

**RSI**

**REMEDIAATION SERVICE, INT'L.**

P.O. BOX 1601, OXNARD, CALIFORNIA 93032  
(805) 644-5892 • FAX (805) 654-0720

MONITORING REPORT  
Thrifty Oil Co  
Station No. 054  
2504 Castro Valley Blvd.  
Castro Valley, CA

Prepared for:  
THRIFTY OIL CO  
10000 Lakewood Blvd.  
Downey, CA 90240

Prepared by:  
RSI - REMEDIATION SERVICE, INT'L  
P.O. Box 1601  
Oxnard, CA 93032  
(805) 644-5892

July 10, 1990

## TABLE OF CONTENTS

	Page
1.0 INTRODUCTION	2
1.1 Site Description	2
2.0 GROUNDWATER SAMPLING PROCEDURES	3
3.0 GROUNDWATER CONDITIONS	3
4.0 S.A.V.E. SYSTEM OPERATIONS	3
5.0 LIMITATIONS	4

### FIGURES

1. Location Map
2. Site Plan

### TABLES

1. Groundwater Data
2. Groundwater Analytical Results
3. Groundwater Elevation Map 4/5/90

### APPENDICES

- A. Sampling Procedures for Groundwater Monitoring Wells  
Field Logs
- B. Official Laboratory Reports  
Chain of Custody
- C. S.A.V.E. System Performance Data Tables

## 1.0 INTRODUCTION

The purpose of this report is to summarize the operation of the remediation equipment and groundwater conditions at Thrifty Oil Co Station No. 054. Previous investigations have determined that both the soil and groundwater beneath the site contain elevated levels of petroleum hydrocarbons.

### 1.1 Site Location and Description

Station No. 054 is located at 2504 Castro Valley Boulevard, Castro Valley, Alameda County, California (Figure 1). The station consists of a small building, a cashier's booth, three pump islands and three underground fuel tanks (Figure 2). The fuel tanks were replaced in November, 1988 by the Circle K Corporation.

The Circle K Corporation now operates a mini-market and retail gasoline station on site. The three new fiberglass storage tanks were installed in the same area as the former tanks (Figure 2).

As can be seen on the Vicinity Map (Figure 4), the site is located on the northeast corner of the intersection of Castro Valley Boulevard and Stanton Avenue. The other three corners of the intersection are also occupied by small businesses. Immediately east of the site, facing Castro Valley Boulevard, is another small business. North of the site, facing Stanton Avenue, is a residential area.

## 2.0 GROUNDWATER SAMPLING PROCEDURES

On April 5, 1990 eight wells were measured for depth to groundwater and free product. The data is summarized in Table 1. One well, RE-4, was not measured or sampled due to water which had flooded the Christy Box. Since the well is covered with a vacuum tight cap, this should have prevented any water seepage. A total of eight wells were purged and sampled to assess petroleum concentration levels in the groundwater. A description of the sampling procedure and the field logs are contained in Appendix A. Following chain of custody requirements, the samples were delivered to Coast to Coast Analytical Services, a state certified testing laboratory. Analyses included total petroleum hydrocarbons, benzene, toluene, xylenes and ethyl benzene by modified EPA method 8240. Results of these tests are summarized in Table 2; the official laboratory reports are contained in Appendix B.

## 3.0 GROUNDWATER CONDITIONS

The April, 1990 groundwater measurements show that there is no free product in any of the wells. However, the wells have some concentration of dissolved phase hydrocarbons. Comparison of the analytical results in Table 2 shows that the dissolved phase has increased since the April, 1988 sampling.

#### 4.0 S.A.V.E. SYSTEM OPERATIONS

The system was installed in August, 1989. However, due to unanticipated delays in permits, vapor extraction did not start until April, 1990. The system has been operating only during the daylight hours recovering soil vapor. Since groundwater is very shallow, approximately 5 ft to 6 ft below ground surface, hydrocarbon vapor recovery from the soil is limited. These limitations explain why only 1.6 gallons of gasoline have been recovered by the S.A.V.E. System. The S.A.V.E. System performance tables are in Appendix C. The efficiency should improve once the system operates full time treating water.

#### 5.0 LIMITATIONS


The discussion and recommendation presented in this report are based on the following:

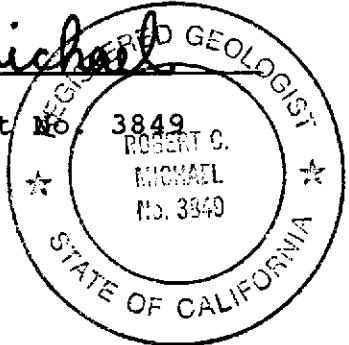
1. The professional performance of the personnel who conducted the investigations.
2. The observations of the field personnel.
3. The results of laboratory analyses performed by a state certified laboratory.
4. Any referenced documents.
5. Our understanding of the regulations of the State of California; also, if applicable, other local regulations.

The services performed by Remediation Service Int'l have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the State of California.

Please note that contamination of soil and/or groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

  
\_\_\_\_\_  
Wendy J. Wittl  
Senior Project Geologist

  
\_\_\_\_\_  
Robert C. Michael  
Registered Geologist No. 3849



A circular professional seal for Robert C. Michael, Registered Geologist No. 3849, State of California. The seal features the text "REGISTERED GEOLOGIST" at the top, "STATE OF CALIFORNIA" at the bottom, and "ROBERT C. MICHAEL No. 3849" in the center, flanked by two stars.

TABLE 1  
 THRIFTY OIL CO. #054  
**GROUNDWATER DATA**  
 Measurements are in feet

Well	Depth to Free Product	Depth to Water Table	Free Product Thickness	Corrected Depth to Water Table	Well Head Elevation*	Water Table Elevation
<u>8/22/89</u>						
RE-1	----	6.09	----	----	167.08	160.99
RE-2	----	5.47	----	----	167.21	161.74
RE-3	7.70	7.78	0.08	7.72	167.47	159.75
RE-4	6.87	6.97	0.10	6.90	167.00	160.10
RE-5	----	5.90	----	----	167.13	161.23
RE-6	----	6.61	----	----	166.75	160.14
RE-7	----	7.31	----	----	166.10	158.79
PW-1	5.02	5.04	0.02	5.02	166.58	161.56
PW-2	6.55	6.58	0.03	6.56	166.28	159.72
<u>4/5/90</u>						
RE-1	----	4.99	----	----	167.08	162.09
RE-2	----	4.90	----	----	167.21	162.31
RE-3	----	7.15	----	----	167.47	160.32
RE-4	----	----	----	----	167.00	----
RE-5	----	4.79	----	----	167.13	162.34
RE-6	----	5.64	----	----	166.75	161.11
RE-7	----	5.93	----	----	166.10	160.17
PW-1	----	5.10	----	----	166.58	161.48
PW-2	----	5.81	----	----	166.28	160.47

\* Elevations referenced to RE-3.

TABLE 2  
 THRIFTY OIL CO. #054  
 SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES  
 Results are shown in parts per million

Well	Benzene	Toluene	Ethylbenzene	Xylenes	TPH
<b>4/11/88</b>					
RE-1	1.9	8.4	1.2	15.0	37.0
RE-3	6.6	5.3	0.8	13.0	70.0
RE-4	12.0	8.0	1.0	27.0	150.0
RE-5	1.3	1.1	0.1	2.6	14.0
RE-6	3.0	0.04	0.08	0.14	6.0
RE-7	17.0	4.4	0.6	8.4	<50.0

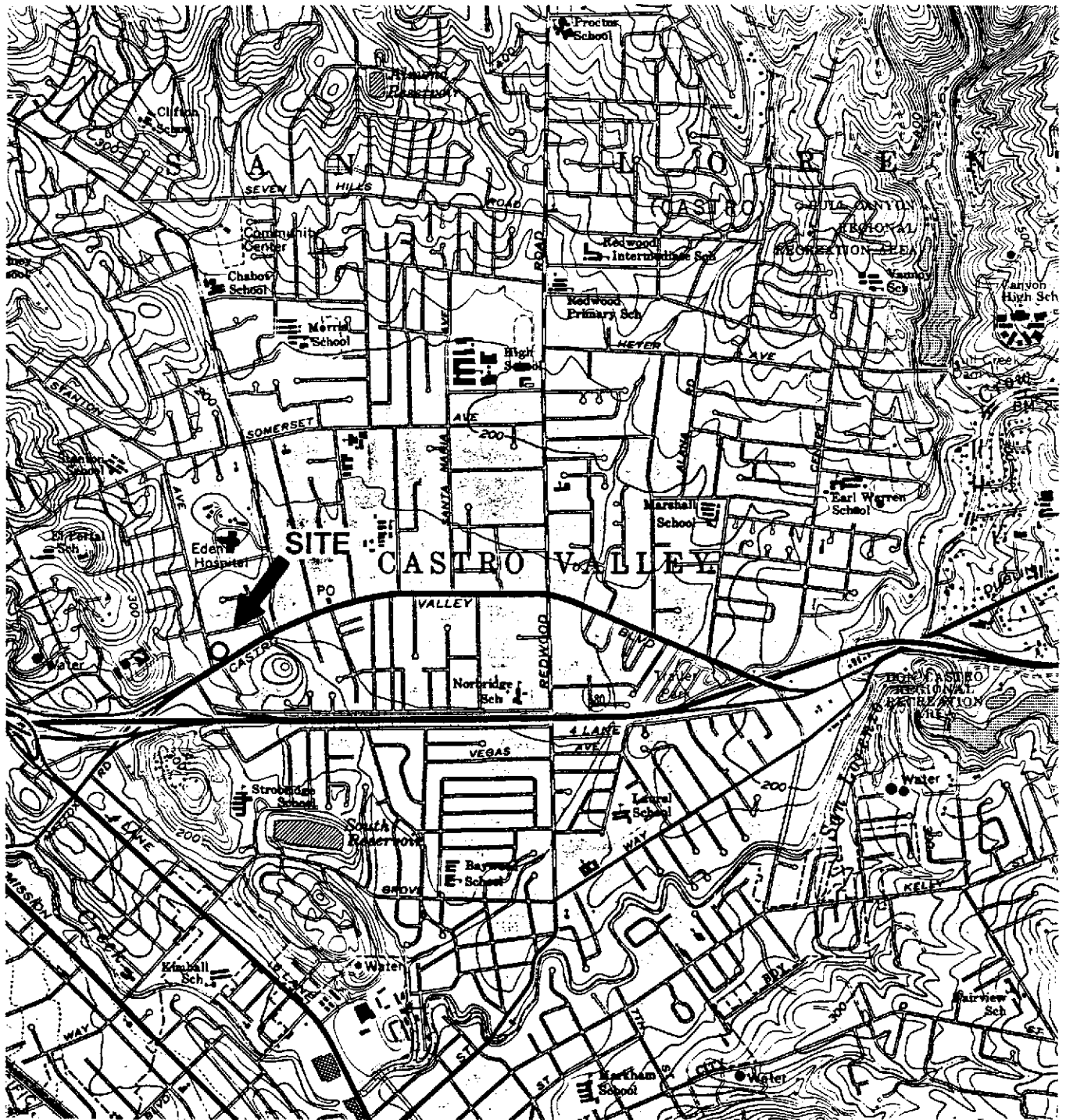
**4/9/90**

RE-1	6.100 <sup>ppm</sup>	7.0	2.0	8.8	45.0
RE-2	0.0058	0.0005	0.0048	0.0011	0.850
RE-3	2.300	4.9	3.2	31.0	370.0
RE-5	0.590	0.19	0.04	0.27	3.0
RE-6	0.990	NF	0.07	NF	3.0
RE-7	7.000	1.2	0.64	1.6	16.0
PW-1	0.600	2.7	1.0	16.0	230.0
PW-2	1.300	11.0	4.6	43.0	600.0

NF - not found

TPH - total petroleum hydrocarbons (gasoline)



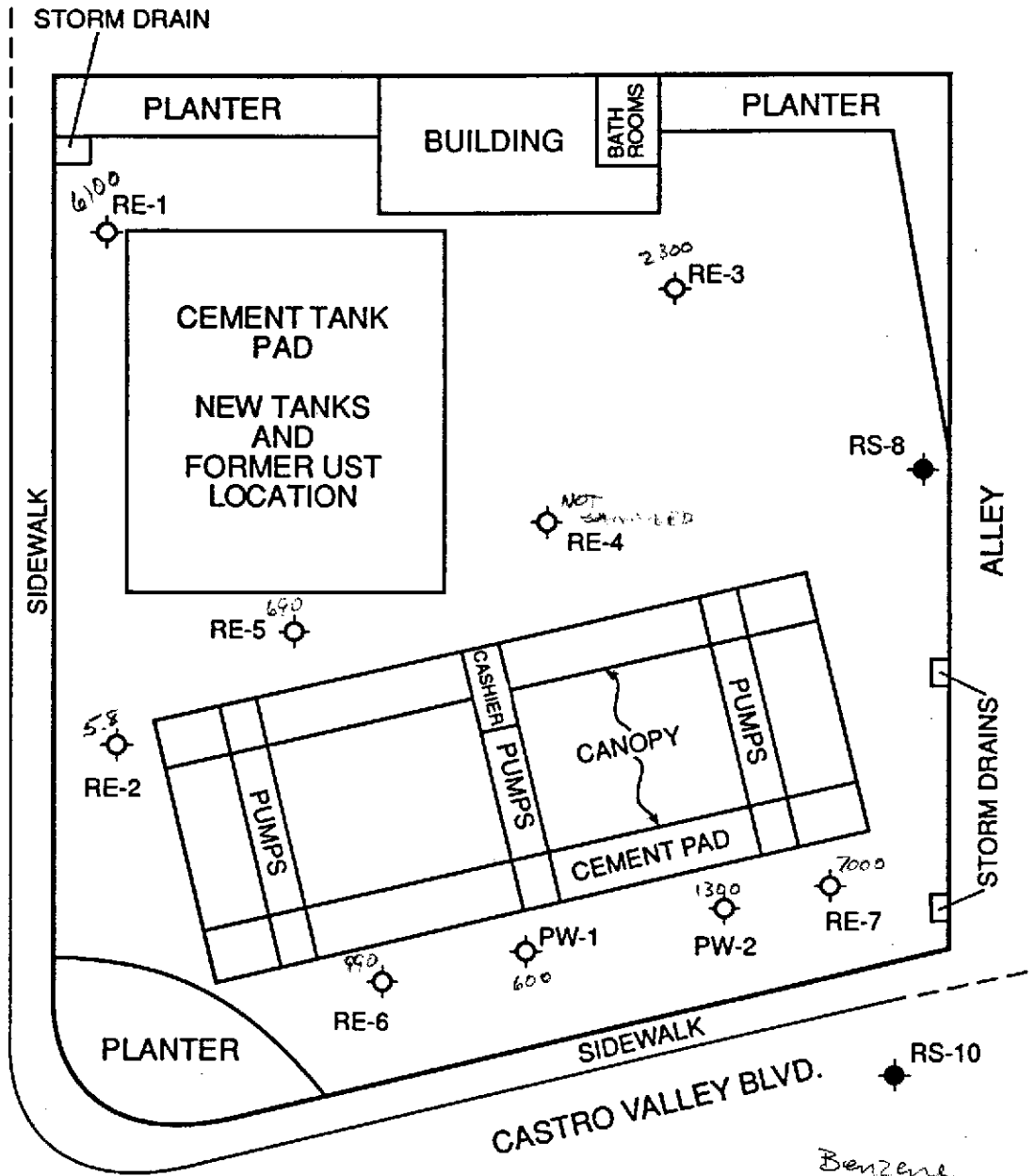


A PORTION OF THE U.S.G.S. HAYWARD 7.5' QUADRANGLE

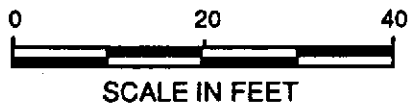
**LOCATION MAP**  
**THRIFTY OIL STATION NO. 054**  
**CASTRO VALLEY, CALIFORNIA**  
 Prepared for  
**THRIFTY OIL COMPANY**  
**DOWNEY, CALIFORNIA**



Figure 1



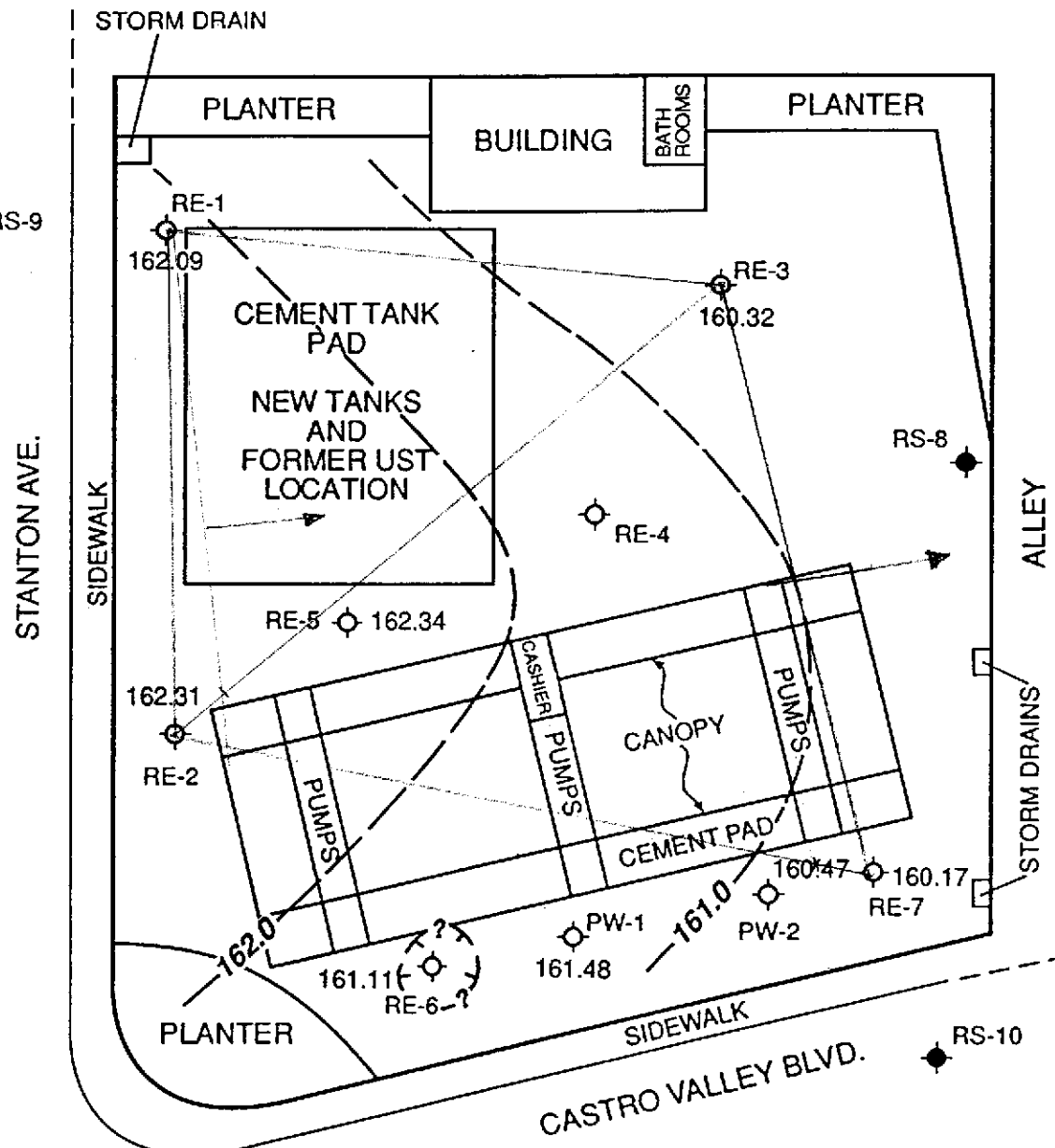
**CURRENT SITE PLAN**  
**THRIFTY OIL CO. #054**  
**CASTRO VALLEY, CALIFORNIA**  
 Prepared for  
**THRIFTY OIL CO.**  
**DOWNEY, CALIFORNIA**



- ⊙ EXISTING MONITORING WELL
- ◆ PROPOSED MONITORING WELL

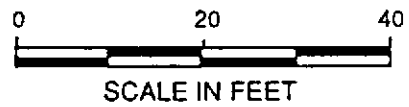


FIGURE 2



**GROUNDWATER ELEVATION MAP**  
4/5/90

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



- EXISTING MONITORING WELL
- PROPOSED MONITORING WELL



FIGURE 3

## SAMPLING PROCEDURES FOR GROUNDWATER MONITORING WELLS

1. Top of casing or wellhead is surveyed and referenced to datum point.
2. Equipment is decontaminated using a three bucket wash. This consists of: (1) washing the equipment in water with trisodiumphosphate detergent; (2) rinsing with tap water; and, (3) rinsing with deionized water.
3. Depth to water, depth to free product (if present) and total depth of well is measured.
4. The well is bailed or pumped either until dry, or until 4 to 5 casing volumes of water have been removed. The water is discharged into a DOT hazardous waste drum which is labeled and left on site pending laboratory analysis of water sample.
5. After the well has recovered, a sample is taken using a teflon bailer and placed in a VOA vial such that no headspace is present. The vial is sealed, labeled, and cooled.
6. The field data sheet is completed with all pertinent information.
7. All the equipment is decontaminated using the 3-bucket wash.
8. The samples are transported to the laboratory as soon as possible following chain of custody procedures.
9. Wells are sampled from the cleanest to the most contaminated.
10. Site conditions are noted which may potentially contaminate the sample . . . any smoke, vapors from running engines, etc.

GROUNDWATER SAMPLE  
FIELD LOG

PROJECT NAME 700 54  
LOCATION Castro Valley  
WELL NUMBER 2143-1

SAMPLE:  
WELL \_\_\_\_\_  
SURFACE WATER \_\_\_\_\_  
SEEP \_\_\_\_\_  
OTHER (DESCRIBE) \_\_\_\_\_

SAMPLER WYU 5

DATE OF SAMPLING \_\_\_\_\_  
WEATHER CONDITIONS \_\_\_\_\_  
DEPTH TO FREE PRODUCT \_\_\_\_\_  
DEPTH TO WATER 5.10'  
DATUM ELEVATION (msl) \_\_\_\_\_  
GROUNDWATER ELEVATION (msl) \_\_\_\_\_  
TOTAL WELL DEPTH \_\_\_\_\_

WATER LEVEL MEASURING EQUIPMENT ORS probe  
FREE PRODUCT LEVEL MEASURING EQUIPMENT \_\_\_\_\_  
EVACUATION EQUIPMENT bailer  
GALLONS TO BE EVACUATED (4 casing vols.) 26  
TIME OF EVACUATION START 7:11 pm FINISH 7:28 4/5/80  
TOTAL GALLONS EVACUATED 32 gals, well dry

SAMPLING EQUIPMENT bailer  
SAMPLING TIME START \_\_\_\_\_ FINISH \_\_\_\_\_  
SAMPLING RATE (ml/min.) \_\_\_\_\_  
APPEARANCE OF SAMPLE \_\_\_\_\_

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED all pipe not readable, T 63°  
Water very dirty, smelly; with heavy sheen; glob of product

EQUIPMENT DECONTAMINATION 3 bucket wash

SAMPLES HAND CARRIED/SHIPPED ON \_\_\_\_\_ AT \_\_\_\_\_  
(date) (time)

VIA \_\_\_\_\_ TO \_\_\_\_\_  
(carrier and shipper's number) laboratory

FOR ANALYSIS OF \_\_\_\_\_

GROUNDWATER SAMPLE  
FIELD LOG

PROJECT NAME YOC 54  
LOCATION Castro Valley  
WELL NUMBER PW-2

SAMPLE:  
WELL \_\_\_\_\_  
SURFACE WATER \_\_\_\_\_  
SEEP \_\_\_\_\_  
OTHER (DESCRIBE) \_\_\_\_\_

SAMPLER WLO 5 A

DATE OF SAMPLING 4/5/90  
WEATHER CONDITIONS \_\_\_\_\_  
DEPTH TO FREE PRODUCT Trace  
DEPTH TO WATER 5.81' 5.81'  
DATUM ELEVATION (msl) \_\_\_\_\_  
GROUNDWATER ELEVATION (msl) \_\_\_\_\_  
TOTAL WELL DEPTH \_\_\_\_\_

WATER LEVEL MEASURING EQUIPMENT ORS  
FREE PRODUCT LEVEL MEASURING EQUIPMENT \_\_\_\_\_  
EVACUATION EQUIPMENT bauler  
GALLONS TO BE EVACUATED (4 casing vols.) \_\_\_\_\_  
TIME OF EVACUATION START 11 am FINISH 8:15 pm 4/5/90  
TOTAL GALLONS EVACUATED 1 gal bauler broke - 2 gal, well dry

SAMPLING EQUIPMENT bauler  
SAMPLING TIME START \_\_\_\_\_ FINISH \_\_\_\_\_  
SAMPLING RATE (ml/min.) \_\_\_\_\_  
APPEARANCE OF SAMPLE \_\_\_\_\_

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED  
Very smelly & turbid H<sub>2</sub>O

EQUIPMENT DECONTAMINATION  
3 bucket wash

SAMPLES HAND CARRIED/SHIPPED ON \_\_\_\_\_ AT \_\_\_\_\_  
(date) (time)

VIA \_\_\_\_\_ TO \_\_\_\_\_  
(carrier and shipper's number) laboratory

FOR ANALYSIS OF \_\_\_\_\_

GROUNDWATER SAMPLE  
FIELD LOG

PROJECT NAME YOC 54  
LOCATION Castro Valley  
WELL NUMBER RF-1

SAMPLE:  
WELL \_\_\_\_\_  
SURFACE WATER \_\_\_\_\_  
SEEP \_\_\_\_\_  
OTHER (DESCRIBE) \_\_\_\_\_

SAMPLER DIU  
DATE OF SAMPLING \_\_\_\_\_  
WEATHER CONDITIONS \_\_\_\_\_  
DEPTH TO FREE PRODUCT \_\_\_\_\_  
DEPTH TO WATER 6.0m 4.99'  
DATUM ELEVATION (msl) \_\_\_\_\_  
GROUNDWATER ELEVATION (msl) \_\_\_\_\_  
TOTAL WELL DEPTH \_\_\_\_\_

WATER LEVEL MEASURING EQUIPMENT ORS probe  
FREE PRODUCT LEVEL MEASURING EQUIPMENT \_\_\_\_\_  
EVACUATION EQUIPMENT bailer  
GALLONS TO BE EVACUATED (4 casing vols.) \_\_\_\_\_  
TIME OF EVACUATION START 6:17 pm FINISH 7 11/5/80  
TOTAL GALLONS EVACUATED 24 gal

SAMPLING EQUIPMENT bailer  
SAMPLING TIME START \_\_\_\_\_ FINISH \_\_\_\_\_  
SAMPLING RATE (ml/min.) \_\_\_\_\_  
APPEARANCE OF SAMPLE \_\_\_\_\_

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED ph ~7, Temp 63° stable  
Very blocky with sand streaks

EQUIPMENT DECONTAMINATION \_\_\_\_\_  
3 bucket wash

SAMPLES HAND CARRIED/SHIPPED ON \_\_\_\_\_ AT \_\_\_\_\_  
(date) (time)

VIA \_\_\_\_\_ TO \_\_\_\_\_  
(carrier and shipper's number) laboratory

FOR ANALYSIS OF \_\_\_\_\_

GROUNDWATER SAMPLE  
FIELD LOG

PROJECT NAME 700-54  
LOCATION Castro Valley  
WELL NUMBER RE-2

SAMPLE:  
WELL \_\_\_\_\_  
SURFACE WATER \_\_\_\_\_  
SEEP \_\_\_\_\_  
OTHER (DESCRIBE) \_\_\_\_\_

SAMPLER 105110

DATE OF SAMPLING ~~02-27~~  
WEATHER CONDITIONS \_\_\_\_\_  
DEPTH TO FREE PRODUCT \_\_\_\_\_  
DEPTH TO WATER 3.50' 4.9'  
DATUM ELEVATION (msl) \_\_\_\_\_  
GROUNDWATER ELEVATION (msl) \_\_\_\_\_  
TOTAL WELL DEPTH \_\_\_\_\_

WATER LEVEL MEASURING EQUIPMENT CRS probe  
FREE PRODUCT LEVEL MEASURING EQUIPMENT \_\_\_\_\_  
EVACUATION EQUIPMENT bauler  
GALLONS TO BE EVACUATED (4 casing vols.) \_\_\_\_\_  
TIME OF EVACUATION START 4:16 pm FINISH 4:43 pm 4/5/80  
TOTAL GALLONS EVACUATED ≈ 25, well dry

SAMPLING EQUIPMENT bauler  
SAMPLING TIME START \_\_\_\_\_ FINISH \_\_\_\_\_  
SAMPLING RATE (ml/min.) \_\_\_\_\_  
APPEARANCE OF SAMPLE \_\_\_\_\_

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED  
H<sub>2</sub>O muddy like snow

EQUIPMENT DECONTAMINATION  
3 bucket wash

SAMPLES HAND CARRIED/SHIPPED ON \_\_\_\_\_ AT \_\_\_\_\_  
(date) (time)

VIA \_\_\_\_\_ TO \_\_\_\_\_  
(carrier and shipper's number) laboratory

FOR ANALYSIS OF \_\_\_\_\_



GROUNDWATER SAMPLE  
FIELD LOG

PROJECT NAME ROC 54  
LOCATION Castro Valley  
WELL NUMBER RF-31

SAMPLE:  
WELL \_\_\_\_\_  
SURFACE WATER \_\_\_\_\_  
SEEP \_\_\_\_\_  
OTHER (DESCRIBE) \_\_\_\_\_

SAMPLER WU  
DATE OF SAMPLING \_\_\_\_\_  
WEATHER CONDITIONS \_\_\_\_\_  
DEPTH TO FREE PRODUCT \_\_\_\_\_  
DEPTH TO WATER 7.48 7.15  
DATUM ELEVATION (msl) \_\_\_\_\_  
GROUNDWATER ELEVATION (msl) \_\_\_\_\_  
TOTAL WELL DEPTH \_\_\_\_\_

WATER LEVEL MEASURING EQUIPMENT ORS probe  
FREE PRODUCT LEVEL MEASURING EQUIPMENT \_\_\_\_\_  
EVACUATION EQUIPMENT hailer  
GALLONS TO BE EVACUATED (4 casing vols.) \_\_\_\_\_  
TIME OF EVACUATION START 5:40 pm FINISH 6:14 9/5/88  
TOTAL GALLONS EVACUATED 2 1/2 gals, well dry

SAMPLING EQUIPMENT hailer  
SAMPLING TIME START \_\_\_\_\_ FINISH \_\_\_\_\_  
SAMPLING RATE (ml/min.) \_\_\_\_\_  
APPEARANCE OF SAMPLE \_\_\_\_\_

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED  
Very smelly distinct sheen  
pH 7, Temp 64°F No chloride  
EQUIPMENT DECONTAMINATION  
3 bucket wash

SAMPLES HAND CARRIED/SHIPPED ON \_\_\_\_\_ AT \_\_\_\_\_  
(date) (time)

VIA \_\_\_\_\_ TO \_\_\_\_\_  
(carrier and shipper's number) laboratory

FOR ANALYSIS OF \_\_\_\_\_

GROUNDWATER SAMPLE  
FIELD LOG

PROJECT NAME YOC 54

LOCATION \_\_\_\_\_

WELL NUMBER RE-5

SAMPLER 10/W

DATE OF SAMPLING \_\_\_\_\_

WEATHER CONDITIONS \_\_\_\_\_

DEPTH TO FREE PRODUCT \_\_\_\_\_

DEPTH TO WATER ~~3.5~~ 4.99'

DATUM ELEVATION (msl) \_\_\_\_\_

GROUNDWATER ELEVATION (msl) \_\_\_\_\_

TOTAL WELL DEPTH \_\_\_\_\_

SAMPLE:

WELL \_\_\_\_\_

SURFACE WATER \_\_\_\_\_

SEEP \_\_\_\_\_

OTHER (DESCRIBE) \_\_\_\_\_

WATER LEVEL MEASURING EQUIPMENT BRS probe

FREE PRODUCT LEVEL MEASURING EQUIPMENT \_\_\_\_\_

EVACUATION EQUIPMENT bailer

GALLONS TO BE EVACUATED (4 casing vols.) \_\_\_\_\_

TIME OF EVACUATION START 4:51 pm FINISH 5:30 4/5/88

TOTAL GALLONS EVACUATED 30 gal well dry

SAMPLING EQUIPMENT bailer

SAMPLING TIME START \_\_\_\_\_ FINISH \_\_\_\_\_

SAMPLING RATE (ml/min.) \_\_\_\_\_

APPEARANCE OF SAMPLE \_\_\_\_\_

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED \_\_\_\_\_

Sheen on H<sub>2</sub>O,

EQUIPMENT DECONTAMINATION \_\_\_\_\_

5 bucket wash

SAMPLES HAND CARRIED/SHIPPED ON \_\_\_\_\_ AT \_\_\_\_\_  
(date) (time)

VIA \_\_\_\_\_ TO \_\_\_\_\_  
(carrier and shipper's number) laboratory

FOR ANALYSIS OF \_\_\_\_\_

GROUNDWATER SAMPLE  
FIELD LOG

PROJECT NAME YOC 54  
LOCATION Caston Valley  
WELL NUMBER PF-6

SAMPLE:  
WELL \_\_\_\_\_  
SURFACE WATER \_\_\_\_\_  
SEEP \_\_\_\_\_  
OTHER (DESCRIBE) \_\_\_\_\_

SAMPLER 10349

DATE OF SAMPLING \_\_\_\_\_  
WEATHER CONDITIONS \_\_\_\_\_  
DEPTH TO FREE PRODUCT \_\_\_\_\_  
DEPTH TO WATER ~~10349~~ 5.64'  
DATUM ELEVATION (msl) \_\_\_\_\_  
GROUNDWATER ELEVATION (msl) \_\_\_\_\_  
TOTAL WELL DEPTH \_\_\_\_\_

WATER LEVEL MEASURING EQUIPMENT GPS probe  
FREE PRODUCT LEVEL MEASURING EQUIPMENT \_\_\_\_\_  
EVACUATION EQUIPMENT bailer  
GALLONS TO BE EVACUATED (4 casing vols.) \_\_\_\_\_  
TIME OF EVACUATION START 7:00 FINISH 7:10 4/5/90  
TOTAL GALLONS EVACUATED 212 well dry

SAMPLING EQUIPMENT bailer  
SAMPLING TIME START \_\_\_\_\_ FINISH \_\_\_\_\_  
SAMPLING RATE (ml/min.) \_\_\_\_\_  
APPEARANCE OF SAMPLE \_\_\_\_\_

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED  
H<sub>2</sub>O very clear, no smell or sheen

EQUIPMENT DECONTAMINATION  
3 bucket wash

SAMPLES HAND CARRIED/SHIPPED ON \_\_\_\_\_ AT \_\_\_\_\_  
(date) (time)

VIA \_\_\_\_\_ TO \_\_\_\_\_  
(carrier and shipper's number) laboratory

FOR ANALYSIS OF \_\_\_\_\_

GROUNDWATER SAMPLE  
FIELD LOG

PROJECT NAME 90C 54  
LOCATION CASPER VALLEY  
WELL NUMBER ~~RE-7~~ RE-7

SAMPLE:  
WELL \_\_\_\_\_  
SURFACE WATER \_\_\_\_\_  
SEEP \_\_\_\_\_  
OTHER (DESCRIBE) \_\_\_\_\_

SAMPLER 1/11/80 = AA

DATE OF SAMPLING 4/5/80  
WEATHER CONDITIONS warm & hazy  
DEPTH TO FREE PRODUCT \_\_\_\_\_  
DEPTH TO WATER 5.93'  
DATUM ELEVATION (msl) \_\_\_\_\_  
GROUNDWATER ELEVATION (msl) \_\_\_\_\_  
TOTAL WELL DEPTH \_\_\_\_\_

WATER LEVEL MEASURING EQUIPMENT ORS  
FREE PRODUCT LEVEL MEASURING EQUIPMENT \_\_\_\_\_  
EVACUATION EQUIPMENT bailer  
GALLONS TO BE EVACUATED (4 casing vols.) 10 gal  
TIME OF EVACUATION START 11:50 am FINISH 12:00 pm 4/5/80  
TOTAL GALLONS EVACUATED = 8 gal well dry

SAMPLING EQUIPMENT teflon bailer  
SAMPLING TIME START \_\_\_\_\_ FINISH \_\_\_\_\_  
SAMPLING RATE (ml/min.) \_\_\_\_\_  
APPEARANCE OF SAMPLE \_\_\_\_\_

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED well went dry  
T 68°, pH = 7, H<sub>2</sub>O clear

EQUIPMENT DECONTAMINATION \_\_\_\_\_

SAMPLES HAND CARRIED/SHIPPED ON \_\_\_\_\_ AT \_\_\_\_\_  
(date) (time)

VIA \_\_\_\_\_ TO \_\_\_\_\_  
(carrier and shipper's number) laboratory

FOR ANALYSIS OF \_\_\_\_\_

Coast-to-Coast  
Analytical  
Services

Coast-to-Coast  
Analytical Services, Inc.  
751 S. Kellogg Avenue, Suite A  
Goleta, California 93117  
(805) 964-7838

Lab Number : GD-1600  
Collected : 04/06/90  
Received : 04/09/90  
Tested : 04/12/90  
Collected by: W. Wittle

Fuel Fingerprint Analysis - EPA 8240/8260 (GC/MS)  
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

RSI  
P.O. BOX 1601  
Oxnard, CA 93032

SAMPLE DESCRIPTION:  
Job # TOC 54  
RE - 1, water

Compound Analyzed	Detection Limit (*PQL in ppb)	Concentration in ppb
Benzene	10.	6100.
Toluene	50.	7000.
Ethylbenzene	50.	2000.
Xylenes	50.	8800.
1,2-Dichloroethane (EDC)	10.	10.
Ethylene Dibromide (EDB)	10.	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)		45000.
BTX as a Percent of Fuel		49.
Percent Surrogate Recovery		111.

\*PQL - Practical Quantitation Limit  
(ppb = micrograms/liter)

NOTE: High concentration of petroleum hydrocarbons caused the sample to be run diluted, resulting in raised practical quantitation limits for analytes. Please refer to instrument blank for undiluted practical quantitation limits.

Respectfully submitted,  
COAST-TO-COAST ANALYTICAL SERVICES

*Mary Havlicek*  
Mary Havlicek, Ph.D.  
President

gd1600f.wr1  
MH/brp/mc  
msdg1/04/13/90

Coast-to-Coast  
Analytical  
Services

Coast-to-Coast  
Analytical Services, Inc.  
751 S. Kellogg Avenue, Suite A  
Goleta, California 93117  
(805) 964-7838

Lab Number : GD-1601  
Collected : 04/06/90  
Received : 04/09/90  
Tested : 04/12/90  
Collected by: W. Wittle

Fuel Fingerprint Analysis - EPA 8240/8260 (GC/MS)  
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

RSI  
P.O. BOX 1601  
Oxnard, CA 93032

SAMPLE DESCRIPTION:  
Job # TOC 54  
RE - 2, water

Compound Analyzed	Detection Limit (*PQL in ppb)	Concentration in ppb
Benzene	0.1	5.8
Toluene	0.5	0.5
Ethylbenzene	0.5	4.8
Xylenes	0.5	1.1
1,2-Dichloroethane (EDC)	0.1	not found
Ethylene Dibromide (EDB)	0.1	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBNS (Gasoline)		50. 850.
BTX as a Percent of Fuel		0.9
Percent Surrogate Recovery		97.

\*PQL - Practical Quantitation Limit  
(ppb = micrograms/liter)

Respectfully submitted,  
COAST-TO-COAST ANALYTICAL SERVICES

*Mary Havlicek*  
Mary Havlicek, Ph.D.  
President

gd1601f.wr1  
MH/jm/mc  
msdg1/04/13/90

Coast-to-Coast  
Analytical  
Services

Coast-to-Coast  
Analytical Services, Inc.  
751 S. Kellogg Avenue, Suite A  
Goleta, California 93117  
(805) 964-7838

Lab Number : GD-1602  
Collected : 04/06/90  
Received : 04/09/90  
Tested : 04/12/90  
Collected by: W. Wittle

Fuel Fingerprint Analysis - EPA 8240/8260 (GC/MS)  
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

RSI  
P.O. BOX 1601  
Oxnard, CA 93032

SAMPLE DESCRIPTION:  
Job # TOC 54  
RE - 3, water

Compound Analyzed	Detection Limit (*PQL in ppb)	Concentration in ppb
Benzene	100.	2300.
Toluene	500.	4900.
Ethylbenzene	500.	3200.
Xylenes	500.	31000.
1,2-Dichloroethane (EDC)	100.	not found
Ethylene Dibromide (EDB)	100.	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBNS (Gasoline)	50000.	370000.
BTX as a Percent of Fuel		10.
Percent Surrogate Recovery		109.

\*PQL - Practical Quantitation Limit  
(ppb = micrograms/liter)

NOTE: High concentration of petroleum hydrocarbons caused the sample to be run diluted, resulting in raised practical quantitation limits for analytes. Please refer to instrument blank for undiluted practical quantitation limits.

Respectfully submitted,  
COAST-TO-COAST ANALYTICAL SERVICES

*Mary Havlicek*

Mary Havlicek, Ph.D.  
President

gd1602f.wr1  
MH/jm/mc  
msdg1/04/13/90

Coast-to-Coast  
Coast  
Analytical  
Services

Coast-to-Coast  
Analytical Services, Inc.  
751 S. Kellogg Avenue, Suite A  
Goleta, California 93117  
(805) 964-7838

Lab Number : GD-1603  
Collected : 04/06/90  
Received : 04/09/90  
Tested : 04/12/90  
Collected by: W. Wittle

Fuel Fingerprint Analysis - EPA 8240/8260 (GC/MS)  
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

RSI  
P.O. BOX 1601  
Oxnard, CA 93032

SAMPLE DESCRIPTION:  
Job # TOC 54  
RE - 5, water

Compound Analyzed	Detection Limit (*PQL in ppb)	Concentration in ppb
Benzene	5.	690.
Toluene	20.	190.
Ethylbenzene	20.	40.
Xylenes	20.	270.
1,2-Dichloroethane (EDC)	5.	not found
Ethylene Dibromide (EDB)	5.	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBNS (Gasoline)		3000.
BTX as a Percent of Fuel		38.
Percent Surrogate Recovery		105.

\*PQL - Practical Quantitation Limit  
(ppb = micrograms/liter)

NOTE: High concentration of petroleum hydrocarbons caused the sample to be run diluted, resulting in raised practical quantitation limits for analytes. Please refer to instrument blank for undiluted practical quantitation limits.

Respectfully submitted,  
COAST-TO-COAST ANALYTICAL SERVICES

*Mary Havlicek*  
Mary Havlicek, Ph.D.  
President

gd1603f.wr1  
MH/jm/mc  
msdg1/04/13/90



Coast-to-Coast  
Coast  
Analytical  
Services

Coast-to-Coast  
Analytical Services, Inc.  
751 S. Kellogg Avenue, Suite A  
Goleta, California 93117  
(805) 964-7838

Lab Number : GD-1604  
Collected : 04/06/90  
Received : 04/09/90  
Tested : 04/12/90  
Collected by: W. Wittle

Fuel Fingerprint Analysis - EPA 8240/8260 (GC/MS)  
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

RSI  
P.O. BOX 1601  
Oxnard, CA 93032

SAMPLE DESCRIPTION:  
Job # TOC 54  
RE - 6, water

Compound Analyzed	Detection Limit (*PQL in ppb	Concentration in ppb
Benzene	5.	990.
Toluene	20.	not found
Ethylbenzene	20.	70.
Xylenes	20.	not found
1,2-Dichloroethane (EDC)	5.	not found
Ethylene Dibromide (EDB)	5.	not found
-----		
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	1000.	3000.
-----		
BTX as a Percent of Fuel		35.
-----		
Percent Surrogate Recovery		105.
-----		

\*PQL - Practical Quantitation Limit  
(ppb = micrograms/liter)

NOTE: High concentration of petroleum hydrocarbons caused the sample to be run diluted, resulting in raised practical quantitation limits for analytes. Please refer to instrument blank for undiluted practical quantitation limits.

Respectfully submitted,  
COAST-TO-COAST ANALYTICAL SERVICES  
*Mary Havlicek*  
Mary Havlicek, Ph.D.  
President

gd1604f.wr1  
MH/jm/mc  
msdg1/04/13/90

Coast-to-Coast Analytical Services

Coast-to-Coast Analytical Services, Inc.  
 751 S. Kellogg Avenue, Suite A  
 Goleta, California 93117  
 (805) 964-7838

Lab Number : GD-1605  
 Collected : 04/06/90  
 Received : 04/09/90  
 Tested : 04/12/90  
 Collected by: W. Wittle

Fuel Fingerprint Analysis - EPA 8240/8260 (GC/MS)  
 EXTRACTED BY EPA METHOD 5030 - Purge & Trap

RSI  
 P.O. BOX 1601  
 Oxnard, CA 93032

SAMPLE DESCRIPTION:  
 Job # TOC 54  
 RE - 7, water

Compound Analyzed	Detection Limit (*PQL in ppb)	Concentration in ppb
Benzene	10.	7000.
Toluene	50.	1200.
Ethylbenzene	50.	640.
Xylenes	50.	1600.
1,2-Dichloroethane (EDC)	10.	not found
Ethylene Dibromide (EDB)	10.	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBNS (Gasoline)		16000.
BTX as a Percent of Fuel		61.
Percent Surrogate Recovery		105.

\*PQL - Practical Quantitation Limit  
 (ppb = micrograms/liter)

NOTE: High concentration of petroleum hydrocarbons caused the sample to be run diluted, resulting in raised practical quantitation limits for analytes. Please refer to instrument blank for undiluted practical quantitation limits.

Respectfully submitted,  
 COAST-TO-COAST ANALYTICAL SERVICES

*Mary Havlicek*

Mary Havlicek, Ph.D.  
 President

gd1605f.wr1  
 MH/jm/mc  
 msdg1/04/13/90

Coast-to-Coast  
Analytical  
Services

Coast-to-Coast  
Analytical Services, Inc.  
751 S. Kellogg Avenue, Suite A  
Goleta, California 93117  
(805) 964-7838

Lab Number : GD-1606  
Collected : 04/06/90  
Received : 04/09/90  
Tested : 04/12/90  
Collected by: W. Wittle

Fuel Fingerprint Analysis - EPA 8240/8260 (GC/MS)  
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

RSI  
P.O. BOX 1601  
Oxnard, CA 93032

SAMPLE DESCRIPTION:  
Job # TOC 54  
PW - 1, water

Compound Analyzed	Detection Limit (*PQL in ppb	Concentration in ppb
Benzene	100.	600.
Toluene	500.	2700.
Ethylbenzene	500.	1000.
Xylenes	500.	16000.
1,2-Dichloroethane (EDC)	100.	not found
Ethylene Dibromide (EDB)	100.	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBNS (Gasoline)		230000.
BTX as a Percent of Fuel		8.4
Percent Surrogate Recovery		105.

\*PQL - Practical Quantitation Limit  
(ppb = micrograms/liter)

Respectfully submitted,  
COAST-TO-COAST ANALYTICAL SERVICES

*Mary Havlicek*

Mary Havlicek, Ph.D.  
President

gd1606f.wr1  
MH/jm/mc  
msdg1/04/13/90

Coast-to-Coast  
Coast  
Analytical  
Services

Coast-to-Coast  
Analytical Services, Inc.  
751 S. Kellogg Avenue, Suite A  
Goleta, California 93117  
(805) 964-7838

Lab Number : B041290  
Collected :  
Received :  
Tested : 04/12/90  
Collected by:

Fuel Fingerprint Analysis - EPA 8240/8260 (GC/MS)  
EXTRACTED BY EPA METHOD 5030 - Purge & Trap  
SAMPLE DESCRIPTION:  
Instrument Blank

Compound Analyzed	Detection Limit (*PQL in ppb)	Concentration in ppb
Benzene	0.1	not found
Toluene	0.5	not found
Ethylbenzene	0.5	not found
Xylenes	0.5	not found
1,2-Dichloroethane (EDC)	0.1	not found
Ethylene Dibromide (EDB)	0.1	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBNS (Gasoline)		50. <50.
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		102.

\*PQL - Practical Quantitation Limit  
(ppb = micrograms/liter)

Respectfully submitted,  
COAST-TO-COAST ANALYTICAL SERVICES

*Mary Havlicek*  
Mary Havlicek, Ph.D.  
President

b041290f.wr1  
MH/brp/mc  
msdg1/04/13/90

## SAMPLE CHAIN OF CUSTODY

SUBMITTED BY:				
COMPANY <b>RSI</b>			CONTACT NAME <b>Wendy Wittz</b>	
ADDRESS <b>PO Box 1601 Oxnard</b>			PHONE <b>805-644-5897</b>	
PROJECT # <b>DOC 54</b>		PROJECT NAME		ANALYSIS REQUESTED
SAMPLER (Print & Sign Name) <b>Wendy Wittz</b>				
CCAS LAB #	SAMPLE IDENTIFICATION (ID #, location, matrix)	DATE/TIME COLLECTED	# of ITEMS	PRESERVE
<del>1600</del>	<del>RE-1 dup</del>	<del>4/6/90 5:10 PM</del>	<del>2</del>	
1601	RE-2 dup	4/6/90 5:30		
1602	RE-3	5:47		
<del>1603</del>	<del>RE-4</del>			
1603	RE-5	5:55		
1604	RE-6	6:07		
1605	RE-7	6:27		
1606	PBW-1	6:30		
1607	PBW-2	6:35		
REMARKS:				
U.V. placed in cuard bottles upon arrival @ lab (SF)				
SAMPLE RELINQUISHED BY:		DATE/TIME	RECEIVED BY:	
<del>Wendy Wittz</del>		4/9/90 4:30 PM	sealed & intact Kellie Husher	

S.A.V.E. SYSTEM PERFORMANCE DATA  
for remediation of soil and groundwater  
TABLE I

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 1 of 5

MONTH			APR 90	MAY 90					TOTAL
GROUNDWATER AERATOR	SPRAY	GALLONS							
	WATER IN	TPH-PPM*							
AERATOR	SPRAY	GALLONS							
	WATER OUT	TPH-PPM*							
VAPOR	RECOVERED VAPORS FROM WELLS	SCFM*	18.2	24.2					
		TPH-PPM*	130.7	130.6					
	TOTAL VAPORS TO ENGINE	SCF	172860.0	181660.8					
		TPH-PPM*	130.7	130.6					
AIR	TO SPRAY AERATOR	SCFM	3.3	1.2					
	TO ENGINE	SCFM	3.3	1.2					
FREE FROM WELLS	RECOVERED	GALLONS							PRODUCT
ENGINE	EXHAUST	TPH-PPM*	30.0						
		CO-PPM*	12.0	23.0					
	OPERATION	HOURS	134.0	119.2					253.2
	SPEED	RPM	1678.6	1644.0					
TOTAL CONTAMINANT REMOVED	FROM THE PROJECT LOCATION	GALLONS	0.7	0.9					1.6

\* DENOTES AVERAGE CONCENTRATIONS.

S.A.V.E. SYSTEM  
SUMMARY OF LABORATORY RESULTS FOR APR 90  
TABLE II

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 2 of 5

DATE	EXTRACTED H2O TO AERATOR (mg/l)	DISCHARGED H2O FROM AERATOR (mg/l)	EXTRACTED VAPOR FROM WELLS (ppmv)	ENGINE EXHAUST (ppmv)
16	time: 10:00 by: MS  TPH. B. 178. T. 0.4 EB. 1.9 X. 0.8	time: 10:00 by: MS  TPH. B. 0.4 T. 1.9 EB. 0.8 X. 5.3	time: 10:00 by: MS  TPH 178. B. 0.4 T. 1.9 EB. 0.8 X. 5.3	time: 10:00 by: MS  TPH 30. B. 0.085 T. 0.25 EB. 0.065 X. 0.5
17	time: 9:45 by: MS  TPH. B. 96. T. 0.19 EB. 1.1 X. 0.47	time: 9:45 by: MS  TPH. B. 0.19 T. 1.1 EB. 0.47 X. 3.2	time: 9:45 by: MS  TPH 96. B. 0.19 T. 1.1 EB. 0.47 X. 3.2	time: 9:40 by: MS  TPH 30. B. 0.085 T. 0.25 EB. 0.065 X. 0.5
18	time: 10:00 by: MS  TPH. B. 118. T. 0.14 EB. 0.72 X. 0.31	time: 10:00 by: MS  TPH. B. 0.14 T. 0.72 EB. 0.31 X. 2.1	time: 10:00 by: MS  TPH 118. B. 0.14 T. 0.72 EB. 0.31 X. 2.1	time: 9:55 by: MS  TPH B. 0.17 T. 0.69 EB. 0.19 X. 1.1

NOTES:

S.A.V.E. SYSTEM  
MONITORING DATA LOG FOR APR 90  
TABLE III

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 3 of 5

	DATE	TIME	ENGINE OPERATION DATA		PRESSURE READINGS AT				
			RUNNING TIME (HOURS)	SPEED (RPM)	EXTRACTION MANIFOLD (INCH H2O)	EXTRACTION WELL (INCH H2O)	EXTRACTION WELL (INCH H2O)	SPRAY AERATOR (INCH Hg)	RECIRC WATER (PSI)
BEGIN	11	16:00	7.7	1750.0	8.0				
	12	11:30	11.2	1800.0	9.0				
	13	16:00	13.9	1700.0	7.0				
	14	9:30	29.0	1700.0	6.0				
	16	10:00	77.7	1600.0	5.0				
	17	9:45	85.3	1600.0	6.0				
	18	10:50	88.6	1600.0	6.0				
	23	16:30	100.8	1600.0	6.5				
	24	7:45	101.6	1600.0	10.0				
	25	16:15	105.3	1700.0	12.0				
	27	14:00	108.2	1700.0	11.5				
	30	16:00	115.9	1700.0					
END	05/05/90	10:30	141.7						

NOTES:

04/11/90 FIRST START UP.  
 04/16/90 TOOK SAMPLES.  
 ADJACENT RESIDENT COMPLAINED OF EXCESSIVE NOISE.  
 04/24/90 FROZEN PROPANE METER.  
 04/27/90 WALT VOEGTLIN INSPECTED (AIR QUALITY INSPECTOR).  
 RESTART UNIT FOR HIS PURPOSE.



S.A.V.E. SYSTEM  
MONITORING DATA LOG FOR APR 90  
TABLE IV

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 4 of 5

DATE	TEMPERATURE READINGS AT					FLOW READING AT			
	AMBIENT AIR (F)	EXTRACTED VAPOR (F)	ENGINE OUTLET (F)	CATALYST OUTLET (F)	RECIRC WATER (F)	AIR TO SPRAY TANK (CFM)	EXTRACTED VAPORS (CFM)	AUXILIARY FUEL (CFH)	DISCHARGE WATER (GALS)
11	68.0	68.0				6.0	60.0	55.0	
12	70.0	70.0				5.0	20.0	57.0	
13	75.0	75.0				5.0	15.0	57.0	
14	55.0	55.0				4.0	16.0	60.0	
16	70.0	70.0				1.0	16.0	55.0	
17	55.0	55.0				1.0	16.0	55.0	
18	60.0	60.0				1.0	17.0	57.0	
23	65.0	65.0				2.0	18.0	56.0	
24	55.0	55.0				2.0	22.0	55.0	
25	65.0	65.0				2.0	25.0	55.0	
27	65.0	65.0				2.0	24.0	57.0	
30	70.0	70.0				2.0	25.0	66.0	

NOTES:

S.A.V.E. SYSTEM  
 MONITORING DATA LOG FOR APR 90  
 TABLE V

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 5 of 5

DATE	EXHAUST GAS COMPONENTS				
	H-C	CO	CO2	O2	NOx
11					
12					
13					
14					
16	4.10 %	12.0 ppm	11.10 %	4.10 %	123.0 ppm
17	0.03 %	12.0 ppm	10.40 %	5.20 %	44.0 ppm
18	0.00 %	12.0 ppm	10.60 %	5.00 %	62.0 ppm
23					
24					
25					
27					
30					

NOTES:

S.A.V.E. SYSTEM  
SUMMARY OF LABORATORY RESULTS FOR MAY 90  
TABLE II

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 2 of 5

DATE	EXTRACTED H2O TO AERATOR (mg/l)	DISCHARGED H2O FROM AERATOR (mg/l)	EXTRACTED VAPOR FROM WELLS (ppmv)	ENGINE EXHAUST (ppmv)
1	time: by:  TPH. B. T. EB. X.	time: by:  TPH. B. T. EB. X.	time: 12:00 by:  TPH 130.6 B. T. EB. X. EPA TO-14	time: by:  TPH. B. T. EB. X.
	time: by:  TPH. B. T. EB. X.	time: by:  TPH. B. T. EB. X.	time: by:  TPH. B. T. EB. X.	time: by:  TPH. B. T. EB. X.
	time: by:  TPH. B. T. EB. X.	time: by:  TPH. B. T. EB. X.	time: by:  TPH. B. T. EB. X.	time: by:  TPH. B. T. EB. X.

NOTES:

ANALYTICAL AN AVERAGE OF APRIL'S SAMPLING.

S.A.V.E. SYSTEM  
MONITORING DATA LOG FOR MAY 90  
TABLE III

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 3 of 5

	DATE	TIME	ENGINE OPERATION DATA		PRESSURE READINGS AT				
			RUNNING TIME (HOURS)	SPEED (RPM)	EXTRACTION MANIFOLD (INCH H2O)	EXTRACTION WELL (INCH H2O)	EXTRACTION WELL (INCH H2O)	SPRAY AERATOR (INCH Hg)	RECIRC WATER (PSI)
BEGIN	7	16:30	141.1	1700.0	12.0				
	8	16:30	149.4	1700.0	12.0				
	9	15:45	158.7	1700.0	12.0				
	14	16:30	167.6	1700.0	12.0				
	15	16:30	176.1	1700.0					
	16	16:30	184.4	1700.0	12.0				
	23	12:00	188.3	1700.0	12.0				
	24	10:00	193.6	1600.0	12.0				
END	06/18/90	9:00	260.3						

NOTES:

S.A.V.E. SYSTEM  
MONITORING DATA LOG FOR MAY 90  
TABLE IV

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 4 of 5

DATE	TEMPERATURE READINGS AT					FLOW READING AT			
	AMBIENT AIR (F)	EXTRACTED VAPOR (F)	ENGINE OUTLET (F)	CATALYST OUTLET (F)	RECIRC WATER (F)	AIR TO SPRAY TANK (CFM)	EXTRACTED VAPORS (CFM)	AUXILIARY FUEL (CFH)	DISCHARGE WATER (GALS)
7	60.0	60.0				1.0	25.0	72.0	
8	70.0	70.0				1.0	25.0	45.0	
9	65.0	65.0				2.0	25.0	60.0	
14	65.0	65.0				2.0	25.0	65.0	
15	55.0	55.0						65.0	
16	65.0	65.0				1.0	25.0	65.0	
23	65.0	65.0				1.0	25.0	60.0	
24	60.0	60.0				1.0	25.0	55.0	

NOTES:

S.A.V.E. SYSTEM  
MONITORING DATA LOG FOR MAY 90  
TABLE V

PROJECT LOCATION: THRIFTY OIL COMPANY STATION #54

page 5 of 5

DATE	EXHAUST GAS COMPONENTS				
	H-C	CO	CO2	O2	NOx
7					
8					
9					
14					
15					
16					
23					
24	0.03 %	23.0 ppm	9.80 %	6.20 %	38.0 ppm

NOTES: