

THRIFTY OIL CO. 2004

April 5, 2001

O.13489

Ms. Susan Hugo
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay parkway, 2nd Floor
Alameda, CA 94502

APR 10 2001

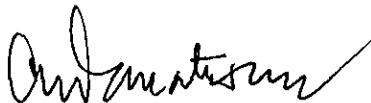
RE: **Thrifty Oil Co. Station #049**
3400 San Pablo Avenue
Oakland, CA 94612
1st Quarter 2001, Status Report

Dear Ms. Hugo:

Presented herewith is the First Quarter 2001, Status Report for former Thrifty Oil Co. Station #049 located at 3400 San Pablo Avenue, Oakland, California.

If you have any questions or comments, please contact the undersigned in this report or myself at (562) 921-3581.

Sincerely,



Chris Panaitescu
General Manager
Environmental Affairs

cc: ARCO Products Company
File



THRIFTY OIL CO.

April 5, 2001

Ms. Susan Hugo
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

RE: **Former Thrifty Oil Co. Station #049**
3400 San Pablo Avenue
Oakland, CA 94612
1st Quarter 2001, Status Report

Dear Ms. Hugo:

Presented herein is the First Quarter 2001, Status Report prepared for former Thrifty Oil Co. (Thrifty) Station #049 located at 3400 San Pablo Avenue, Oakland, California (**Figure 1**). Presented in this report are the results of the site monitoring and remediation efforts conducted in the First Quarter 2001. Thrifty has retained the services of Earth Management Company (EMC) to conduct quarterly monitoring and sampling, and remediation system monitoring activities at this site.

Groundwater Monitoring

Depth to groundwater is measured in each monitoring well on a quarterly basis. In general, groundwater occurs under water table conditions beneath the station at depths ranging from 3.87 feet below surface grade (bsg) in monitoring well MW-6 to 11.12 feet bsg in recovery well RW-1 (**Appendix A**). A groundwater elevation contour map based on the January 17, 2001 data is presented in **Figure 2**. Groundwater elevation data indicates that the flow direction is toward the southwest with a groundwater gradient of approximately 0.03 feet/foot.

Quarterly Groundwater Sampling

As part of the ongoing groundwater monitoring program, groundwater samples were obtained from monitoring wells MW-1 through MW-7 on January 17, 2001. Groundwater samples were obtained by EMC and delivered in a chilled state following strict Chain-of-Custody procedures to a state-certified laboratory and analyzed for total petroleum hydrocarbons (TPH-g) by EPA method 8015 modified for gasoline. Volatile aromatic compounds of benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tert-butyl ether (MTBE) were analyzed by EPA method 8021B; detected MTBE samples were analyzed by EPA method 8260B. A summary of historical analytical sampling results are provided in **Table 1**. Copies of the EMC Field Status Reports are presented in **Appendix A**, and copies of the laboratory analytical reports are contained in **Appendix B**.



TPH-g, BTEX, and MTBE concentrations appear in **Table 1** and **Appendix B**. The TPH-g, benzene, and MTBE isoconcentration maps are presented in **Figures 3, 4, and 5**. The isoconcentration maps incorporate data from the treatment system influent, due to the fact the groundwater is pumped solely from RW-1. Laboratory results indicated the highest petroleum hydrocarbon concentrations of TPH-g, benzene, and MTBE were in well MW-4 (29,100 ug/L, 799 ug/L, and 31,400 ug/L (by EPA method 8260B), respectively).

Remediation Status

Site remedial activities were initiated in April 1991. Presently, the remediation system consists of a Groundwater Treatment System with carbon, with groundwater extraction from recovery well RW-1. System operational data is included in **Table 2** and **Appendix C**. During this reporting period, the groundwater treatment system processed 96,160 gallons of groundwater, and has treated approximately 486,818 gallons of groundwater since start up (through March 30, 2001). The groundwater system was operational throughout the first quarter 2001.

Influent, intermediate, and effluent water samples were collected on January 17, 2001 from the treatment unit, and the samples collected by EMC were sent a state certified laboratory for analysis. The January samples were analyzed for TPH-g by 8015, BTEX and MTBE by EPA method 8021B. All laboratory results for the January effluent samples for TPH-g, BTEX, MTBE were below laboratory detection limits. A copy of the laboratory analytical report is included in **Appendix D**.

Other Activities

The groundwater monitoring wells, and the treatment unit, will be monitored and sampled for the next quarter. Wells MW-4 and MW-6 will also be sampled for general minerals, this is a one time sampling event. The purpose of the general minerals analyses is to determine the salinity (and usability) of the groundwater, due to the site's close proximity to the bay. If the groundwater is determined to be highly saline or contain high total dissolved solids (TDS) and is thus non-usable, Thrifty will request site closure. All site monitoring/sampling data generated during the next quarter will be reported in the Second Quarter 2001 monitoring report.

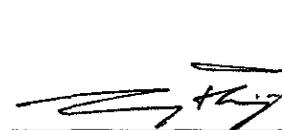
Interpretations expressed herein are based upon data collected by EMC.

Written by:



Raymond C. Friedrichsen, REA II
Project Manager, MBA
Senior Environmental Hydrogeologist

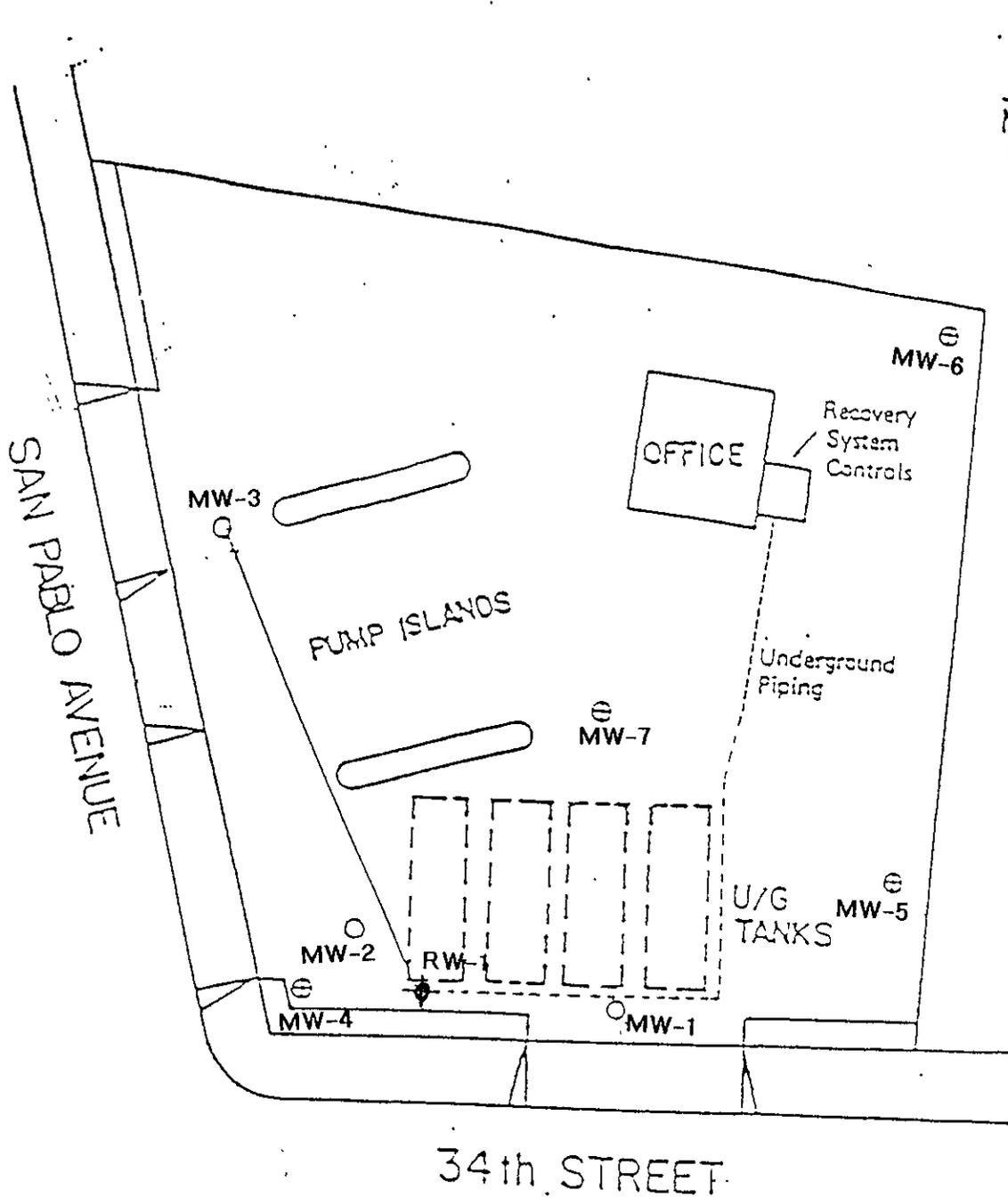
Reviewed by:



Larry Higinbotham
Registered Geologist #5497



FIGURES



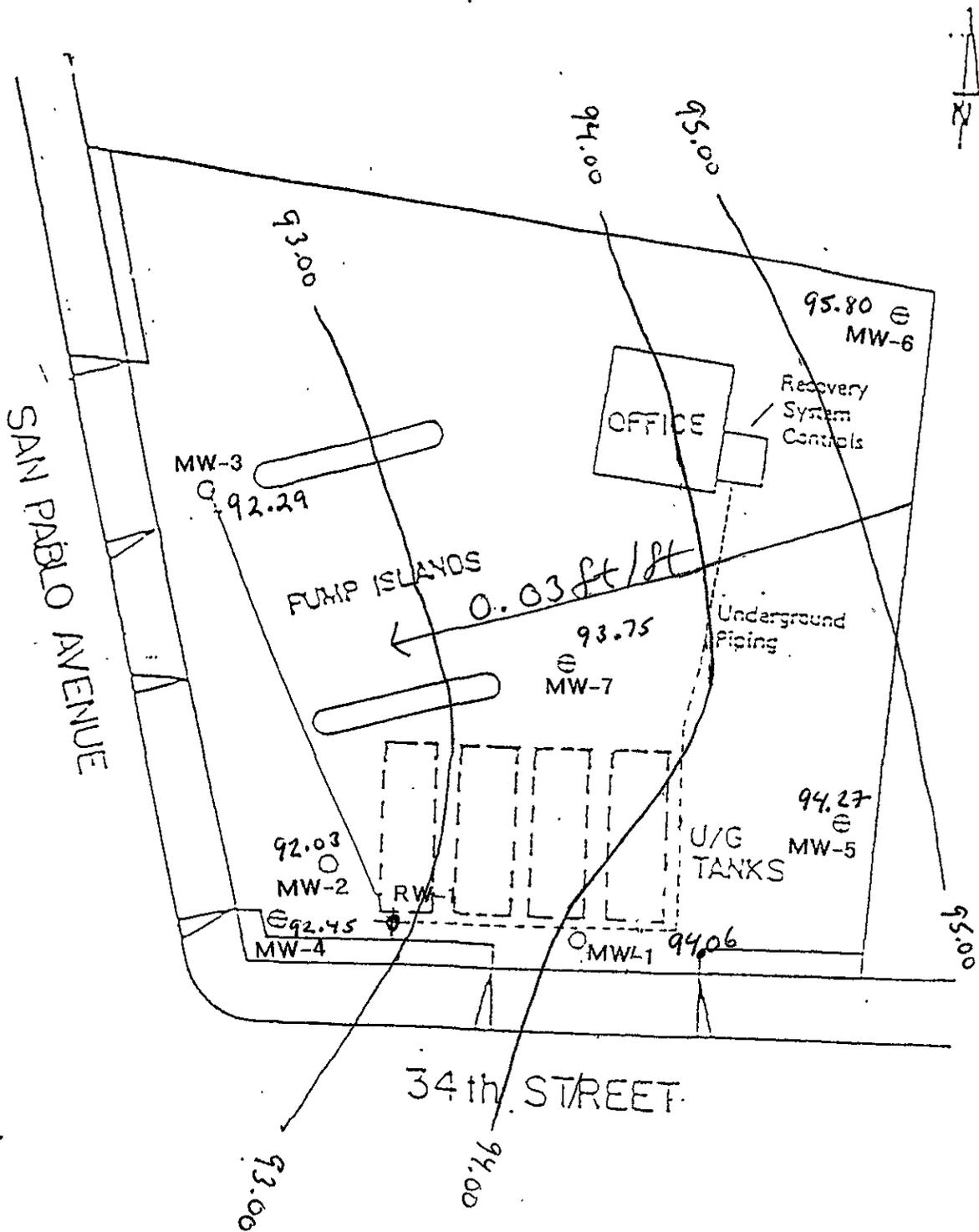
SITE PLAN AND RECOVERY SYSTEM LOCATION
 THRIFTY SERVICE STATION NO. 49
 3400 SAN PABLO AVE.
 OAKLAND, CA

LEGEND

- MW1 - GT MONITORING WELLS
- ⊕ MW-4 - WCC MONITORING WELLS
- ⊕ RW-1 - PROPOSED RECOVERY WELL



FIGURE 1



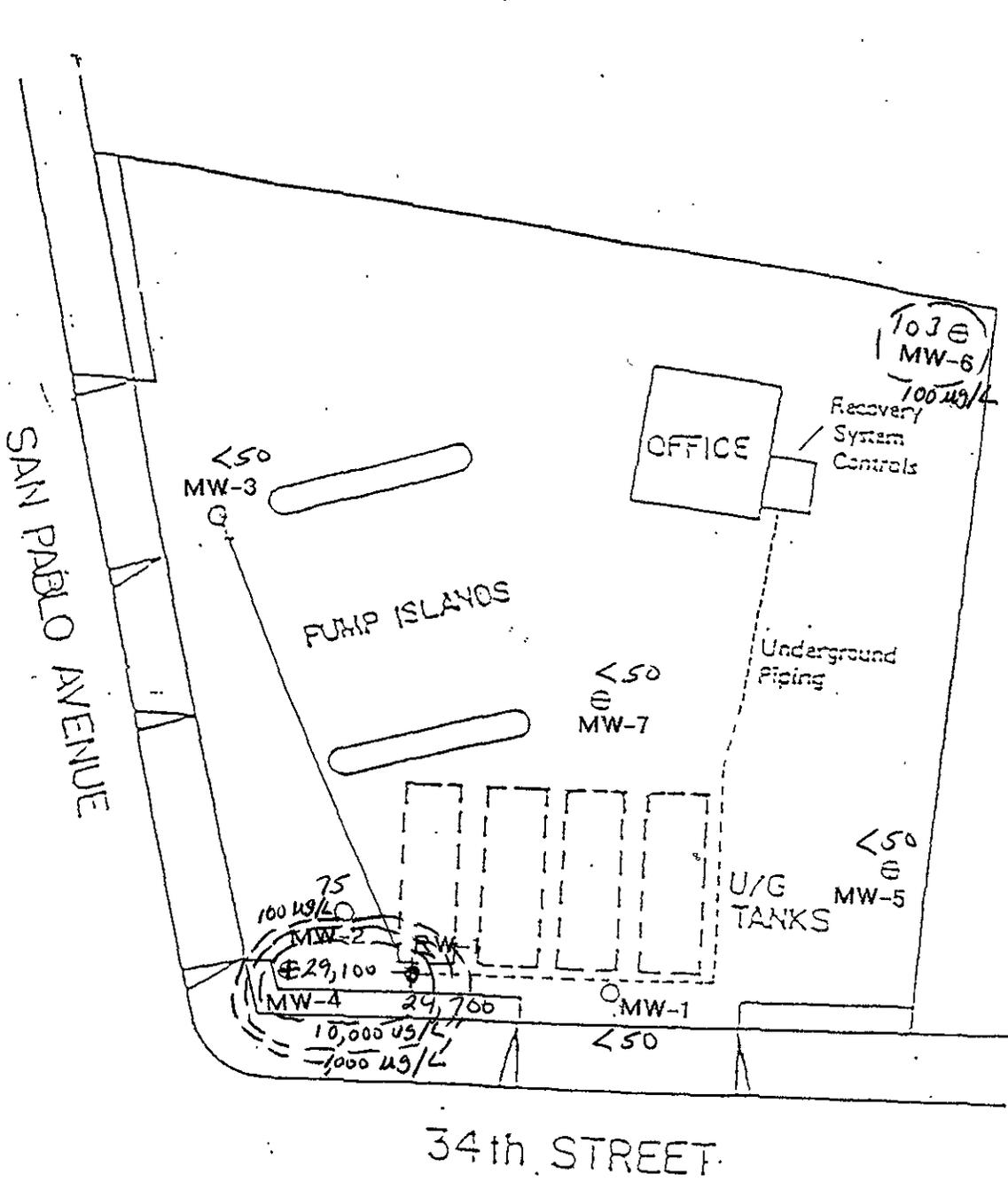
GROUNDWATER CONTOUR MAP
 THRIFTY SERVICE STATION NO. 49
 3400 SAN PABLO AVE.
 OAKLAND, CA

LEGEND

- MW1 - GT MONITORING WELLS
- ⊗ MW-4 - WCC MONITORING WELLS
- ⊕ RW-1 - PROPOSED RECOVERY WELL



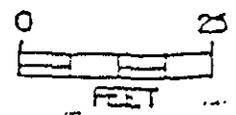
01/17/01



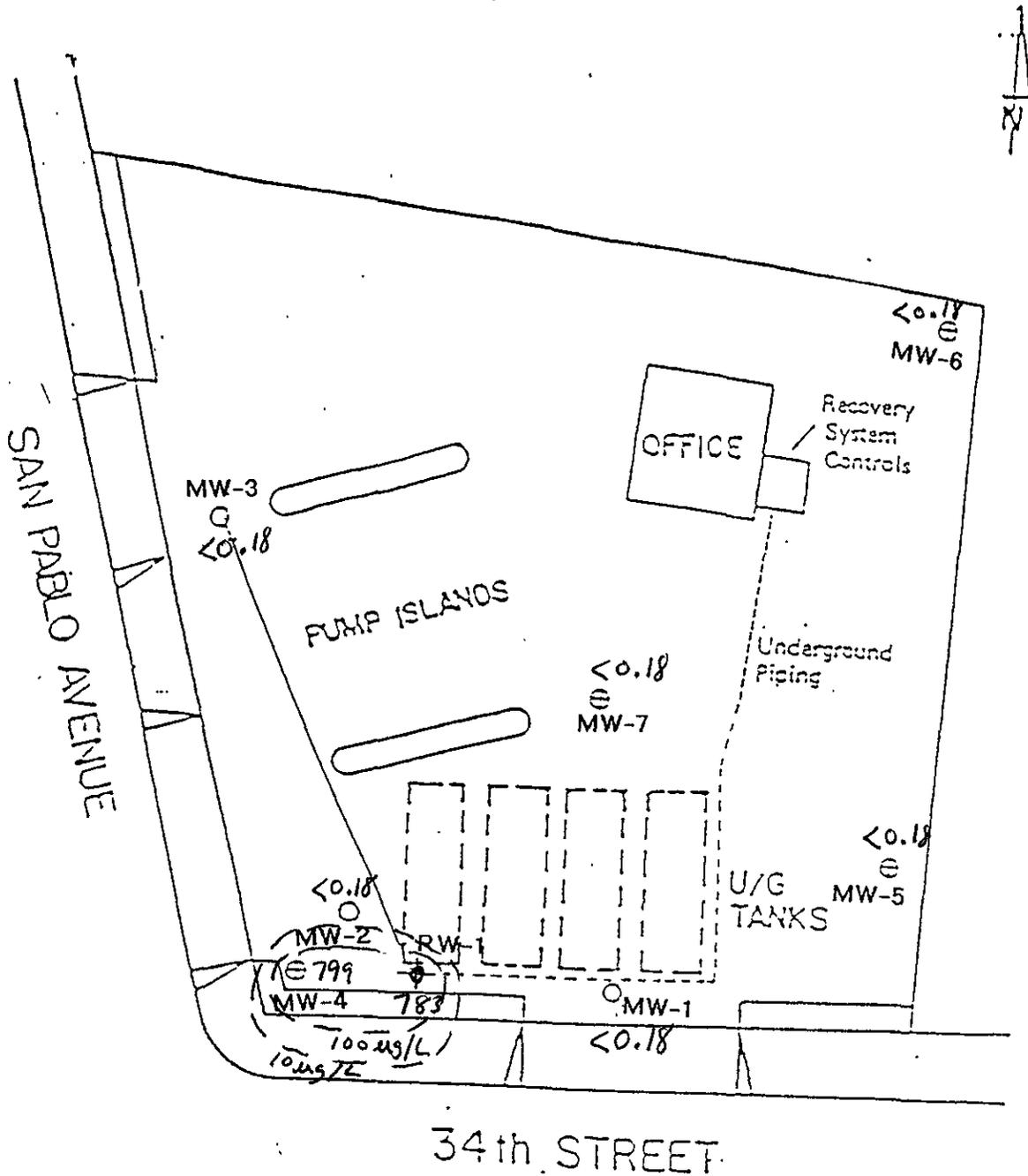
TPH ISOCONCENTRATION MAP $\mu\text{g/L}$
 THRIFTY SERVICE STATION NO. 49
 3400 SAN PABLO AVE.
 OAKLAND, CA

LEGEND

- MW1 - GT MONITORING WELLS
- ⊕ MW-4 - WCC MONITORING WELLS
- ⊗ RW-1 - PROPOSED RECOVERY WELL



01/17/01



BENZENE ISOCONCENTRATION MAP ug/L
 THRIFTY SERVICE STATION NO. 49
 3400 SAN PABLO AVE.
 OAKLAND, CA

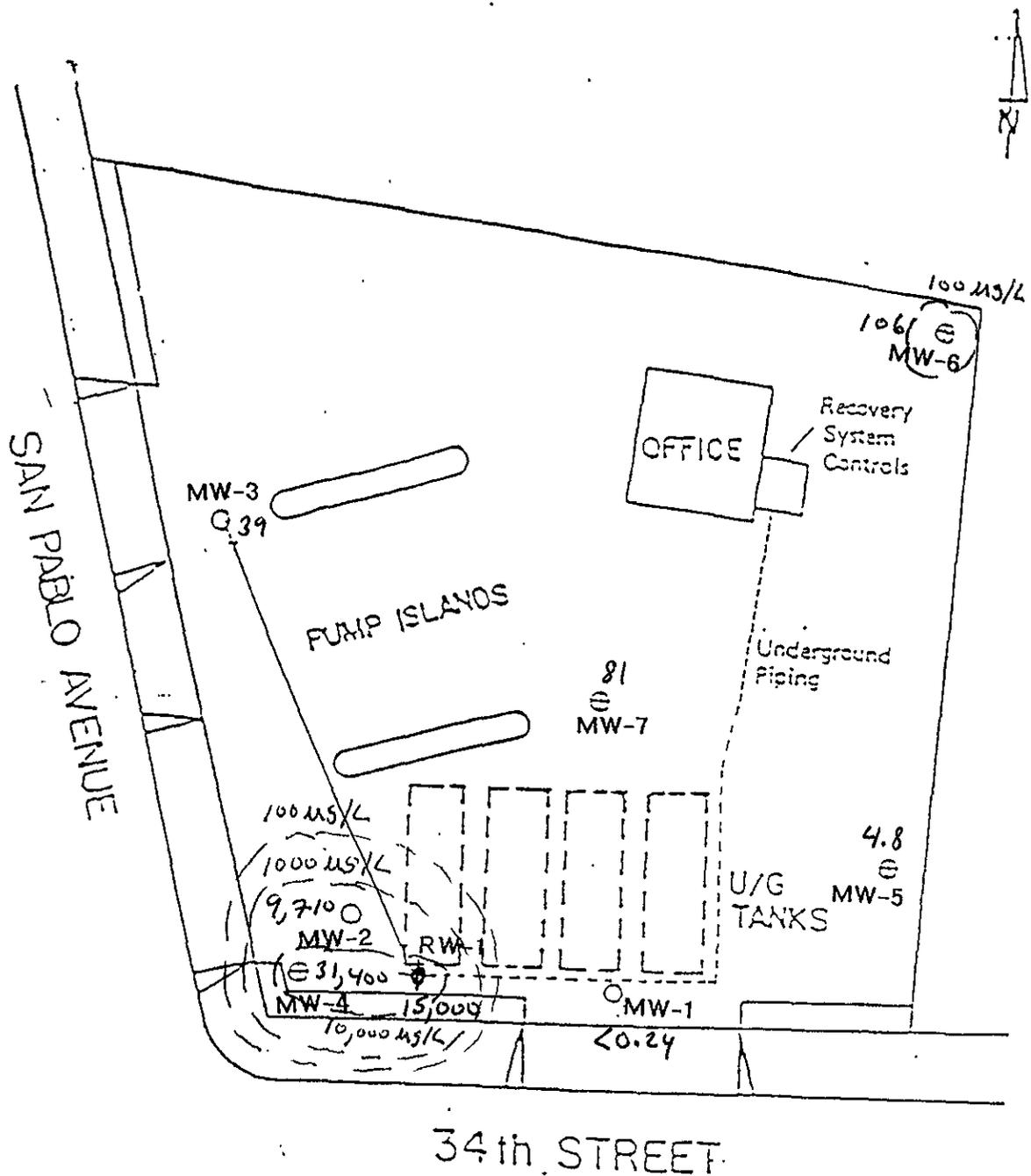
LEGEND

- MW1 - GT MONITORING WELLS
- ⊕ MW-4 - WCC MONITORING WELLS
- ⊕ RW-1 - PROPOSED RECOVERY WELL



01/17/01

FIGURE 4



MTBE ISOCONCENTRATION MAP ug/L
 THRIFTY SERVICE STATION NO. 49
 3400 SAN PABLO AVE.
 OAKLAND, CA

LEGEND

- MW1 - GT MONITORING WELLS
- ⊕ MW-4 - WCC MONITORING WELLS
- ⊕ RW-1 - PROPOSED RECOVERY WELL



01/17/01

FIGURE 5

TABLES

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	ANALYTICAL PARAMETERS						DEPTH TO GROUNDWATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
	TPH (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	EthylBenzene (ug/L)	XYLENE (ug/L)	MTBE (ug/L)					
MONITORING WELL #MW-1											
01/09/92	-	-	-	-	-	-	5.54	NP	0.00	98.03	92.49
04/13/92	-	-	-	-	-	-	5.86	NP	0.00	98.03	92.17
10/05/92	-	-	-	-	-	-	9.39	NP	0.00	98.03	88.64
01/06/93	-	-	-	-	-	-	4.76	NP	0.00	98.03	93.27
04/26/93	-	-	-	-	-	-	4.96	NP	0.00	98.03	93.07
01/04/94	-	-	-	-	-	-	7.00	NP	0.00	98.03	91.03
04/05/94	-	-	-	-	-	-	6.44	NP	0.00	98.03	91.59
10/09/95	44,000	4,500	4,300	1,700	10,000	-	-	-	-	98.03	-
01/08/96	21,000	1,200	150	34	4,800	-	6.15	NP	0.00	98.03	91.88
04/08/96	4,700	80	110	10	910	-	5.40	NP	0.00	98.03	92.63
07/22/96	7,000	280	130	<3	2,100	440	5.50	NP	0.00	98.03	92.53
10/16/96	120	<0.3	<0.3	<0.3	<0.5	180	6.02	NP	0.00	98.03	92.01
01/22/97	160	<0.3	<0.3	<0.3	<0.5	360	4.40	NP	0.00	98.03	93.63
04/21/97	20,000	420	140	5.8	840	55,000	6.30	NP	0.00	98.03	91.73
07/14/97	13,000	<0.3	<0.3	<0.3	<0.55	30,000	5.92	NP	0.00	98.03	92.11
10/07/97	-	-	-	-	-	-	7.71	7.70	0.01	98.03	90.33
01/15/98	<50	0.3	<0.3	<0.3	<0.5	-	4.40	NP	0.00	98.03	93.63
04/23/98	540	<0.3	<0.3	<0.3	<0.5	<20	8.10	NP	0.00	98.03	89.93
07/20/98	<50	<0.3	<0.3	<0.3	<0.5	<5	5.55	NP	0.00	98.03	92.48
10/14/98	50	1.4	0.56	<0.3	11	22	7.05	NP	0.00	98.03	90.98
01/21/99	<50	0.59	<0.3	<0.3	<0.5	<5	4.10	NP	0.00	98.03	93.93
04/15/99	<50	<0.3	<0.3	<0.3	<0.5	<5	4.30	NP	0.00	98.03	93.73
07/26/99	<50	<0.3	<0.3	<0.3	<0.5	<5	5.54	NP	0.00	98.03	92.49
10/13/99	<50	<0.3	<0.3	<0.3	<0.5	<5	6.13	NP	0.00	98.03	91.90
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	<5	6.04	NP	0.00	98.03	91.99
04/05/00	<50	<0.25	<0.25	<0.25	<0.5	<5	4.03	NP	0.00	98.03	94.00
07/19/00	<50	<0.3	<0.3	<0.3	<0.6	<5	4.00	NP	0.00	98.03	94.03
10/18/00	<50	<0.18	<0.14	<0.18	<0.26	<0.24	5.53	NP	0.00	98.03	92.50
01/17/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.97	NP	0.00	98.03	94.06
MONITORING WELL #MW-2											
01/09/92	-	-	-	-	-	-	5.35	NP	0.00	97.44	92.09
04/13/92	-	-	-	-	-	-	7.42	NP	0.00	97.44	90.02
10/05/92	-	-	-	-	-	-	12.15	NP	0.00	97.44	85.29

**TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.**

DATE SAMPLED	ANALYTICAL PARAMETERS						DEPTH TO GROUNDWATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
	TPH (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	EthylBenzene (ug/L)	XYLENE (ug/L)	MTBE (ug/L)					
01/06/93	-	-	-	-	-	-	5.46	NP	0.00	97.44	91.98
04/26/93	-	-	-	-	-	-	5.15	NP	0.00	97.44	92.29
01/04/94	-	-	-	-	-	-	9.45	NP	0.00	97.44	87.99
04/05/94	-	-	-	-	-	-	8.23	NP	0.00	97.44	89.21
10/09/95	33,000	6,000	390	1,700	4,900	-	-	-	-	97.44	-
01/08/96	<50	0.32	<0.3	0.41	2.1	-	5.60	NP	0.00	97.44	91.84
04/08/96	10,000	490	210	210	830	-	5.43	NP	0.00	97.44	92.01
07/22/96	60,000	6,500	1,000	1,500	10,000	8,500	5.65	NP	0.00	97.44	91.79
10/16/96	6,500	12	0.34	0.72	110	4,700	5.82	NP	0.00	97.44	91.62
01/22/97	3,200	<0.3	0.46	0.37	<0.5	8,000	4.30	NP	0.00	97.44	93.14
04/21/97	66,000	5,300	1,000	2,300	14,000	30,000	5.80	NP	0.00	97.44	91.64
07/14/97	17,000	1.8	4.6	4.6	350	24,000	8.92	NP	0.00	97.44	88.52
10/07/97	220,000	5,200	1,700	3,800	15,000	-	6.80	NP	0.00	97.44	90.64
01/19/98	25,000	5.4	2.2	2.1	240	-	8.50	NP	0.00	97.44	88.94
04/23/98	7,700	<0.3	0.55	0.38	4.9	28,000	7.60	NP	0.00	97.44	89.84
07/20/98	430,000	4,200	10,000	5,400	28,000	77,000	6.94	NP	0.00	97.44	90.50
10/14/98	27,000	<0.3	4.5	4.1	4.6	65,000	8.45	NP	0.00	97.44	88.99
01/21/99	16,000	7.6	9.8	4.2	310	*49,000 / 42,000	6.95	NP	0.00	97.44	90.49
04/15/99	20,000	<0.3	<0.3	<0.3	<0.5	*31,000 / 30,000	8.45	NP	0.00	97.44	88.99
07/26/99	6,700	<6	<6	<6	<10	*11,000 / 15,000	6.94	NP	0.00	97.44	90.50
10/13/99	7,600	<3	3.7	<3	11	11,000	5.48	NP	0.00	97.44	91.96
01/20/00	7,500	<6	<6	<6	<10	*14,000 / 16,000	5.84	NP	0.00	97.44	91.60
04/05/00	10,400	<0.25	<0.25	<0.25	<0.5	*10,000 / 14,400	5.41	NP	0.00	97.44	92.03
07/19/00	130	<0.3	<0.3	<0.3	<0.6	*9,620 / 6,520	5.40	NP	0.00	97.44	92.04
10/18/00	150	<0.18	<0.14	<0.18	<0.26	*9,090 / 6,560	6.91	NP	0.00	97.44	90.53
01/17/01	75	<0.18	2	2	3	*8,650 / 9,710	5.41	NP	0.00	97.44	92.03
MONITORING WELL #MW-3											
01/09/92	-	-	-	-	-	-	17.60	NP	0.00	97.69	80.09
04/13/92	-	-	-	-	-	-	17.40	NP	0.00	97.69	80.29
10/05/92	-	-	-	-	-	-	17.35	NP	0.00	97.69	80.34
01/06/93	-	-	-	-	-	-	17.40	NP	0.00	97.69	80.29
04/26/93	-	-	-	-	-	-	17.90	NP	0.00	97.69	79.79
01/04/94	-	-	-	-	-	-	17.60	NP	0.00	97.69	80.09
04/05/94	-	-	-	-	-	-	16.25	NP	0.00	97.69	81.44

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	ANALYTICAL PARAMETERS						DEPTH TO GROUNDWATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
	TPH (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	EthylBenzene (ug/L)	XYLENE (ug/L)	MIBE (ug/L)					
01/08/96	-	-	-	-	-	-	7.11	NP	0.00	97.69	90.58
04/08/96	8,800	610	31	530	900	-	7.20	NP	0.00	97.69	90.49
07/22/96	38,000	4,100	1,500	1,600	5,400	2,600	6.82	NP	0.00	97.69	90.87
10/16/96	2,400	<0.3	<0.3	<0.3	<0.5	3,800	6.84	NP	0.00	97.69	90.85
01/22/97	2,200	<0.3	<0.3	<0.3	<0.5	5,500	4.80	NP	0.00	97.69	92.89
04/21/97	15,000	1,500	36	260	710	11,000	9.40	NP	0.00	97.69	88.29
07/14/97	5,400	0.45	<0.3	<0.3	<0.5	14,000	10.92	NP	0.00	97.69	86.77
10/07/97	8,800	0.39	<0.3	<0.3	0.88	-	11.95	NP	0.00	97.69	85.74
01/19/98	22,000	1,300	15	20	310	-	7.85	NP	0.00	97.69	89.84
04/23/98	9,200	3.9	3.1	5.7	9.8	16,000	11.20	NP	0.00	97.69	86.49
07/20/98	750	0.41	1.4	0.47	1.8	2,800	7.36	NP	0.00	97.69	90.33
10/14/98	750	<0.3	<0.3	<0.3	<0.5	15,000	11.95	NP	0.00	97.69	85.74
01/21/99	4,700	0.32	<0.3	<0.3	<0.5	* 12,000 / 16,000	10.45	NP	0.00	97.69	87.24
04/15/99	7,900	0.59	0.69	<0.3	0.94	* 11,000 / 14,000	7.86	NP	0.00	97.69	89.83
07/26/99	5,200	<3	<3	<3	<5	*9,600 / 11,000	10.40	NP	0.00	97.69	87.29
10/13/99	<50	<0.3	<0.3	<0.3	<0.5	<5	7.09	NP	0.00	97.69	90.60
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	<5	6.86	NP	0.00	97.69	90.83
04/05/00	<50	0.8	<0.25	<0.25	<0.5	*5.6 / <5	8.85	NP	0.00	97.69	88.84
07/19/00	<50	<0.3	<0.3	<0.3	<0.6	<5	8.86	NP	0.00	97.69	88.83
10/18/00	<50	<0.18	<0.14	<0.18	<0.26	<0.24	7.32	NP	0.00	97.69	90.37
01/17/01	<50	<0.18	2	<0.18	1	*39 / 39	5.40	NP	0.00	97.69	92.29
MONITORING WELL #MW-4											
01/09/92	-	-	-	-	-	-	5.25	NP	0.00	97.33	92.08
04/13/92	-	-	-	-	-	-	6.40	NP	0.00	97.33	90.93
10/05/92	-	-	-	-	-	-	9.95	NP	0.00	97.33	87.38
01/06/93	-	-	-	-	-	-	4.10	NP	0.00	97.33	93.23
04/26/93	-	-	-	-	-	-	4.84	NP	0.00	97.33	92.49
01/04/94	-	-	-	-	-	-	9.05	NP	0.00	97.33	88.28
04/05/94	-	-	-	-	-	-	8.10	NP	0.00	97.33	89.23
10/09/95	63,000	9,000	2,100	2,500	9,600	-	-	-	-	97.33	-
01/08/96	23,000	2,200	830	880	3,600	-	5.57	NP	0.00	97.33	91.76
04/08/96	56,000	5,000	2,500	2,600	11,000	-	5.36	NP	0.00	97.33	91.97
07/22/96	33,000	3,700	1,600	1,400	6,000	2,400	4.80	NP	0.00	97.33	92.53
10/16/96	2,800	7.8	0.60	0.41	52	2,000	5.47	NP	0.00	97.33	91.86

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	ANALYTICAL PARAMETERS						DEPTH TO GROUNDWATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
	TPH (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	EthylBenzene (ug/L)	XYLENE (ug/L)	MIBE (ug/L)					
10/07/97	130	<0.3	<0.3	<0.3	<0.5	-	8.20	NP	0.00	98.85	90.65
01/19/98	85	<0.3	<0.3	<0.3	<0.5	-	1.55	NP	0.00	98.85	97.30
04/23/98	220	0.39	<0.3	<0.3	<0.5	350	8.10	NP	0.00	98.85	90.75
07/20/98	<50	<0.3	<0.3	<0.3	<0.5	<5	6.30	NP	0.00	98.85	92.55
10/14/98	<50	<0.3	<0.3	<0.3	<0.5	<5	7.65	NP	0.00	98.85	91.20
01/21/99	<50	<0.3	<0.3	<0.3	<0.5	*6.7 / <5	6.15	NP	0.00	98.85	92.70
04/15/99	<50	<0.3	<0.3	<0.3	<0.5	<5	1.60	NP	0.00	98.85	97.25
07/26/99	<50	<0.3	<0.3	<0.3	<0.5	<5	6.13	NP	0.00	98.85	92.72
10/13/99	<50	<0.3	<0.3	<0.3	<0.5	<5	6.61	NP	0.00	98.85	92.24
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	<5	6.14	NP	0.00	98.85	92.71
04/05/00	<50	0.5	<0.25	<0.25	<0.5	*5.4 / <5	4.58	NP	0.00	98.85	94.27
07/19/00	<50	<0.3	<0.3	<0.3	<0.6	<5	4.59	NP	0.00	98.85	94.26
10/18/00	<50	<0.18	<0.14	<0.18	<0.26	<0.24	6.28	NP	0.00	98.85	92.57
01/17/01	<50	<0.18	<0.14	<0.18	1	*5 / 4.8	4.58	NP	0.00	98.85	94.27
MONITORING WELL #MW-6											
01/09/92	-	-	-	-	-	-	6.30	NP	0.00	99.67	93.37
04/13/92	-	-	-	-	-	-	5.47	NP	0.00	99.67	94.20
10/05/92	-	-	-	-	-	-	9.85	NP	0.00	99.67	89.82
01/06/93	-	-	-	-	-	-	4.16	NP	0.00	99.67	95.51
04/26/93	-	-	-	-	-	-	5.75	NP	0.00	99.67	93.92
01/14/94	-	-	-	-	-	-	7.20	NP	0.00	99.67	92.47
04/05/94	-	-	-	-	-	-	6.76	NP	0.00	99.67	92.91
07/10/95	<100	<0.5	0.9	<0.5	1.1	-	-	-	-	99.67	-
10/09/95	250	4.8	5.6	11	58	-	-	-	-	99.67	-
01/08/96	<50	<0.3	<0.3	<0.3	<0.5	-	6.16	NP	0.00	99.67	93.51
04/08/96	230	4.6	4.7	3.2	33	-	4.60	NP	0.00	99.67	95.07
07/22/96	<50	<0.3	<0.3	<0.3	<0.5	<20	7.30	NP	0.00	99.67	92.37
10/16/96	<50	<0.3	<0.3	<0.3	<0.5	<20	5.82	NP	0.00	99.67	93.85
01/22/97	<50	<0.3	<0.3	<0.3	<0.5	<20	4.40	NP	0.00	99.67	95.27
04/21/97	130	<0.3	<0.3	<0.3	<0.5	<20	7.10	NP	0.00	99.67	92.57
07/14/97	<50	<0.3	<0.3	<0.3	0.70	<20	7.35	NP	0.00	99.67	92.32
10/07/97	<50	0.78	0.3	<0.3	<0.5	-	6.98	NP	0.00	99.67	92.69
01/23/98	<50	<0.3	<0.3	<0.3	<0.5	-	2.35	NP	0.00	99.67	97.32
04/23/98	<50	<0.3	<0.3	<0.3	<0.5	<20	6.90	NP	0.00	99.67	92.77

**TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.**

DATE SAMPLED	ANALYTICAL PARAMETERS						DEPTH TO GROUNDWATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
	TPH (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	EthylBenzene (ug/L)	XYLENE (ug/L)	MTBE (ug/L)					
07/20/98	<50	<0.3	1.1	<0.3	1.4	<5	5.45	NP	0.00	99.67	94.22
10/14/98	<50	<0.3	<0.3	<0.3	<0.5	<5	4.95	NP	0.00	99.67	94.72
01/21/99	<50	0.35	0.62	<0.3	<0.5	<5	3.90	NP	0.00	99.67	95.77
04/15/99	<50	<0.3	<0.3	<0.3	<0.5	<5	2.35	NP	0.00	99.67	97.32
07/26/99	1,000	<0.3	<0.3	<0.3	<0.5	*2,300 / 3,900	3.93	NP	0.00	99.67	95.74
10/13/99	<50	<0.3	<0.3	<0.3	<0.5	<5	6.15	NP	0.00	99.67	93.52
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	*42 / 41	5.84	NP	0.00	99.67	93.83
04/05/00	4,600	338	2.8	1.2	55.2	*282 / 230	3.89	NP	0.00	99.67	95.78
07/19/00	60	1	2	<0.3	<0.6	*87 / 76	3.07	NP	0.00	99.67	96.60
10/18/00	-	-	-	-	-	-	-	-	-	99.67	-
01/17/01	103	<0.18	2	<0.18	3	*78 / 106	3.87	NP	0.00	99.67	95.80
MONITORING WELL #MW-7											
01/09/92	-	-	-	-	-	-	6.30	NP	0.00	99.02	92.72
04/13/92	-	-	-	-	-	-	6.68	NP	0.00	99.02	92.34
10/05/92	-	-	-	-	-	-	9.60	NP	0.00	99.02	89.42
01/06/93	-	-	-	-	-	-	13.90	NP	0.00	99.02	85.12
04/26/93	-	-	-	-	-	-	5.55	NP	0.00	99.02	93.47
01/04/94	-	-	-	-	-	-	7.58	NP	0.00	99.02	91.44
04/05/94	-	-	-	-	-	-	6.66	NP	0.00	99.02	92.36
10/09/95	27,000	2,400	140	1,700	2,700	-	-	-	-	99.02	-
01/08/96	13,000	800	42	540	860	-	6.94	NP	0.00	99.02	92.08
04/08/96	9,100	840	31	690	1,200	-	5.48	NP	0.00	99.02	93.54
07/22/96	11,000	1,700	22	660	700	840	6.60	NP	0.00	99.02	92.42
10/16/96	180	<0.3	<0.3	<0.3	<0.5	270	6.42	NP	0.00	99.02	92.60
01/22/97	130	<0.3	<0.3	<0.3	<0.5	470	5.70	NP	0.00	99.02	93.32
04/21/97	10,000	1,400	27	820	490	1,100	5.30	NP	0.00	99.02	93.72
07/14/97	8,200	660	15	230	270	560	7.90	NP	0.00	99.02	91.12
10/07/97	7,700	480	15	8.4	350	-	7.70	NP	0.00	99.02	91.32
01/19/98	1,400	20	0.74	0.46	4.4	-	6.05	NP	0.00	99.02	92.97
04/23/98	590	<0.3	<0.3	<0.3	<0.5	1,700	7.60	NP	0.00	99.02	91.42
07/20/98	4,900	570	150	300	500	1,500	5.30	NP	0.00	99.02	93.72
10/14/98	1,100	10	<0.3	<0.3	5.3	2,000	8.60	NP	0.00	99.02	90.42
01/21/99	570	0.32	<0.3	<0.3	<0.5	*1,500 / 1,700	6.70	NP	0.00	99.02	92.32
04/15/99	770	<0.3	<0.3	<0.3	<0.5	*1,400 / 1,200	6.07	NP	0.00	99.02	92.95

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	ANALYTICAL PARAMETERS						DEPTH TO GROUNDWATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
	TPH (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	EthylBenzene (ug/L)	XYLENE (ug/L)	MIBE (ug/L)					
07/26/99	500	<0.3	<0.3	<0.3	<0.5	*710 / 950	7.86	NP	0.00	99.02	91.16
10/13/99	<50	<0.3	0.44	<0.3	0.62	<5	6.93	NP	0.00	99.02	92.09
01/20/00	<50	<0.3	<0.3	<0.3	<0.5	*5 / <5	6.44	NP	0.00	99.02	92.58
04/05/00	5,670	415	19	1.7	60.1	*329 / 194	7.86	NP	0.00	99.02	91.16
07/19/00	1,350	14	<3	<3	10	*237 / 120	7.10	NP	0.00	99.02	91.92
10/18/00	<50	<0.18	<0.14	<0.18	<0.26	*63 / 41.1	5.28	NP	0.00	99.02	93.74
01/17/01	<50	<0.18	<0.14	<0.18	3	*57 / 81	5.27	NP	0.00	99.02	93.75
MONITORING WELL #RW-1											
01/09/92	-	-	-	-	-	-	14.00	NP	0.00	-	-
04/13/92	-	-	-	-	-	-	14.00	NP	0.00	-	-
10/05/92	-	-	-	-	-	-	15.05	NP	0.00	-	-
01/06/93	-	-	-	-	-	-	5.43	NP	0.00	-	-
04/26/93	-	-	-	-	-	-	13.20	NP	0.00	-	-
01/04/94	-	-	-	-	-	-	14.30	NP	0.00	-	-
04/05/94	-	-	-	-	-	-	14.13	NP	0.00	-	-
01/08/96	-	-	-	-	-	-	14.22	NP	0.00	-	-
04/08/96	-	-	-	-	-	-	14.33	NP	0.00	-	-
07/22/96	8,100	530	84	120	860	-	14.27	NP	0.00	-	-
10/16/96	-	-	-	-	-	-	13.10	NP	0.00	-	-
01/22/97	-	-	-	-	-	-	16.97	NP	0.00	-	-
10/07/97	-	-	-	-	-	-	14.20	NP	0.00	-	-
01/15/98	-	-	-	-	-	-	15.60	NP	0.00	-	-
04/23/98	81,000	0.72	1.4	3.2	5.7	270,000	14.20	NP	0.00	-	-
07/20/98	-	-	-	-	-	-	14.30	NP	0.00	-	-
10/14/98	-	-	-	-	-	-	11.20	NP	0.00	-	-
01/21/99	-	-	-	-	-	-	-	-	-	-	-
04/15/99	-	-	-	-	-	-	13.10	NP	0.00	-	-
07/26/99	4,400	<3	<3	<3	<5	*6,800 / 9,000	13.83	NP	0.00	-	-
10/13/99	-	-	-	-	-	-	-	-	-	-	-
01/20/00	-	-	-	-	-	-	13.22	NP	0.00	-	-
04/05/00	-	-	-	-	-	-	-	-	-	-	-
07/19/00	-	-	-	-	-	-	13.25	NP	0.00	-	-
10/18/00	-	-	-	-	-	-	11.14	NP	0.00	-	-
01/17/01	-	-	-	-	-	-	11.12	NP	0.00	-	-

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #049, OAKLAND, CA.

DATE SAMPLED	ANALYTICAL PARAMETERS						DEPTH TO GROUNDWATER (feet)	DEPTH TO PRODUCT (feet)	PRODUCT THICKNESS (feet)	CASING ELEVATION (feet)	GROUNDWATER ELEVATION (feet)
	TPH (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	EthylBenzene (ug/L)	XYLENE (ug/L)	MTBE (ug/L)					

NOTE: * MTBE 8020 / 8260
 ND = Nondetectable
 NP = No free hydrocarbon product
 " - " = Not analyzed / Not available

Benzene, toluene, ethylbenzene, and xylene analyzed by EPA method 8020.
 Total petroleum hydrocarbons (TPH) analyzed by EPA method 8015 modified for gasoline
 Methyl-tert Butyl Ether (MTBE) analyzed by EPA method 8020 or 8260

TABLE 2
GROUNDWATER REMEDIATION SYSTEM MONITORING PROGRAM
 Thrifty Oil Co. Station No 049, OAKLAND, CA

Date	Totalizer (gallons)	Total/Cum. Discharge (gallons)	Flow (Gal/day)	EFFLUENT (ug/L)						INFLUENT (ug/L)					
				TPH-g	B	T	E	X	MTBE	TPH-g	B	T	E	X	MTBE
4/8/91	1,310	0	-	-	<0.3	<0.3	<0.3	<0.9	-	-	910	2000	160	2000	-
4/15/91	1,434	124	18	-	<0.3	<0.3	<0.3	<0.3	-	-	2800	4600	310	5000	-
4/22/91	1,510	200	11	-	<15	<15	<15	<45	-	-	3100	3300	<15	2800	-
4/29/91	1,660	350	21	-	<0.3	<0.3	<0.3	<0.9	-	-	3600	4500	300	5000	-
5/6/91	1,740	430	11	-	<0.3	<0.3	<0.3	<0.9	-	-	3600	3500	300	3800	-
5/13/91	1,880	570	20	-	<0.3	<0.3	<0.3	<0.9	-	-	3300	3200	230	3900	-
5/20/91	2,010	700	19	-	<0.3	<0.3	<0.3	<0.9	-	-	3300	3400	260	5100	-
5/28/91	2,050	740	5	-	<0.3	<0.3	<0.3	<0.9	-	-	2900	3000	230	4200	-
6/3/91	2,110	800	10	-	<0.3	<0.3	<0.3	<0.9	-	-	2500	2100	110	2800	-
6/10/91	2,160	850	7	-	<0.3	<0.3	<0.3	<0.9	-	-	1800	1700	120	2100	-
6/17/91	2,219	909	8	-	<0.3	<0.3	<0.3	<0.9	-	-	2100	1900	170	2700	-
6/24/91	2,263	963	6	-	<0.3	<0.3	<0.3	<0.9	-	-	2100	1800	150	2700	-
07/01/91	2,313	1,003	7	-	<0.5	<0.5	<1	<1	-	-	2,700	2,000	150	2,900	-
07/08/91	2,700	1,390	55	-	<0.5	<0.5	<1	<1	-	-	4,000	2,500	130	4,400	-
07/15/91	2,872	1,562	25	-	<0.5	<0.5	<1	<1	-	-	3,100	1,900	140	3,200	-
07/22/91	3,144	1,834	39	-	<0.5	<0.5	<1	<1	-	-	3,400	2,100	110	2,800	-
07/29/91	3,220	1,910	11	-	<0.5	<0.5	<1	<1	-	-	5,100	2,200	180	2,700	-
08/05/91	3,348	2,038	18	-	<0.5	<0.5	<1	<1	-	-	5,100	3,900	400	4,200	-
08/12/91	3,472	2,162	18	-	<0.5	<0.5	<1	<1	-	-	11,000	6,200	440	8,400	-
08/19/91	3,548	2,238	11	-	<0.5	<0.5	<1	<1	-	-	4,500	2,400	130	2,600	-
08/26/91	3,655	2,345	15	-	<0.5	<0.5	<1	<1	-	-	4,400	2,500	260	3,600	-
09/09/91	3,822	2,512	12	-	<0.5	<0.5	<1	<1	-	-	5,200	3,000	390	3,700	-
09/16/91	3,884	2,574	9	-	<0.5	<0.5	<1	<1	-	-	4,100	2,000	460	4,900	-
09/23/91	4,013	2,703	18	-	<0.5	<0.5	<1	<1	-	-	4,600	1,600	710	6,400	-
09/30/91	4,092	2,782	11	-	<0.5	<0.5	<1	<1	-	-	5,700	2,000	380	6,200	-
10/07/91	4,131	2,821	6	System shut down											
10/14/91	4,185	2,885	9	-	<0.5	<0.5	<1	<1	-	-	4,400	2,000	370	8,100	-
10/21/91	4,406	3,096	30	-	<0.5	<0.5	<1	<1	-	-	2,300	1,100	190	4,200	-
10/28/91	4,474	3,164	10	-	<0.5	<0.5	<1	<1	-	-	6,400	4,100	620	6,100	-
11/03/91	4,613	3,303	23	-	<0.5	<0.5	<1	<1	-	-	6,100	2,800	200	5,600	-
11/11/91	4,700	3,390	11	-	<0.5	<0.5	<1	<1	-	-	6,500	2,300	<30	4,900	-
11/18/91	4,887	3,577	27	-	<0.5	<0.5	<1	<1	-	-	5,600	2,500	300	4,600	-
11/25/91	5,042	3,732	22	-	<0.5	<0.5	<1	<1	-	-	5,400	2,800	230	5,700	-
12/03/91	5,263	3,953	28	-	<0.5	<0.5	<1	<1	-	-	7,200	3,300	490	5,500	-
12/09/91	5,362	4,052	17	-	<0.5	<0.5	<1	<1	-	-	4,400	1,700	140	3,900	-
12/16/91	5,486	4,176	18	-	<0.5	<0.5	<0.5	<0.5	-	-	4,700	2,300	310	4,600	-
12/23/91	5,516	4,206	4	-	<0.5	<0.5	<0.5	<0.5	-	-	4,000	2,200	290	5,900	-
12/30/91	5,575	4,265	8	-	<0.5	<0.5	<0.5	<0.5	-	-	5,200	2,500	350	5,800	-
01/15/92	5,720	4,410	9	-	<0.5	<0.5	<0.5	<0.5	-	-	3,400	1,900	300	6,300	-
02/10/92	6,264	4,954	21	-	<0.5	<0.5	<0.5	<0.5	-	-	5,800	2,800	320	7,200	-
03/09/92	8,520	7,210	81	<200	<0.5	1.6	<0.5	<0.5	-	47,000	7,100	4,800	630	10,300	-

TABLE 2
GROUNDWATER REMEDIATION SYSTEM MONITORING PROGRAM
 Thrifty Oil Co. Station No 049, OAKLAND, CA

Date	Totalizer (gallons)	Total/Cum. Discharge (gallons)	Flow (gal/day)	EFFLUENT (ug/L)						INFLUENT (ug/L)						
				TPH-g	B	T	E	X	MTBE	TPH-g	B	T	E	X	MTBE	
04/13/92	22,888	21,578	411	<200	<0.5	<0.5	<0.5	<0.5	-	29,000	4,500	2,200	160	4,800	-	
05/11/92	24,920	23,610	73	<200	<0.5	<0.5	<0.5	<0.5	-	22,000	4,300	1,500	130	3,800	-	
06/01/92	28,330	27,020	162	<200	<0.5	<0.5	<0.5	<0.5	-	18,000	3,400	1,500	660	4,200	-	
07/13/92	72,675	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	1,800	750	150	5,600	-	
07/13/92	72,675	-	-	The system pumped air and flowmeter jumped from 30,000 gallons to 70,000 gallons.						-	-	-	-	-	-	-
08/17/92	75,046	29,391	68	-	<0.5	<0.5	<0.5	<0.5	-	-	1,100	350	200	1,100	-	
09/14/92	75,582	29,927	19	-	<0.5	<0.5	<0.5	<1	-	-	2,100	520	<25	3,500	-	
10/05/92	75,680	30,025	5	<200	<0.5	<0.5	<0.5	<1	-	19,000	1,700	270	<25	4,000	-	
11/09/92	77,280	31,625	46	-	<0.5	<0.5	<0.5	<0.5	-	-	4,000	1,400	120	5,900	-	
12/14/92	79,420	33,765	61	-	<0.5	<0.5	<0.5	<1	-	-	7,300	4,900	1,800	16,000	-	
01/04/93	84,720	39,065	252	-	<0.5	<0.5	<0.5	<1	-	-	5,400	2,100	450	7,800	-	
02/15/93	102,689	57,034	428	<200	<0.5	<0.5	<0.5	<1	-	41,000	6,600	3,200	260	9,600	-	
02/22/93	146,430	-	-	The system pumped air and flowmeter jumped from 102,689 gallons to 146,430 gallons.						-	-	-	-	-	-	-
03/08/93	147,500	58,104	76	-	<0.5	<0.5	<0.5	<1	-	-	7,400	3,400	56	11,000	-	
04/26/93	151,200	61,804	76	<100	<0.5	<0.5	<0.5	<1	-	36,000	4,300	2,200	420	8,300	-	
04/26/93	151,200	61,804	-	Shut down system for repair						-	-	-	-	-	-	-
07/21/93	151,240	61,844	0	Restart the system						-	-	-	-	-	-	-
08/11/93	151,650	62,254	20	-	<0.5	<0.5	<0.5	<1	-	-	6,500	2,300	390	6,200	-	
09/16/93	154,005	64,609	65	<60	<0.3	<0.3	<0.3	<0.6	-	43,000	2,300	320	<4.4	2,900	-	
10/04/93	154,896	65,500	50	<60	<0.3	<0.3	<0.3	<0.6	-	33,000	2,900	470	6.9	3,500	-	
11/05/93	157,431	68,035	79	<50	<0.3	<0.3	<0.3	<0.5	-	15,000	1,100	27	<0.3	920	-	
12/03/93	159,324	69,928	68	<50	<0.3	<0.3	<0.3	<0.5	-	16,000	1,100	88	<6.6	2,300	-	
01/06/94	166,440	77,044	209	-	<0.3	<0.3	<0.3	<0.5	-	-	3,800	730	<13	1,200	-	
02/03/94	170,720	81,324	153	-	<0.3	<0.3	<0.3	<0.5	-	-	3,600	610	<4.4	4,800	-	
03/03/94	178,168	88,772	266	-	<0.3	<0.3	<0.3	<0.5	-	-	2,800	2,000	270	3,400	-	
04/07/94	185,670	96,274	214	<50	<0.3	<0.3	<0.3	<0.5	-	26,000	2,200	550	<6.6	1,900	-	
05/12/94	188,840	99,444	91	<50	<0.3	<0.3	<0.3	<0.5	-	4,600	100	10	8.4	280	-	
06/16/94	194,680	105,284	167	<50	<0.3	<0.3	<0.3	<0.5	-	<50	<0.3	<0.3	<0.3	<0.5	-	
07/11/94	199,135	109,739	178	<50	<0.3	<0.3	<0.3	<0.5	-	4,000	220	<2.6	<2.6	320	-	
08/04/94	200,910	111,514	74	<50	<0.3	<0.3	<0.3	<0.5	-	7,800	480	6.2	<0.3	630	-	
09/15/94	203,450	114,054	60	<50	<0.3	<0.3	<0.3	<0.5	-	3,200	150	2.4	2.6	170	-	
10/10/94	205,210	115,814	70	<50	<0.3	<0.3	<0.5	<0.5	-	1,300	8.6	1.5	1.1	15	-	
11/07/94	206,060	116,664	30	<50	<0.3	<0.3	<0.5	<0.5	-	170	1.5	<0.3	<0.5	0.5	-	
12/05/94	207,093	117,697	37	<50	<0.3	<0.3	<0.5	<0.5	-	75	1.3	<0.3	<0.5	<0.5	-	
01/09/95	207,293	117,897	6	<50	<0.3	<0.3	<0.5	<0.5	-	<50	<0.3	<0.3	<0.5	<0.5	-	
02/01/95	207,650	118,254	16	<50	<0.3	<0.3	<0.5	<0.5	-	<50	<0.3	<0.3	<0.5	<0.5	-	
02/06/95	207,810	118,414	32	<50	<0.3	<0.3	<0.5	<0.5	-	<50	2.7	<0.3	<0.5	<0.5	-	
03/10/95	208,430	119,034	19	<100	<0.5	<0.5	<0.5	<1	-	<100	<0.5	<0.5	<0.5	<1	-	
04/10/95	208,564	119,168	4	<100	<0.5	<0.5	<0.5	<1	-	3,300	180	7.6	2.1	150	-	
05/08/95	208,608	119,212	2	<100	<0.5	<0.5	<0.5	<1	-	11,000	640	9.2	<5	1,100	-	
06/05/95	208,926	119,530	11	<100	<0.5	<0.5	<0.5	<1	-	5,100	270	2.2	<0.5	49	-	

TABLE 2
GROUNDWATER REMEDIATION SYSTEM MONITORING PROGRAM
 Thrifty Oil Co. Station No 049, OAKLAND, CA

Date	Totalizer (gallons)	Total/Cum. Discharge (gallons)	Flow (gal/day)	EFFLUENT (ug/L)						INFLUENT (ug/L)						
				TPH-g	B	T	E	X	MTBE	TPH-g	B	T	E	X	MTBE	
07/10/95	214,182	124,786	150	<100	<0.5	<0.5	<0.5	<1	-	13,000	1,600	120	24	1,300	-	
08/07/95	221,876	132,480	275	Shut down system for repair						-	-	-	-	-	-	-
08/28/95	221,997	132,601	6	Restart the system						-	-	-	-	-	-	-
09/06/95	222,003	132,607	1	<100	<0.5	<0.5	<0.5	<1	-	2,300	<0.5	<0.5	<0.5	<1	-	
10/09/95	222,343	132,947	10	<100	<0.5	<0.5	<0.5	<1	-	2,000	5.6	0.77	0.66	3.8	-	
11/06/95	222,704	133,308	13	<50	0.3	0.31	<0.3	0.68	-	3,000	27	1.7	3.7	48	-	
12/11/95	223,792	134,396	31	<50	<0.3	<0.3	<0.3	<0.5	-	<50	<0.3	<0.3	<0.3	0.96	-	
01/08/96	224,661	135,265	31	970	<0.3	<0.3	<0.3	0.67	-	1,800	39	<0.3	<0.3	<0.5	-	
02/12/96	227,812	138,416	90	<50	10	0.37	<0.3	0.53	-	3,300	190	<7.5	<7.5	20	-	
03/12/96	229,301	139,905	51	<50	<0.3	<0.3	<0.3	<0.5	-	2,700	250	2.3	<1.5	<2.5	-	
04/08/96	242,320	152,924	482	<50	<0.3	<0.3	<0.3	<0.5	-	1,000	90	5	<0.3	67	-	
05/06/96	247,840	158,444	197	100	<0.3	<0.3	<0.3	<0.5	-	15,000	2,200	600	32	2,400	-	
06/03/96	248,423	159,027	21	Shut down system for carbon change						-	-	-	-	-	-	
08/08/96	248,423	159,027	-	Start-up system						-	-	-	-	-	-	
08/20/96	248,630	159,234	17	<50	<0.3	<0.3	<0.3	<0.5	-	2,100	24	<0.3	<0.3	49	-	
09/23/96	259,030	169,634	306	<50	<0.3	<0.3	<0.3	<0.5	-	4,100	260	<3	<3	34	-	
10/16/96	263,610	174,214	199	<50	<0.3	<0.3	<0.3	<0.5	-	2,700	220	3.8	<0.6	44	-	
11/19/96	263,986	174,590	11	<50	<0.3	<0.3	<0.3	<0.5	-	1,200	<0.3	<0.3	<0.3	<0.5	-	
12/16/96	264,210	174,814	8	<50	<0.3	<0.3	<0.3	1.5	-	29,000	410	2,300	120	1,100	-	
01/22/97	266,220	176,824	54	<50	<0.3	<0.3	<0.3	<0.5	-	68,000	<0.3	<0.3	<0.3	<0.5	-	
02/24/97	267,030	177,634	25	<50	<0.3	<0.3	<0.3	<0.5	-	51,000	3,500	3,200	390	2,200	-	
03/17/97	267,230	177,834	10	<50	<0.3	<0.3	<0.3	<0.5	-	89,000	<6	11	<6	14	-	
04/21/97	267,415	178,019	5	<50	<0.3	<0.3	<0.3	<0.5	-	61,000	730	18	130	360	-	
05/22/97	276,535	187,139	294	<50	<0.3	<0.3	<0.3	<0.5	-	850	1.3	<0.3	0.4	4.6	-	
06/23/97	281,214	191,818	146	-	-	-	-	-	-	-	-	-	-	-	-	
07/14/97	284,210	194,814	143	<50	<0.3	<0.3	<0.3	<0.5	-	6,600	<0.3	0.59	<0.3	9	-	
08/18/97	298,610	209,214	411	-	-	-	-	-	-	-	-	-	-	-	-	
09/15/97	301,043	211,647	87	-	-	-	-	-	-	-	-	-	-	-	-	
10/07/97	333,480	244,084	1,474	<50	<0.3	<0.3	<0.3	<0.5	-	94,000	<0.3	<0.3	<0.3	<0.5	-	
11/17/97	334,286	244,890	20	-	-	-	-	-	-	-	-	-	-	-	-	
12/08/97	334,382	244,986	5	-	-	-	-	-	-	-	-	-	-	-	-	
12/12/97	-	-	-	Shut down system due to stolen equipment						-	-	-	-	-	-	-
04/08/98	-	-	-	<50	<0.3	<0.3	<0.3	<0.5	<20	3,100	12	1	<0.3	490	2,600	
05/11/98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
06/22/98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
07/20/98	334,382	244,986	-	<50	<0.3	<0.3	<0.3	<0.5	-	52,000	8	0.52	0.83	1.5	-	
08/03/98	346,521	257,125	867	Shut down system for carbon canisters replacement						-	-	-	-	-	-	-
09/17/98	354,985	265,589	188	-	-	-	-	-	-	-	-	-	-	-	-	
10/14/98	358,015	268,619	112	<50	<0.3	<0.3	<0.3	1.6	-	3,100	45	13	3.5	350	-	
11/05/98	359,600	270,204	72	System shut down due to vandalism and stolen equipment						-	-	-	-	-	-	-
11/20/98	359,600	270,204	-	Restart						-	-	-	-	-	-	-

TABLE 2
GROUNDWATER REMEDIATION SYSTEM MONITORING PROGRAM
 Thrifty Oil Co. Station No 049, OAKLAND, CA

Date	Totalizer (gallons)	Total/Cum. Discharge (gallons)	Flow (gals/day)	EFFLUENT (ug/L)						INFLUENT (ug/L)					
				TPH-g	B	T	E	X	MTBE	TPH-g	B	T	E	X	MTBE
12/11/98	369,452	280,056	469	-	-	-	-	-	-	-	-	-	-	-	-
12/24/98	-	-	-	No reading, meter broken						-	-	-	-	-	-
01/15/99	0	280,056	-	Replaced Flowmeter started at 0						-	-	-	-	-	-
01/21/99	985.5	281,042	164	57	<0.3	<0.3	<0.3	0.76	-	380	6.2	1	<0.3	9.1	-
02/12/99	1,971.0	282,027	45	-	-	-	-	-	-	-	-	-	-	-	-
03/12/99	4,390.0	284,446	86	-	-	-	-	-	-	-	-	-	-	-	-
04/15/99	8,595.0	288,651	124	<50	<0.3	<0.3	<0.3	<0.5	<5	410	1.6	0.78	<0.3	5	*580 / 330
05/04/99	9,410.0	289,466	43	-	-	-	-	-	-	-	-	-	-	-	-
05/18/99	9,410.0	289,466	-	Shut down system for pump controller repair by manufacturer						-	-	-	-	-	-
09/20/99	9,411.0	289,467	0	Restart the system						-	-	-	-	-	-
09/24/99	9,412.4	289,468	0	-	-	-	-	-	-	-	-	-	-	-	-
10/13/99	9,509.8	289,566	5	<50	<0.3	<0.3	<0.3	<0.5	<5	6,000	<0.3	<0.3	<0.3	<0.5	13,000
11/12/99	9,701.9	289,758	6	-	-	-	-	-	-	-	-	-	-	-	-
12/17/99	9,893.7	289,950	5	-	-	-	-	-	-	-	-	-	-	-	-
01/20/00	10,052.1	290,108	5	<50	<0.3	<0.3	<0.3	<0.5	-	<50	<0.3	<0.3	<0.3	<0.5	-
02/17/00	10,156.6	290,213	4	-	-	-	-	-	-	-	-	-	-	-	-
03/13/00	10,354.7	290,411	8	-	-	-	-	-	-	-	-	-	-	-	-
04/05/00	10,545.7	290,602	8	72.7	1.8	4.1	0.7	6.7	-	119,000	2,360	6,440	6,240	25,200	*30,800 / 21,800
05/19/00	11,071.7	291,128	12	Shut down system for carbon drum replacement						-	-	-	-	-	-
06/05/00	11,075.4	291,131	0	Restart the system						-	-	-	-	-	-
06/14/00	11,131.6	291,188	6	<50	<0.3	<0.3	<0.3	<0.5	<5	<1,000	<6	<6	<6	14	24,500
07/06/00	11,362.0	291,418	10	Shut down system for carbon replacement						-	-	-	-	-	-
07/17/00	0.0	291,418	-	Restart the system after carbon change, repipe and flowmeter change (starting at 0.0)						-	-	-	-	-	-
07/24/00	411.0	291,829	59	<50	<0.3	<0.3	<0.3	<0.6	<5	205	<0.3	1	<0.3	<0.6	*99 / 104
08/21/00	8,193.0	299,611	278	-	-	-	-	-	-	-	-	-	-	-	-
09/18/00	27,251.0	318,669	681	-	-	-	-	-	-	-	-	-	-	-	-
10/18/00	54,280.0	345,698	901	<50	<0.18	<0.14	<0.18	<0.26	<0.24	357,000	2,380	2,960	1,290	6,850	9,630
10/30/00	64,610.0	356,028	861	-	-	-	-	-	-	-	-	-	-	-	-
11/27/00	79,870.0	371,288	545	-	-	-	-	-	-	-	-	-	-	-	-
12/22/00	99,240.0	390,658	775	-	-	-	-	-	-	-	-	-	-	-	-
01/17/01	101,250.0	392,688	77	<50	<0.18	<0.14	<0.18	<0.26	<0.24	24,700	783	373	2	3,480	15,000
03/30/01	195,400.0	486,818	1,308	-	-	-	-	-	-	-	-	-	-	-	-

Note: TPH is analyzed by EPA Method 8015 M
 BTEX is analyzed by EPA Method 602 or 8020
 < = less than laboratory detection level indicated
 - = no sample / not analyzed
 *MTBE 8020/8260

In February 2000, the total cumulative discharge amount was corrected to reflect all system maintenance and flowmeter changeouts since the startup of the system. The total number may be different from previous versions of this table

APPENDIX A

FIELD DATA -GROUNDWATER SAMPLING PROGRAM

Site: <u>7049</u>	Date: <u>01-17-01</u>
Address: _____	
Personnel: <u>SERBON,</u>	Weather: <u>SUNNY DAY</u>
Well No: <u>MW-1</u>	Equip: <u>BAILER</u>

Before Purging:			
Total Well Depth: (ft.)	<u>17.78</u>	Well Diameter	<u>2"</u>
Depth to Water (ft)	<u>3.97</u>	Est. Purge Volume:	<u>9</u>

Sampling Data:							
	Initial Turbidity:			Final Turbidity:			
Time	9:02	9:03	9:04	9:06	9:07	9:08	9:10
Depth	9.60	9.10	9.30	9.20	9.10	9.60	9.90
Turbidity	6.14	6.17	6.26	6.19	6.17	6.13	6.11
Turbidity	71.4	71.2	70.9	70.7	70.5	70.3	70.1
Sample No.	1	2	3	5	6	7	9

Purging/Before Sample Collection	
Water (ft.)	Total Well Depth(ft).

FIELD DATA -GROUNDWATER SAMPLING PROGRAM

Site:	# 049	Date:	01-17-01
Address:			
Personnel:	SERBAN	Weather:	SUNNY
Well No:	MW-2	Equip:	BAILER

Before Purging:			
Total Well Depth: (ft.)	23.80	Well Diameter	2"
Depth to Water (ft)	5.41	Est. Purge Volume:	12

Sampling Data:							
	Initial Turbidity:			Final Turbidity:			
Time	9:49	9:51	9:53	9:54	9:56	9:58	10:00
EC	970	930	950	910	930	950	910
	6.23	6.21	6.12	6.11	6.09	6.11	6.09
	21.3	21.1	20.9	20.7	20.5	20.3	20.1
	1	3	5	6	8	10	12

Purging/Before Sample Collection			
Depth to Water (ft.)	8.20	Total Well Depth(ft).	23.80

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site:	# 049	Date:	01-17-01
Address:			
Personnel:	SERBATA,	Weather:	SUNNY DAY
Well No:	MW-3	Equip:	BATCH

Before Purging:			
Total Well Depth: (ft.)	24.20	Well Diameter	2"
Depth to Water (ft)	5.40	Est. Purge Volume:	12

Initial Readings:				Final Readings:			
Time	10:34	10:36	10:38	10:39	10:41	10:43	10:45
EC	1110	980	970	980	960	950	930
pH	6.18	6.15	6.15	6.09	6.07	6.09	6.06
Temp	71.4	71.3	71.1	70.9	70.8	70.7	70.7
Gal.	1	3	5	6	8	10	12
Time							
EC							
pH							
Temp							
Gal.							

8.16

24.20

FIELD DATA -GROUNDWATER SAMPLING PROGRAM

Site: <u>049</u>	Date: <u>01-17-01</u>
Address: _____	
Personnel: <u>JERBAH</u>	Weather: <u>SUNNY DAY</u>
Well No: <u>MW-5</u>	Equip: <u>BATUR</u>

Before Purging:			
Total Well Depth: (ft.)	<u>13.78</u>	Well Diameter	<u>2"</u>
Depth to Water (ft)	<u>4.58</u>	Est. Purge Volume:	<u>6</u>

Sampling Data:							
Initial Turbidity:				Final Turbidity:			
Time	8:54	8:55	8:56	8:57	8:58	8:59	9:00
EC	430	910	940	910	910	920	940
pH	6.14	6.13	6.15	6.11	6.09	6.11	6.09
Temp	71.4	71.2	71.2	70.9	70.7	70.6	70.4
Gal.	0.5	1	2	3	4	5	6
Time							
EC							
pH							
Temp							
Gal.							

After Purging/Before Sample Collection	
Depth to Water (ft.) <u>7.80</u>	Total Well Depth(ft.) <u>13.78</u>

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site: <u>A049</u>	Date: <u>01-17-01</u>
Address: _____	
Personnel: <u>SERBAN,</u>	Weather: <u>SUNNY DAY</u>
Well No: <u>MW-6</u>	Equip: <u>BAUER</u>

Before Purging:			
Total Well Depth: (ft.)	<u>13.06</u>	Well Diameter	<u>2"</u>
Depth to Water (ft)	<u>3.87</u>	Est. Purge Volume:	<u>6</u>

Sampling Data:							
Initial Turbidity:				Final Turbidity:			
Time	<u>10:49</u>	<u>10:50</u>	<u>10:51</u>	<u>10:52</u>	<u>10:53</u>	<u>10:54</u>	<u>10:55</u>
EC	<u>1690</u>	<u>1670</u>	<u>1680</u>	<u>1640</u>	<u>1620</u>	<u>1630</u>	<u>1610</u>
pH	<u>6.21</u>	<u>6.18</u>	<u>6.17</u>	<u>6.18</u>	<u>6.16</u>	<u>6.13</u>	<u>6.11</u>
Temp	<u>71.4</u>	<u>71.2</u>	<u>71.2</u>	<u>71.1</u>	<u>70.9</u>	<u>70.8</u>	<u>70.8</u>
Gal.	<u>0.5</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Time							
EC							
pH							
Temp							
Gal.							

After Purging/Before Sample Collection Pu	Before Sample Collection
Depth to Water (ft.) <u>6.82</u>	Total Well Depth (ft.) <u>13.06</u>

FIELD DATA -GROUNDWATER SAMPLING PROGRAM

Site:	# 049	Date:	
Address:			
Personnel:	SERBAN,	Weather:	
Well No:	MW-7	Equip:	

Before Purging:			
Total Well Depth: (ft.)	13.58	Well Diameter	4"
Depth to Water (ft)	5.27	Est. Purge Volume:	21

Sampling Data:							
Initial Turbidity:				Final Turbidity:			
Time	9:22	9:25	9:28	9:31	9:34	9:37	9:40
EC	930	910	940	910	890	870	850
pH	6.21	6.17	6.15	6.13	6.11	6.13	6.11
Temp	71.4	71.2	71.1	70.9	70.7	70.5	70.3
Gal.	3	6	9	12	15	18	21
Time							
EC							
pH							
Temp							
Gal.							

After Purging/Before Sample Collection	
Depth to Water (ft.)	13.58
Total Well Depth(ft.)	7.37



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DATE: 01-1

START UP / SHUT DOWN REPORT
STATION # 049
SYSTEM TYPE : G.W

START UP REPORT:

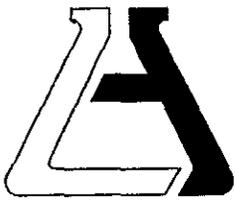
Restart system -
Flow = 0098340

SHUT DOWN REPORT:

|||

SIGNATURE: _____

APPENDIX B



ASSOCIATED LABORATORIES

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT Thrifty Oil (8871)
ATTN: Jeff Suryakusuma
13539 E. Foster Rd.
Santa Fe Springs, CA 90670

LAB REQUEST 65960

REPORTED 02/06/2001

RECEIVED 01/18/2001

PROJECT Station #049
3400 San Pablo Ave., Oakland

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

<u>Order No.</u>	<u>Client Sample Identification</u>
239530	TOC #049, MW-5
239531	TOC #049, MW-1
239532	TOC #049, MW-7
239533	TOC #049, MW-2
239534	TOC #049, MW-4
239535	TOC #049, MW-3
239536	TOC #049, MW-6
239537	TOC #049, Trip Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 239530**Matrix:** WATER**Client Sample ID** TOC #049, MW-5**Date Sampled:** 01/17/2001 **Time Sampled:** 13:00

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX + MTBE

Benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Methyl t - butyl ether	5.0	1	5	0.24	ug/L	01/23/01 HP
Toluene	ND	1	0.3	0.14	ug/L	01/23/01 HP
Xylene (total)	1.0	1	0.6	0.26	ug/L	01/23/01 HP

8260B BTEX/MTBE Only

Methyl-tert-butylether (MTBE)	4.8	1	1	0.6	ug/L	02/05/01 MB
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8015M - Total Petroleum Hydrocarbons

Gasoline	ND	1	50	50	ug/L	01/23/01 HP
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Order #: 239531**Matrix:** WATER**Client Sample ID** TOC #049, MW-1**Date Sampled:** 01/17/2001 **Time Sampled:** 13:10

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
---------	--------	----	-----	-----	-------	--------------

8021B BTEX + MTBE

Benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Methyl t - butyl ether	ND	1	5	0.24	ug/L	01/23/01 HP
Toluene	ND	1	0.3	0.14	ug/L	01/23/01 HP
Xylene (total)	ND	1	0.6	0.26	ug/L	01/23/01 HP

8015M - Total Petroleum Hydrocarbons

Gasoline	ND	1	50	50	ug/L	01/23/01 HP
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Order #: 239532**Matrix:** WATER**Client Sample ID** TOC #049, MW-7**Date Sampled:** 01/17/2001 **Time Sampled:** 13:15

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX + MTBE

Benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Methyl t - butyl ether	57	2	10.0	0.24	ug/L	01/23/01 HP
Toluene	ND	1	0.3	0.14	ug/L	01/23/01 HP
Xylene (total)	3.0	1	0.6	0.26	ug/L	01/23/01 HP

PQL = Practical Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace



8260B BTEX/MTBE Only

Methyl-tert-butylether (MTBE)	81	1	1	0.6	ug/L	02/05/01	MB
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8015M - Total Petroleum Hydrocarbons

Gasoline	ND	1	50	50	ug/L	01/23/01	HP
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Order #: 239533	Client Sample ID TOC #049, MW-2
Matrix: WATER	Date Sampled: 01/17/2001 Time Sampled: 13:25

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX + MTBE

Benzene	ND	1	0.3	0.18	ug/L	01/23/01	HP
Ethyl benzene	2.0	1	0.3	0.18	ug/L	01/23/01	HP
Methyl t - butyl ether	8,650	142	710.0	0.24	ug/L	01/23/01	HP
Toluene	2.0	1	0.3	0.14	ug/L	01/23/01	HP
Xylene (total)	3.0	1	0.6	0.26	ug/L	01/23/01	HP

8260B BTEX/MTBE Only

Methyl-tert-butylether (MTBE)	9,710	100	100.0	0.6	ug/L	02/05/01	MB
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8015M - Total Petroleum Hydrocarbons

Gasoline	75	1	50	50	ug/L	01/23/01	HP
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Order #: 239534	Client Sample ID TOC #049, MW-4
Matrix: WATER	Date Sampled: 01/17/2001 Time Sampled: 13:30

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX + MTBE

Benzene	799	16	4.8	0.18	ug/L	01/23/01	HP
Ethyl benzene	614	16	4.8	0.18	ug/L	01/23/01	HP
Methyl t - butyl ether	24,300	1000	5000.0	0.24	ug/L	01/23/01	HP
Toluene	930	16	4.8	0.14	ug/L	01/23/01	HP
Xylene (total)	3,400	50	30.0	0.26	ug/L	01/23/01	HP

8260B BTEX/MTBE Only

Methyl-tert-butylether (MTBE)	31,400	100	100.0	0.6	ug/L	02/05/01	MB
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8015M - Total Petroleum Hydrocarbons

Gasoline	29,100	16	800	50	ug/L	01/23/01	HP
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Order #: 239535	Client Sample ID TOC #049, MW-3
Matrix: WATER	Date Sampled: 01/17/2001 Time Sampled: 13:40

ND = Not detected below indicated MDL, J=Trace
 ug/L = Micrograms per Liter, MDL = Method detection limit, DF = Dilution Factor



Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX + MTBE

Benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Methyl t - butyl ether	39	1	5	0.24	ug/L	01/23/01 HP
Toluene	2.0	1	0.3	0.14	ug/L	01/23/01 HP
Xylene (total)	1.0	1	0.6	0.26	ug/L	01/23/01 HP

8260B BTEX/MTBE Only

Methyl-tert-butylether (MTBE)	39	1	1	0.6	ug/L	02/05/01 MB
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8015M - Total Petroleum Hydrocarbons

Gasoline	ND	1	50	50	ug/L	01/23/01 HP
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Order #: 239536	Client Sample ID TOC #049, MW-6
Matrix: WATER	Date Sampled: 01/17/2001 Time Sampled: 13:50

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX + MTBE

Benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Methyl t - butyl ether	78	3	15.0	0.24	ug/L	01/23/01 HP
Toluene	2.0	1	0.3	0.14	ug/L	01/23/01 HP
Xylene (total)	3.0	1	0.6	0.26	ug/L	01/23/01 HP

8260B BTEX/MTBE Only

Methyl-tert-butylether (MTBE)	106	1	1	0.6	ug/L	02/05/01 MB
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8015M - Total Petroleum Hydrocarbons

Gasoline	103	1	50	50	ug/L	01/23/01 HP
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Order #: 239537	Client Sample ID TOC #049, Trip Blank
Matrix: WATER	Date Sampled: 01/17/2001 Time Sampled: 13:00

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX

Benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	01/23/01 HP
Toluene	ND	1	0.3	0.14	ug/L	01/23/01 HP
Xylene (total)	ND	1	0.6	0.26	ug/L	01/23/01 HP

PQL = Practical Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
 ND = Not detected below indicated MDL, J=Trace



8015M Total Petroleum Hydrocarbons

Gasoline	ND	I	50	50	ug/L	01/23/01	HP
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PQL = Practical Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace



ASSOCIATED LABORATORIES LAB REQUEST RESULTS SUMMARY

Client: Thrifty Oil
 Roi Hertanto
 13539 E. Foster Rd.
 Santa Fe Springs, CA 90670

Lab Request: 65960
 Date Received: 1/18/2001
 Print Date: 02/07/2001

Project: Station #049
 3400 San Pablo Ave., Oakland

Objectives: *Confirm MTBE by EPA Method 8260.

Sample ID.	Gasoline	Benzene	Toluene	Ethyl benzene	Xylene (total)	MTBE	MTBE by EPA8260
TOC #049, MW-1	ND	ND	ND	ND	ND	ND	
TOC #049, MW-2	75 ug/L	ND	2.0 ug/L	2.0 ug/L	3.0 ug/L	8,650 ug/L	9,710 ug/L
TOC #049, MW-3	ND	ND	2.0 ug/L	ND	1.0 ug/L	39 ug/L	39 ug/L
TOC #049, MW-4	29,100 ug/L	799 ug/L	930 ug/L	614 ug/L	3,400 ug/L	24,300 ug/L	31,400 ug/L
TOC #049, MW-5	ND	ND	ND	ND	1.0 ug/L	5.0 ug/L	4.8 ug/L
TOC #049, MW-6	103 ug/L	ND	2.0 ug/L	ND	3.0 ug/L	78 ug/L	106 ug/L
TOC #049, MW-7	ND	ND	ND	ND	3.0 ug/L	57 ug/L	81 ug/L
TOC #049, Trip Blank	ND						

ND = Not Detected
 Blank Field = Component not analyzed by this method.

ASSOCIATED LABORATORIES
LCS REPORT FORM

QC Sample: LCS/LCSD Water Samples

Method : 8260

Analysis Date: 02/05/01

Applies to: LR 66142, 66141, 65960

REPORTING UNITS = ug/L

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits	
								RPD	%REC
1,1-Dichloroethene	ND	50.0	60.77	64.07	122	128	5	22	59-172
MTBE	ND	50.0	41.54	34.82	83	70	18	24	62-137
Benzene	ND	50.0	55.09	55.79	110	112	1	24	62-137
Trichloroethene	ND	50.0	60.08	66.28	120	133	10	21	66-142
Toluene	ND	50.0	62.98	61.66	126	123	2	21	59-139
Chlorobenzene	ND	50.0	54.86	61.93	110	124	12	21	60-133

ND = Not Detected

RPD = Relative Percent Difference of LCS and LCS Dup.

%REC-MS & MSD = Percent Recovery of LCS & LCS Dup.

Method Blank = All ND

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 65899 - 332

Matrix: WATER

Prep. Date: 01/21/01

Analysis Date: 01/21/01 - 01/22/01

ID#'s in Batch: LR 65899, 65960, 65959, 65849

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = ug/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TPH	8015M-G	ND	520	558	565	107.3	108.7	1.2

ND = Not Detected

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate

%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 70 - 130
RPD LIMITS = 30

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	558	520	107.3	80%	120%

LCS Result = Lab Control Sample Result

True = True Value of LCS

Limit = H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 65899 - 332

Matrix: WATER

Prep. Date: 01/21/01

Analysis Date: 01/21/01 - 01/22/01

LAB ID#'s in Batch: LR 65899, 65960, 65959, 65849

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = ug/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD
Benzene	8021	ND	10.0	9.3	9.1	93	91	2
Toluene	8021	ND	10.0	9.6	9.4	96	94	2
Ethylbenzene	8021	ND	10.0	9.7	9.5	97	95	2
Xylenes	8021	ND	30.0	29.3	28.8	98	96	2

* = Matrix Interference. LCS OK. Data Reported.

ND = Not Detected

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup

%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 70 - 130
RPD LIMITS = 30

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP. BLK	LCS				
		Value	Result	True	%Rec	L.Limit	H.Limit
Benzene	8021	ND	9.3	10.0	93	80%	120%
Toluene	8021	ND	9.9	10.0	99	80%	120%
Ethylbenzene	8021	ND	9.8	10.0	98	80%	120%
Xylenes	8021	ND	30.0	30.0	100	80%	120%

LCS = Lab Control Sample Result

TRUE = True Value of LCS

L.LIMIT / H.LIMIT = LCS Control Limits

APPENDIX C

049

THRIFTY OIL CO. SERVICE STATION #

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: JEFFREY P

DATE OF INSPECTION: 03.30.01

OBSERVATIONS AND
COMMENTS: Check oil, clean water filter bag,
replace cartridge water filter,

FLOW METER READING: 0195400

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.9

INSPECTOR'S SIGNATURE: JEFFREY P

THRIFTY OIL CO. SERVICE STATION #

49

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBA P.

DATE OF INSPECTION: 03.23.01

OBSERVATIONS AND COMMENTS: Add oil, check belt, hoses, clean water filter bag, replace cartridge water filter

FLOW METER READING: 0186130

SAMPLES OBTAINED: N/A

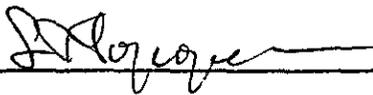
PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.9

INSPECTOR'S SIGNATURE: 

THRIFTY OIL CO. SERVICE STATION #

049

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBA P.

DATE OF INSPECTION: 03.16.01

OBSERVATIONS AND
COMMENTS: check oil, belt, hoses, clean water
filter bag,

FLOW METER READING: 0163920

SAMPLES OBTAINED: N/A INSPECTOR FROM E. BMUD TAKE SAMPLING

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.9

INSPECTOR'S SIGNATURE: [Signature]

THRIFTY OIL CO. SERVICE STATION #

49

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBATA

DATE OF INSPECTION: 03.09.01

OBSERVATIONS AND COMMENTS: Add oil, clean water filter bag,
replace cartridge water filter, check hoses

FLOW METER READING: 0160440

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.8

INSPECTOR'S SIGNATURE: [Signature]

THRIFTY OIL CO. SERVICE STATION #

49

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBATA P.

DATE OF INSPECTION: 03.02.01

OBSERVATIONS AND COMMENTS: Add oil, replace cartridge water filter, clean water bag,

FLOW METER READING: 0153790

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.8

INSPECTOR'S SIGNATURE: [Signature]

THRIFTY OIL CO. SERVICE STATION #

49

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN P

DATE OF INSPECTION: 02.23.01

OBSERVATIONS AND
COMMENTS: Add oil, clean water filter bag,
check belt, hoses connection, replace cartridge
water filter

FLOW METER READING: 0244120

SAMPLES OBTAINED: N/A

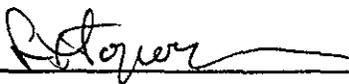
PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.8

INSPECTOR'S SIGNATURE: 

049

THRIFTY OIL CO. SERVICE STATION # 49
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN P.

DATE OF INSPECTION: 02-16-01

OBSERVATIONS AND
COMMENTS: Check oil, belt, replace cartridge water
filter, clean meter bag

FLOW METER READING: 0138260

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.8

INSPECTOR'S SIGNATURE: [Signature]

THRIFTY OIL CO. SERVICE STATION

49

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBOK P.

DATE OF INSPECTION: 02.09.01

OBSERVATIONS AND COMMENTS: Add oil, check belt, hoses, clean water filter bag.

FLOW METER READING: 0131860

SAMPLES OBTAINED: N/A

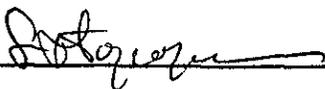
PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.9

INSPECTOR'S SIGNATURE: 

049

THRIFTY OIL CO. SERVICE STATION # 049

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAM P

DATE OF INSPECTION: 02.02.01

OBSERVATIONS AND COMMENTS: Add oil, check hoses, clean
water filter bag, replace cartridge water filter

FLOW METER READING: 0122190

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.9

INSPECTOR'S SIGNATURE: [Signature]

049

THRIFTY OIL CO. SERVICE STATION # 49
SANTA ANA COUNTY, CALIFORNIA
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN P.

DATE OF INSPECTION: 01-26-01

OBSERVATIONS AND COMMENTS: Change oil, clean water filter,
replace cartridge water filter

FLOW METER READING: 0112320

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.3

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.9

INSPECTOR'S SIGNATURE: [Signature]

049

THRIFTY OIL CO. SERVICE STATION # 049.

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN P.

DATE OF INSPECTION: 01-19-01

OBSERVATIONS AND COMMENTS: Check belt, oil, clean water filter

FLOW METER READING: 0101250

SAMPLES OBTAINED: N/A

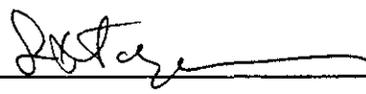
PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 13

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

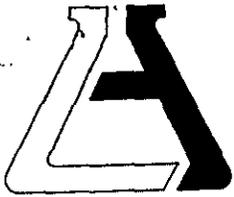
PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.1

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 1.0

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.7

INSPECTOR'S SIGNATURE: 

APPENDIX D



ASSOCIATED LABORATORIES

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT Thrifty Oil (8871)
ATTN: Jeff Suryakusuma
13539 E. Foster Rd.
Santa Fe Springs, CA 90670

LAB REQUEST 65959

REPORTED 01/24/2001

RECEIVED 01/18/2001

PROJECT Station #049
3400 San Pablo Ave., Oakland

SUBMITTER Client

COMMENTS

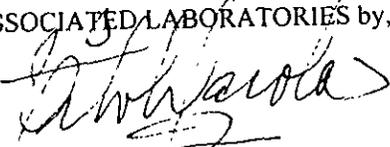
This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.
239527
239528
239529

Client Sample Identification
TOC #049, Effluent
TOC #049, Intermed
TOC #049, Influent

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,


Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 239527
Matrix: WATER

Client Sample ID TOC #049, Effluent
Date Sampled: 01/17/2001 Time Sampled: 11:00

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX

Benzene	ND	1	0.3	0.18	ug/L	01/22/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	01/22/01 HP
Methyl t - butyl ether	ND	1	5	0.24	ug/L	01/22/01 HP
Toluene	ND	1	0.3	0.14	ug/L	01/22/01 HP
Xylene (total)	ND	1	0.6	0.26	ug/L	01/22/01 HP

8015M - Total Petroleum Hydrocarbons

Gasoline	ND	1	50	50	ug/L	01/22/01 HP
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Order #: 239528
Matrix: WATER

Client Sample ID TOC #049, Intermed
Date Sampled: 01/17/2001 Time Sampled: 11:05

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX

Benzene	ND	1	0.3	0.18	ug/L	01/22/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	01/22/01 HP
Methyl t - butyl ether	288	10	50	0.24	ug/L	01/22/01 HP
Toluene	2.0	1	0.3	0.14	ug/L	01/22/01 HP
Xylene (total)	1.0	1	0.6	0.26	ug/L	01/22/01 HP

8015M - Total Petroleum Hydrocarbons

Gasoline	54	1	50	50	ug/L	01/22/01 HP
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Order #: 239529
Matrix: WATER

Client Sample ID TOC #049, Influent
Date Sampled: 01/17/2001 Time Sampled: 11:10

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
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8021B BTEX

Benzene	783	166	49.8	0.18	ug/L	01/22/01 HP
Ethyl benzene	2.0	1	0.3	0.18	ug/L	01/22/01 HP
Methyl t - butyl ether	15,000	166	830.0	0.24	ug/L	01/22/01 HP
Toluene	373	166	49.8	0.14	ug/L	01/22/01 HP
Xylene (total)	3,480	166	99.6	0.26	ug/L	01/22/01 HP

8015M - Total Petroleum Hydrocarbons

Gasoline	24,700	166	8300	50	ug/L	01/22/01 HP
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PQL = Practical Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace



PQL = Practical Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace



ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 65899 - 332

Matrix: WATER

Prep. Date: 01/21/01

Analysis Date: 01/21/01 - 01/22/01

ID#'s in Batch: LR 65899, 65960, 65959

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = ug/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TPH	8015M-G	ND	520	558	565	107.3	108.7	1.2

ND = Not Detected

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate

%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 70 - 130

RPD LIMITS = 30

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS				
Value	Result	True	%Rec	L.Limit	H.Limit
ND	558	520	107.3	80%	120%

LCS Result = Lab Control Sample Result

True = True Value of LCS

L.Limit / H.Limit = LCS Control Limits

ASSOCIATED LABORATORIES
QA REPORT FORM

QC Sample: LR 65899 - 332

Matrix: WATER

Prep. Date: 01/21/01

Analysis Date: 01/21/01 - 01/22/01

LAB ID#'s in Batch: LR 65899, 65960, 65959

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

REPORTING UNITS = ug/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD
Benzene	8021	ND	10.0	9.3	9.1	93	91	2
Toluene	8021	ND	10.0	9.6	9.4	96	94	2
Ethylbenzene	8021	ND	10.0	9.7	9.5	97	95	2
Xylenes	8021	ND	30.0	29.3	28.8	98	96	2

* = Matrix Interference. LCS OK. Data Reported.

ND = Not Detected

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Dup

%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 70 - 130

RPD LIMITS = 30

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

Test	Method	PREP. BLK	LCS				
		Value	Result	True	%Rec	L.Limit	H.Limit
Benzene	8021	ND	9.3	10.0	93	80%	120%
Toluene	8021	ND	9.9	10.0	99	80%	120%
Ethylbenzene	8021	ND	9.8	10.0	98	80%	120%
Xylenes	8021	ND	30.0	30.0	100	80%	120%

LCS = Lab Control Sample Result

TRUE = True Value of LCS

L.LIMIT / H.LIMIT = LCS Control Limits

Chain of Custody Record

659159 ✓

ASSOCIATED LABORATORIES

806 North Batavia • Orange, CA 92868

Phone: (714) 771-6900 • Fax: (714) 538-1209



Company THRIFTY OIL CO.	Phone (562) 921-3581	A.L. Job No.	Page _____ of _____
Project Manager JEFF JURYAROSUMA	Fax	Analysis Requested	
Project Name System Sampling	Project # 049	Test Instructions & Comments	
Site Name and Address 3400 SAN PABLO AVE OAKLAND CA 94612			

Sample ID	Lab ID	Date	Time	Matrix	Container Number/Size	Pres.	T	B																
1		01.17.01	11:00	WATER	2 VIALS	HCL	X	X																
2		01.17.01	11:05	WATER	2 VIALS	HCL	X	X																
3		01.17.01	11:10	WATER	2 VIALS	HCL	X	X																
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								

Sample Receipt - To Be Filled By Laboratory

Total Number of Containers	6	Properly Cooled Y / N / NA	YES
Custody Seals Y / N / NA	NO	Samples Intact Y / N / NA	YES
Received in Good Condition Y / N	YES	Samples Accepted Y / N	YES

Relinquished by Sampler:	1.	Relinquished by	2.	Relinquished by	3.
Signature:	<i>[Signature]</i>	Signature:	<i>[Signature]</i>	Signature:	
Printed Name:	BERBATH P	Printed Name:	Fed-X	Printed Name:	
Date:	01.17.01	Date:		Date:	
Time:		Time:		Time:	

Turn Around Time

Normal
 Rush
 Same Day
 48 hrs.
 24 hrs.
 72 hrs.

Received By:	1.	Received By:	2.	Received By:	3.
Signature:	<i>[Signature]</i>	Signature:	<i>[Signature]</i>	Signature:	
Printed Name:	Fed-X	Printed Name:	Ken Wise	Printed Name:	
Date:		Date:	1/16/01	Date:	
Time:		Time:	0930	Time:	