MONITORING
PURGING
DISPOSING
SAMPLING

MPDS SERVICES, INCORPORATED

August 13, 1996

Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, CA 94501

RE: Unocal Service Station #5325
3220 Lakeshore Avenue
Oakland, California

Per the request of the Unocal Corporation Project Manager, Mr. David B. De Witt, enclosed please find our report (MPDS-UN5325-11) dated July 24, 1996 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) 277-2384.

Sincerely,

MPDS Services, Inc.

Jarrel F. Crider

/dr

Enclosure

cc: Mr. David B. De Witt

2401 Stanwell Drive, Suite 400, Concord, CA 94520
TEL: (510) 602-5120 FAX: (510) 689-1918

MONITORING
PURGING
DISPOSING
SAMPLING
mpds SERVICES, INCORPORATED

MPDS-UN5325-11
July 24, 1996

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

Attention: Mr. David De Witt

RE: Quarterly Data Report
Unocal Service Station #5325
3220 Lakeshore Avenue
Oakland, California

Dear Mr. De Witt:

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. A skimmer was present in well U-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 are shown on the attached Figure 1.

Ground water samples were collected on June 27, 1996. Prior to sampling, the wells were each purged of between 10 and 36 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, 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, Field blank and Trip blank samples (denoted as ES-1, ES-2 and ES-3 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 Table 3. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline 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

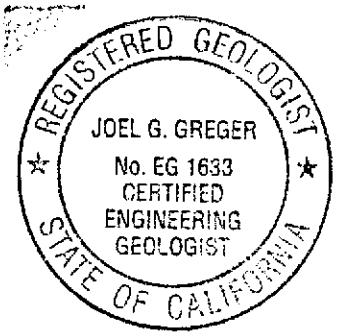
A copy of this report should be sent to the Alameda County Health Care Services Agency.

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) Tejirian
Senior Staff Geologist



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

License No. EG 1633
Exp. Date 8/31/98

/bp

Attachments: Tables 1, 2 & 3
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Greg Gurss, GeoStrategies, Inc., Rancho Cordova

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 27, 1996)						
U-1	0.54	7.92	19.85	<0.01	N/A	31
U-2	0.21	7.41	19.54	0	No	18
U-3	-0.18	11.16	19.81	0	No	10
U-4	1.41	9.74	20.25	0	No	15
U-5	0.49	6.49	20.07	0	No	36
U-6	0.62	6.52	23.80	0	No	12
(Monitored and Sampled on March 18, 1996)						
U-1	0.21	8.25	19.80	0	No	14
U-2	1.17	6.45	19.60	0	No	10
U-3	-0.12	11.10	19.85	0	No	12
U-4	1.49	9.66	20.20	0	No	20
U-5	0.33	6.65	20.15	0	No	36
U-6	0.28	6.86	23.85	0	No	12
(Monitored and Sampled on December 19, 1995)						
U-1	-0.50▲	8.98	19.80	0.03	N/A	0 (<1)
U-2	0.32	7.30	19.61	0	No	9
U-3	-0.47	11.45	19.85	0	No	12.5
U-4	1.17	9.98	20.20	0	No	20
U-5	-0.19	7.17	20.15	0	No	34
U-6	-0.61	7.75	23.85	0	No	11
(Monitored and Sampled on September 19, 1995)						
U-1	-0.53▲	9.29	19.81	0.40	N/A	0 (24)
U-2	-0.08	7.70	19.51	0	No	10
U-3	-0.57	11.55	19.85	0	No	12
U-4	0.98	10.17	20.20	0	No	18
U-5	-0.01	6.99	20.15	0	No	35
U-6	-0.56	7.70	23.86	0	No	11

Table 1

Summary of Monitoring Data

Well #	Well Casing Elevation (feet)*
U-1	8.46
U-2	7.62
U-3	10.98
U-4	11.15
U-5	6.98
U-6	7.14

♦ The depth to water level and total well depth measurements are taken from the top of the well casings.

⩚ Ground water elevation corrected due to the presence of free product (correction factor = 0.75).

(x) Amount of product purged in ounces.

* The elevations of the top of the well casings are surveyed relative to City of Oakland benchmark, at the northeasterly corner of Weller and Cheney Avenue (elevation = 9.055 feet, city datum; add 3.00' to U.S.G.S. datum).

N/A = Not applicable.

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] x1000)	pH
			(Measured on June 27, 1996)				
U-1	7.75	15:00	0	0	69.8	1.05	8.57
			8	1.03	72.1	1.06	7.39
			16	2.06	73.1	1.08	7.42
			24	3.10	73.2	1.12	7.30
		15:30	31	4.00	72.6	1.15	7.36
U-2	4.49	13:58	0	0	70.6	1.15	8.35
			5	1.11	72.1	1.18	7.39
			9	2.00	72.4	1.24	7.30
			14	3.12	72.3	1.26	7.25
		14:15	18	4.01	72.1	1.28	7.32
U-3	3.20	10:30	0	0	71.0	1.84	7.58
			3	0.94	72.5	1.85	7.40
			6	1.88	72.6	1.86	7.27
			9	2.81	73.0	1.79	7.25
		10:40	10	3.13	WELL DEWATERED		
U-4	6.83	11:05	0	0	69.5	1.55	7.36
			7	1.02	72.2	1.58	7.21
			14	2.05	73.5	1.51	7.28
		11:23	15	2.20	WELL DEWATERED		
U-5	8.83	13:00	0	0	69.5	1.65	7.56
			9	1.02	72.2	1.68	7.41
			18	2.04	71.9	1.64	7.22
			25	2.83	72.0	1.66	7.18
		13:25	36	4.08	71.8	1.63	7.29
U-6	2.94	12:00	0	0	70.8	1.95	7.55
			3	1.02	73.1	1.84	7.50
			6	2.04	73.2	1.76	7.45
			9	3.06	73.6	1.70	7.41
		12:15	12	4.08	73.8	1.75	7.33

Table 3

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-1	6/27/96	120,000	540	4,300	2,600	26,000	ND
	3/18/96	27,000	ND	2,300	1,400	11,000	4,900
	12/19/96	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	9/19/95	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	6/21/95	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	3/25/95	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/24/94	50,000	2,500	9,700	2,400	17,000	--
	9/22/94	6,100♦	ND	ND	ND	ND	--
	6/22/94	200	ND	ND	5.9	21	--
	2/16/94	6,800♦♦	ND	ND	ND	ND	--
	11/16/93	690♦	ND	ND	ND	ND	--
	8/8/93	4,900**	79	ND	832	270	--
	5/7/93	8,700	600	240	650	3,300	--
	2/22/93	34,000	1,400	5,500	910	7,300	--
	8/20/92	400*	1.0	ND	ND	0.6	--
	6/11/92	1,000	80	1.4	6.7	41	--
	5/5/92	230	1.2	ND	ND	ND	--
	2/12/92	250	ND	ND	ND	ND	--
	10/9/91	ND	ND	ND	ND	ND	--
	7/3/91	140	21	4.3	0.36	17	--
	4/1/91	160	13	8.6	1.0	15	--
	1/7/91	250	22	16	4.2	17	--
	8/10/90	690	38	75	8.6	130	--
U-2	6/27/96	28,000	3,400	ND	2,800	3,100	3,000
	3/18/96	12,000	2,200	ND	1,200	2,200	22,000
	12/19/95	1,600	140	55	52	270	††
	9/19/95	3,000	610	ND	78	240	†
	6/21/95	16,000	2,100	ND	1,800	1,700	--
	3/25/95	170,000	1,900	21,000	4,800	33,000	--
	12/24/94	32,000	1,500	890	1,300	5,000	--
	9/22/94	8,500♦	29	ND	ND	ND	--
	6/22/94	31,000	2,200	62	1,500	3,500	--
	2/16/94	980♦♦	49	13	2.7	40	--
	11/16/93	510♦	ND	ND	ND	ND	--
	8/8/93	5,600**	420	ND	410	670	--
	5/7/93	17,000	1,800	660	1,700	4,000	--
	2/22/93	3,400	2,400	2,100	1,200	5,800	--
	8/20/92	700	28	6.5	1.3	4.6	--
	6/11/92	620	17	2.1	ND	37	--
	5/5/92	1,600	120	52	6.2	290	--
	2/12/92	410	1.9	ND	0.36	0.4	--
	10/9/91	230	7.1	ND	ND	11	--

Table 3

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-2 (Cont)	7/3/91	2,100	150	25	3.1	290	--
	4/1/91	1,700	250	89	34	190	--
	1/7/91	1,900	67	5.8	58	69	--
	8/10/90	780	27	46	15	130	--
U-3	6/27/96	440	49	50	51	140	50
	3/18/96	ND	ND	ND	ND	ND	--
	12/19/95	ND	ND	ND	ND	ND	--
	9/19/95	ND	ND	ND	ND	ND	†
	6/21/95	ND	ND	ND	ND	ND	--
	3/25/95	ND	ND	ND	ND	ND	--
	12/24/94	ND	ND	ND	ND	ND	--
	9/22/94	ND	ND	ND	ND	ND	--
	6/22/94	ND	ND	ND	ND	ND	--
	2/16/94	ND	ND	ND	ND	ND	--
	11/16/93	ND	ND	ND	ND	ND	--
	8/8/93	210	5.0	9.7	0.7	4.1	--
	5/7/93	ND	ND	ND	ND	ND	--
	2/22/93	ND	ND	ND	ND	ND	--
	8/20/92	ND	ND	ND	ND	ND	--
	6/11/92	ND	ND	ND	ND	ND	--
	5/5/92	ND	ND	ND	ND	ND	--
	2/12/92	ND	ND	ND	ND	ND	--
	10/9/91	ND	ND	ND	ND	ND	--
	7/3/91	ND	ND	ND	ND	ND	--
	4/1/91	ND	1.0	2.9	0.53	5.4	--
	1/7/91	ND	ND	ND	ND	1.8	--
	8/10/90	ND	ND	ND	ND	ND	--
U-4	6/27/96	ND	ND	ND	ND	ND	ND
	3/18/96	ND	ND	ND	ND	ND	--
	12/19/95	ND	ND	ND	ND	ND	--
	9/19/95	ND	ND	ND	ND	ND	--
	6/21/95	ND	ND	ND	ND	ND	--
	3/25/95	ND	ND	ND	ND	ND	--
	12/24/94	ND	ND	ND	ND	ND	--
	9/22/94	ND	0.78	1.3	ND	1.4	--
	6/22/94	ND	ND	ND	ND	ND	--
U-5	6/27/96	16,000	280	150	1,400	4,600	530
	3/18/96	100	0.67	0.5	0.51	5.4	--
	12/19/95	ND	ND	ND	ND	ND	--

Table 3

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-5	9/19/95	850	14	7.1	13	66	†
(Cont.)	6/21/95	400	2.3	ND	9.1	3.5	--
	3/25/95	44,000	390	960	1,500	7,600	--
	12/24/94	8,700	560	70	670	430	--
	9/22/94	170	8.4	10	8.5	18	--
	6/22/94	210	7.1	13	4.5	26	--
U-6	6/27/96	ND	ND	ND	ND	ND	510
	3/18/96	ND	ND	ND	ND	ND	--
	12/19/95	210	2.5	1.0	2.9	17	--
	9/19/95	ND	ND	ND	ND	ND	†
	6/21/95	ND	ND	ND	ND	ND	--
	3/25/95	47,000	450	1,300	1,700	8,200	--
	12/24/94	6,900	500	59	600	380	--
	9/22/94	130	1.3	0.8	ND	0.73	--
	6/22/94	ND	ND	ND	ND	ND	--

-- Indicates analyses was not performed.

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

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

* The positive result for gasoline does not appear to have a typical gasoline pattern.

** The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.

† Sequoia Analytical Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater 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.

MTBE = methyl tert butyl ether.

ND = Non-detectable.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

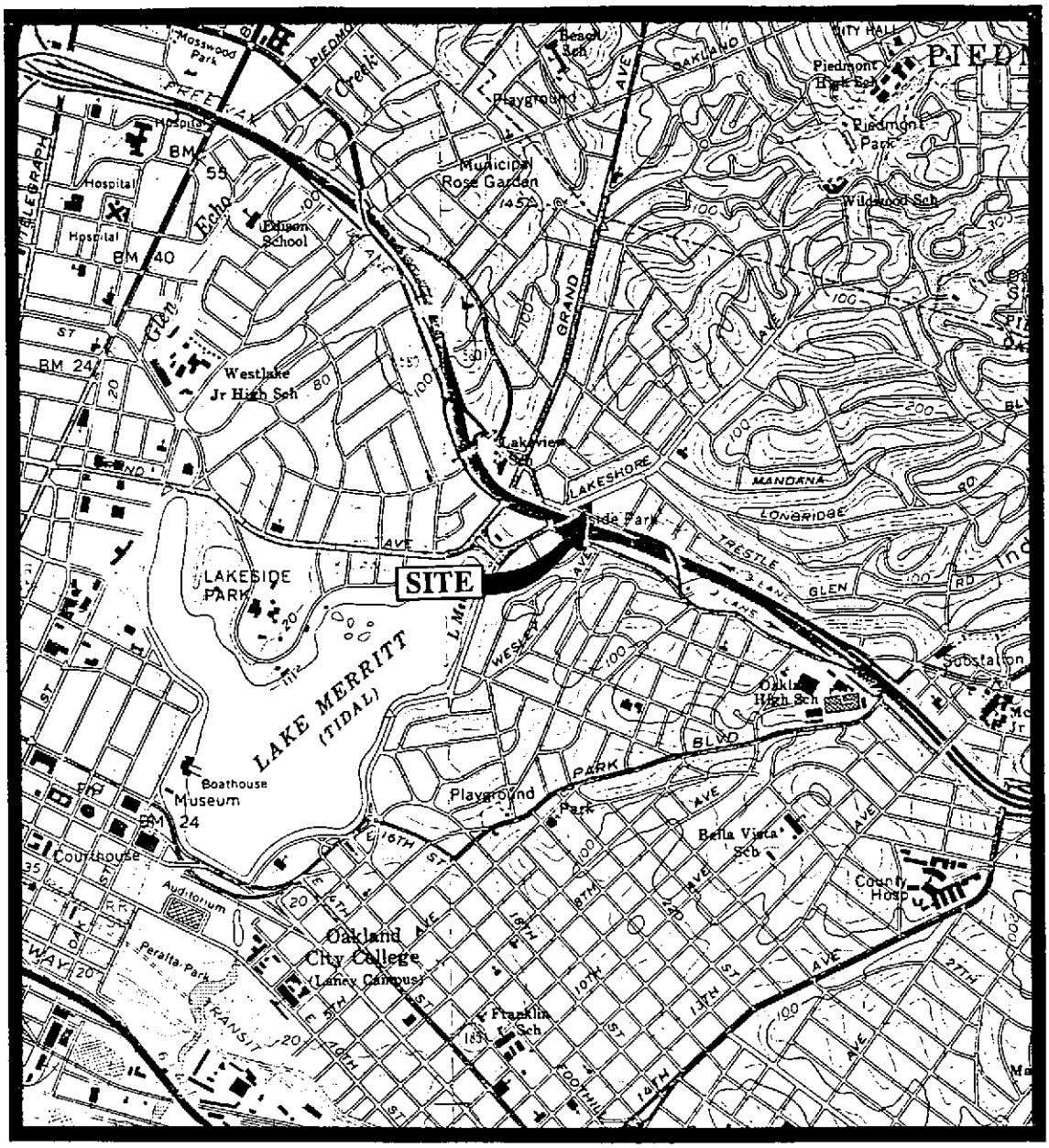
Table 3

Summary of Laboratory Analyses
Water

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 November 16, 1993, were provided by GeoStrategies, Inc.

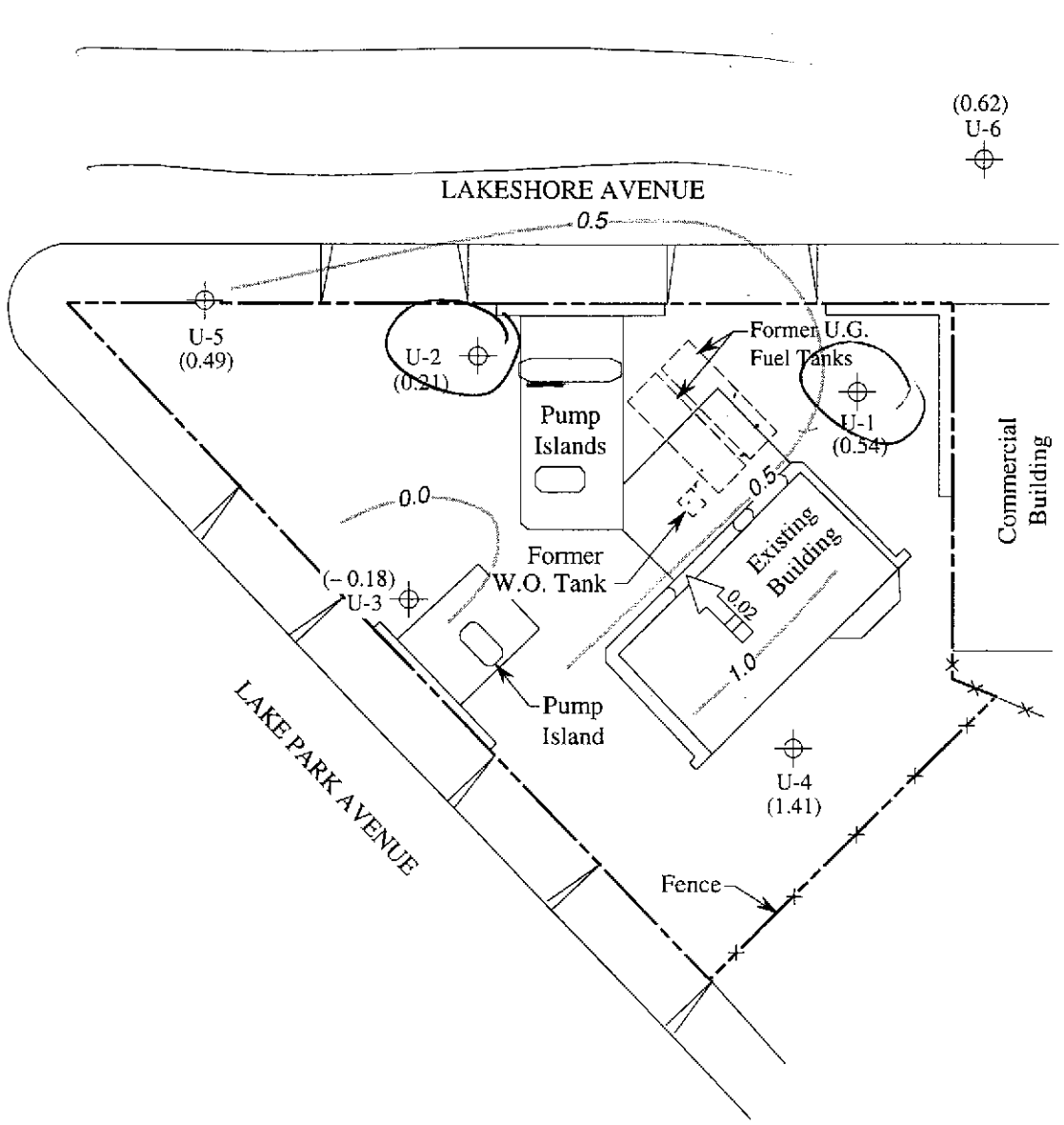


Base modified from 7.5 minute U.S.G.S.
Oakland East and West Quadrangles
(both photorevised 1980)

0 2000 4000

Approx. scale feet

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #5325** **3220 LAKESHORE AVENUE** **OAKLAND, CALIFORNIA**	**LOCATION MAP**



LEGEND

- Monitoring well
- ( ) Ground water elevation relative to Mean Sea Level
- #.## Direction of ground water flow with approximate hydraulic gradient
- Contours of ground water elevation

0 40 80

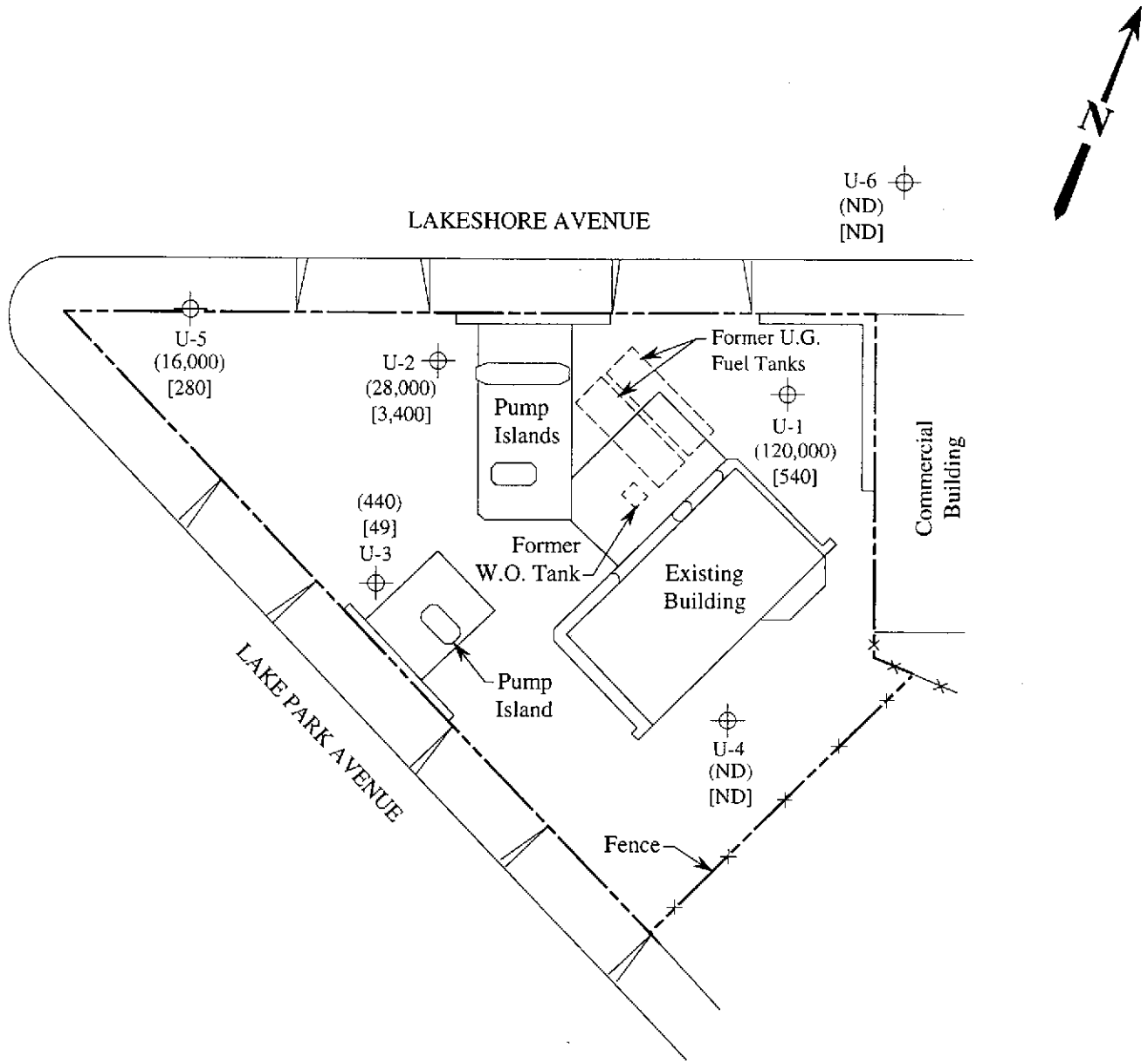
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE JUNE 27, 1996 MONITORING EVENT

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5325
3220 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

FIGURE
1



LEGEND

- Monitoring well
- ( ) Concentration of TPH as gasoline in µg/L
- [ ] Concentration of benzene in µg/L
- ND Non-detectable

0 40 80

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JUNE 27, 1996

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5325
3220 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

FIGURE
2

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #5325, 3220 Lakeshore, Oakland	Sampled: Jun 27, 1996
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received: Jun 27, 1996
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Jul 17, 1996
Attention: Jarrel Crider	First Sample #:	606-2251	

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
606-2251	U-1	120,000	540	4,300	2,600	26,000
606-2252	U-2	28,000	3,400	ND	2,800	3,100
606-2253	U-3	440	49	50	51	140
606-2254	U-4	ND	ND	ND	ND	ND
606-2255	U-5	16,000	280	150	1,400	4,600
606-2256	U-6	ND	ND	ND	ND	ND
606-2257	ES-1	ND	ND	ND	ND	ND
606-2258	ES-2	ND	ND	ND	ND	ND
606-2259	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
& #1624

Signature on File

Alan B. Kemp
Project Manager

6062251.MPD <1>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #5325, 3220 Lakeshore, Oakland	Sampled: Jun 27, 1996
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received: Jun 27, 1996
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Jul 17, 1996
Attention: Jarrel Crider	First Sample #:	606-2251	

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
606-2251	U-1	Gasoline	400	7/12/96	HP-2	95
606-2252	U-2	Gasoline	200	7/10/96	HP-2	119
606-2253	U-3	Gasoline	5.0	7/10/96	HP-2	115
606-2254	U-4	--	1.0	7/10/96	HP-2	82
606-2255	U-5	Gasoline	100	7/11/96	HP-2	111
606-2256	U-6	--	1.0	7/10/96	HP-2	103
606-2257	ES-1	--	1.0	7/11/96	HP-2	102
606-2258	ES-2	--	1.0	7/11/96	HP-2	104
606-2259	ES-3	--	1.0	7/11/96	HP-2	95

SEQUOIA ANALYTICAL, #1271
& #1624

Signature on File

Alan B. Kemp
Project Manager

6062251.MPD <2>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #5325, 3220 Lakeshore, Oakland	Sampled: Jun 27, 1996
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water	Received: Jul 27, 1996
Concord, CA 94520	Analysis for:	MTBE (Modified EPA 8020)	
Attention: Jarrel Crider	First Sample #:	606-2251	Analyzed: Jul 10-12, 1996
			Reported: Jul 17, 1996

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L
606-2251	U-1	1,300	N.D.
606-2252	U-2	1,000	3,000
606-2253	U-3	40	50
606-2254	U-4	40	N.D.
606-2255	U-5	50	530
606-2256	U-6	100	510

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

SEQUOIA ANALYTICAL, #1624

Signature on File

Alan B. Kemp
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

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

Client Project ID: Unocal #5325, 3220 Lakeshore, Oakland
Matrix: Liquid
QC Sample Group: 6062251-259

Reported: Jul 17, 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#:	6061712	6061712	6061712	6061712
Date Prepared:	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed:	7/11/96	7/11/96	7/11/96	7/11/96
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	110	112	115	116
Matrix Spike Duplicate % Recovery:	110	117	120	117
Relative % Difference:	0.0	4.4	4.3	1.4
LCS Batch#:	9LCS071196	9LCS071196	9LCS071196	9LCS071196
Date Prepared:	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed:	7/11/96	7/11/96	7/11/96	7/11/96
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	110	120	120	120
% Recovery Control Limits:	60-140	60-140	60-140	60-140

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

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

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
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Reported: Jul 17, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Brewer	M. Brewer	M. Brewer	M. Brewer
MS/MSD Batch#:	6062257	6062257	6062257	6062257
Date Prepared:	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed:	7/11/96	7/11/96	7/11/96	7/11/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	100	110	105
Matrix Spike Duplicate % Recovery:	110	105	110	110
Relative % Difference:	4.7	4.9	0.0	4.7
LCS Batch#:	2LCS071196	2LCS071196	2LCS071196	2LCS071196
Date Prepared:	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed:	7/11/96	7/11/96	7/11/96	7/11/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	110	110	110	112
% Recovery Control Limits:	60-140	60-140	60-140	60-140

SEQUOIA ANALYTICAL, #1271

Signature on File

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Project Manager

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Matrix: Liquid
QC Sample Group: 6062251-259

Reported: Jul 17, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	V.O.	V.O.	V.O.	V.O.
MS/MSD Batch#:	6070329	6070329	6070329	6070329
Date Prepared:	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed:	7/10/96	7/10/96	7/10/96	7/10/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	104	106	103	98
Matrix Spike Duplicate % Recovery:	106	109	108	108
Relative % Difference:	1.9	2.8	4.7	9.7
LCS Batch#:	LCS071096	LCS071096	LCS071096	LCS071096
Date Prepared:	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed:	7/10/96	7/10/96	7/10/96	7/10/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	105	108	106	107
% Recovery Control Limits:	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL, #1624

Signature on File

Alan B. Kemp
Project Manager

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Attention: Jarrel Crider

Client Project ID: Unocal #5325, 3220 Lakeshore, Oakland
Matrix: Liquid
QC Sample Group: 6062251-259

Reported: Jul 17, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	V.O.	V.O.	V.O.	V.O.
MS/MSD Batch#:	6070386	6070386	6070386	6070386
Date Prepared:	7/12/96	7/12/96	7/12/96	7/12/96
Date Analyzed:	7/12/96	7/12/96	7/12/96	7/12/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	102	100	99	100
Matrix Spike Duplicate % Recovery:	98	99	97	103
Relative % Difference:	4.0	1.0	2.0	3.0
LCS Batch#:	LCS071296	LCS071296	LCS071296	LCS071296
Date Prepared:	7/12/96	7/12/96	7/12/96	7/12/96
Date Analyzed:	7/12/96	7/12/96	7/12/96	7/12/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	102	103	100	105
% Recovery Control Limits:	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL, #1624

Signature on File

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Project Manager

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Matrix: Liquid
QC Sample Group: 6062251-259
Reported: Jul 17, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	V.O.	V.O.	V.O.	V.O.
MS/MSD Batch#:	6070288	6070288	6070288	6070288
Date Prepared:	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed:	7/11/96	7/11/96	7/11/96	7/11/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	98	100	104	110
Matrix Spike Duplicate % Recovery:	100	102	105	109
Relative % Difference:	2.0	2.0	0.96	0.91
LCS Batch#:	LCS071196	LCS071196	LCS071196	LCS071196
Date Prepared:	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed:	7/11/96	7/11/96	7/11/96	7/11/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	99	102	104	108
% Recovery Control Limits:	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL, #1624

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Project Manager

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M P D S Services, Inc.
2401 Stanwell Drive, Suite 400, Concord, CA 94520
Tel: (510) 602-5120 Fax: (510) 689-1918

9606582

CHAIN OF CUSTODY

SAMPLER: (JOE) HOVSIA AJEMIAN
WITNESSING AGENCY:

UNOCAL S/S # 5325 CITY: Oakland
ADDRESS: 3220 Lakeshore

ANALYSES REQUESTED: TPH-GAS BTEX & MTBE; TPH-DIESEL; TOG; 8010

TURN AROUND TIME: Regular

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	REMARKS
U-1	6-27-96	3:47 P.m	✓	✓		2(VOA)	Wells	6062251 A-B
U-2	"	2:30 P.m	✓	✓		"	"	6062252
U-3	"	10:55 A.m	✓	✓		"	"	6062253
U-4	"	11:35 A.m	✓	✓		"	"	6062254
U-5	"	1:40 P.m	✓	✓		"	"	6062255
U-6	"	12:30 P.m	✓	✓		"	"	6062256

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
(SIGNATURE) Joe Jemian	6-27-96 5:25 P.m	(SIGNATURE)
(SIGNATURE)	6/28/96 1350	(SIGNATURE)
(SIGNATURE)	6-28- 1500	(SIGNATURE)
(SIGNATURE)		(SIGNATURE)

THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:

1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? YES
2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? YES
3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? NO
4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? YES

SIGNATURE: TITLE: DM DATE: 6/27/96

M P D S Services, Inc.
2401 Stanwell Drive, Suite 400, Concord, CA 94520
Tel: (510) 602-5120 Fax: (510) 689-1918

CHAIN OF CUSTODY

9606582

SAMPLER: (JOE) HOVSIA AJEMIAN
WITNESSING AGENCY:

UNOCAL S/S # 5325 CITY: Oakland
ADDRESS: 3220 Lakeshore

ANALYSES REQUESTED

TURN AROUND TIME: Regular

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-GAS BTEX	TPH-DIESEL	TOG	8010					REMARKS
ES1	6-27-96					1 VOA		✓	6062257							
ES2	"					"		✓	6062258							
ES3	"					"		✓	6062259							

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
(SIGNATURE) Joe Ajemian	6-27-96 1350	(SIGNATURE)
(SIGNATURE)	6/28/96	(SIGNATURE)
(SIGNATURE)	6-25 1500	(SIGNATURE) Charlotte
(SIGNATURE)		(SIGNATURE)
(SIGNATURE)		(SIGNATURE)

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SIGNATURE: TITLE: DM DATE: 6/27/96