

# THRIFTY OIL CO.

August 12, 1994

Mr. Scott O. Seary  
Alameda County  
Department of Environmental Health  
Hazardous Materials Program  
80 Swan Way, Room 200  
Oakland, California 94621

RECEIVED  
HAZARDOUS  
MATERIALS  
9th AUG 18 PM 4:16

RE: Thrifty Oil Co. Station #054  
2504 Castro Valley Boulevard  
Castro Valley, California  
2nd QUARTER REPORT, 1994

Dear Mr. Seary,

This letter report presents the results of soil/groundwater treatment and site monitoring during the 2nd quarter of 1994 at the subject site. The approximate location of the on- and off-site monitoring wells are shown on **Figure 1**. The engine of the RSI unit was replaced and was operational the first week in May, 1993. All monitoring is conducted by Earth Management Co. (EMC).

## Site Monitoring and Sample Collection

The site was visited on June 6, 1994, by an EMC technician in order to gauge the wells and collect groundwater samples. Water levels were measured in each well from the rim of well cover using a Marine Moisture Tape (nearest 0.01 feet) capable of also measuring the presence of free floating hydrocarbons. *Depth to water* ranged from about 1.85 to 10.95 feet below grade which is consistent with previous data collected, indicating a slight rise. As of June 6, 1994, four of the wells, RE-1, RE-3, RE-4, and RE-7, exhibited free product visible as a sheen or film. The depth to water data was used in conjunction with the recent survey data to determine groundwater elevations across the site. The interpretation of groundwater flow across the site is depicted on **Figure 1**. In general, the *groundwater flow* was to the east at a calculated gradient of about 8.0 feet per 100 feet.

Prior to collecting groundwater samples from the wells, about 4 well volumes of groundwater was removed using a PVC bailer. During the purging process, the pH, conductivity and temperature were checked and recorded to insure formation water was entering the well to be sampled. About 8 to 34 gallons of water were removed from each well and stored in 55 gallon D.O.T. approved drums pending disposal or discharge through the treatment unit. Groundwater samples were collected with a Teflon bailer. Samples were maintained and transported in 40 milliliter vials placed on ice pending delivery to Smith-Emery, a state certified analytical laboratory



headquartered in Los Angeles, California. Field monitoring sheets prepared by EMC personnel are included in **Appendix A**.

### Analytical Results

**Groundwater Monitoring Wells.** Groundwater samples were analyzed for total hydrocarbons (TPH) and volatile aromatic compounds (BETX) using EPA methods 8015 and 602, respectively. Copies of the laboratory analysis reports are attached in **Appendix B**. A summary of the results are presented in **Table 1**. The two downgradient wells, RS-8 and RS-10 continue to indicate less than detectable or acceptable levels of volatile aromatic compounds. Isoconcentration maps of TPH and benzene based on the June sampling event are presented as **Figures 2 and 3**.

### Treatment Unit Operation Status


Based on the data obtained by EMC, the RSI-SAVE unit operated 1,023 hours during the reporting period and 9,536 hours total (current meter reading 6,452). A total of about 10,335 gallons of water has been processed by the unit and discharged to the local sanitary sewer to date, June 30, 1994. During this reporting period, a total of 5,495 gallons of water was processed.

In order to monitor the effects of soil and air removal, field vapor measurements are collected and recorded from each recovery well on a monthly basis. The data is included in **Table 2** attached.

### Closing

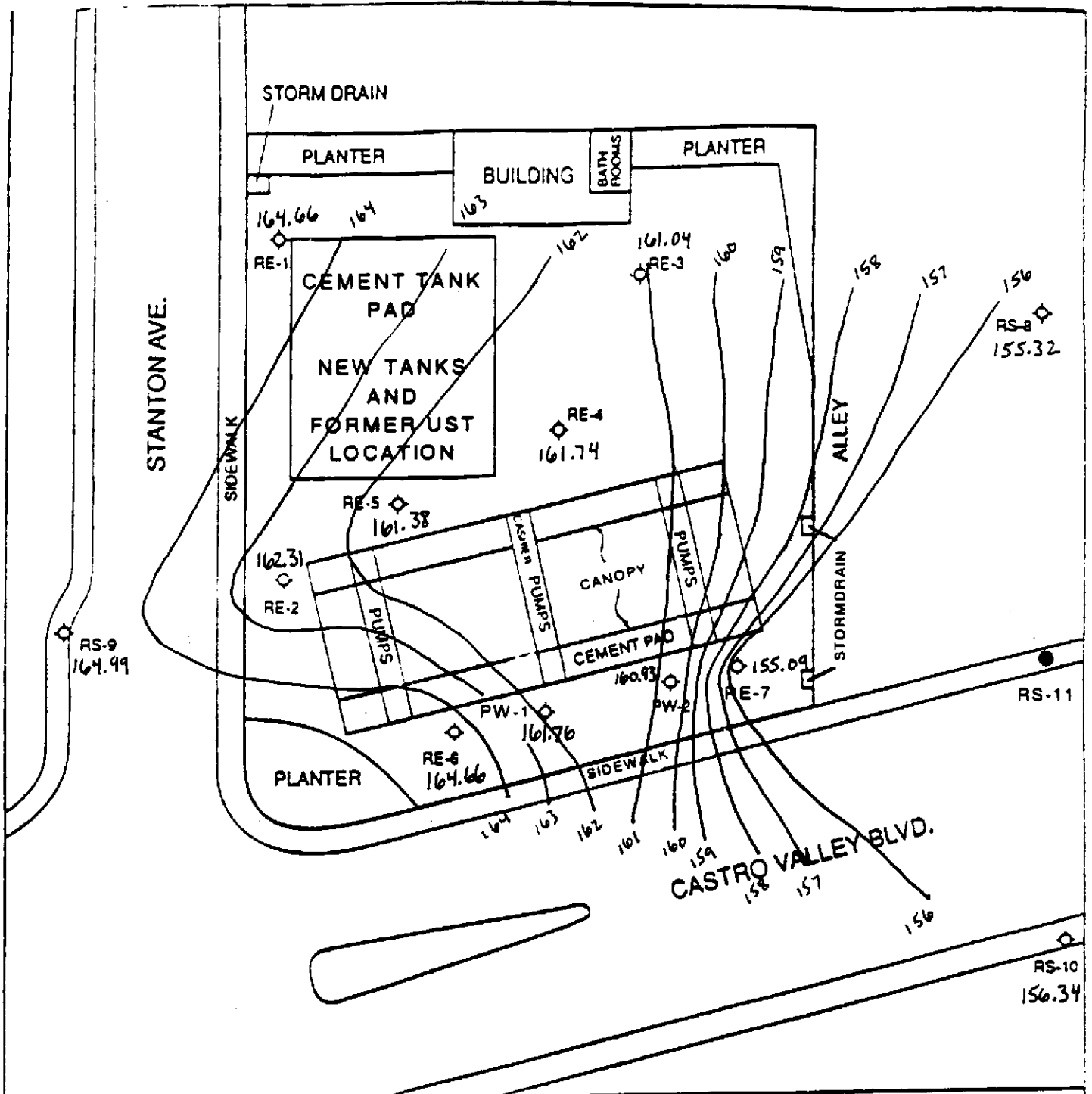
Thriftly will continue to conduct quarterly groundwater monitoring at the site. In addition, the workplan for installation of one off-site well near the southeast corner of the site has been approved as submitted. A purchase order has been issued and this work is anticipated to be completed during the 3rd quarter of 1994 if encroachment permits can be obtained within the next month. If you have any questions, please contact me at (310) 923-9876.

Very truly yours,

  
Peter D'Amico  
Manager  
Environmental Affairs



# FIGURES



**GROUNDWATER CONTOUR MAP**

**THRIFTY OIL CO. #054  
 CASTRO VALLEY, CALIFORNIA  
 Prepared for  
 THRIFTY OIL CO.  
 DOWNEY, CALIFORNIA**

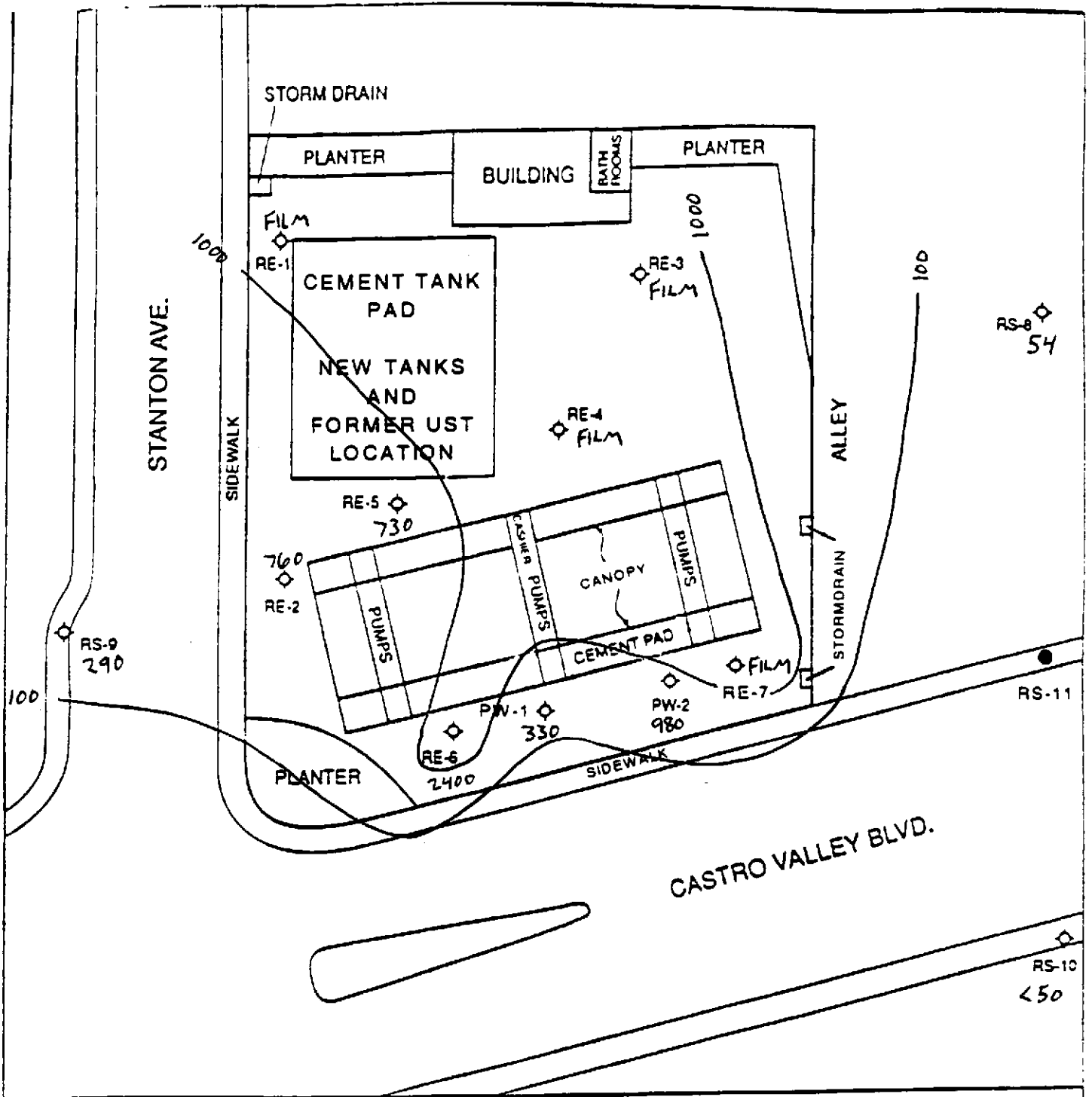


- ~ GROUNDWATER CONTOUR, 6/6/94
- PROPOSED MONITORING WELL
- ◇ EXISTING MONITORING WELL

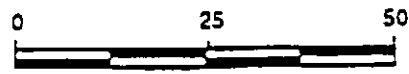
SCALE IN FEET



FIGURE 1



**TPH CONTOUR MAP**  
**THRIFTY OIL CO. #054**  
**CASTRO VALLEY, CALIFORNIA**  
 Prepared for  
**THRIFTY OIL CO.**  
**DOWNEY, CALIFORNIA**



SCALE IN FEET

- ~ TPH CONTOUR, 6/6/94, ppb
- PROPOSED MONITORING WELL
- ◇ EXISTING MONITORING WELL

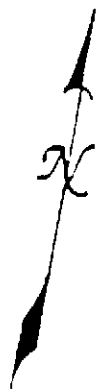
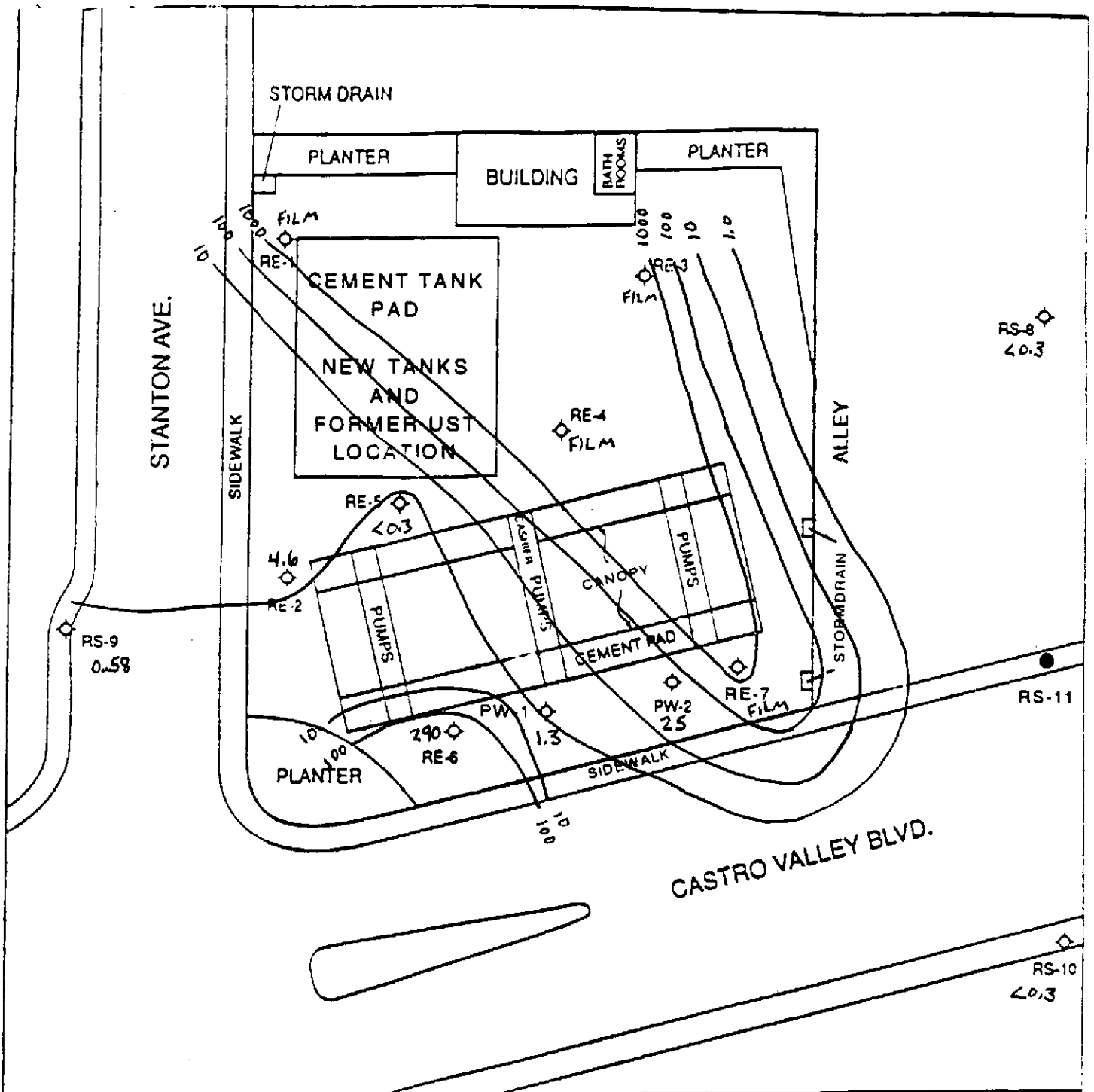


FIGURE 2



**BENZENE CONTOUR MAP**  
**THRIFTY OIL CO. #054**  
**CASTRO VALLEY, CALIFORNIA**  
 Prepared for  
**THRIFTY OIL CO.**  
**DOWNY, CALIFORNIA**



- ~ BENZENE CONTOUR, 6/6/94, ppb
- PROPOSED MONITORING WELL
- ◇ EXISTING MONITORING WELL



FIGURE 3

# **TABLES**

TABLE 1  
GROUNDWATER DATA  
THRIFTY OIL STATION #54

Date Sampled	TPH	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	TOP OF CASING ELEVATION	DEPTH TO GROUNDWATER
Monitoring Well PW-1							
Apr 11, 1988	NSC					166.46	
Apr 9, 1990	230000	600	2700	1000	16000		5.10
Oct 30, 1990	35000	240	970	240	3580		6.17
Jan 18, 1991	37000	43	140	42	1600		6.28
Feb 12, 1991	45000	99	130	25	700		5.88
Mar 20, 1991	1900	0.43	ND	ND	2.8		4.75
May 22, 1991	41000	600	730	250	3800		5.10
Jun 19, 1991	NSC						5.61
Jul 17, 1991	NSC						5.53 (Film)
Aug 7, 1991	NSC						5.67 (Film)
Sep 24, 1991	NSC						5.57 (Film)
Oct 23, 1991	NSC						6.53 (Film)
Nov 6, 1991	NSC						5.85 (Film)
Dec 4, 1991	NSC						5.91 (Film)
Jan 29, 1992	NSC						5.43 (Film)
Feb 26, 1992	NSC						5.54 (Film)
Mar 19, 1992	ND	ND	ND	ND	ND		5.47
Apr 22, 1992	NSC						5.62 (Film)
May 21, 1992	1300	19	2.9	0.7	58		6.21
Jun 25, 1992	NSC						6.94
Jul 30, 1992	NSC						5.90 (Film)
Aug 20, 1992	NSC						7.12 (Film)
Sep 30, 1992	3400	57	ND	26	240		6.42
Dec 23, 1992	NSC						5.56 (Film)
Mar 10, 1993	NSC						5.65 (Film)
Jun 9, 1993	400	<0.5	1.1	<1.0	<1.0		5.30
Sep 14, 1993	180	3.7	3.2	1.5	14.0		5.43
Dec 14, 1993	<50	<0.3	<0.3	<0.3	<0.5		4.65
Mar 2, 1994	<50	<0.3	<0.3	<0.3	<0.5		5.43
Jun 6, 1994	330	1.3	<0.3	0.88	9.8		4.70



TABLE 1 (Continued)

Monitoring Well PW-2							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Apr 11, 1988	NSC					166.18	
Apr 9, 1990	600000	1300	11000	4600	43000		5.81
Oct 30, 1990	48000	310	51	10	480		6.95
Jan 18, 1991	86000	230	1400	350	8300		6.92
Feb 12, 1991	160000	680	1300	250	7000		6.78
Mar 20, 1991	17000	34	50	ND	1100		5.54
May 22, 1991	14000	57	2100	500	8200		6.07
Jun 19, 1991	NSC						6.37 (Film)
Jul 17, 1991	NSC						6.38 (Film)
Aug 7, 1991	NSC						6.63 (Film)
Sep 24, 1991	NSC						6.42 (Film)
Oct 23, 1991	NSC						7.25 (Film)
Nov 6, 1991	NSC						6.44 (Film)
Dec 4, 1991	NSC						6.65 (Film)
Jan 29, 1992	NSC						6.17 (Film)
Feb 26, 1992	NSC						5.90 (Film)
Mar 19, 1992	NSC						5.80 (Film)
Apr 22, 1992	NSC						5.88 (Film)
May 21, 1992	NSC						6.03 (Film)
Jun 25, 1992	NSC						6.57 (Film)
Jul 30, 1992	NSC						6.20 (Film)
Aug 20, 1992	NSC						6.64 (Film)
Sep 30, 1992	NSC						6.88 (Film)
Dec 23, 1992	NSC						6.08 (Film)
Mar 10, 1993	NSC						5.95 (Film)
Jun 9, 1993	3400	24	2.2	<0.5	240		5.38
Sep 14, 1993	4900	190	15.0	6.8	480		6.26
Dec 14, 1993	1700	4.2	<0.3	<0.3	<0.5		5.22
Mar 2, 1994	NSC						5.75 (Film)
Jun 6, 1994	980	25	1.2	<0.3	42		5.25

TABLE 1 (Continued)

Monitoring Well RE-1							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Apr 11, 1988	37000	1900	8400	1200	15000	166.82	
Apr 9, 1990	45000	6100	7000	2000	8800		4.99
Oct 30, 1990	72000	7700	5300	1800	8900		5.95
Jan 18, 1991	150000	11000	14000	1800	4300		5.17
Feb 12, 1991	140000	11000	12000	1600	13000		4.16
Mar 20, 1991	53000	3100	4200	400	5500		4.75
May 22, 1991	85000	8700	10000	1800	12000		4.42
Jun 19, 1991	110000	8500	9600	2600	16000		4.93
Jul 17, 1991	5500	950	ND	26	ND		5.19
Aug 7, 1991	NA	6700	5000	ND	7100		5.12
Sep 24, 1991	60000	6800	4300	640	6900		5.87
Oct 23, 1991	79000	7900	8300	450	7100		5.81
Nov 6, 1991	130000	14000	15000	1100	8800		5.56
Dec 4, 1991	50000	8000	4700	520	4100		5.35
Jan 29, 1992	21000	10300	11000	780	6000		4.50
Feb 26, 1992	38000	8400	10500	720	7100		5.27
Mar 19, 1992	48000	6200	9700	780	7200		4.47
Apr 22, 1992	NSC						4.62
May 21, 1992	20000	7600	10100	830	6900		4.98
Jun 25, 1992	NSC						5.14 (Film)
Jul 30, 1992	NSC						5.30 (Film)
Aug 20, 1992	NSC						5.28 (Film)
Sep 30, 1992	NSC						5.66 (Film)
Dec 23, 1992	NSC						4.81 (Film)
Mar 10, 1993	NSC						4.13 (Film)
Jun 9, 1993	NSC						4.48 (Film)
Sep 14, 1993	19000	3600	1100	740	4300		5.35
Dec 14, 1993	38000	4300	1300	<6.6	11.0		4.38
Mar 2, 1994	NSC						4.22 (Film)
Jun 6, 1994	NSC						2.16 (Film)

TABLE 1 (Continued)

Monitoring Well RE-2							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Apr 11, 1988	NSC					167.19	
Apr 9, 1990	850	5.8	0.5	4.8	1.1		4.90
Oct 30, 1990	440	2.8	0.91	13	3.14		5.34
Jan 18, 1991	1100	8.4	3.1	ND	10		4.90
Feb 12, 1991	1100	5.9	ND	01.77	ND		4.94
Mar 20, 1991	550	4.3	ND	ND	ND		4.32
May 22, 1991	1000	5.3	3.6	4.4	8.9		4.43
Jun 19, 1991	700	2.1	1.4	3.8	3.5		6.43
Jul 17, 1991	880	12.0	8.0	4.3	28.0		4.75
Aug 7, 1991	NA	3.8	1.6	ND	ND		4.87
Sep 24, 1991	670	7.2	7.1	ND	23		5.50
Oct 23, 1991	2700	52	60	22	130		5.63
Nov 6, 1991	1900	18	61	9.1	83		5.14
Dec 4, 1991	1100	26	47	4.3	42		5.26
Jan 29, 1992	900	14	24	5.3	19		5.11
Feb 26, 1992	500	3.4	3.5	2.7	2.7		4.31
Mar 19, 1992	1200	14	20	15	18		4.45
Apr 22, 1992	200	ND	ND	ND	ND		4.78
May 21, 1992	500	7.5	6.8	3.9	7.4		5.02
Jun 25, 1992	ND	ND	0.9	0.7	ND		5.13
Jul 30, 1992	500	7.7	8.6	3.2	1.7		5.19
Aug 20, 1992	1100	6.6	4.5	2.7	2.0		5.27
Sep 30, 1992	500	5.4	2.4	1.8	4.5		5.45
Dec 23, 1992	800	1.9	ND	ND	2.3		4.60
Mar 10, 1993	1200	ND	1.4	ND	2.1		4.18
Jun 9, 1993	200	ND	ND	ND	ND		4.53
Sep 14, 1993	360	1.6	1.1	3.2	8.9		5.26
Dec 14, 1993	260	5.6	3.9	<0.3	21.0		2.75
Mar 2, 1994	410	<0.3	<0.3	<0.3	<0.5		4.27
Jun 6, 1994	760	4.6	<0.3	0.32	1.3		4.88

TABLE 1 (Continued)

Monitoring Well RE-3							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Apr 11, 1988	70000	6600	5300	800	13000	167.39	
Apr 9, 1990	370000	2300	4900	3200	31000		7.15
Oct 30, 1990	13000	860	660	220	2210		7.84
Jan 18, 1991	42000	4700	4500	21	7700		6.90
Feb 12, 1991	72000	3600	4500	ND	7600		6.62
Mar 20, 1991	65000	2400	9400	50	9800		5.87
May 22, 1991	NSC						5.98 (Film)
Jun 19, 1991	NSC						6.84 (Film)
Jul 17, 1991	NSC						7.10 (Film)
Aug 7, 1991	NSC						7.30 (Film)
Sep 24, 1991	NSC						7.84 (Film)
Oct 23, 1991	NSC						8.07 (Film)
Nov 6, 1991	NSC						7.63 (Film)
Dec 4, 1991	NSC						7.83 (Film)
Jan 29, 1992	NSC						7.17 (Film)
Feb 26, 1992	NSC						5.56 (Film)
Mar 19, 1992	NSC						5.44 (Film)
Apr 22, 1992	NSC						6.56 (Film)
May 21, 1992	NSC						6.90 (Film)
Jun 25, 1992	NSC						7.18 (Film)
Jul 30, 1992	NSC						6.80 (Film)
Aug 20, 1992	NSC						7.25 (Film)
Sep 30, 1992	NSC						7.68 (Film)
Dec 23, 1992	NSC						6.07 (Film)
Mar 10, 1993	NSC						5.66 (Film)
Jun 9, 1993	NSC						6.66 (Film)
Sep 14, 1993	40000	2900	1500	180	6900		7.30
Dec 14, 1993	NSC						5.95
Mar 2, 1994	NSC						5.08
Jun 6, 1994	NSC						6.35 (Film)

TABLE 1 (Continued)

Monitoring Well RE-4							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Apr 11, 1988	150000	12000	8000	1000	27000	166.94	
Apr 9, 1990	NSC						
Oct 30, 1990	87000	7200	10000	1600	12900		7.04
Jan 18, 1991	70000	5000	5400	790	9900		11.62
Feb 12, 1991	87000	5200	2800	240	11000		11.63
Mar 20, 1991	6500	370	230	17	670		11.61
May 22, 1991	NSC						10.3 (Film)
Jun 19, 1991	NSC						11.1 (Film)
Jul 17, 1991	NSC						6.20 (Film)
Aug 7, 1991	NSC						8.15 (Film)
Sep 24, 1991	NSC						10.4 (Film)
Oct 23, 1991	NSC						11.2 (Film)
Nov 6, 1991	NSC						6.62 (Film)
Dec 4, 1991	NSC						11.2 (Film)
Jan 29, 1992	NSC						7.72 (Film)
Feb 26, 1992	NSC						5.13 (Film)
Mar 19, 1992	NSC						5.00 (Film)
Apr 22, 1992	NSC						5.94 (Film)
May 21, 1992	NSC						5.40 (Film)
Jun 25, 1992	NSC						5.71 (Film)
Jul 30, 1992	NSC						6.33 (Film)
Aug 20, 1992	NSC						5.80 (Film)
Sep 30, 1992	NSC						6.34 (Film)
Dec 23, 1992	NSC						5.50 (Film)
Mar 10, 1993	NSC						4.67 (Film)
Jun 9, 1993	NSC						5.12 (Film)
Sep 14, 1993	NSC						10.44
Dec 14, 1993	NSC						7.52
Mar 2, 1994	NSC						4.85
Jun 6, 1994	NSC						5.20 (Film)

TABLE 1 (Continued)

Monitoring Well RE-5							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Apr 11, 1988	14000	1300	1100	100	2600	166.51	
Apr 9, 1990	3000	690	190	40	270		4.79
Oct 30, 1990	3400	910	48	87	249		5.86
Jan 18, 1991	1400	180	8.6	0.52	48		4.40
Feb 12, 1991	1000	ND	ND	0.65	ND		4.76
Mar 20, 1991	3000	250	53	ND	110		5.08
May 22, 1991	2500	330	7.8	5.6	200		4.52
Jun 19, 1991	2000	59	1.6	5.1	110		4.39
Jul 17, 1991	NSC						5.05 (Film)
Aug 7, 1991	NSC						5.02 (Film)
Sep 24, 1991	NSC						5.86 (Film)
Oct 23, 1991	NSC						5.84 (Film)
Nov 6, 1991	9900	2300	37	260	160		5.48
Dec 4, 1991	4500	1000	27	ND	180		5.43
Jan 29, 1992	600	6.1	2.3	ND	47		5.12
Feb 26, 1992	500	5.4	2.7	1.2	14		4.93
Mar 19, 1992	ND	1.7	1.1	ND	5.5		4.45
Apr 22, 1992	1600	240	2.2	ND	160		4.63
May 21, 1992	1200	410	37	ND	118		4.90
Jun 25, 1992	ND	1.0	0.8	0.8	0.4		5.15
Jul 30, 1992	ND	2.0	1.8	1.9	6.4		5.30
Aug 20, 1992	300	1.7	3.3	0.7	12		5.44
Sep 30, 1992	1900	140	ND	19	35		5.73
Dec 23, 1992	400	8.0	ND	ND	ND		4.75
Mar 10, 1993	1100	290	9.7	ND	75		4.14
Jun 9, 1993	400	1.5	0.5	ND	12		5.42
Sep 14, 1993	240	6.9	8.8	1.4	67		5.53
Dec 14, 1993	3300	510	5.4	4.1	55		4.78
Mar 2, 1994	2400	270	4.5	<0.3	13		4.20
Jun 6, 1994	730	<0.3	<0.3	0.70	22		5.13

TABLE 1 (Continued)

Monitoring Well RE-6							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Apr 11, 1988	6000	3000	40	80	140	166.51	
Apr 9, 1990	3000	990	ND	70	ND		5.64
Oct 30, 1990	3400	1000	28	ND	ND		6.68
Jan 18, 1991	6300	1200	ND	3	15		6.61
Feb 12, 1991	5200	850	8.4	4.9	41		6.20
Mar 20, 1991	5800	680	12	8	16		5.62
May 22, 1991	8500	1700	14	24	6.7		6.05
Jun 19, 1991	NSC						6.12 (Film)
Jul 17, 1991	120000	9300	13000	2400	16000		6.20
Aug 7, 1991	NA	590	5.3	ND	14		6.27
Sep 24, 1991	7000	310	11	5.3	35		6.63
Oct 23, 1991	NSC						6.36 (Film)
Nov 6, 1991	4000	710	18	29	49		6.15
Dec 4, 1991	4100	1100	14	33	39		6.19
Jan 29, 1992	2600	790	14	ND	49		6.70
Feb 26, 1992	3100	950	21	30	33		5.44
Mar 19, 1992	2200	630	14	12	40		5.30
Apr 22, 1992	NA	730	2.2	ND	40		6.00
May 21, 1992	1500	840	7.8	7.1	34		6.25
Jun 25, 1992	<2000	740	8	27	28		6.38
Jul 30, 1992	NSC						6.42 (Film)
Aug 20, 1992	2800	630	17	23	22		6.50
Sep 30, 1992	7800	540	ND	12	29		6.66
Dec 23, 1992	1800	350	ND	7.7	11		5.83
Mar 10, 1993	3000	830	5.6	19	16		5.63
Jun 9, 1993	4800	920	6.2	3.2	12		6.01
Sep 14, 1993	3600	660	7.5	11	27		6.53
Dec 14, 1993	1500	200	<0.3	<0.3	8.8		3.58
Mar 2, 1994	NSC						5.12
Jun 6, 1994	2400	290	4.6	1.3	24		1.85

TABLE 1 (Continued)

Monitoring Well RE-7							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Apr 11, 1988	<50000	17000	4400	600	8400	166.04	
Apr 9, 1990	16000	7000	1200	640	1600		5.93
Oct 30, 1990	31000	14000	ND	ND	ND		8.21
Jan 18, 1991	NSC						11.8 (Film)
Feb 12, 1991	NSC						10.8 (Film)
Mar 20, 1991	120000	12000	2800	490	6600		9.96
May 22, 1991	NSC						11.7 (Film)
Jun 19, 1991	NSC						11.5 (Film)
Jul 17, 1991	NSC						7.80 (Film)
Aug 7, 1991	NSC						9.88 (0.03)
Sep 24, 1991	NSC						9.85 (0.03)
Oct 23, 1991	NSC						9.96 (Film)
Nov 6, 1991	NSC						6.77 (Film)
Dec 4, 1991	NSC						10.8 (Film)
Jan 29, 1992	NSC						8.64 (Film)
Feb 26, 1992	NSC						6.00 (Film)
Mar 19, 1992	NSC						5.55 (Film)
Apr 22, 1992	NSC						6.12 (Film)
May 21, 1992	NSC						6.40 (Film)
Jun 25, 1992	NSC						6.73 (0.02)
Jul 30, 1992	NSC						6.73 (Film)
Aug 20, 1992	NSC						6.82 (Film)
Sep 30, 1992	NSC						7.26 (Film)
Dec 23, 1992	NSC						6.22 (Film)
Mar 10, 1993	NSC						5.82 (Film)
Jun 9, 1993	NSC						6.17 (Film)
Sep 14, 1993	NSC						11.33
Dec 14, 1993	NSC						8.40
Mar 2, 1994	NSC						6.82
Jun 6, 1994	NSC						10.95 (Film)



TABLE 1 (Continued)

Monitoring Well RS-8							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Aug 7, 1991	ND	ND	ND	ND	ND	164.32	9.68
Sep 27, 1991	ND	ND	ND	ND	ND		9.89
Oct 23, 1991	ND	ND	ND	ND	ND		10.05
Nov 6, 1991	ND	ND	ND	ND	ND		9.71
Dec 4, 1991	ND	ND	ND	ND	ND		10.00
Jan 29, 1992	ND	2.1	1.0	2.5	3.6		9.28
Feb 26, 1992	ND	ND	0.7	ND	0.7		7.05
Mar 19, 1992	ND	0.5	1.0	1.5	2.7		7.30
Apr 22, 1992	ND	ND	ND	ND	ND		8.60
May 21, 1992	ND	ND	ND	ND	ND		9.22
Jun 25, 1992	ND	ND	ND	ND	ND		9.49
Jul 30, 1992	ND	1.1	4.2	ND	3.0		9.55
Aug 20, 1992	ND	2.0	4.7	ND	5.7		9.63
Sep 30, 1992	ND	ND	ND	ND	ND		9.90
Dec 23, 1992	ND	ND	ND	ND	ND		9.96
Mar 10, 1993	ND	ND	ND	ND	ND		8.95
Jun 9, 1993	ND	ND	ND	ND	ND		9.00
Sep 14, 1993	200	0.3	ND	ND	ND		9.50
Dec 14, 1993	ND	ND	ND	ND	ND		8.75
Mar 2, 1994	<50	<0.3	<0.3	<0.3	<0.5		7.52
Jun 6, 1994	54	<0.3	<0.3	<0.3	2.4		9.00

TABLE 1 (Continued)

Monitoring Well RS-9							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Aug 7, 1991	NA	0.5	ND	330	1200	167.51	2.28
Sep 27, 1991	13000	3.5	3.0	82	140		2.77
Oct 23, 1991	11000	ND	ND	39	340		3.53
Nov 6, 1991	6800	8.4	0.6	22	230		2.51
Dec 4, 1991	6500	6.5	0.7	87	200		3.20
Jan 29, 1992	8100	22	10	140	260		2.65
Feb 26, 1992	13000	40	16	220	600		3.42
Mar 19, 1992	12000	21	12	100	280		3.12
Apr 22, 1992	8600	ND	ND	20	37		3.24
May 21, 1992	6000	21	10	53	210		3.75
Jun 25, 1992	370	2.3	1.5	0.7	4.3		2.65
Jul 30, 1992	3600	20	ND	39	80		2.70
Aug 20, 1992	3000	0.7	5.2	2.0	5.3		2.83
Sep 30, 1992	9200	4.8	6.5	12	91		2.80
Dec 23, 1992	2000	17	ND	8.2	18		2.45
Mar 10, 1993	1500	ND	2.6	21	12		2.40
Jun 9, 1993	1300	0.6	1.7	ND	7.5		3.55
Sep 14, 1993	1500	1.3	7.6	4.1	14.0		2.81
Dec 14, 1993	560	ND	ND	ND	5.5		2.63
Mar 2, 1994	1100	<0.3	<0.3	<0.3	<0.5		2.60
Jun 6, 1994	290	0.58	0.53	1.1	5.8		2.52

TABLE 1 (Continued)

Monitoring Well RS-10							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Aug 7, 1991	ND	ND	ND	ND	ND	162.89	6.16
Sep 27, 1991	ND	ND	ND	ND	ND		6.48
Oct 23, 1991	ND	ND	ND	ND	ND		7.37
Nov 6, 1991	ND	ND	ND	ND	ND		6.44
Dec 4, 1991	ND	ND	ND	ND	ND		7.02
Jan 29, 1992	ND	ND	ND	ND	ND		6.78
Feb 26, 1992	ND	ND	ND	ND	ND		8.33
Mar 19, 1992	ND	ND	ND	ND	0.6		8.02
Apr 22, 1992	ND	ND	ND	ND	ND		7.78
May 21, 1992	ND	ND	0.6	ND	1.2		6.21
Jun 25, 1992	ND	ND	ND	ND	ND		7.73
Jul 30, 1992	ND	ND	0.5	ND	1.0		7.84
Aug 20, 1992	ND	ND	ND	ND	ND		7.50
Sep 30, 1992	ND	ND	ND	ND	ND		7.63
Dec 23, 1992	ND	ND	ND	ND	ND		7.24
Mar 10, 1993	ND	ND	ND	ND	ND		6.38
Jun 9, 1993	ND	ND	ND	ND	ND		7.98
Sep 14, 1993	ND	ND	ND	ND	ND		7.35
Mar 2, 1994	<50	<0.3	<0.3	<0.3	<0.3		7.00
Jun 6, 1994	<50	<0.3	<0.3	<0.3	<0.5		6.55

Benzene, toluene, ethylbenzene, and xylene analyzed by EPA method 8020 and concentrations reported in ug/l.

Total petroleum hydrocarbons analyzed by EPA method 8015 and concentrations reported in ug/l.

NSC = Not sampled due to product film on groundwater.

ND = Not Detected.

NA = Not Analyzed.

**Table 2 - Vapor Concentrations in Wells  
Thifty Oil Co. Station #054  
Castro Valley, CA**

<b>Well I.D.</b>	<b>Date</b>	<b>Vapor Conc., ppmv</b>
PW-1	05-16-94	150
	06-06-94	28
PW-2	05-16-94	150
	06-06-94	25
RE-1	05-16-94	>10000
	06-06-94	>10000
RE-2	05-16-94	200
	06-06-94	20
RE-3	05-16-94	6000
	06-06-94	>10000
RE-4	05-16-94	1000
	06-06-94	40
RE-5	05-16-94	400
	06-06-94	220
RE-6	05-16-94	>10000
	06-06-94	20
RE-7	05-16-94	200
	06-06-94	500
RS-8	05-16-94	--
	06-06-94	0
RS-9	05-16-94	--
	06-06-94	5000
RS-10	05-16-94	--
	06-06-94	0

# **APPENDIX A**



PROJECT STATUS REPORT  
 THRIFTY OIL CO. S.S. #054  
 2504 CASTRO VALLEY BLVD.  
 CASTRO VALLEY, CA 94546  
 DATE: 05.16.1994

P R E Q .	MONITORING				ODORS			FREE		WELLS CONNECTED TO SYSTEM (W)							
	OBSERVATION WELLS				(S=SLIGHT)			PRODUCT		CONNECT		INTEGRITY		VAPOR		WATER	
	NO.	DTW	DTP	PPM	YES	NO	S	YES	NO	YES	NO	OK	NO	ON	OFF	ON	OFF
M	PW-1	5.11		150		Y			Y	X	-	Y		Y			
M	PW-2	5.66		150		Y			Y	X	-	Y		Y			
M	RE-1	4.58	Film	91000	Y				Y	X	-	Y		Y			
M	RE-2	4.18		200		Y			Y	X	-	X		X			
M	RE-3	6.62	Film	6000	Y				Y	X	-	Y		Y			
M	RE-4	6.26	Film	1000			Y		Y	X	-	Y		Y		Y	
M	RE-5	4.82		400		Y			Y	X	-	Y		Y			
M	RE-6	5.32	GREEN	>1000	Y				Y	X	-	Y		Y			
M	RE-7	5.27	Film	>200	Y				Y	X	-	Y		Y		X	
M	RS-8	8.90				X			Y	-	X						
M	RS-9	2.49				X			Y	-	X						
M	RS-10	7.40				Y			Y	-	X						

SAVE SYSTEM WEEKLY

PARAMETER	U/M	DATA	PARAMETER	U/M	DATA
TIME	AM/PM	12:30	AIR FLOW	CFM	17
WORKING	YES/NO	No	VAPOR FLOW	CFM	18
RESTARTED	YES/NO	YES	FUEL FLOW	CFM/H	85
HOURS	#	6220	WELL VACUUM	IN H2O	25
ENGINE ROT.	RPM	1800	L P G TANKS	#	#1: 88
ENGINE VACUUM	IN HG	18	GAS METER READING	-	N/A
TANK VACUUM	IN HG	20	WATER FLOWMETER	GALL.	9680

EXHAUST (By others) \_\_\_\_\_

INLET TO ENGINE \_\_\_\_\_

MAINTENANCE ES/100/400/800 \_\_\_\_\_ FOR SPECIFIC OPERATIONS SEE FIELD RECORD

WATER SAMPLING - CHECK (✓) WHEN DONE

EFFLUENT	INFLUENT	WELLS
( ) _____	( ) _____	( ) Q.-SEE C.CUST.

REMARKS: \_\_\_\_\_

FREE PRODUCT REMOVED: APPROX. \_\_\_\_\_ GALLONS      WATER REMOVED: APPROX. \_\_\_\_\_ GALLONS

DATA RECORDED BY: E. GASHMAN      INPUT BY: M.M.      >\FF\054rsirt



PROJECT STATUS REPORT  
 THRIFTY OIL CO. S.S. #054  
 2504 CASTRO VALLEY BLVD.  
 CASTRO VALLEY, CA 94546  
 DATE: 6.6.94

F R E Q .	MONITORING				ODORS			FREE		WELLS CONNECTED TO SYSTEM (W)							
	OBSERVATION WELLS				(S=SLIGHT)			PRODUCT		CONNECT		INTEGRITY		VAPOR		WATER	
	NO.	DTW	DTP	PPM	YES	NO	S	YES	NO	YES	NO	OK	NO	ON	OFF	ON	OFF
M	PW-1	4.70		28		X			X		X	-	X		Y	-	-
M	PW-2	5.25		25		X			X		X	-	X		Y	-	-
M	RE-1	2.16	SHEN	710,000	X		X		X		X	-	X		X		-
M	RE-2	4.88		20		X			X		X	-	X		Y	-	-
M	RE-3	6.35	Fily	110,000	X				X		X	-	X		Y		-
M	RE-4	5.20	Fily	40		X			X		X	-	X		Y	X	-
M	RE-5	5.13		280			X		X		X	-	X		Y	-	-
M	RE-6	1.25		20		X			X		X	-	X		Y	-	-
M	RE-7	10.95	SHEN	500			Y		X		X	-	X		X		Y
M	RS-8	9.00		0		X			X		-	X		-	-	-	-
M	RS-9	2.52		5000			X		X		-	X		-	-	-	-
M	RS-10	6.55		0		X			X		-	X		-	-	-	-

SAVE SYSTEM WEEKLY

PARAMETER	U/M	DATA	PARAMETER	U/M	DATA
TIME	AM/PM	17:30	AIR FLOW	C F M	
WORKING	YES/NO		VAPOR FLOW	C F M	
RESTARTED	YES/NO		FUEL FLOW	C F M/H	
HOURS	#		WELL VACUUM	IN H2O	
ENGINE ROT.	RPM		L P G TANKS	#	#1:
ENGINE VACUUM	IN HG		GAS METER READING	-	N/A
TANK VACUUM	IN HG		WATER FLOWMETER	GALL.	

EXHAUST (By others)					
INLET TO ENGINE					

MAINTENANCE ES/100/400/800 \_\_\_\_\_ FOR SPECIFIC OPERATIONS SEE FIELD RECORD

WATER SAMPLING - CHECK ( ) WHEN DONE		
EPFLUENT	INFLUENT	WELLS
( ) _____	( ) _____	( ) Q.-SEE C.CUST.

REMARKS: \_\_\_\_\_

FREE PRODUCT REMOVED: APPROX. \_\_\_\_\_ GALLONS      WATER REMOVED: APPROX. \_\_\_\_\_ GALLONS

DATA RECORDED BY: \_\_\_\_\_      INPUT BY: M.M.      >\FF\054rsirt

TIME	AM/PM	16:00		
WORKING	YES/NO	No		
RESTARTED	YES/NO	YES		
HOURS	#	6452		
ENGINE ROT.	RPM	1800		
ENGINE VACUUM	IN HG	16		
ENG. OIL PRESS.	PSI	45		
ENG. WATER TEMP.	°F	160		
ENG. ELECTR. TENS.	VOLTS	13		
TANK VACUUM	IN HG	15		
TK. REC. PRES.	PSI	20		
TK. REC. TEMP.	°F	90		
AIR TEMPERATURE	°F	80		
AIR FLOW	CFM	16		
VAPOR FLOW	CFM	15		
FUEL FLOW	CFM/H	80		
WELL VACUUM	IN H2O	25		
LPG TANKS	%	#1: 85 #2:		
GAS METER READING				
WATER FLOWMETER	GALL.	10335		
CATALYST IN TEMP.	°F			
CATALYST OUT TEMP.	°F			
EXHAUST (See permit and PSR for frequency and limits)	BY C.A.	H-C	ppm/%	
		CO	%/ppm	
		CO2	%	
		O2	%	
		NOX	%/ppm	
	BY	O.V.	ppm	
OUTLET FROM ENGINE	O.V.	ppm		
INLET TO ENGINE	O.V.	ppm		

Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level				
Coolant, Check Level				
Fuel, Oil, Coolant, Check for Leaks				
Oil, Engine, Change		✓		
Oil, Filter, Change		✓		
Battery, Check Charge and Fluid		✓		
Battery Cables, Clean		✓		
P.T.O. Bearings, Lubricate		✓		
Fan, Alternator Belts, Check and Adjust		✓		
Idle Speed, Check		✓		
Idle Mixture, Check		✓		
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				
Comments:	B/W Air Sampling			

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: RE 1, RE 3, RE 7 WATER WELLS ON: RE 4, RE 7

SERVICE TECH: E. GASMAN DATE: 6.31.94 THRIFTY OIL CO. SS #: 054



PARAMETER	U/M			
TIME	AM/PM	11:30		
WORKING	YES/NO	No		
RESTARTED	YES/NO	YES		
HOURS	#	6326		
ENGINE ROT.	R P M	1800		
ENGINE VACUUM	IN HG	18		
ENG. OIL PRESS.	P S I	42		
ENG. WATER TEMP.	°F	160		
ENG. ELECTR. TENS.	VOLTS	13		
TANK VACUUM	IN HG	15		
TK. REC. PRES.	PSI	20		
TK. REC. TEMP.	°F	120		
AIR TEMPERATURE	°F	70		
AIR FLOW	C F M	17		
VAPOR FLOW	C F M	18		
FUEL FLOW	C F M/H	80		
WELL VACUUM	IN H2O	25		
L P G TANKS	%	#1: 50 #2:		
GAS METER READING				
WATER FLOWMETER	GALL.	10334		
CATALYST IN TEMP.	°F			
CATALYST OUT TEMP.	°F			
EXHAUST (See permit and PSR for frequency and limits)	BY C.A.	H-C	ppm/%	
		CO	%/ppm	
		CO2	%	
		O2	%	
		NOX	%/ppm	
	BY	O.V.	ppm	
OUTLET FROM ENGINE	O.V.	ppm		
INLET TO ENGINE	O.V.	ppm		

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level	✓			
Coolant, Check Level	✓			
Fuel, Oil, Coolant, Check for Leaks	✓			
Oil, Engine, Change				
Oil, Filter, Change				
Battery, Check Charge and Fluid				
Battery Cables, Clean				
P.T.O. Bearings, Lubricate				
Fan, Alternator Belts, Check and Adjust				
Idle Speed, Check				
Idle Mixture, Check				
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: RE 1, RE 3, RE 7 WATER WELLS ON: RE 4, RE 7

SERVICE TECH: E. GASMAN DATE: 6.23.94 THRIFTY OIL CO. ss #: 054

PARAMETER	UNIT	VALUE		
TIME	AM/PM	16:30		
WORKING	YES/NO	No		
RESTARTED	YES/NO	YES		
HOURS	#	6589		
ENGINE ROT.	RPM	1800		
ENGINE VACUUM	IN HG	16		
ENG. OIL PRESS.	PSI	40		
ENG. WATER TEMP.	°F	160		
ENG. ELECTR. TENS.	VOLTS	13		
TANK VACUUM	IN HG	15		
TK. REC. PRES.	PSI			
TK. REC. TEMP.	°F	90		
AIR TEMPERATURE	°F	70		
AIR FLOW	CFM	15		
VAPOR FLOW	CFM	16		
FUEL FLOW	CFM/H	80		
WELL VACUUM	IN H2O	30		
L P G TANKS	%	#1: 85 #2:		
GAS METER READING				
WATER FLOWMETER	GALL.	10334		
CATALYST IN TEMP.	°F			
CATALYST OUT TEMP.	°F			
EXHAUST (See permit and PSR for frequency and limits)	BY C.A.	H-C	ppm/%	
		CO	%/ppm	
		CO2	%	
		O2	%	
		NOX	%/ppm	
	BY	O.V.	ppm	
OUTLET FROM ENGINE	O.V.	ppm		
INLET TO ENGINE	O.V.	ppm		

Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level				
Coolant, Check Level				
Fuel, Oil, Coolant, Check for Leaks				
Oil, Engine, Change		✓		
Oil, Filter, Change		✓		
Battery, Check Charge and Fluid		✓		
Battery Cables, Clean		✓		
P.T.O. Bearings, Lubricate		✓		
Fan, Alternator Belts, Check and Adjust		✓		
Idle Speed, Check		✓		
Idle Mixture, Check		✓		
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

Comments: Monthly water sampling  
B/W Air sampling.

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: RE1, RE3, RE7 WATER WELLS ON:

SERVICE TECH: E. CASMAH DATE: 6.13.94 THRIFTY OIL CO. ss #: 054

PARAMETER	U/M	
TIME	AM/PM	17:30
WORKING	YES/NO	No
RESTARTED	YES/NO	YES
HOURS	#	6514
ENGINE ROT.	RPM	1800
ENGINE VACUUM	IN HG	16
ENG. OIL PRESS.	PSI	40
ENG. WATER TEMP.	°F	160
ENG. ELECTR. TENS.	VOLTS	13
TANK VACUUM	IN HG	15
TK. REC. PRES.	PSI	17
TK. REC. TEMP.	°F	120
AIR TEMPERATURE	°F	75
AIR FLOW	CFM	15
VAPOR FLOW	CFM	16
FUEL FLOW	CFM/H	80
WELL VACUUM	IN H2O	25
L P G TANKS	%	#1: 80 #2:
GAS METER READING		
WATER FLOWMETER	GALL.	10334
CATALYST IN TEMP.	°F	
CATALYST OUT TEMP.	°F	

EXHAUST  (See permit and PSR for frequency and limits)	BY C.A.	H-C	ppm/%
		CO	%/ppm
		CO2	%
		O2	%
		NOX	%/ppm
	BY	O.V.	ppm
OUTLET FROM ENGINE	O.V.	ppm	260
INLET TO ENGINE	O.V.	ppm	710,000

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level	✓			
Coolant, Check Level	✓			
Fuel, Oil, Coolant, Check for Leaks	✓			
Oil, Engine, Change				
Oil, Filter, Change				
Battery, Check Charge and Fluid				
Battery Cables, Clean				
P.T.O. Bearings, Lubricate				
Fan, Alternator Belts, Check and Adjust				
Idle Speed, Check				
Idle Mixture, Check				
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

Comments: *Quarterly sampling*  
*AVR.*

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: *RE1, RE3, RE 7* WATER WELLS ON: *RE4, RE 7*

SERVICE TECH: *E. CASMAN* DATE: *6.6.94* THRIFTY OIL CO. ss #: *054*

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>054</u>	Date <u>6.6.94</u>
Address _____	
Personnel <u>E. GARMAN, F. STEW</u>	Weather <u>SUNNY</u>
Well No. <u>RS-10</u>	Equip. <u>TEFLON BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>24.45</u>	ft.	Well Diameter <u>2"</u>
Depth to Water	<u>6.55</u>	ft.	Est. Purge Vol. <u>12 gal</u>

Sampling Data						
Initial Turbidity				Final Turbidity		
Time	<u>14:00</u>	<u>14:02</u>	<u>14:05</u>	<u>14:08</u>	<u>14:10</u>	<u>14:14</u>
EC	<u>6180</u>	<u>6170</u>	<u>6120</u>	<u>6140</u>	<u>6100</u>	<u>6100</u>
pH	<u>7.46</u>	<u>7.46</u>	<u>7.31</u>	<u>7.29</u>	<u>7.26</u>	<u>7.26</u>
Temp	<u>73.5</u>	<u>71.5</u>	<u>70.5</u>	<u>70.2</u>	<u>70</u>	<u>70</u>
Gal.	<u>2</u>	<u>4</u>	<u>6</u>	<u>8</u>	<u>10</u>	<u>12</u>
Time	_____	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____	_____

<b>After Purging/Before Sample Collection</b>	
Depth to Water _____	ft. Total Well Depth _____ ft.

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>054</u>	Date <u>6.6.94</u>
Address _____	
Personnel <u>E. GASMATI, F. SFETCU</u>	Weather <u>SUNNY</u>
Well No. <u>RS-8</u>	Equip. <u>TEFLON BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>25.20</u>	ft.	Well Diameter <u>2"</u>
Depth to Water	<u>9.00</u>	ft.	Est. Purge Vol. <u>10 gal</u>

Sampling Data						
Initial Turbidity	Final Turbidity					
Time	<u>13:10</u>	<u>13:12</u>	<u>13:15</u>	<u>13:17</u>	<u>13:20</u>	_____
EC	<u>1560</u>	<u>1480</u>	<u>1450</u>	<u>1440</u>	<u>1430</u>	_____
pH	<u>8.20</u>	<u>7.78</u>	<u>7.73</u>	<u>7.74</u>	<u>7.70</u>	_____
Temp	<u>70.</u>	<u>69.3</u>	<u>69.3</u>	<u>69.2</u>	<u>69.2</u>	_____
Gal.	<u>2</u>	<u>4</u>	<u>6</u>	<u>8</u>	<u>10</u>	_____
Time	_____	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____	_____

<b>After Purging/Before Sample Collection</b>	
Depth to Water _____	ft. Total Well Depth _____
ft.	

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>054</u>	Date <u>6.6.94</u>
Address _____	
Personnel <u>EGALMAN, F. STETCU</u>	Weather <u>SUNNY</u>
Well No. <u>RS 9</u>	Equip. <u>TEFLON BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>15</u>	ft.	Well Diameter <u>2"</u>
Depth to Water	<u>2.52</u>	ft.	Est. Purge Vol. <u>8 gal</u>

Sampling Data					
Initial Turbidity					Final Turbidity
Time	<u>12:45</u>	<u>12:47</u>	<u>12:50</u>	<u>12:53</u>	_____
EC	<u>1080</u>	<u>1100</u>	<u>1100</u>	<u>1100</u>	_____
pH	<u>7.93</u>	<u>7.94</u>	<u>7.90</u>	<u>7.87</u>	_____
Temp	<u>70.5</u>	<u>70.3</u>	<u>69.9</u>	<u>69.3</u>	_____
Gal.	<u>2</u>	<u>4</u>	<u>6</u>	<u>8</u>	_____
Time	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____

<b>After Purging/Before Sample Collection</b>	
Depth to Water _____	ft. Total Well Depth _____ ft.

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>054</u>	Date <u>6.6.94</u>
Address _____	
Personnel <u>E. GARMAN, F. STETW</u>	Weather <u>SUNNY</u>
Well No. <u>PW 2</u>	Equip. <u>TEFLON BAIER</u>

<b>Before Purging</b>			
Total Well Depth	<u>14.40</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>5.25</u>	ft.	Est. Purge Vol. <u>24 gal</u>

Sampling Data					
Initial Turbidity	Final Turbidity				
Time	<u>12:00</u>	<u>12:05</u>	<u>12:10</u>	<u>12:15</u>	<u>12:20</u>
EC	<u>417</u>	<u>400</u>	<u>395</u>	<u>393</u>	<u>398</u>
pH	<u>7.75</u>	<u>7.61</u>	<u>7.45</u>	<u>7.36</u>	<u>7.37</u>
Temp	<u>72.5</u>	<u>72.6</u>	<u>72.6</u>	<u>72.6</u>	<u>72.6</u>
Gal.	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>24</u>
Time	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____

<b>After Purging/Before Sample Collection</b>	
Depth to Water _____	ft. Total Well Depth _____ ft.

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>054</u>	Date <u>6.6.94</u>
Address _____	
Personnel <u>E. GAIMAN, F. STETLY</u>	Weather <u>SUNNY</u>
Well No. <u>PW 1</u>	Equip. <u>TEFLON BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>14.10</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>4.70</u>	ft.	Est. Purge Vol. <u>25 gal</u>

Sampling Data					
	Initial Turbidity			Final Turbidity	
Time	<u>11:15</u>	<u>11:20</u>	<u>11:25</u>	<u>11:30</u>	<u>11:35</u>
EC	<u>490</u>	<u>429</u>	<u>420</u>	<u>417</u>	<u>419</u>
pH	<u>8.21</u>	<u>8.00</u>	<u>7.94</u>	<u>7.83</u>	<u>7.77</u>
Temp	<u>70.8</u>	<u>70.9</u>	<u>70.7</u>	<u>70.7</u>	<u>70.7</u>
Gal.	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>
Time	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____

<b>After Purging/Before Sample Collection</b>	
Depth to Water _____	ft. Total Well Depth _____ ft.



## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>054</u>	Date <u>6.6.94</u>
Address _____	
Personnel <u>E. GAIMAN, F.S.F.E.C.W.</u>	Weather <u>SUNNY</u>
Well No. <u>RE 6</u>	Equip. <u>TETLON BAILEE</u>

<b>Before Purging</b>			
Total Well Depth	<u>13.25</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>1.85</u>	ft.	Est. Purge Vol. <u>30 gal.</u>

Sampling Data						
Initial Turbidity	Final Turbidity					
Time	<u>10:40</u>	<u>10:45</u>	<u>10:50</u>	<u>10:55</u>	<u>11:00</u>	<u>11:05</u>
EC	<u>1500</u>	<u>1520</u>	<u>1500</u>	<u>149</u>	<u>1480</u>	<u>1480</u>
pH	<u>7.85</u>	<u>7.62</u>	<u>7.59</u>	<u>7.56</u>	<u>7.59</u>	<u>7.59</u>
Temp	<u>72.3</u>	<u>71.1</u>	<u>70.6</u>	<u>70.3</u>	<u>70.0</u>	<u>70.0</u>
Gal.	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>
Time	_____	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____	_____

<b>After Purging/Before Sample Collection</b>	
Depth to Water _____	ft. Total Well Depth _____ ft.

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>054</u>	Date <u>6.6.94</u>
Address _____	
Personnel <u>E. GARMAN, F. S. FETU</u>	Weather <u>SUNNY</u>
Well No. <u>RE5</u>	Equip. <u>TEFLON BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>12.25</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>5.13</u>	ft.	Est. Purge Vol. <u>34</u>

Sampling Data						
Initial Turbidity			Final Turbidity			
Time	<u>10:00</u>	<u>10:05</u>	<u>10:10</u>	<u>10:15</u>	<u>10:25</u>	_____
EC	<u>1090</u>	<u>1060</u>	<u>1050</u>	<u>1040</u>	<u>1040</u>	_____
pH	<u>7.20</u>	<u>7.60</u>	<u>7.50</u>	<u>7.47</u>	<u>7.46</u>	_____
Temp	<u>71.5</u>	<u>71.1</u>	<u>71</u>	<u>71</u>	<u>70.8</u>	_____
Gal.	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>34</u>	_____
Time	_____	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____	_____

<b>After Purging/Before Sample Collection</b>	
Depth to Water _____	ft. Total Well Depth _____
	ft.

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>054</u>	Date <u>6.6.94</u>
Address _____	
Personnel <u>E. GARMAN, F. STETW</u>	Weather <u>SUNNY</u>
Well No. <u>RE 2</u>	Equip. <u>TEFLON BAKER</u>

<b>Before Purging</b>			
Total Well Depth	<u>17.10</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>4.88</u>	ft.	Est. Purge Vol. <u>32 gallons</u>

Sampling Data					
Initial Turbidity	Final Turbidity				
Time	<u>9:30</u>	<u>9:35</u>	<u>9:40</u>	<u>9:45</u>	<u>9:50</u>
EC	<u>1320</u>	<u>1270</u>	<u>1260</u>	<u>1260</u>	<u>1250</u>
pH	<u>7.70</u>	<u>7.61</u>	<u>7.56</u>	<u>7.50</u>	<u>7.49</u>
Temp	<u>75.8</u>	<u>72.5</u>	<u>71.5</u>	<u>70.7</u>	<u>70.1</u>
Gal.	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>32</u>
Time	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____

<b>After Purging/Before Sample Collection</b>	
Depth to Water _____	ft. Total Well Depth _____ ft.

PARAMETER	U/M	
TIME	AM/PM	12:30
WORKING	YES/NO	No
RESTARTED	YES/NO	YES
HOURS	#	6220
ENGINE ROT.	R P M	1800
ENGINE VACUUM	IN HG	18
ENG. OIL PRESS.	P S I	45
ENG. WATER TEMP.	°F	160
ENG. ELECTR. TENS.	VOLTS	13
TANK VACUUM	IN HG	15
TK. REC. PRES.	PSI	20
TK. REC. TEMP.	°F	90
AIR TEMPERATURE	°F	65
AIR FLOW	C F M	17
VAPOR FLOW	C F M	18
FUEL FLOW	C F M/H	25
WELL VACUUM	IN H2O	25
L P G TANKS	%	#1: 88 #2:
GAS METER READING		
WATER FLOWMETER	GALL.	9680
CATALYST IN TEMP.	°F	
CATALYST OUT TEMP.	°F	

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level	✓			
Coolant, Check Level	✓			
Fuel, Oil, Coolant, Check for Leaks	✓			
Oil, Engine, Change				
Oil, Filter, Change				
Battery, Check Charge and Fluid				
Battery Cables, Clean				
P.T.O. Bearings, Lubricate				
Fan, Alternator Belts, Check and Adjust				
Idle Speed, Check				
Idle Mixture, Check				
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

EXHAUST  (See permit and PSR for frequency and limits)	BY  C.A.	H-C	ppm/%
		CO	%/ppm
		CO2	%
		O2	%
		NOX	%/ppm
	BY	O.V.	ppm
OUTLET FROM ENGINE		O.V.	ppm
INLET TO ENGINE		O.V.	ppm

Comments: *B/W air sampling*  
*Monthly water sampling*

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: *ALL* WATER WELLS ON: *RE 4, RE 7*

SERVICE TECH: *E. GASMAN* DATE: *5.16.94* THRIFTY OIL CO. ss #: *054*

PARAMETER	U/M		
TIME	AM/PM	12:30	
WORKING	YES/NO	No	
RESTARTED	YES/NO	YES	
HOURS	#	6155	
ENGINE ROT.	R P M	1800	
ENGINE VACUUM	IN HG	19	
ENG. OIL PRESS.	PSI	45	
ENG. WATER TEMP.	°F	160	
ENG. ELECTR. TENS.	VOLTS	13	
TANK VACUUM	IN HG	17	
TK. REC. PRES.	PSI	20	
TK. REC. TEMP.	°F	100	
AIR TEMPERATURE	°F	70	
AIR FLOW	CFM	17	
VAPOR FLOW	CFM	15	
FUEL FLOW	CFM/H	<del>25</del>	
WELL VACUUM	IN H2O	<del>25</del> 24	
L P G TANKS	%	#1: 60 #2:	
GAS METER READING			
WATER FLOWMETER	GALL.	9321	
CATALYST IN TEMP.	°F		
CATALYST OUT TEMP.	°F		
EXHAUST  (See permit and PSR for frequency and limits)	BY  C.A.	H-C	ppm/%
		CO	%/ppm
		CO2	%
		O2	%
		NOX	%/ppm
		BY	O.V.
OUTLET FROM ENGINE	O.V.	ppm	
INLET TO ENGINE	O.V.	ppm	

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level	✓			
Coolant, Check Level	✓			
Fuel, Oil, Coolant, Check for Leaks	✓			
Oil, Engine, Change		✓		
Oil, Filter, Change		✓		
Battery, Check Charge and Fluid		✓		
Battery Cables, Clean		✓		
P.T.O. Bearings, Lubricate		✓		
Fan, Alternator Belts, Check and Adjust		✓		
Idle Speed, Check		✓		
Idle Mixture, Check		✓		
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fittings, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

Comments: *change oil + air filter.*

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: *ALL* WATER WELLS ON: *RE4, RET*

SERVICE TECH: *E. GASHAN* DATE: *5-9-94* THRIFTY OIL CO. ss #: *054*

SAVE SYSTEM

OPERATING DATA

FIELD STATUS REPORT

PARAMETER	U/M	
TIME	AM/PM	11:00
WORKING	YES/NO	YES
RESTARTED	YES/NO	NO
HOURS	#	6003
ENGINE ROT.	R P M	1700
ENGINE VACUUM	IN HG	19
ENG. OIL PRESS.	P S I	45
ENG. WATER TEMP.	°F	160
ENG. ELECTR. TENS.	VOLTS	13
TANK VACUUM	IN HG	17
TK. REC. PRES.	PSI	15
TK. REC. TEMP.	°F	100
AIR TEMPERATURE	°F	65
AIR FLOW	C F M	13
VAPOR FLOW	C F M	15
FUEL FLOW	C F M/H	70
WELL VACUUM	IN H2O	22
L P G TANKS	%	#1: 55 #2:
GAS METER READING		
WATER FLOWMETER	GALL.	8500
CATALYST IN TEMP.	°F	
CATALYST OUT TEMP.	°F	

EXHAUST  (See permit and PSR for frequency and limits)	BY  C.A.	H-C	ppm/%
		CO	%/ppm
		CO2	%
		O2	%
		NOX	%/ppm
	BY	O.V.	ppm
OUTLET FROM ENGINE		O.V.	ppm
INLET TO ENGINE		O.V.	ppm

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level	✓			
Coolant, Check Level	✓			
Fuel, Oil, Coolant, Check for Leaks	✓			
Oil, Engine, Change				
Oil, Filter, Change				
Battery, Check Charge and Fluid		✓		
Battery Cables, Clean		✓		
P.T.O. Bearings, Lubricate		✓		
Fan, Alternator Belts, Check and Adjust		✓		
Idle Speed, Check		✓		
Idle Mixture, Check		✓		
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

Comments: *B/W air sampling*

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: *ALL* WATER WELLS ON: *RE 4, RE 7*

SERVICE TECH: *E. GASMAN* DATE: *5.2.94* THRIFTY OIL CO. ss #: *054*

SAVE SYSTEM

OPERATING DATA

FIELD STATUS REPORT

PARAMETER	U/M	
TIME	AM/PM	11:00
WORKING	YES/NO	YES
RESTARTED	YES/NO	NO
HOURS	#	5834
ENGINE ROT.	R P M	1700
ENGINE VACUUM	IN HG	19
ENG. OIL PRESS.	P S I	45
ENG. WATER TEMP.	°F	160
ENG. ELECTR. TENS.	VOLTS	13
TANK VACUUM	IN HG	17
TK. REC. PRES.	PSI	20
TK. REC. TEMP.	°F	100
AIR TEMPERATURE	°F	68
AIR FLOW	C F M	14
VAPOR FLOW	C F M	15
FUEL FLOW	C F M/H	70
WELL VACUUM	IN H2O	24
L P G TANKS	%	#1: 55 #2:
GAS METER READING		
WATER FLOWMETER	GALL.	7693
CATALYST IN TEMP.	°F	
CATALYST OUT TEMP.	°F	

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level				
Coolant, Check Level				
Fuel, Oil, Coolant, Check for Leaks				
Oil, Engine, Change		✓		
Oil, Filter, Change		✓		
Battery, Check Charge and Fluid		✓		
Battery Cables, Clean		✓		
P.T.O. Bearings, Lubricate		✓		
Fan, Alternator Belts, Check and Adjust		✓		
Idle Speed, Check		✓		
Idle Mixture, Check		✓		
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

EXHAUST (See permit and PSR for frequency and limits)	BY C.A.	H-C	ppm/%
		CO	%/ppm
		CO2	%
		O2	%
		NOX	%/ppm
	BY	O.V.	ppm
OUTLET FROM ENGINE		O.V.	ppm
INLET TO ENGINE		O.V.	ppm

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: ALL WATER WELLS ON: RE-4, RE-7

SERVICE TECH: E. GASMAN DATE: 04.25.94 THRIFTY OIL CO. ss #: 054

PARAMETER	U/M	
TIME	AM/PM	15:30
WORKING	YES/NO	No
RESTARTED	YES/NO	YES
HOURS	#	5693
ENGINE ROT.	R P M	1800
ENGINE VACUUM	IN HG	12
ENG. OIL PRESS.	P S I	45
ENG. WATER TEMP.	°F	160
ENG. ELECTR. TENS.	VOLTS	13
TANK VACUUM	IN HG	14
TK. REC. PRES.	PSI	20
TK. REC. TEMP.	°F	90
AIR TEMPERATURE	°F	74
AIR FLOW	C F M	14
VAPOR FLOW	C F M	17
FUEL FLOW	C F M/H	70
WELL VACUUM	IN H2O	22
L P G TANKS	%	#1: 90 #2:
GAS METER READING		
WATER FLOWMETER	GALL.	672.1
CATALYST IN TEMP.	°F	
CATALYST OUT TEMP.	°F	

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level	✓			
Coolant, Check Level	✓			
Fuel, Oil, Coolant, Check for Leaks	✓			
Oil, Engine, Change				
Oil, Filter, Change				
Battery, Check Charge and Fluid				
Battery Cables, Clean				
P.T.O. Bearings, Lubricate				
Fan, Alternator Belts, Check and Adjust				
Idle Speed, Check				
Idle Mixture, Check				
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

Comments: *B/W Air sampling*  
*Monthly water sampling*

EXHAUST (See permit and PSR for frequency and limits)	BY C.A.	H-C	ppm/%
		CO	%/ppm
		CO2	%
		O2	%
		NOX	%/ppm
	BY	O.V.	ppm
OUTLET FROM ENGINE		O.V.	ppm
INLET TO ENGINE		O.V.	ppm

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: *ALL* WATER WELLS ON: *RE 4, RE 7*

SERVICE TECH: *E. GASMAN* DATE: *04.18.94* THRIFTY OIL CO. ss #: *054*



SAVE SYSTEM

OPERATING DATA

FIELD STATUS REPORT

PARAMETER	U/M	
TIME	AM/PM	11:00
WORKING	YES/NO	No
RESTARTED	YES/NO	YES
HOURS	#	5654
ENGINE ROT.	RPM	1800
ENGINE VACUUM	IN HG	12
ENG. OIL PRESS.	PSI	45
ENG. WATER TEMP.	°F	160
ENG. ELECTR. TENS.	VOLTS	13
TANK VACUUM	IN HG	14
TK. REC. PRES.	PSI	20
TK. REC. TEMP.	°F	90
AIR TEMPERATURE	°F	75
AIR FLOW	CFM	14
VAPOR FLOW	CFM	17
FUEL FLOW	CFM/H	70
WELL VACUUM	IN H20	22
L P G TANKS	%	#1: 90 #2:
GAS METER READING		
WATER FLOWMETER	GALL.	6717
CATALYST IN TEMP.	°F	
CATALYST OUT TEMP.	°F	

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level	✓			
Coolant, Check Level	✓			
Fuel, Oil, Coolant, Check for Leaks	✓			
Oil, Engine, Change				
Oil, Filter, Change				
Battery, Check Charge and Fluid				
Battery Cables, Clean				
P.T.O. Bearings, Lubricate				
Fan, Alternator Belts, Check and Adjust				
Idle Speed, Check				
Idle Mixture, Check				
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

EXHAUST  (See permit and PSR for frequency and limits)	BY  C.A.	H-C	ppm/%
		CO	%/ppm
		CO2	%
		O2	%
		NOX	%/ppm
	BY	O.V.	ppm
OUTLET FROM ENGINE		O.V.	ppm
INLET TO ENGINE		O.V.	ppm

Comments: Lovejoy spider is BROCKEN. NEED TO BE REPLACED.

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE ( ) WHEN REPLACED

VAPOR WELLS ON: ALL WATER WELLS ON: RE 4, RE 7

SERVICE TECH: E GASMAN DATE: 4. 11. 94 THRIFTY OIL CO. ss #: 054



PROJECT STATUS REPORT  
 THRIFTY OIL CO. S.S. #054  
 2504 CASTRO VALLEY BLVD.  
 CASTRO VALLEY, CA 94546  
 DATE: \_\_\_\_\_

F R E E .	MONITORING				ODORS			FREE		WELLS CONNECTED TO SYSTEM (W)							
	OBSERVATION WELLS				(S=SLIGHT)			PRODUCT		CONNECT		INTEGRITY		VAPOR		WATER	
	NO.	DTW	DTP	PT	YES	NO	S	YES	NO	YES	NO	OK	NO	ON	OFF	ON	OFF
M	PW-1	5.85				Y			Y		X	-					
M	PW-2	6.20	STEEN				Y		Y		X	-					
M	RE-1	4.61	STEEN				Y		Y		X	-					
M	RE-2	4.15				Y			Y		X	-					
M	RE-3	5.62	STEEN				Y		Y		X	-					
M	RE-4	10.14	Fly				Y		Y		X	-					
M	RE-5	3.88				Y			Y		X	-					
M	RE-6	4.89	Fly				Y		Y		X	-					
M	RE-7	11.70	Fly				Y		Y		X	-					
M	RS-8	8.23				Y			Y		-	X					
M	RS-9	3.85				Y			Y		-	X					
M	RS-10	6.62				X			Y		-	X					

SAVE SYSTEM - WEEKLY

PARAMETER	U/M	DATA	PARAMETER	U/M	DATA
TIME	AM/PM	11:00	AIR FLOW	C F M	14
WORKING	YES/NO	No	VAPOR FLOW	C F M	17
RESTARTED	YES/NO	YES	FUEL FLOW	C F M/H	70
HOURS	#	5654	WELL VACUUM	IN H2O	22
ENGINE ROT.	RPM	1800	L P G TANKS	%	#1: 90
ENGINE VACUUM	IN HG	12	GAS METER READING	-	N/A
TANK VACUUM	IN HG	14	WATER FLOWMETER	GALL.	6717

EXHAUST (By others) \_\_\_\_\_

INLET TO ENGINE \_\_\_\_\_

MAINTENANCE ES/100/400/800 \_\_\_\_\_ FOR SPECIFIC OPERATIONS SEE FIELD RECORD

WATER SAMPLING - CHECK ( ) WHEN DONE

EFFLUENT	INFLUENT	WELLS
( ) _____	( ) _____	( ) Q.-SEE C.CUST.

REMARKS: \_\_\_\_\_

FREE PRODUCT REMOVED: APPROX. \_\_\_\_\_ GALLONS WATER REMOVED: APPROX. \_\_\_\_\_ GALLONS

DATA RECORDED BY: E. GARMAN INPUT BY: M.M. > \FF\054rsirt

PARAMETER	U/M	
TIME	AM/PM	12:00
WORKING	YES/NO	YES
RESTARTED	YES/NO	NO
HOURS	#	5597
ENGINE ROT.	R P M	1700
ENGINE VACUUM	IN HG	19
ENG. OIL PRESS.	P S I	40
ENG. WATER TEMP.	°F	160
ENG. ELECTR. TENS.	VOLTS	13
TANK VACUUM	IN HG	15
TK. REC. PRES.	PSI	15
TK. REC. TEMP.	°F	100
AIR TEMPERATURE	°F	75
AIR FLOW	C F M	13
VAPOR FLOW	C F M	15
FUEL FLOW	C F M/H	60
WELL VACUUM	IN H2O	24
L P G TANKS	%	#1: 65 #2:
GAS METER READING		
WATER FLOWMETER	GALL.	6296
CATALYST IN TEMP.	°F	
CATALYST OUT TEMP.	°F	

MAINTENANCE RECORD				
Operation	Each Stop	100 Hours Week	400 Hours 2 Weeks	800 Hours Monthly
Oil, Engine, Check Level				
Coolant, Check Level				
Fuel, Oil, Coolant, Check for Leaks				
Oil, Engine, Change		✓		
Oil, Filter, Change		✓		
Battery, Check Charge and Fluid		✓		
Battery Cables, Clean		✓		
P.T.O. Bearings, Lubricate		✓		
Fan, Alternator Belts, Check and Adjust		✓		
Idle Speed, Check		✓		
Idle Mixture, Check		✓		
Radiator, Inspect and Clean Exterior				
Distributor, Clean and Check Points				
Ignition Timing, Check and Adjust				
PCV Valve, Replace				
PCV Hoses and Fitting, Check				
Spark Plugs, Replace				
Points, Replace				
Oil, Vacuum Pump, Change				
Intake Manifold Bolts, Torque				
All Nuts and Bolts, Check				

Comments: B/W air sampling

EXHAUST  (See permit and PSR for frequency and limits)	BY  C.A.	H-C	ppm/%
		CO	%/ppm
		CO2	%
		O2	%
		NOX	%/ppm
	BY	O.V.	ppm
OUTLET FROM ENGINE	O.V.	ppm	280
INLET TO ENGINE	O.V.	ppm	>10000

READJUST ENGINE PARAMETERS AT LEAST ONCE PER MONTH (IGNITION TIMING, AIR TO FUEL RATIO, EXHAUST O2 AND TEMP., NOX, HC & CO). CHECK HERE ( ) WHEN DONE

INSPECT CATALYST (See permit and PSR for frequency). CHECK HERE ( ) O.K. ( ) NO

CHANGE CATALYST (See permit and PSR for limits). CHECK HERE (✓) WHEN REPLACED

VAPOR WELLS ON: ALL WATER WELLS ON: RE 4, RE 7

SERVICE TECH: E. GASMAN DATE: 04.04.94 THRIFTY OIL CO. ss #: 054

# **APPENDIX B**



# SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard  
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114  
5427 East La Palma Avenue

- Los Angeles, California 90021
- San Francisco, California 94188
- Anaheim, California 92807
- (213) 749-3411
- (415) 330-3000
- (714) 693-1026
- Fax: (213) 746-7228
- Fax: (415) 330-3030
- Fax: (714) 693-1034

Thrifty Oil Co.  
File# 72546  
10000 Lakewood Blvd.  
Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
310/923/9876

Indefinite Extension 3/29/94  
ELAP Cert.#1131, COC, TOC#054

-----  
Sample #: 4161125807  
Received: 06/10/94  
Type: Water

Collector: Client  
Sampling Date & Time: 06/06/94, 1625  
Method: Submitted By Client

I.D.: RS - 9

===== <del>CONSTITUENT</del> =====	===== <del>METHOD</del> =====	== <del>RESULT</del> ==	=== <del>UNIT</del> ===	=== <del>MDL</del> ===
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	290 ug/l		50 ug/l
Benzene	EPA 602	0.58 ug/l		0.3 ug/l
Toluene	EPA 602	0.53 ug/l		0.3 ug/l
Ethylbenzene	EPA 602	1.1 ug/l		0.3 ug/l
Xylenes	EPA 602	5.8 ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	89 Percent		



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- Fax: (714) 693-1034

Thrifty Oil Co.  
File# 72546  
10000 Lakewood Blvd.  
Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
310/923/9876

Indefinite Extension 3/29/94  
ELAP Cert.#1131, COC, TOC#054

Sample #: 4161125801  
Received: 06/10/94  
Type: Water

Collector: Client  
Sampling Date & Time: 06/06/94, 1550  
Method: Submitted By Client

I.D.: PW - 1

===== <del>CONSTITUENT</del> =====	===== <del>METHOD</del> =====	===== <del>RESULT</del> ====	===== <del>UNIT</del> ====	===== <del>MDL</del> =====
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	330 ug/l		50 ug/l
Benzene	EPA 602	1.3 ug/l		0.3 ug/l
Toluene	EPA 602	ND ug/l		0.3 ug/l
Ethylbenzene	EPA 602	0.88 ug/l		0.3 ug/l
Xylenes	EPA 602	9.8 ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	92 Percent		



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Thrifty Oil Co.  
File# 72546  
10000 Lakewood Blvd.  
Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
310/923/9876

Indefinite Extension 3/29/94  
ELAP Cert.#1131, COC, TOC#054

-----  
Sample #: 4161125802  
Received: 06/10/94  
Type: Water

Collector: Client  
Sampling Date & Time: 06/06/94, 1605  
Method: Submitted By Client

I.D.: PW - 2

===== <u>CONSTITUENT</u> =====	===== <u>METHOD</u> =====	===== <u>RESULT</u> ====	===== <u>UNIT</u> ====	===== <u>MDL</u> =====
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	980 ug/l		50 ug/l
Benzene	EPA 602	25 ug/l		0.3 ug/l
Toluene	EPA 602	1.2 ug/l		0.3 ug/l
Ethylbenzene	EPA 602	ND ug/l		0.3 ug/l
Xylenes	EPA 602	42 ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	95 Percent		



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Thrifty Oil Co.  
File# 72546  
10000 Lakewood Blvd.  
Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
310/923/9876

Indefinite Extension 3/29/94  
ELAP Cert.#1131, COC, TOC#054

-----  
Sample #: 4161125803  
Received: 06/10/94  
Type: Water

Collector: Client  
Sampling Date & Time: 06/06/94, 1510  
Method: Submitted By Client

I.D.: RE - 2

===== <u>CONSTITUENT</u> =====	===== <u>METHOD</u> =====	===== <u>RESULT</u> ====	===== <u>UNIT</u> ====	===== <u>MDL</u> =====
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	760 ug/l		50 ug/l
Benzene	EPA 602	4.6 ug/l		0.3 ug/l
Toluene	EPA 602	ND ug/l		0.3 ug/l
Ethylbenzene	EPA 602	0.32 ug/l		0.3 ug/l
Xylenes	EPA 602	1.3 ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	100 Percent		





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Thrifty Oil Co.  
File# 72546  
10000 Lakewood Blvd.  
Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
310/923/9876

Indefinite Extension 3/29/94  
ELAP Cert.#1131, COC, TOC#054

-----  
Sample #: 4161125804  
Received: 06/10/94  
Type: Water

Collector: Client  
Sampling Date & Time: 06/06/94, 1525  
Method: Submitted By Client

I.D.: RE - 5

===== <u>CONSTITUENT</u> =====	===== <u>METHOD</u> ====	===== <u>RESULT</u> ====	===== <u>UNIT</u> ====	===== <u>MDL</u> ====
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	730 ug/l		50 ug/l
Benzene	EPA 602	ND ug/l		0.3 ug/l
Toluene	EPA 602	ND ug/l		0.3 ug/l
Ethylbenzene	EPA 602	0.70 ug/l		0.3 ug/l
Xylenes	EPA 602	22 ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	101 Percent		



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Thrifty Oil Co.  
File# 72546  
10000 Lakewood Blvd.  
Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
310/923/9876

Indefinite Extension 3/29/94  
ELAP Cert.#1131, COC, TOC#054

Sample #: 4161125805  
Received: 06/10/94  
Type: Water

Collector: Client  
Sampling Date & Time: 06/06/94, 1535  
Method: Submitted By Client

I.D.: RE - 6

===== <u>CONSTITUENT</u> =====	===== <u>METHOD</u> ====	===== <u>RESULT</u> ==	===== <u>UNIT</u> ====	===== <u>MDL</u> ====
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	2400 ug/l		50 ug/l
Benzene	EPA 602	290 ug/l		0.3 ug/l
Toluene	EPA 602	4.6 ug/l		0.3 ug/l
Ethylbenzene	EPA 602	1.3 ug/l		0.3 ug/l
Xylenes	EPA 602	24 ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	107 Percent		



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Thrifty Oil Co.  
File# 72546  
10000 Lakewood Blvd.  
Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
310/923/9876

Indefinite Extension 3/29/94  
ELAP Cert.#1131, COC, TOC#054

-----  
Sample #: 4161125806  
Received: 06/10/94  
Type: Water

Collector: Client  
Sampling Date & Time: 06/06/94, 1615  
Method: Submitted By Client

I.D.: RS - 8

===== <b>CONSTITUENT</b> =====	===== <b>METHOD</b> ====	===== <b>RESULT</b> ==	===== <b>UNIT</b> ====	===== <b>MDL</b> ====
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	54 ug/l		50 ug/l
Benzene	EPA 602	ND ug/l		0.3 ug/l
Toluene	EPA 602	ND ug/l		0.3 ug/l
Ethylbenzene	EPA 602	ND ug/l		0.3 ug/l
Xylenes	EPA 602	2.4 ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	90 Percent		



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Thrifty Oil Co.  
 File# 72546  
 10000 Lakewood Blvd.  
 Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
 310/923/9876

Indefinite Extension 3/29/94  
 ELAP Cert.#1131, COC, TOC#054

-----  
 Sample #: 4161125808  
 Received: 06/10/94  
 Type: Water

Collector: Client  
 Sampling Date & Time: 06/06/94, 1645  
 Method: Submitted By Client

I.D.: RS - 10

===== <u>CONSTITUENT</u> =====	===== <u>METHOD</u> ====	===== <u>RESULT</u> ==	===== <u>UNIT</u> ====	===== <u>MDL</u> ====
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	ND ug/l		50 ug/l
Benzene	EPA 602	ND ug/l		0.3 ug/l
Toluene	EPA 602	ND ug/l		0.3 ug/l
Ethylbenzene	EPA 602	ND ug/l		0.3 ug/l
Xylenes	EPA 602	ND ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	88 Percent		



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Thrifty Oil Co.  
File# 72546  
10000 Lakewood Blvd.  
Downey, CA 90240

06/14/94

Attn: Michael S. Cosby  
310/923/9876

Indefinite Extension 3/29/94  
ELAP Cert.#1131, COC, TOC#054

Sample #: 4161125809  
Received: 06/10/94  
Type: Water

Collector: Client  
Sampling Date & Time: 06/06/94, 0700  
Method: Submitted By Client

I.D.: Trip Blank

===== <u>CONSTITUENT</u> =====	===== <u>METHOD</u> =====	===== <u>RESULT</u> ==	===== <u>UNIT</u> ====	===== <u>MDL</u> =====
Extraction Method/Date	EPA 5030	06/10/94		
Analysis Date		06/10/94		
EPA 8015M/602, Combination		*		
TPH-Gasoline	EPA 8015M	ND ug/l		50 ug/l
Benzene	EPA 602	ND ug/l		0.3 ug/l
Toluene	EPA 602	ND ug/l		0.3 ug/l
Ethylbenzene	EPA 602	ND ug/l		0.3 ug/l
Xylenes	EPA 602	ND ug/l		0.5 ug/l
Surrogate		*		
Trifluorotoluene	EPA 602	88 Percent		

Respectfully Submitted,

*Shahid Noori*

Shahid Noori, Organic Supervisor



# SMITH-EMERY COMPANY

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June 16, 1994

## Quality Control Report Matrix Spike and Duplicate Spike

Client: Thrifty Oil Co.  
File No: 72546  
Report No: 41611258  
Matrix: Water  
Method: EPA 602/8015  
Lab No: 4161125809  
Batch No: 4161602-1  
Date Analyzed: 06/10/94

<u>PARAMETER</u>		<u>SAMPLE RESULTS</u> (ug/l)	<u>AMOUNT SPIKED</u> (ug/l)	<u>AMOUNT RECOVERED</u> (ug/l)	<u>% REC</u>	<u>SPIKE RECOVERY ACCEPTANCE RANGE(%)</u>	<u>R. P. D.</u>
Benzene	(S)	ND	6.8	5.2	77		
Benzene	(DS)	ND	6.8	5.2	81	77-120	5%
Toluene	(S)	ND	6.8	5.3	78		
Toluene	(DS)	ND	6.8	5.7	83	75-115	7%
Ethyl Benzene	(S)	ND	6.8	5.3	77		
Ethyl Benzene	(DS)	ND	6.8	5.4	80	60-130	3%
Xylene	(S)	ND	20.4	17.9	88		
Xylene	(DS)	ND	20.4	18.3	90	50-130	2%

S = Spike  
DS = Duplicate Spike  
R.P.D. = Relative Percent Difference  
ND = None Detected

