

# THRIFTY OIL CO.

## ADDITIONAL SITE ASSESSMENT REPORT

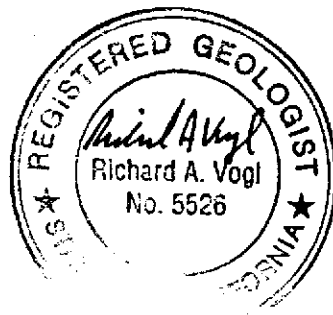
**THRIFTY OIL COMPANY STATION #054  
2504 CASTRO VALLEY BOULEVARD  
CASTRO VALLEY, CALIFORNIA**

**March 30, 1996**

**Submitted By:**

**Thrifty Oil Company  
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**Written by:**



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## **1.0 INTRODUCTION**

This additional Site Assessment has been conducted in response to the Alameda County Health Care Services Agency's request to fully characterize the lateral extent of groundwater contamination at Thrifty Oil Company (TOC) station number 054 located at 2504 Castro Valley Boulevard in Castro Valley, California (**Figure 1**).

Specifically, the County requested that TOC delineate the lateral extent of the offsite dissolved-phase groundwater contaminant plume downgradient of monitoring well RE-7. A Work Plan, dated May 20, 1994, was prepared for this additional assessment and approved by the County prior to conducting this investigation.

## **2.0 PREVIOUS INVESTIGATIONS**

There have been at least three previous investigations at the site. The first investigation was conducted by Hydrotech Consultants, Inc. and was summarized in the report titled "Subsurface Investigation for Petroleum Hydrocarbon Contamination Assessment", dated January 14, 1987. Four soil borings (B-1, B-2, B-3, and B-4, **Figure 2**) were drilled around the tanks to depths of 20 feet below grade. Evidence of hydrocarbon contamination was found in soil samples from all four borings. The affected soils were generally confined to the upper 10 feet.

A second investigation was conducted by Robert Elbert and Associates and was documented in the report titled "Report of Subsurface Investigation", dated April 11, 1988. This investigation was conducted to further define the extent of hydrocarbon contamination. Seven monitoring wells (RE-1 through RE-7, **Figure 2**) were drilled and installed at depths ranging from 15 to 25 feet below grade. Laboratory analysis of soil samples indicated that the main zone of soil contamination tends to trend northwest-southeast, through the former tank area.

The third investigation was performed by Remediation Services, Intl. (RSI). This investigation was performed to assess the potential for offsite contamination and included the installation of three groundwater monitoring wells (RS-8, RS-9, and RS-10, **Figure 2**). One well is directly east of the underground tanks, on the adjacent property (RS-8). The second well (RS-9) is located upgradient of the former underground storage tanks, to the west of the site on Stanton Avenue. The third well (RS-10) is located downgradient from the underground storage tanks, southeast of the site on Castro Valley Boulevard.

A SAVE system was installed in August, 1989. However, due to unanticipated delays in permits, the system was not started until April, 1990. The system was operated only during daylight hours recovering soil vapor during the first three months of operation. The equipment was moved in late June, 1990, and is now operating around the clock.

Groundwater occurs at a very shallow depth, approximately 5 to 6 feet below grade. The vapor extraction process has been operating in the vadose zone above the water table, and reducing free product levels.

### 3.0 GEOLOGY AND HYDROGEOLOGY

Soils encountered during drilling operations were reported to be fairly uniform across the site. They consisted of clay or clay with gravel and/or possible evaporites overlying clay with abundant siltstone gravel. Siltstone bedrock was encountered at depths of 15 feet or more in all wells or borings except RE-1, which was drilled to 25 feet below grade and did not encounter bedrock.

No groundwater was found by Hydrotech during their site investigation. However, groundwater was found by RSI and Robert Elbert & Associates at depths ranging from 6 to 8 feet during drilling operations. On March 30, 1988, after monitoring wells RE-1 through RE-7 were installed, the depth to groundwater was measured and the wellhead elevations were surveyed. It was determined that the water table elevations ranged from 158.64 to 161.87 feet above sea level (MSL).

A relative elevation survey was conducted on September 5, 1995 and September 21, 1995 for the monitoring wells at the Site (**Appendix B**). Groundwater depths were measured in the field to the nearest 0.01 feet. Groundwater occurs beneath the site under unconfined conditions at an approximate depth of 4.76 to 13.72 feet below grade. **The groundwater flow direction, based on this data, was estimated to be toward the southeast at an average horizontal hydraulic gradient of 0.03 feet per foot.** A groundwater elevation contour map for this data is included as **Figure 2**.

### 4.0 ADDITIONAL SITE ASSESSMENT

#### 4.1 Installation of Monitoring Well

The scope of work for this investigation included the installation of one offsite groundwater monitoring well (September 21, 1995). A copy of the soil boring and monitoring well completion logs for the boring/well are included in **Appendix A**.

The offsite monitoring well (RS-11) was installed southeast of the site (**Figure 2**). This monitoring well was installed in order to define the lateral extent of groundwater contamination within this area offsite. Groundwater was encountered during drilling activities at an approximate depth of 10 feet below grade.

A monitoring well permit was obtained from the County of Alameda, Zone 7, prior to installation of the monitoring wells. Soils generated during drilling activities were placed in

55-gallon drums, labeled, sealed, and stored on site, pending evaluation of disposal options.

A two-inch diameter schedule 40 PVC ground-water monitoring well was constructed through 8-inch diameter hollow-stem augers. Screen size consisted of 0.010 inch schedule 40 PVC slotted well screen and sand pack consisted of No.2/12 Monterey sand. This gravel pack and screen size was chosen based on data from previous site investigations conducted at the site. Monitoring wells were installed to an estimated depth of 25 feet below grade with the screened interval extending from approximately 5 feet below grade to 25 feet below grade. The monitoring well was installed in accordance with state and county standards. Monitoring wells were developed properly immediately following installation. Development included surging and bailing of groundwater prior to placing and hydrating the bentonite seal in each well. Development water was placed in 55-gallon drums, labeled, and stored onsite pending evaluation of disposal options.



#### 4.2 Soil Sample Results

Monitoring well RS-11 was installed with hollow-stem auger drilling rig using eight-inch diameter augers which were steam cleaned between each boring or well. Relatively undisturbed soil samples were collected at five foot intervals above and below the water table for lithologic description using the Unified Soils Classification System (USCS). Six soil samples were chosen for laboratory analysis from this boring. Soil samples were collected for laboratory analysis at approximately 5 foot intervals (5 feet, 10 feet, 15 feet, 20 feet, 24 feet, 28 feet), using a stainless-steel split spoon sampler that was lined with a clean brass rings. The sampler was steam cleaned between each sampling point. The brass ring closest to the drive shoe end of the sampler was removed from the sampler, covered with Teflon sheeting on each end, capped with plastic caps, labeled, and placed on ice for delivery to the laboratory. The soil collected from the second brass ring was used for lithologic description. Soil samples were also collected at approximately five foot intervals to the total depth of the boring (approximately 28 feet below the grade) for lithologic description. The soil samples chosen for laboratory analysis were delivered to a State of California certified laboratory following strict chain-of-custody procedures.

Soil samples were analyzed by American Analytics of Chatsworth, California, which is a State certified laboratory, for total petroleum hydrocarbons (TPH) as gasoline using EPA Method 8015 Modified. The soil samples were also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020.

The soil samples collected from soil boring RS-11 indicated that TPH and BTEX were not present within the vadose zone samples collected at concentrations above the laboratory detection limit in this boring. These results are summarized in Table 2. Laboratory reports and chain-of-custody forms are included in Appendix D.

### 4.3 Groundwater Sample Results

*Same day?*

A groundwater sample was collected from the new monitoring well (RS-11) at the Site, on September 21, 1995, following installation of the new monitoring well. Groundwater samples were also collected during quarterly monitoring activities on September 5, 1995. Groundwater samples were collected following purging of approximately four casing volumes. Temperature, pH, and specific conductivity were measured during the purging process to ensure that a representative groundwater samples were collected. Field data sheets are included in **Appendix C**. The monitoring wells were purged with a disposable bailers and new rope which was dedicated to each individual well. Groundwater samples were collected using the dedicated disposable bailers which were emptied with a bottom emptying device slowly into laboratory supplied VOA sample bottles. The groundwater samples were labeled, placed on ice, and delivered to a state certified laboratory under strict chain-of-custody procedures for analysis.

Ground-water samples were analyzed by American Analytics, which is a state certified laboratory for total petroleum hydrocarbons as gasoline using EPA Method 8015 Modified and for benzene, toluene, ethylbenzene, and xylene using EPA Method 8020.

Total petroleum hydrocarbons were detected in RS-11 at a concentration of 110 ppb. Petroleum hydrocarbons as gasoline were also detected in other wells at the site at concentrations ranging from below the laboratory detection limit to 4,400 ppb (RE-5). Benzene, toluene, ethylbenzene, and xylenes were not detected in the groundwater sample collected from RS-11 above the laboratory detection limit. BTEX concentrations detected in the groundwater samples collected from the other onsite wells ranged from below the laboratory detection limit to 440 ppb (RE-5). These results are summarized in **Table 1**, along with the historic sampling results for the other wells at the site.

The laboratory reports and chain-of-custody forms for groundwater samples are included in **Appendix E**. A TPH isoconcentration map of this data is included as **Figure 3**. A benzene isoconcentration map of this data is included as **Figure 4**.

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
Mar 8, 1995	<100	<0.5	<0.5	<0.5	<1		3.94
Jun 15, 1995	260	0.8	0.6	<0.5	3.2		5.72
Sep 5, 1995	330	2.1	<0.5	2.1	9.6		5.96



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	510	1.8	<0.3	<0.5	1.7		5.57
Mar 8, 1995	1900	<0.5	<0.5	1.4	35		4.10
Jun 15, 1995	1700	5.6	<0.5	<0.5	1.6		5.44
Sep 5, 1995	2500	33	1.0	0.86	18		6.13

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
Mar 8, 1995	28,000	4200	2300	810	7800		3.92
Jun 15, 1995	NSC						-- (Film)
Sep 5, 1995	NSC						4.78 (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
Sep 6, 1994	1300	43	45	8.9	69		5.16
Dec 7, 1994	NA	NA	NA	NA	NA		4.16
Mar 8, 1995	<100	<0.5	<0.5	<0.5	<1		3.96
Jun 15, 1995	130	<0.5	<0.5	<0.5	<1		4.52
Sep 5, 1995	210	<0.5	<0.5	<0.5	<1		4.76

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)
Mar 8, 1995	NSC						5.18 (Film)
Jun 15, 1995	NSC						-- (Film)
Sep 5, 1995	NSC						6.84 (Film)

TABLE I (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)
Mar 8, 1995	NSC						4.98 (Film)
Jun 15, 1995	NSC						-- (Film)
Sep 5, 1995	NSC						13.72 (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
Mar 8, 1995	1500	220	5.5	<0.5	83		5.2
Jun 15, 1995	3200	820	53	6.2	74		4.93
Sep 5, 1995	4400	440	72	<2.5	57		5.03

TABLE I (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
Mar 8, 1995	2500	460	5.5	2.1	51		5.12
Jun 15, 1995	2300	91	1.1	0.7	97		5.72
Sep 5, 1995	3300	60	<10	<10	74		5.94

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)
Mar 8, 1995	NSC						5.06 (Film)
Jun 15, 1995	NSC						-- (Film)
Sep 5, 1995	NSC						7.98 (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
Mar 8, 1995	<100	<0.5	<0.5	<0.5	<1		8.34
Jun 15, 1995	<100	1.0	<0.5	<0.5	<1		9.12
Sep 5, 1995	<100	<0.5	<0.5	<0.5	<1		9.56

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
Mar 8, 1995	1600	<0.5	<0.5	<0.5	2.3		4.57
Jun 15, 1995	3200	2.2	5.3	4.3	3.1		5.08
Sep 5, 1995	1100	<0.5	<0.5	<0.5	<1		5.72

TABLE 1 (Continued)

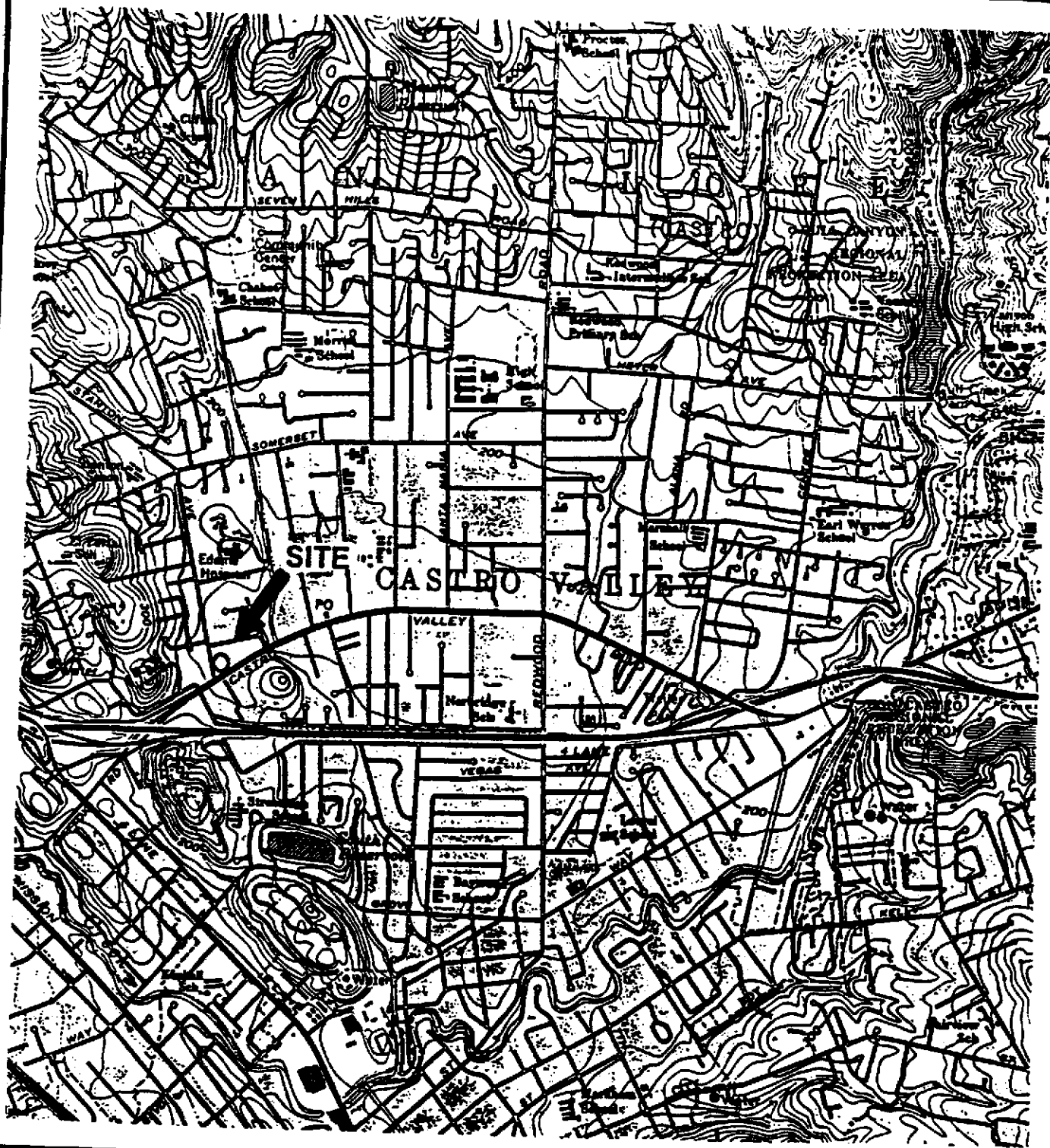
Monitoring Well RS-10							
Date	TPH	Benzene	Toluene	E-Benzene	Xylenes	Elevation	Depth to GW
Aug 7, 1991	ND	ND	ND	ND	ND	162.89	6.16
Sep 27, 1991	ND	ND	ND	ND	ND		6.48
Oct 23, 1991	ND	ND	ND	ND	ND		7.37
Nov 6, 1991	ND	ND	ND	ND	ND		6.44
Dec 4, 1991	ND	ND	ND	ND	ND		7.02
Jan 29, 1992	ND	ND	ND	ND	ND		6.78
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
Mar 8, 1995	<100	<0.5	<0.5	<0.5	<1		7.84
Jun 15, 1995	<100	<0.5	<0.5	<0.5	<1		6.97
Sep 5, 1995	<100	<0.5	<0.5	<0.5	<1		8.14
Monitoring Well RS-11							
Sep 21, 1995	110	<0.5	<0.5	<0.5	<1	163.28	9.97
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**  
**SOIL ANALYTICAL RESULTS IN PPM**  
**FOR WELL RS-11**

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<b>SAMPLE #</b>	<b>TPH</b>	<b>BENZENE</b>	<b>TOLUENE</b>	<b>ETHYLBENZENE</b>	<b>XYLENES</b>
<b>SAMPLED 09/21/95</b>					
RS-11-5	<1	<0.005	<0.005	<0.005	<0.01
RS-11-10	<1	<0.005	<0.005	<0.005	<0.01
RS-11-15	<1	<0.005	<0.005	<0.005	<0.01
RS-11-20	<1	<0.005	<0.005	<0.005	<0.01
RS-11-24	<1	<0.005	<0.005	<0.005	<0.01
RS-11-28	<1	<0.005	<0.005	<0.005	<0.01

---



A PORTION OF THE U.S.G.S. HAYWARD 7.5' QUADRANGLE

**LOCATION MAP**  
**THRIFTY OIL STATION NO. 054**  
**CASTRO VALLEY, CALIFORNIA**

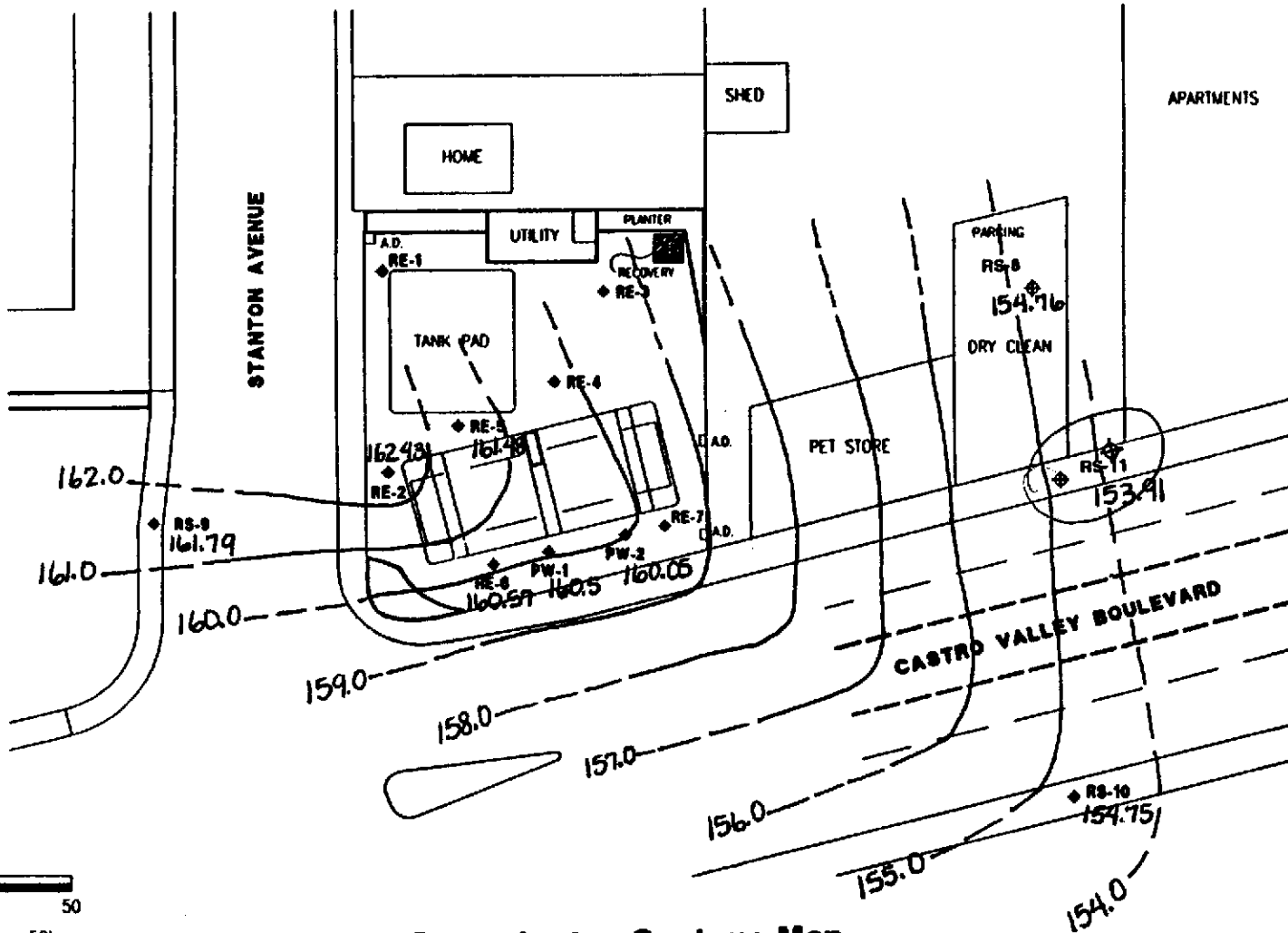
**THRIFTY OIL COMPANY**  
**DOWNEY, CALIFORNIA**



FIGURE 1

**LEGEND**

- ◆ RE-1 / MONITORING WELL
- A.D. AREA DRAIN
- ~ Groundwater Contour (09/05/95)



**Groundwater Contour Map**

REVISIONS	BY

TRINITY OIL COMPANY  
 13000 LAKEWOOD BLVD.  
 DANNETT, CA 94548  
 (708) 923-0078

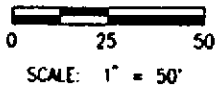
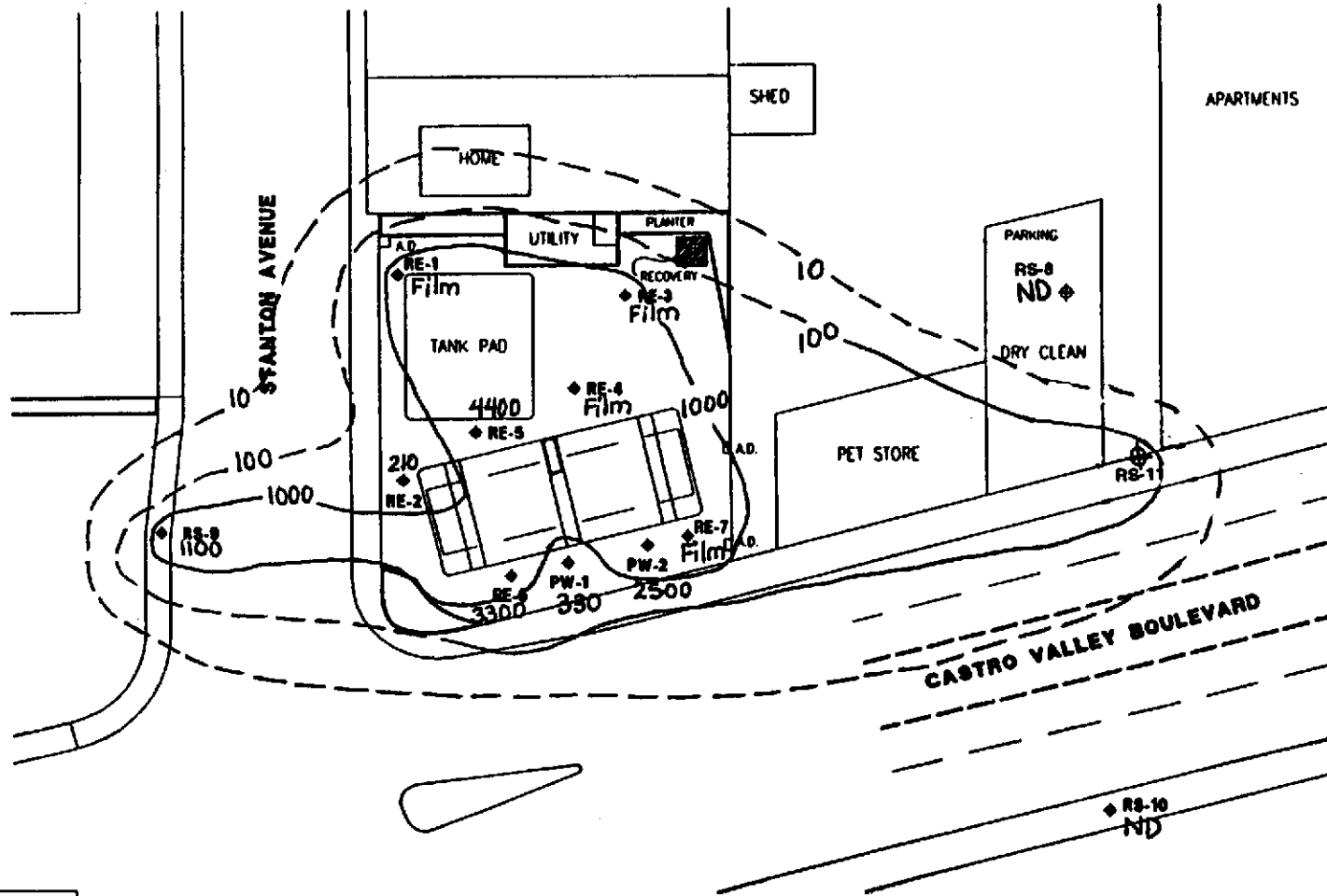
**TR**

STATION No. 054  
 CASTRO VALLEY BLVD./STANTON AVE.  
 CASTRO VALLEY, CA.

DRAWN BY (C)
05-04-94
1" = 50'-0"
2


**LEGEND**

- ◆ RE-1 / MONITORING WELL
- A.D. AREA DRAIN
- ~ TPH Contour (9/05/95, ugl)



**TPH Isoconcentration Map**

REVISIONS	BY

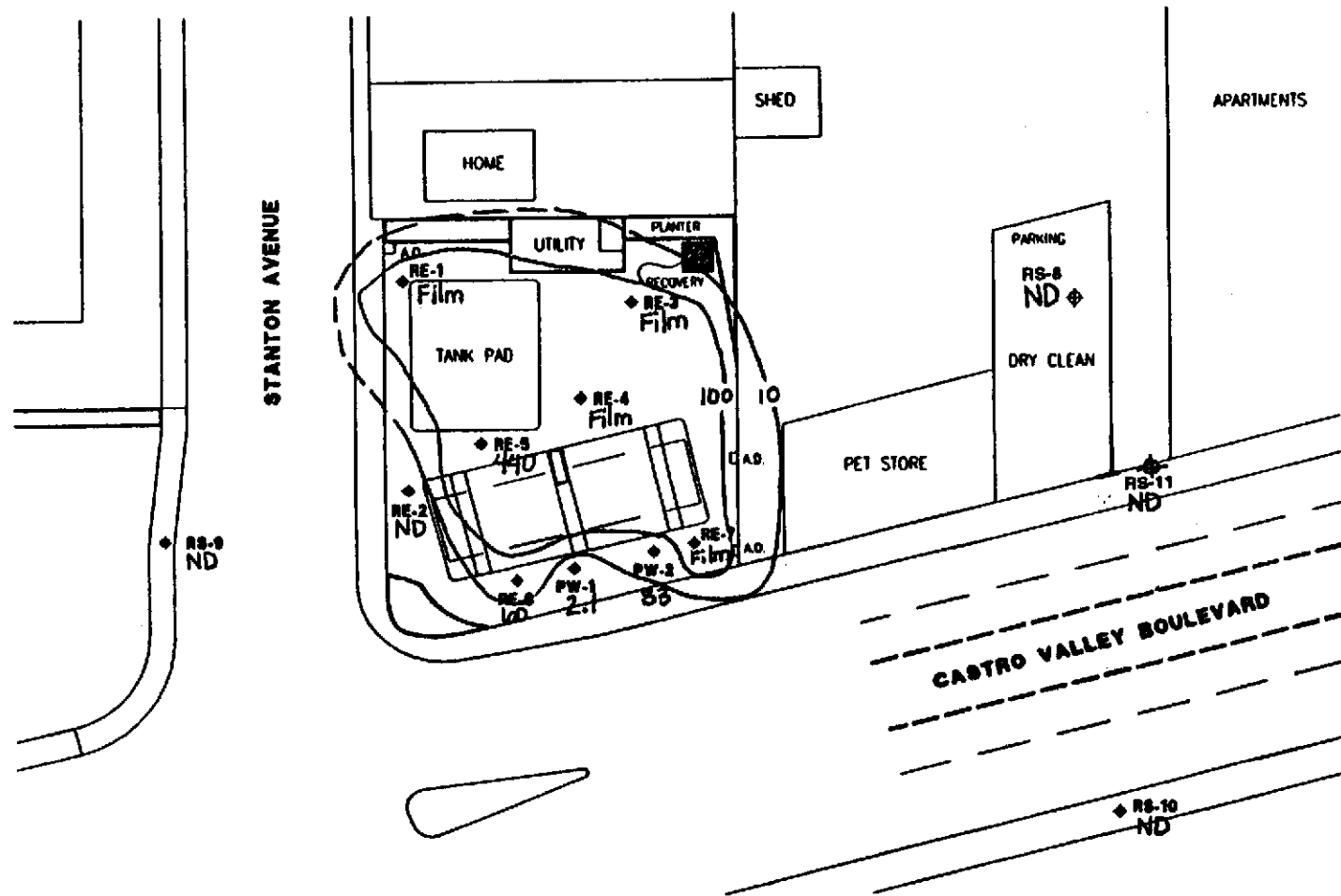
  
 TRIMITY OIL COMPANY  
 11400 LAKEWOOD BLVD.  
 CASTRO VALLEY, CA 94540  
 (925) 932-0070

STATION No. 054  
 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 (09/05/95, ug/l)



**Benzene Isoconcentration Map**

REVISIONS	BY

  
**TRIFTY OIL COMPANY**  
 14000 LAKEWOOD BLVD.  
 DUBLIN, CA 94568  
 (925) 832-0070

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

DRAWN BY: RCI 05-04-94 1" = 50'-0"
4



Depth, feet	WELL CONSTRUCTION		LITHOLOGY		SAMPLE DATA	
	Type of Security:	Graphic Log	Description	NUMBER	INTERNAL PENETRATION DATE (Blow/ft.)	
0	Concrete Heat Conduit 2' Bit Sch 40 PVC Blank Casings Semi-rigid Pillars		Silt SAND (SM) light yellow brown (2.5Y 5/4), slightly moist fine to medium, ≈ 15-20% silt			
5			Silt (CL) : light yellow brown (2.5Y 5/1), slightly moist trace medium sand, trace chert nodules 3/4" dia. nodules, ≈ 10-15% silt, fine; hard	11/17		RS-11-1
10			SANDY SILT (ML) : light yellowish brown (2.5Y 5/4), slightly moist, ≈ 30-40% angular medium to fine coarse sand, trace gravel to 3/4" dia, appears to be fractured green bedrock, trace calcite, hard brown mottled, calciche, trace little clay	9/1/20		RS-11-10
15	2" Dia. Sch 40 PVC D. 0.10" Slotted Well Screen		Siltstone (ML) : light yellowish brown, saturated fractures, weathered/fractured siltstone/shale bedrock, very dense	25/50		RS-11-15
20	3/4" Marked Sand		extremely weathered and fractured, slightly moist to moist, trace grey nodules.	35/55		RS-11-2
25	Lead Cap		dark grey (2.5Y 4/1), dry, very dense, slightly weathered and fractured. Slightly moist to moist	60 5" 50 5"		RS-11-2 RS-11-2
30						

Well Permit No.: \_\_\_\_\_  
 Date well drilled: 9-21-45  
 Date water level measured: \_\_\_\_\_  
 Well elevation: \_\_\_\_\_

Drilling Company: Nest Hazmat  
 Driller: Mike  
 Sampling Method: CSS  
 Hammer Weight: 14 lbs

Sketch of Well Location:  
 Survey ref. RS-10 - 5.74'  
 RS-11 - 5.35'

Geologist/Engineer: RAV

FIELD LOG OF WELL CONSTRUCTION AND LITHOLOGY FOR RS-11

Project No. TOC # 54



PROJECT STATUS REPORT  
 THRIFTY OIL CO. S.S. #054  
 2504 CASTRO VALLEY BLVD.  
 CASTRO VALLEY, CA 94546  
 DATE: 09/05/95

FREQ.	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	5.96				X					X	-					
M	PW-2	6.13				X					X	-					
M	RE-1	4.78	SHIN		X						X	-					
M	RE-2	4.76				X					X	-					
M	RE-3	6.84	SHIN		X						X	-					
M	RE-4	13.72	SHIN		X						X	-					
M	RE-5	5.03				X					X	-					
M	RE-6	5.94				X					X	-					
M	RE-7	7.98	SHIN		X						X	-					
M	RS-8	9.56				X					-	X					
M	RS-9	5.72				X					-	X					
M	RS-10	8.14				X					-	X					

SAVE SYSTEM WEEKLY

PARAMETER	U/M	DATA	PARAMETER	U/M	DATA
TIME	AM/PM		AIR FLOW	CFM	
WORKING	YES/NO		VAPOR FLOW	CFM	
RESTARTED	YES/NO		FUEL FLOW	CFM/H	
HOURS	#		WELL VACUUM	IN H2O	
ENGINE ROT.	RPM		LPG 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

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

REMARKS: QUARTERLY SAMPLING

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

DATA RECORDED BY: FLORIN & SERBAN INPUT BY: M.M. >FF054rsirt

## WATER-LEVEL MEASUREMENTS

**Project Name:** TDC # 54 Castro Valley

**Field Personnel:** PAN/RBD

**General Observations:**

**Project Number:** TDC # 54

**Date:** 7-21-95

WELL NO.	WELL ELEVATION	WATER-LEVEL MEASUREMENTS		DEPTH TO WATER	REMARKS (UNITS = FEET)
		1	2		
PW-1		8.24			
RE-6		5.86			
RE-4		5.59			
RS-9		2.71	screen		
RE-5		4.57			
RE-2		4.02			
RS-10		8.33			
RS-11		9.37			

2 drums soil, 1 drum H<sub>2</sub>O

## FIELD DATA - GROUNDWATER SAMPLING PROGRAM

Site	<u>SS # 054</u>	Date	<u>09/05/95</u>
Address	_____		
Personnel	<u>FLORIN &amp; SERBAN</u>	Weather	<u>SUNNY</u>
Well No.	<u>RS-9</u>	Equip.	<u>BAICER</u>

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

<b>Sampling Data</b>					
Initial Turbidity	Final Turbidity				
Time	<u>10:27</u>	<u>10:30</u>	<u>10:33</u>	<u>10:36</u>	<u>10:40</u>
EC	<u>1980</u>	<u>2010</u>	<u>2010</u>	<u>1990</u>	<u>1990</u>
pH	<u>4.58</u>	<u>4.60</u>	<u>4.62</u>	<u>4.58</u>	<u>4.58</u>
Temp	<u>72.4</u>	<u>72.5</u>	<u>72.2</u>	<u>72.1</u>	<u>71.9</u>
Gal.	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</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>SS # 054</u>	Date	<u>9/05/95</u>
Address	_____		
Personnel	<u>FLORIN &amp; SERBAN</u>	Weather	<u>SUNNY</u>
Well No.	<u>RE-2</u>	Equip.	<u>BAICER</u>

<b>Before Purging</b>			
Total Well Depth	<u>17.10</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>4.76</u>	ft.	Est. Purge Vol. <u>32 gal</u>

Sampling Data						
	Initial Turbidity			Final Turbidity		
Time	<u>10:50</u>	<u>10:59</u>	<u>11:00</u>	<u>11:07</u>	<u>11:14</u>	<u>11:20</u>
EC	<u>70</u>	<u>690</u>	<u>680</u>	<u>680</u>	<u>670</u>	<u>670</u>
pH	<u>5.03</u>	<u>5.04</u>	<u>5.06</u>	<u>5.07</u>	<u>5.07</u>	<u>5.08</u>
Temp	<u>72.3</u>	<u>72.1</u>	<u>71.9</u>	<u>71.9</u>	<u>71.8</u>	<u>71.6</u>
Gal.	<u>6</u>	<u>11</u>	<u>17</u>	<u>22</u>	<u>27</u>	<u>32</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>SS # 054</u>	Date	<u>9/05/95</u>
Address	_____		
Personnel	<u>FLORIN &amp; SERBAN</u>	Weather	<u>SUNNY</u>
Well No.	<u>RES</u>	Equip.	<u>BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>18.25</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>5.03</u>	ft.	Est. Purge Vol. <u>34 gal.</u>

<b>Sampling Data</b>						
	Initial Turbidity			Final Turbidity		
Time	<u>11:32</u>	<u>11:46</u>	<u>11:51</u>	<u>11:56</u>	<u>12:00</u>	<u>12:03</u>
EC	<u>220</u>	<u>210</u>	<u>6.80</u>	<u>6.80</u>	<u>6.60</u>	<u>6.60</u>
pH	<u>4.61</u>	<u>4.61</u>	<u>4.58</u>	<u>4.58</u>	<u>4.58</u>	<u>4.58</u>
Temp	<u>71.9</u>	<u>71.7</u>	<u>71.3</u>	<u>70.8</u>	<u>70.6</u>	<u>70.5</u>
Gal.	<u>6</u>	<u>12</u>	<u>18</u>	<u>23</u>	<u>28</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>SS # 054</u>	Date <u>9/05/95</u>
Address _____	
Personnel <u>FLORIN &amp; SERBAN</u>	Weather <u>SUNNY</u>
Well No. <u>RS-8</u>	Equip. <u>BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>25.20</u>	ft.	Well Diameter <u>2</u> <sup>4</sup>
Depth to Water	<u>9.56</u>	ft.	Est. Purge Vol. <u>10 Gal</u>

Sampling Data						
Initial Turbidity						Final Turbidity
Time	<u>12:07</u>	<u>12:10</u>	<u>12:13</u>	<u>12:16</u>	<u>12:18</u>	<u>12:20</u>
EC	<u>2930</u>	<u>2870</u>	<u>2870</u>	<u>2860</u>	<u>2840</u>	<u>2740</u>
pH	<u>4.66</u>	<u>4.65</u>	<u>4.65</u>	<u>4.64</u>	<u>4.64</u>	<u>4.64</u>
Temp	<u>71.3</u>	<u>71.1</u>	<u>71.8</u>	<u>71.6</u>	<u>71.4</u>	<u>71.3</u>
Gal.	<u>2</u>	<u>3</u>	<u>5</u>	<u>7</u>	<u>9</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>SS # 054</u>	Date	<u>9/05/95</u>
Address	_____		
Personnel	<u>FURIN &amp; SERBAN</u>	Weather	<u>SUNNY</u>
Well No.	<u>RS-10</u>	Equip.	<u>BULLER</u>

<b>Before Purging</b>			
Total Well Depth	<u>24.45</u>	ft.	Well Diameter <u>2"</u>
Depth to Water	<u>8.14</u>	ft.	Est. Purge Vol. <u>11 gal</u>

<b>Sampling Data</b>						
Initial Turbidity	Final Turbidity					
Time	<u>12:26</u>	<u>12:32</u>	<u>12:38</u>	<u>12:43</u>	<u>12:46</u>	<u>12:50</u>
EC	<u>1660</u>	<u>1650</u>	<u>1640</u>	<u>1640</u>	<u>1690</u>	<u>1640</u>
pH	<u>4.68</u>	<u>4.65</u>	<u>4.65</u>	<u>4.65</u>	<u>4.64</u>	<u>4.64</u>
Temp	<u>71.6</u>	<u>71.5</u>	<u>71.2</u>	<u>71.2</u>	<u>70.6</u>	<u>70.5</u>
Gal.	<u>2</u>	<u>4</u>	<u>6</u>	<u>8</u>	<u>10</u>	<u>11</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>SS # 054</u>	Date <u>9/05/97</u>
Address _____	
Personnel <u>FLORIN &amp; SERBAN</u>	Weather <u>SUNNY</u>
Well No. <u>RE-6</u>	Equip. <u>BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>13.65</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>5.94</u>	ft.	Est. Purge Vol. <u>20 Gal</u>

<b>Sampling Data</b>						
Initial Turbidity	Final Turbidity					
Time	<u>12:58</u>	<u>13:04</u>	<u>13:09</u>	<u>13:15</u>	<u>13:20</u>	_____
EC	<u>2040</u>	<u>2050</u>	<u>1990</u>	<u>1990</u>	<u>1990</u>	_____
pH	<u>4.64</u>	<u>4.65</u>	<u>4.63</u>	<u>4.63</u>	<u>4.64</u>	_____
Temp	<u>73.2</u>	<u>73.1</u>	<u>72.7</u>	<u>72.3</u>	<u>71.8</u>	_____
Gal.	<u>4</u>	<u>8</u>	<u>12</u>	<u>16</u>	<u>20</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>SS # 054</u>	Date	<u>9/05/95</u>
Address	_____		
Personnel	<u>FLORIN &amp; SERBAN</u>	Weather	<u>SUNNY</u>
Well No.	<u>PW-1</u>	Equip.	<u>BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>14.10</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>5.96</u>	ft.	Est. Purge Vol. <u>21 gal</u>

Initial Turbidity		Final Turbidity				
Time	<u>13:28</u>	<u>13:34</u>	<u>13:40</u>	<u>13:46</u>	<u>13:53</u>	<u>14:00</u>
EC	<u>740</u>	<u>760</u>	<u>780</u>	<u>780</u>	<u>770</u>	<u>710</u>
pH	<u>4.78</u>	<u>4.80</u>	<u>4.76</u>	<u>4.76</u>	<u>4.76</u>	<u>4.75</u>
Temp	<u>74.1</u>	<u>73.2</u>	<u>72.7</u>	<u>72.7</u>	<u>72.4</u>	<u>71.5</u>
Gal.	<u>3</u>	<u>6</u>	<u>9</u>	<u>13</u>	<u>18</u>	<u>21</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>SS # 054</u>	Date	<u>9/05/95</u>
Address	_____		
Personnel	<u>FLORIN &amp; SERBAN</u>	Weather	<u>SUKINY</u>
Well No.	<u>PW-2</u>	Equip.	<u>BAILER</u>

<b>Before Purging</b>			
Total Well Depth	<u>14.40</u>	ft.	Well Diameter <u>4"</u>
Depth to Water	<u>6.13</u>	ft.	Est. Purge Vol. <u>22</u>

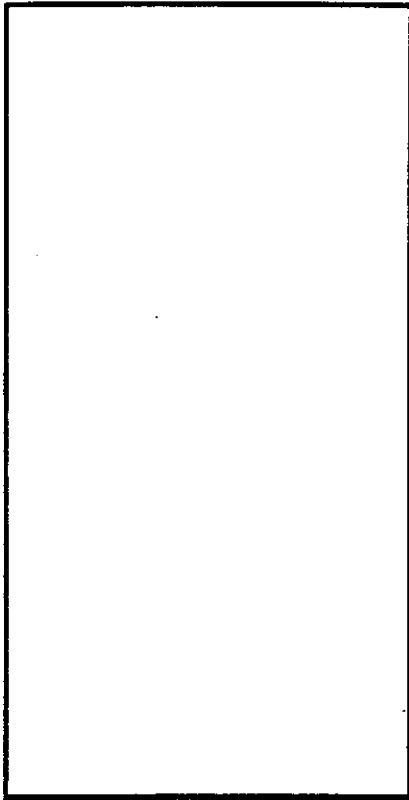
Initial Turbidity		Final Turbidity			
Time	<u>14:13</u>	<u>14:18</u>	<u>14:24</u>	<u>14:30</u>	<u>14:35</u>
EC	<u>680</u>	<u>680</u>	<u>690</u>	<u>690</u>	<u>690</u>
pH	<u>4.86</u>	<u>4.82</u>	<u>4.84</u>	<u>4.84</u>	<u>4.84</u>
Temp	<u>72.3</u>	<u>72.1</u>	<u>71.6</u>	<u>71.4</u>	<u>71.3</u>
Gal.	<u>4</u>	<u>9</u>	<u>13</u>	<u>18</u>	<u>22</u>
Time	_____	_____	_____	_____	_____
EC	_____	_____	_____	_____	_____
pH	_____	_____	_____	_____	_____
Temp	_____	_____	_____	_____	_____
Gal.	_____	_____	_____	_____	_____

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

# WATER-QUALITY SAMPLING INFORMATION

Project Name TOC 454  
 Date 9-21-95  
 Samplers Name PAI/P3  
 Sampling Location Cosmo 1/4 mi  
 Sampling Method baiber  
 Analyses Requested 9015/8020  
 Number and Types of Sample Bottles used 2 VOA  
 Method of Shipment ICE

Project No. DC 454  
 Sample No. RS-11-92195



<p><b>GROUND WATER</b></p> <p>Well No. <u>RS-11</u></p> <p>Well Diameter (in.) <u>2"</u></p> <p>Depth to Water, Static (ft) <u>9.37</u></p> <p>Water in Well Box _____</p> <p>Well Depth (ft) <u>25</u></p> <p>Height of Water Column in Well <u>15.63</u></p> <p>Water Volume in Well <u>2.5</u></p> <p>Total Well Volumes to be Extracted <u>4</u></p> <p>Total Gallons to be Purged <u>10</u></p>	<p><b>SURFACE WATER</b></p> <p>Stream Width _____</p> <p>Stream Depth _____</p> <p>Stream Velocity _____</p> <p>Rained recently? _____</p> <p>Other _____</p> <p>2-inch casing = 0.16 gal/ft</p> <p>4-inch casing = 0.65 gal/ft</p> <p>5-inch casing = 1.02 gal/ft</p> <p>6-inch casing = 1.47 gal/ft</p>
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LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm) X 1000	OTHER		REMARKS
						Turbidity		
3:00		Started bailer						
3:10		2.5	78.3	6.38	6.49	50	NTU	
3:15		5.0	76.3	6.39	2.60	65.6	NTU	
3:18		7.5	74.3	6.38	2.23	110	NTU	
3:30		10.0	75.2	6.37	2.26	110	NTU	Sampled

Suggested Method for Purging Well \_\_\_\_\_



**LABORATORY ANALYSIS RESULTS**

**Client:** Thrifty Oil Company  
**Project No.:** N/A  
**Project Name:** SS# 054  
**Sample Matrix:** Soil  
**Method:** EPA 8015M (Gasoline)

**AA Project No.:** A135054-18  
**Date Received:** 09/25/95  
**Date Reported:** 10/06/95  
**Units:** mg/Kg

AA I.D. No.	Client I.D. No.	Date Sampled	Date Analyzed	Results	MRL
38239	RS-11-5	09/21/95	09/29/95	<1	1
38240	RS-11-10	09/21/95	09/29/95	<1	1
38241	RS-11-15	09/21/95	09/29/95	<1	1
38242	RS-11-20	09/21/95	09/29/95	<1	1
38243	RS-11-24	09/21/95	09/29/95	<1	1
38244	RS-11-28	09/21/95	09/29/95	<1	1

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

**George Havalias**  
**Laboratory Director**



LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS# 054  
Method: EPA 8015M (Gasoline)  
Sample ID: Matrix Spike  
Concentration: 1 mg/Kg

AA ID No.: 38342  
Project No.: N/A  
AA Project No.: A135054-18  
Date Analyzed: 09/29/95  
Date Reported: 10/06/95

Compounds	Result (mg/Kg)	Spike Recovery (%)	Dup. Result (mg/Kg)	Spike/Dup. Recovery (%)	RPD (%)	Accept. Rec. Range (%)
Gasoline Range Organics	1.04	104	1.04	104	0	51 - 149

George Havallas  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS# 054  
Sample Matrix: Soil  
Method: EPA 8020 (BTEX)

AA Project No.: A135054-18  
Date Received: 09/25/95  
Date Reported: 10/06/95  
Units: mg/Kg

Date Sampled:	09/21/95	09/21/95	09/21/95	09/21/95	
Date Analyzed:	09/29/95	09/29/95	09/29/95	09/29/95	
AA ID No.:	38239	38240	38241	38242	
Client ID No.:	RS-11-5	RS-11-10	RS-11-15	RS-11-20	MRL
<b>Compounds:</b>					
Benzene	<0.005	<0.005	<0.005	<0.005	0.005
Ethylbenzene	<0.005	<0.005	<0.005	<0.005	0.005
Toluene	<0.005	<0.005	<0.005	<0.005	0.005
Xylenes	<0.01	<0.01	<0.01	<0.01	0.01



George Havalias  
Laboratory Director



LABORATORY ANALYSIS RESULTS

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS# 054  
Sample Matrix: Soil  
Method: EPA 8020 (BTEX)

AA Project No.: A135054-18  
Date Received: 09/25/95  
Date Reported: 10/06/95  
Units: mg/Kg

Date Sampled:	09/21/95	09/21/95	
Date Analyzed:	09/29/95	09/29/95	
AA ID No.:	38243	38244	
Client ID No.:	RS-11-24	RS-11-28	MRL
<b>Compounds:</b>			
Benzene	<0.005	<0.005	0.005
Ethylbenzene	<0.005	<0.005	0.005
Toluene	<0.005	<0.005	0.005
Xylenes	<0.01	<0.01	0.01

MRL: Method Reporting Limit

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



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George Havalias  
Laboratory Director





LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS# 054  
Method: EPA 8020 (BTEX)  
Sample ID: Matrix Spike  
Concentration: 0.04 mg/Kg

AA ID No.: 38342  
Project No.: N/A  
AA Project No.: A135054-18  
Date Analyzed: 09/29/95  
Date Reported: 10/06/95

Compounds	Result (mg/Kg)	Spike Recovery (%)	Dup. Result (mg/Kg)	Spike/Dup. Recovery (%)	RPD (%)	Accept. Rec. Range (%)
Benzene	0.0498	125.00	0.0392	98.00	24.22	65 - 135
Ethylbenzene	0.0424	106.00	0.0392	98.00	7.84	77 - 123
Toluene	0.0502	126.00	0.0403	101.00	22.03	66 - 134
Xylenes	0.0403	101.00	0.0504	126.00	22.03	73 - 126

George Havalias  
Laboratory Director

## CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: <i>TOC # 54</i>	Field Logbook No.:	Date: <i>9-21-95</i>	Serial No.: <b>Nº N- 5302</b>
Project Name: <i>Thrifty # 54</i>	Project Location: <i>Castro Valley</i>		

SAMPLER (Signature): <i>David A. Vogt</i>				ANALYSES										SAMPLERS: <i>RAW</i>			
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	ANALYSES										REMARKS	
						EPA 601	EPA 624	TPH (602)	BTEX (602)	HOLD	RUSH						
<i>RS-11-5</i>	<i>9-21-95</i>		<i>38239</i>	<i>1</i>	<i>Soil</i>			<i>X</i>	<i>X</i>								
<i>RS-11-10</i>			<i>38240</i>	<i>1</i>	<i>"</i>			<i>X</i>	<i>X</i>								
<i>RS-11-15</i>			<i>38241</i>	<i>1</i>	<i>"</i>			<i>X</i>	<i>X</i>								
<i>RS-11-20</i>			<i>38242</i>	<i>1</i>	<i>"</i>			<i>X</i>	<i>X</i>								
<i>RS-11-24</i>			<i>38243</i>	<i>1</i>	<i>"</i>			<i>X</i>	<i>X</i>								
<i>RS-11-28</i>			<i>38244</i>	<i>1</i>	<i>"</i>			<i>X</i>	<i>X</i>								
<i>RS-11-92195</i>		<i>↓</i>	<i>38245</i>	<i>3</i>	<i>Water</i>			<i>X</i>	<i>X</i>								

RELINQUISHED BY: (Signature) <i>David A. Vogt</i>	DATE	TIME	RECEIVED BY: (Signature) <i>Michael Ryzik</i>	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector: <i>Thrifty Oil</i>	Analytical Laboratory:
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~~LEWIS & CLARK~~  
 1929 Main Street, Suite 750  
 Irvine, California 92714  
 (714) 955-5800 FAX (714) 965-0683

A-135054-18



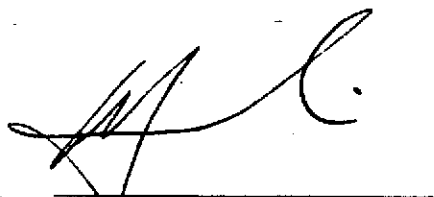
**LABORATORY ANALYSIS RESULTS**

**Client:** Thrifty Oil Company  
**Project No.:** N/A  
**Project Name:** SS# 054  
**Sample Matrix:** Water  
**Method:** EPA 8015M (Gasoline)

**AA Project No.:** A135054-16  
**Date Received:** 09/07/95  
**Date Reported:** 10/02/95  
**Units:** ug/L

AA I.D. No.	Client I.D. No.	Date Sampled	Date Analyzed	Results	MRL
37578	Trip Blank	09/05/95	09/08/95	<100	100
37579	RS-9	09/05/95	09/08/95	1100	100
37580	RE-2	09/05/95	09/08/95	210	100
37581	RE-5	09/05/95	09/08/95	4400	100
37582	RS-8	09/05/95	09/08/95	<100	100
37583	RS-10	09/05/95	09/08/95	<100	100
37584	RE-6	09/05/95	09/08/95	3300	100
37585	PW-1	09/05/95	09/08/95	330	100
37586	PW-2	09/05/95	09/11/95	2500	100

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



George Havalias  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS# 054  
Sample Matrix: Water  
Method: EPA 8020 (BTEX)

AA Project No.: A135054-16  
Date Received: 09/07/95  
Date Reported: 10/02/95  
Units: ug/L

Date Sampled:	09/05/95	09/05/95	09/05/95	09/05/95	
Date Analyzed:	09/08/95	09/08/95	09/08/95	09/08/95	
AA ID No.:	37578	37579	37580	37581	
Client ID No.:	Trip Blank	RS-9	RE-2	RE-5	MRL
<b><u>Compounds:</u></b>					
Benzene	<0.5	<0.5	<0.5	440	0.5
Ethylbenzene	<0.5	<0.5	<0.5	<2.5	0.5
Toluene	<0.5	<0.5	<0.5	22	0.5
Xylenes	<1	<1	<1	57	1

George Havalias  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS# 054  
Sample Matrix: Water  
Method: EPA 8020 (BTEX)

AA Project No.: A135054-16  
Date Received: 09/07/95  
Date Reported: 10/02/95  
Units: ug/L

Date Sampled:	09/05/95	09/05/95	09/05/95	09/05/95	
Date Analyzed:	09/08/95	09/08/95	09/08/95	09/08/95	
AA ID No.:	37582	37583	37584	37585	
Client ID No.:	RS-8	RS-10	RE-6	PW-1	MRL
<b>Compounds:</b>					
Benzene	<0.5	<0.5	60	2.1	0.5
Ethylbenzene	<0.5	<0.5	<10	2.1	0.5
Toluene	<0.5	<0.5	<10	<0.5	0.5
Xylenes	<1	<1	74	9.6	1

George Havalias  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Client: Thrifty Oil Company  
Project No.: N/A  
Project Name: SS# 054  
Sample Matrix: Water  
Method: EPA 8020 (BTEX)

AA Project No.: A135054-16  
Date Received: 09/07/95  
Date Reported: 10/02/95  
Units: ug/L

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Date Sampled:	09/05/95	
Date Analyzed:	09/11/95	
AA ID No.:	37586	
Client ID No.:	PW-2	

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<u>Compounds:</u>		MRL
Benzene	33	0.5
Ethylbenzene	0.86	0.5
Toluene	1.0	0.5
Xylenes	18	1

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MRL: Method Reporting Limit

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

George Havalias  
Laboratory Director



**LABORATORY QA/QC REPORT**

**Client:** Thrifty Oil Company  
**Project Name:** SS# 054  
**Method:** EPA 8020 (BTEX)  
**Sample ID:** Matrix Spike  
**Concentration:** 20 ug/L

**AA ID No.:** 37576  
**Project No.:** N/A  
**AA Project No.:** A135054-16  
**Date Analyzed:** 09/08/95  
**Date Reported:** 10/02/95

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept.Rec. Range (%)
Benzene	21.849	109	21.858	109	0	65 - 135
Ethylbenzene	19.245	96	19.115	96	0	77 - 123
Toluene	19.489	97	19.661	98	1	66 - 134
Xylenes	19.621	98	19.852	99	1	73 - 127

**George Havalias**  
**Laboratory Director**



**LABORATORY QA/QC REPORT**

**Client:** Thrifty Oil Company  
**Project Name:** SS# 054  
**Method:** EPA 8020 (BTEX)  
**Sample ID:** Matrix Spike  
**Concentration:** 20 ug/L

**AA ID No.:** 37636  
**Project No.:** N/A  
**AA Project No.:** A135054-16  
**Date Analyzed:** 09/11/95  
**Date Reported:** 10/02/95

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept. Rec. Range (%)
Benzene	21.143	106	19.124	96	10	65 - 135
Ethylbenzene	20.354	102	19.371	97	5	77 - 123
Toluene	20.534	103	19.554	98	5	66 - 134
Xylenes	20.630	103	19.554	98	5	73 - 127

**George Havalias**  
**Laboratory Director**






**LABORATORY QA/QC REPORT**

**Client:** Thrifty Oil Company  
**Project Name:** SS# 054  
**Method:** EPA 8015M (Gasoline)  
**Sample ID:** Matrix Spike  
**Concentration:** 500 ug/L

**AA ID No.:** 37576  
**Project No.:** N/A  
**AA Project No.:** A135054-16  
**Date Analyzed:** 09/08/95  
**Date Reported:** 10/02/95

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept.Rec. Range (%)
Gasoline Range Organics	620	124	588	118	5	51 - 149

  
George Havalias  
Laboratory Director

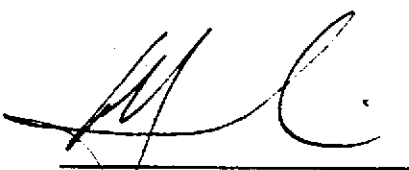


LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS# 054  
Method: EPA 8015M (Gasoline)  
Sample ID: Matrix Spike  
Concentration: 500 ug/L

AA ID No.: 37586  
Project No.: N/A  
AA Project No.: A135054-16  
Date Analyzed: 09/11/95  
Date Reported: 10/02/95

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept.Rec. Range (%)
Gasoline Range Organics	500	100	485	97	3	51 - 149



George Havalias  
Laboratory Director



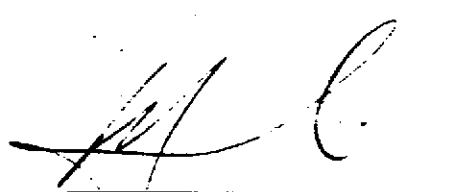
**LABORATORY ANALYSIS RESULTS**

**Client:** Thrifty Oil Company  
**Project No.:** N/A  
**Project Name:** SS# 054  
**Sample Matrix:** Water  
**Method:** EPA 8015M (Gasoline)

**AA Project No.:** A135054-18  
**Date Received:** 09/25/95  
**Date Reported:** 10/06/95  
**Units:** ug/L

AA I.D. No.	Client I.D. No.	Date Sampled	Date Analyzed	Results	MRL
38245	RS-11-92195	09/21/95	09/29/95	110	100

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

  
George Havalias  
Laboratory Director



LABORATORY QA/QC REPORT

Page 1

Client: Thrifty Oil Company  
Project Name: SS# 054  
Method: EPA 8015M (Gasoline)  
Sample ID: Matrix Spike  
Concentration: 500 ug/L

AA ID No.: 38245  
Project No.: N/A  
AA Project No.: A135054-18  
Date Analyzed: 09/29/95  
Date Reported: 10/06/95

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept.Rec. Range (%)
Gasoline Range Organics	500	100	520	104	4	51 - 149

George Havalias  
Laboratory Director



**LABORATORY ANALYSIS RESULTS**

Page 1

**Client:** Thrifty Oil Company  
**Project No.:** N/A  
**Project Name:** SS# 054  
**Sample Matrix:** Water  
**Method:** EPA 8020 (BTEX)

**AA Project No.:** A135054-18  
**Date Received:** 09/25/95  
**Date Reported:** 10/06/95  
**Units:** ug/L

<b>Date Sampled:</b>	09/21/95	
<b>Date Analyzed:</b>	09/29/95	
<b>AA ID No.:</b>	38245	
<b>Client ID No.:</b>	RS-11-92195	<b>MRL</b>
<b>Compounds:</b>		
Benzene	<0.5	0.5
Ethylbenzene	<0.5	0.5
Toluene	<0.5	0.5
Xylenes	<1	1

MRL: Method Reporting Limit

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

**George Havalias**  
**Laboratory Director**



LABORATORY QA/QC REPORT

Client: Thrifty Oil Company  
Project Name: SS# 054  
Method: EPA 8020 (BTEX)  
Sample ID: Matrix Spike  
Concentration: 20 ug/L

AA ID No.: 38245  
Project No.: N/A  
AA Project No.: A135054-18  
Date Analyzed: 09/29/95  
Date Reported: 10/06/95

Compounds	Result (ug/L)	Spike Recovery (%)	Dup. Result (ug/L)	Spike/Dup. Recovery (%)	RPD (%)	Accept. Rec. Range (%)
Benzene	24.918	125	19.612	98	24	65 - 135
Ethylbenzene	19.626	98	21.229	106	8	77 - 123
Toluene	20.151	101	25.138	126	22	66 - 134
Xylenes	20.183	101	25.239	126	22	73 - 127

George Havalias  
Laboratory Director



# AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311

DATE: 09/05/95

(818) 998-5547

(818) 998-5548

1-800-533-TEST

1-800-533-8378

FAX (818) 998-7258

PAGE 1 OF 1

AA Client <u>THRIFTY OIL CO</u>						Phone <u>(310) 923-9876</u>		Sampler's Name <u>FLORIN SFETCU &amp; SERBAN</u>								
Project Manager <u>CHRIS PANAITESCU</u>						P.O. No.		Sampler's Signature								
Project Name <u>SS # 054</u>						Project No.		Project Manager's Signature								
Job Name and Address <u>MONTHLY &amp; QUARTERLY SAMPLING</u>						<b>ANALYSIS REQUIRED</b>				Test Requirements						
						Detection Limits		Test Name								
AA ID.#	Client's ID.	Date	Time	Sample Type	Number of Containers	T	P	B	T							
<u>37578</u>	<u>TRIP BLANK</u>	<u>9.05.95</u>	<u>7:00</u>	<u>WATER</u>	<u>2</u>	x	x									
<u>37579</u>	<u>RS-9</u>	<u>9.05.95</u>	<u>14:45</u>	<u>u-</u>	<u>2</u>	x	x									
<u>37580</u>	<u>RE-2</u>	<u>9.05.95</u>	<u>14:55</u>	<u>u-</u>	<u>2</u>	x	x									
<u>37581</u>	<u>RE-5</u>	<u>9.05.95</u>	<u>15:05</u>	<u>u-</u>	<u>2</u>	x	x									
<u>37582</u>	<u>RS-8</u>	<u>9.05.95</u>	<u>15:15</u>	<u>u-</u>	<u>2</u>	x	x									
<u>37583</u>	<u>RS-10</u>	<u>9.05.95</u>	<u>15:25</u>	<u>u-</u>	<u>2</u>	x	x									
<u>37584</u>	<u>RE-6</u>	<u>9.05.95</u>	<u>15:35</u>	<u>u-</u>	<u>2</u>	x	x									
<u>37585</u>	<u>PW-1</u>	<u>9.05.95</u>	<u>15:45</u>	<u>u-</u>	<u>2</u>	x	x									
<u>37586</u>	<u>PW-2</u>	<u>9.05.95</u>	<u>15:55</u>	<u>u-</u>	<u>2</u>	x	x									
<b>SAMPLE INTEGRITY-TO BE FILLED IN BY RECEIVING LAB</b>						Relinquished by:		Date	Time	Received by:						
						Samples Intact Yes _____ No _____						Relinquished by:		Date <u>07/95</u>	Time <u>10:25</u>	Received by: <u>Melvin Ray</u>
						Samples Properly Cooled Yes _____ No _____						Relinquished by:		Date	Time	Received by:
						Samples Accepted Yes _____ No _____						Relinquished by:		Date	Time	Received by:
If Not Why: _____						Relinquished by:		Date	Time	Received by:						
AA Project No. <u>1125054-16</u>						Relinquished by:		Date	Time	Received by:						