

STD
1747

July 18, 1996

Mr. Scott Seery
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94502

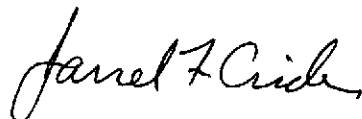
RE: Unocal Service Station #5430
1935 Washington Avenue
San Leandro, California

Per the request of the Unocal Corporation Project Manager, Mr. David J. Camille, enclosed please find our most recent data report for the above referenced site.

Should you have any questions regarding the reporting of data, please feel free to call our office at (510) 602-5120. Any other questions may be directed to the Project Manager at (510) 277-2335.

Sincerely,

MPDS Services, Inc.



Jarrel F. Crider

/dr

Enclosure

cc: Mr. David J. Camille

ENVIRONMENTAL
PROTECTION
95 JUL 23 AM 9:55

MPDS-UN5430-11
June 19, 1996

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Mr. David J. Camille

RE: Quarterly Data Report
Unocal Service Station #5430
1935 Washington Avenue
San Leandro, California

Dear Mr. Camille:

This data report presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced site by MPDS Services, Inc.

RECENT FIELD ACTIVITIES

The monitoring wells that were monitored and sampled during this quarter are indicated in Table 1. Prior to sampling, the wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations are summarized in Table 1. The ground water flow direction during the most recent quarter is shown on the attached Figure 1.

Ground water samples were collected on June 4, 1996. Prior to sampling, the wells were each purged of between 8.5 and 9.5 gallons of water. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded and are presented in Table 2. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately four casing volumes had been removed from each well, samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. Equipment blank, Trip blank and Field blank samples (denoted as ES1, ES2 and ES3 respectively) were also collected for quality assurance and control. MPDS Services, Inc. transported the purged ground water to the Unocal Refinery located in Rodeo, California, for treatment and discharge to San Pablo Bay under NPDES permit.

ANALYTICAL RESULTS

The ground water samples were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The analytical results of the ground water samples collected to date are summarized in Tables 3 and 4. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline, TPH as diesel, and benzene detected in the ground water samples

collected this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants.

DISTRIBUTION

A copy of this report should be sent to Mr. Scott Seery of the Alameda County Environmental Health Care Services, and Mr. Michael Bakaldin of the San Leandro Fire Department.

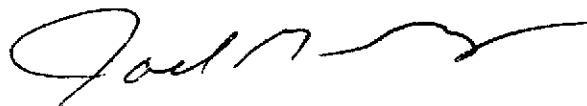
If you have any questions regarding this report, please do not hesitate to call Mr. Joel G. Greger at (510) 602-5120.

Sincerely,

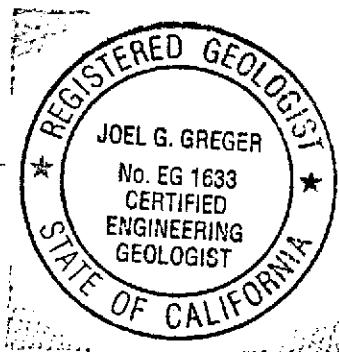
MPDS Services, Inc.



Haig (Gary) Tejrjian
Senior Staff Geologist



Joel G. Greger, C.E.G.
Senior Engineering Geologist



License No. EG 1633
Exp. Date 8/31/96

/jfc

- Attachments: Tables 1 through 4
 Location Map
 Figures 1 & 2
 Laboratory Analyses
 Chain of Custody documentation

cc: Mr. Joe Muzzio, Pacific Environmental Group, Inc.

Table 1
 Summary of Monitoring Data

Well #	Ground Water Elevation (feet)	Depth to Water (feet)*	Total Well Depth (feet)*	Product Thickness (feet)	Sheen	Water Purged (gallons)
--------	-------------------------------------	------------------------------	--------------------------------	--------------------------------	-------	------------------------------

(Monitored and Sampled on June 4, 1996)

U-1	28.66	27.43	39.62	0	No	8.5
U-2	29.26	26.03	39.35	0	No	9.5
U-3	29.23	26.00	38.54	0	No	9.5
U-4	29.20	26.19	39.08	0	No	9
U-5	29.27	24.91	38.58	0	No	9.5
U-6	28.84	26.52	40.03	0	No	9.5
U-7	29.38	25.67	37.75	0	No	8.5

(Monitored and Sampled on March 6, 1996)

U-1	29.56	26.53	39.63	0	No	6
U-2	30.12	25.17	39.30	0	No	10
U-3	29.98	25.25	38.57	0	No	9.5
U-4	30.09	25.30	39.10	0	No	9.5
U-5	30.15	24.03	38.65	0	No	10
U-6	29.65	25.71	40.02	0	No	10
U-7	29.95	25.10	37.82	0	No	9

(Monitored and Sampled on December 14, 1995)

U-1	23.89	32.20	39.66	0	No	5.5
U-2	24.19	31.10	39.40	0	No	6
U-3	24.21	31.02	38.61	0	No	5.5
U-4	24.16	31.23	39.20	0	No	6
U-5	24.24	29.94	38.74	0	No	6
U-6	24.04	31.32	40.09	0	No	6
U-7	24.30	30.75	37.90	0	No	5

(Monitored and Sampled on September 18, 1995)

U-1	25.44	30.65	39.66	0	No	6.5
U-2	25.64	29.65	39.40	0	No	7
U-3	25.68	29.55	38.61	0	No	6.5
U-4	25.60	29.79	39.20	0	No	6.5
U-5	25.63	28.55	38.76	0	No	7.5
U-6	25.41	29.95	40.12	0	No	7
U-7	25.84	29.21	37.91	0	No	6

Table 1
Summary of Monitoring Data

Well #	Well Casing Elevation (feet)*
U-1	56.09
U-2	55.29
U-3	55.23
U-4	55.39
U-5	54.18
U-6	55.36
U-7	55.05

- ◆ The depth to water level and total well depth measurements were taken from the top of the well casings.
- * The elevation of the top of the well casings were surveyed March 1995, based on benchmark provided by City of San Leandro, City Engineers Office, Datum 1929, USGS adjusted.

Table 2
 Record of the Temperature, Conductivity, and pH values
 in the Monitoring Wells During Purging and Prior to Sampling

Well #	Gallons per Casing Volume	Time	Gallons Purged	Casing Volumes Purged	Temperature (°F)	Conductivity (µmhos/cm) x100	pH
(Measured on June 4, 1996)							
U-1	2.07	11:00	0	0	81.1	8.30	6.68
			2	0.97	79.6	8.51	6.67
			4	1.93	78.6	8.78	6.68
			6	2.90	78.4	8.95	6.70
			8.5	4.10	78.3	8.81	6.73
U-2	2.26	8:15	0	0	77.2	5.41	6.77
			2	0.88	77.6	5.56	6.72
			4.5	1.99	78.0	5.52	6.72
			7	3.09	78.3	5.58	6.71
			8:25	9.5	4.20	78.6	5.51
U-3	2.27	12:00	0	0	81.8	7.80	6.61
			2	0.88	80.9	7.70	6.61
			4.5	1.98	80.5	8.35	6.61
			7	3.08	80.1	8.49	6.63
			12:10	9.5	4.19	80.0	8.78
U-4	2.19	9:45	0	0	78.7	5.68	6.75
			2	0.91	78.2	6.57	6.65
			4.5	2.05	77.7	6.69	6.65
			6.5	2.97	77.6	6.66	6.65
			9:55	9	4.11	77.7	6.96
U-5	2.32	9:00	0	0	79.7	7.00	6.70
			2.5	1.08	79.2	5.42	6.80
			4.5	1.94	79.1	5.34	6.79
			7	3.01	79.3	5.38	6.78
			9:10	9.5	4.09	79.6	5.28
U-6	2.30	11:30	0	0	82.0	7.30	6.70
			2.5	1.09	80.4	7.20	6.71
			4.5	1.96	79.9	7.40	6.69
			7	3.05	79.7	7.70	6.67
			11:40	9.5	4.14	79.6	8.10
U-7	2.05	10:20	0	0	83.9	5.41	6.77
			2	0.97	82.4	5.34	6.77
			4	1.95	81.2	5.43	6.77
			6	2.92	80.4	4.91	6.74
			10:30	8.5	4.14	79.9	5.22

Table 3
Summary of Laboratory Analyses
Water

Well #	Date	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-1	8/13/93†	50*	310	0.84	ND	2.6	1.0	--
	12/16/93†	130**	ND	ND	ND	ND	ND	--
	3/25/94†	57**	58	0.63	0.79	ND	0.65	--
	6/19/94†	61**	51	ND	1.4	ND	2.7	--
	9/15/94†	83**	ND	0.50	0.85	ND	0.77	--
	12/6/94†	ND	ND	ND	ND	ND	ND	--
	3/14/95	71**	380	20	ND	ND	10	--
	6/20/95	170**	500	50	ND	ND	4.4	--
	9/18/95	72	57	1.2	0.75	0.57	2.2	§
	12/14/95	ND	ND	0.72	1.4	1.2	3.6	--
	3/6/96	ND	96	4.5	ND	ND	3.7	ND
	6/4/96	170**	410	48	ND	3.4	7.9	ND
	U-2	8/13/93	--	1,400	ND	ND	ND	ND
12/16/93		--	330	1.7	ND	11	8.5	--
3/25/94		--	130	0.70	0.78	0.65	0.64	--
6/19/94		--	180♦	ND	ND	ND	0.86	--
9/15/94		--	1,000♦♦	44	ND	ND	ND	--
12/6/94		--	250	19	ND	ND	ND	--
3/14/95		--	89	ND	ND	ND	1.2	--
6/20/95		--	ND	ND	0.58	ND	1.7	--
9/18/95		--	ND	ND	ND	ND	0.85	§
12/14/95		--	ND	ND	0.89	ND	2.0	§§
3/6/96		--	ND	ND	ND	ND	ND	80
6/4/96		--	ND	ND	ND	ND	ND	110
U-3		8/13/93	--	23,000	1,000	ND	1,700	1,600
	12/16/93	--	15,000	570	ND	940	670	--
	3/25/94	--	18,000	560	40	1,000	770	--
	6/19/94	--	17,000	580	ND	1,300	90	--
	9/15/94	--	12,000	370	ND	970	610	--
	12/6/94	--	17,000	390	ND	990	560	--
	3/14/95	--	13,000	860	120	1,300	1,700	--
	6/20/95	--	9,800	590	ND	800	1,000	--
	9/18/95	--	9,800	600	ND	1,000	760	§
	12/14/95	--	10,000	520	ND	920	630	§§
	3/6/96	--	19,000	1,400	ND	1,800	3,000	73
	6/4/96	--	8,800	510	ND	600	830	ND

Table 3
Summary of Laboratory Analyses
Water

Well #	Date	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-4	3/14/95	--	490	3.2	2.1	0.79	1.2	--
	6/20/95	--	ND	ND	ND	ND	1.5	--
	9/18/95	--	ND	ND	ND	ND	ND	§
	12/14/95	--	ND	ND	0.59	ND	0.79	§§
	3/6/96	--	ND	ND	ND	ND	0.62	50
	6/4/96	--	ND	ND	ND	ND	ND	290
U-5	3/14/95	--	ND	ND	ND	ND	1.2	--
	6/20/95	--	ND	ND	ND	ND	1.6	--
	9/18/95	--	ND	ND	ND	ND	0.66	--
	12/14/95	--	ND	ND	ND	ND	ND	--
	3/6/96	--	ND	ND	ND	ND	ND	ND
	6/4/96	--	ND	ND	ND	ND	ND	ND
U-6	3/14/95	--	14,000	170	36	790	1,500	--
	6/20/95	--	8,500	170	11	950	1,300	--
	9/18/95	--	9,500	260	ND	1,400	1,800	§
	12/14/95	--	15,000	240	ND	1,400	1,700	§§
	3/6/96	--	2,400	54	ND	170	250	ND
	6/4/96	--	4,600	83	ND	400	520	46
U-7	3/14/95	--	ND	ND	ND	ND	ND	--
	6/20/95	--	ND	ND	ND	ND	ND	--
	9/18/95	--	ND	ND	ND	ND	ND	--
	12/14/95	--	ND	ND	ND	ND	0.88	--
	3/6/96	--	ND	ND	ND	ND	ND	ND
	6/4/96	--	ND	ND	ND	ND	ND	ND

§ Sequoia Analytical Laboratory has potentially identified the presence of MTBE at reportable levels in the ground water sample collected from this well.

§§ Sequoia Analytical Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 µg/L in the sample collected from this well.

† Total Oil and Grease was non-detectable.

◆ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

◆◆ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

Table 3
Summary of Laboratory Analyses
Water

* Not a typical diesel pattern; lower boiling hydrocarbons in the boiling range of stoddard calculated as diesel.

** Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.

MTBE = Methyl tert butyl ether.

ND = Non-detectable.

-- Indicates analysis was not performed.

Results are in micrograms per liter ($\mu\text{g/L}$), unless otherwise indicated.

Note: The detection limit for results reported as ND by Sequoia Analytical Laboratory is equal to the stated detection limit times the dilution factor indicated on the laboratory analytical sheets.

Prior to August 1, 1995, the total purgeable petroleum hydrocarbon (TPH as gasoline) quantification range used by Sequoia Analytical Laboratory was C4 - C12. Since August 1, 1995, the quantification range used by Sequoia Analytical Laboratory is C6 - C12.

Laboratory analyses data prior to December 16, 1993, were provided by Pacific Environmental Group, Inc.

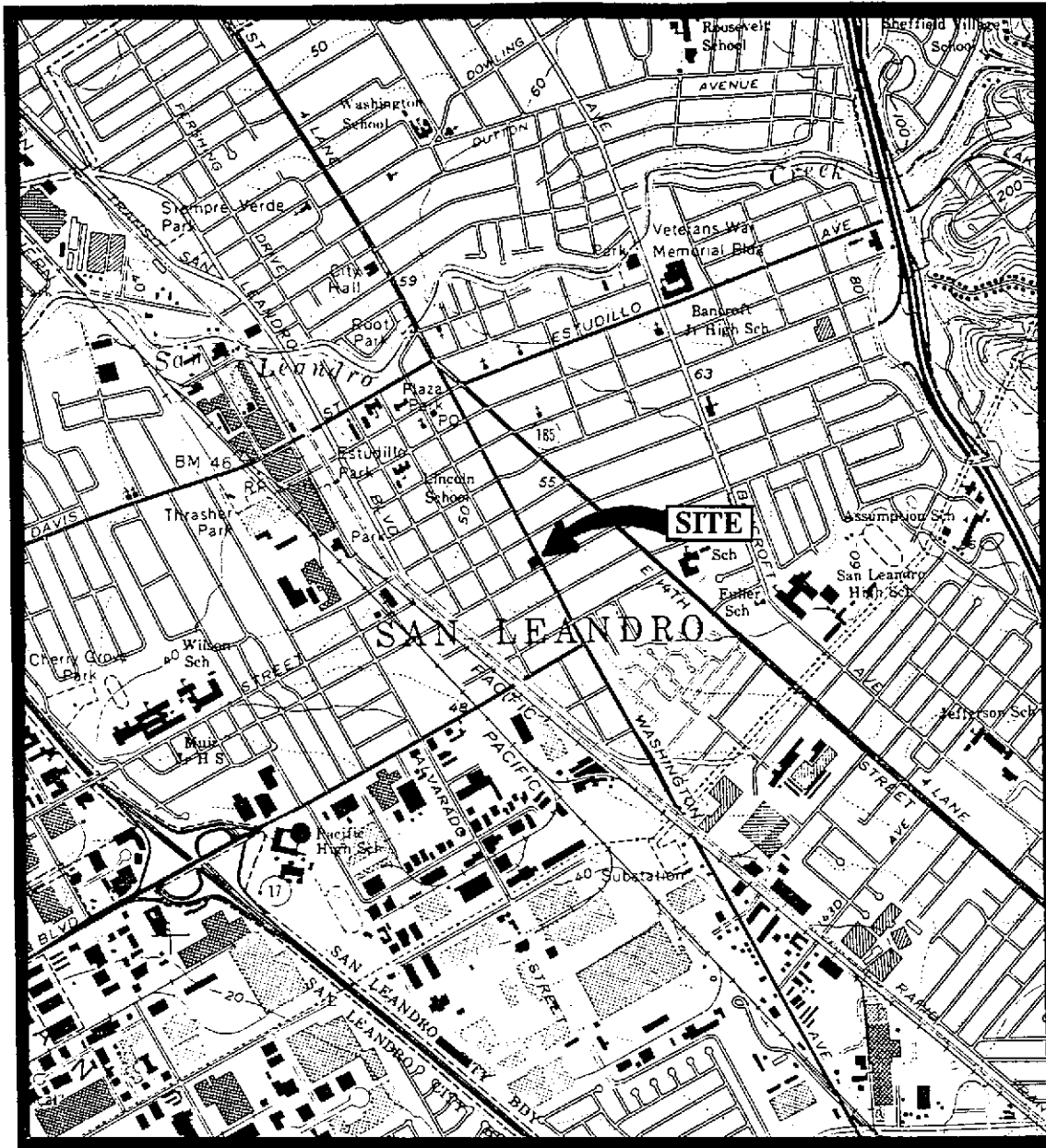
Table 4
 Summary of Laboratory Analyses
 Water

Well #	Date	1,2-Dichlorobenzene	1,2-Dichloroethane
U-1	6/19/94	ND	7.4
	9/15/94	ND	9.5
	12/6/94	ND	5.8
	12/14/95	ND	3.8
U-2	3/25/94	ND	11
	3/25/94	ND	ND
	6/19/94	ND	0.54
	9/15/94	ND	0.66
	12/6/94	ND	ND
	12/14/95	ND	ND
U-3	3/25/94	ND	480
	6/19/94	ND	410
	9/15/94	ND	420
	12/6/94	ND	430
	12/14/95	ND	240
U-4	3/14/95	ND	ND
	12/14/95	ND	ND
U-5	3/14/95	ND	ND
	12/14/95	ND	ND
U-6	3/14/95	ND	210
	12/14/95	ND	370
U-7	3/14/95	ND	ND
	12/14/95	ND	ND

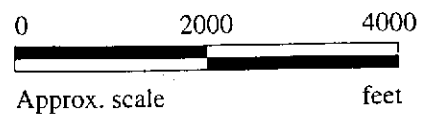
ND = Non-detectable.

Results are in micrograms per liter ($\mu\text{g/L}$), unless otherwise indicated.

Note: All EPA method 8010 constituents were non-detectable, except as indicated above.



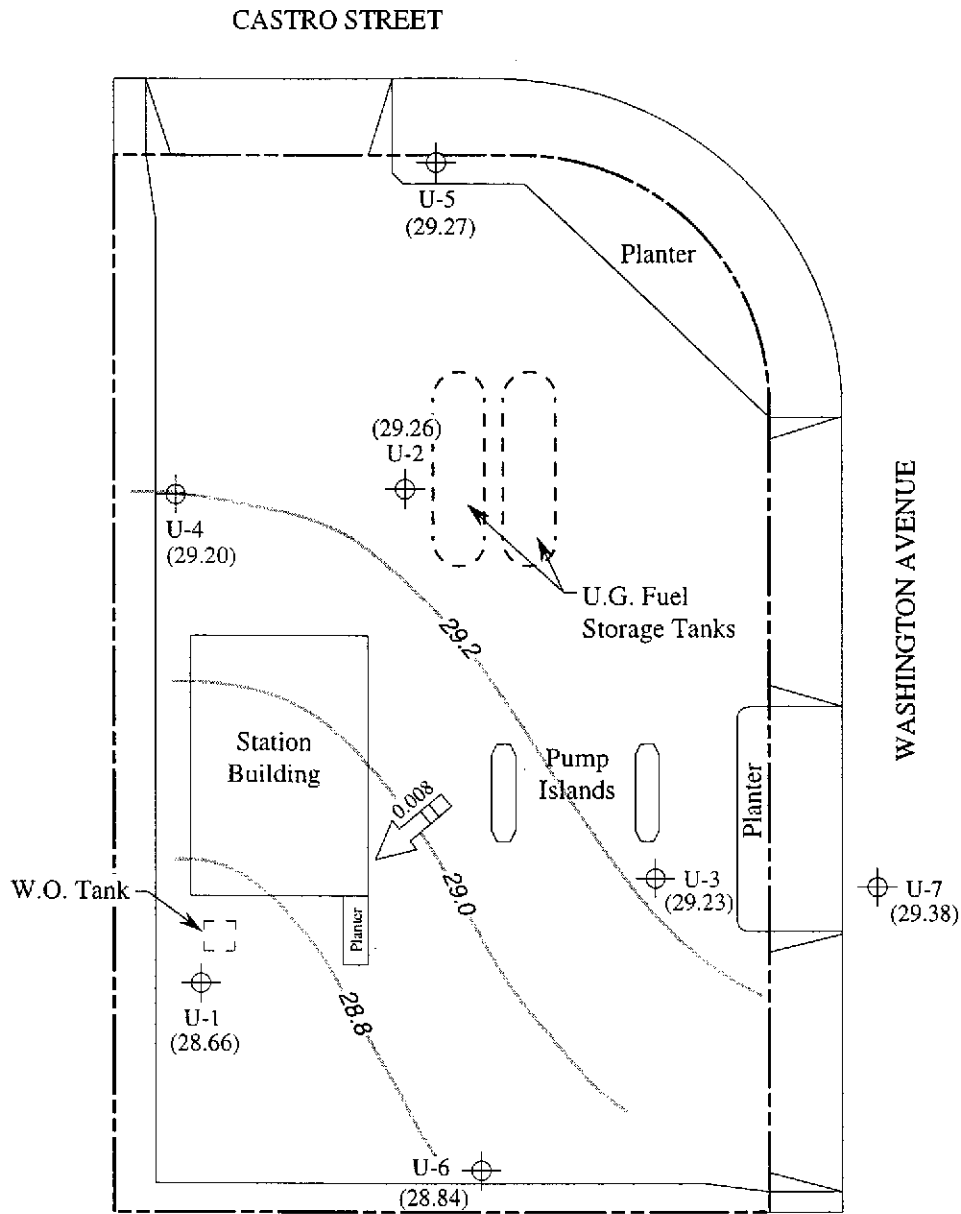
Base modified from 7.5 minute U.S.G.S. San Leandro Quadrangle
(photorevised 1980)



MPDS SERVICES, INCORPORATED

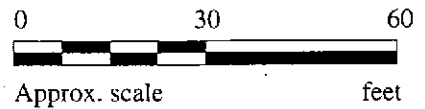
**UNOCAL SERVICE STATION #5430
1935 WASHINGTON AVENUE
SAN LEANDRO, CALIFORNIA**

**LOCATION
MAP**



LEGEND

- ⊕ Monitoring well
- () Ground water elevation in feet above Mean Sea Level
- ### → Direction of ground water flow with approximate hydraulic gradient
- Contours of ground water elevation

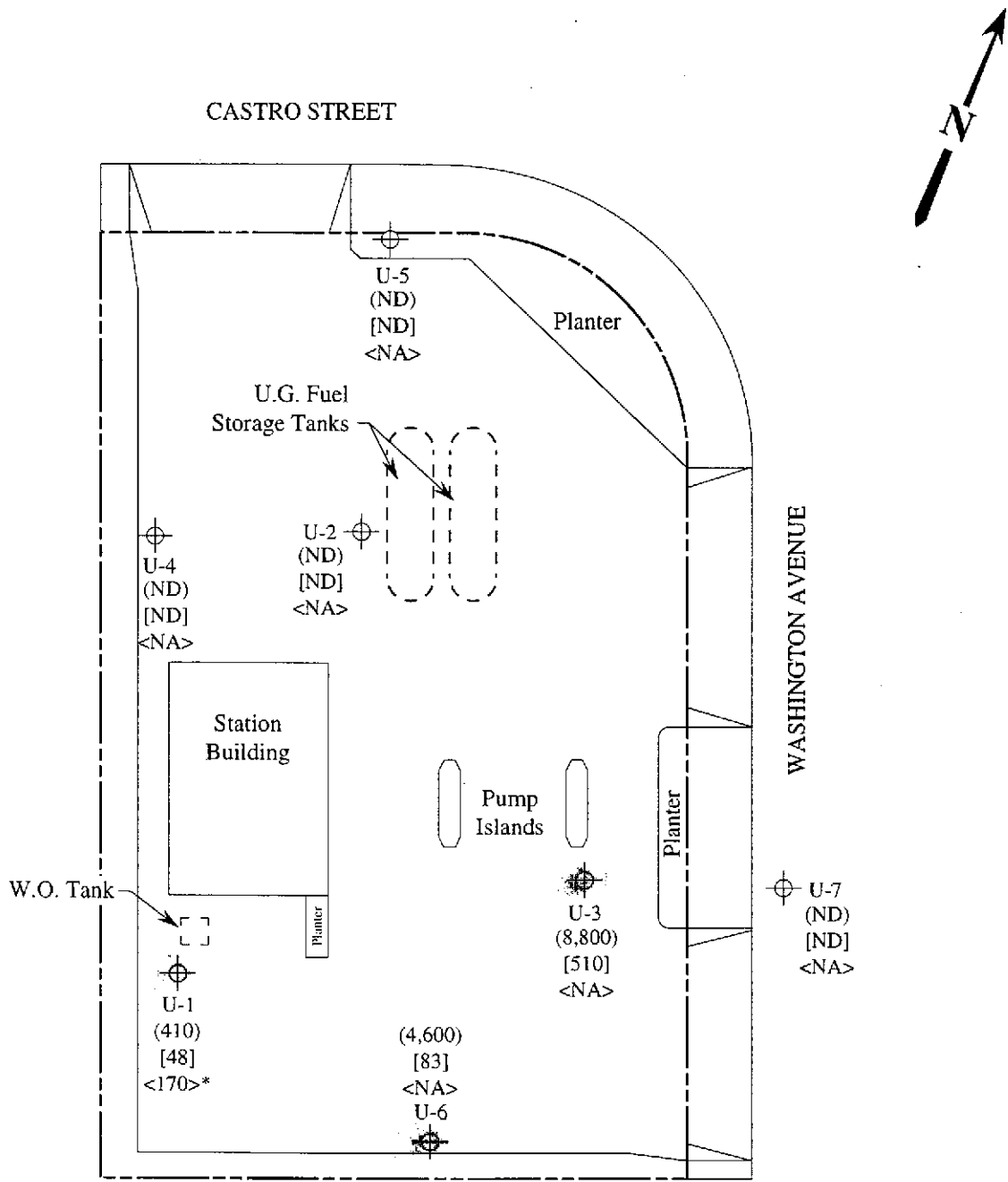


POTENTIOMETRIC SURFACE MAP FOR THE JUNE 4, 1996 MONITORING EVENT



**UNOCAL SERVICE STATION #5430
1935 WASHINGTON AVENUE
SAN LEANDRO, CALIFORNIA**

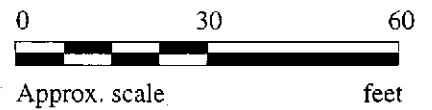
**FIGURE
1**



LEGEND

- ⊕ Monitoring well
- () Concentration of TPH as gasoline in $\mu\text{g/L}$
- [] Concentration of benzene in $\mu\text{g/L}$
- < > Concentration of TPH as diesel in $\mu\text{g/L}$
- ND Non-detectable, NA Not analyzed

* The lab reported that the hydrocarbons detected did not appear to be diesel.



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JUNE 4, 1996



MPDS Services	Client Project ID: Unocal #5430, 1935 Washington St.,	Sampled: Jun 4, 1996
2401 Stanwell Dr., Ste. 300	Matrix Descript: Water	Received: Jun 4, 1996
Concord, CA 94520	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Jun 15, 1996
Attention: Jarrel Crider	First Sample #: 606-0227	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Purgeable Hydrocarbons µg/L	Benzene µg/L	Toluene µg/L	Ethyl Benzene µg/L	Total Xylenes µg/L
606-0227	U-1	410	48	ND	3.4	7.9
606-0228	U-2	ND	ND	ND	ND	ND
606-0229	U-3	8,800	510	ND	600	830
606-0230	U-4	ND	ND	ND	ND	ND
606-0231	U-5	ND	ND	ND	ND	ND
606-0232	U-6	4,600	83	ND	400	520
606-0233	U-7	ND	ND	ND	ND	ND
606-0234	ES-1	ND	ND	ND	ND	ND
606-0235	ES-2	ND	ND	ND	ND	ND
606-0236	ES-3	ND	ND	ND	ND	ND

Detection Limits:	50	0.50	0.50	0.50	0.50
--------------------------	-----------	-------------	-------------	-------------	-------------

Total Purgeable Petroleum Hydrocarbons are quantitated against a fresh gasoline standard. Analytes reported as ND were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services	Client Project ID: Unocal #5430, 1935 Washington St.,	Sampled: Jun 4, 1996
2401 Stanwell Dr., Ste. 300	Matrix Descript: Water San Leandro	Received: Jun 4, 1996
Concord, CA 94520	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Jun 15, 1996
Attention: Jarrel Crider	First Sample #: 606-0227	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Chromatogram Pattern	DL Mult. Factor	Date Analyzed	Instrument ID	Surrogate Recovery, % QC Limits: 70-130
606-0227	U-1	Gasoline	1.0	6/11/96	HP-2	106
606-0228	U-2	--	1.0	6/11/96	HP-2	102
606-0229	U-3	Gasoline	20	6/11/96	HP-2	115
606-0230	U-4	--	1.0	6/11/96	HP-2	96
606-0231	U-5	--	1.0	6/11/96	HP-2	99
606-0232	U-6	Gasoline	10	6/13/96	HP-2	113
606-0233	U-7	--	1.0	6/11/96	HP-2	97
606-0234	ES-1	--	1.0	6/11/96	HP-4	102
606-0235	ES-2	--	1.0	6/11/96	HP-4	102
606-0236	ES-3	--	1.0	6/11/96	HP-4	101

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5430, 1935 Washington St.,
Sample Descript: Water San Leandro
Analysis for: MTBE (Modified EPA 8020)
First Sample #: 606-0227

Sampled: Jun 4, 1996
Received: Jun 4, 1996
Analyzed: Jun-11-13, 1996
Reported: Jun 15, 1996

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit $\mu\text{g/L}$	Sample Result $\mu\text{g/L}$
606-0227	U-1	40	N.D.
606-0228	U-2	40	110
606-0229	U-3	40	N.D.
606-0230	U-4	40	290
606-0231	U-5	40	N.D.
606-0232	U-6	40	46
606-0233	U-7	40	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

6060227.MPD <3>





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5430, 1935 Washington St.,
Sample Matrix: Water San Leandro
Analysis Method: EPA 3510/8015 Mod.
First Sample #: 606-0227

Sampled: Jun 4, 1996
Received: Jun 4, 1996
Reported: Jun 15, 1996

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 606-0227 U-1 *
Extractable Hydrocarbons	50	170

Chromatogram Pattern: Unidentified Hydrocarbons <C15

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	6/6/96
Date Analyzed:	6/6/96
Instrument Identification:	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Signature on File
Alan B. Kemp
Project Manager

Please Note:

* This sample does not appear to contain diesel. "Unidentified Hydrocarbons <C15" are probably gasoline.





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5430, 1935 Washington St., San Leandro
Matrix: Liquid

QC Sample Group: 6060227-236

Reported: Jun 15, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	S. Chullakorn	S. Chullakorn	S. Chullakorn	S. Chullakorn	J. Dinsay

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Batch#:	6060184	6060184	6060184	6060184	BLK060696
Date Prepared:	6/11/96	6/11/96	6/11/96	6/11/96	6/6/96
Date Analyzed:	6/11/96	6/11/96	6/11/96	6/11/96	6/6/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	115	115	120	117	80
Matrix Spike Duplicate % Recovery:	95	95	100	97	123
Relative % Difference:	19	19	18	19	43

LCS Batch#:	2LCS061196	2LCS061196	2LCS061196	2LCS061196	LCS060696
Date Prepared:	6/11/96	6/11/96	6/11/96	6/11/96	6/6/96
Date Analyzed:	6/11/96	6/11/96	6/11/96	6/11/96	6/6/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3A
LCS % Recovery:	110	110	115	113	120

% Recovery Control Limits:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
	60-140	60-140	60-140	60-140	11-148

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5430, 1935 Washington St., San Leandro
Matrix: Liquid

QC Sample Group: 6060227-236

Reported: Jun 15, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	S. Chullakorn	S. Chullakorn	S. Chullakorn	S. Chullakorn

MS/MSD Batch#:	6060185	6060185	6060185	6060185
Date Prepared:	6/11/96	6/11/96	6/11/96	6/11/96
Date Analyzed:	6/11/96	6/11/96	6/11/96	6/11/96
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	95	95	90	93
Matrix Spike Duplicate % Recovery:	85	85	85	85
Relative % Difference:	11	11	5.7	9.4

LCS Batch#:	4LCS061196	4LCS061196	4LCS061196	4LCS061196
Date Prepared:	6/11/96	6/11/96	6/11/96	6/11/96
Date Analyzed:	6/11/96	6/11/96	6/11/96	6/11/96
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	95	95	90	93

% Recovery Control Limits:	60-140	60-140	60-140	60-140
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager



M P D S Services, Inc.

2401 Stanwell Drive, Suite 400, Concord, CA 94520
Tel: (510) 602-6120 Fax: (510) 689-1918

9606048

CHAIN OF CUSTODY

SAMPLER			UNOCAL					ANALYSES REQUESTED						TURN AROUND TIME:	
NICHOLAS PERROW			S/S # <u>5430</u> CITY: <u>SAN LEANDRO</u>					TPH-GAS BTX	TPH-DIESEL	TOG	8010	MTBE			REG.
WITNESSING AGENCY			ADDRESS: <u>1935 WASHINGTON ST</u>												
SAMPLE ID NO	DATE	TIME	WATER	GRAB	COMP	NO OF CONT.	SAMPLING LOCATION								
U-1	6/4/96	11:20	✓	✓		4 VOAS 1 LABEL	WELL	✓	✓			✓		6060227	AE
U-2	"	8:45	✓	✓		4 VOAS	"	✓				✓		6060228	AD
U-3	"	12:25	✓	✓		"	"	✓				✓		6060229	
U-4	"	10:05	✓	✓		"	"	✓				✓		6060230	
U-5	"	9:25	✓	✓		"	"	✓				✓		6060231	
U-6	"	11:50	✓	✓		"	"	✓				✓		6060232	
U-7	"	10:45	✓	✓		"	"	✓				✓		6060233	

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	THE FOLLOWING <u>MUST</u> BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:		
(SIGNATURE)		(SIGNATURE)	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE?	yes	
(SIGNATURE)	6/4/96 13:20	(SIGNATURE)	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED?	yes	
(SIGNATURE)	6-4-1996	(SIGNATURE)	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE?	no	
(SIGNATURE)	6-4	(SIGNATURE)	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED?	yes	
(SIGNATURE)		(SIGNATURE)	SIGNATURE:	TITLE:	DATE: 6/4/96

M P D S Services, Inc.

2401 Starwell Drive, Suite 400, Concord, CA 94520

Tel: (510) 602-6120 Fax: (510) 689-1918

9606048

CHAIN OF CUSTODY

SAMPLER NICHOLAS PERROW			UNOCAL S/S # <u>5430</u> CITY: <u>SAN LEANDRO</u>					ANALYSES REQUESTED								TURN AROUND TIME: REG REMARKS
WITNESSING AGENCY			ADDRESS: <u>1935 WASHINGTON AVE</u>					TPH-GAS BTEX	TPH-DIESEL	TOG	8010					

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO OF CONT.	SAMPLING LOCATION	TPH-GAS BTEX	TPH-DIESEL	TOG	8010					
FES-1	6/4/96		✓			1/0A		✓		6060234						
FES-2	"		✓			"		✓		6060235						
FES-3	"		✓			"		✓		6060236						

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:		
(SIGNATURE) <i>Michael</i>	6/4/96 13:20	(SIGNATURE) <i>[Signature]</i> 6/4/96 1320	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <i>yes</i>		
(SIGNATURE) <i>[Signature]</i>	6-4 1400	(SIGNATURE) <i>[Signature]</i>	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <i>yes</i>		
(SIGNATURE) <i>[Signature]</i>	6-4	(SIGNATURE) <i>[Signature]</i>	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <i>no</i>		
(SIGNATURE) <i>[Signature]</i>	6-4	(SIGNATURE) <i>[Signature]</i>	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <i>yes</i>		
(SIGNATURE)		(SIGNATURE)	SIGNATURE: <i>[Signature]</i>	TITLE:	DATE: <i>6/4/96</i>