

**THRIFTY OIL CO.**

ENVIRONMENTAL  
PROTECTION

00 APR 10 PM 4:55

April 5, 2000

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

*LOP 4057*

O.02250

*high mt be 16,000 yds 1/00*

RE: **Thrifty Oil Co. Station #049**  
3400 San Pablo Avenue  
Oakland, CA 94612  
*1st Quarter 2000, Status Report*

*RO04*

Dear Ms. Hugo:

Presented herewith is the First Quarter 2000, 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



LOP - RECORD CHANGE REQUEST FORM

printed.  
04/24/2000

Mark Out What Needs Changing and Hand to LOP Data Entry  
(Name/Address changes go to Annual Programs Data Entry)

Insp: SH

AGENCY # : 10000      SOURCE OF FUNDS: F      SUBSTANCE: 8006619  
 StID : 4057      LOC: 01/13/1998  
 SITE NAME: Thrifty Oil Co. #49      DATE REPORTED : 10/02/1986  
 ADDRESS : 3400 San Pablo Ave      DATE CONFIRMED: 10/02/1986  
 CITY/ZIP : Oakland 94608      MULTIPLE RPs : N

SITE STATUS

CASE TYPE: W CONTRACT STATUS: 3      PRIOR CODE:2B3      EMERGENCY RESP:  
 RP SEARCH: S      DATE COMPLETED: 04/28/1994  
 PRELIMINARY ASMNT:      DATE UNDERWAY:      DATE COMPLETED:  
 REM INVESTIGATION:      DATE UNDERWAY:      DATE COMPLETED:  
 REMEDIAL ACTION:      DATE UNDERWAY:      DATE COMPLETED:  
 POST REMED ACT MON:      DATE UNDERWAY:      DATE COMPLETED:

ENFORCEMENT ACTION TYPE: 1      DATE ENFORCEMENT ACTION TAKEN: 04/28/1994  
 LUFT FIELD MANUAL CONSID: HSCAWG  
 CASE CLOSED:      DATE CASE CLOSED:  
 DATE EXCAVATION STARTED :      REMEDIAL ACTIONS TAKEN: ED

RESPONSIBLE PARTY INFORMATION

RP#1-CONTACT NAME: Chris Panaitescu  
 COMPANY NAME: Thrifty Oil Company  
 ADDRESS: 13539 E. Foster Road  
 CITY/STATE: Santa Fe Springs , Ca 90670

INSPECTOR VERIFICATION:

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

DATA ENTRY INPUT:

Name/Address Changes Only

Case Progress Changes

ANNPGMS \_\_\_\_\_ LOP \_\_\_\_\_ DATE \_\_\_\_\_

LOP \_\_\_\_\_ DATE \_\_\_\_\_

# THRIFTY OIL CO.

April 4, 2000

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 2000, Status Report*

Dear Ms. Hugo:

Presented herein is the First Quarter 2000, 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 efforts conducted on January 20, 2000 in the First Quarter 2000. Thrifty has retained the services of Earth Management Company (EMC) to conduct quarterly monitoring and sampling 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 5.49 feet below surface grade (bsg) in monitoring well MW-4 to 13.22 feet (bsg) in recovery well RW-1 (**Appendix A**). A groundwater elevation contour map based on the January 20, 2000 data is presented in **Figure 2**. The groundwater is generally flowing to the west at a gradient of approximately 0.023 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 20, 1999. 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 for by EPA method 8020. Samples with detected MTBE were also analyzed by EPA method 8260. 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 highest laboratory concentration results for TPH-g, benzene, and MTBE were detected in monitoring well MW-2, as follows: 7,500 ug/L TPH-g, <6 ug/L benzene, and 16,000 ug/L MTBE (by EPA method 8260)..

**Remediation Status**

Site remedial activities were initiated in April 1991. Presently, the remediation system consists of a Groundwater Treatment System with carbon connected to recovery well RW-1. System operational data is included in **Table 2** and **Appendix C**. During this reporting period, the groundwater treatment system processed 5,300 gallons of groundwater, and has treated approximately 294,506 gallons of groundwater since start up (through March 30, 2000). The groundwater system was operational from January 1 through March 30, 2000.

Influent, intermediate, and effluent water samples were collected on January 20, 2000 from the treatment unit, and the samples collected by EMC were sent to American Analytics for analysis. The samples were analyzed for TPH-g and BTEX by EPA methods 8015 and 8020. All laboratory results for effluent samples for TPH-g and BTEX were below laboratory detection limits. A copy of the laboratory analytical reports are included in **Appendix D**.

**Other Activities**


The groundwater monitoring wells, and the treatment unit, will be monitored and sampled for the next quarter. All site monitoring/sampling data generated during the next quarter will be reported in the Second Quarter 2000 monitoring report.

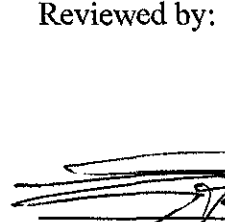
Interpretations expressed herein are based upon data collected by EMC.

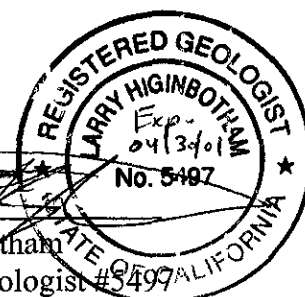
Written by:

Reviewed by:

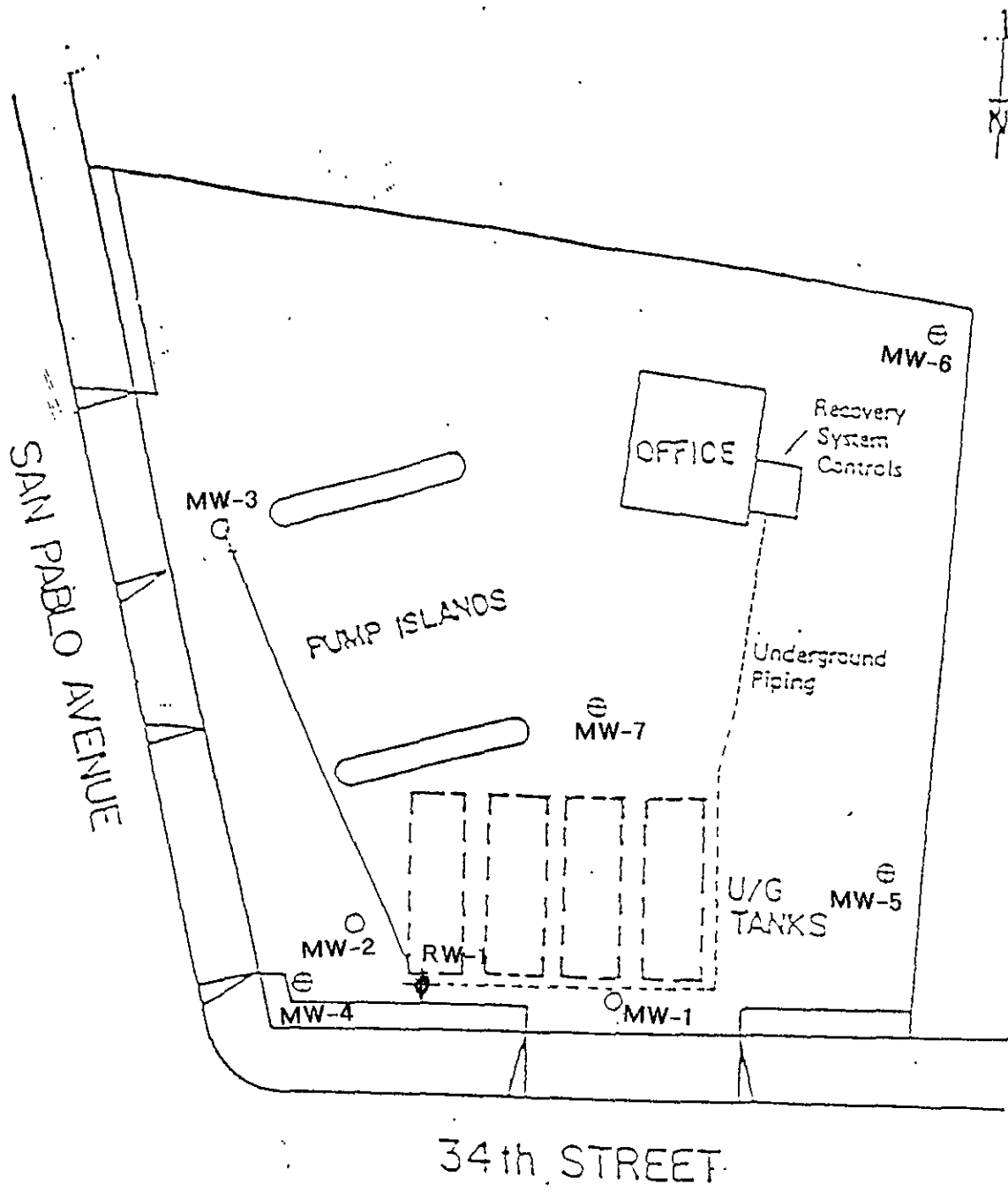
  
Raymond C. Friedrichsen  
Project Manager  
Senior Hydrogeologist



  
Larry Higinbotham  
Registered Geologist #5499



# FIGURES



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

LEGEND

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

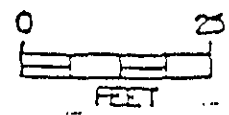
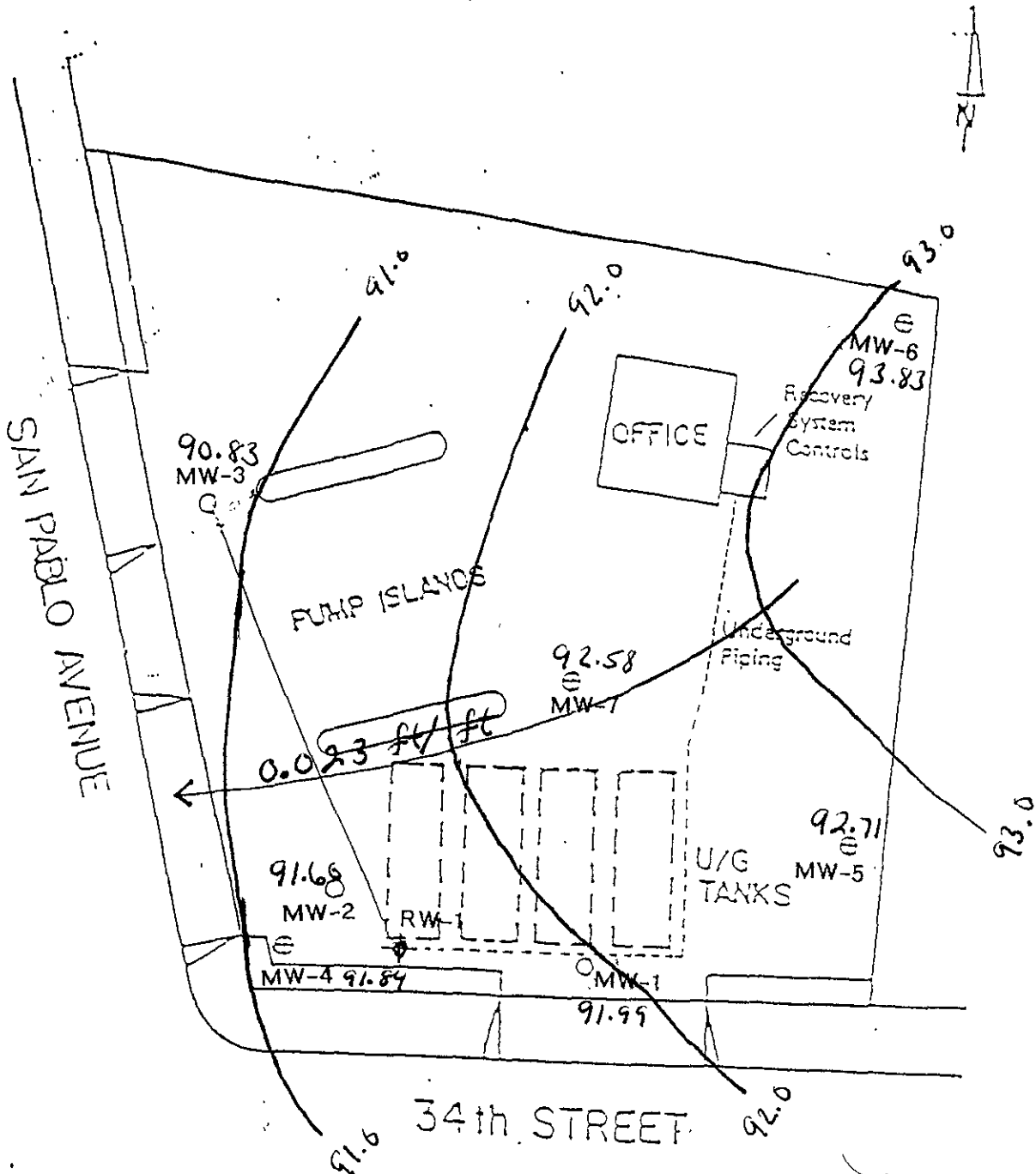


FIGURE 1



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

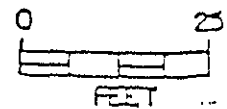
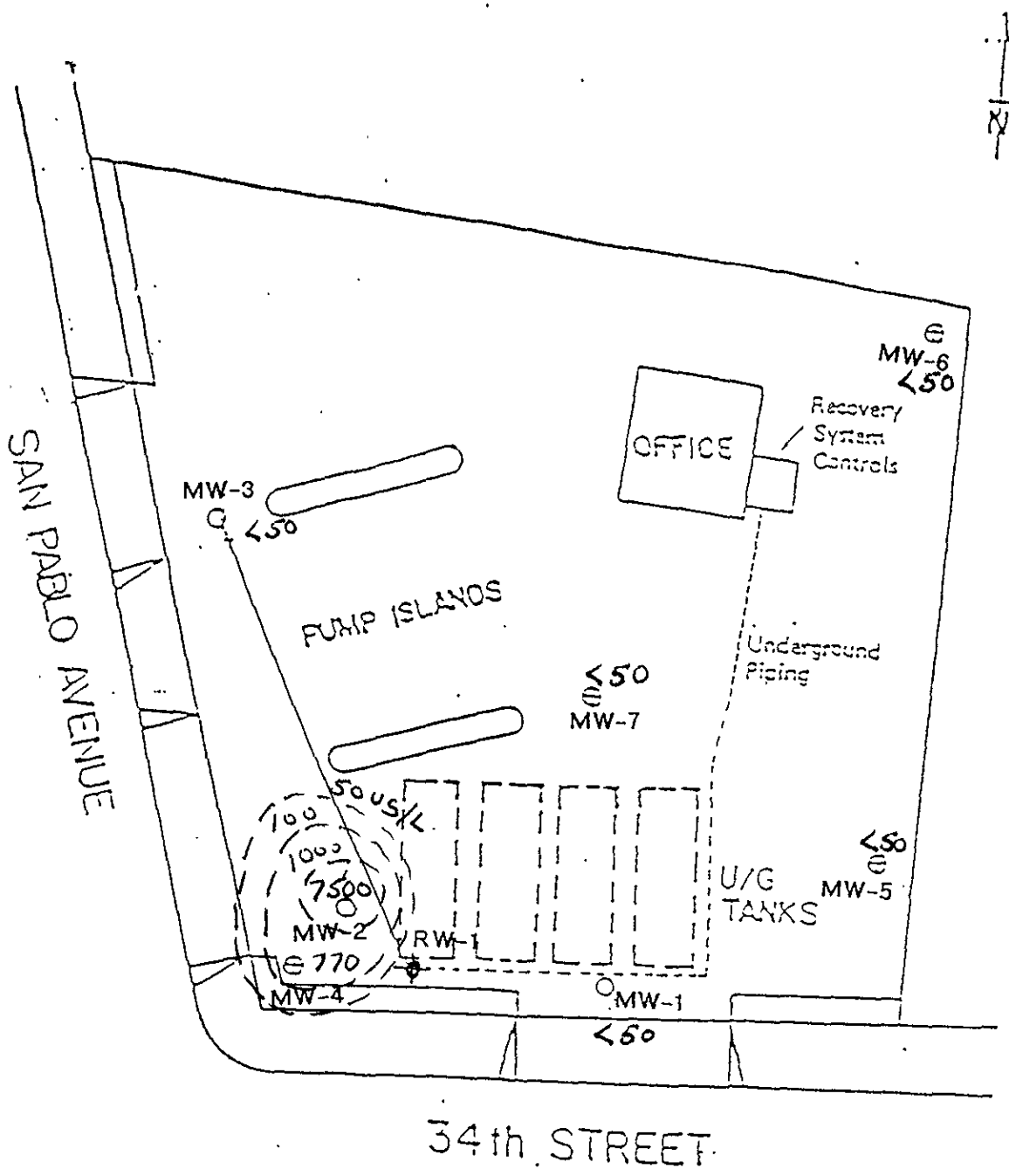


FIGURE 2

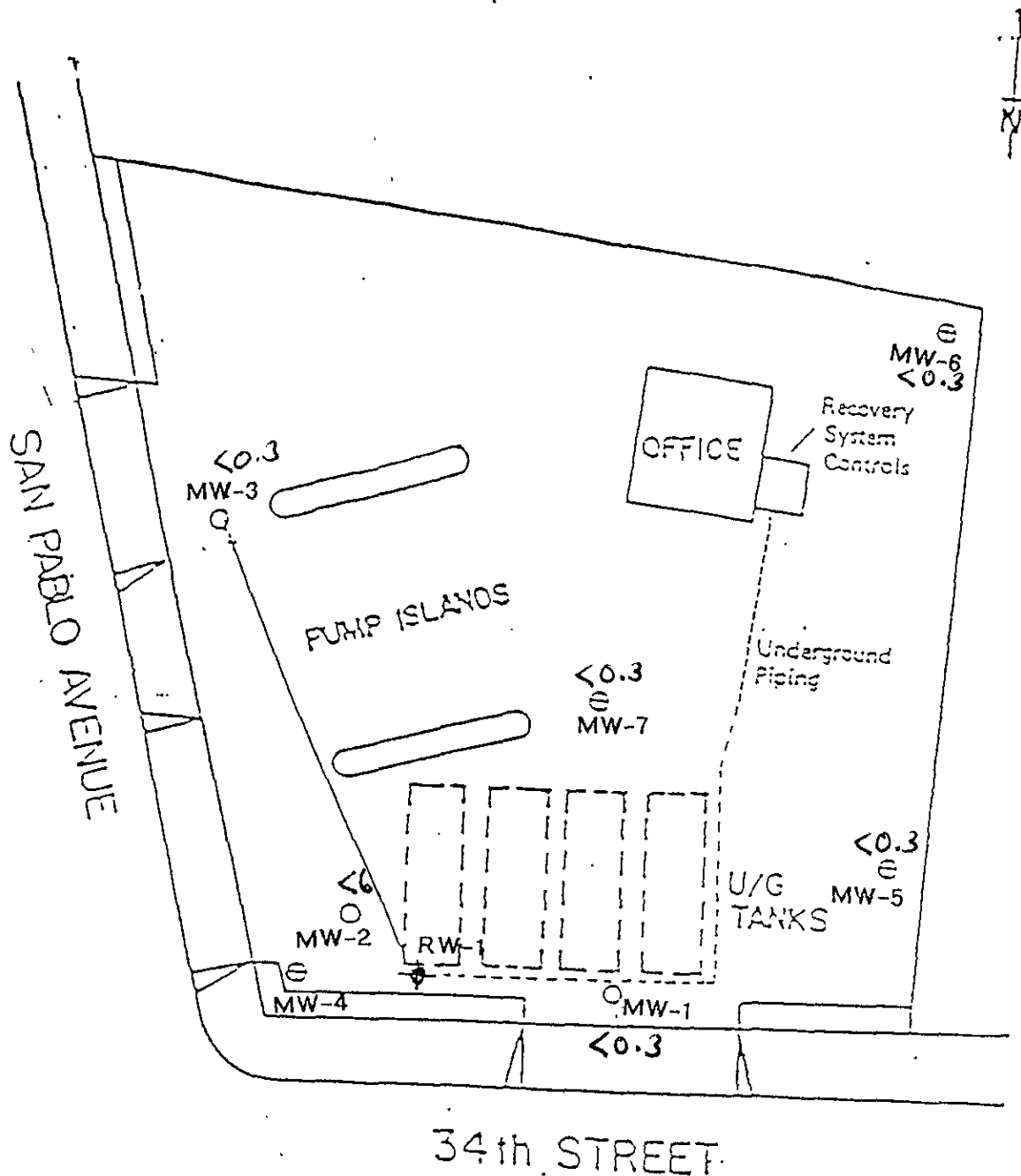


TPH ISOCONCENTRATION MAP ug/L  
 THRIFTY SERVICE STATION NO. 49  
 3400 SAN PABLO AVE.  
 OAKLAND, CA

LEGEND

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

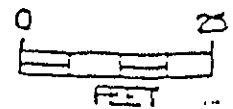




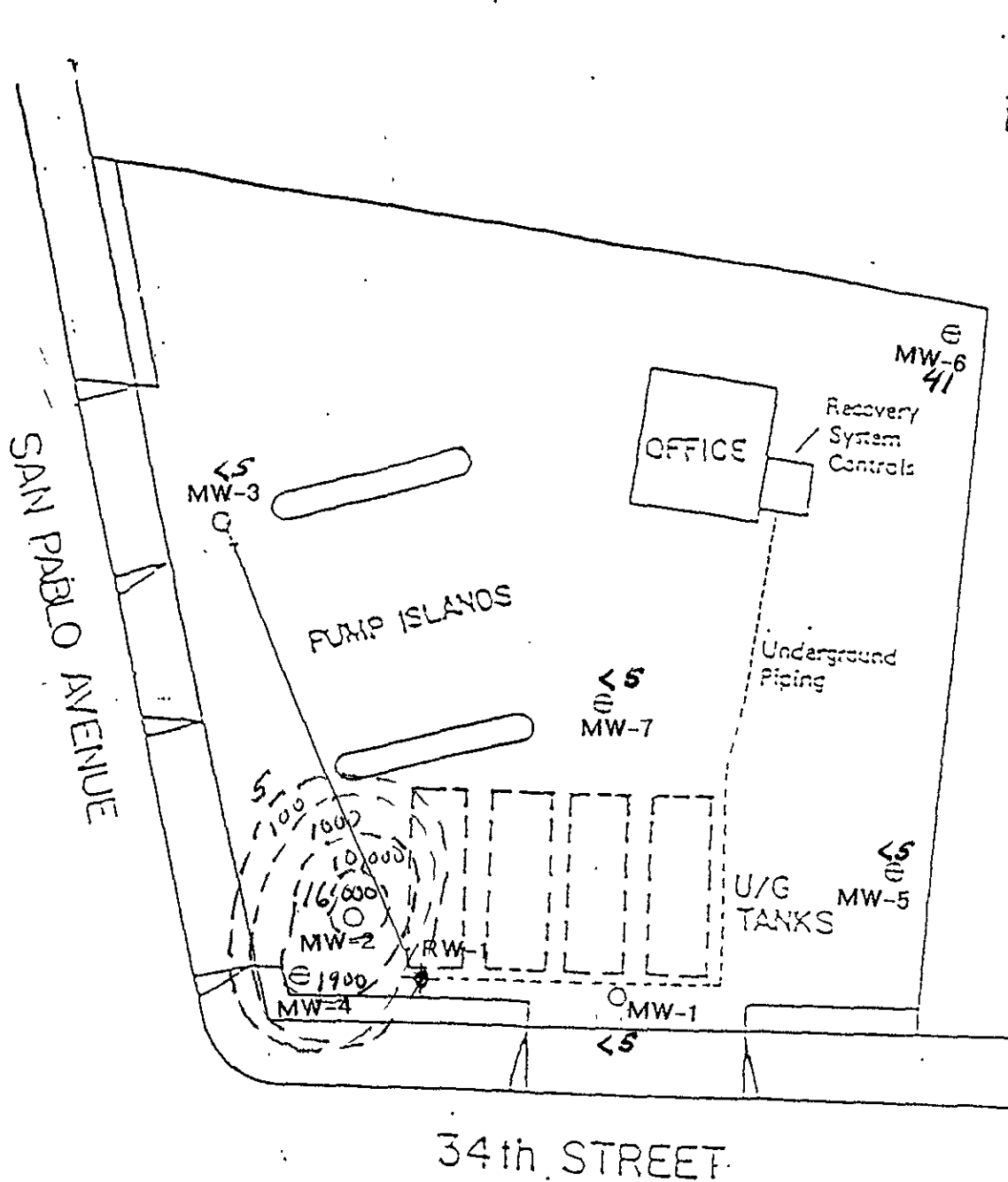
**BENZENE ISOCONCENTRATION MAP ug/L**  
**THRIFTY SERVICE STATION NO. 49**  
**3400 SAN PABLO AVE.**  
**OAKLAND, CA**

**LEGEND**

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



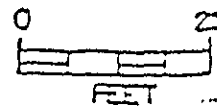
**FIGURE 4**



**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



**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)					
<b>MONITORING WELL #MW-1</b>											
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	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
<b>MONITORING WELL #MW-2</b>											
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
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

**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)					
10/09/95	33,000	6,000	390	1,700	4,900	-	-	-	-	97.44	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
<b>MONITORING WELL #MW-3</b>											
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
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

**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)					
01/19/98	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
<b>MONITORING WELL #MW-4</b>											
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	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
01/22/97	1,400	<0.3	<0.3	<0.3	<0.5	3,100	5.15	NP	0.00	97.33	92.18
04/21/97	-	-	-	-	-	-	6.36	5.30	1.06	97.33	91.77
07/14/97	-	-	-	-	-	-	5.24	5.21	0.03	97.33	92.11
10/07/97	-	-	-	-	-	-	7.82	7.80	0.02	97.33	89.53
01/15/98	-	-	-	-	-	-	6.68	6.60	0.08	97.33	90.71
04/23/98	-	-	-	-	-	-	6.36	5.30	1.06	97.33	91.77
07/20/98	<50	<0.3	<0.3	<0.3	<0.5	<5	6.05	NP	0.00	97.33	91.28
10/14/98	3,100	86	23	20	520	1,100	6.85	NP	0.00	97.33	90.48
01/21/99	9,100	3.2	5.6	1.8	130	* 24,000 / 17,000	6.10	NP	0.00	97.33	91.23
04/15/99	14,000	<0.3	0.71	<0.3	<0.5	* 20,000 / 22,000	6.05	NP	0.00	97.33	91.28
07/26/99	4,500	<6	<6	<6	<10	*8,700 / 9,800	6.07	NP	0.00	97.33	91.26

**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)					
10/13/99	410	<0.3	0.63	<0.3	<0.5	660	5.54	NP	0.00	97.33	91.79
01/20/00	770	<0.3	<0.3	<0.3	<0.5	*2,400 / 1,900	5.49	NP	0.00	97.33	91.84
<b>MONITORING WELL #MW-5</b>											
01/09/92	-	-	-	-	-	-	5.32	NP	0.00	98.85	93.53
04/13/92	-	-	-	-	-	-	4.82	NP	0.00	98.85	94.03
10/0/92	-	-	-	-	-	-	8.78	NP	0.00	98.85	90.07
01/06/93	-	-	-	-	-	-	3.46	NP	0.00	98.85	95.39
04/26/93	-	-	-	-	-	-	4.66	NP	0.00	98.85	94.19
01/04/94	-	-	-	-	-	-	6.36	NP	0.00	98.85	92.49
04/05/94	-	-	-	-	-	-	5.94	NP	0.00	98.85	92.91
07/12/95	<100	<0.5	<0.5	<0.5	<1	-	-	-	-	98.85	98.85
10/09/95	440	31	11	19	84	-	-	-	-	98.85	98.85
01/08/96	<50	<0.3	<0.3	<0.3	<0.5	-	6.63	NP	0.00	98.85	92.22
04/08/96	<50	<0.3	<0.3	<0.3	<0.5	-	5.22	NP	0.00	98.85	93.63
07/22/96	<50	<0.3	<0.3	<0.3	<0.5	<20	6.62	NP	0.00	98.85	92.23
10/16/96	<50	<0.3	<0.3	<0.3	<0.5	<20	6.12	NP	0.00	98.85	92.73
01/22/97	<50	<0.3	<0.3	<0.3	<0.5	<20	5.17	NP	0.00	98.85	93.68
04/21/97	73	2.5	0.34	0.74	3.8	21	6.64	NP	0.00	98.85	92.21
07/14/97	<50	<0.3	<0.3	<0.3	<0.5	<20	6.67	NP	0.00	98.85	92.18
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
<b>MONITORING WELL #MW-6</b>											
01/09/92	-	-	-	-	-	-	6.30	NP	0.00	99.67	93.37
04/13/92	-	-	-	-	-	-	5.47	NP	0.00	99.67	94.20

**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)					
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	99.67
10/09/95	250	4.8	5.6	11	58	-	-	-	-	99.67	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
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
<b>MONITORING WELL #MW-7</b>											
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	99.02
01/08/96	13,000	800	42	540	860	-	6.94	NP	0.00	99.02	92.08



**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)					
04/08/94	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	1.0	<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
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
<b>MONITORING WELL #RW-1</b>											
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	-	-

**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)	TOUENE (ug/L)	EthylBenzene (ug/L)	XYLENE (ug/L)	MTBE (ug/L)					
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	-	-

**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	953	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	4,195	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	-

**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	
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	-	
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	48	-	<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	154,895	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	<60	<0.3	<0.3	<0.3	<0.5	-	15,000	1,100	27	<0.3	920	-	
12/03/93	159,324	69,928	68	<60	<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	260	-	
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	-	

**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	
02/06/95	207,810	118,414	32	<50	<0.3	<0.3	<0.5	<0.5	-	<50	27	<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	-	
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**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
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						-	-	-	-	-	-
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	-

**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 version of this table.

# **APPENDIX A**



PROJECT STATUS REPORT  
 THRIFTY OIL CO. S.S. #049  
 3400 SAN PABLO AVENUE

OAKLAND, CA  
 DATE: 01-20-00

OBSERVATION WELLS

NO.	DTW	DTP	PT	DTB	DIA.	ODORS			F/P			
						YES	NO	S	YES	NO		
MONTHLY												
MW-1	6.04			17.78	2"		X			X		
MW-2	5.84			23.80	2"		X			X		
MW-3	6.86			24.20	2"		X			X		
MW-4	5.49			13.71	4"		X			X		
MW-5	6.14			13.78	2"		X			X		
MW-6	5.84			13.08	2"		X			X		
MW-7	6.44			13.60	4"		X			X		
RW-1	13.22			24.39	6"		X			X		

EXPLANATION

DTW - DEPTH TO WATER FROM SURFACE	DTP - DEPTH TO PRODUCT FROM SURFACE
PT - PRODUCT THICKNESS	S - SLIGHT
MEASUREMENTS IN FEET	
REMARKS: <u>R. W. 3</u>	
FREE PRODUCT REMOVED: APPROX. ___ GALLONS	WATER REMOVED: APPROX. ___ GALLONS
DATA RECORDED BY: <u>[Signature]</u>	INPUT BY: C.D.



FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site:	→ 049	Date:	01-20-00
Address:			
Personnel:	SEDERBERG ROBERT	Weather:	SUNNY DAY
Well No:	MW-1	Equip:	BULLER

<b>Before Purging:</b>			
Total Well Depth: (ft.)	17.78	Well Diameter	24
Depth to Water (ft)	6.04	Est. Purge Volume:	8

<b>Sampling Data:</b>							
<b>Initial Turbidity:</b>				<b>Final Turbidity:</b>			
Time	8:53	8:54	8:55	8:56	8:57	8:58	9:00
EC	910	920	910	890	870	850	840
pH	6.13	6.11	6.11	6.06	6.03	6.03	6.01
Temp	21.2	21.4	21.4	21.6	21.7	21.8	21.8
Gal.	1	2	3	4	5	6	8
Time							
EC							
pH							
Temp							
Gal.							

<b>After Purging/Before Sample Collection</b>	
Depth to Water (ft.)	5.94
Total Well Depth(ft.)	17.78

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site:	33 049	Date:	01-20-00
Address:			
Personnel:	JEDRYM, ROBERT	Weather:	SUNNY DAY
Well No:	MW-2	Equip:	AMIR

<b>Before Purging:</b>			
Total Well Depth: (ft.)	23.80	Well Diameter	24
Depth to Water (ft)	5.84	Est. Purge Volume:	12

Sampling Data:							
Initial Turbidity:				Final Turbidity:			
Time	9:39	9:41	9:43	9:44	9:46	9:48	9:50
EC	890	870	870	863	860	860	857
pH	6.18	6.15	6.13	6.13	6.09	6.09	6.06
Temp	72.4	72.6	72.8	72.8	73.0	73.1	73.3
Gal.	1	3	5	6	8	10	12
Time							
EC							
pH							
Temp							
Gal.							

<b>After Purging/Before Sample Collection</b>			
Depth to Water (ft.)	5.63	Total Well Depth(ft.)	23.80

**FIELD DATA -GROUNDWATER SAMPLING PROGRAM**

Site:	22049	Date:	01-20-00
Address:			
Personnel:	JEREMY ROBERT	Weather:	SUNNY Day
Well No:	MW-3	Equip:	BATLIER

<b>Before Purging:</b>			
Total Well Depth: (ft.)	24.20	Well Diameter	24
Depth to Water (ft)	6.86	Est. Purge Volume:	11

<b>Sampling Data:</b>							
	<b>Initial Turbidity:</b>			<b>Final Turbidity:</b>			
Time	8:05	8:07	8:08	8:10	8:11	8:13	8:15
EC	930	910	940	870	850	830	850
pH	6.14	6.16	6.13	6.13	6.04	6.06	6.06
Temp	21.2	21.4	21.6	21.7	21.7	21.9	22.2
Gal.	1	3	4	6	7	9	11
Time							
EC							
pH							
Temp							
Gal.							

<b>After Purging/Before Sample Collection</b>	
Depth to Water (ft.)	6.79
Total Well Depth(ft).	24.20

FIELD DATA -GROUNDWATER SAMPLING PROGRAM

Site:	→ 049	Date:	01-20-00
Address:			
Personnel:	SERBWA ROBERT	Weather:	SUNNY DAY
Well No:	MW-41	Equip:	BVILFR

<b>Before Purging:</b>			
Total Well Depth: (ft.)	13.71	Well Diameter	4"
Depth to Water (ft)	5.44	Est. Purge Volume:	21

<b>Sampling Data:</b>							
	<b>Initial Turbidity:</b>			<b>Final Turbidity:</b>			
Time	9:12	9:15	9:18	9:21	9:24	9:27	9:30
EC	640	620	610	620	600	590	570
pH	6.15	6.13	6.11	6.11	6.06	6.03	6.01
Temp	70.2	70.4	70.6	70.8	71.1	71.3	71.4
Gal.	3	6	9	12	15	18	21
Time							
EC							
pH							
Temp							
Gal.							

<b>After Purging/Before Sample Collection</b>	
Depth to Water (ft.)	5.38
Total Well Depth(ft).	13.71

**FIELD DATA -GROUNDWATER SAMPLING PROGRAM**

Site:	049	Date:	01-20-00
Address:			
Personnel:	FERRELL, ROBERT	Weather:	SUNNY DAY
Well No:	MW-5	Equip:	AVICAR

<b>Before Purging:</b>			
Total Well Depth: (ft.)	13.78	Well Diameter	2 <sup>4</sup>
Depth to Water (ft)	6.14	Est. Purge Volume:	5

<b>Sampling Data:</b>							
<b>Initial Turbidity:</b>				<b>Final Turbidity:</b>			
Time	8:46	8:47	8:48	8:49	8:50		
EC	670	640	630	620	610		
pH	6.21	6.16	6.17	6.16	6.13		
Temp	21.1	21.3	21.3	21.6	21.2		
Gal.	1	2	3	4	5		
Time							
EC							
pH							
Temp							
Gal.							

<b>After Purging/Before Sample Collection</b>			
Depth to Water (ft.)	6.11	Total Well Depth(ft.)	13.78

## FIELD DATA -GROUNDWATER SAMPLING PROGRAM

Site: <u>049</u>	Date: <u>01-20-00</u>
Address: _____	
Personnel: <u>SUBBIAH / ROBERT</u>	Weather: <u>SUNNY Day</u>
Well No: <u>MW-6</u>	Equip: <u>Baird</u>

<b>Before Purging:</b>			
Total Well Depth: (ft.)	<u>13.08</u>	Well Diameter	<u>2"</u>
Depth to Water (ft)	<u>5.84</u>	Est. Purge Volume:	<u>5</u>

<b>Sampling Data:</b>							
<b>Initial Turbidity:</b>				<b>Final Turbidity:</b>			
Time	<u>7:56</u>	<u>7:57</u>	<u>7:58</u>	<u>7:59</u>	<u>8:00</u>		
EC	<u>890</u>	<u>870</u>	<u>860</u>	<u>800</u>	<u>830</u>		
pH	<u>6.18</u>	<u>6.16</u>	<u>6.13</u>	<u>6.06</u>	<u>6.03</u>		
Temp	<u>71.3</u>	<u>71.6</u>	<u>71.7</u>	<u>71.7</u>	<u>72.1</u>		
Gal.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		<u>1</u>
Time							
EC							
pH							
Temp							
Gal.							

<b>After Purging/Before Sample Collection</b>	
Depth to Water (ft.)	Total Well Depth(ft.)
<u>5.79</u>	<u>13.08</u>

**FIELD DATA -GROUNDWATER SAMPLING PROGRAM**

Site:	<u>049</u>	Date:	<u>01-20-00</u>
Address:			
Personnel:	<u>SEBASTIAN, ROBERT</u>	Weather:	<u>SUNNY DAY</u>
Well No:	<u>MW-7</u>	Equip:	<u>BHICOR</u>

<b>Before Purging:</b>			
Total Well Depth (ft.)	<u>13.60</u>	Well Diameter	<u>4"</u>
Depth to Water (ft)	<u>6.44</u>	Est. Purge Volume:	<u>19</u>

<b>Sampling Data:</b>							
<b>Initial Turbidity:</b>				<b>Final Turbidity:</b>			
Time	<u>8:23</u>	<u>8:26</u>	<u>8:29</u>	<u>8:31</u>	<u>8:34</u>	<u>8:37</u>	<u>8:40</u>
EC	<u>820</u>	<u>800</u>	<u>810</u>	<u>780</u>	<u>870</u>	<u>840</u>	<u>810</u>
pH	<u>6.18</u>	<u>6.16</u>	<u>6.14</u>	<u>6.12</u>	<u>6.10</u>	<u>6.09</u>	<u>6.06</u>
Temp	<u>21.1</u>	<u>21.2</u>	<u>21.4</u>	<u>21.6</u>	<u>21.7</u>	<u>21.7</u>	<u>21.9</u>
Gal.	<u>2</u>	<u>5</u>	<u>8</u>	<u>10</u>	<u>13</u>	<u>16</u>	<u>19</u>
Time							
EC							
pH							
Temp							
Gal.							

<b>After Purging/Before Sample Collection</b>			
Depth to Water (ft.)	<u>6.40</u>	Total Well Depth(ft.)	<u>13.60</u>

# **APPENDIX B**





**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS #049 ✓  
Sample Matrix: Water  
Method: EPA 8015M (Gasoline)

AA Project No.: A135049-61 ✓  
Date Received: 01/25/00  
Date Reported: 01/31/00  
Units: ug/L

AA I.D. No.	Client I.D. No.	Date Sampled	Date Analyzed	Results	MRL
101230	MW-6	01/20/00	01/26/00	<50	50
101231	MW-3	01/20/00	01/26/00	<50	50
101232	MW-7	01/20/00	01/26/00	<50	50
101233	MW-5	01/20/00	01/26/00	<50	50
101234	MW-1	01/20/00	01/26/00	<50	50
101235	MW-4	01/20/00	01/26/00	770	50
101236	MW-2	01/20/00	01/26/00	7500	50
101237	Trip Blank	01/20/00	01/26/00	<50	50

MRL: Method Reporting Limit  
<: Not detected at or above the value of the concentration indicated.

George Havallas  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS #049  
Sample Matrix: Water  
Method: EPA 8020 (BTEX)

AA Project No.: A135049-61  
Date Received: 01/25/00  
Date Reported: 01/31/00  
Units: ug/L

Date Sampled:	01/20/00	01/20/00	01/20/00	01/20/00	
Date Analyzed:	01/26/00	01/26/00	01/26/00	01/26/00	
AA ID No.:	101230	101231	101232	101233	
Client ID No.:	MW-6	MW-3	MW-7	MW-5	MRL
<b>Compounds:</b>					
Benzene	<0.3	<0.3	<0.3	<0.3	0.3
Ethylbenzene	<0.3	<0.3	<0.3	<0.3	0.3
Toluene	<0.3	<0.3	<0.3	<0.3	0.3
Xylenes	<0.5	<0.5	<0.5	<0.5	0.5

George Havailas  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS #049  
Sample Matrix: Water  
Method: EPA 8020 (BTEX)

AA Project No.: A135049-61  
Date Received: 01/25/00  
Date Reported: 01/31/00  
Units: ug/L

Date Sampled:	01/20/00	01/20/00	01/20/00	01/20/00	
Date Analyzed:	01/26/00	01/26/00	01/26/00	01/26/00	
AA ID No.:	101234	101235	101236	101237	
Client ID No.:	MW-1	MW-4	MW-2	Trip Blank	MRL
<b>Compounds:</b>					
Benzene	<0.3	<0.3	<6	<0.3	0.3
Ethylbenzene	<0.3	<0.3	<6	<0.3	0.3
Toluene	<0.3	<0.3	<6	<0.3	0.3
Xylenes	<0.5	<0.5	<10	<0.5	0.5

MRL: Method Reporting Limit

<: Not detected at or above the value of the concentration indicated.

**NOTES:**

Sample 101236(MW-2) was diluted 20 fold due to the high concentration of MTBE. As a result of the dilution the reporting detection limits for BTEX were elevated accordingly.

George Havallas  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS #049  
Sample Matrix: Water  
Method: MTBE (EPA 8020)

AA Project No.: A135049-61  
Date Received: 01/25/00  
Date Reported: 01/31/00  
Units: ug/L

AA I.D. No.	Client I.D. No.	Date Sampled	Date Analyzed	Results	MRL
101230	MW-6	01/20/00	01/26/00	42	5
101231	MW-3	01/20/00	01/26/00	<5	5
101232	MW-7	01/20/00	01/26/00	5.0	5
101233	MW-5	01/20/00	01/26/00	<5	5
101234	MW-1	01/20/00	01/26/00	<5	5
101235	MW-4	01/20/00	01/26/00	2400	5
101236	MW-2	01/20/00	01/26/00	14000	5

MRL: Method Reporting Limit  
<: Not detected at or above the value of the concentration indicated.

George Havalias  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS #049  
Sample Matrix: Water  
Method: MTBE (EPA 8260)

AA Project No.: A135049-61  
Date Received: 01/25/00  
Date Reported: 02/02/00  
Units: ug/L

AA I.D. No.	Client I.D. No.	Date Sampled	Date Analyzed	Results	MRL
101230	MW-6	01/20/00	02/01/00	41	5
101232	MW-7	01/20/00	02/01/00	<5	5
101235	MW-4	01/20/00	02/01/00	1900	5
101236	MW-2	01/20/00	02/01/00	16000	5

MRL: Method Reporting Limit

<: Not detected at or above the value of the concentration indicated.

George Havallas  
Laboratory Director



LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS #049  
Method: MTBE (EPA 8260)  
Sample ID: Matrix Spike  
Concentration: 100 ug/L

AA ID No.: 101198  
Project No.: N/A  
AA Project No.: A135049-61  
Date Analyzed: 02/01/00  
Date Reported: 02/02/00

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept. Rec. Range (%)
Methyl tert-Butyl Ether	88	88	91	91	3	50 - 150

George Havallas  
Laboratory Director

  
George Havallas  
Laboratory Director



LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS #049  
Method: EPA 8020 (BTEX)  
Sample ID: Matrix Spike  
Concentration: 20 ug/L

AA ID No.: 101218  
Project No.: N/A  
AA Project No.: A135049-61  
Date Analyzed: 01/26/00  
Date Reported: 01/31/00

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept. Rec. Range (%)
Benzene	16.34	82	17.40	87	6	65 - 135
Ethylbenzene	19.64	98	20.45	102	4	77 - 123
Toluene	19.97	100	20.48	102	2	66 - 134
Xylenes	19.59	98	20.39	102	4	73 - 127

George Havallas  
Laboratory Director



LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS #049  
Method: EPA 8015M (Gasoline)  
Sample ID: Matrix Spike  
Concentration: 500 ug/L

AA ID No.: 101218  
Project No.: N/A  
AA Project No.: A135049-61  
Date Analyzed: 01/26/00  
Date Reported: 01/31/00

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept. Rec. Range (%)
Gasoline Range Organics	490	98	470	94	4	59 - 149

*George Havalias*

George Havalias  
Laboratory Director

*George Havalias*  
George Havalias  
Laboratory Director





# AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311

(818) 998-5547

(818) 998-5548

1-800-533-TEST

1-800-533-8378

FAX (818) 998-7258

DATE: 01-20-00

PAGE 1 OF 1

AA Client: <b>THRIFTY OIL CO</b>				Phone: <b>562/921-3584</b>		Sampler's Name: <b>SFRANK J</b>					
Project Manager: <b>JEFF SURYARUSOMA</b>				P.O. No.		Sampler's Signature: <b>[Signature]</b>					
Project Name: <b>R.V.S.</b>				Project No.		Project Manager's Signature					
Job Name and Address: <b>3400 STA PABLO BLVD OAKLAND, CA 94612</b>				<b>ANALYSIS REQUIRED</b>							
				Detection Limits							
				Test Name							
AA ID.#	Client's ID.	Date	Time	Sample Type	Number of Containers	TRP	BTEX	MTHX	MTHX/STY	Test Requirements	
101230	MW-6	01-20-00	12:00	WATER	3	X	X	X	X	Add 3 drops 11 HCL =	
101231	MW-3	↑	12:05	↑	3	X	X	X	X		
101232	MW-7	↑	12:10	↑	3	X	X	X	X		
101233	MW-5	↑	12:15	↑	3	X	X	X	X		
101234	MW-1	↑	12:20	↑	3	X	X	X	X		
101235	MW-4	↑	12:30	↑	3	X	X	X	X		
101236	MW-2	↓	12:35	↓	3	X	X	X	X	Add-on per w/ltian	
101237	TRIP BULK	↓	12:30	↓	2	X	X				
<b>SAMPLE INTEGRITY-TO BE FILLED IN BY RECEIVING LAB</b>				Relinquished by: <b>[Signature]</b>		Date: 01-20-00	Time: 12:00	Received by: <b>CA-OVERNIGHT</b>			
Samples Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				Relinquished by: <b>CA-OVERNIGHT</b>		Date: 01-20-00	Time: 12:30	Received by: _____			
Samples Properly Cooled Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				Relinquished by: _____		Date: 1-25-00	Time: 9AM	Received by: <b>[Signature]</b>			
Samples Accepted Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				Relinquished by: _____		Date: _____	Time: _____	Received by: _____			
If Not Why: <b>A135069-61</b>				Relinquished by: _____		Date: _____	Time: _____	Received by: _____			
AA Project No. <b>A135069-22</b>				Relinquished by: _____		Date: _____	Time: _____	Received by: _____			

# **APPENDIX C**

049

THRIFTY OIL CO. SERVICE STATION # 49  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBATA P

DATE OF INSPECTION: 03-30-00

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

FLOW METER READING: 104919

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: 1.1

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

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

INSPECTOR'S SIGNATURE: [Signature]

THRIFTY OIL CO. SERVICE STATION # 49  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBATA P.

DATE OF INSPECTION: 03-24-00

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

FLOW METER READING: 104482

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: 1.1

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

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

INSPECTOR'S SIGNATURE: [Signature]

049

THRIFTY OIL CO. SERVICE STATION # 49  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN P.

DATE OF INSPECTION: 03-13-00

OBSERVATIONS AND COMMENTS: check oil, belt, hoses connections,  
replace cartridge water filter

FLOW METER READING: 103547

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: 1.1

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

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

INSPECTOR'S SIGNATURE: [Signature]

049

THRIFTY OIL CO. SERVICE STATION # 049.  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: BERRY T.

DATE OF INSPECTION: 03-07-00

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

FLOW METER READING: 203108

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: 1.1

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

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

INSPECTOR'S SIGNATURE: [Signature]

49

THRIFTY OIL CO. SERVICE STATION # 49  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBEN D.

DATE OF INSPECTION: 03-02-00

OBSERVATIONS AND COMMENTS: check oil, belt, clean water filter (bag)  
replace water cartridge filter

FLOW METER READING: 102621

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 12

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: 0.9

INSPECTOR'S SIGNATURE: [Signature]

THRIFTY OIL CO. SERVICE STATION # 49  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN P.

DATE OF INSPECTION: 02-24-00

OBSERVATIONS AND COMMENTS: check oil, belt, replace water

cartridge filter, clean water bag

FLOW METER READING: 10A903

SAMPLES OBTAINED: N/A

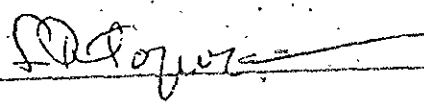
PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 12

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 10

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: 0.9

INSPECTOR'S SIGNATURE: 



THRIFTY OIL CO. SERVICE STATION # 049  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN P.

DATE OF INSPECTION: 02-17-00

OBSERVATIONS AND COMMENTS: check oil, belt, replace water cartridge  
filter,

FLOW METER READING: 101566

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 12

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 10

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: 0.8

INSPECTOR'S SIGNATURE: [Signature]

THRIFTY OIL CO. SERVICE STATION # 49  
~~6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA~~ 3400 SAN PABLO AVE  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: BERNARD P.

DATE OF INSPECTION: 02-10-00

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

FLOW METER READING: 101229

SAMPLES OBTAINED: N/A

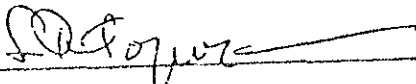
PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 13

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.2

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: 



# EARTH MANAGEMENT CO.

Environmental Remediation

047

## MAINTENANCE & REPAIR REPORT

- A) SS #: 049 SYSTEM TYPE:  
B) DEFICIENCY DESCRIPTION :  
    MAINTENANCE
- C) NAME OF REPORTING PARTY AND DATE:  
D) DATE SCHEDULED :

- 1) NAME: DATE/TIME  
2) FINDINGS:

Replace old hoses from carbon drums  
and tight connection between hoses  
replace old well caps -

- 3) HAS THE JOB BEEN COMPLETED? YES/NO  
IF "NO", PLEASE DESCRIBE WHY AND WHAT YOU NEED  
TO FINISH:

- 4) POST REPAIR TEST RESULTS:

- 5) THE CAUSE OF THE DEFICIENCY:

BRIEF INSTRUCTIONS FOR PREVENTIVE MAINTENANCE  
TO THE TECHNICIAN:

- 6) OTHER:

049

THRIFTY OIL CO. SERVICE STATION # 49  
~~6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA~~ 3400 SAN PABLO AVE - OAKLAND  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: BERNARD P.

DATE OF INSPECTION: 02-03-00

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

FLOW METER READING: 101103

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: 1.3

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 08

INSPECTOR'S SIGNATURE: [Signature]

THRIFTY OIL CO. SERVICE STATION # 49  
~~6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA~~ 3400 SAN PABLO AVE  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: BERNARD P.

DATE OF INSPECTION: 02-10-00

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

FLOW METER READING: 101229

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: 1.2

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 # 049  
~~4125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA 94609~~ SAN PABLO AV. OAKLAND  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBATA P.

DATE OF INSPECTION: 01-27-00

OBSERVATIONS AND COMMENTS: CHECK OIL, BELT, CLEAN WATER  
FILTER, REPLACE WATER CARTRIDGE,

FLOW METER READING: 100869

SAMPLES OBTAINED: NO

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: 1.3

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  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SEBASTIAN P.

DATE OF INSPECTION: 01-20-00

OBSERVATIONS AND COMMENTS: Check belt, replace cartridge  
water filter, add oil,

FLOW METER READING: 100521

SAMPLES OBTAINED: yes

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  
~~6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA~~  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBATA P.

DATE OF INSPECTION: 01-13-00

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

FLOW METER READING: 100264

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]



THRIFTY OIL CO. SERVICE STATION # (49)  
6125 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBON P.

DATE OF INSPECTION: 01-07-00

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

FLOW METER READING: 99920

SAMPLES OBTAINED: N/A

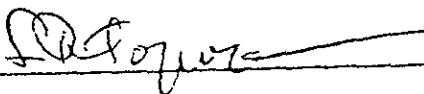
PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 14

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: 

# **APPENDIX D**



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS #049 ✓  
Sample Matrix: Water  
Method: EPA 8015M (Gasoline)

AA Project No.: A135049-60 ✓  
Date Received: 01/25/00  
Date Reported: 01/27/00  
Units: ug/L

AA I.D. No.	Client I.D. No.	Date Sampled	Date Analyzed	Results	MRL
101227	Effluent	01/20/00	01/26/00	<50	50
101228	Inter.	01/20/00	01/26/00	<50	50
101229	Influent	01/20/00	01/26/00	<50	50

MRL: Method Reporting Limit  
<: Not detected at or above the value of the concentration indicated.

George Havalias  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS #049  
Sample Matrix: Water  
Method: EPA 8020 (BTEX)

AA Project No.: A135049-60  
Date Received: 01/25/00  
Date Reported: 01/27/00  
Units: ug/L

Date Sampled:	01/20/00	01/20/00	01/20/00	
Date Analyzed:	01/26/00	01/26/00	01/26/00	
AA ID No.:	101227	101228	101229	
Client ID No.:	Effluent	Inter.	Influent	MRL
<b><u>Compounds:</u></b>				
Benzene	<0.3	<0.3	<0.3	0.3
Ethylbenzene	<0.3	<0.3	<0.3	0.3
Toluene	<0.3	<0.3	<0.3	0.3
Xylenes	<0.5	<0.5	<0.5	0.5

MRL: Method Reporting Limit

<: Not detected at or above the value of the concentration indicated.

George Havalias  
Laboratory Director

L  
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BS  
G 3



LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS #049  
Method: EPA 8020 (BTEX)  
Sample ID: Matrix Spike  
Concentration: 20 ug/L

AA ID No.: 101218  
Project No.: N/A  
AA Project No.: A135049-60  
Date Analyzed: 01/26/00  
Date Reported: 01/27/00

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept.Rec. Range (%)
Benzene	16.34	82	17.40	87	6	65 - 135
Ethylbenzene	19.64	98	20.45	102	4	77 - 123
Toluene	19.97	100	20.48	102	2	66 - 134
Xylenes	19.59	98	20.39	102	4	73 - 127

George Havalias  
Laboratory Director



LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS #049  
Method: EPA 8015M (Gasoline)  
Sample ID: Matrix Spike  
Concentration: 500 ug/L

AA ID No.: 101218  
Project No.: N/A  
AA Project No.: A135049-60  
Date Analyzed: 01/26/00  
Date Reported: 01/27/00

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept.Rec. Range (%)
Gasoline Range Organics	490	98	470	94	4	59 - 149

George Havallas  
Laboratory Director



# AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311

(818) 998-5547

(818) 998-5548

1-800-533-TEST

1-800-533-8378

FAX (818) 998-7258

DATE: 01-20-00

PAGE 1 OF 1

AA Client <u>T.O.C</u>						Phone <u>(818) 921-3581</u>		Sampler's Name <u>SEBOW A.</u>		
Project Manager <u>JEFF SURYAKRISHNA</u>						P.O. No.		Sampler's Signature		
Project Name <u>SYSTEM SAMPLING</u>						Project No.		Project Manager's Signature		
Job Name and Address <u>3400 SAN PABLO AVE DALLAS, TX</u>						<b>ANALYSIS REQUIRED</b>				Test Requirements
						Detection Limits		/ / / / / / / / / /		
						Test Name				
						TPT BTEX				
AA ID.#	Client's ID.	Date	Time	Sample Type	Number of Containers					
101227	EFFLUENT	01.20.00	10:00	WATER	2	X	X			
101228	INFLUENT	01.20.00	10:05	WATER	2	X	X		} Add 3 drops N:1 HCL -	
101229	INFLUENT	01.20.00	10:10	WATER	2	X	X			
/ / / / / / / / / /										
<b>SAMPLE INTEGRITY-TO BE FILLED IN BY RECEIVING LAB</b>						Relinquished by: <u></u>		Date	Time	Received by:
Samples Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>								01.20.00	11:00	<u>CH. OVERHIGHT</u>
Samples Properly Cooled Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>								01.20.00	11:30	
Samples Accepted Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										
If Not Why: _____						Relinquished by: _____		Date	Time	Received by:
AA Project No. <u>A135049-60</u>								1-25-00	9AM	<u></u>
						Relinquished by:		Date	Time	Received by: