

DATE: January 29, 2002

TOSCO CORPORATION
GROUNDWATER MONITORING REPORT

Site No.: 5353 Address: 600 Westlake Avenue North, Seattle, Washington
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) [Fourth - 2001]:

- Monitored, purged and sampled 4 groundwater monitoring wells.

WORK PROPOSED FOR NEXT QUARTER [First - 2002]:

- Monitor, purge and sample 11 groundwater monitoring wells.

SUMMARY:

Frequency of Sampling Events:	<u>Quarterly</u>	(Quarterly, etc.)
Approximate Depth to Groundwater:	<u>10 to 12 feet</u>	(Measured Feet)
Groundwater Gradient:	<u>Not Determined</u>	(Direction)
	<u>Not Determined</u>	(Magnitude)
Maximum TPH-G/Benzene Concentrations:	<u>141,00/1,150</u>	(ppb)
Measurable Free Product Detected:	<u>None</u>	(Yes - ID well(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 2000' :	<u>Lake Union, 400 Feet</u>	(Distance &
Radius and Respective Direction:	<u>North</u>	Direction)
Current Remedial Action:	<u>VES/EFRT</u>	(SVE/AS/P&T etc.)
Permits for Discharge:	<u>PSAPCA No. 4397</u>	(NPDES, POTW, etc.)

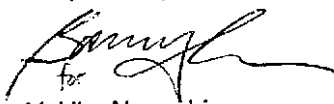
DISCUSSION:

- All 4 wells sampled contained hydrocarbon concentrations exceeding the MTCA Method A Cleanup Levels.

ATTACHMENTS:

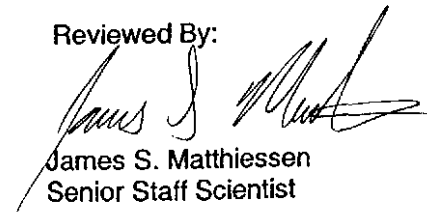
Plate 1: Groundwater Sample Analysis Map - 10/10/01
Table 1: Groundwater Analytical Results
Laboratory Reports and Chain of Custody Records
Field Data Records

Prepared By:

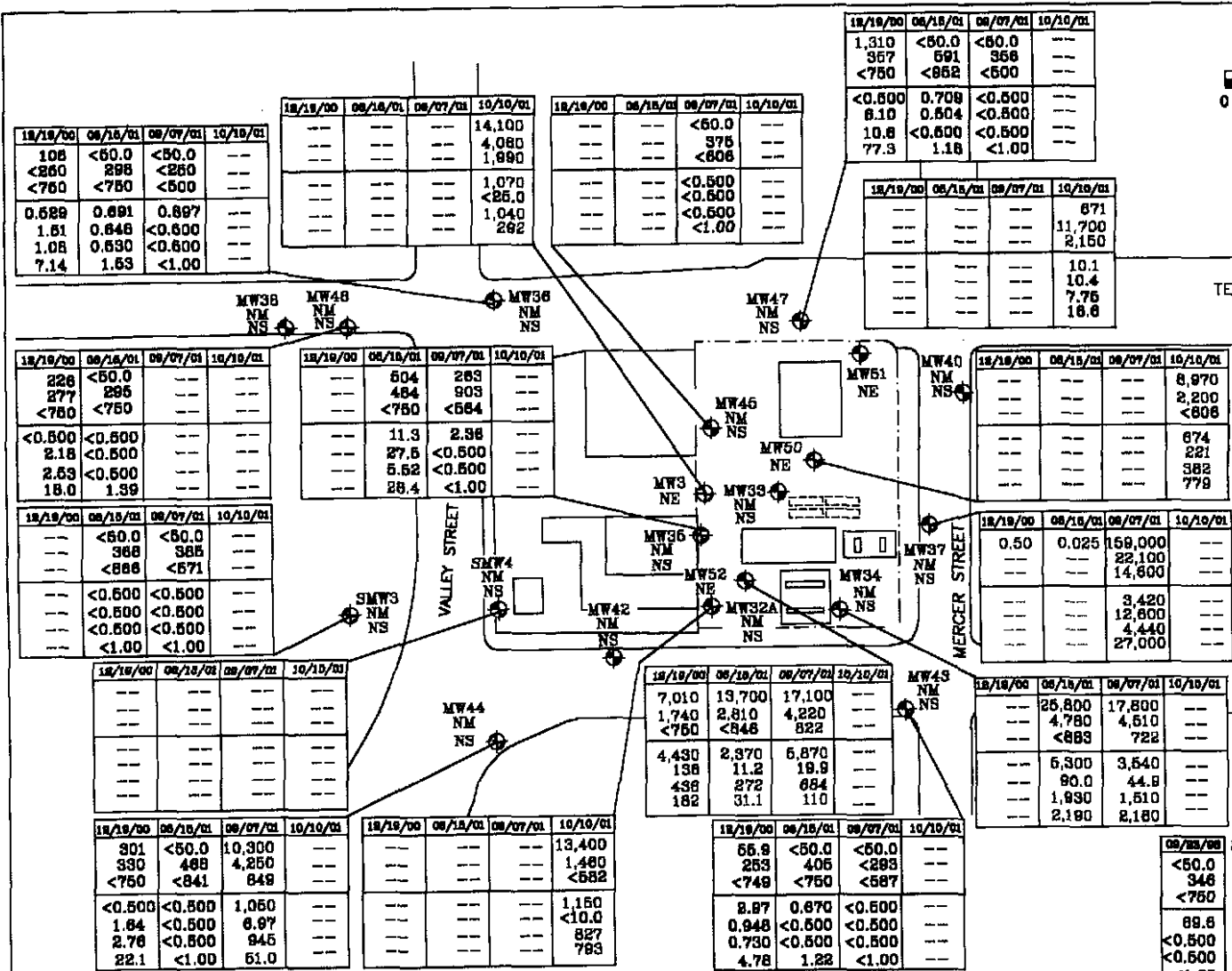
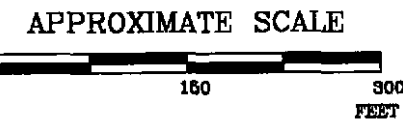

for

Yukiko Noguchi
Environmental Technician

Reviewed By:


James S. Matthiessen
Senior Staff Scientist

cc: Ecology, NW Region
Dave Cook, GeoEngineers



Laboratory Results in ug/L (ppb)

Sample Date	06/15/00	06/15/01	09/07/01	10/10/01
Total Petroleum Hydrocarbons as Gasoline	<50.0	346	<750	
Total Petroleum Hydrocarbons as Diesel				
Total Petroleum Hydrocarbons as Oil				
Benzene	89.8			
Toluene	<0.500			
Ethylbenzene	<0.500			
Total Xylenes	<1.00			

Numbers in Red Exceed MTCA Method A Cleanup Levels
 -- = Not Analyzed
 <1.00 = Less than the Stated Laboratory Reporting Limit

SOURCE: Modified from maps provided by Toso Corporation

FN 31120GWB



GROUNDWATER SAMPLE ANALYSIS MAP - 10/10/01
 TOSCO SITE NO. 5353
 600 Westlake Avenue North
 Seattle, Washington

EXPLANATION

⊕ MW37	Groundwater Monitoring Well
9.70	Groundwater Elevation
0.01	Free Product Thickness in Feet
NM	Not Measured
NE	Not Established
NS	Not Sampled

PROJECT NO.
 31020
PLATE
 1
 YN: 11/13/01

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5353
600 Westlake Avenue North
Seattle, Washington
Page 1 of 6

Well Name	Sample Date	DTW	LPH	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X
SMW3 NE	03/08/95	10.25	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/06/95	10.23	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/07/95	10.89	0.00	--	<50	300	<750	<0.5	<0.5	<0.5	<1.0
	12/08/95	10.36	0.00	--	<50	300	<750	<0.5	<0.5	<0.5	<1.0
	04/01/96	10.07	0.00	--	<50.0	320	<750	<0.500	<0.500	<0.500	<1.00
	06/25/96	10.19	0.00	--	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	09/27/96	11.12	0.00	--	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	03/28/97	10.19	0.00	--	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/30/97 ^{NP}	10.14	0.00	--	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	09/08/97 ^{NP}	10.85	0.00	--	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	12/19/97 ^{NP}	9.67	0.00	--	<50.0	521	<750	<0.500	<0.500	<0.500	<1.00
	03/16/98 ^{NP}	9.28	0.00	--	50.1	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/26/98 ^{NP}	8.87	0.00	--	<50.0	500	<750	<0.500	<0.500	<0.500	<1.00
	09/23/98 ^{NP}	9.88	0.00	--	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	12/17/98 ^{NP}	9.22	0.00	--	<50.0	293	<750	<0.500	<0.500	<0.500	<1.00
	03/31/99 ^{NP}	9.01	0.00	--	<50.0	360	<750	<0.500	<0.500	0.526	4.97
	06/30/99 ^{NP}	9.55	0.00	--	<50.0	639	<750	<0.500	0.609	<0.500	1.32
	12/08/99 ^{NP}	8.75	0.00	--	<50.0	<484	<1,450	<0.500	<0.500	<0.500	<1.00
	06/20/00 ^{NP}	8.89	0.00	--	<50.0	<250	<750	<0.500	0.585	<0.500	1.86
	12/19/00	NM	--	--	--	--	--	--	--	--	--
06/15/01 ^{NP}	7.23	0.00	--	<50.0	368	<866	<0.500	<0.500	<0.500	<1.00	
06/26/01	NM	--	--	--	--	--	--	--	--	--	
09/07/01 ^{NP}	9.19	0.00	--	<50.0	385	<571	<0.500	<0.500	<0.500	<1.00	
10/10/01	NM	--	--	--	--	--	--	--	--	--	
SMW4 NE	03/08/95	8.14	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/06/95	8.90	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/07/95	8.99	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/08/95	7.56	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	04/01/96	8.13	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/25/96	8.20	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/27/96	8.62	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	03/28/97	8.20	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/30/97	8.06	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/08/97	9.00	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/19/97	9.41	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	03/16/98	9.09	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/26/98	8.76	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/23/98	9.96	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/17/98	10.22	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	03/31/99	8.70	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/30/99	8.20	0.00	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/08/99	Not Accessible	--	--	--	--	--	--	--	--	--
	06/20/00	Not Accessible	--	--	--	--	--	--	--	--	--
	12/19/00	Not Accessible	--	--	--	--	--	--	--	--	--
06/15/01	Not Accessible	--	--	--	--	--	--	--	--	--	
06/26/01	NM	--	--	--	--	--	--	--	--	--	
09/07/01	Not Accessible	--	--	--	--	--	--	--	--	--	
10/10/01	NM	--	--	--	--	--	--	--	--	--	
MW3 NE	10/10/01	10.11	--	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
MW32A 20.70	03/08/95	11.29	0.00	9.69	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/06/95	--	--	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/07/95	11.27	--	9.43	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/08/95	10.61	--	10.06	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	04/01/96	10.90	--	9.80	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/25/96	10.98	--	9.72	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/27/96	11.37	--	9.61	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	03/28/97	11.28	--	9.72	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/30/97	10.89	--	--	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/08/97	11.67	0.00	9.31	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/19/97	11.42	0.00	9.28	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	03/16/98	11.30	0.00	9.40	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/26/98	11.29	0.00	9.41	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/23/98	11.97	0.00	8.73	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/17/98	11.09	0.00	9.61	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	03/31/99	10.47	0.00	10.23	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/30/99	9.60	0.00	11.10	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/08/99	11.07	0.00	9.63	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/20/00	11.40	0.00	9.30	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/19/00 ^{NP}	10.90	0.00	9.80	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
06/15/01 ^{NP}	11.31	0.00	9.39	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	
06/26/01 ^{NP}	11.85	0.00	8.85	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	
09/07/01 ^{NP}	10.81	0.00	9.89	<50	<250	<750	<0.5	<0.5	<0.5	<1.0	
10/10/01	NM	--	--	--	--	--	--	--	--	--	

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5353
600 Westlake Avenue North
Seattle, Washington
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Well Name	Sample Date	DTW	LPH	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X	
MW33 20.75	03/08/95	11.16	0.00	9.73	<750	<750	<750	<25	<25	<25	<25	
	06/06/95	--	--	--	--	--	--	--	--	--	--	
	09/07/95	11.20	0.00	9.55	<750	<750	<750	<25	<25	<25	<25	
	12/08/95	--	--	--	--	--	--	--	--	--	--	
	04/01/96	11.00	0.00	9.75	<750	<750	<750	33	33	33	33	
	06/25/96	11.05	0.00	9.70	<750	<750	<750	24.6	24.6	24.6	24.6	
	09/27/96	11.13	0.00	9.76	<750	<750	<750	--	--	--	--	
	03/28/97	11.19	0.00	9.70	--	--	--	--	--	--	--	
	06/30/97	10.66	0.00	10.23	--	--	--	--	--	--	--	
	09/08/97	10.48	0.00	10.41	--	--	--	--	--	--	--	
	12/19/97	--	--	--	--	--	--	--	--	--	--	
	03/16/98	--	--	--	--	--	--	--	--	--	--	
	06/26/98	11.18	0.00	9.57	--	--	--	--	--	--	--	
	09/23/98	11.90	0.00	8.85	--	--	--	--	--	--	--	
	12/17/98	11.03	0.00	9.72	--	--	--	--	--	--	--	
	03/31/99	10.38	0.00	10.37	--	--	--	--	--	--	--	
	06/30/99	9.52	0.00	11.23	--	--	--	--	--	--	--	
	12/08/99	10.97	0.00	9.78	--	--	--	--	--	--	--	
	06/20/00	11.33	0.00	9.42	--	--	--	--	--	--	--	
	12/19/00	Not Accessible		--	--	--	--	--	--	--	--	--
06/15/01	12.72	<250	10.16	--	--	--	--	--	--	--	--	
06/26/01	NM	--	--	--	--	--	--	--	--	--	--	
09/07/01	NM	--	--	--	--	--	--	--	--	--	--	
10/10/01	NM	--	--	--	--	--	--	--	--	--	--	
MW34 21.42	03/08/95	11.62	0.00	10.08	<750	<750	<750	<25	<25	<25	<25	
	06/06/95	11.73	0.00	9.97	<750	<750	<750	<25	<25	<25	<25	
	09/07/95	11.57	0.00	9.85	<750	<750	<750	<25	<25	<25	<25	
	12/08/95	10.92	0.00	10.50	<750	<750	<750	<25	<25	<25	<25	
	04/01/96	11.21	0.00	10.21	<750	<750	<750	<25	<25	<25	<25	
	06/25/96	11.19	0.00	10.23	<750	<750	<750	<25	<25	<25	<25	
	09/27/96	11.58	0.00	10.12	<750	<750	<750	<25	<25	<25	<25	
	03/28/97	11.47	0.00	10.23	<750	<750	<750	<25	<25	<25	<25	
	06/30/97 ^{NP}	11.19	0.00	10.51	<750	<750	<750	15.7	15.7	15.7	15.7	
	09/08/97 ^{NP}	11.74	0.00	9.96	<750	<750	<750	<25	<25	<25	<25	
	12/19/97	NM	--	--	--	--	--	--	--	--	--	
	03/16/98	NM	--	--	--	--	--	--	--	--	--	
	06/26/98 ^{NP}	11.42	0.00	10.00	<750	<750	<750	<25	<25	<25	<25	
	09/23/98 ^{NP}	12.23	0.00	9.19	<750	<750	<750	<25	<25	<25	<25	
	12/17/98 ^{NP}	11.35	0.00	10.07	<750	<750	<750	<25	<25	<25	<25	
	03/31/99 ^{NP}	10.85	0.00	10.57	<750	<750	<750	<25	<25	<25	<25	
	06/30/99 ^{NP}	10.18	0.00	11.24	<750	<750	<750	<25	<25	<25	<25	
	12/08/99 ^{NP}	11.33	0.00	10.09	<1,360	<1,360	<1,360	<25	<25	<25	<25	
	06/20/00 ^{NP}	11.68	0.00	9.74	<250	<250	<250	<25	<25	<25	<25	
	12/19/00	NM	--	--	--	--	--	--	--	--	--	
06/15/01 ^{NP}	11.85	0.00	9.57	<883	<883	<883	<25	<25	<25	<25		
06/26/01	NM	--	--	--	--	--	--	--	--	--		
09/07/01 ^{NP}	11.86	0.00	9.56	<250	<250	<250	<25	<25	<25	<25		
10/10/01	NM	--	--	--	--	--	--	--	--	--		
MW35 20.10	03/08/95	10.67	0.00	9.60	<250	<250	<250	<25	<25	<25	<25	
	06/06/95	10.67	0.00	9.60	<250	<250	<250	1.4	1.4	1.4	1.4	
	09/07/95	10.87	0.00	9.43	<250	<250	<250	<25	<25	<25	<25	
	12/08/95	0.00	--	--	--	--	--	--	--	--	--	
	04/01/96	--	--	--	--	--	--	--	--	--	--	
	06/25/96	11.11	0.00	8.99	<750	<750	<750	1.11	1.11	26.7	17.6	
	09/27/96	10.64	0.00	9.63	<750	<750	<750	0.990	0.990	10.4	6.18	
	03/28/97 ^{NP}	11.28	0.00	8.99	<750	<750	<750	2.36	2.36	10.7	10.7	
	03/28/97	11.28	0.00	8.99	<250	<250	<250	2.62	2.62	8.04	8.04	
	06/30/97 ^{NP}	10.19	0.00	10.08	<250	<250	<250	<2.50	<2.50	7.31	7.31	
	09/08/97 ^{NP}	10.86	0.00	9.41	<250	<250	<250	16.2	16.2	16.2	16.2	
	12/19/97	NM	--	--	--	--	--	--	--	--	--	
	03/16/98 ^{NP}	10.64	0.00	9.46	<750	<750	<750	4.24	4.24	<2.50	<5.00	
	06/26/98 ^{NP}	10.65	0.00	9.45	<750	<750	<750	<10.0	<10.0	<2.50	<20.0	
	09/23/98 ^{NP}	11.38	0.00	8.72	<750	<750	<750	<2.50	<2.50	<2.50	<5.00	
	12/17/98 ^{NP}	10.49	0.00	9.61	<750	<750	<750	<2.50	<2.50	10.8	9.99	
	03/31/99	Obstructed by vehicle		--	--	--	--	--	--	--	--	--
	06/30/99	Obstructed by vehicle		--	--	--	--	--	--	--	--	--
	12/08/99	Obstructed by vehicle		--	--	--	--	--	--	--	--	--
	06/20/00	Obstructed by vehicle		--	--	--	--	--	--	--	--	--
12/19/00	Obstructed by vehicle		--	--	--	--	--	--	--	--	--	
06/15/01	NM	--	--	--	--	--	--	--	--	--	--	
06/26/01 ^{NP}	10.60	0.00	9.50	504	464	<750	27.5	27.5	5.52	<2.50		
09/04/01 ^{NP}	10.54	0.00	9.56	<564	<564	<564	2.36	<0.500	<0.500	<1.00		
10/10/01	NM	--	--	--	--	--	--	--	--	--	--	

MTCA Method A Cleanup Level
Continued on Page 3.

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TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5353
600 Westlake Avenue North
Seattle, Washington
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Well Name	Sample Date	DTW	LPH	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X
MW36 17.80	03/08/95	9.07	0.00	8.97	<50	<250	<750	2.6	<0.5	<0.5	<1.0
	06/06/95	7.92	0.00	10.12	<50	<250	<750	1.0	<0.5	<0.5	<1.0
	09/07/95	8.11	0.00	9.69	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/08/95	9.00	0.00	8.80	<50	<250	<750	1.1	<0.5	<0.5	<1.0
	04/01/96	9.00	0.00	8.80	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/25/96	8.97	0.00	--	<50.0	<250	<750	0.580	0.500	<0.500	<1.00
	09/27/96	7.53	0.00	10.51	<50.0	<250	<750	1.18	<0.500	<0.500	<1.00
	03/28/97	9.21	0.00	8.83	<50.0	<250	<750	0.810	<0.500	<0.500	<1.00
	06/30/97 ^{NP}	6.88	0.00	11.16	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	09/08/97 ^{NP}	9.21	0.00	8.83	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	12/19/97 ^{NP}	10.09	0.00	7.71	<50.0	<250	<750	0.606	<0.500	<0.500	<1.00
	03/16/98 ^{NP}	9.29	0.00	8.51	56.6	287	<750	<0.500	<0.500	<0.500	<1.00
	06/26/98 ^{NP}	8.47	0.00	8.33	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	09/23/98 ^{NP}	9.89	0.00	7.91	<50.0	<250	<750	0.737	<0.500	<0.500	1.13
	12/17/98 ^{NP}	10.00	0.00	7.80	<50.0	288	<750	0.533	<0.500	<0.500	<1.00
	03/31/99 ^{NP}	8.96	0.00	8.84	<50.0	321	<750	0.759	<0.500	<0.500	<1.00
	06/30/99 ^{NP}	8.44	0.00	9.36	<50.0	<250	<750	1.29	<0.500	<0.500	<1.00
	12/08/99 ^{NP}	10.05	0.00	7.75	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/20/00 ^{NP}	8.47	0.00	9.33	172	<250	<750	<0.500	0.583	1.78	11.1
	12/19/00 ^{NP}	9.50	0.00	8.30	106	<250	<750	0.529	1.51	1.08	7.14
06/15/01 ^{NP}	8.00	0.00	9.80	<50.0	298	<750	0.691	0.648	0.530	1.53	
06/26/01	NM	--	--	--	--	--	--	--	--	--	--
09/07/01 ^{NP}	8.70	0.00	9.10	<50.0	<250	<500	0.897	<0.500	<0.500	<1.00	
10/10/01	NM	--	--	--	--	--	--	--	--	--	--
MW37 21.01	03/08/95	11.94	0.00	9.24	<50	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/06/95	11.76	0.00	9.43	<50	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/06/95	11.76	0.00	9.43	90	--	--	--	--	--	--
	09/07/95	11.17	0.00	9.84	--	--	--	--	--	--	--
	12/08/95	10.22	0.00	10.79	--	--	--	--	--	--	--
	04/01/96	10.79	0.00	10.22	--	--	--	--	--	--	--
	06/25/96	10.82	0.00	10.19	--	--	--	--	--	--	--
	09/27/96	11.47	0.00	9.75	--	--	--	--	--	--	--
	03/28/97 ^{NP}	11.14	0.00	10.40	<50	<250	<750	<0.500	<0.500	<0.500	<1.00
	03/28/97	11.14	0.00	10.40	<50	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/30/97	10.80	0.00	10.23	--	--	--	--	--	--	--
	09/08/97	11.41	0.00	9.77	--	--	--	--	--	--	--
	12/19/97	11.28	0.00	9.75	--	--	--	--	--	--	--
	03/16/98	11.11	0.00	9.91	--	--	--	--	--	--	--
	06/26/98	11.32	0.00	9.70	--	--	--	--	--	--	--
	09/23/98	12.01	0.00	9.03	--	--	--	--	--	--	--
	12/17/98	11.00	0.00	10.01	--	--	--	--	--	--	--
	03/31/99	--	--	--	--	--	--	--	--	--	--
	06/30/99	Dry	--	--	--	--	--	--	--	--	--
	12/08/99	11.11	--	9.90	--	--	--	--	--	--	--
06/20/00	11.50	--	9.51	--	--	--	--	--	--	--	
12/19/00	11.50	--	9.94	--	--	--	--	--	--	--	
06/15/01 ^{NP}	11.35	0.00	9.68	--	--	--	--	--	--	--	
06/26/01	NM	--	--	--	--	--	--	--	--	--	--
09/07/01 ^{NP}	11.43	0.00	9.58	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	
10/10/01	NM	--	--	--	--	--	--	--	--	--	--
MW38 16.52	03/08/95	--	--	--	--	--	--	--	--	--	--
	06/06/95	--	--	--	--	--	--	--	--	--	--
	09/07/95	--	--	--	--	--	--	--	--	--	--
	12/08/95	--	--	--	--	--	--	--	--	--	--
	04/01/96	--	--	--	--	--	--	--	--	--	--
	06/25/96	--	--	--	--	--	--	--	--	--	--
	09/27/96	--	--	--	--	--	--	--	--	--	--
	03/28/97	9.23	0.00	7.60	<50	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/30/97	--	--	--	--	--	--	--	--	--	--
	09/08/97	--	--	--	--	--	--	--	--	--	--
	12/19/97	NM	--	--	--	--	--	--	--	--	--
	03/16/98	NM	--	--	--	--	--	--	--	--	--
	06/26/98	NM	--	--	--	--	--	--	--	--	--
	09/23/98	NM	--	--	--	--	--	--	--	--	--
	12/17/98	NM	--	--	--	--	--	--	--	--	--
	03/31/99	NM	--	--	--	--	--	--	--	--	--
	06/30/99	NM	--	--	--	--	--	--	--	--	--
12/08/99	NM	--	--	--	--	--	--	--	--	--	
06/20/00	NM	--	--	--	--	--	--	--	--	--	
12/19/00	NM	--	--	--	--	--	--	--	--	--	
06/15/01	NM	--	--	--	--	--	--	--	--	--	
06/26/01	NM	--	--	--	--	--	--	--	--	--	
09/07/01	NM	--	--	--	--	--	--	--	--	--	
10/10/01	NM	--	--	--	--	--	--	--	--	--	

MTCA Method A Cleanup Level

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TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5353
600 Westlake Avenue North
Seattle, Washington
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Well Name	Sample Date	DTW	LPH	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X
MW40 20.89	03/08/95	10.98	0.00	10.14					<0.5	11	<1.0
	06/06/95	11.18	0.00	9.94					4.3	4.1	21
	09/07/95	11.08	0.00	9.81					0.91	0.57	<1.0
	12/08/95	10.30	0.00	10.59				2.7	3	<0.5	<1.0
	04/01/96	10.56	0.00	10.33				1.2	<0.5	0.55	<1.0
	06/25/96	10.69	0.00	10.20				<0.500	9.82	<0.500	<1.00
	09/27/96	10.95	0.00	10.17				0.604		0.525	<1.0
	03/28/97	10.92	0.00	10.20	--	--	--	--	--	--	--
	06/30/97	--	--	--	--	--	--	--	--	--	--
	09/08/97	--	--	--	--	--	--	--	--	--	--
	12/19/97 ^{NP}	11.11	0.00	9.78				<0.500	0.504	0.663	2.44
	03/16/98	NM	--	--	--	--	--	--	--	--	--
	06/26/98	NM	--	--	--	--	--	--	--	--	--
	09/23/98	NM	--	--	--	--	--	--	--	--	--
	12/17/98 ^{NP}	10.88	0.00	10.03				<0.500	<0.500	<0.500	<1.00
	03/31/99	NM	--	--	--	--	--	--	--	--	--
	06/30/99	NM	--	--	--	--	--	--	--	--	--
	12/08/99	NM	--	--	--	--	--	--	--	--	--
	06/20/00	NM	--	--	--	--	--	--	--	--	--
	12/09/00	NM	--	--	--	--	--	--	--	--	--
	12/19/00	NM	--	--	--	--	--	--	--	--	--
06/15/01	NM	--	--	--	--	--	--	--	--	--	
06/26/01	NM	--	--	--	--	--	--	--	--	--	
09/07/01	NM	--	--	--	--	--	--	--	--	--	
10/10/01	NM	--	--	--	--	--	--	--	--	--	
MW41 27.00	03/08/95	14.72	--	12.48	<50	<250	<750	1.6	<0.5	<0.5	<1.0
	06/06/95	15.02	--	12.18	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/07/95	15.00	--	12.00	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/08/95	16.30	--	10.70	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	04/01/96	15.02	--	11.98	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/25/96	15.07	--	11.93	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	09/27/96	15.42	0.00	11.78	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	03/28/97	15.27	0.00	11.93	--	--	--	--	--	--	--
	06/30/97	--	--	--	--	--	--	--	--	--	--
	09/08/97	--	--	--	--	--	--	--	--	--	--
	12/19/97	NM	--	--	--	--	--	--	--	--	--
	03/16/98	NM	--	--	--	--	--	--	--	--	--
	06/26/98	NM	--	--	--	--	--	--	--	--	--
	09/23/98	NM	--	--	--	--	--	--	--	--	--
	12/17/98	NM	--	--	--	--	--	--	--	--	--
	03/31/99	NM	--	--	--	--	--	--	--	--	--
	06/30/99	NM	--	--	--	--	--	--	--	--	--
	12/08/99	NM	--	--	--	--	--	--	--	--	--
	06/20/00	NM	--	--	--	--	--	--	--	--	--
	12/19/00	NM	--	--	--	--	--	--	--	--	--
	06/15/01	NM	--	--	--	--	--	--	--	--	--
06/26/01	NM	--	--	--	--	--	--	--	--	--	
09/07/01	NM	--	--	--	--	--	--	--	--	--	
10/10/01	NM	--	--	--	--	--	--	--	--	--	
MW42 20.34	03/08/95	9.45	0.00	10.91					<25	<25	<50
	06/06/95	9.37	0.00	10.89					<0.56	<0.5	<1.0
	09/07/95	9.50	0.00	10.84					4.1		
	12/08/95	8.95	0.00	11.39					<2.0	<2.0	<4.0
	04/01/96	9.03	0.00	11.31	180	650	<750		0.52	<0.5	<1.0
	06/25/96	9.07	0.00	11.27	150	720	<750		<0.500	<0.500	<1.00
	09/27/96	9.12	0.00	11.24	<250	534	<750		<2.50	<2.50	<5.00
	03/28/97	9.09	0.00	11.27	--	--	--	--	--	--	--
	06/30/97	8.92	0.00	11.44	--	--	--	--	--	--	--
	09/08/97	9.57	0.00	10.79	--	--	--	--	--	--	--
	12/19/97	NM	--	--	--	--	--	--	--	--	--
	03/16/98	9.53	0.00	10.81	--	--	--	--	--	--	--
	06/26/98	9.51	0.00	10.83	--	--	--	--	--	--	--
	09/23/98	9.96	0.00	10.38	--	--	--	--	--	--	--
	12/17/98	9.10	0.00	11.24	--	--	--	--	--	--	--
	03/31/99	9.00	0.00	11.34	--	--	--	--	--	--	--
	06/30/99	8.60	0.00	11.74	--	--	--	--	--	--	--
	12/08/99	8.00	0.00	12.34	--	--	--	--	--	--	--
	06/20/00	NM	--	--	--	--	--	--	--	--	--
	12/19/00	NM	--	--	--	--	--	--	--	--	--
	06/15/01	9.41	0.00	10.93	--	--	--	--	--	--	--
06/26/01	NM	--	--	--	--	--	--	--	--	--	
09/07/01	9.66	0.00	10.68	--	--	--	--	--	--	--	
10/10/01	NM	--	--	--	--	--	--	--	--	--	

MTCA Method A Cleanup Level
Continued on page 5.

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TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5353
600 Westlake Avenue North
Seattle, Washington
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Well Name	Sample Date	DTW	LPH	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X
MW43 21.04	03/08/95	11.35	0.00	9.94	<50	<50	<50		<0.5	<0.5	<1.0
	06/06/95	11.45	0.00	9.84	<50	<50	<50		<0.5	<0.5	<1.0
	09/07/95	11.14	0.00	9.90	<50	<250	850		<0.5	<0.5	<1.0
	12/08/95	10.85	0.00	10.19	<50	<50	<50		<0.5	<0.5	<1.0
	04/01/96	10.98	0.00	10.06	<50	300	<750	4.5	<0.5	<0.5	<1.0
	06/25/96	11.06	0.00	9.98	<50.0	370	<750	2.57	<0.500	<0.500	<1.00
	09/27/96	11.33	0.00	9.96	<50.0	339	<750	4.40	<0.5	<0.500	<1.00
	03/28/97	11.13	0.00	9.98	<50.0	<250	<750		0.884	<0.500	2.47
	06/30/97 ^{NP}	7.08	0.00	14.21	<50.0	<250	<750		<0.500	<0.500	<1.00
	09/08/97 ^{NP}	11.46	0.00	9.83	83	<250	<750		<0.500	2.10	3.08
	12/19/97	NM	--	--	--	--	--		--	--	--
	03/16/98 ^{NP}	11.09	0.00	9.95	76.3	408	<750		<0.500	<0.500	<1.00
	06/26/98 ^{NP}	11.26	0.00	9.78	<50.0	346	<750		<0.500	<0.500	<1.00
	09/23/98 ^{NP}	11.75	0.00	9.29	<50.0	267	<750		<0.500	<0.500	<1.00
	12/17/98 ^{NP}	11.07	0.00	9.97	<50.0	<250	<750		<0.500	<0.500	<1.00
	03/31/99 ^{NP}	10.97	0.00	10.07	<50.0	267	<750		<0.500	0.782	2.47
	06/30/99 ^{NP}	9.97	0.00	11.07	146	253	<750		7.47	2.95	17.5
	12/08/99 ^{NP}	11.06	0.00	9.98	<50.0	<250	<750		<0.500	<0.500	<1.00
	06/20/00 ^{NP}	11.40	0.00	9.64	<50.0	<250	<750	3.79	<0.500	<0.500	<1.00
	12/19/00 ^{NP}	11.40	0.00	9.64	55.9	253	<749	2.97	0.948	0.730	4.78
06/15/01 ^{NP}	11.32	0.00	9.72	<50.0	405	<750	0.670	<0.500	<0.500	1.22	
06/26/01	NM	--	--	--	--	--		--	--	--	
09/07/01 ^{NP}	11.46	0.00	9.58	<50.0	<293	<587	<0.500	<0.500	<0.500	<1.00	
10/10/01	NM	--	--	--	--	--		--	--	--	
MW44 18.73	03/08/95	9.44	0.00	10.46	<50	<250	<250	<0.5	<0.5	<0.5	<1.0
	06/06/95	8.28	0.00	10.62	<50	<250	820	<0.5	<0.5	<0.5	1.6
	09/07/95	7.94	0.00	10.79	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/08/95	8.09	0.00	10.64	<50	<250	<250	<0.5	<0.5	<0.5	<1.0
	04/01/96	7.98	0.00	10.75	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/25/96	7.90	0.00	10.83	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	09/27/96	8.28	0.00	10.59	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	03/28/97	8.07	0.00	10.83	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/30/97 ^{NP}	7.84	0.00	11.06	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	09/08/97 ^{NP}	8.85	0.00	10.25	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	12/19/97 ^{NP}	8.51	0.00	10.22	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	03/16/98 ^{NP}	8.43	0.00	10.30	60.0	310	<750	<0.500	<0.500	<0.500	<1.00
	06/26/98 ^{NP}	8.37	0.00	10.36	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	09/23/98 ^{NP}	9.30	0.00	9.43	<50.0	343	<750	<0.500	<0.500	<0.500	<1.00
	12/17/98 ^{NP}	8.10	0.00	10.63	<50.0	271	<750	<0.500	<0.500	<0.500	<1.00
	03/31/99 ^{NP}	8.18	0.00	10.55	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	06/30/99 ^{NP}	8.03	0.00	10.70	<50.0	393	<750	<0.500	0.619	<0.500	1.21
	12/08/99 ^{NP}	8.52	0.00	10.21	<50.0	281	<750	<0.500	<0.500	<0.500	<1.00
	06/20/00 ^{NP}	9.53	0.00	9.20	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	12/19/00 ^{NP}	9.20	0.00	9.53	301	330	<750	<0.500	1.64	2.76	<2.47
06/15/01 ^{NP}	8.44	0.00	10.29	<50.0	468	<841	<0.500	<0.500	<0.500	<1.00	
06/26/01	NM	--	--	--	--	--		--	--	--	
09/07/01 ^{NP}	9.48	0.00	9.25	<50.0	<250	<250		6.97	<2.50	<2.47	
10/10/01	NM	--	--	--	--	--		--	--	--	
MW45 NE	09/07/01 ^{NP}	9.80	--	--	<50.0	375	<606	<0.500	<0.500	<0.500	<1.00
	10/10/01	NM	--	--	--	--	--		--	--	--
MW46 16.91	03/08/95	8.00	0.00	8.91	<50	<250	<250	<0.5	<0.5	<0.5	<1.0
	06/06/95	7.30	0.00	10.01	<50	<250	<250	<0.5	<0.5	<0.5	<1.0
	09/07/95	7.80	0.00	8.93	<50	<250	<250	<0.5	<0.5	<0.5	<1.0
	12/08/95	8.32	0.00	8.59	<50	<250	<250	<0.5	<0.5	<0.5	<1.0
	04/01/96	7.04	0.00	9.87	<50	<400	<250	<0.5	<0.5	<0.5	<1.0
	06/25/96	7.85	0.00	9.06	<50.0	<250	<250	<0.500	<0.500	<0.500	<1.00
	09/27/96	7.57	0.00	9.74	<50.0	267	<750	0.518	<0.500	<0.500	<1.00
	03/28/97	7.25	0.00	10.06	<50.0	<250	<750	<0.500	1.25	<0.500	2.06
	06/30/97	7.12	0.00	10.19	--	--	--		--	--	--
	09/08/97	8.82	0.00	8.49	--	--	--		--	--	--
	12/19/97 ^{NP}	9.40	0.00	7.51	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	03/16/98	NM	--	--	--	--	--		--	--	--
	06/26/98	NM	--	--	--	--	--		--	--	--
	09/23/98	NM	--	--	--	--	--		--	--	--
	12/17/98 ^{NP}	9.20	0.00	7.71	<50.0	354	<750	<0.500	<0.500	<0.500	<1.00
	03/31/99	NM	--	--	--	--	--		--	--	--
	06/30/99	NM	--	--	--	--	--		--	--	--
12/08/99	NM	--	--	--	--	--		--	--	--	
06/20/00	NM	--	--	--	--	--		--	--	--	
12/19/00*	12.70	0.00	4.21	226	277	<750	<0.500	2.18	2.53	18.0	
06/15/01 ^{NP}	7.19	0.00	9.72	<50.0	295	<750	<0.500	<0.500	<0.500	1.39	
06/26/01	NM	--	--	--	--	--		--	--	--	
09/07/01	NM	--	--	--	--	--		--	--	--	
10/10/01	NM	--	--	--	--	--		--	--	--	

MTCA Method A Cleanup Level
Continued on page 6.

1,000* 5 40 30 20

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 5353
600 Westlake Avenue North
Seattle, Washington
Page 6 of 6

Well Name	Sample Date	DTW	LPH	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X
MW47 19.83	03/08/95	10.88	0.00	9.18	<50				<0.5	<0.5	<1.0
	06/06/95	10.91	0.00	9.13					0.59	<0.5	2.3
	09/07/95	10.76	0.00	9.07	<50	260	<750	1.7	<0.5	<0.5	<1.0
	12/08/95	10.40	0.00	9.43				<0.5	<0.5	<0.5	<1.0
	04/01/96	10.67	0.00	9.16	<50	<250	<750	4.4	<0.5	<0.5	<1.0
	06/25/96	10.71	0.00	9.12	110	400	<750		<0.500	<0.500	<1.00
	09/27/96	10.85	0.00	9.19	<50.0	<250	<750	4.34	<0.500	<0.500	<1.00
	03/28/97 ^{NP}	10.92	0.00	9.12	64.5	<250	<750		<0.500	<0.500	1.57
	03/28/97	10.92	0.00	9.12	177	<250	<750		<0.500	<0.500	<1.00
	06/30/97	--	--	--	--	--	--	--	--	--	--
	09/08/97	--	--	--	--	--	--	--	--	--	--
	12/19/97	--	--	--	--	--	--	--	--	--	--
	03/16/98	--	--	--	--	--	--	--	--	--	--
	06/26/98 ^{NP}	10.78	0.00	9.05	<50.0	356	<750		<0.500	<0.500	<1.00
	09/23/98	--	--	--	--	--	--	--	--	--	--
	12/17/98 ^{NP}	10.51	0.00	9.22	<50.0	<250	<750	3.34	<0.500	<0.500	1.12
	03/31/99	9.65	0.00	10.18	--	--	--	--	--	--	--
	06/30/99	--	0.00	--	--	--	--	--	--	--	--
	12/08/99	--	--	--	--	--	--	--	--	--	--
	06/20/00 ^{NP}	10.94	0.00	8.89	<50.0	<250	<750	<1.30	<0.500	<0.500	<1.00
12/19/00 ^{NP}	11.20	0.00	8.63			<750	<0.500	6.10	10.6		
06/15/01	10.98	0.00	8.85	<50.0	591	<952	0.709	0.504	<0.500	1.18	
06/26/01	NM	--	--	--	--	--	--	--	--	--	
09/07/01 ^{NP}	11.14	0.00	8.69	<50.0	356	<500	<0.500	<0.500	<0.500	<1.00	
10/10/01	NM	--	--	--	--	--	--	--	--	--	
MW50 NE	10/10/01	11.11	--	--			<606				
MW51 NE	10/10/01	11.68	--	--					10.4	7.75	16.6
MW52 NE	10/10/01	10.79	--	--			<582		<10.0		
MTC A Method A Cleanup Level					1,000*			5	40	30	20

EXPLANATION:

Concentrations in ug/L (ppb).

Wellhead elevations taken from prior consultant's reports.

DTW = Depth to water in feet below top of casing except where noted in prior reports.

LPH = Liquid-phase petroleum hydrocarbon thickness in feet.

GW Elev. = Groundwater elevation relative to DTW data; corrected for LPH where applicable using a specific gravity of 0.85.

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

TPH-D and TPH-O = Total petroleum hydrocarbons as diesel and as oil (respectively) by Ecology Method NWTPH-Dx.

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

BTEX = Aromatic compounds by EPA Method 8021B.

< = Less than the stated laboratory reporting limit.

NE = Not established; NM = Not measured; -- = Not analyzed or sampled.

^{NP} = Not purged.

* Total Petroleum Hydrocarbons.

Shaded values equal or exceed MTC A Method A Cleanup Levels.

Data collected before 12/19/97 are taken from prior consultants.

*MW46 is identified as MW9 on the chain of custody and official laboratory report.

**SMW3 is identified as SMW2 on the chain of custody and official laboratory report.



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23 October 2001

John Meyer
ERI
815 Industry Dr
Tukwila, WA/USA 98188
RE: TOSCO #5353

Enclosed are the results of analyses for samples received by the laboratory on 10/11/01 11:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager



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CASE NARRATIVE for B1J0378

Client: ERI
Project Manager: John Meyer
Project Name: Tosco #5353
Project Number: 1020

1.0 DESCRIPTION OF CASE

Four water samples were received for the analysis of:

- NWTPH-Dx
- NWTPH-G/BTEX

2.0 COMMENTS ON SAMPLE RECEIPT

The samples were received and logged in on 11th October 2001 at a temperature of 3.8°C.

Preparation and Analysis


NWTPH-G/BTEX

There were no anomalies associated with this analysis.

NWTPH-Dx

The Octacosane surrogate recovery in sample B1J0378-03 (MW51) was below the method established control limits so the heavy oil range results should be considered biased low, the remaining samples in this analytical batch were within control. In addition the 2-FBP surrogate recovery for the analytical batch Blank was below method established control limits so there might be a high bias on the diesel results. Re-extraction is recommended however since only one Hydrochloric preserved amber was provided this is not possible. It is recommended that a minimum of two one liter Hydrochloric acid preserved ambers be provided when requesting diesel analysis.

"I certify that this data package is in compliance with the Contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature."



Amy Gill
Project Manager
North Creek Analytical



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ERI 815 Industry Dr Tukwila WA/USA, 98188	Project: TOSCO #5353 Project Number: 1020 Project Manager: John Meyer	Reported: 10/23/01 17:58
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW3	B1J0378-01	Water	10/10/01 12:00	10/11/01 11:45
MW50	B1J0378-02	Water	10/10/01 12:00	10/11/01 11:45
MW51	B1J0378-03	Water	10/10/01 12:00	10/11/01 11:45
MW52	B1J0378-04	Water	10/10/01 11:00	10/11/01 11:45

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ERI 815 Industry Dr Tukwila WA/USA, 98188	Project: TOSCO #5353 Project Number: 1020 Project Manager: John Meyer	Reported: 10/23/01 17:58
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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
MW3 (B1J0378-01) Water Sampled: 10/10/01 12:00 Received: 10/11/01 11:45									
Gasoline Range Hydrocarbons	14100	2500	ug/l	50	IJ19033	10/19/01	10/21/01	NWTPH-Gx/8021B	
Benzene	1070	25.0	"	"	"	"	"	"	
Toluene	ND	25.0	"	"	"	"	"	"	
Ethylbenzene	1040	25.0	"	"	"	"	"	"	
Xylenes (total)	292	50.0	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	97.7 %	62-139			"	"	"	"	
Surrogate: 4-BFB (PID)	93.5 %	62-125			"	"	"	"	
MW50 (B1J0378-02) Water Sampled: 10/10/01 12:00 Received: 10/11/01 11:45									
Gasoline Range Hydrocarbons	8970	1000	ug/l	20	IJ19033	10/19/01	10/21/01	NWTPH-Gx/8021B	
Benzene	674	10.0	"	"	"	"	"	"	
Toluene	221	10.0	"	"	"	"	"	"	
Ethylbenzene	382	10.0	"	"	"	"	"	"	
Xylenes (total)	779	20.0	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	110 %	62-139			"	"	"	"	
Surrogate: 4-BFB (PID)	98.1 %	62-125			"	"	"	"	
MW51 (B1J0378-03) Water Sampled: 10/10/01 12:00 Received: 10/11/01 11:45									
Gasoline Range Hydrocarbons	671	50.0	ug/l	1	IJ19033	10/19/01	10/21/01	NWTPH-Gx/8021B	
Benzene	10.1	0.500	"	"	"	"	"	"	
Toluene	10.4	0.500	"	"	"	"	"	"	
Ethylbenzene	7.75	0.500	"	"	"	"	"	"	
Xylenes (total)	16.6	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	102 %	62-139			"	"	"	"	
Surrogate: 4-BFB (PID)	90.8 %	62-125			"	"	"	"	

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 #5353 Project Number: 1020 Project Manager: John Meyer	Reported: 10/23/01 17:58
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**Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B
 North Creek Analytical - Bothell**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
MW52 (B1J0378-04) Water Sampled: 10/10/01 11:00 Received: 10/11/01 11:45										
Gasoline Range Hydrocarbons	13400	1000		ug/l	20	1J19033	10/19/01	10/21/01	NWTPH-Gx/8021B	
Benzene	1150	10.0		"	"	"	"	"	"	
Toluene	ND	10.0		"	"	"	"	"	"	
Ethylbenzene	827	10.0		"	"	"	"	"	"	
Xylenes (total)	793	20.0		"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	109 %	62-139				"	"	"	"	
Surrogate: 4-BFB (PID)	97.5 %	62-125				"	"	"	"	

North Creek Analytical - Bothell

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ERI Project: TOSCO #5353
 815 Industry Dr Project Number: 1020 Reported:
 Tukwila WA/USA, 98188 Project Manager: John Meyer 10/23/01 17:58

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3 (B1J0378-01) Water Sampled: 10/10/01 12:00 Received: 10/11/01 11:45									
Diesel Range Hydrocarbons	4.06	0.250	mg/l	1	1J15037	10/15/01	10/17/01	NWTPH-Dx	
Lube Oil Range Hydrocarbons	1.99	0.500	"	"	"	"	"	"	
Surrogate: 2-FBP	57.1 %	50-121			"	"	"	"	
Surrogate: Octacosane	69.0 %	56-123			"	"	"	"	
MW50 (B1J0378-02) Water Sampled: 10/10/01 12:00 Received: 10/11/01 11:45									
Diesel Range Hydrocarbons	2.20	0.303	mg/l	1	1J15037	10/15/01	10/17/01	NWTPH-Dx	
Lube Oil Range Hydrocarbons	ND	0.606	"	"	"	"	"	"	
Surrogate: 2-FBP	86.1 %	50-121			"	"	"	"	
Surrogate: Octacosane	69.8 %	56-123			"	"	"	"	
MW51 (B1J0378-03) Water Sampled: 10/10/01 12:00 Received: 10/11/01 11:45									
Diesel Range Hydrocarbons	11.7	0.293	mg/l	1	1J15037	10/15/01	10/17/01	NWTPH-Dx	
Lube Oil Range Hydrocarbons	2.15	0.586	"	"	"	"	"	"	
Surrogate: 2-FBP	60.8 %	50-121			"	"	"	"	
Surrogate: Octacosane	53.9 %	56-123			"	"	"	"	X
MW52 (B1J0378-04) Water Sampled: 10/10/01 11:00 Received: 10/11/01 11:45									
Diesel Range Hydrocarbons	1.46	0.291	mg/l	1	1J15037	10/15/01	10/17/01	NWTPH-Dx	
Lube Oil Range Hydrocarbons	ND	0.582	"	"	"	"	"	"	
Surrogate: 2-FBP	67.3 %	50-121			"	"	"	"	
Surrogate: Octacosane	75.9 %	56-123			"	"	"	"	

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 #5353 Project Number: 1020 Project Manager: John Meyer	Reported: 10/23/01 17:58
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**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
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Batch 1J19033: Prepared 10/19/01 Using EPA 5030B (P/T)

Blank (1J19033-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)	42.5		"	48.0		88.5	62-139			
Surrogate: 4-BFB (PID)	43.5		"	48.0		90.6	62-125			

LCS (1J19033-BS1)

Gasoline Range Hydrocarbons	514	50.0	ug/l	500		103	80-120			
Benzene	6.12	0.500	"	6.01		102	80-120			
Toluene	32.5	0.500	"	36.1		90.0	80-120			
Ethylbenzene	8.78	0.500	"	8.37		105	80-120			
Xylenes (total)	40.7	1.00	"	42.0		96.9	80-120			
Surrogate: 4-BFB (FID)	47.1		"	48.0		98.1	62-139			
Surrogate: 4-BFB (PID)	41.7		"	48.0		86.9	62-125			

LCS Dup (1J19033-BSD1)

Gasoline Range Hydrocarbons	523	50.0	ug/l	500		105	80-120	1.74	25	
Benzene	6.10	0.500	"	6.01		101	80-120	0.327	40	
Toluene	32.6	0.500	"	36.1		90.3	80-120	0.307	40	
Ethylbenzene	8.85	0.500	"	8.37		106	80-120	0.794	40	
Xylenes (total)	41.0	1.00	"	42.0		97.6	80-120	0.734	40	
Surrogate: 4-BFB (FID)	48.5		"	48.0		101	62-139			
Surrogate: 4-BFB (PID)	42.8		"	48.0		89.2	62-125			

Matrix Spike (1J19033-MS1)

Source: B1J0386-24

Gasoline Range Hydrocarbons	478	50.0	ug/l	500	ND	95.6	70-130			
Benzene	6.22	0.500	"	6.01	ND	103	80-120			
Toluene	31.3	0.500	"	36.1	ND	86.2	75-117			
Ethylbenzene	8.33	0.500	"	8.37	ND	99.5	80-120			
Xylenes (total)	38.4	1.00	"	42.0	ND	91.4	80-120			
Surrogate: 4-BFB (FID)	47.7		"	48.0		99.4	62-139			
Surrogate: 4-BFB (PID)	42.3		"	48.0		88.1	62-125			

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 #5353 Project Number: 1020 Project Manager: John Meyer	Reported: 10/23/01 17:58
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**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 1J19033: Prepared 10/19/01 Using EPA 5030B (P/T)

Matrix Spike Dup (1J19033-MSD1)				Source: B1J0386-24						
Gasoline Range Hydrocarbons	470	50.0	ug/l	500	ND	94.0	70-130	1.69	25	
Benzene	6.24	0.500	"	6.01	ND	104	80-120	0.321	40	
Toluene	32.8	0.500	"	36.1	ND	90.4	75-117	4.68	40	
Ethylbenzene	8.61	0.500	"	8.37	ND	103	80-120	3.31	40	
Xylenes (total)	39.1	1.00	"	42.0	ND	93.1	80-120	1.81	40	
Surrogate: 4-BFB (FID)	46.5		"	48.0		96.9	62-139			
Surrogate: 4-BFB (PID)	42.3		"	48.0		88.1	62-125			

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ERI 815 Industry Dr Tukwila WA/USA, 98188	Project: TOSCO #5353 Project Number: 1020 Project Manager: John Meyer	Reported: 10/23/01 17:58
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**Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Quality Control
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1J15037: Prepared 10/15/01 Using EPA 3510C

Blank (1J15037-BLK1)

Diesel Range Hydrocarbons	ND	0.250	mg/l							
Lube Oil Range Hydrocarbons	ND	0.500	"							
Surrogate: 2-FBP	0.114		"	0.320		35.6	50-121			X
Surrogate: Octacosane	0.194		"	0.320		60.6	56-123			

LCS (1J15037-BS1)

Diesel Range Hydrocarbons	1.58	0.250	mg/l	2.00		79.0	62-122			
Surrogate: 2-FBP	0.180		"	0.320		56.2	50-121			

LCS Dup (1J15037-BSD1)

Diesel Range Hydrocarbons	1.60	0.250	mg/l	2.00		80.0	62-122	1.26	40	
Surrogate: 2-FBP	0.180		"	0.320		56.2	50-121			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
 425.420.9200 fax 425.420.9210
 Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
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 503.906.9200 fax 503.906.9210
 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
 541.383.9310 fax 541.382.7588

ERI 815 Industry Dr Tukwila WA/USA, 98188	Project: TOSCO #5353 Project Number: 1020 Project Manager: John Meyer	Reported: 10/23/01 17:58
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Notes and Definitions

- X See case narrative.
- 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.
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 (503) 906-9200 FAX 906-9210
 (541) 383-9310 FAX 382-7588

TOSCO CHAIN OF CUSTODY REPORT B150378

TOSCO INFORMATION

Facility Number: 5353
 Site Address: 600 WESTLAKE AVE
 City, State, ZIP: SKITTY WA 98148
 Project/AWO Code: _____
 Tosco Manager: _____
 FACILITY TYPE: (check one) BP/8 Terminal/Bulk Plant
 Brown Bear Former 76 Site Other

CONSULTANT INFORMATION

Firm: ELI Project# 120
 Address: 815 INDUSTRY DR
TOKUNIA, WA 98188
 Phone: (206) 575-6220 Fax: X6423
 Project Manager: JOHN MEYER E-mail: _____
 Sample Collection by: ROY MOESE

Quality Assurance Data Level: A: Standard Summary B
 B: Standard + Chromatograms
 Laboratory Turnaround Days: 1 2 3 5 10 Day - Standard

SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W.S.O)	# OF CON-TAINERS
1. MW3	10/10/01	W	4
2. MW50	12:00PM	W	4
3. MW51	11:00AM	W	4
4. MW52			
5.			
6.			
7.			
8.			
9.			
10.			

OR	WA	AK	NW Series	ID
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

TPH-HCID	TPH-Gas	BTEX	EPA 8021 Mod	TPH-Gas + BTEX	TPH-Diesel	Extended	TPH-Diesel	TPH-Diesel-Ext	w/SG Cleanup	EPA 8021	Pesticides/CBs or PCBs Only	G/CMS Volatiles	EPA 8260	G/CMS SemiVols	EPA 8270	PAHs: 8270 SIM or 8310	Lead:	Total or Dissolved TCLP or RCRA	Metals (8)	
				X	X	X	X	X												

NCA SAMPLE NUMBER
-01
-02
-03
-04

Relinquished by: ROY MOESE Firm: ELI Date & Time: 10/10/01 11:45
 Received by: Billie WA Firm: 10/10/01 13:10
 Comments: 3,8

ERI

ENVIRONMENTAL RESOLUTIONS, INC.

GROUNDWATER SAMPLING - FIELD LOG

Client Name: TOSCOW 533
Location: WESTLAKE AVE
Field Crew: ROY MORSE

ERI Job No. 1020

Field Cleaning Performed:

Analysis:

Date: 10/10/01

Page 1 of 1

* Case Volume = $(\frac{d_{case}^2 - d_{well}^2}{4}) \times h \times \pi \times F$ 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 PPK	Comments
MINWA		10.79	17.30	2	1	3						
MINW		10.11	13.60	2	5	1.5						
MINW		11.11	17.25	2	1	3						
MINW		11.68	15.00	2	5	1.5						
Blank Well Log												

Revised 6/20/96