

8459/1975

DATE: May 31, 2000

**TOSCO MARKETING COMPANY
GROUNDWATER MONITORING REPORT**

Site No.: 5472 Address: 3460 1st Avenue South, 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) [First - 2000]:

- Monitored, purged, and sampled 10 groundwater monitoring wells

WORK PROPOSED FOR NEXT QUARTER [Second - 2000]:

- Monitor, purge, and sample 8 groundwater monitoring wells

*RELEASE # 1975
UNOCAL 5472
SEATTLE/KING*

SUMMARY:

Frequency of Sampling Events:	<u>Quarterly</u>	(Quarterly, etc.)
Approximate Depth to Groundwater:	<u>4 to 7 ft</u>	(Measured Feet)
Groundwater Gradient:	<u>Northerly and Westerly</u>	(Direction)
	<u>0.003 ft/ft</u>	(Magnitude)
* Maximum TPH-G/Benzene Concentrations:	<u>1,780/186</u>	(ppb)
Measurable Free Product Detected:	<u>No</u>	(Yes - ID wells(s)/No)
Free Product Recovered This Quarter:	<u>Unknown</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 and)
Radius and Respective Direction:	<u>Unknown</u>	Direction)
X Current Remedial Action:	<u>None</u>	(SVE/AS/P&T etc.)
Permits for Discharge:	<u>None</u>	(NPDES, POTW, etc.)

DISCUSSION:

- 8 of 10 wells sampled contained analyte concentrations exceeding MTCA Method A Cleanup Levels

ATTACHMENTS:

Plate P-1 - Groundwater Sample Analyses Map, 03/13/00
 Table 1 - Groundwater Analytical Results
 Laboratory Reports and Chain of Custody Records
 Field Data Records

Prepared By:

[Signature]
 John K. Meyer, R.G.
 Environmental Resolutions, Inc.

cc: Washington State Department of Ecology, NW Region
 GeoEngineers, Lisa Bona
 Vasco Properties
 D. Buck
 S. Shanks

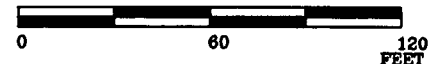
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◆ MW-15
93.55

6/23/99	9/23/99	12/06/99	3/13/00
ND	ND	ND	ND
ND	1,240	ND	ND
ND	ND	ND	ND
0.672	1.44	0.951	5.81
ND	ND	ND	ND
ND	ND	ND	1.05
ND	1.57	1.01	3.77

6/23/99	9/23/99	12/06/99	3/13/00
89.0	289	266	139
289	386	376	280
ND	ND	ND	ND
212	459	190	153
1.28	2.68	2.63	1.35
ND	0.877	ND	ND
2.26	7.58	4.25	4.22

APPROXIMATE SCALE



6/23/99	9/23/99	12/06/99	3/13/00
1,180	2,950	2,740	1,780
464	512	623	669
ND	ND	ND	ND
21.1	20.2	27.0	105
ND	ND	0.503	0.503
ND	ND	ND	1.09
ND	ND	5.62	6.04

◆ MW-14
93.20

1ST AVENUE SOUTH

◆ MW-13
93.29

6/23/99	9/23/99	12/06/99	3/13/00
365	859	873	632
927	1,360	1,010	960
ND	ND	ND	ND
0.810	ND	ND	ND
ND	ND	ND	ND
0.717	ND	ND	ND
1.98	ND	ND	ND

VIKING FIRE SYSTEMS

◆ MW-10
93.89

6/23/99	9/23/99	12/06/99	3/13/00
ND	1,420	---	669
1,110	1,020	---	556
ND	ND	---	ND
ND	9.67	---	30.4
ND	ND	---	ND
ND	ND	---	ND
ND	ND	---	6.52

6/23/99	9/23/99	12/06/99	3/13/00
123	279	231	ND
4,040	765	2,230	5,030
ND	ND	ND	ND
75.5	31.4	6.73	5.62
0.693	1.35	1.48	ND
ND	0.549	ND	ND
ND	3.77	ND	ND

6/23/99	9/23/99	12/06/99	3/13/00
ND	ND	---	ND
ND	ND	---	ND
ND	ND	---	ND
ND	5.02	---	ND
ND	ND	---	ND
ND	ND	---	ND
ND	ND	---	ND

◆ MW-8
93.07

◆ MW-9
93.99

◆ MW-1
94.28

◆ MW-7
94.23

6/23/99	9/23/99	12/06/99	3/13/00
962	1,540	ND	700
1,410	1,380	625	4,340
844	ND	ND	2,280
57.8	7.29	1.33	186
ND	0.731	0.626	ND
ND	2.13	0.937	ND
ND	2.07	2.32	ND

6/23/99	9/23/99	12/06/99	3/13/00
ND	1,160	60.9	378
956	982	516	890
ND	ND	ND	ND
77.8	13.2	1.00	102
ND	0.940	ND	5.18
78.2	1.07	ND	83.7
ND	2.54	ND	36.9

SOUTH SPOKANE STREET

6/23/99	12/06/99	12/06/99	3/13/00
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND

◆ MW-6
94.30

◆ MW-12
94.52

◆ MW-11
NM
NS

Laboratory Results
in ug/L (ppb)

6/24/98	Sample Date	
1,950	Total Petroleum Hydrocarbons as Gasoline	
1,340	Total Petroleum Hydrocarbons as Diesel	
ND	Total Petroleum Hydrocarbons as Oil	
22.8	Benzene	
1.83	Toluene	
1.05	Ethylbenzene	
3.33	Total Xylenes	

Numbers in Red Exceed
MTCA Method A Cleanup Levels
ND = Not Detected
-- = Not Analyzed

SOURCE: Modified
from maps provided by
Tosco Marketing Company

FN 5472001



GROUNDWATER SAMPLE ANALYSES MAP - 03/13/00

TOSCO FACILITY 5472

3460 1st Avenue South
Seattle, Washington

EXPLANATION

- ◆ MW-1 Groundwater Monitoring Well
- 93.27 Groundwater Elevation
- NM Not Measured

PROJECT NO.

31023

PLATE

P-1

CC: 04/03/00

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Facility 5472
3460 1st Avenue South
Seattle, Washington
Page 1 of 4

Well Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-O	B	T	E	X	Diss. Pb
MW-1 99.52	02/25/91	5.43	92.59	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	10/18/92	7.20	92.60	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	08/26/93	7.36	92.27	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	10/13/94	8.23	91.55	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	04/25/95	5.82	93.90	20,000	15,000	9,800	890	<4.0	340	290
	07/12/95	-	-	13,000	4,900	<9,000	1,000	<8.0	360	210
	10/12/95	8.15	93.41	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	01/22/96	5.10	94.35	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	04/10/96	5.86	93.76	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	07/28/96	5.83	93.69	6,700	9,210	2,950	763	5.50	158	22.5
	10/25/96	6.32	93.37	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	03/05/97	4.96	94.56	4,240	3,880	2,100	114	<2.50	18.7	<5.00
	03/05/97 ^{NP}	4.96	94.56	6,150	534	<750	40.7	<2.50	58.9	15.3
	06/18/97	5.66	93.87	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	09/16/97	6.58	92.98	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	12/18/97	5.54	93.98	3,060	3,850	1,880	142	1.31	2.65	3.54
	3/11/98	5.14	94.38	2,720	5,830	3,890	120	2.77	4.23	5.20
	6/24/98	6.25	93.27	1,950	1,340	<750	22.3	1.83	1.05	3.33
	8/18/98	8.88	92.86	1,680	<250	<750	12.7	<2.50	<2.50	<5.00
	12/14/98	3.70	95.82	2,840	8,850	3,840	327	<5.00	11.7	<10.0
MW-6 99.67	3/26/99	4.50	95.02	2,480	4,130	2,280	160	1.87	20.6	6.13
	6/23/99	5.89	93.53	962	1,410	844	57.8	<2.50	<2.50	<5.00
	9/23/99	6.85	92.67	1,540	1,380	<750	7.29	0.731	2.13	2.07
	12/06/99	9.15	90.37	<50.0	525	<750	1.33	0.626	0.937	2.32
	3/13/00	5.24	94.28	700	4,340	2,280	188	<5.00	<5.00	<10.0
	02/25/91	5.68	92.50	-	-	-	<1.0	<1.0	<1.0	<1.0
	10/18/92	7.84	92.03	<1,000	<250	-	18	<1.0	<1.0	<1.0
	08/26/93	6.33	93.34	<100	<250	<750	<0.50	<0.50	<0.50	<0.50
	10/13/94	7.90	91.77	<50	450	<750	<0.50	<0.50	<0.50	<1.0
	04/25/95	5.83	94.04	<50	330	1,300	<0.50	<0.50	<0.50	<1.0
	07/12/95	-	-	<50	550	1,200	<0.50	<0.50	<0.50	<1.0
	10/12/95	8.50	93.17	<50	530	970	<0.50	<0.50	<0.50	<1.0
	01/22/96	5.08	94.59	<50	610	<750	<0.50	<0.50	<0.50	<1.0
	04/10/96	5.73	93.84	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	07/28/96	5.55	94.12	<5	<250	<750	<0.50	<0.50	<0.50	<1.0
	10/25/96	6.25	93.42	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	03/05/97	5.09	94.58	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	03/05/97 ^{NP}	5.52	94.15	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	06/18/97 ^{NP}	5.52	94.15	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	09/16/97 ^{NP}	6.35	93.32	<50	<250	<750	<0.5	<0.5	<0.5	<1.0
	12/18/97	5.72	93.95	<50.0	269	<750	<0.500	<0.500	<0.500	<1.00
MW-7 98.50	3/11/98	5.25	94.42	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	6/24/98	6.23	93.44	<50.0	257	<750	<0.500	<0.500	<0.500	<1.00
	8/18/98	6.44	93.23	<50.0	2,320	1,300	<0.500	<0.500	<0.500	<1.00
	12/14/98	4.82	95.05	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	3/26/99	4.59	95.08	<50.0	<250	775	<0.500	<0.500	<0.500	<1.00
	6/23/99	5.88	93.79	<50.0	363	<750	<0.500	<0.500	<0.500	<1.00
	9/23/99	6.59	93.08	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	12/06/99	5.39	94.28	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	3/13/00	5.37	94.30	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	02/25/91	4.33	92.88	-	-	-	11	<1.0	<1.0	<1.0
	10/18/92	5.98	92.52	<1,000	820	-	6	<1.0	<1.0	<1.0
	08/26/93	6.16	92.34	<100	<250	<750	12	<0.50	<0.50	<0.50
	10/13/94	6.58	91.94	<50	540	<750	3.3	<0.50	<0.50	<1.0
	04/25/95	4.45	93.05	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	07/12/95	-	-	<50	2,000	2,100	<0.50	<0.50	<0.50	<1.0
	10/12/95	4.80	93.80	<50	<250	950	<0.50	<0.50	<0.50	<1.0
	01/22/96	3.89	94.81	<50	520	<750	1.5	<0.50	<0.50	<1.0
	04/10/96	4.63	93.87	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	07/28/96	4.55	93.95	<50	<250	<750	<0.50	<0.05	<0.05	<0.10
	10/25/96	4.98	93.52	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	03/05/97	3.94	94.56	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	03/05/97 ^{NP}	3.94	94.56	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	06/18/97 ^{NP}	4.57	93.83	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	09/16/97 ^{NP}	5.29	93.21	<50	<250	<750	<0.50	<0.50	<0.50	<1.0
	12/18/97	4.43	94.07	<50.0	357	<750	<0.500	<0.500	<0.500	<1.00
	3/11/98	4.05	94.45	<50.0	<250	<750	0.875	<0.500	<0.500	<1.00
	6/24/98	4.91	93.59	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	8/18/98	5.87	92.83	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	12/14/98	3.57	94.93	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	3/26/99	3.44	95.06	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	6/23/99	4.81	93.59	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00
	9/23/99	5.78	92.74	<50.0	<250	<750	5.02	<0.500	<0.500	<1.00
	12/06/99	-	-	-	-	-	-	-	-	-
	3/13/00	4.27	94.23	<50.0	<455	<1,370	<0.500	<0.500	<0.500	<1.00
MTCA Method A Cleanup Level				1,000 ^a	5	40	30	20	5	

Continued on Page 2.

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Facility 5472
3460 1st Avenue South
Seattle, Washington
Page 2 of 4

Well Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X	Diss. Pb
MW-8 98.88	02/25/91	5.44	92.08	—	—	—	7	18	29	32	—
	10/19/92	7.17	91.78	4,900	330	—	7,200	32	610	1,500	<5
	08/26/93	8.91	92.05	7,500	660	—	18,000	410	800	670	<3
	10/13/94	7.40	91.58	2,200	740	1,200	18,000	<40	<40	63	4.6
	04/25/95	5.41	93.55	6,700	1,500	1,200	10,000	200	340	1,000	<2.0
	07/12/95	—	—	4,900	1,500	1,000	8,700	<8.0	130	690	<2.0
	10/12/95	8.48	92.48	3,500	1,500	1,100	11,000	18	18	58	—
	01/22/96	5.10	94.35	2,500	2,500	1,000	8,500	<20	<20	23	—
	04/10/96	5.63	93.33	2,300	2,000	750	3,400	<20	<20	21	—
	07/29/96	4.22	94.74	3,000	1,000	<750	8,550	<25.0	<25.0	50.3	—
	10/25/96	6.03	92.93	2,500	<250	<750	3,500	<25.0	<25.0	50.3	—
	03/05/97	4.91	94.05	3,480	388	<750	2,970	<10.0	<10.0	<20.0	—
	03/05/97 ^{sp}	4.91	94.05	7,730	375	<750	830	<5.0	11.5	<10.0	—
	06/18/97 ^{sp}	5.48	93.50	0,220	821	<750	1,870	<12.5	13.1	<25.0	—
	08/18/97 ^{sp}	6.28	92.21	3,310	282	<750	4,380	<10	11.5	<20	—
	12/18/97	5.53	93.43	2,890	1,650	<750	4,880	<25.0	<25.0	<50.0	—
	3/11/98	5.14	93.82	<2,500	1,370	<750	2,640	<25.0	<25.0	<50.0	—
	6/24/98	6.15	92.81	2,850	1,700	<750	2,230	<25.0	<25.0	<50.0	—
	9/18/98	6.58	92.40	1,940	<250	<750	778	<12.5	<12.5	<50.0	—
	12/14/98	—	—	Obstructed by surface water	—	—	—	—	—	—	—
	3/26/99	—	—	1,340	1,300	<750	27.7	<2.50	<4.50	<8.50	—
	6/23/99	5.73	93.23	<2,500	1,110	<750	<25.0	<25.0	<25.0	<50.0	—
	9/23/99	8.52	92.44	1,420	1,020	<750	9,97	<2.00	<2.00	<7.00	—
	12/08/99	—	—	Obstructed by surface water	—	—	—	—	—	—	—
	3/13/00	5.88	93.07	988	558	<750	30.4	<2.50	<2.50	5.52	—
MW-9 98.68	02/25/91	4.55	92.82	—	—	—	14,100	19,400	1,300	10,320	—
	10/19/92	6.47	92.19	5,800	35,000	—	6,000	150	150	1,500	<5
	08/26/93	8.48	92.05	6,800	4,400	<750	7,100	100	630	1,300	<3
	10/13/94	7.00	91.68	2,700	4,100	<750	3,000	11	180	140	7.8
	04/25/95	4.70	93.88	6,300	2,500	1,000	350	3.7	210	310	<2.0
	07/12/95	—	—	1,600	2,800	1,300	88	<2.0	82	72	<2.0
	10/12/95	5.15	93.51	4,800	8,800	6,000	930	17	240	310	—
	01/22/96	4.08	94.60	4,000	8,200	1,800	110	<2.0	100	100	—
	04/10/96	4.88	93.80	3,800	3,000	1,000	170	<2.0	170	49	—
	07/29/96	4.71	93.95	1,800	890	890	1,060	<12.5	17.0	<25.0	—
	10/25/96	5.22	93.44	2,100	1,910	<750	687	9.31	8.91	<10.0	—
	03/05/97	4.11	94.55	1,030	22,400	2,240	48.4	<0.50	15.8	<1.0	—
	03/05/97 ^{sp}	4.11	94.55	2,120	8,150	1,080	48.4	<1.0	17.9	2.11	—
	06/18/97 ^{sp}	4.78	93.88	710	1,450	<750	104	<2.5	13.8	5.14	—
	08/18/97 ^{sp}	5.59	93.07	778	459	<750	684	6.27	2.27	4.61	—
	12/18/97	4.61	94.05	1,850	26,000	4,010	58.7	2.82	<2.50	<5.00	—
	3/11/98	4.19	94.47	215	2,180	<750	12.5	<0.500	0.781	<1.00	—
	6/24/98	5.04	93.62	383	603	<750	155	3.68	<2.50	<5.00	—
	9/18/98	6.02	92.84	443	1,090	<750	188	<2.50	<2.50	6.45	—
	12/14/98	3.84	94.72	377	2,670	<750	3.27	0.650	0.812	1.05	—
	3/26/99	3.81	95.05	267	4,150	<750	1.68	1.04	<0.600	2.31	—
	6/23/99	5.11	93.55	123	4,040	<750	75.5	0.683	<0.500	<1.00	—
	9/23/99	6.08	92.58	279	785	<750	91.4	1.35	0.548	3.77	—
	12/08/99	3.97	94.69	231	2,230	<750	6.73	1.48	<0.500	<1.00	—
	3/13/00	4.67	93.98	<250	5,030	<750	5.92	<2.50	<2.50	<5.00	—
MW-10 99.62	02/25/91	—	—	4,200	<250	—	2,000	9.0	200	1,300	72
	10/19/92	7.52	92.10	—	—	—	—	—	—	—	—
	08/26/93	7.44	92.18	1,700	<250	<750	88	3.7	50	57	<3
	10/13/94	7.98	91.68	720	280	<750	730	6.1	1.1	150	25
	04/25/95	5.78	93.83	3,000	45	890	2,100	21	47	270	<2.0
	07/12/95	—	—	1,800	55	<750	2,500	27	<20	280	<2.0
	10/12/95	8.85	92.77	2,200	420	<750	2,100	18	7.8	89	—
	01/22/96	5.82	93.80	1,400	440	<750	1,200	12	23	39	—
	04/10/96	8.08	93.54	1,500	300	<750	920	19	15	59	—
	07/29/96	5.24	94.38	<2,500	260	<750	3,669	27.6	<25.0	<50.0	—
	10/25/96	—	—	—	—	—	—	—	—	—	—
	03/05/97	—	—	—	—	—	—	—	—	—	—
	06/18/97 ^{sp}	5.85	93.87	53	<250	<750	691	7.48	<5.0	20.3	—
	08/18/97 ^{sp}	6.80	92.82	736	<250	<750	1,170	8.747	3.11	18.2	—
	12/18/97	—	—	—	—	—	—	—	—	—	—
	3/11/98	—	—	—	—	—	—	—	—	—	—
	6/24/98	6.64	92.88	301	378	<750	453	3.33	<2.50	6.74	—
	9/18/98	7.19	92.43	<1,000	292	<750	1,000	<10.0	<10.0	<20.0	—
	12/14/98	5.41	94.21	<1,000	363	<750	477	12.0	<10.0	28.2	—
	3/26/99	5.08	94.56	331	300	<750	261	3.32	<2.50	8.30	—
	6/23/99	6.23	93.39	89.0	289	<750	212	1.28	<0.500	2.28	—
	9/23/99	7.12	92.50	289	386	<750	359	2.68	0.877	7.58	—
	12/08/99	5.62	94.00	268	378	<750	190	2.63	<0.500	4.25	—
	3/13/00	5.73	93.88	139	280	<750	153	1.35	<0.500	4.22	—

MTCA Method A Cleanup Level
Continued on Page 3.

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Facility 5472
3460 1st Avenue South
Seattle, Washington
Page 3 of 4

Well Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X	Diss. Pb
MW-11 89.70	02/25/91	-	-	-	-	-	-	-	-	-	-
	10/18/92	7.97	91.73	<1,000	<250	-	<0.1	<1.0	<1.0	<1.0	<5
	08/26/93	7.59	92.11	<100	<250	<750	<0.50	<0.50	<0.50	<0.50	<3
	10/13/94	8.20	91.50	<50	300	1,100	<0.50	<0.50	<0.50	<1.0	<2.0
	04/25/95	8.00	93.70	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	<2.0
	07/12/95	-	-	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	<2.0
	10/12/95	7.0	92.70	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	-
	01/22/98	-	-	<50	-	-	-	-	-	-	-
	04/10/98	5.97	93.73	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	-
	07/28/98	5.84	93.88	<50	<250	<750	<0.50	<0.50	<0.50	<0.10	-
	10/25/98	6.55	93.15	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	-
	03/05/97	5.41	94.29	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	-
	03/05/97 ^{sp}	5.41	94.29	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	-
	06/19/97 ^{sp}	5.81	93.89	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	-
	09/18/97 ^{sp}	6.31	93.39	<50	<250	<750	<0.50	<0.50	<0.50	<1.0	-
	12/18/97	6.21	93.49	<50.0	285	<750	<0.500	<0.500	<0.500	<1.00	-
	3/11/98	6.55	94.15	<50.0	297	<750	<0.500	<0.500	<0.500	<1.00	-
	8/24/98	6.32	93.38	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-
	9/18/98	6.35	93.35	<50.0	1,340	<750	<0.500	<0.500	<0.500	<1.00	-
	12/14/98	4.80	94.80	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-
	3/28/99	Obstructed by construction									
	6/23/99	Obstructed by construction									
	12/08/99	-	-	-	-	-	-	-	-	-	-
	3/13/00	-	-	-	-	-	-	-	-	-	-
MW-12 100.32	02/25/91	-	-	-	-	-	-	-	-	-	-
	10/18/92	8.37	91.95	1,600	830	7,500	1,800	180	1,810	-	<5
	08/26/93	8.11	92.21	-	-	-	-	-	-	-	-
	10/13/94	8.68	91.68	16,000	3,000	<750	3,300	91	1,100	380	<2.0
	04/25/95	6.40	93.82	32,000	2,600	2,000	1,700	41	470	1,100	<2.0
	07/12/95	-	-	14,000	6,500	<8,000	3,500	100	1,000	2,160	<2.0
	10/12/95	7.45	92.67	7,400	2,800	1,300	940	7.5	310	740	-
	01/22/98	7.70	92.82	33,000	1,700	1,100	1,400	250	1,200	3,300	-
	04/10/98	6.53	93.79	20,000	1,300	<750	380	7.7	590	940	-
	07/28/98	6.24	94.08	15,100	1,400	<750	3,300	<25.0	435	1,320	-
	10/25/98	7.08	93.24	9,900	290	<750	2,660	<25.0	492	1,040	-
	03/05/97	5.78	94.54	17,800	372	<750	852	127	15	1,610	-
	03/05/97 ^{sp}	5.78	94.54	14,500	431	<750	637	<10.0	848	969	-
	06/19/97 ^{sp}	6.45	93.87	14,900	356	<750	339	<10.0	523	557	-
	09/18/97 ^{sp}	7.30	93.02	6,450	556	<750	585	<10.0	344	248	-
	12/18/97	6.48	93.84	6,390	1,490	916	480	10.8	582	565	-
	3/11/98	5.88	94.34	7,540	1,380	808	922	10.7	522	382	-
	8/24/98	7.15	93.17	2,490	1,260	<750	203	3.49	35.1	11.4	-
	9/18/98	7.49	92.83	848	<250	<750	88.4	0.583	22.0	16.5	-
	12/14/98	5.21	95.11	4,730	744	<750	229	5.81	245	198	-
	3/28/99	5.31	95.01	1,880	709	<750	73.7	2.68	<87.0	35.3	-
	6/23/99	6.71	93.61	<2,500	856	<750	77.9	<25.0	78.2	<50.0	-
	8/23/99	7.53	92.79	1,360	982	<750	13.1	0.940	1.07	2.54	-
	12/08/99	10.98	89.38	80.9	516	<750	1.00	<0.500	<0.500	<1.00	-
	3/13/00	5.80	94.52	375	880	<750	107	5.18	93.7	36.9	-
MW-13 100.24	8/24/98	7.80	92.44	815	802	<750	<2.50	<2.50	<2.50	<5.00	-
	9/18/98	8.16	92.08	889	1,130	<750	<2.25	<1.25	<1.25	3.51	-
	12/14/98	8.75	93.49	853	508	<750	1.68	0.640	<0.500	3.43	-
	3/28/99	6.30	93.94	885	838	<750	<2.50	1.25	<1.75	4.38	-
	6/23/99	7.36	92.88	365	927	<750	0.810	<0.500	0.717	1.98	-
	8/23/99	-	-	859	1,360	<750	<2.00	<1.00	<0.500	<4.00	-
	12/08/99	7.15	93.09	873	1,910	<750	<0.500	<2.20	<0.800	<2.80	-
	3/13/00	6.95	93.28	632	960	<750	<5.00	<5.00	<5.00	<10.00	-
MW-14 99.94	8/24/98	7.80	92.34	2,230	505	<750	422	<10.0	<10.0	<20.0	-
	9/18/98	8.03	91.91	1,500	748	<750	76.4	<2.50	<2.50	13.3	-
	12/14/98	6.68	93.26	1,680	987	<750	182	<2.50	<2.50	9.39	-
	3/28/99	6.20	93.74	1,190	752	<750	6.53	<0.500	<0.800	4.84	-
	6/23/99	7.15	92.79	1,150	464	<750	21.1	<2.50	<2.50	<5.00	-
	8/23/99	7.91	92.03	2,950	512	<750	20.2	<1.00	<2.00	<8.00	-
	12/08/99	6.80	93.04	2,740	623	<750	27.0	0.503	<1.00	5.82	-
	3/13/00	6.74	93.20	1,780	669	<750	106	0.503	1.09	5.04	-
MW-15 99.29	8/24/98	6.52	92.77	74.0	477	<750	14.1	1.03	0.566	1.72	-
	9/18/98	7.06	92.23	<50.0	648	<750	19.5	0.678	<0.500	2.32	-
	12/14/98	5.78	93.51	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	-
	3/28/99	5.42	93.87	59.8	344	<750	2.86	1.90	1.93	3.28	-
	6/23/99	6.15	93.14	<50.0	<250	<750	0.672	<0.500	<0.500	<1.00	-
	8/23/99	6.80	92.38	<50.0	1,240	<750	1.44	<0.500	<0.500	1.57	-
	12/08/99	5.95	93.34	<50.0	<250	<750	0.951	<0.500	<0.500	1.01	-
	3/13/00	5.74	93.55	<50.0	<455	<1,330	5.81	<0.500	1.05	3.77	-

MTCA Method A Cleanup Level

1,000^g

5

40

30

20

5

Continued on Page 4

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Facility 5472
3460 1st Avenue South
Seattle, Washington
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Well Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X	Diss. Pb
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EXPLANATION:

All concentrations in ug/l (ppb).

Wellhead elevations 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; Corrected for free product where applicable using a specific gravity of 0.75.

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

TPH-D and TPH-O = Total Petroleum Hydrocarbons as Diesel and Oil, respectively, by Ecology Method WTPH-D (extended).

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

BTEX = Aromatic compounds by EPA Method 8020.

Diss. Pb = Dissolved Lead by EPA Method 7421.

LPH = Liquid-phase petroleum hydrocarbons present; no sample collected.

- = Not sampled.

< = Less than the stated laboratory reporting limit.

NP = Sample collected without purging.

* Total Petroleum Hydrocarbons.

Samples collected from MW-13, MW-14, and MW-15 on 6/24/98 identified as MW-B, MW-A, and MW-C, respectively, on laboratory report.

October 1994 results are for total lead.

Shaded values equal or exceed MTCA Method A Cleanup Levels.

Data collected before 12/18/97 are taken from prior consultants.



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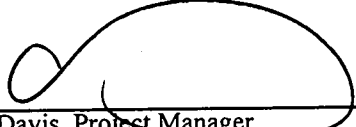
Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	B0C0266-01	Water	03/13/00 12:00	03/14/00 12:15
MW-6	B0C0266-02	Water	03/13/00 12:00	03/14/00 12:15
MW-8	B0C0266-03	Water	03/13/00 12:00	03/14/00 12:15
MW-9	B0C0266-04	Water	03/13/00 12:00	03/14/00 12:15
MW-10	B0C0266-05	Water	03/13/00 12:00	03/14/00 12:15
MW-12	B0C0266-06	Water	03/13/00 12:00	03/14/00 12:15
MW-13	B0C0266-07	Water	03/13/00 12:00	03/14/00 12:15
MW-14	B0C0266-08	Water	03/13/00 12:00	03/14/00 12:15
MW-15	B0C0266-09	Water	03/13/00 12:00	03/14/00 12:15
MW-7	B0C0266-10	Water	03/13/00 12:00	03/14/00 12:15

North Creek Analytical - Bothell


Steve Davis, Project Manager

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Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (B0C0266-01) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	4.34	0.492	mg/l	1	0C19004	03/19/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	2.26	1.48	"	"	"	"	"	"	
Surrogate: 2-FBP	103 %	50-150			"	"	"	"	
MW-6 (B0C0266-02) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	0C19004	03/19/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	110 %	50-150			"	"	"	"	
MW-8 (B0C0266-03) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	0.556	0.250	mg/l	1	0C19004	03/19/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	102 %	50-150			"	"	"	"	
MW-9 (B0C0266-04) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	5.03	0.250	mg/l	1	0C19004	03/19/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	97.7 %	50-150			"	"	"	"	
MW-10 (B0C0266-05) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	0.280	0.250	mg/l	1	0C19004	03/19/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	90.4 %	50-150			"	"	"	"	
MW-12 (B0C0266-06) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	0.890	0.250	mg/l	1	0C19004	03/19/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	116 %	50-150			"	"	"	"	

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Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-13 (B0C0266-07) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	0.960	0.250	mg/l	1	0C18004	03/18/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	118 %	50-150			"	"	"	"	
MW-14 (B0C0266-08) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	0.669	0.250	mg/l	1	0C18004	03/18/00	03/19/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	114 %	50-150			"	"	"	"	
MW-15 (B0C0266-09) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	ND	0.445	mg/l	1	0C18004	03/18/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	1.33	"	"	"	"	"	"	
Surrogate: 2-FBP	76.6 %	50-150			"	"	"	"	
MW-7 (B0C0266-10) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Diesel Range Hydrocarbons	ND	0.455	mg/l	1	0C18004	03/18/00	03/20/00	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	1.37	"	"	"	"	"	"	
Surrogate: 2-FBP	110 %	50-150			"	"	"	"	

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Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (B0C0266-01) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	700	500	ug/l	10	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	186	5.00	"	"	"	"	"	"	
Toluene	ND	5.00	"	"	"	"	"	"	
Ethylbenzene	ND	5.00	"	"	"	"	"	"	
Xylenes (total)	ND	10.0	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	116 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	122 %	53.0-142			"	"	"	"	
MW-6 (B0C0266-02) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	84.8 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	117 %	53.0-142			"	"	"	"	
MW-8 (B0C0266-03) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	669	250	ug/l	5	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	30.4	2.50	"	"	"	"	"	"	
Toluene	ND	2.50	"	"	"	"	"	"	
Ethylbenzene	ND	2.50	"	"	"	"	"	"	
Xylenes (total)	5.52	5.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	106 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	118 %	53.0-142			"	"	"	"	

North Creek Analytical - Bothell

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541.383.9310 fax 541.382.7588

ERI
1921 Edmonds Drive SE
Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-9 (B0C0266-04) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	ND	250	ug/l	5	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	5.62	2.50	"	"	"	"	"	"	
Toluene	ND	2.50	"	"	"	"	"	"	
Ethylbenzene	ND	2.50	"	"	"	"	"	"	
Xylenes (total)	ND	5.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	94.0 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	123 %	53.0-142			"	"	"	"	
MW-10 (B0C0266-05) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	139	50.0	ug/l	1	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	153	0.500	"	"	"	"	"	"	
Toluene	1.35	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	4.22	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	145 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	113 %	53.0-142			"	"	"	"	
MW-12 (B0C0266-06) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	378	50.0	ug/l	1	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	102	2.50	"	5	"	"	"	"	
Toluene	5.18	2.50	"	"	"	"	"	"	
Ethylbenzene	83.7	2.50	"	"	"	"	"	"	
Xylenes (total)	36.9	5.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	134 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	148 %	53.0-142			"	"	"	"	S-02

North Creek Analytical - Bothell

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ERI
1921 Edmonds Drive SE
Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-13 (B0C0266-07) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	632	500	ug/l	10	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	ND	5.00	"	"	"	"	"	"	
Toluene	ND	5.00	"	"	"	"	"	"	
Ethylbenzene	ND	5.00	"	"	"	"	"	"	
Xylenes (total)	ND	10.0	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	116 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	113 %	53.0-142			"	"	"	"	
MW-14 (B0C0266-08) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	1780	50.0	ug/l	1	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	105	0.500	"	"	"	"	"	"	
Toluene	0.503	0.500	"	"	"	"	"	"	
Ethylbenzene	1.09	0.500	"	"	"	"	"	"	
Xylenes (total)	5.04	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	293 %	50.0-150			"	"	"	"	S-02
Surrogate: 4-BFB (PID)	174 %	53.0-142			"	"	"	"	S-02
MW-15 (B0C0266-09) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	5.81	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	1.05	0.500	"	"	"	"	"	"	
Xylenes (total)	3.77	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	109 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	125 %	53.0-142			"	"	"	"	

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ERI
1921 Edmonds Drive SE
Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

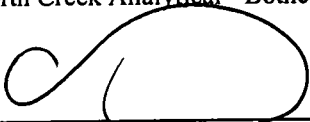
Reported:
03/28/00 15:18

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (B0C0266-10) Water Sampled: 03/13/00 12:00 Received: 03/14/00 12:15									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	0300083	03/25/00	03/25/00	WTPH-G/8021	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	98.0 %	50.0-150			"	"	"	"	
Surrogate: 4-BFB (PID)	119 %	53.0-142			"	"	"	"	

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ERI
1921 Edmonds Drive SE
Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) - Quality Control
North Creek Analytical - Bothell

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

Batch 0C18004: Prepared 03/18/00 Using EPA 3520C/600 Series

Blank (0C18004-BLK1)

Diesel Range Hydrocarbons	ND	0.250	mg/l							
Heavy Oil Range Hydrocarbons	ND	0.750	"							
Surrogate: 2-FBP	0.336		"	0.320		105	50-150			

LCS (0C18004-BS1)

Diesel Range Hydrocarbons	2.01	0.250	mg/l	2.00		100	60-140			
Surrogate: 2-FBP	0.410		"	0.320		128	50-150			

Duplicate (0C18004-DUP1)

Source: B0C0266-09

Diesel Range Hydrocarbons	ND	0.507	mg/l		0.285			2.85	44	
Heavy Oil Range Hydrocarbons	ND	1.52	"		0.268			2.21	44	
Surrogate: 2-FBP	0.475		"	0.649		73.2	50-150			

Duplicate (0C18004-DUP2)

Source: B0C0266-10

Diesel Range Hydrocarbons	ND	0.499	mg/l		0.153			0.656	44	
Heavy Oil Range Hydrocarbons	ND	1.50	"		0.180				44	
Surrogate: 2-FBP	0.662		"	0.639		104	50-150			

Batch 0C19004: Prepared 03/19/00 Using EPA 3520C/600 Series

Blank (0C19004-BLK1)

Diesel Range Hydrocarbons	ND	0.250	mg/l							
Heavy Oil Range Hydrocarbons	ND	0.750	"							
Surrogate: 2-FBP	0.303		"	0.320		94.7	50-150			

LCS (0C19004-BS1)

Diesel Range Hydrocarbons	2.15	0.250	mg/l	2.00		108	60-140			
Surrogate: 2-FBP	0.313		"	0.320		97.8	50-150			

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ERI
1921 Edmonds Drive SE
Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0C19004: Prepared 03/19/00 Using EPA 3520C/600 Series									
Duplicate (0C19004-DUP1)				Source: B0C0266-01					
Diesel Range Hydrocarbons	3.17	0.466	mg/l		4.34		31.2	44	
Heavy Oil Range Hydrocarbons	1.44	1.40	"		2.26		44.3	44	Q-05
Surrogate: 2-FBP	0.633		"	0.597		106 50-150			
Duplicate (0C19004-DUP2)				Source: B0C0277-01					
Diesel Range Hydrocarbons	ND	0.442	mg/l		0.271		14.2	44	
Heavy Oil Range Hydrocarbons	ND	1.33	"		ND			44	
Surrogate: 2-FBP	0.577		"	0.566		102 50-150			

North Creek Analytical - Bothell

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ERI
1921 Edmonds Drive SE
Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

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

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

Batch 0300083: Prepared 03/25/00 Using GC Volatiles

Blank (0300083-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)	25.3		"	25.0		101	50.0-150			
Surrogate: 4-BFB (PID)	29.0		"	25.0		116	53.0-142			

LCS (0300083-BS1)

Gasoline Range Hydrocarbons	862	50.0	ug/l	1000		86.2	85.0-115			
Surrogate: 4-BFB (FID)	33.7		"	25.0		135	50.0-150			

LCS (0300083-BS2)

Benzene	10.6	0.500	ug/l	10.0		106	85.0-115			
Toluene	9.66	0.500	"	10.0		96.6	85.0-115			
Ethylbenzene	10.1	0.500	"	10.0		101	85.0-115			
Xylenes (total)	29.6	1.00	"	30.0		98.7	85.0-115			
Surrogate: 4-BFB (PID)	30.4		"	25.0		122	53.0-142			

Duplicate (0300083-DUP1)

Source: S003050-02

Gasoline Range Hydrocarbons	ND	50.0	ug/l		ND				50.0	
Benzene	ND	0.500	"		ND				50.0	
Toluene	ND	0.500	"		ND				50.0	
Ethylbenzene	ND	0.500	"		ND				50.0	
Xylenes (total)	ND	1.00	"		ND				50.0	
Surrogate: 4-BFB (FID)	22.7		"	25.0		90.8	50.0-150			
Surrogate: 4-BFB (PID)	26.6		"	25.0		106	53.0-142			

North Creek Analytical - Bothell

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ERI
1921 Edmonds Drive SE
Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

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

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

Batch 0300083: Prepared 03/25/00 Using GC Volatiles

Duplicate (0300083-DUP2)

Source: B0C0266-02

Gasoline Range Hydrocarbons	ND	50.0	ug/l		ND				50.0	
Benzene	ND	0.500	"		ND				50.0	
Toluene	ND	0.500	"		ND				50.0	
Ethylbenzene	ND	0.500	"		ND				50.0	
Xylenes (total)	ND	1.00	"		ND				50.0	
Surrogate: 4-BFB (FID)	22.6		"	25.0		90.4	50.0-150			
Surrogate: 4-BFB (PID)	27.3		"	25.0		109	53.0-142			

Matrix Spike (0300083-MS1)

Source: S003050-02

Gasoline Range Hydrocarbons	847	50.0	ug/l	1000	ND	84.7	70.0-130			
Surrogate: 4-BFB (FID)	30.7		"	25.0		123	50.0-150			

Matrix Spike (0300083-MS2)

Source: S003050-02

Benzene	11.3	0.500	ug/l	10.0	ND	113	54.0-143			
Toluene	10.8	0.500	"	10.0	ND	108	48.0-145			
Ethylbenzene	10.8	0.500	"	10.0	ND	108	49.0-142			
Xylenes (total)	31.1	1.00	"	30.0	ND	104	55.0-140			
Surrogate: 4-BFB (PID)	26.8		"	25.0		107	53.0-142			

North Creek Analytical - Bothell

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ERI
1921 Edmonds Drive SE
Renton WA, 98055

Project: TOSCO #5472
Project Number: 1023
Project Manager: John Meyer

Reported:
03/28/00 15:18

Notes and Definitions

Q-05 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.

S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

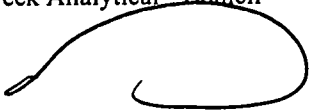
NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

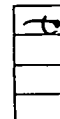
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TOSCO CHAIN OF CUSTODY REPORT BOC0266

TOSCO INFORMATION

Facility Number: 5472
Site Address: 3460 1st Ave S.
City, State, ZIP: Seattle, WA
Project/AWO Code
Tosco Manager: Tim Jansen
FACILITY TYPE: (check one) ☐ BP/® ☐ Terminal/Bulk Plant
☐ Brown Bear ☐ Former 76 Site ☒ Other

CONSULTANT INFORMATION

Firm: CRI Project# 1023
Address: 1921 Edmond Dr. SE
Renton, WA 98055
Phone: 425-227-0282 Fax: 4-0225
Project Manager: John Meyer E-mail:
Sample Collection by: Chris Carter + John Meyer

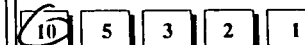
Quality Assurance Data Level:



A: Standard Summary

B: Standard + Chromatograms

Laboratory Turnaround Days:



10 Day - Standard

SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W.S.O)	# OF CON-TAINERS
1. <u>mw-1</u>	<u>3/13/00</u>	<u>W</u>	<u>3</u>
2. <u>mw-6</u>			
3. <u>mw-8</u>			
4. <u>mw-9</u>			
5. <u>mw-10</u>			
6. <u>mw-12</u>			
7. <u>mw-13</u>			
8. <u>mw-14</u>			
9. <u>mw-15</u>			
10. <u>mw-7</u>			

☐ 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 Semi Vols. EPA 8270	PAH's: 8270 SIM or 8310	Lead:	Total or Dissolved TCLP or RCRA Metals (8)
			X	X									
			X	X									
			X	X									
			X	X									
			X	X									
			X	X									
			X	X									
			X	X									
			X	X									
			X	X									

NCA SAMPLE NUMBER

- 01
- 02
- 03
- 04
- 05
- 06
- 07
- 08
- 09
- 10

Relinquished by:

Firm:

Date & Time

Received by:

Firm:

Date & Time

1. [Signature] CRI 3/13/00 1:35 [Signature] 3/14/00 11:15
2. [Signature] NCA 3/14/00 12:15 [Signature] NCA 3/14/00 12:15
3.

Comments:

5.80 w/b

GROUNDWATER SAMPLING - FIELD LOG

Client Name: Tosco 5472
Location: 1st Ave S. (Sea Hic)
Field Crew: CC + JM

ERI Job No. 31023
Field Cleaning Performed:
Analysis:

Date: 3/13/00

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

[illegible]

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