

ROOF  
PSK

# THRIFTY OIL CO.

January 24, 2002

JAN 29 2002

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

O.23602

Local #4057  
RWQCB #01-1478  
Global ID #T0600101365  
Confirmation #6833733260

RE: **Former Thrifty Oil Co. Station #049**  
**ARCO Products Company Station #9535**  
3400 San Pablo Avenue  
Oakland, CA 94612  
*4th Quarter 2001, Status Report*

Dear Ms. Hugo:

Presented herewith is the Fourth 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,



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Chris Panaitescu  
General Manager  
Environmental Affairs

cc: ARCO Products Company  
File



# THRIFTY OIL CO.

January 23, 2002

Local #4057  
RWQCB #01-1478  
Global ID #T0600101365  
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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  
*4th Quarter 2001, Status Report*

Dear Ms. Hugo:

Presented herein is the Fourth 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 Fourth 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 beneath the station at depths ranging from 3.86 feet below surface grade (bsg) in monitoring well MW-6 to 8.87 feet bsg in monitoring well MW-3 (**Appendix A**). A groundwater elevation contour map based on the October 10, 2001 data is presented in **Figure 2**. Groundwater elevation data indicates that the flow direction is toward the west-northwest with a groundwater gradient of approximately 0.06 feet/foot. Recovery well RW-1 gauging data was not used for the groundwater contour map because it is a pumping well, and its gauging data was anomalous to the site.

### **Quarterly Groundwater Sampling**

As part of the ongoing groundwater monitoring program, groundwater samples were obtained from



monitoring wells MW-1 through MW-7 on October 10, 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. 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**, respectively. Laboratory results indicate the highest concentration of TPH-g, benzene, and MTBE were in monitoring well MW-4 (8,580 ug/L, 6.1 ug/L and 30,000 ug/L, respectively). The isoconcentration maps do not incorporate data from the treatment system influent, even though the groundwater is pumped solely from RW-1, because it was not sampled on the same day as the quarterly water sampling.

### **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 207,990 gallons of groundwater, and has treated approximately 997,718 gallons of groundwater since start up (April 1991) through December 2001. The groundwater system was shut down on October 5, 2001 for quarterly water sampling, and restarted on October 12, 2001 when the groundwater sampling was completed.

Inlet, intermediate 1, intermediate 2, intermediate 3, and outlet water samples were collected on October 3, 2001 from the treatment unit, and the samples collected by EMC were sent a state certified laboratory for analysis. The samples collected on October 3, 2001 were analyzed for TPH-g, BTEX, and MTBE by EPA methods 8015M and 8021B, respectively. All analyzed outlet samples were below the laboratory detection limits. Copies of the laboratory analytical reports are included in **Appendix D**.

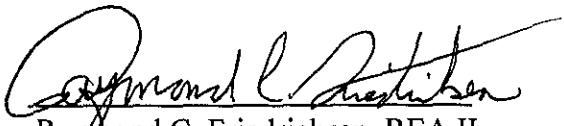
### **Other Activities**

With the high concentration of petroleum hydrocarbon contamination in well MW-4, Thrifty proposes to connect this well (MW-4) to the existing remediation system to enhance the reduction of the petroleum hydrocarbons in the groundwater. Once approval is received from the ACHCS, an upgrading remedial action work plan will be sent to the ACHCS for approval.

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 Fourth Quarter 2001 monitoring report.

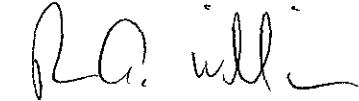
All interpretations expressed in this report are based solely upon data collected by EMC, and Associated Laboratories.

Written by:

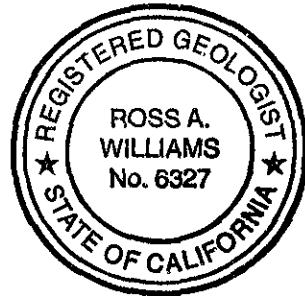


Raymond C. Friedrichsen, REA II  
Project Manager, MBA  
Senior Environmental Hydrogeologist

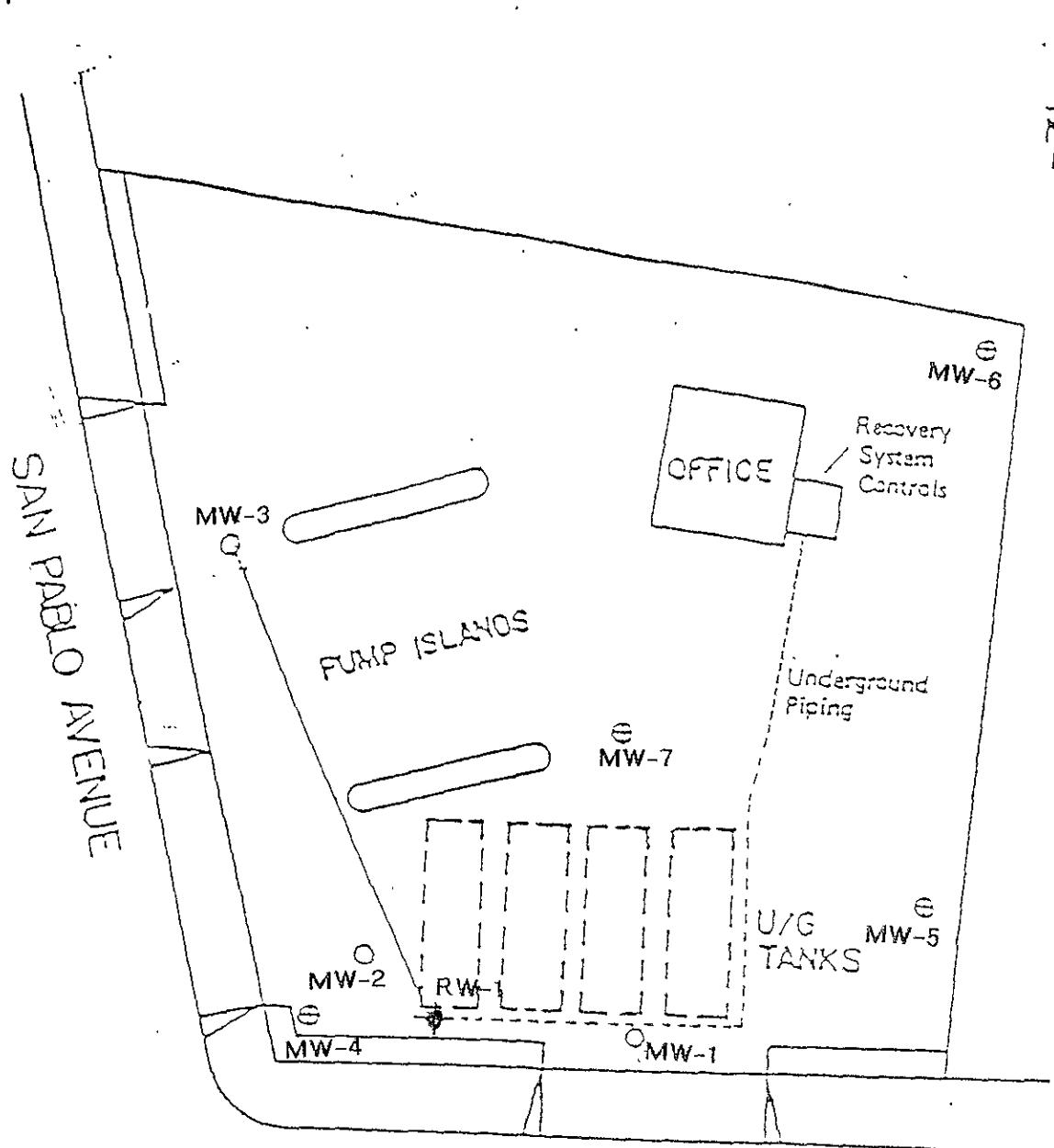
Reviewed by:



Ross A. Williams  
Registered Geologist #6327



# **FIGURES**



34th STREET

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

LEGEND

OMW1 - GT MONITORING WELLS

⊕ MW-4 - WCC MONITORING WELLS

⊖ RW-1 -

RECOVERY WELL

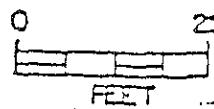
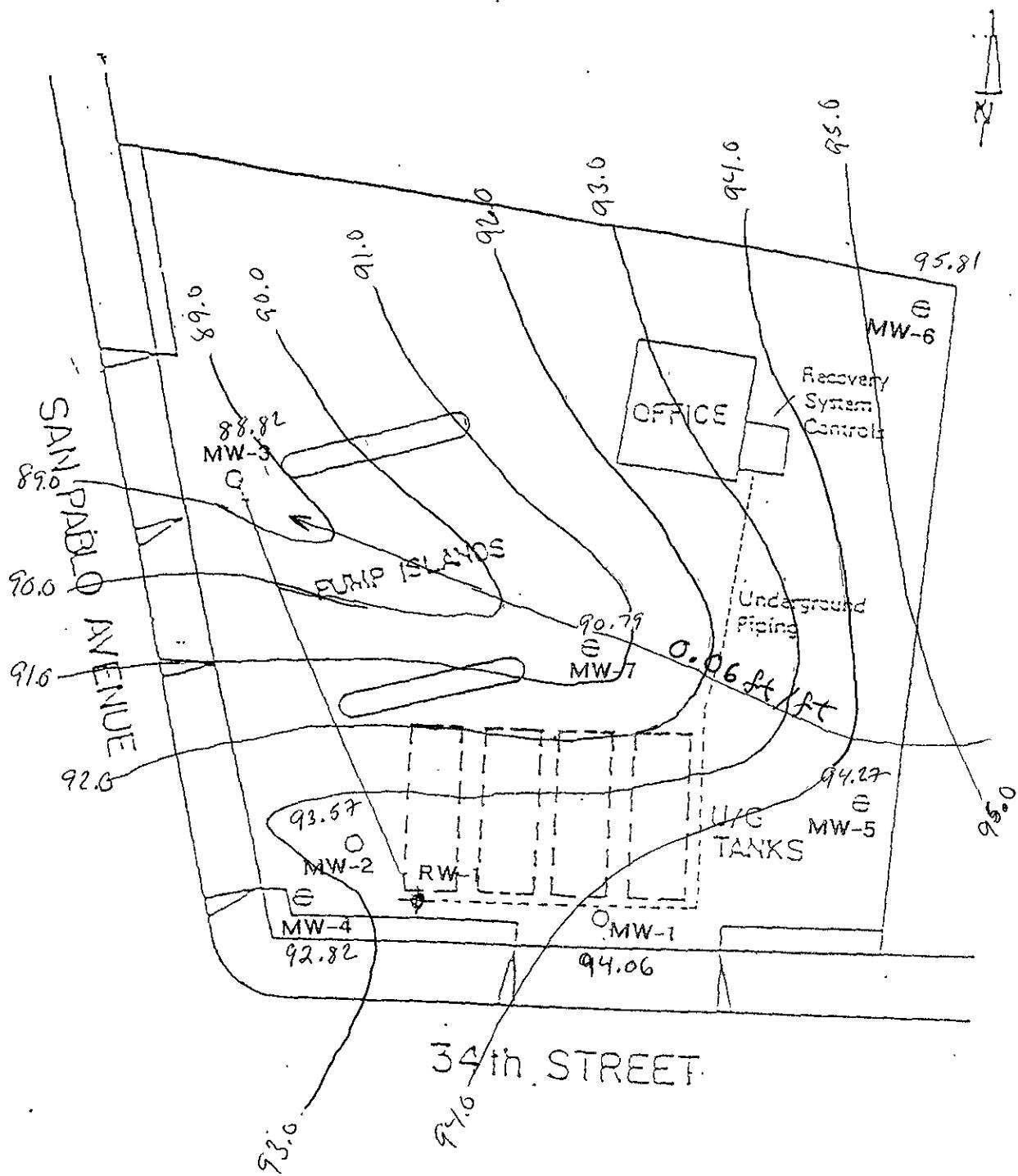


FIGURE 1



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

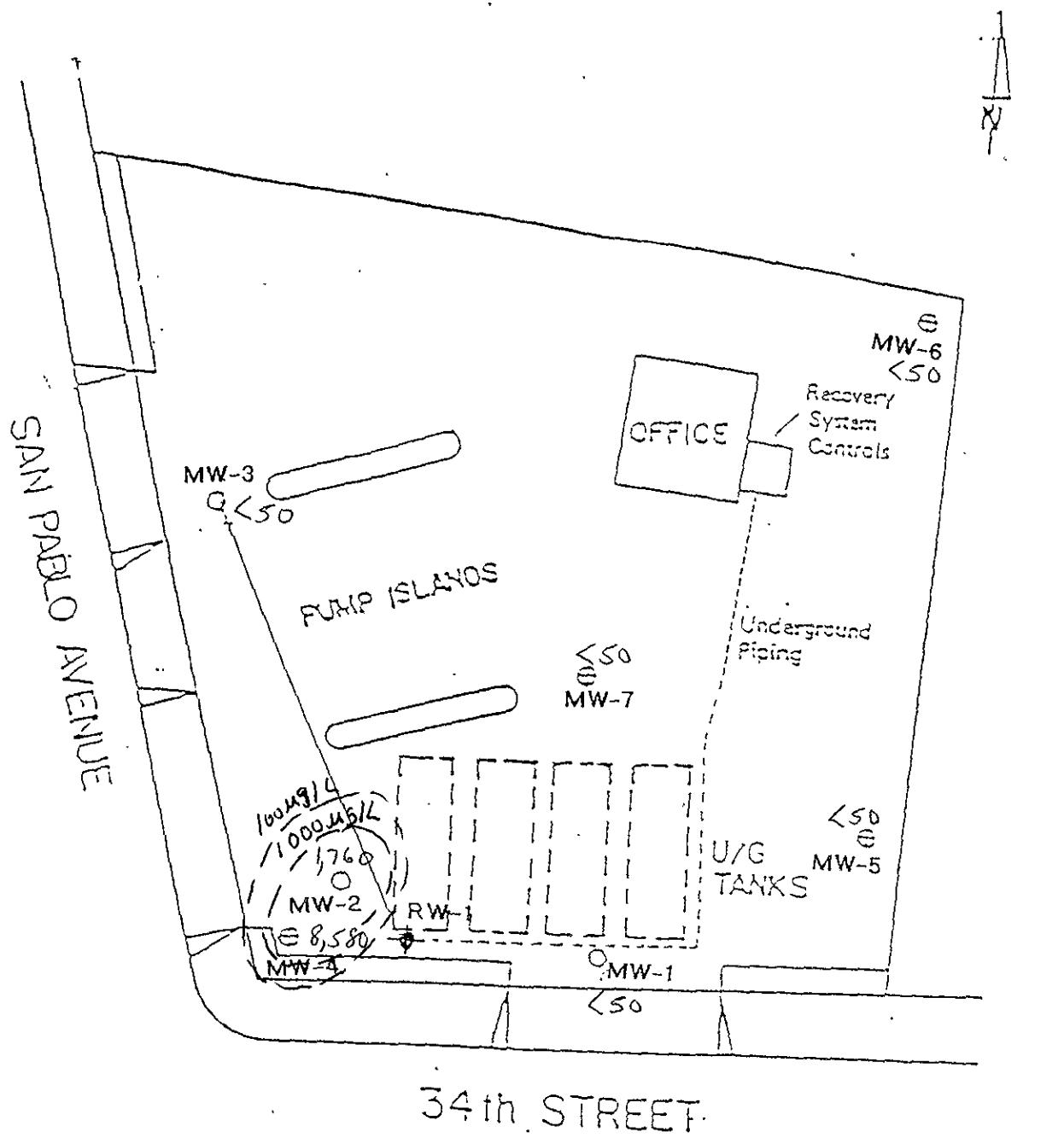
LEGEND

OMW1 - GT MONITORING WELLS  
@ MW-4 - WCC MONITORING WELLS

RW-1 - RECOVERY WELL

10/10/01

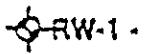
FIGURE 2



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

LEGEND

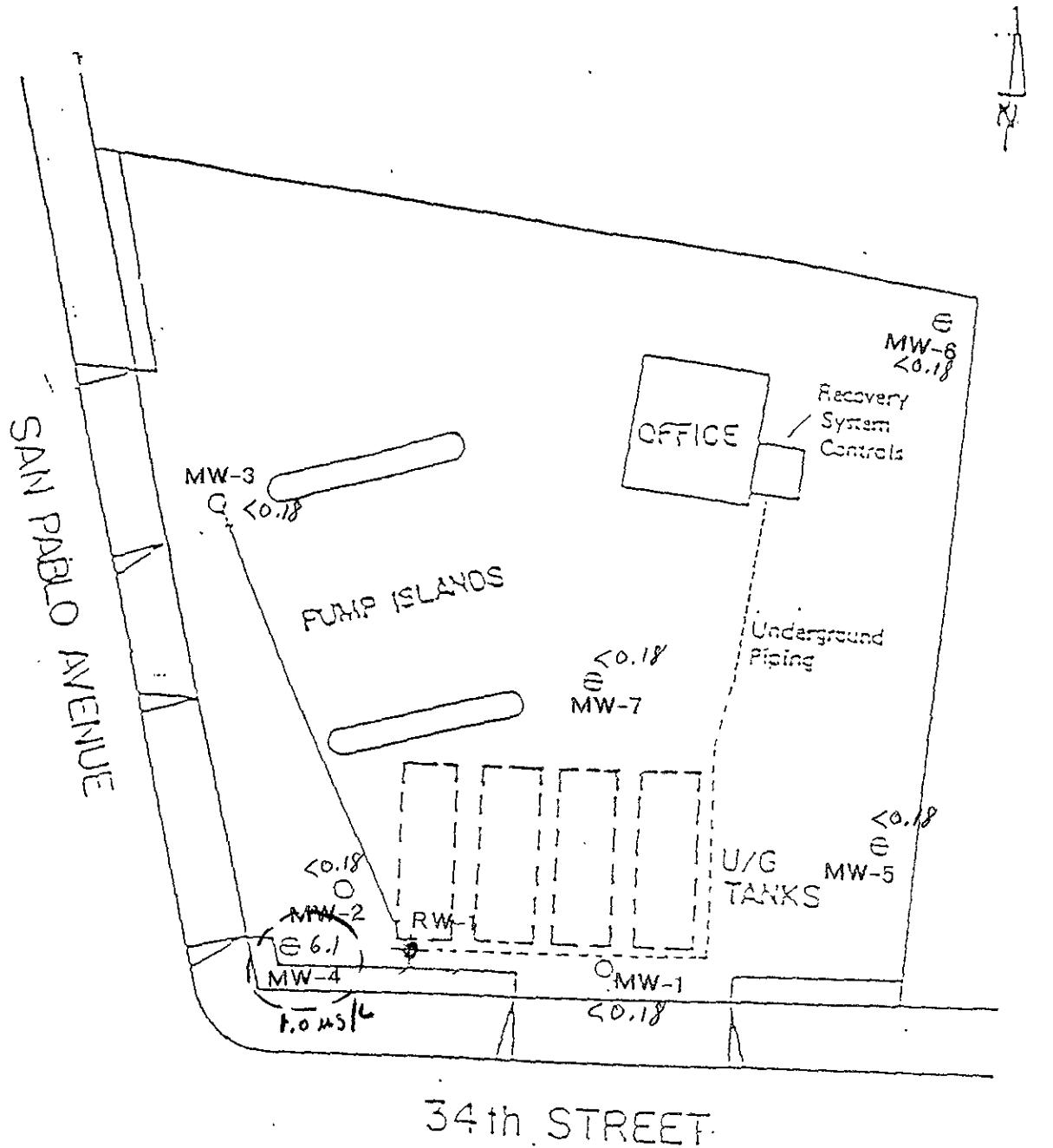
OMW1 - GT MONITORING WELLS  
 MW4 - WCC MONITORING WELLS



RECOVERY WELL



10/10/01



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

LEGEND

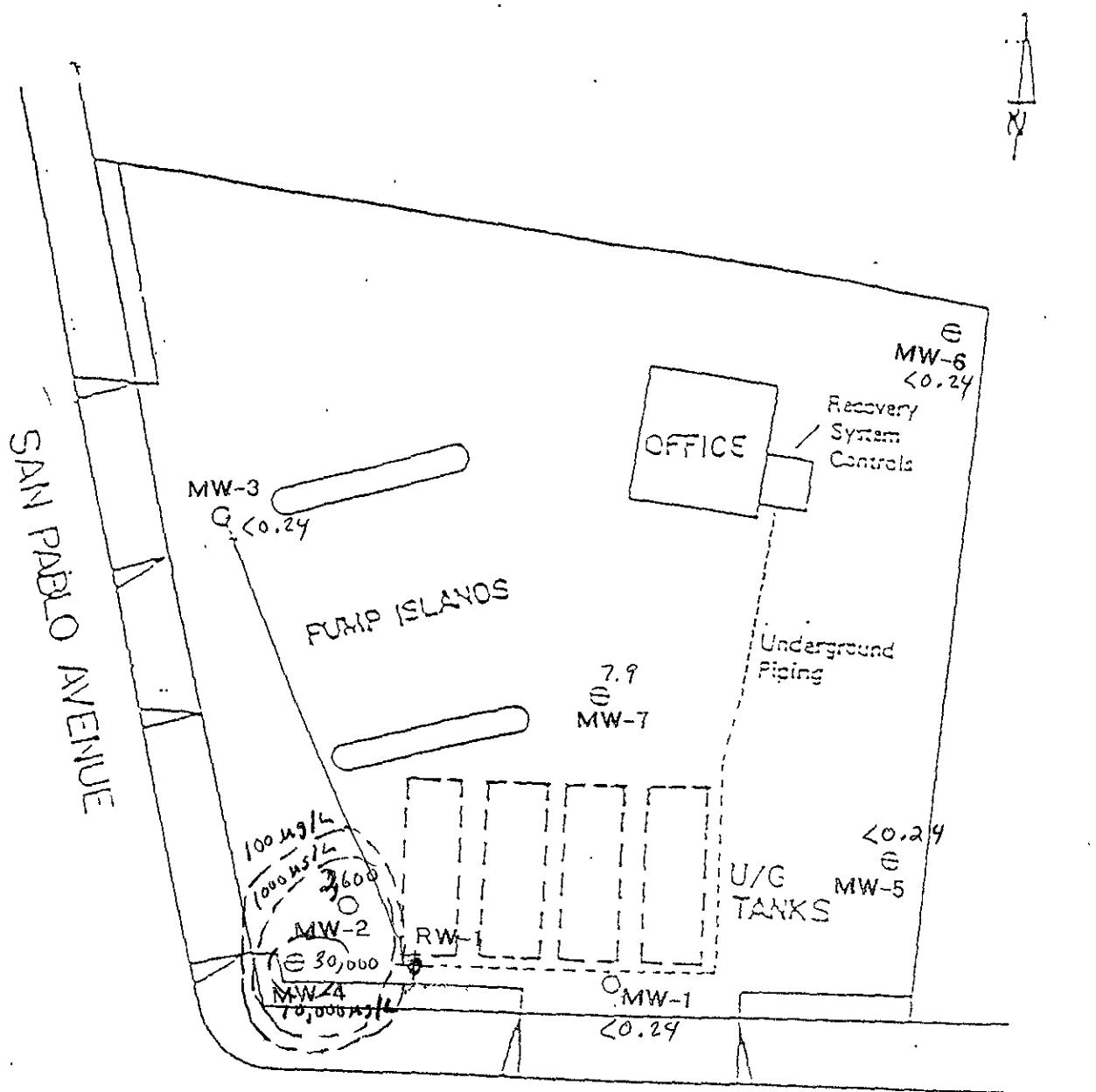
OMW1 - GT MONITORING WELLS  
SMW4 - WCC MONITORING WELLS

RW-1

RECOVERY WELL

10/10/01

FIGURE 4



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

LEGEND

○ MW1 - GT MONITORING WELLS  
● MW4 - WCC MONITORING WELLS

● RW-1 - RECOVERY WELL

10/10/01

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)					
<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	-
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
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.98	NP	0.00	98.03	94.05
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	5.51	NP	0.00	98.03	92.52
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.97	NP	0.00	98.03	94.06

**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-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
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
04/19/01	4,380	<0.18	<0.14	<0.18	<0.26	8,890	5.40	NP	0.00	97.44	92.04
07/18/01	3,260	<0.18	<0.14	<0.18	2	* 7960 / 1,710	6.92	NP	0.00	97.44	90.52
10/10/01	1,760	<0.18	<0.14	<0.18	<0.26	* 2,980 / 2,600	3.87	NP	0.00	97.44	93.57

**TABLE I**  
**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-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	38,900	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
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	8.87	NP	0.00	97.69	88.82
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	7.32	NP	0.00	97.69	90.37
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	8.87	NP	0.00	97.69	88.82

**TABLE I**  
**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-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	-
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	2.0	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
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
04/05/00	61,200	0.9	<0.25	<0.25	<0.5	*18,500 / 21,900	5.30	NP	0.00	97.33	92.03
07/19/00	96,600	1,770	1,760	2,690	8,730	21,900 / 9,740 J	5.29	NP	0.00	97.33	92.04
10/18/00	34,900	698	1,010	607	4,130	*27,800 / 15,900	6.02	NP	0.00	97.33	91.31
01/17/01	29,100	799	930	614	3,400	*24,300 / 31,400	4.88	NP	0.00	97.33	92.45
04/19/01	103,000	4,880	3,980	3,260	11,800	66,900	4.89	NP	0.00	97.33	92.44
07/18/01	52,200	3,320	2,090	440	5,520	*55,500 / 16,800	6.04	NP	0.00	97.33	91.29
10/10/01	8,580	6.1	14	5.3	70	*40,100 / 30,000	4.51	NP	0.00	97.33	92.82

**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-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	-
10/09/95	440	31	11	19	84	-	-	-	-	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
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
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	4.58	NP	0.00	98.85	94.27
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	6.12	NP	0.00	98.85	92.73
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	4.58	NP	0.00	98.85	94.27

**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-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
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
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
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.86	NP	0.00	99.67	95.81
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	5.40	NP	0.00	99.67	94.27
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	<0.24	3.86	NP	0.00	99.67	95.81

**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-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	-
01/08/96	13,000	800	42	540	860	-	6.94	NP	0.00	99.02	92.08
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
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
04/19/01	<50	<0.18	<0.14	<0.18	<0.26	66	7.86	NP	0.00	99.02	91.16
07/18/01	<50	<0.18	<0.14	<0.18	<0.26	*9 / 3 5	6.30	NP	0.00	99.02	92.72
10/10/01	<50	<0.18	<0.14	<0.18	<0.26	*9 4 / 7 9	8.23	NP	0.00	99.02	90.79

**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 #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	-	-
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	-	-
04/19/01	-	-	-	-	-	-	-	-	-	-	-
07/18/01	-	-	-	-	-	-	11.20	NP	0.00	-	-
10/10/01	-	-	-	-	-	-	11.20	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 (µg/L)						INFLUENT (µg/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	-
01/15/92	5,720	4,410	9	-	<0.5	<0.5	<0.5	<0.5	-	-	3,400	1,900	300	6,300	-

**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-o	B	T	E	X	MTBE	TPH-i	B	T	E	X	MTBE
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	16	<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	27,020	-	-	<0.5	<0.5	<0.5	<0.5	-	-	1,800	750	150	5,600	-
07/13/92	72,675	27,020	-	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	<0.5	-	-	2,100	520	<25	3,500	-
10/05/92	75,680	30,025	5	<200	<0.5	<0.5	<0.5	<0.5	-	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	<0.5	-	-	7,300	4,900	1,800	16,000	-
01/04/93	84,720	39,065	252	-	<0.5	<0.5	<0.5	<0.5	-	-	5,400	2,100	450	7,800	-
02/15/93	102,689	57,034	428	<200	<0.5	<0.5	<0.5	<0.5	-	41,000	6,600	3,200	260	9,600	-
02/22/93	146,430	57,034	-	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	<0.5	-	-	7,400	3,400	56	11,000	-
04/26/93	151,200	61,804	76	<100	<0.5	<0.5	<0.5	<0.5	-	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	<0.5	-	-	6,500	2,300	390	6,200	-
09/16/93	154,005	64,609	65	<60	<0.3	<0.3	<0.3	<0.3	-	43,000	2,300	320	<4.4	2,900	-
10/04/93	154,896	65,500	50	<60	<0.3	<0.3	<0.3	<0.3	-	33,000	2,900	470	6.9	3,500	-
11/05/93	157,431	68,035	79	<50	<0.3	<0.3	<0.3	<0.3	-	15,000	1,100	27	<0.3	920	-
12/03/93	159,324	69,928	68	<50	<0.3	<0.3	<0.3	<0.3	-	16,000	1,100	88	<6.6	2,300	-
01/06/94	166,440	77,044	209	-	<0.3	<0.3	<0.3	<0.3	-	-	3,800	730	<13	1,200	-
02/03/94	170,720	81,324	153	-	<0.3	<0.3	<0.3	<0.3	-	-	3,600	610	<4.4	4,800	-
03/03/94	178,168	88,772	266	-	<0.3	<0.3	<0.3	<0.3	-	-	2,800	2,000	270	3,400	-
04/07/94	185,670	96,274	214	<50	<0.3	<0.3	<0.3	<0.3	-	26,000	2,200	550	<6.6	1,900	-
05/12/94	188,840	99,444	91	<50	<0.3	<0.3	<0.3	<0.3	-	4,600	100	10	8.4	280	-
06/16/94	194,580	105,284	167	<50	<0.3	<0.3	<0.3	<0.3	-	-	<50	<0.3	<0.3	<0.5	-
07/11/94	199,135	109,739	178	<50	<0.3	<0.3	<0.3	<0.3	-	4,000	220	<2.6	<2.6	320	-
08/04/94	200,910	111,514	74	<50	<0.3	<0.3	<0.3	<0.3	-	7,800	480	6.2	<0.3	630	-
09/15/94	203,450	114,054	60	<50	<0.3	<0.3	<0.3	<0.3	-	3,200	150	2.4	2.6	170	-
10/10/94	205,210	115,814	70	<50	<0.3	<0.3	<0.3	<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	15	<0.3	<0.5	0.5	-
12/05/94	207,093	117,697	37	<50	<0.3	<0.3	<0.5	<0.5	-	75	13	<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	<0.3	<0.5	-	<50	27	<0.3	<0.5	<0.5	-

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 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-a	B	T	E	X	MTBE	TPH-a	B	T	E	X	MTBE
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	208,664	119,168	4	<100	<0.5	<0.5	<0.5	<1	-	3,300	180	7.6	21	150	-
05/08/95	208,608	119,212	2	<100	<0.5	<0.5	<0.5	<1	-	11,000	640	92	<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	56	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	334,382	244,986	-	Shut down system due to stolen equipment						-	-	-	-	-	-
04/08/98	334,382	244,986	-	<50	<0.3	<0.3	<0.3	<0.5	<20	3,100	12	1	<0.3	490	2,600
05/11/98	334,382	244,986	-	-	-	-	-	-	-	-	-	-	-	-	-
06/22/98	334,382	244,986	-	-	-	-	-	-	-	-	-	-	-	-	-

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 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
07/20/98	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	-	280,056	-	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	<0.6	<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	392,668	77	<50	<0.18	<0.14	<0.18	<0.26	<0.24	24,700	783	373	2	3,480	15,000
02/23/01	144,120.0	435,538	1,159	-	-	-	-	-	-	-	-	-	-	-	-
03/30/01	195,400.0	486,818	1,465	-	-	-	-	-	-	-	-	-	-	-	-

**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 (µg/L)						INFLUENT (µg/L)					
				TPH-a	B	T	E	X	MTBE	TPH-a	B	T	E	X	MTBE
04/06/01	199,090.0	490,508	527	System shut down for carbon replacement. Replaced on 4/11/01, restart on 4/13/01.											
04/20/01	207,050.0	498,468	569	88	<0.18	<0.14	<0.18	<0.26	93	36,500	855	716	659	1,570	11,400
04/27/01	210,640.0	502,058	513	System shut down for repair/replacement of compressor's pressure switch and exhaust valve											
04/30/01	210,640.0	502,058	-	320	<0.18	<0.14	<0.18	<0.26	*337 / 60	7,620	268	22	10	124	*13,600 / 9,130
05/11/01	210,640.0	502,058	-	Replaced pressure switch on 5/7/01, system still off for carbon replacement.											
05/21/01	210,640.0	502,058	-	Restart the system											
05/30/01	226,830.0	518,248	1,799	<50	<0.18	<0.14	<0.18	<0.26	<0.24	96,600	4,980	1,660	2,770	11,300	*53,600 / 41,600
06/29/01	267,230.0	558,648	1,347	-	-	-	-	-	-	-	-	-	-	-	-
07/11/01	310,010.0	601,428	3,565	<50	<0.18	<0.14	<0.18	<0.26	<0.24	162,000	<0.18	4,140	4,760	24,000	<0.24
08/17/01	441,270.0	732,688	3,548	-	-	-	-	-	-	-	-	-	-	-	-
09/28/01	498,310.0	789,728	1,358	-	-	-	-	-	-	-	-	-	-	-	-
10/03/01	503,930.0	795,348	1,124	<50	<0.18	<0.14	<0.18	<0.26	<0.24	31,600	<1.8	150	294	5,280	<2.4
11/12/01	664,700.0	956,118	4,019	-	-	-	-	-	-	-	-	-	-	-	-
12/28/01	706,300.0	997,718	904	-	-	-	-	-	-	-	-	-	-	-	-

WD PERMIT LIMITS:	NE	5.0	5.0	5.0	5.0	NE

Note: < = less than laboratory detection level indicated

TPH is analyzed by EPA Method 8015 M

- = no sample / not analyzed

BTEX is analyzed by EPA Method 602 or 8020

NE = Permit Limit not established

\*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:	4069	Date:	10-10-01
Address:			
Personnel:	DRB/MS	Weather:	SUNNY Day
Well No:	MW-1	Equip:	BACI CER

Before Purging:			
Total Well Depth: (ft.)	12.77	Well Diameter	27
Depth to Water (ft)	3.97	Est. Purge Volume:	9

Sampling Data:							
Initial Turbidity:	Final Turbidity:						
Time	9:02	9:03	9:04	9:06	9:07	9:08	9:10
EC	870	860	840	820	830	810	810
pH	6.20	6.18	6.20	6.23	6.21	6.30	6.30
Temp	21.3	21.1	20.8	20.8	20.6	20.1	20.5
Gal.	1	2	3	5	6	7	9
Time							
EC							
pH							
Temp							
Gal.							

After Purging/Before Sample Collection			
Depth to Water (ft.)	6.52	Total Well Depth(ft.)	12.77

**FIELD DATA - GROUNDWATER SAMPLING PROGRAM**

Site:	H 049	Date:	10-10-01
Address:			
Personnel:	SERBAN,	Weather:	SUNNY DAY
Well No:	MW - 2	Equip:	Baiver

Before Purgung:			
Total Well Depth: (ft.)	23.80	Well Diameter	2"
Depth to Water (ft)	3.87	Est. Purge Volume:	13

Sampling Data:							
Initial Turbidity:							Final Turbidity:
Time	9:58	10:00	10:02	10:04	10:06	10:08	10:10
EC	830	840	860	880	910	890	970
pH	6.20	6.22	6.18	6.20	6.24	6.30	6.30
Temp	21.4	21.4	21.2	21.1	20.4	20.8	20.8
Gal.	1	3	5	7	9	11	13

Time							
EC							
pH							
Temp							
Gal.							

After Purgung/Before Sample Collection			
Depth to Water (ft.)	6.31	Total Well Depth(ft.)	23.80

**FIELD DATA - GROUNDWATER SAMPLING PROGRAM**

Site:	12069	Date:	10-10-01
Address:			
Personnel:	SERBATO,	Weather:	SUNNY DAY
Well No:	MW 3	Equip:	BARRIER

Before Purging:			
Total Well Depth: (ft.)	24.20	Well Diameter	2 <sup>4</sup>
Depth to Water (ft)	8.87	Est. Purge Volume:	10

Sampling Data:								
Initial Turbidity:	Final Turbidity:							
Time	9:31	9:32	9:34	9:35	9:37	9:38	9:40	
EC	740	810	820	810	830	860	840	
pH	6.20	6.18	6.13	6.11	6.09	6.11	6.09	
Temp	71.1	70.8	70.8	70.6	70.5	70.4	70.4	
Gal.	1	2	4	5	7	8	10	
Time								
EC								
pH								
Temp								
Gal.								

After Purging/Before Sample Collection			
Depth to Water (ft.)	10.31	Total Well Depth(ft.)	24.20

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site:	TL 049	Date:	10-10-01
Address:			
Personnel:	SERRAD P.	Weather:	SUNNY DAY
Well No:	MW-4	Equip:	BATLER

Before Purging:			
Total Well Depth: (ft.)	13.69	Well Diameter	4"
Depth to Water (ft)	4.51	Est. Purge Volume:	24

Sampling Data:							
Initial Turbidity:				Final Turbidity:			
Time	10:19	10:22	10:26	10:29	10:33	10:36	10:40
EC	710	730	720	730	730	740	730
pH	6.10	6.12	6.10	6.08	6.08	6.10	6.10
Temp	21.3	21.1	20.9	20.8	20.9	20.7	20.6
Gal.	3	6	10	13	17	20	24
Time							
EC							
pH							
Temp							
Gal.							

After Purging/Before Sample Collection	
Depth to Water (ft.)	6.41
Total Well Depth(ft.)	13.69

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site:	2049	Date:	10-10-01
Address:			
Personnel:	SERBAN	Weather:	SUNNY Dry
Well No:	MW 5	Equip:	BWTICER

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

Sampling Data:							
Initial Turbidity:							Final Turbidity:
Time	8:54	8:55	8:56	8:57	8:58	8:59	9:00
EC	790	790	790	760	760	790	780
pH	6.09	6.04	6.04	6.08	6.11	6.13	6.11
Temp	21.3	21.1	20.8	20.8	20.6	20.5	20.6
Gal.	0.5	1	2	3	4	5	6
Time							
EC							
pH							
Temp							
Gal.							

After Purging/Before Sample Collection			
Depth to Water (ft.)	7.30	Total Well Depth(ft.)	13.78

**FIELD DATA - GROUNDWATER SAMPLING PROGRAM**

Site:	TL 049	Date:	10-10-01
Address:			
Personnel:	SERBAN	Weather:	SUNNY Day
Well No:	MW-6	Equip:	BUTTER

Before Purging:			
Total Well Depth: (ft.)	13.06	Well Diameter	24
Depth to Water (ft)	3.86	Est. Purge Volume:	6

Sampling Data:								
Initial Turbidity:	Final Turbidity:							
Time	9:44	9:45	9:46	9:47	9:48	9:49	9:50	
EC	920	920	920	920	910	920	920	
pH	6.20	6.18	6.20	6.18	6.20	6.18	6.18	
Temp	71.4	71.4	71.2	71.1	70.9	70.8	70.8	
Gal.	0.5	1	2	3	4	5	6	

Time							
EC							
pH							
Temp							
Gal.							

After Purging/Before Sample Collection			
Depth to Water (ft.)	2.20	Total Well Depth(ft.)	13.06

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site:	12-069	Date:	10-10-01
Address:			
Personnel:	SERBAC	Weather:	SUNNY DAY
Well No:	MW 7	Equip:	BAICKER

Before Purging:			
Total Well Depth: (ft.)	13.58	Well Diameter	44
Depth to Water (ft)	8.23	Est. Purge Volume:	14

Sampling Data:							
Initial Turbidity:					Final Turbidity:		
Time	9:13	9:15	9:17	9:19	9:21	9:23	9:25
EC	740	740	810	840	810	830	850
pH	6.19	6.21	6.19	6.23	6.24	6.21	6.19
Temp	71.2	70.9	70.8	70.7	70.7	70.6	70.6
Gal.	2	4	6	8	10	12	14
Time							
EC							
pH							
Temp							
Gal.							

After Purging/Before Sample Collection			
Depth to Water (ft.)	10.42	Total Well Depth(ft.)	13.58





**EARTH MANAGEMENT CO.**

Environmental Remediation

**PROJECT STATUS REPORT**

SITE: THRIFTY OIL CO. #049

ADDR: 3400 SAN PABLO AVENUE  
OAKLAND, CA.

DATE: 12-14-01

PERSON: SERBIA P.

OBSERVATION WELLS

WELL ID	DTP (FT)	DTW (FT)	DTB (FT)	PT (FT)	DIA (IN)	PURGE (GAL)	ODORS			FP		COMMENT
							Y	N	S	Y	N	
<b>MONTHLY</b>												
MW-1		3.96	17.75		2"		X			X		
MW-2		3.86	23.78		2"		X			X		
MW-3		8.87	24.18		2"		X			X		
MW-4		4.86	13.69		4"		X			X		
MW-5		4.57	13.78		2"		X			X		
MW-6		3.85	13.06		2"		X			X		
MW-7		2.82	13.56		4"		X			X		
RW-1		12.40	24.42		6"		X			X		
FREE PRODUCT REMOVED: APPROX _____ GALLONS							WATER REMOVED: APPROX _____ GALLONS					
REMARKS: Monitoring wells.												

**EXPLANATION:**

DTP= DEPTH TO PRODUCT FROM TOP OF CASING, DTW= DEPTH TO WATER FROM TOP OF CASING

DTB= DEPTH TO BOTTOM FROM TOP OF CASING, PT= PRODUCT THICKNESS, S= SLIGHT

PAGE \_\_\_\_ OF \_\_\_\_

13415 Carmenita Road/P.O. Box 2129, Santa Fe Springs, CA 90670 • (562) 923-9876 Fax (562) 861-9796

# **APPENDIX B**



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

**FAX 714/538-1209**

CLIENT Thrifty Oil (8871) LAB REQUEST 81558  
ATTN: Jeff Suryakusuma  
13539 E. Foster Rd.  
Santa Fe Springs, CA 90670

REPORTED 10/30/2001  
RECEIVED 10/15/2001

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>
299226	TOC# 049, MW5
299227	TOC# 049, MW1
299228	TOC# 049, MW7
299229	TOC# 049, MW3
299230	TOC# 049, MW6
299231	TOC# 049, MW2
299232	TOC# 049, MW4
299233	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 #: 299226

Matrix: WATER

Client Sample ID TOC# 049, MW5

Date Sampled: 10/10/2001 Time Sampled: 13:00

**8021B BTEX + MTBE**

Analyte	Result	DF	PQL	MDL	Units	Date/Analyst
Benzene	ND	1	0.3	0.18	ug/L	10/21/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/21/01 HP
Methyl t - butyl ether	ND	1	5	0.24	ug/L	10/21/01 HP
Toluene	ND	1	0.3	0.14	ug/L	10/21/01 HP
Xylene (total)	ND	1	0.6	0.26	ug/L	10/21/01 HP

**8015M - Total Petroleum Hydrocarbons**

Gasoline	ND	1	50	50	ug/L	10/21/01 HP
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Order #: 299227

Matrix: WATER

Client Sample ID TOC# 049, MW1

Date Sampled: 10/10/2001 Time Sampled: 13:05

**8021B BTEX + MTBE**

Benzene	ND	1	0.3	0.18	ug/L	10/21/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/21/01 HP
Methyl t - butyl ether	ND	1	5	0.24	ug/L	10/21/01 HP
Toluene	ND	1	0.3	0.14	ug/L	10/21/01 HP
Xylene (total)	ND	1	0.6	0.26	ug/L	10/21/01 HP

**8015M - Total Petroleum Hydrocarbons**

Gasoline	ND	1	50	50	ug/L	10/21/01 HP
----------	----	---	----	----	------	-------------

Order #: 299228

Matrix: WATER

Client Sample ID TOC# 049, MW7

Date Sampled: 10/10/2001 Time Sampled: 13:10

**8021B BTEX + MTBE**

Benzene	ND	1	0.3	0.18	ug/L	10/21/01 HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/21/01 HP
Methyl t - butyl ether	9.4	1	5	0.24	ug/L	10/21/01 HP
Toluene	ND	1	0.3	0.14	ug/L	10/21/01 HP
Xylene (total)	ND	1	0.6	0.26	ug/L	10/21/01 HP

**8260B BTEX/MTBE Only**

Methyl-tert-butylether (MTBE)	7.9	1	1	0.6	ug/L	11/08/01 DP
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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	1	50	50	ug/L	10/21/01	HP
----------	----	---	----	----	------	----------	----

Order #: 299229

Matrix: WATER

Client Sample ID TOC# 049, MW3

Date Sampled: 10/10/2001 Time Sampled: 13:20

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

## 8021B BTEX + MTBE

Benzene	ND	1	0.3	0.18	ug/L	10/21/01	HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/21/01	HP
Methyl t - butyl ether	ND	1	5	0.24	ug/L	10/21/01	HP
Toluene	ND	1	0.3	0.14	ug/L	10/21/01	HP
Xylene (total)	ND	1	0.6	0.26	ug/L	10/21/01	HP

## 8015M - Total Petroleum Hydrocarbons

Gasoline	ND	1	50	50	ug/L	10/21/01	HP
----------	----	---	----	----	------	----------	----

Order #: 299230

Matrix: WATER

Client Sample ID TOC# 049, MW6

Date Sampled: 10/10/2001 Time Sampled: 13:30

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

## 8021B BTEX + MTBE

Benzene	ND	1	0.3	0.18	ug/L	10/21/01	HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/21/01	HP
Methyl t - butyl ether	ND	1	5	0.24	ug/L	10/21/01	HP
Toluene	ND	1	0.3	0.14	ug/L	10/21/01	HP
Xylene (total)	ND	1	0.6	0.26	ug/L	10/21/01	HP

## 8015M - Total Petroleum Hydrocarbons

Gasoline	ND	1	50	50	ug/L	10/21/01	HP
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Order #: 299231

Matrix: WATER

Client Sample ID TOC# 049, MW2

Date Sampled: 10/10/2001 Time Sampled: 13:40

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

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



**8021B BTEX + MTBE**

Benzene	ND	1	0.3	0.18	ug/L	10/21/01	HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/21/01	HP
Methyl t - butyl ether	2,980	500	2500.0	0.24	ug/L	10/21/01	HP
Toluene	ND	1	0.3	0.14	ug/L	10/21/01	HP
Xylene (total)	ND	1	0.6	0.26	ug/L	10/21/01	HP

**8260B BTEX/MTBE Only**

Methyl-tert-butylether (MTBE)	2,600	100	100.0	0.6	ug/L	11/08/01	DP
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**8015M - Total Petroleum Hydrocarbons**

Gasoline	1,760	1	50	50	ug/L	10/21/01	HP
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Order #: 299232

Client Sample ID TOC# 049, MW4

Matrix: WATER

Date Sampled: 10/10/2001 Time Sampled: 13:45

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

Benzene	6.1	1	0.3	0.18	ug/L	10/21/01	HP
Ethyl benzene	5.3	1	0.3	0.18	ug/L	10/21/01	HP
Methyl t - butyl ether	40,100	1000	5000.0	0.24	ug/L	10/21/01	HP
Toluene	14	1	0.3	0.14	ug/L	10/21/01	HP
Xylene (total)	70	1	0.6	0.26	ug/L	10/21/01	HP

**8260B BTEX/MTBE Only**

Methyl-tert-butylether (MTBE)	30,000	1000	1000.0	0.6	ug/L	11/08/01	DP
-------------------------------	--------	------	--------	-----	------	----------	----

**8015M - Total Petroleum Hydrocarbons**

Gasoline	8,580	1	50	50	ug/L	10/21/01	HP
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Order #: 299233

Client Sample ID TOC# 049, Trip Blank

Matrix: WATER

Date Sampled: 10/10/2001 Time Sampled: 13:00

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

**8021B BTEX + MTBE**

Benzene	ND	1	0.3	0.18	ug/L	10/21/01	HP
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/21/01	HP
Methyl t - butyl ether	ND	1	5	0.24	ug/L	10/21/01	HP
Toluene	ND	1	0.3	0.14	ug/L	10/21/01	HP
Xylene (total)	ND	1	0.6	0.26	ug/L	10/21/01	HP

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

ND = Not detected below indicated MDL, J=Trace



**8015M - Total Petroleum Hydrocarbon:**

Gasoline	ND	1	50	50	ug/L	10/21/01	HP
----------	----	---	----	----	------	----------	----

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  
 Jeff Suryakusuma  
 13539 E. Foster Rd.  
 Santa Fe Springs, CA 90670

Lab Request: 81558  
 Date Received: 10/15/2001  
 Print Date: 11/12/2001

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

Objectives: Confirm MTBE by 8260.

Sample ID.	Gasoline	Benzene	Toluene	Ethyl benzene	Xylene (total)	MTBE	MTBE by EPA8260
TOC# 049, MW1	ND	ND	ND	ND	ND	ND	
TOC# 049, MW2	1,760 ug/L	ND	ND	ND	ND	2,980 ug/L	2,600 ug/L
TOC# 049, MW3	ND	ND	ND	ND	ND	ND	
TOC# 049, MW4	8,580 ug/L	6.1 ug/L	14 ug/L	5.3 ug/L	70 ug/L	40,100 ug/L	30,000 ug/L
TOC# 049, MW5	ND	ND	ND	ND	ND	ND	
TOC# 049, MW6	ND	ND	ND	ND	ND	ND	
TOC# 049, MW7	ND	ND	ND	ND	ND	9.4 ug/L	7.9 ug/L
TOC# 049, Trip Blank	ND	ND	ND	ND	ND	ND	

ND = Not Detected

Blank Field = Component not analyzed by this method.

**ASSOCIATED LABORATORIES**  
**QA REPORT FORM**

QC Sample: LR 81558-226  
 Matrix: WATER  
 Prep. Date: 10/21/01  
 Analysis Date: 10/21/01 - 10/22/01  
 ID#'s in Batch: LR 81558, 81604, 81592, 81568, 81743, 81691, 81693, 81690, 81712, 81748

**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	200	208	205	104.0	102.5	1.5

*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						
	Value	Result	True	%Rec	L.Limit	H.Limit
LCS	ND	219	200	109.5	80%	120%

*LCS Result = Lab Control Sample Result*

*True = True Value of LCS*

*L Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	70-130
QA Sample	113
MS	124
MSD	122
Method Blank	99
LCS	120

*AAA-TFT = a.a.a-Tri fluorotoluene*

**ASSOCIATED LABORATORIES**  
**QA REPORT FORM**

QC Sample: LR 81558-226  
 Matrix: WATER  
 Prep. Date: 10/21/01  
 Analysis Date: 10/21/01 - 10/22/01  
 LAB ID#'s in Batch: LR 81558, 81604, 81592, 81568, 81748

**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	11.3	11.1	113	111	2
Toluene	8021	ND	10.0	11.7	11.1	117	111	5
Ethylbenzene	8021	ND	10.0	12.2	11.7	122	117	4
Xylenes	8021	ND	20.0	24.7	23.1	124	116	7

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	10.7	10.0	107	80%	120%
Toluene	8021	ND	10.9	10.0	109	80%	120%
Ethylbenzene	8021	ND	11.3	10.0	113	80%	120%
Xylenes	8021	ND	22.1	20.0	111	80%	120%

LCS = Lab Control Sample Result

TRUE = True Value of LCS

L.LIMIT / H.LIMIT = LCS Control Limits

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	70-130
QA Sample	113
MS	114
MSD	115
Method Blank	99
LCS	112

AAA-TFT = a,a-Trifluorotoluene

**ASSOCIATED LABORATORIES**  
**LCS REPORT FORM**

QC Sample: LCS # 4  
Method : 8260 / 624 / 524.2  
Analysis Date: 11/08/01  
Sample Matrix: Water  
Applies to: LR 81558  
REPORTING UNITS = ug/L

Test	Sample Result	Spike Added	LCS Spike	%Rec LCS	QC Limits %REC
1,1-Dichloroethene	ND	50.0	48.30	97	59-172
MTBE	ND	50.0	54.59	109	62-137
Benzene	ND	50.0	50.50	101	62-137
Trichloroethene	ND	50.0	66.46	133	66-142
Toluene	ND	50.0	52.25	105	59-139
Chlorobenzene	ND	50.0	50.32	101	60-133

*ND = Not Detected*

Method Blank = All ND

FedEx

**ASSOCIATED LABORATORIES**

806 North Batavia • Orange, CA 92868

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

**Chain of Custody Record**

Company	THRIFTY OIL CO.		Phone	(562) 921-3581	A.L. Job No.	81558 V	Page _____ of _____
Project Manager	JEFF SURYAKUSUMA		Fax	(562) 921-7510			
Project Name	Q. U. S.		Project #	049 V			
Site Name and Address	3400 SAN PABLO AVE OAKLAND, CA. 94612						
Sample ID	Lab ID	Date	Time	Matrix	Container Number/Size	Pres.	
1 MW5		10.10.01	13:00	H <sub>2</sub> O	3 VOA	HCL	X X X
2 MW1			13:01	p	↑	↑	X X X
3 MW7			13:02	p	↑	↑	X X X
4 MW3			13:20				X X X
5 MW6			13:30				X X X
6 MW2			13:40				X X X
7 MW4			13:41				X X X
8 TRIP BLANK			13:00		2 VOA		X X
9							
10							
11							
12							
13							
14							
15							

**Sample Receipt - To Be Filled By Laboratory**

Total Number of Containers	23	Properly Cooled Y / N / NA	Y	Relinquished by Sampler: Signature: <i>S. S.</i>	1.	Relinquished by FedEx Signature: <i>FedEx</i>	2.	Relinquished by _____ Signature: _____	3.
Custody Seals Y / N / NA	Y	Samples Intact Y / N / NA	Y	Printed Name: <i>SERBIA PODIESCU</i>		Printed Name: _____		Printed Name: _____	
Received in Good Condition Y / N	Y	Samples Accepted Y / N	Y	Date: <i>10/10/01</i> Time: <i>16:30</i>		Date: _____ Time: _____		Date: _____ Time: _____	
<b>Turn Around Time</b>				Received By: <i>FEDEX</i>	1.	Received By: _____	2.	Received By: _____	3.
				Signature: _____		Signature: <i>Murphy</i>		Signature: _____	
				Printed Name: _____		Printed Name: <i>Duont</i>		Printed Name: _____	
				Date: _____ Time: _____		Date: <i>10/15</i> Time: <i>945</i>		Date: _____ Time: _____	
<input checked="" type="checkbox"/> Normal		<input type="checkbox"/> Rush		<input type="checkbox"/> Same Day	<input type="checkbox"/> 48 hrs.	<input type="checkbox"/> 72 hrs.			

# **APPENDIX C**

## THRIFTY OIL CO. SERVICE STATION #49

## GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBA POPESTU

DATE OF INSPECTION: 12-28-01

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

FLOW METER READING: -0706300-

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: 1.0

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: 8980

THRIFTY OIL CO. SERVICE STATION #049

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBIA POPE SW

DATE OF INSPECTION: 12-21-01

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

FLOW METER READING: -06998670-

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: 1.0

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: JPTaylor

THRIFTY OIL CO. SERVICE STATION 1049

## GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAH POPE SWDATE OF INSPECTION: 12.14.01OBSERVATIONS AND  
COMMENTS: Add oil, clean water filter bag, replace  
cartridge water filter, check belt, hoses,FLOW METER READING: -06974340-SAMPLES OBTAINED: N/APRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 13PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.0PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: 0.8PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6INSPECTOR'S SIGNATURE: J. Stas

THRIFTY OIL CO. SERVICE STATION #049

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBANOPOULOS

DATE OF INSPECTION: 12-07-01

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

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FLOW METER READING: 0678090

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: 1.0

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: J. Star

OK

THRIFTY OIL CO. SERVICE STATION #

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBA-POPESSU,

DATE OF INSPECTION: 11-30-01

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

FLOW METER READING: -0 669510 -

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: 1.0

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: R. D. Lee

THRIFTY OIL CO. SERVICE STATION # 069

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN POPESCU

DATE OF INSPECTION: 11-23-01

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

FLOW METER READING: -0667410-

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: 0.9

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: S. Popescu

(049)

THRIFTY OIL CO. SERVICE STATION #049

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBIA POPOVIC

DATE OF INSPECTION: 11-12-01

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

FLOW METER READING: 0664700

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: 0.4

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: Dijana

THRIFTY OIL CO. SERVICE STATION # 649  
GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN POPE

DATE OF INSPECTION: 11-01-01

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

FLOW METER READING: 0592100

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: 1.0

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: D. Stoyan

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

NAME OF INSPECTOR: SERBAN POPESCU

DATE OF INSPECTION: 10-26-01

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

FLOW METER READING: 0582520

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: 1.0

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: S. Popescu

## THRIFTY OIL CO. SERVICE STATION

(49)

## GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN DOPESCU

DATE OF INSPECTION: 10-19-01

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

FLOW METER READING: 0513640

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: 1.0

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: S. Star

THRIFTY OIL CO. SERVICE STATION #

049

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBIA POPESCU

DATE OF INSPECTION: 10-12-01

OBSERVATIONS AND  
COMMENTS: Restart system after Q.W.?

FLOW METER READING: -050533 -

SAMPLES OBTAINED: \_\_\_\_\_

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: \_\_\_\_\_

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: \_\_\_\_\_

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: \_\_\_\_\_

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: \_\_\_\_\_

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: \_\_\_\_\_

INSPECTOR'S SIGNATURE: D. K. Stoy

THRIFTY OIL CO. SERVICE STATION #649

GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBIA POPESCU

DATE OF INSPECTION: 10.05.01

OBSERVATIONS AND  
COMMENTS: System shut down for Q. W.S.

FLOW METER READING: 050532

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: \_\_\_\_\_

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: \_\_\_\_\_

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: \_\_\_\_\_

PRESSURE GAUGE READING DOWN STREAM OF THE SECONDARY GAC UNIT: \_\_\_\_\_

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: \_\_\_\_\_

INSPECTOR'S SIGNATURE: 8/17/01

## THRIFTY OIL CO. SERVICE STATION #

49

## GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBAN POPOESCU

DATE OF INSPECTION: 10-03-01

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

FLOW METER READING: - 0503930 -

SAMPLES OBTAINED: Yes, system sampling

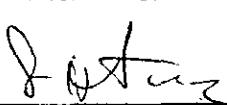
PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 13

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 10

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: 

## THRIFTY OIL CO. SERVICE STATION #49

## GROUNDWATER EXTRACTION/TREATMENT SYSTEM INSPECTION FORM

NAME OF INSPECTOR: SERBATH POPE SCU

DATE OF INSPECTION: 09.28.01

OBSERVATIONS AND  
COMMENTS: Hold oil, replace cartridge water filter,  
clean water breg, check belt, hoses

FLOW METER READING: 0498310

SAMPLES OBTAINED: N/A

PRESSURE GAUGE READING UP STREAM OF THE BAG FILTER: 13

PRESSURE GAUGE READING DOWN STREAM OF THE CARTRIDGE FILTER: 11

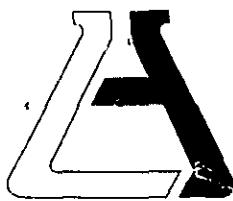
PRESSURE GAUGE READING DOWN STREAM OF THE PRIMARY GAC UNIT: 1.1

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

PRESSURE GAUGE READING DOWN STREAM OF THE THIRD GAC UNIT: 0.6

INSPECTOR'S SIGNATURE: 

# **APPENDIX D**



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

**FAX 714/538-1209**

CLIENT	Thrifty Oil ATTN: Jeff Suryakusuma 13539 E. Foster Rd. Santa Fe Springs, CA 90670	(8871)	LAB REQUEST 80925
			REPORTED 10/09/2001
			RECEIVED 10/04/2001

PROJECT Station #049

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>
296727	TOC #049, SS#1 Outlet
296728	TOC #049, INT-1
296729	TOC #049, INT-2
296730	TOC #049, INT-3
296731	TOC #049, INLET

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 #: 296727

Matrix: WATER

Client Sample ID TOC #049, SS#1 Outlet

Date Sampled: 10/03/2001 Time Sampled: 08:30

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

**8021B BTEX + MTBE**

Benzene	ND	1	0.3	0.18	ug/L	10/07/01 LB
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/07/01 LB
Methyl t - butyl ether	ND	1	5	0.24	ug/L	10/07/01 LB
Toluene	ND	1	0.3	0.14	ug/L	10/07/01 LB
Xylene (total)	ND	1	0.6	0.26	ug/L	10/07/01 LB

**8015M - Total Petroleum Hydrocarbons**

Gasoline	ND	1	50	50	ug/L	10/07/01 LB
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Order #: 296728

Matrix: WATER

Client Sample ID TOC #049, INT-1

Date Sampled: 10/03/2001 Time Sampled: 08:40

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

Benzene	ND	1	0.3	0.18	ug/L	10/07/01 LB
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/07/01 LB
Methyl t - butyl ether	ND	1	5	0.24	ug/L	10/07/01 LB
Toluene	ND	1	0.3	0.14	ug/L	10/07/01 LB
Xylene (total)	ND	1	0.6	0.26	ug/L	10/07/01 LB

**8015M - Total Petroleum Hydrocarbons**

Gasoline	ND	1	50	50	ug/L	10/07/01 LB
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Order #: 296729

Matrix: WATER

Client Sample ID TOC #049, INT-2

Date Sampled: 10/03/2001 Time Sampled: 08:50

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

Benzene	ND	1	0.3	0.18	ug/L	10/07/01 LB
Ethyl benzene	ND	1	0.3	0.18	ug/L	10/07/01 LB
Methyl t - butyl ether	ND	1	5	0.24	ug/L	10/07/01 LB
Toluene	24	1	0.3	0.14	ug/L	10/07/01 LB
Xylene (total)	ND	1	0.6	0.26	ug/L	10/07/01 LB

**8015M - Total Petroleum Hydrocarbons**

Gasoline	ND	1	50	50	ug/L	10/07/01 LB
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PQL = Practical Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor

ND = Not detected below indicated MDL, J=Trace



Order #: 296730  
Matrix: WATER

Clie. Sample ID TOC #049, INT-3  
Date Sampled: 10/03/2001 Time Sampled: 09:00

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

Benzene	ND	1	0.3	0.18	ug/L	10/07/01 LB
Ethyl benzene	16	1	0.3	0.18	ug/L	10/07/01 LB
Methyl t - butyl ether	24	1	5	0.24	ug/L	10/07/01 LB
Toluene	14	1	0.3	0.14	ug/L	10/07/01 LB
Xylene (total)	139	1	0.6	0.26	ug/L	10/07/01 LB

8015M - Total Petroleum Hydrocarbons

Gasoline	729	1	50	50	ug/L	10/07/01 LB
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Order #: 296731  
Matrix: WATER

Client Sample ID TOC #049, INLET  
Date Sampled: 10/03/2001 Time Sampled: 09:10

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

8021B BTEX + MTBE

Benzene	ND	10	3.0	0.18	ug/L	10/07/01 LB
Ethyl benzene	294	10	3.0	0.18	ug/L	10/07/01 LB
Methyl t - butyl ether	ND	10	50.0	0.24	ug/L	10/07/01 LB
Toluene	150	10	3.0	0.14	ug/L	10/07/01 LB
Xylene (total)	5,280	40	24.0	0.26	ug/L	10/07/01 LB

8015M - Total Petroleum Hydrocarbons

Gasoline	31,600	40	2000.0	50	ug/L	10/07/01 LB
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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**  
QA REPORT FORM

QC Sample: LR 80925-727  
 Matrix: WATER  
 Prep. Date: 10/06/01  
 Analysis Date: 10/07/01  
 ID#'s in Batch: LR 80530, 80925, 80922, 80975

**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	200	149	140	74.5	70.0	6.2

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						
	Value	Result	True	%Rec	L.Limit	H.Limit
LCS	ND	173	200	86.5	80%	120%
LCSD	ND	206	200	103.0	80%	120%

LCS Result = Lab Control Sample Result

True = True Value of LCS

L.Limit / H.Limit = LCS Control Limits

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	70-130
MS	101
MSD	101
Method Blank	100
LCS	104
LCSD	117

AAA-TFT = a,a-Tri fluorotoluene

**ASSOCIATED LABORATORIES**  
QA REPORT FORM

QC Sample: LR 80922-717  
 Matrix: WATER  
 Prep. Date: 10/06/01  
 Analysis Date: 10/07/01  
 LAB ID#'s in Batch: LR 80530, 80925, 80922, 80975

**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	10.3	10.2	103	102	1
Toluene	8021	ND	10.0	10.3	10.4	103	104	1
Ethylbenzene	8021	ND	10.0	11.4	11.5	114	115	1
Xylenes	8021	ND	20.0	20.7	21.5	104	108	4

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	10.4	10.0	104	80%	120%
Toluene	8021	ND	10.5	10.0	105	80%	120%
Ethylbenzene	8021	ND	11.4	10.0	114	80%	120%
Xylenes	8021	ND	20.4	20.0	102	80%	120%

LCS = Lab Control Sample Result

TRUE = True Value of LCS

L LIMIT / H LIMIT = LCS Control Limits

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	70-130
MS	101
MSD	98
Method Blank	100
LCS	103
LCSD	104

4,4,4-TFT = a,a,a-Trifluorotoluene

# Chain of Custody Record

## 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.	80925			Page _____ of _____	
Project Manager	JEFF SURY AKUSUMA		Fax	(562) 921-7010		Analysis Requested			Test Instructions & Comments		
Project Name	SYSTEM WATER SAMPLING		Project #	049		T	B	M			
Site Name and Address	# 049 V		P	T	T						
		H	E	B	E						
Sample ID	Lab ID	Date	Time	Matrix	Container Number/Size	Pres.					
1 SSA1 OUTLET		10.03.01	8:30	H <sub>2</sub> O	3VOA	HCL	X	X	X		-GRAB SAMPLE-
2 INT - 1			8:40				X	X	X		
3 INT - 2			8:50				X	X	X		
4 INT - 3			9:00				X	X			
5 INLET			9:10				X	X	X		
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

### Sample Receipt - To Be Filled By Laboratory

Total Number of Containers	15	Properly Cooled Y / N / NA	Y	Relinquished by Sampler: Signature:	1.	Relinquished by <b>FEDEX</b> Signature:	2.	Relinquished by Signature:
Custody Seals Y / N / NA	Y	Samples Intact Y / N / NA	Y	Printed Name: <b>JEFF SURY AKUSUMA</b>		Printed Name:		Printed Name:
Received in Good Condition Y / N	Y	Samples Accepted Y / N	Y	Date: 10.03.01 Time: 16:30		Date: Time:		Date: Time:
Turn Around Time				Received By: <b>FEDEX</b> Signature:	1.	Received By: <b>FEDEX</b> Signature:	2.	Received By: Signature:
				Printed Name:		Printed Name: <b>DVONNE W</b>		Printed Name:
				Date:	Time:	Date: Time:		Date: Time:
<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Rush	<input type="checkbox"/> Same Day	<input type="checkbox"/> 48 hrs.					
		<input type="checkbox"/> 24 hrs.	<input type="checkbox"/> 72 hrs.					