

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NORTH CREEK ANALYTICAL

Environmental Laboratory Services

BOTHELL ■ (425) 420-9200 ■ FAX 420-9210
SPOKANE ■ (509) 924-9200 ■ FAX 924-9290
PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

ERI
1921 Edmonds Drive SE
Renton, WA 98055

Project: TOSCO #5919, Broadway
Project Number: 31022
Project Manager: John Meyer

Sampled: 9/23/98
Received: 9/24/98
Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
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Batch: 1080072

Date Prepared: 10/2/98

Extraction Method: EPA 5030B [P/T]

Blank

1080072-BLK1

Bromodichloromethane	10/2/98			ND	ug/l	1.00				
Bromoform	"			ND	"	1.00				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	1.00				
Chlorobenzene	"			ND	"	1.00				
Chloroethane	"			ND	"	1.00				
Chloroform	"			ND	"	1.00				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	1.00				
1,2-Dichlorobenzene	"			ND	"	1.00				
1,3-Dichlorobenzene	"			ND	"	1.00				
1,4-Dichlorobenzene	"			ND	"	1.00				
1,1-Dichloroethane	"			ND	"	1.00				
1,2-Dichloroethane	"			ND	"	1.00				
1,1-Dichloroethene	"			ND	"	1.00				
cis-1,2-Dichloroethene	"			ND	"	1.00				
trans-1,2-Dichloroethene	"			ND	"	1.00				
1,2-Dichloropropane	"			ND	"	1.00				
cis-1,3-Dichloropropene	"			ND	"	1.00				
trans-1,3-Dichloropropene	"			ND	"	1.00				
Methylene chloride	"			ND	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	1.00				
Tetrachloroethene	"			ND	"	1.00				
1,1,1-Trichloroethane	"			ND	"	1.00				
1,1,2-Trichloroethane	"			ND	"	1.00				
Trichloroethene	"			ND	"	1.00				
Trichlorofluoromethane	"			ND	"	1.00				
Vinyl chloride	"			ND	"	1.00				
Surrogate: 4-BFB (ELCD)	"	10.0		10.0	"	50.0-150	100			

LCS

1080072-BS1

Chlorobenzene	10/2/98	10.0		9.08	ug/l	70.0-130	90.8			
1,1-Dichloroethene	"	10.0		10.3	"	70.0-130	103			
Trichloroethene	"	10.0		9.67	"	70.0-130	96.7			
Surrogate: 4-BFB (ELCD)	"	10.0		9.04	"	50.0-150	90.4			

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.

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NORTH CREEK ANALYTICAL

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ERI	Project: TOSCO #5919, Broadway	Sampled: 9/23/98
1921 Edmonds Drive SE	Project Number: 31022	Received: 9/24/98
Renton, WA 98055	Project Manager: John Meyer	Reported: 10/7/98 15:15

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike		1080072-MS1	B809643-03							
Chlorobenzene	10/2/98	10.0	ND	8.86	ug/l	70.0-130	88.6			
1,1-Dichloroethene	"	10.0	ND	9.07	"	70.0-130	90.7			
Trichloroethene	"	10.0	ND	9.32	"	70.0-130	93.2			
Surrogate: 4-BFB (ELCD)	"	10.0		8.35	"	50.0-150	83.5			
Matrix Spike Dup		1080072-MSD1	B809643-03							
Chlorobenzene	10/2/98	10.0	ND	9.08	ug/l	70.0-130	90.8	20.0	2.45	
1,1-Dichloroethene	"	10.0	ND	9.09	"	70.0-130	90.9	20.0	0.220	
Trichloroethene	"	10.0	ND	9.31	"	70.0-130	93.1	20.0	0.107	
Surrogate: 4-BFB (ELCD)	"	10.0		8.67	"	50.0-150	86.7			

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


Matthew Essig, Project Manager

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020

TOSCO

03/18/99 THU 17:10 FAX 206 442 7491



NORTH CREEK ANALYTICAL

Environmental Laboratory Services

BOTHELL ■ (425) 420-9200 ■ FAX 420-9210
SPOKANE ■ (509) 924-9200 ■ FAX 924-9290
PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

ERI	Project: TOSCO #5919, Broadway	Sampled: 9/23/98
1921 Edmonds Drive SE	Project Number: 31022	Received: 9/24/98
Renton, WA 98055	Project Manager: John Meyer	Reported: 10/7/98 15:15

Notes and Definitions

#	Note
---	------

- 1 The chromatogram for this sample does not resemble a typical gasoline pattern. Please refer to the sample chromatogram.
 - 2 The total hydrocarbon result in this sample is primarily due to an individual compound eluting in the volatile hydrocarbon range. Identification and quantitation by EPA method 8010, 8021 or 8240 is recommended.
 - 3 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
- 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
- Recov. Recovery
- RPD Relative Percent Difference

North Creek Analytical - Bothell


Matthew Essig, Project Manager

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T20 2

WJ OCSOL

03/18/99 THU 17:10 FAX 206 442 7491



**NORTH
CREEK
ANALYTICAL**
Environmental Laboratory Services

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(425) 420-9200 FAX 420-9210
(509) 924-9200 FAX 924-9290
(503) 906-9200 FAX 906-9210

✓
6

TOSCO CHAIN OF CUSTODY REPORT

B809643

TOSCO INFORMATION

Facility Number: 5919 Broadway

Site Address: 1100 Broadway Ave

City, State, ZIP: Seattle, WA

Site Release Number: 81001/77597254/500/500/
684/1100/255977

Tosco Manager: Tim Johnson

CERT INFO: (check one) ☒ Evaluation ☐ Remediation

☐ Detection ☐ Demolition ☐ Closure ☐ Miscellaneous

CONSULTANT INFORMATION

Firm: ERI Project# 31022

Address: 921 EDWARDS DR 05
RANTON, NH 98055

Phone: (603) 227-0280 Fax: 10225

Project Manager: John Meyer

Sample Collection by: John Meyer

Chain of Custody Record #:

Quality Assurance Data Level:

☒ A ☐ B

A: Standard Summary
B: Standard + Chromatograms

Laboratory Turnaround Days:

☒ 10 ☐ 5 ☐ 3 ☐ 2 ☐ 1

SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CON-TAINERS
1. MW-1	9/2/98	U	7
2. MW-2			
3. MW-3			
4. MW-4			
5. MW-5			
6. MW-6			
7. MW-7			
8. MW-8			
9. MW-9			
10.			

NCA SAMPLE NUMBER

B809643-01

02

03

04

05

06

07

08

09

Relinquished by:		Firm:	Date & Time	Received by:		Firm:	Date & Time
1.	<i>[Signature]</i>	ERI	9/24/98	S. Wideen	NCA	9-24-98	
2.	S. Wideen	NCA	9/24/98 12:00	K. Baulin	NCA	9/24	1200
3.							

Final Report Approval

Were all requested results provided? ☐ yes ☐ no Define

Were results within requested turnaround? ☐ yes ☐ no "No"

Final Approval Signature: _____ on back

Firm: _____ Date: _____

GROUNDWATER SAMPLING - FIELD LOG

Client Name: Jane 5919
Location: Broadway
Field Crew: 2

ERI Job No. 31022
Field Cleaning Performed:
Analysis:

Date: 9/23/98

Page 1 of 1

* - Case Volume = $(d_{\text{well}} - d_{\text{casing}})_{\text{in ft}} \times F$ 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

[illegible]

ERI

ENVIRONMENTAL RESOLUTIONS, INC.