

MONITORING  
PURGING  
DISPOSING  
SAMPLING

**MPDS**

SERVICES, INCORPORATED

ALL  
HAZMAT  
91 NOV 16 PM 2:59

November 15, 1994

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

Attn: Mr. Scott Seery

RE: Unocal Service Station #7004  
15599 Hesperian Boulevard  
San Leandro, California

Dear Mr. Seery:

Per the request of the Unocal Corporation Project Manager, Mr. Adadu Yemane, enclosed please find our report (MPDS-UN7004-04) dated November 8, 1994 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) 277-2383.

Sincerely,

MPDS Services, Inc.

  
Jarrel F. Crider

/jfc

Enclosure

cc: Mr. Adadu Yemane

MPDS-UN7004-04  
November 8, 1994

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

Attention: Mr. Adadu Yemane

RE: Quarterly Data Report  
Unocal Service Station #7004  
15599 Hesperian Boulevard  
San Leandro, California

Dear Mr. Yemane:

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 October 6, 1994. Prior to sampling, the wells were each purged of between 6 and 7 gallons of water. 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. 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 2. 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

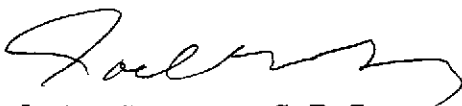
A copy of this report should be sent to the Alameda County Health Care Services, and to Mr. Michael Bakaldin of the City of San Leandro Fire Department.

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

Sincerely,

MPDS Services, Inc.

  
Sarkis A. Karkarian  
Staff Engineer

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

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

/bp

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

cc: Mr. Timothy R. Ross, Kaprealian Engineering, 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)
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(Monitored and Sampled on October 6, 1994)

MW1*	19.68	16.71	24.20	0	--	0
MW2*	20.75	16.32	24.38	0	--	0
MW3	20.56	16.23	24.68	0	No	6
MW4*	20.44	15.00	25.63	0	--	0
MW5	20.39	16.42	26.10	0	No	7
MW6*	20.55	16.58	25.60	0	--	0

(Monitored and Sampled on July 8, 1994)

MW1	21.73	14.66	24.20	0	No	7
MW2	21.79	15.28	24.37	0	No	7
MW3	21.59	15.20	24.68	0	No	7
MW4	21.48	13.96	25.64	0	No	8
MW5	21.43	15.38	26.10	0	No	8
MW6	21.58	15.55	25.60	0	No	7

(Monitored and Sampled on April 6, 1994)

MW1*	22.20	14.19	24.17	0	--	0
MW2*	22.24	14.83	24.36	0	--	0
MW3	22.07	14.72	24.67	0	No	7
MW4*	22.00	13.44	25.61	0	--	0
MW5	21.91	14.90	26.09	0	No	8
MW6*	22.06	15.07	25.58	0	--	0

(Monitored and Sampled on January 11, 1994)

MW1	21.25	15.14	24.15	0	No	6.5
MW2	21.30	15.77	24.34	0	No	6
MW3	21.13	15.66	24.65	0	No	6.5
MW4	21.02	14.42	25.61	0	No	8
MW5	20.97	15.84	26.08	0	No	7
MW6	21.11	16.02	25.57	0	No	6.5

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**TABLE 1 (Continued)**

SUMMARY OF MONITORING DATA

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<u>Well #</u>	<u>Well Casing Elevation (feet)**</u>
MW1	36.39
MW2	37.07
MW3	36.79
MW4	35.44
MW5	36.81
MW6	37.13

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

\* Monitored only.

\*\* The elevations of the top of the well casings are relative to Mean Sea Level (MSL), based on the City of San Leandro Benchmark (elevation = 36.04 feet MSL).

-- Sheen determination was not performed.

**TABLE 2**SUMMARY OF LABORATORY ANALYSES  
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	MTBE
10/06/94	MW1	SAMPLED SEMI-ANNUALLY					
	MW2	SAMPLED SEMI-ANNUALLY					
	MW3	20,000	2,100	26	3,000	900	--
	MW4	SAMPLED SEMI-ANNUALLY					
	MW5	350	1.3	ND	ND	ND	--
	MW6	SAMPLED SEMI-ANNUALLY					
7/08/94	MW1	ND	ND	ND	ND	ND	--
	MW2	140*	ND	ND	ND	ND	--
	MW3	18,000	2,200	25	2,500	860	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	200	ND	ND	ND	ND	--
	MW6	ND	ND	ND	ND	ND	--
4/06/94	MW1	SAMPLED SEMI-ANNUALLY					
	MW2	SAMPLED SEMI-ANNUALLY					
	MW3	24,000	3,100	ND	3,300	820	--
	MW4	SAMPLED SEMI-ANNUALLY					
	MW5	260	1.4	ND	0.88	ND	--
	MW6	SAMPLED SEMI-ANNUALLY					
1/11/94	MW1	ND	ND	ND	ND	ND	--
	MW2	120*	ND	ND	ND	ND	--
	MW3	19,000	3,300	31	3,300	890	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	160	ND	0.79	0.54	ND	--
	MW6	ND	ND	ND	ND	ND	--
10/06/93	MW3	24,000	4,100	ND	3,600	2,000	ND
	MW5	150	1.1	ND	3.1	0.85	57
7/22/93	MW1	ND	ND	ND	ND	ND	77
	MW2	62*	ND	ND	ND	ND	42
	MW3	16,000	4,500	17	3,600	1,900	440
	MW4	ND	ND	ND	ND	ND	54
	MW5	59**	ND	ND	2.6	ND	42
	MW6	ND	ND	ND	ND	ND	ND

**TABLE 2 (Continued)**

SUMMARY OF LABORATORY ANALYSES  
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	MTBE
4/20/93 &	MW1	--	--	--	--	--	56
	MW2	--	--	--	--	--	80
4/23/93	MW3	18,000	3,700	11	2,300	1,300	410
	MW4	--	--	--	--	--	65
	MW5	99*	ND	ND	ND	ND	120
	MW6	--	--	--	--	--	ND
1/21/93	MW1	ND	ND	ND	ND	ND	42
	MW2	ND	ND	ND	ND	ND	17
	MW3	12,000	2,800	11	1,600	590	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	100*	ND	ND	ND	ND	160
	MW6	ND	ND	ND	ND	ND	--
10/28/92	MW1	SAMPLED SEMI-ANNUALLY					
	MW2	SAMPLED SEMI-ANNUALLY					
	MW3	15,000	4,400	15	2,400	800	--
	MW4	SAMPLED SEMI-ANNUALLY					
	MW5	ND	ND	ND	ND	ND	45
	MW6	SAMPLED SEMI-ANNUALLY					
7/09/92	MW1	70*	ND	ND	ND	ND	130
	MW2	ND	ND	ND	ND	ND	49
	MW3	13,000	3,200	12	1,900	1,100	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	ND	ND	ND	ND	ND	71
	MW6	ND	ND	ND	ND	ND	--
4/14/92	MW1	76*	ND	ND	ND	ND	--
	MW2	45*	ND	ND	ND	ND	--
	MW3	16,000	3,400	19	1,400	1,300	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	86*	ND	ND	ND	ND	--
	MW6	ND	ND	ND	ND	ND	--
1/14/92	MW1	ND	ND	ND	ND	ND	--
	MW2	ND	ND	ND	ND	ND	--
	MW3	13,000	6,600	19	2,600	1,800	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	60*	ND	ND	ND	ND	--
	MW6	ND	ND	ND	ND	ND	--

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES  
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
10/14/91	MW1	ND	ND	ND	ND	ND	--
	MW2	ND	ND	ND	ND	ND	--
	MW3	25,000	6,300	78	2,000	1,400	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	140	0.72	ND	1.3	0.89	--
	MW6	ND	ND	ND	ND	ND	--
7/23/91	MW1	ND	ND	ND	ND	ND	--
	MW2	ND	ND	ND	ND	ND	--
	MW3	17,000	5,500	26	1,800	2,800	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	260	1.2	0.39	10	0.71	--
	MW6	ND	ND	ND	ND	ND	--
5/04/91	MW1	ND	ND	ND	ND	ND	--
	MW2	ND	ND	ND	ND	ND	--
	MW3	34,000	6,100	32	1,200	6,100	--

MTBE = Methyl tert butyl ether.

\* 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.

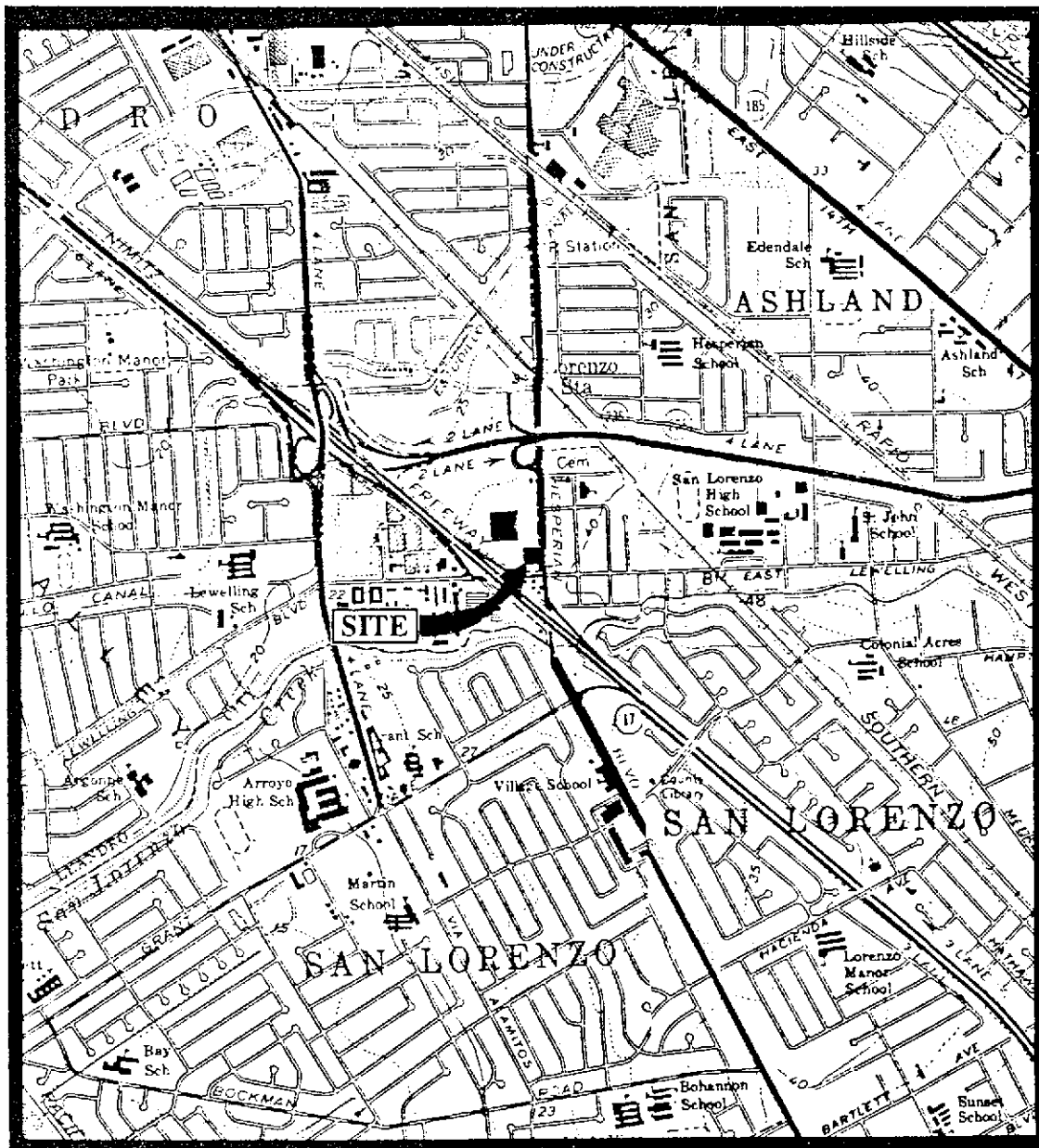
ND = Non-detectable.

-- Indicates analysis was not performed.

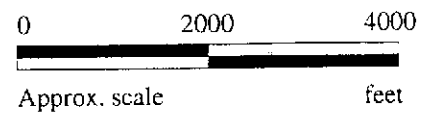
Results are in micrograms per liter ( $\mu\text{g/L}$ ), unless otherwise indicated.

Note: Laboratory analyses data prior to January 11, 1994, were provided by Kaprealian Engineering, Inc.





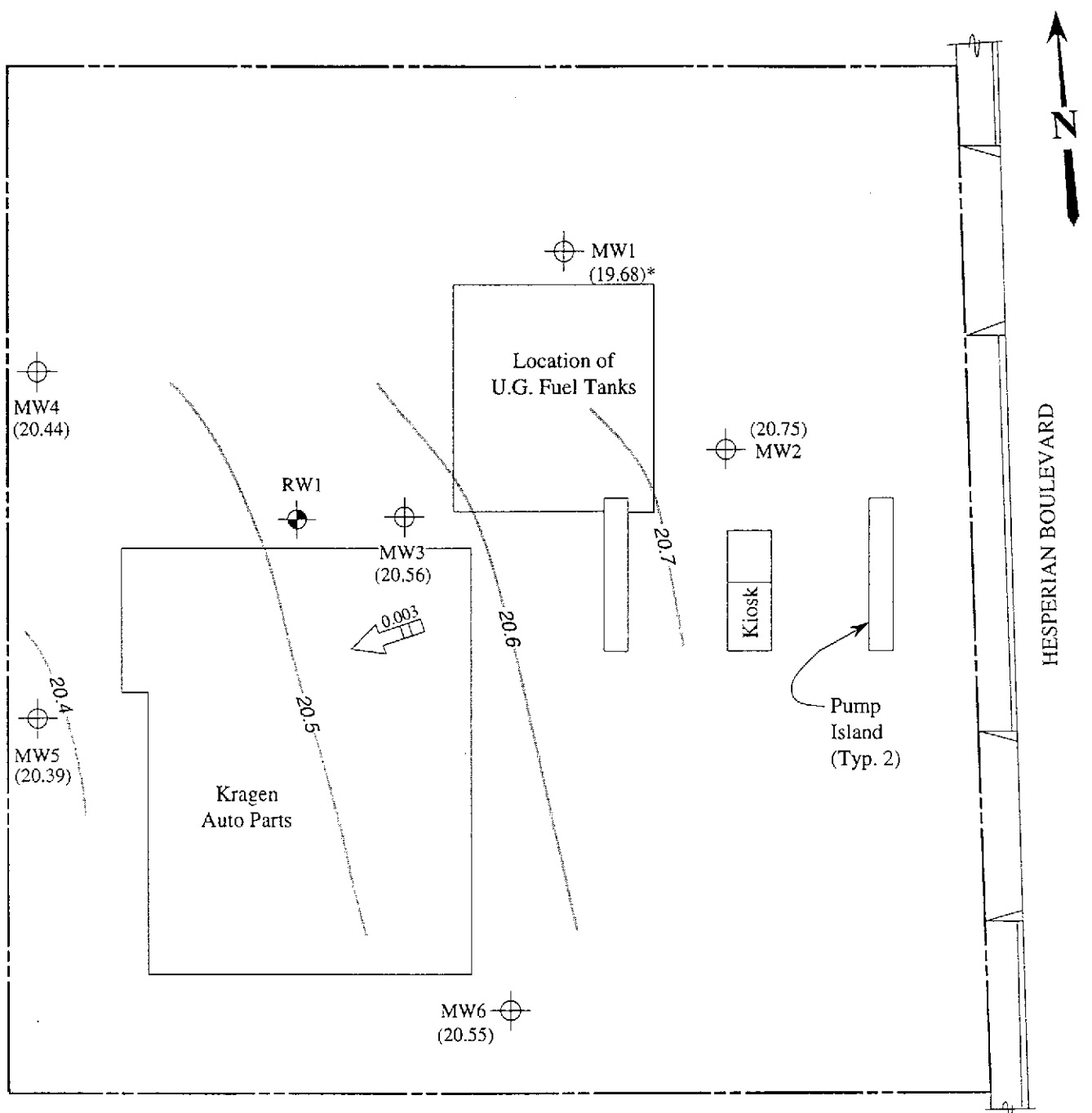
Base modified from 7.5 minute U.S.G.S. Hayward and San Leandro Quadrangles  
(both photorevised 1980)







**MPDS** SERVICES, INCORPORATED

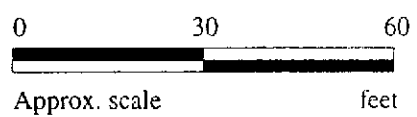
UNOCAL SERVICE STATION #7004  
15599 HESPERIAN BOULEVARD  
SAN LEANDRO, CA

LOCATION  
MAP



**LEGEND**

-  Monitoring well
-  Aquifer testing well
- ( ) Ground water elevation in feet above Mean Sea Level
-  Direction of ground water flow with approximate hydraulic gradient
-  Contours of ground water elevation
- \* Elevation was not used to calculate contours.



**POTENTIOMETRIC SURFACE MAP FOR THE OCTOBER 6, 1994 MONITORING EVENT**





MPDS Services	Client Project ID: Unocal #7004, 15599 Hesperian Blvd.,	Sampled: Oct 6, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript: Water	Received: Oct 6, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported: Oct 21, 1994
Attention: Avo Avedessian	First Sample #: 410-0641	

**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
410-0641	MW 3	20,000	2,100	26	3,000	900
410-0642	MW 5	350	1.3	ND	ND	ND

<b>Detection Limits:</b>	<b>50</b>	<b>0.50</b>	<b>0.50</b>	<b>0.50</b>	<b>0.50</b>
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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 #7004, 15599 Hesperian Blvd.,	Sampled: Oct 6, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript: Water San Leandro	Received: Oct 6, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported: Oct 21, 1994
Attention: Avo Avedessian	First Sample #: 410-0641	

**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%)
410-0641	MW 3	Gasoline	50	10/18/94	HP-4	95
410-0642	MW 5	Gasoline	2.0	10/18/94	HP-4	83

**SEQUOIA ANALYTICAL, #1271**

Signature on File

Alan B. Kemp  
Project Manager





MPDS Services Client Project ID: Unocal #7004, 15599 Hesperian Blvd., San Leandro  
 2401 Stanwell Dr., Ste. 400 Matrix: Liquid  
 Concord, CA 94520  
 Attention: Avo Avedessian QC Sample Group: 4100641-642 Reported: Nov 4, 1994

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	4100600	4100600	4100600	4100600
Date Prepared:	10/18/94	10/18/94	10/18/94	10/18/94
Date Analyzed:	10/18/94	10/18/94	10/18/94	10/18/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	
Matrix Spike % Recovery:	85	105	110	108
Matrix Spike Duplicate % Recovery:	85	100	100	102
Relative % Difference:	0.0	4.9	9.5	5.7

LCS Batch#:	2LCS101894	2LCS101894	2LCS101894	2LCS101894
Date Prepared:	10/18/94	10/18/94	10/18/94	10/18/94
Date Analyzed:	10/18/94	10/18/94	10/18/94	10/18/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	81	92	95	97

% Recovery Control Limits:	71-133	72-128	72-130	71-120
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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) 802-5120 Fax: (510) 689-1918

## CHAIN OF CUSTODY

SAMPLER			UNOCAL					ANALYSES REQUESTED							TURN AROUND TIME:	
RAY MARANGOSIAN			S/S # <u>7004</u> CITY: <u>SAN LEANDRO</u>					TPH-GAS BTEX	TPH-DIESEL	TOG	8010					REGUL
WITNESSING AGENCY			ADDRESS: <u>15599 HESPERIAN BLVD</u>													
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION									
MW3	10-6-94	15:00	X	X		2	Well	X							4100641 A	
MW5	"	17:30	X	X		2	Well	X							4100642 ↓	
RELINQUISHED BY: <i>Ray Marangosian</i>			18:30 DATE/TIME 10-6-94		RECEIVED BY: <i>D. Kelly</i> 10/6/94 1830			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)					(SIGNATURE)			2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? YES								
(SIGNATURE)					(SIGNATURE)			3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? NO								
(SIGNATURE)					(SIGNATURE)			4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? YES								
(SIGNATURE)					(SIGNATURE)			SIGNATURE: <i>D. Kelly</i>		TITLE: Analyst		DATE: 10/6/94				