

THRIFTY OIL CO.

not certified
by CA-registered
professional

February 11, 1995

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

RECEIVED

FEB 22 1995

ENVIRONMENTAL HEALTH SERVICES
NORTH COUNTY

RE: Thrifty Oil Co. Station #054
2504 Castro Valley Boulevard
Castro Valley, California
4th QUARTER REPORT, 1994

Dear Mr. Seary,

This letter report presents the results of soil/groundwater treatment and site monitoring during the 4th 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 December 7, 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 4.10 to 8.67 feet below grade which is consistent with previous data collected. As of December 7, 1994, three of the wells, 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 horizontal hydraulic gradient of about 0.0083 feet per 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 6 to 41 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 Orange Coast Analytical, Inc., a state certified analytical laboratory located in Tustin, California. Field monitoring sheets prepared by EMC personnel are included in **Appendix A**.

Analytical Results

Groundwater Monitoring Wells. Groundwater samples were analyzed for total petroleum hydrocarbons (TPH) and benzene, toluene, ethyl benzene, and xylenes (BTEX) 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**. Isoconcentration maps of TPH and benzene based on the December sampling event are presented as **Figures 2 and 3**.

Treatment Unit Operation Status

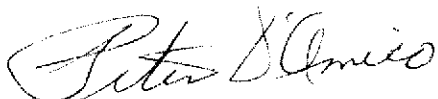
Based on the data obtained by EMC, the RSI-SAVE unit operated 360 hours during the reporting period and 10,784 hours total (current meter reading 7700). As of September 20, 1994, a total of about 12,959.5 gallons of water had been processed by the unit and discharged to the local sanitary sewer. During the 4th quarter reporting period, the quantity of water processed by the treatment unit cannot be reported due to insufficient data.

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

Thrifty will continue to conduct quarterly groundwater monitoring at the site. In addition, the work plan 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 1st quarter of 1995 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,

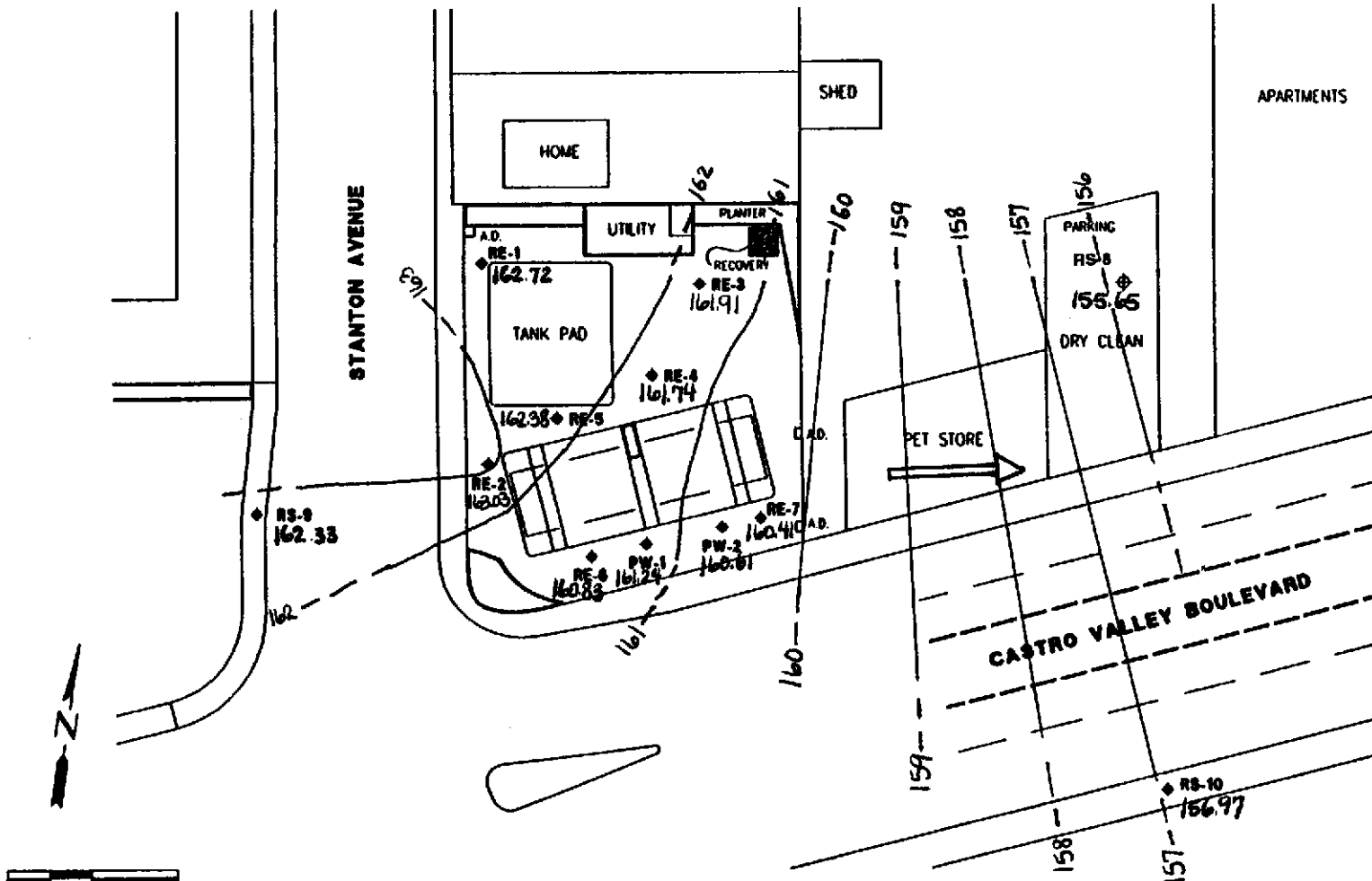


Peter D'Amico
Manager
Environmental Affairs

FIGURES

LEGEND

- ◆ RE-1 / MONITORING WELL
- A.D. AREA DRAIN
- ~ GROUNDWATER CONTOUR (12/07/04)



GROUNDWATER CONTOUR MAP

REVISIONS	BY

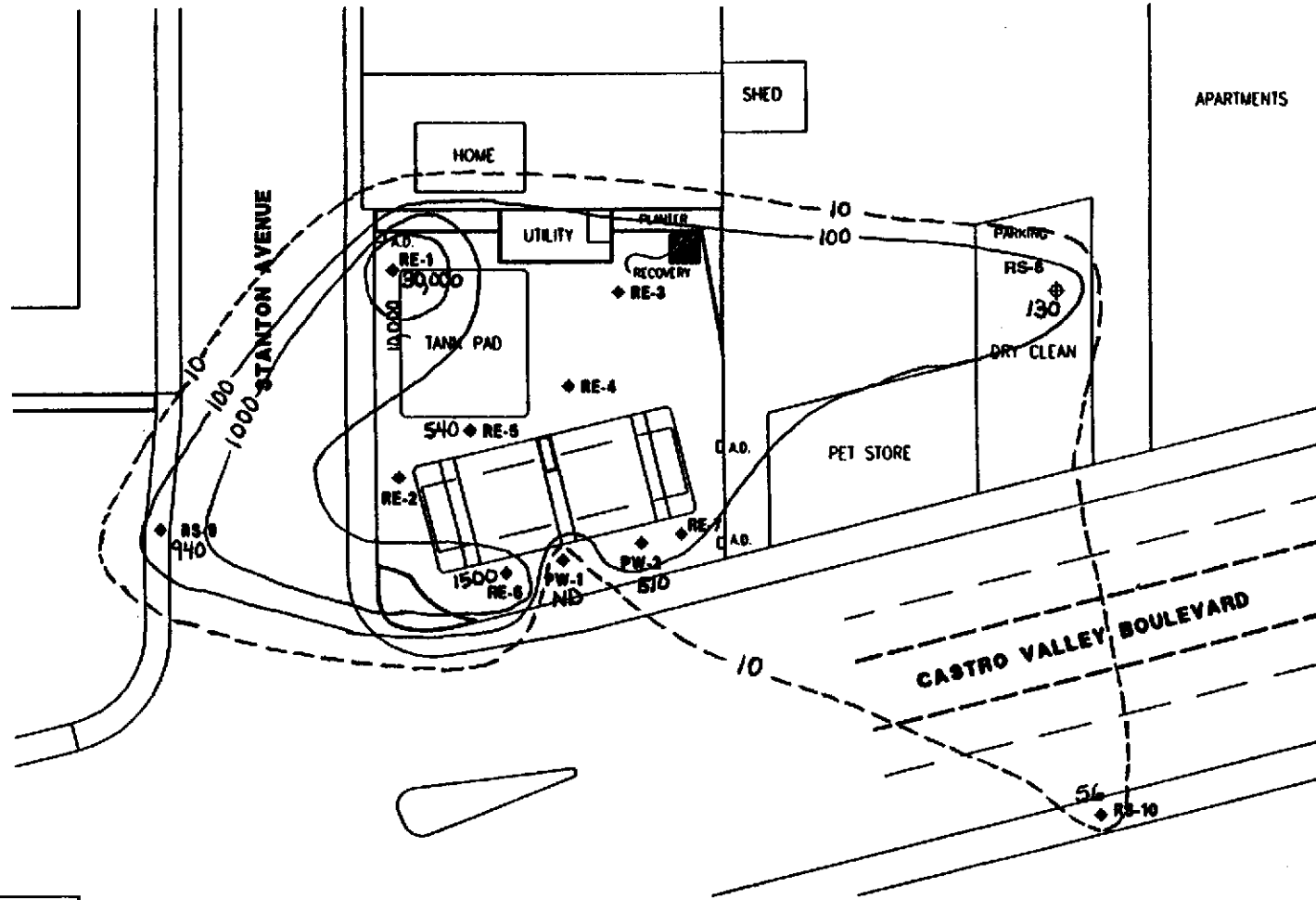

TRINITY OIL COMPANY
 1908 LAKEWOOD BLVD.
 DOWNEY, CA 90240
 (714) 832-0070

STATION No. 064
CASTRO VALLEY BLVD./STANTON AVE.
CASTRO VALLEY, CA.

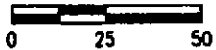
DRAWN BY: RCI 05-04-04 1" = 50'-0"
1

LEGEND

- ◆ RE-1 / MONITORING WELL
- A.D. AREA DRAIN
- ~ TPH CONTOUR (12/07/94, ug/l)




TPH ISOCONCENTRATION MAP



SCALE: 1" = 50'

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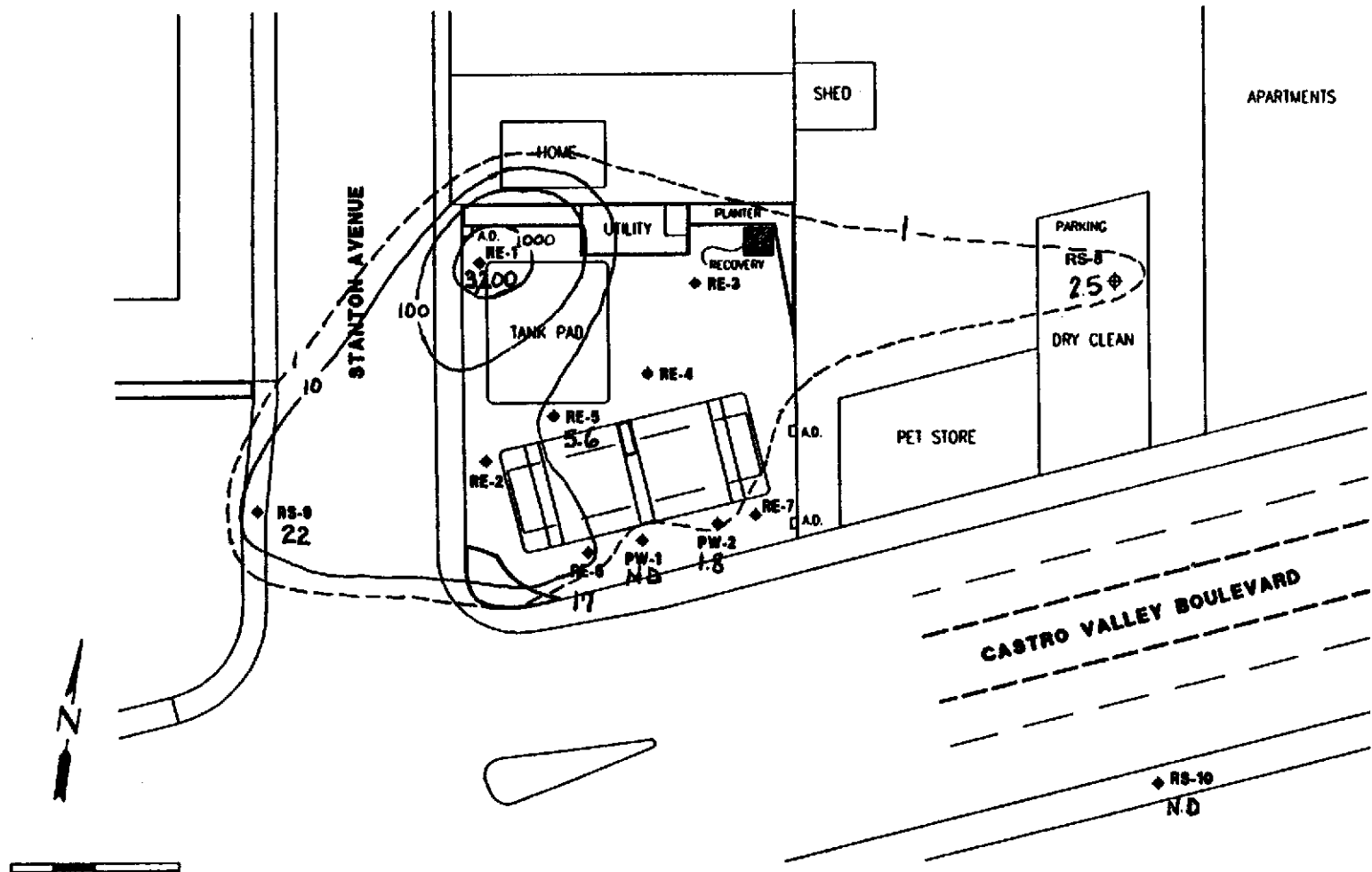

TRUFFY OIL COMPANY
 19400 LAKEWOOD BLVD.
 DUBLIN, CA 94568
 (707) 633-9879

STATION No. 064
CASTRO VALLEY BLVD./STANTON AVE.
CASTRO VALLEY, CA.

DRAWN BY RCI
05-04-94
1" = 50'-0"


LEGEND

- ◆ RE-1 / MONITORING WELL
- A.D. AREA DRAIN
- ~ BENZENE CONTOUR (12/07/94, ug/l)



BENZENE ISOCONCENTRATION MAP

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STATION No. 064
CASTRO VALLEY BLVD/STANTON AVE.
CASTRO VALLEY, CA.

TRC ENVIRONMENTAL SERVICES, INC.
 10000 LAKEWOOD BLVD.
 DUBLIN, CA 94568
 (916) 833-8075

DRAWN BY: RCI
05-04-94
1" = 50'-0"

TABLE 1
GROUNDWATER DATA
THRIFTY OIL STATION #54

DATE SAMPLED	TPH	BENZENE	TOLUENE	ETHYL BENZENE	XYLENE	TOP OF CASING	DEPTH TO GROUNDWTR
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
Sep 6, 1994	1100	67	<0.3	<0.3	24		6.48
Dec 7, 1994	<50	<0.3	<0.3	<0.5	<0.5		5.22

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
Sep 6, 1994	3200	95	3.0	<1.7	76		6.80
Dec 7, 1994	5.0	1.8	<0.3	<0.5	1.7		5.57

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)
Sep 6, 1994	74000	3300	3900	1200	6100		5.00
Dec 7, 1994	30,000	3200	2900	1200	4600		4.10

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
Sep 6, 1994	1300	43	45	8.9	69		5.16
Dec 7, 1994	NA	NA	NA	NA	NA		4.16

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)
Sep 6, 1994	11000	260	26	<6.6	1000		7.50
Dec 7, 1994	NSC						5.48 (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)
Sep 6, 1994	NSC						9.85 (Film)
Dec 7, 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
Sep 6, 1994	2400	180	28	2.3	76		5.45
Dec 7, 1994	540	5.6	<0.3	<0.5	6.9		4.13

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
Sep 6, 1994	4300	230	21	<6.6	130		6.40
Dec 7, 1994	1500	17	2.5	3.2	22		5.68

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)
Sep 6, 1994	NSC						11.30 (Film)
Dec 7, 1994	NSC						5.63 (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
Sep 6, 1994	<50	<0.3	<0.3	<0.3	<0.5		9.26
Dec 7, 1994	130	2.5	1.9	1.3	3.6		8.67

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
Sep 6, 1994	890	<0.3	<0.3	<0.3	3.1		3.16
Dec 7, 1994	940	22	23	10	32		5.18

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
Sep 6, 1994	<50	<0.3	<0.3	<0.3	<0.5		7.63
Dec 7, 1994	56	<0.3	<0.3	<0.5	2.1		5.92

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
Thrifty Oil Co. Station #054
Castro Valley, CA**

Well I.D.	Date	Vapor Conc., ppmv
PW-1	05-16-94	150
	06-06-94	28
	07-11-94	160
	08-15-94	100
	09-06-94	12
	12-07-94	20
PW-2	05-16-94	150
	06-06-94	25
	07-11-94	150
	08-15-94	100
	09-06-94	18
	12-07-94	15
RE-1	05-16-94	>10,000
	06-06-94	>10,000
	07-11-94	>10,000
	08-15-94	>10,000
	09-06-94	50
	12-07-94	40
RE-2	05-16-94	200
	06-06-94	20
	07-11-94	210
	08-15-94	160
	09-06-94	4
	12-07-94	2
RE-3	05-16-94	6,000
	06-06-94	>10,000
	07-11-94	5,000
	08-15-94	>6,000
	09-06-94	150
	12-07-94	200
RE-4	05-16-94	1,000
	06-06-94	40
	07-11-94	1,500
	08-15-94	>1,000
	09-06-94	70
	12-07-94	80
RE-5	05-16-94	400
	06-06-94	220
	07-11-94	300
	08-15-94	300
	09-06-94	2
	12-07-94	2

(Table 2 Continued)

Well I.D.	Date	Vapor Conc., ppmv
RE-6	05-16-94	>10,000
	06-06-94	20
	07-11-94	>10,000
	08-15-94	>10,000
	09-06-94	200
	12-07-94	150
RE-7	05-16-94	200
	06-06-94	500
	07-11-94	>10,000
	08-15-94	>300
	09-06-94	100
	12-07-94	180
RS-8	05-16-94	--
	06-06-94	0
	07-11-94	--
	08-15-94	--
	09-06-94	0
	12-07-94	0
RS-9	05-16-94	--
	06-06-94	5,000
	07-11-94	--
	08-15-94	--
	09-06-94	>10,000
	12-07-94	>1,000
RS-10	05-16-94	--
	06-06-94	0
	07-11-94	--
	08-15-94	--
	09-06-94	0
	12-07-94	0

APPENDIX A

EARTH MANAGEMENT CO.

Environmental Remediation



FIELD STATUS REPORT

GROUND WATER AND SOIL CLEAN-UP SYSTEM

MAINFOLD															
WELLS		WATER						WELLS		VAPORS					
					R4		R7			RE1	RE2	RE3	RE3	RE4	RE6
ON				X			X	ON	X		X			X	X
OFF								OFF		X		X	X		

WELL MONITORING					RSI SYSTEM			
WELL NO	DTW	DTP	PT	DTB	PARAMETER	U/M	DATA	OBS
					TIME	AM/PM	16:30	
					HOURS	#	755453	
					ENGINE RPM	RPM	1900	
					ENGINE VACUUM	IN HG	13	
					TK REC TEMP	F	130	
					AIR TEMP	F	80°	
					AIR FLOW	CFM	18	
					VAPOR FLOW	CFM	16	
					FUEL FLOW	CFM/H	90	
					WELL VACUUM	IN H2O	30	
					GAS METER		85%	
					CATALIST IN	F		
					CATALIST OUT	F		
					EXHAUST HC	PPM/%		
					EXHAUST CO	%PPM		
					EXHAUST CO2	%		
					EXHAUST NOX	%PPM		
					CATALYST REPLACEMENT			
					EXHAUST O2	%		
					INLET	PPM		
					OUTLET	PPM		

HYDROCARBON STRIPPER & VAPOR EXTRACTION SYSTEM W/ACU OR CAT			
PARAMETER	U/M	LIMIT	DATA
FLOWMETER			
ROTAMETER			
VPI FLOW			
VPI VACUUM			
AIR COMPRES			
VAPOR			
INLET VAPOR			
TEMPERATURE			
LEL			

COMMENTS: *Water system H2O not so high
low water flow*

SERVICE TECHNICAN _____ DATE 10.05.94 THRIFTY OIL CO # _____

GROUND WATER AND SOIL CLEAN-UP SYSTEM

MAINFOLD																
WELLS		WATER					WELLS		VAPORS							
				R4		R7			RE1	RE2	RE3	RE4	RE5	RE6	RE7	
ON				X					✓		X				Y	Y
OFF										✓		X	✓			

WELL MONITORING					RSI SYSTEM			
WELL NO	DTW	DTP	PT	DTB	PARAMETER	U/M	DATA	OBS
					TIME	AM/PM		
					HOURS	#	755452	
					ENGINE RPM	RPM	1400	
					ENGINE VACUUM	IN HG	15	
					TK REC TEMP	F	40	
					AIR TEMP	F	80	
					AIR FLOW	CFM	15	
					VAPOR FLOW	CFM	15	
					FUEL FLOW	CFM/H	1.2	
					WELL VACUUM	IN H2O	32	
					GAS METER		85%	
HYDROCARBON STRIPPER & VAPOR EXTRACTION SYSTEM W/ACU OR CAT					CATALIST IN	F		
PARAMETER	U/M	LIMIT	DATA		CATALIST OUT	F		
FLOWMETER					EXHAUST HC	PPM/%		
ROTAMETER					EXHAUST CO	%PPM		
VPI FLOW					EXHAUST CO2	%		
VPI VACUUM					EXHAUST NOX	%PPM		
AIR COMPRES					CATALYST REPLACEMENT			
VAPOR					EXHAUST O2	%		
INLET VAPOR					INLET	PPM		
TEMPERATURE					OUTLET	PPM		
LEL								

COMMENTS: *Water system is not working.*

SERVICE TECHNICAN _____ DATE *10/10/01* THRIFTY OIL CO # *054*

GROUND WATER AND SOIL CAPTURE

MAINFOLD														
WELLS	WATER						WELLS	VAPORS						
ON			R4			R7	ON	RE1		RE3			RE6	RE7
OFF							OFF		RE2		RE4	RE5		

WELL MONITORING					RSI SYSTEM			
WELL NO	DTW	DTP	PT	DTB	PARAMETER	U/M	DATA	OBS
					TIME	AM/PM		
					HOURS	#		
					ENGINE RPM	RPM		
					ENGINE VACUUM	IN HG		
					TK REC TEMP	F		
					AIR TEMP	F		
					AIR FLOW	CFM		
					VAPOR FLOW	CFM		
					FUEL FLOW	CFM/H		
					WELL VACUUM	IN H2O		
					GAS METER			
					CATALIST IN	F		
					CATALIST OUT	F		
					EXHAUST HC	PPM/%		
					EXHAUST CO	%PPM		
					EXHAUST CO2	%		
					EXHAUST NOX	%PPM		
					CATALYST REPLACEMENT			
					EXHAUST O2	%		
					INLET	PPM		
					OUTLET	PPM		

HYDROCARBON STRIPPER & VAPOR EXTRACTION SYSTEM W/ACU OR CAT			
PARAMETER	U/M	LIMIT	DATA
FLOWMETER			
ROTAMETER			
VPI FLOW			
VPI VACUUM			
AIR COMPRES			
VAPOR			
INLET VAPOR			
TEMPERATURE			
LEL			

COMMENTS: *Water system it is not working. Engine not working. No other fail to do the job -*

SERVICE TECHNICAN *[Signature]* DATE *10/13/91* THRIFTY OIL CO # *054*

THRIFTY OIL CO.

November 7, 1994

Mr. Weyman Lee
Bay Area Air Quality
Management District
939 Ellis Street
San Francisco, California 94109

RE: Thrifty Oil Co. Station #054
2504 Castro Valley Blvd.
Castro Valley, California
Plant #7440

Dear Mr. Lee,

Please find the enclosed Annual Data Update Form submitted for your information and review. If you have any questions, please contact me or Mr. Karl Kerner at (310) 923-9876.

Very truly yours,

Peter D'Amico
Manager
Environmental Affairs



054

CT 28, 1994

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

7440-1

BP Oil Company
2504 Castro Valley Blvd, Castro Valley
Hayward, CA 94546

ANNUAL DATA UPDATE FORM

S# 1 SPRAY AERATION VACUUM EXTRACTION SYSTEM *****

Air (1-G7098504)

12-month throughput, cubic feet 2 x 10⁶

For period ending (date) Oct 1994

Max throughput rate: 0 cubic feet/hr

Water vapor content of exhaust gases, % (vol) . . . 0.002

Complete Form X, Part 2, for any other material used in this source.

A# 1 INTERNAL COMBUSTION ENGINE *****

Gasoline - leaded (-1-C8660128)

12-month consumption, thou gal 0.363

For period ending (date) Oct 1994

Sulfur content of this fuel (typical), wt % . . . 0.10-0.15

LPG (-1-C8660160)

12-month consumption, thou gal 2.157

For period ending (date) 3-4 ppm MAX
Sulfur content of this fuel (typical): ~~.0001 wt%~~ generally < 1 ppm

Gasoline - unleaded (-1-C8660551)

12-month consumption, thou gal 0.363

For period ending (date) Oct 1994

Sulfur content of this fuel (typical), wt % . . . 0.10-0.15

CALLS BASED ON
20 SCFM, max flow
1715 hours of operation
2157 gallons LPG
10,000 ppm inlet vapors
Assumed 1/2 LEADED / 1/2 UNLEADED



MAINFOLD															
WELLS		WATER						WELLS		VAPORS					
ON				R4			R7	ON	RE1		RE3			RE6	RE7
OFF								OFF		RE2		RE4	RE5		

WELL MONITORING					RSI SYSTEM			
WELL NO	DTW	DTP	PT	DTB	PARAMETER	U/M	DATA	OBS
					TIME	AM/PM		
					HOURS	#		
					ENGINE RPM	RPM	1850	
					ENGINE VACUUM	IN HG	16	
					TK REC TEMP	F	95	
					AIR TEMP	F	80	
					AIR FLOW	CFM	20	
					VAPOR FLOW	CFM	12	
					FUEL FLOW	CFM/H	90	
					WELL VACUUM	IN H2O	23	
					GAS METER		10'	

HYDROCARBON STRIPPER & VAPOR EXTRACTION SYSTEM W/ACU OR CAT			
PARAMETER	U/M	LIMIT	DATA
FLOWMETER			
ROTAMETER			
VPI FLOW			
VPI VACUUM			
AIR COMPRES			
VAPOR			
INLET VAPOR			
TEMPERATURE			
LEL			
CATALIST IN	F		
CATALIST OUT	F		
EXHAUST HC	PPM/%		
EXHAUST CO	%PPM		
EXHAUST CO2	%		
EXHAUST NOX	%PPM		
CATALYST REPLACEMENT			
EXHAUST O2	%		
INLET	PPM		
OUTLET	PPM		

COMMENTS: *Water system it is not working because water pump not
 and B...*

SERVICE TECHNICAN _____ DATE *11-1-88* THRIFTY OIL CO # *0547*



MAINFOLD													
WELLS	WATER						WELLS	VAPORS					
ON				RE4		RE7	ON	RE1		RE3		RE6	RE7
OFF							OFF		RE2		RE4	RE5	

WELL MONITORING				
WELL NO	DTW	DTP	PT	DTB

RSI SYSTEM			
PARAMETER	U/M	DATA	OBS
TIME	AM/PM	AM 30	
HOURS	#	2100	
ENGINE RPM	RPM	1950	
ENGINE VACUUM	IN HG	11	
TK REC TEMP	F	92	
AIR TEMP	F	68	
AIR FLOW	CFM	16	
VAPOR FLOW	CFM	14	
FUEL FLOW	CFM/H	40	
WELL VACUUM	IN H2O	30	
GAS METER		20%	
CATALIST IN	F		
CATALIST OUT	F		
EXHAUST HC	PPM/%		
EXHAUST CO	%PPM		
EXHAUST CO2	%		
EXHAUST NOX	%PPM		
CATALYST REPLACEMENT			
EXHAUST O2	%		
INLET	PPM		
OUTLET	PPM		

HYDROCARBON STRIPPER & VAPOR EXTRACTION SYSTEM W/ACU OR CAT			
PARAMETER	U/M	LIMIT	DATA
FLOWMETER			
ROTAMETER			
VPI FLOW			
VPI VACUUM			
AIR COMPRES			
VAPOR			
INLET VAPOR			
TEMPERATURE			
LEL			

COMMENTS: *Water system is not working from pipe it is clog - in inlet test -*

SERVICE TECHNICAN _____ DATE *11/09/00* THRIFTY OIL CO # *054*



PROJECT STATUS REPORT
 THRIFTY OIL CO. S.S. #054
 2504 CASTRO VALLEY BLVD.
 CASTRO VALLEY, CA 94546
 DATE: 12.07.94

F R E Q .	M O N I T O R I N G				O D O R S			F R E E		W E L L S C O N N E C T E D T O S Y S T E M (W)							
	O B S E R V A T I O N W E L L S P P M				(S = S L I G H T)			P R O D U C T		C O N N E C T		I N T E G R I T Y		V A P O R		W A T E R	
	NO.	DTW	DTP	PT	YES	NO	S	YES	NO	YES	NO	OK	NO	ON	OFF	ON	OFF
M	PW-1	5.22		20		X			X		X	-					
M	PW-2	5.57		15		X			X		X	-					
M	RE-1	4.10		40		X			X		X	-					
M	RE-2	4.16		2		X			X		X	-					
M	RE-3	5.48	skin	200	X				X		X	-					
M	RE-4	5.20	skin	80	X				X		X	-					
M	RE-5	4.13		2		X			X		X	-					
M	RE-6	5.68		150		X			X		X	-					
M	RE-7	5.63	skin	180	X				X		X	-					
M	RS-8	8.67		0		X			X		-	X					
M	RS-9	5.18		>1000		X			X		-	X					
M	RS-10	5.92		0		X			X		-	X					

S A V E S Y S T E M			W E E K L Y		
PARAMETER	U/M	DATA	PARAMETER	U/M	DATA
TIME	AM/PM		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 T A N K S	#	#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		
W A T E R S A M P L I N G - C H E C K () W H E N D O N E					
EFFLUENT		INFLUENT		WELLS	
()	()	()	()	() Q.-SEE C.CUST.	
REMARKS:					
FREE PRODUCT REMOVED: APPROX. GALLONS			WATER REMOVED: APPROX. 208 GALLONS		
DATA RECORDED BY : F.SPETCHER & S.PROTOPOPESCU INPUT BY: M.M. > FF\054rsirt					

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site	<u>SS# 54</u>	Date	<u>Dec 7th 94</u>
Address	_____		
Personnel	<u>P. SFETCU P. SERBAN</u>	Weather	<u>SUNNY</u>
Well No.	<u>RE - 1</u>	Equip.	<u>BAILER</u>

Before Purging			
Total Well Depth	<u>19.85</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>4.10</u>	ft.	Est. Purge Vol. <u>41 Gal</u>

Sampling Data						
	Initial Turbidity			Final Turbidity		
Time	<u>12:03</u>	<u>12:06</u>	<u>12:09</u>	<u>12:12</u>	<u>12:15</u>	<u>12:17</u>
EC	<u>850</u>	<u>950</u>	<u>970</u>	<u>940</u>	<u>950</u>	<u>950</u>
pH	<u>7.76</u>	<u>7.58</u>	<u>7.56</u>	<u>7.78</u>	<u>7.66</u>	<u>7.69</u>
Temp	<u>67.0</u>	<u>68.7</u>	<u>68.5</u>	<u>67.5</u>	<u>67.6</u>	<u>67.5</u>
Gal.	<u>6</u>	<u>12</u>	<u>18</u>	<u>24</u>	<u>30</u>	<u>36</u>
Time	<u>12:20</u>	_____	_____	_____	_____	_____
EC	<u>950</u>	_____	_____	_____	_____	_____
pH	<u>7.69</u>	_____	_____	_____	_____	_____
Temp	<u>67.7</u>	_____	_____	_____	_____	_____
Gal.	<u>41</u>	_____	_____	_____	_____	_____

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

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>SS # 54</u>	Date <u>Dec 7th 94</u>
Address _____	
Personnel <u>F. SFETCU</u> <u>P. SERBAN</u>	Weather <u>SUNNY</u>
Well No. <u>RS-89</u>	Equip. <u>BALER</u>

Before Purging	
Total Well Depth <u>15.00</u> ft.	Well Diameter <u>2"</u>
Depth to Water <u>5.18</u> ft.	Est. Purge Vol. <u>6 Gal</u>

Sampling Data						
	Initial Turbidity			Final Turbidity		
Time	<u>12:23</u>	<u>12:25</u>	<u>12:27</u>	<u>12:30</u>	<u>12:33</u>	<u>12:35</u>
EC	<u>820</u>	<u>820</u>	<u>860</u>	<u>860</u>	<u>900</u>	<u>900</u>
pH	<u>8.70</u>	<u>7.40</u>	<u>8.25</u>	<u>8.16</u>	<u>8.77</u>	<u>8.70</u>
Temp	<u>64.6</u>	<u>64.6</u>	<u>64.2</u>	<u>64.3</u>	<u>64.4</u>	<u>64.7</u>
Gal.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Time	_____	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____	_____

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

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>SS # 054</u>	Date <u>Dec 7th 94</u>
Address _____	
Personnel <u>F. SKETCU P. SERBAN</u>	Weather <u>SUNNY</u>
Well No. <u>RE-2</u>	Equip. <u>BAILER</u>

Before Purging			
Total Well Depth	<u>17.10</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>4.16</u>	ft.	Est. Purge Vol. <u>34 GAL</u>

Sampling Data						
Initial Turbidity						Final Turbidity
Time	<u>12:43</u>	<u>12:46</u>	<u>12:49</u>	<u>12:52</u>	<u>12:55</u>	<u>12:57</u>
EC	<u>960</u>	<u>960</u>	<u>950</u>	<u>920</u>	<u>1050</u>	<u>1020</u>
pH	<u>10.04</u>	<u>8.56</u>	<u>9.31</u>	<u>9.28</u>	<u>9.14</u>	<u>8.99</u>
Temp	<u>65.7</u>	<u>66.2</u>	<u>67.2</u>	<u>67.6</u>	<u>67.9</u>	<u>68.3</u>
Gal.	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>
Time	<u>13:00</u>	_____	_____	_____	_____	_____
EC	<u>1020</u>	_____	_____	_____	_____	_____
pH	<u>8.95</u>	_____	_____	_____	_____	_____
Temp	<u>68.7</u>	_____	_____	_____	_____	_____
Gal.	<u>34</u>	_____	_____	_____	_____	_____

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

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site	<u>SS# 54</u>	Date	<u>Dec 7th 94</u>
Address	<u>F. SFETCU</u>		
Personnel	<u>P. SERBAN</u>	Weather	<u>SUNNY</u>
Well No.	<u>RE-5</u>	Equip.	<u>BAILER</u>

Before Purging			
Total Well Depth	<u>18.25</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>4.13</u>	ft.	Est. Purge Vol. <u>37 Gal</u>

Sampling Data						
Initial Turbidity				Final Turbidity		
Time	<u>13:10</u>	<u>13:14</u>	<u>13:17</u>	<u>13:20</u>	<u>13:23</u>	<u>13:26</u>
EC	<u>1010</u>	<u>1080</u>	<u>1080</u>	<u>1080</u>	<u>1060</u>	<u>1060</u>
pH	<u>8.49</u>	<u>8.64</u>	<u>8.49</u>	<u>8.45</u>	<u>9.03</u>	<u>8.40</u>
Temp	<u>59.1</u>	<u>61.4</u>	<u>65.0</u>	<u>65.3</u>	<u>64.3</u>	<u>63.4</u>
Gal.	<u>5</u>	<u>11</u>	<u>16</u>	<u>23</u>	<u>28</u>	<u>31</u>
Time	<u>13:28</u>	<u>13:30</u>				
EC	<u>1100</u>	<u>1100</u>				
pH	<u>8.56</u>	<u>8.52</u>				
Temp	<u>64.6</u>	<u>64.7</u>				
Gal.	<u>33</u>	<u>37</u>				

After Purging/Before Sample Collection			
Depth to Water		ft.	Total Well Depth
			ft.

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site	<u>SS # 054</u>	Date	<u>Dec 7th 94</u>
Address	<u>F. SPETCU</u>		
Personnel	<u>F. SERBAN</u>	Weather	<u>SUNNY</u>
Well No.	<u>PW-1</u>	Equip.	<u>BAILER</u>

Before Purging			
Total Well Depth	<u>14.10</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>5.22</u>	ft.	Est. Purge Vol. <u>23 GAL</u>

Sampling Data						
	Initial Turbidity			Final Turbidity		
Time	<u>13:33</u>	<u>13:35</u>	<u>13:38</u>	<u>13:40</u>	<u>13:43</u>	<u>13:45</u>
EC	<u>980</u>	<u>870</u>	<u>860</u>	<u>850</u>	<u>1040</u>	<u>1060</u>
pH	<u>9.45</u>	<u>9.83</u>	<u>8.94</u>	<u>8.92</u>	<u>9.42</u>	<u>9.52</u>
Temp	<u>71.4</u>	<u>71.3</u>	<u>70.8</u>	<u>70.5</u>	<u>70.1</u>	<u>69.7</u>
Gal.	<u>3</u>	<u>6</u>	<u>9</u>	<u>12</u>	<u>15</u>	<u>18</u>
Time	<u>13:48</u>	<u>13:50</u>	_____	_____	_____	_____
EC	<u>1150</u>	<u>1160</u>	_____	_____	_____	_____
pH	<u>9.26</u>	<u>9.32</u>	_____	_____	_____	_____
Temp	<u>70.1</u>	<u>69.9</u>	_____	_____	_____	_____
Gal.	<u>21</u>	<u>23</u>	_____	_____	_____	_____

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

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>SS # 54</u>	Date <u>DEC 7th 94</u>
Address _____	
Personnel <u>F. SFETCU P. SERBAN</u>	Weather <u>Sunny</u>
Well No. <u>PW-2</u>	Equip. <u>Boiler</u>

Before Purging			
Total Well Depth	<u>14.40</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>5.57</u>	ft.	Est. Purge Vol. <u>23 GAL</u>

Sampling Data						
Initial Turbidity				Final Turbidity		
Time	<u>14:03</u>	<u>14:05</u>	<u>14:08</u>	<u>14:11</u>	<u>14:13</u>	<u>14:15</u>
EC	<u>1840</u>	<u>2040</u>	<u>2030</u>	<u>2020</u>	<u>2060</u>	<u>2050</u>
pH	<u>8.92</u>	<u>8.21</u>	<u>7.71</u>	<u>7.30</u>	<u>7.28</u>	<u>7.38</u>
Temp	<u>66.5</u>	<u>67.2</u>	<u>67.8</u>	<u>69.5</u>	<u>69.6</u>	<u>70.4</u>
Gal.	<u>3</u>	<u>6</u>	<u>9</u>	<u>12</u>	<u>15</u>	<u>18</u>
Time	<u>14:17</u>	<u>14:20</u>	_____	_____	_____	_____
EC	<u>2080</u>	<u>2080</u>	_____	_____	_____	_____
pH	<u>7.46</u>	<u>7.48</u>	_____	_____	_____	_____
Temp	<u>70.2</u>	<u>70.2</u>	_____	_____	_____	_____
Gal.	<u>21</u>	<u>23</u>	_____	_____	_____	_____

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

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site	<u>SS # 54</u>	Date	<u>Dec 7th 94</u>
Address	<u>F. SPETCH</u>		
Personnel	<u>P. SERBAN</u>	Weather	<u>Sunny</u>
Well No.	<u>RE - 6</u>	Equip.	<u>Bailer</u>

Before Purging			
Total Well Depth	<u>13.65</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>5.68</u>	ft.	Est. Purge Vol. <u>21 Gal</u>

Sampling Data						
Initial Turbidity				Final Turbidity		
Time	<u>14:27</u>	<u>14:31</u>	<u>14:34</u>	<u>14:36</u>	<u>14:38</u>	<u>14:40</u>
EC	<u>2460</u>	<u>2460</u>	<u>2450</u>	<u>2540</u>	<u>2560</u>	<u>2560</u>
pH	<u>10.85</u>	<u>10.61</u>	<u>10.64</u>	<u>10.56</u>	<u>10.57</u>	<u>10.57</u>
Temp	<u>65.7</u>	<u>68.8</u>	<u>70.1</u>	<u>70.5</u>	<u>70.5</u>	<u>70.6</u>
Gal.	<u>4</u>	<u>7</u>	<u>11</u>	<u>15</u>	<u>18</u>	<u>21</u>
Time	_____	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____	_____

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

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>SS # 54</u>	Date <u>Dec 7th 94</u>
Address _____	
Personnel <u>F. SPETCH P. JERBAN</u>	Weather <u>Sunny</u>
Well No. <u>RS-8</u>	Equip. <u>Bailer</u>

Before Purging			
Total Well Depth	<u>15.00</u>	ft.	Well Diameter <u>2"</u>
Depth to Water	<u>5.18</u>	ft.	Est. Purge Vol. <u>6 GAL</u>

Sampling Data						
Initial Turbidity	Final Turbidity					
Time	<u>14:44</u>	<u>14:46</u>	<u>14:48</u>	<u>14:51</u>	<u>14:53</u>	<u>14:55</u>
EC	<u>2340</u>	<u>2280</u>	<u>2240</u>	<u>2160</u>	<u>2040</u>	<u>2040</u>
pH	<u>7.39</u>	<u>7.27</u>	<u>7.26</u>	<u>7.23</u>	<u>7.15</u>	<u>7.15</u>
Temp	<u>65.8</u>	<u>67.7</u>	<u>68.5</u>	<u>69.1</u>	<u>68.3</u>	<u>69.2</u>
Gal.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Time	_____	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____	_____

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

FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site <u>SS # 54</u>	Date <u>Dec 7th 94</u>
Address _____	
Personnel <u>F. SPETOW P. SERBAN</u>	Weather <u>SUNNY</u>
Well No. <u>RS-10</u>	Equip. <u>BAICER</u>

Before Purging			
Total Well Depth	<u>24.45</u>	ft.	Well Diameter <u>2"</u>
Depth to Water	<u>5.92</u>	ft.	Est. Purge Vol. <u>12 GAL</u>

Sampling Data						
Initial Turbidity						Final Turbidity
Time	<u>14:57</u>	<u>14:58</u>	<u>14:59</u>	<u>15:01</u>	<u>15:02</u>	<u>15:04</u>
EC	<u>3470</u>	<u>3650</u>	<u>3760</u>	<u>3740</u>	<u>3680</u>	<u>3680</u>
pH	<u>5.24</u>	<u>5.42</u>	<u>5.59</u>	<u>5.47</u>	<u>5.55</u>	<u>5.56</u>
Temp	<u>67.0</u>	<u>67.5</u>	<u>67.8</u>	<u>68.7</u>	<u>68.8</u>	<u>69.2</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.	_____	_____	_____	_____	_____	_____

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

EARTH MANAGEMENT CO.



Environmental Remediation

FIELD STATUS REPORT

GROUND WATER AND SOIL CLEAN-UP SYSTEM

MAINFOLD													
WELLS	WATER						WELLS	VAPORS					
ON				RE4		RE7	ON	RE1		RE3		RE6	RE7
OFF							OFF		RE2		RE4	RE5	

WELL MONITORING					RSI SYSTEM			
WELL NO	DTW	DTP	PT	DTB	PARAMETER	U/M	DATA	OBS
					TIME	AM/PM	15:00	
					HOURS	#	7656	
					ENGINE RPM	RPM	1800	
					ENGINE VACUUM	IN HG	19	
					TK REC TEMP	F	110	
					AIR TEMP	F	65°F	
					AIR FLOW	CFM	18	
					VAPOR FLOW	CFM	16	
					FUEL FLOW	CFM/H	80	
					WELL VACUUM	IN H2O	30	
					GAS METER		80%	
					CATALIST IN	F		
					CATALIST OUT	F		
					EXHAUST HC	PPM/%		
					EXHAUST CO	%PPM		
					EXHAUST CO2	%		
					EXHAUST NOX	%PPM		
					CATALYST REPLACEMENT			
					EXHAUST O2	%		
					INLET	PPM		
					OUTLET	PPM		

HYDROCARBON STRIPPER & VAPOR EXTRACTION SYSTEM W/ACU OR CAT			
PARAMETER	U/M	LIMIT	DATA
FLOWMETER	9997.3		
ROTAMETER			
VPI FLOW			
VPI VACUUM			
AIR COMPRES			
VAPOR			
INLET VAPOR			
TEMPERATURE			
LEL			

COMMENTS:

SERVICE TECHNICAN FLORIN SERRANO DATE 12/13/94 THRIFTY OIL CO # 054

EARTH MANAGEMENT CO.

Environmental Remediation



FIELD STATUS REPORT

GROUND WATER AND SOIL CLEAN-UP SYSTEM

MAINFOLD														
WELLS	WATER						WELLS	VAPORS						
ON			RE4			RE7	ON	RE1		RE3			RE6	RE7
OFF							OFF		RE2		RE4	RE5		

WELL MONITORING					RSI SYSTEM			
WELL NO	DTW	DTP	PT	DTB	PARAMETER	U/M	DATA	OBS
					TIME	AM/PM	15:20	
					HOURS	#	7700	
					ENGINE RPM	RPM	1800	
					ENGINE VACUUM	IN HG	11	
					TK REC TEMP	F	95	
					AIR TEMP	F	70	
					AIR FLOW	CFM	18	
					VAPOR FLOW	CFM	16	
					FUEL FLOW	CFM/H	85	
					WELL VACUUM	IN H2O	30	
					GAS METER		70%	

HYDROCARBON STRIPPER & VAPOR EXTRACTION SYSTEM W/ACU OR CAT			
PARAMETER	U/M	LIMIT	DATA
FLOWMETER	9997.4		
ROTAMETER			
VPI FLOW			
VPI VACUUM			
AIR COMPRES			
VAPOR			
INLET VAPOR			
TEMPERATURE			
LEL			

CATALIST IN	F		
CATALIST OUT	F		
EXHAUST HC	PPM/%		
EXHAUST CO	%PPM		
EXHAUST CO2	%		
EXHAUST NOX	%PPM		
CATALYST REPLACEMENT			
EXHAUST O2	%		
INLET	PPM		
OUTLET	PPM		

COMMENTS:

SERVICE TECHNICAN SERRAVALLO P. DATE 12.20.94 THRIFTY OIL CO # 054

APPENDIX B



ORANGE COAST ANALYTICAL, INC.

3002 Dow, Suite 532, Tustin, CA 92680
(714) 832-0064, Fax (714) 832-0067

Thrifty Oil Company
ATTN: Mr. Michael Cosby
10000 Lakewood Blvd.
Downey, CA 90240

Client Project ID: QUARTERLY WATER #054
Client Project #:

Sample Description: Water

Sampled : 12-07-94
Received: 12-09-94
Analyzed: 12-19-94
Reported: 01-09-95

Laboratory Reference #: TOC 4974

VOLATILE FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015m/8020)

Laboratory Sample Number	Client Sample Number	Volatile Fuel Hydrocarbons			Ethyl Benzene	Total Xylenes
		ug/l (ppb)	Benzene ug/l (ppb)	Toluene ug/l (ppb)	ug/l (ppb)	ug/l (ppb)
94120452	RE-1	30,000	3,200	2,900	1,200	4,600
94120453	RS-9	940	22	23	10	32
94120454	RE-2	NO SAMPLE----->				
94120455	RE-5	540	5.6	N.D.	N.D.	6.9
94120456	PW-2	510	1.8	N.D.	N.D.	1.7
94120457	PW-1	N.D.	N.D.	N.D.	N.D.	N.D.
94120458	RE-6	1,500	17	2.5	3.2	22
94120459	RS-9	130	2.5	1.9	1.3	3.6
94120460	RS-10	56	N.D.	N.D.	N.D.	2.1
94120461	TRIP BLANK	N.D.	N.D.	N.D.	N.D.	N.D.

Detection Limit: 50 0.3 0.3 0.5 0.5

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C14. Analytes reported as N.D. were not present above the stated limit of detection.

ORANGE COAST ANALYTICAL

Mark Noorani
Mark Noorani
Laboratory Director

**ORANGE COAST ANALYTICAL, INC.**

3002 Dow, Suite 532, Tustin, CA 92680

(714) 832-0064, Fax (714) 832-0067

Q C D A T A R E P O R T

Analysis: EPA 8015m / 8020

Date of Analysis: 12/19/94

Laboratory Sample No.: 94120469

Laboratory Reference No.: TOC 4974

Analyte	R1 (ppb)	SP (ppb)	MS (ppb)	MSD (ppb)	PR1 %	PR2 %	RPD %
Benzene	0.0	20	16	17	80	85	6
Toluene	0.0	20	17	18	85	90	6
Ethylbenzene	0.0	20	18	18	90	90	0
Hydrocarbons	0	250	200	240	80	96	18

R1 Results of First Analysis

SP Spike Concentration Added to Sample

MS Matrix Spike Results

MSD Matrix Spike Duplicate Results

PR1 Percent Recovery of MS: $\{(MS - R1) / SP\} \times 100$ PR2 Percent Recovery of MSD: $\{(MSD - R1) / SP\} \times 100$ RPD Relative Percent Difference: $\{(MSD - MS) / (MSD + MS)\} \times 100 \times 2$

ORANGE COAST ANALYTICAL

Mark Noorani
Laboratory Director



ORANGE COAST ANALYTICAL, INC.

3002 Dow, Suite 532
 Tustin, CA 92680
 (714) 832-0064, Fax (714) 832-0067

Analysis Request and Chain of Custody Record

Lab Job No: _____ of _____
 Page _____ of _____

REQUIRED TAT: _____

CUSTOMER INFORMATION			PROJECT INFORMATION				ANALYSIS METHOD REQUEST TPH - BTEX										REMARKS/PRECAUTIONS										
COMPANY:	T.O.C		PROJECT NAME:	QUARTERY WATER #054																							
SEND REPORT TO:	MICHAEL COSBY		NUMBER:																								
ADDRESS:	10000 LAKEWOOD BLVD DOWNEY CA 90240		LOCATION:																								
PHONE:	(310) 923-9876 FAX:		SAMPLED BY:	FLORIN SFETCU																							
SAMPLE ID	NO. IN CONTAINER	DATE	TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.																					
RE-1	2	12.07.94	15:05	WATER	V		x																				
RS-9	2	12.07.94	15:10	W-	V		x																				
RE-2	2	12.07.94	15:15	W-	V		x																				
RE-5	2	12.07.94	15:20	W-	V		x																				
PW-2	2	12.07.94	15:30	W-	V		x																				
PW-1	2	12.07.94	15:25	W-	V		x																				
RE-6	2	12.07.94	15:35	W-	V		x																				
RS-9	2	12.07.94	15:40	W-	V		x																				
RS-10	2	12.07.94	15:45	W-	V		x																				
TRIP BLANK	2	12.07.94	6:30	W-	V		x																				
Total No. of Samples: 20			Method of Shipment: GREY HOUND																								
Relinquished By:	Date/Time:	Received By: [Signature]		Date/Time: 12-09-94												Reporting Format: (check) NORMAL _____ S.D. HMMD _____ RWQCB _____ OTHER _____											
Relinquished By:	Date/Time:	Received By:		Date/Time:																							
Relinquished By:	Date/Time:	Received For Lab By:		Date/Time:												Sample Integrity: (check) intact _____ on ice _____											

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pickup samples.