CL

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS SERVICES, INCORPORATED

94 JUL 25 P 2:54

R0300

July 22, 1994

Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

RE: Former Unocal Service Station #2512
1300 Davis Street
San Leandro, California

Per the request of the Unocal Corporation Project Manager, Mr. Edward C. Ralston, enclosed please find our report (MPDS-UN2512-01) dated July 13, 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) 277-2311.

Sincerely,

MPDS Services, Inc.

Brenda Pepito

/bp

Enclosure

cc: Mr. Edward C. Ralston

TEL (510) 602-5120 FAX (510) 632-1918

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS SERVICES, INCORPORATED

MPDS-UN2512-01
July 13, 1994

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

Attention: Mr. Edward C. Ralston

RE: Quarterly Report
Former Unocal Service Station #2512
1300 Davis Street
San Leandro, California

Dear Mr. Ralston:

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 not shown on a separate figure, due to unavailability of new survey data of monitoring wells. The monitoring well covers were damaged during site demolition and excavation activities, therefore, they need to be re-surveyed.

Ground water samples were collected on June 9, 1994. Prior to sampling, the wells were each purged of between 10.5 and 12.5 gallons of water. 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. 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 2 and 3. 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 1. 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

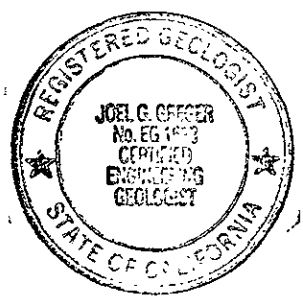
A copy of this report should be sent to the Alameda County Health Care Services Agency, and to Mr. Dan Sullivan of the City of San Leandro.

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

Sincerely,

MPDS Services, Inc.

Sarkis Karkarian
Staff Engineer



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

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

/dlh

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

cc: Mr. Robert H. Kezerian, Kaprealian Engineering, Inc.

TABLE 1

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)	Total Well Depth (feet)♦
(Monitored and Sampled on June 9, 1994)							
MW1	N/A	15.22	0	No	12	0	32.68
MW2	N/A	15.48	0	No	12	0	32.56
MW3	N/A	14.74	0	No	12.5	0	32.51
MW4	N/A	15.08	0	No	12	0	32.10
MW5	WELL WAS DESTROYED						
MW6	WELL WAS DESTROYED						
MW7	N/A	14.43	0	No	10.5	0	29.82
(Monitored and Sampled on October 30, 1992)							
MW1*	16.11	16.58	0	--	0	0	
MW2	**	17.38	0	No	11	0	
MW3	**	17.08	0.07	N/A	0	0	
MW4	WELL WAS INACCESSIBLE						
MW5	WELL WAS INACCESSIBLE						
MW6	16.12	17.07	0	No	11	0	
MW7	15.78	16.31	0	No	10	0	
(Monitored and Sampled on May 26, 1992)							
MW1*	16.79	15.90	0	--	0	0	
MW2	16.74	16.30	0	No	13	0	
MW3	16.76▲	16.06	0.12	N/A	0	0	
MW4	16.76	15.62	0	No	13	0	
MW5*	16.80	16.22	0	--	0	0	
MW6	16.85	16.34	0	No	13	0	
MW7	16.79	15.30	0	No	13	0	
(Monitored and Sampled on February 27, 1992)							
MW1*	17.33	15.36	0	--	0	0	
MW2	17.64	15.40	0	No	13	0	
MW3*	17.82▲	14.98	0.09	N/A	0	0	
MW4	17.42	14.96	0	No	13	0	
MW5*	17.52	15.50	0	--	0	0	
MW6	17.49	15.70	0	No	13	0	
MW7	17.97	15.12	0	No	13	0	

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Well Cover Elevation (feet)▲▲	Well Casing Elevation (feet)
MW1	32.69	NA
MW2	33.04	NA
MW3	32.73	NA
MW4	32.38	NA
MW5	33.02	NA
MW6	33.19	NA
MW7	32.09	NA

◆ The depth to water level and total well depth measurements were taken from the top of the well casings. Prior to June 9, 1994, the depth to water level and total well depth were taken from the top of well covers.

* Monitored only.

** The Christy boxes for wells MW2 through MW5 were damaged during recent tank removal and soil excavation activities at the site; therefore, the ground water elevation could not be accurately determined.

▲ Ground water elevations were corrected for presence of free product (correction factor = 0.77).

▲▲ The previous elevations of the top of the well covers before site excavation works, were surveyed relative to Mean Sea Level (MSL).

-- Sheen determination was not performed.

N/A = Not Applicable.

NA = Not Available.

Note: Monitoring data prior to June 9, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG (mg/L)
6/09/94	MW1	--	580♦	ND	ND	ND	ND	--
	MW2	--	1,900♦♦	6.7	ND	66	ND	--
	MW3	17,000*	69,000	1,300	7,100	1,900	11,000	--
	MW4	ND	780♦	ND	ND	ND	ND	--
	MW5	WELL WAS DESTROYED						
	MW6	WELL WAS DESTROYED						
	MW7	--	610♦	ND	ND	ND	ND	--
10/30/92	MW1	NOT SAMPLED						
	MW2	--	1,200♦	ND	ND	ND	ND	--
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						
	MW4	WELL WAS INACCESSIBLE						
	MW5	NOT SAMPLED						
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--
5/26/92	MW1	NOT SAMPLED						
	MW2	--	2,900	8.8	9.3	54	36	--
	MW3▲	2,400,000	1,300,000	5,100	66,000	20,000	160,000	880
	MW4	ND	120	0.59	0.82	ND	1.9	--
	MW5	NOT SAMPLED						
	MW6	--	ND	ND	ND	ND	0.65	--
	MW7	--	ND	ND	ND	ND	0.60	--
2/27/92	MW1	NOT SAMPLED						
	MW2	--	330	12	12	10	93	--
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						
	MW4	ND	43	ND	1.0	0.37	2.5	--
	MW5	NOT SAMPLED						
	MW6	--	ND	3.2	ND	ND	3.8	--
	MW7	--	38	ND	0.97	0.69	4.0	--
11/19/91	MW1	NOT SAMPLED						
	MW2	--	220	2.5	8.4	2.4	14	--
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						
	MW4	ND	ND	ND	ND	ND	ND	--
	MW5	NOT SAMPLED						
	MW6	--	ND	ND	ND	ND	ND	--

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG (mg/L)
8/15/91	MW1	NOT SAMPLED						
	MW2	--	ND	ND	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO A TRACE OF FREE PRODUCT						
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	NOT SAMPLED						
	MW6	--	ND	ND	ND	ND	ND	ND
5/24/91	MW1	--	ND	ND	ND	ND	ND	ND
	MW2	--	ND	1.5	ND	ND	ND	ND
	MW3	2,000	23,000	940	3,400	590	2,600	ND
	MW4	ND	ND	0.64	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	--	ND	ND	ND	ND	ND	ND
2/04/91	MW1	ND	ND	ND	0.31	ND	0.62	ND
	MW2	ND	ND	ND	0.38	ND	0.87	ND
	MW3	NOT SAMPLED DUE TO A TRACE OF FREE PRODUCT						
	MW4	ND	ND	ND	0.72	ND	1.1	ND
	MW5	ND	ND	ND	0.35	ND	ND	ND
	MW6	ND	ND	ND	ND	ND	ND	ND
11/06/90	MW1	ND	ND	ND	ND	ND	ND	
	MW2	ND	ND	ND	0.42	ND	1.4	ND
	MW3	940	16,000	820	1,500	2,200	770	ND
	MW4	ND	ND	ND	0.36	ND	0.98	ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	1.6	0.35	ND	ND	ND
8/09/90	MW1	ND	ND	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND	ND	ND
	MW3	500	1,900	56	140	140	31	ND
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	ND	ND	ND	ND	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG (mg/L)
5/10/90	MW1	ND	ND	ND	ND	ND	ND	ND
	MW2	ND	43	ND	1.0	ND	ND	ND
	MW3	850	6,200	94	460	160	540	2.8
	MW4	88	54	ND	2.0	ND	0.37	ND
	MW5	83	ND	ND	ND	ND	0.31	ND
	MW6	ND	ND	ND	1.2	ND	ND	ND
2/23/90	MW1	ND	ND	ND	ND	ND	ND	ND
	MW2	ND	44	ND	ND	ND	ND	ND
	MW3	350	ND	0.32	ND	ND	ND	1.3
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	ND	ND	ND	ND	ND
11/21/89	MW1	ND	ND	ND	ND	ND	ND	8.9
	MW2	ND	48	ND	0.51	ND	ND	1.6
	MW3	110	1,900	ND	ND	ND	ND	3.8
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	70	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	ND	ND	ND	ND	ND
8/29/89	MW4	120	ND	ND	ND	ND	ND	ND
	MW5	100	ND	ND	0.94	0.30	ND	ND
	MW6	ND	ND	ND	ND	ND	ND	ND
8/10/89	MW1	ND	ND	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	0.39	ND	ND	ND
	MW3	860	3,200	73	140	35	240	ND
4/25/89	MW1	100	ND	0.31	ND	ND	ND	--
	MW2	ND	32	0.35	ND	ND	ND	--
	MW3	5,700	56	ND	ND	0.31	0.49	--

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

TOG = Total Oil & Grease

* Sequoia Analytical Laboratory reported that they hydrocarbons detected appeared to be a diesel and non-diesel mixture

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

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

▲ Free product was detected in well MW3; however, a water sample was collected and analyzed to determine if the product was predominantly hydrocarbon based.

-- Indicates analysis was not performed.

ND = Non-detectable.

mg/L = milligrams per liter.

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

Note: Monitoring data prior to June 9, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	Tetrachloro-ethene	1,1-Dichloro-ethane	1,1,1-Trichloro-ethane	Chloro-methane	1,1-Dichlo-roethene	1,2-Dichloro-benzene
6/09/94	MW1	1.0	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND	ND
	MW4**	2.8	8.8	0.83	ND	0.51	ND
	MW5	WELL WAS DESTROYED					
	MW6	WELL WAS DESTROYED					
	MW7	0.67	ND	ND	ND	ND	ND
10/30/92	MW2	ND	ND	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW4	WELL WAS INACCESSIBLE					
	MW6	1.2	ND	ND	ND	ND	ND
	MW7	2.2	ND	ND	ND	ND	ND
5/26/92	MW2	ND	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND	ND
	MW4	2.4	13	3.5	ND	0.83	ND
	MW6	1.1	ND	ND	ND	ND	1.7
	MW7	2.2	ND	ND	ND	ND	ND
2/27/92	MW2	ND	ND	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW4	3.5	6.0	ND	ND	ND	ND
	MW6	1.5	ND	ND	ND	ND	1.6
	MW7	2.4	ND	ND	ND	ND	ND

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	Tetrachloro-ethene	1,1-Dichloro-ethane	1,1,1-Trichloro-ethane	Chloro-methane	1,1-Dichlo-roethene	1,2-Dichloro-benzene
11/19/91	MW2	ND	ND	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW4	3.4	ND	ND	ND	ND	ND
	MW6	1.3	ND	ND	ND	ND	ND
8/15/91	MW2	ND	ND	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	MW4	3.6	ND	ND	ND	ND	ND
	MW6	1.2	ND	ND	ND	ND	ND
5/24/91	MW1	4.6	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND	ND
	MW4	4.1	2.5	3.9	ND	ND	ND
	MW5	0.89	ND	ND	ND	ND	ND
	MW6	0.88	ND	ND	5.6	ND	ND
11/06/90	MW1	4.8	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND	ND
	MW4	2.9	ND	ND	ND	ND	ND
	MW5	0.7	ND	ND	ND	ND	ND
	MW6	1.2	ND	ND	ND	ND	ND
4/25/89	MW1*	3.3	ND	ND	ND	ND	ND
	MW2	0.68	ND	ND	ND	ND	ND
	MW3	1.0	ND	ND	ND	ND	ND

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

* Trichloroethene was detected at 0.55 µg/L.

** Trichloroethene was detected at 0.70 µg/L.

ND = Non-detectable.

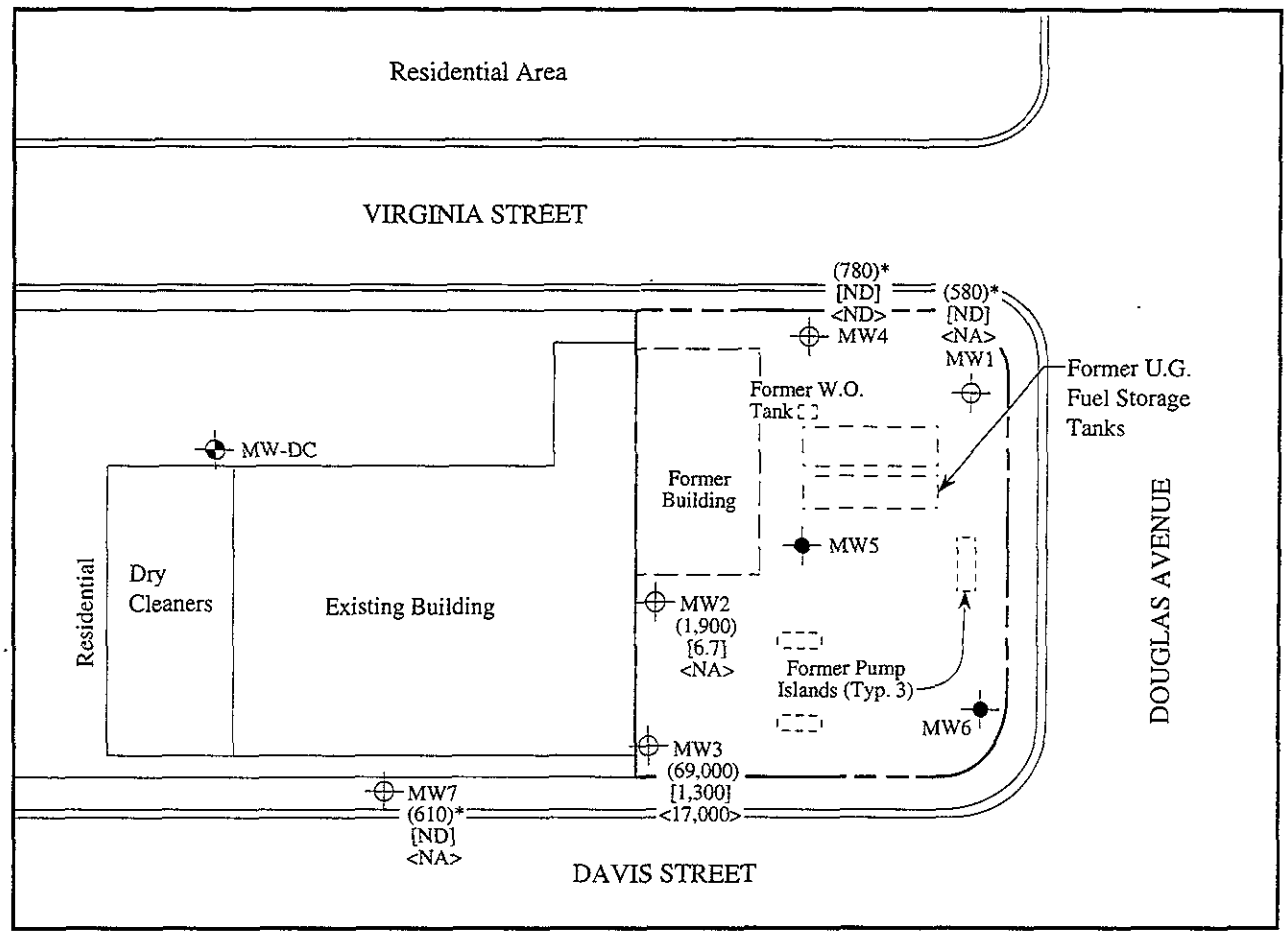
Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: - All EPA method 8010 constituents were non-detectable, except for those shown in the above table.

- Laboratory analyses data prior to June 9, 1994, were provided by Kaprealian Engineering, Inc.

Base modified from 7 5 minute U S G S San Leandro Quadrangle
(photorevised 1980)

mpds SERVICES, INCORPORATED	FORMER UNOCAL S/S #2512 1300 DAVIS STREET SAN LEANDRO, CALIFORNIA	LOCATION MAP



LEGEND

- Monitoring well (by KEI – existing)
- Monitoring well (by KEI – destroyed)
- Monitoring well (by others – existing)

( ) Concentration of TPH as gasoline in µg/L

[ ] Concentration of benzene in µg/L

< > Concentration of TPH as diesel in µg/L

ND = Non-detectable, NA = Not analyzed

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

0 50 100

Approx scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JUNE 9, 1994

MPDS SERVICES INCORPORATED

FORMER UNOCAL S\S #2512
1300 DAVIS STREET
SAN LEANDRO, CALIFORNIA

FIGURE
1

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro
Sample Matrix: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 406-0477

Sampled: Jun 9, 1994
Received: Jun 9, 1994
Reported: Jun 23, 1994

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 406-0477 MW-1*	Sample I.D. 406-0478 MW-2**	Sample I.D. 406-0479 MW-3	Sample I.D. 406-0480 MW-4*	Sample I.D. 406-0481 MW-7*
Purgeable Hydrocarbons	50	580	1,900	69,000	780	610
Benzene	0.5	N.D.	6.7	1,300	N.D.	N.D.
Toluene	0.5	N.D.	N.D.	7,100	N.D.	N.D.
Ethyl Benzene	0.5	N.D.	66	1,900	N.D.	N.D.
Total Xylenes	0.5	N.D.	N.D.	11,000	N.D.	N.D.
Chromatogram Pattern:		Discrete Peak	Gasoline and Discrete Peak	Gasoline	Discrete Peak	Discrete Peak

Quality Control Data

Report Limit Multiplication Factor:	5.0	10	500	10	10
Date Analyzed:	6/21/94	6/21/94	6/20/94	6/21/94	6/21/94
Instrument Identification:	HP-4	HP-4	HP-2	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	99	93	97	100	99

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Please Note
* This sample does not appear to contain gasoline. Discrete Peak refers to an unidentified peak in the MTBE range
** This sample appears to contain gasoline and non-gasoline mixtures. "Discrete Peak" refers to an unidentified peak in the MTBE range

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro
Sample Matrix: Water
Analysis Method: EPA 3510/3520/8015
First Sample #: 406-0479

Sampled: Jun 9, 1994
Received: Jun 9, 1994
Reported: Jun 23, 1994

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 406-0479 MW-3*	Sample I.D. 406-0480 MW-4
Extractable Hydrocarbons	50	17,000	N.D.
Chromatogram Pattern:		Diesel and Unidentified Hydrocarbons <C14	--

Quality Control Data

Report Limit Multiplication Factor:	10	1.0
Date Extracted:	6/13/94	6/13/94
Date Analyzed:	6/17/94	6/15/94
Instrument Identification:	HP-3B	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

Alan B Kemp
Project Manager

Please Note
*This sample appears to contain diesel and non-diesel mixtures Unidentified hydrocarbons <C14 are probably gasoline

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID: Unocal #2512, 1300 Davis St , San Leandro	Sampled:	Jun 9, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript: Water, MW-1	Received:	Jun 9, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8010	Analyzed:	Jun 21, 1994
Attention: Avo Avedessian	Lab Number: 406-0477	Reported:	Jun 23, 1994

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	1.0
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro
Sample Descript: Water, MW-2
Analysis Method: EPA 5030/8010
Lab Number: 406-0478

Sampled: Jun 9, 1994
Received: Jun 9, 1994
Analyzed: Jun 21-22, 1994
Reported: Jun 23, 1994

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID: Unocal #2512, 1300 Davis St., San Leandro	Sampled:	Jun 9, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript: Water, MW-3	Received:	Jun 9, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8010	Analyzed:	Jun 21, 1994
Attention: Avo Avedessian	Lab Number: 406-0479	Reported:	Jun 23, 1994

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	10	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chloroethane	10	N.D.
2-Chloroethylvinyl ether	10	N.D.
Chloroform	5.0	N.D.
Chloromethane	10	N.D.
Dibromochloromethane	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,1-Dichloroethane	5.0	N.D.
1,2-Dichloroethane	5.0	N.D.
1,1-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis-1,3-Dichloropropene	5.0	N.D.
trans-1,3-Dichloropropene	5.0	N.D.
Methylene chloride	50	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl chloride	10	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID: Unocal #2512, 1300 Davis St., San Leandro	Sampled: Jun 9, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript: Water, MW-4	Received: Jun 9, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8010	Analyzed: Jun 21-22, 1994
Attention: Avo Avedessian	Lab Number: 406-0480	Reported: Jun 23, 1994

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	8.8
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	0.51
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	2.8
1,1,1-Trichloroethane	0.50	0.83
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	0.70
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID: Unocal #2512, 1300 Davis St., San Leandro	Sampled:	Jun 9, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript: Water, MW-7	Received:	Jun 9, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8010	Analyzed:	Jun 21, 1994
Attention: Avo Avedessian	Lab Number: 406-0481	Reported:	Jun 23, 1994

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**0.67**
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro
Matrix: Liquid
QC Sample Group: 4060477-81

Reported: Jun 23, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 Mod.
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	K. Wimer
MS/MSD Batch#:	4060419	4060419	4060419	4060419	BLK061394
Date Prepared:	6/20/94	6/20/94	6/20/94	6/20/94	6/13/94
Date Analyzed:	6/20/94	6/20/94	6/20/94	6/20/94	6/15/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	105	105	105	107	89
Matrix Spike Duplicate % Recovery:	110	110	110	110	87
Relative % Difference:	4.7	4.7	4.7	2.8	3.0
LCS Batch#:	1LCS062094	1LCS062094	1LCS062094	1LCS062094	BLK061394
Date Prepared:	6/20/94	6/20/94	6/20/94	6/20/94	6/13/94
Date Analyzed:	6/20/94	6/20/94	6/20/94	6/20/94	6/15/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
LCS % Recovery:	90	110	114	114	89
% Recovery Control Limits:	71-133	72-128	72-130	71-120	28-122

SEQUOIA ANALYTICAL, #1271

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.

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MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro
Matrix: Liquid

QC Sample Group: 4060477-81

Reported: Jun 23, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD Batch#:	4060428	4060428	4060428	4060428
Date Prepared:	6/21/94	6/21/94	6/21/94	6/21/94
Date Analyzed:	6/21/94	6/21/94	6/21/94	6/21/94
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:	90	95	90	95
Matrix Spike Duplicate % Recovery:	90	90	90	93
Relative % Difference:	0.0	5.4	0.0	2.1
LCS Batch#:	2LCS062194	2LCS062194	2LCS062194	2LCS062194
Date Prepared:	6/21/94	6/21/94	6/21/94	6/21/94
Date Analyzed:	6/21/94	6/21/94	6/21/94	6/21/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	74	100	105	110
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1271

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.

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MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro
Matrix: Liquid
QC Sample Group: 4060477-81
Reported: Jun 23, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010	EPA 8010	EPA 8010	EPA 8010
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill	K. Nill	K. Nill
MS/MSD Batch#:	4060481	4060481	4060481	4060578	4060578	4060578
Date Prepared:	6/22/94	6/22/94	6/22/94	6/21/94	6/21/94	6/21/94
Date Analyzed:	6/22/94	6/22/94	6/22/94	6/21/94	6/21/94	6/21/94
Instrument I.D.#:	HP5890/6	HP5890/6	HP5890/6	HP5890/7	HP5890/7	HP5890/7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	10 µg/L	10 µg/L	10 µg/L
Matrix Spike % Recovery:	71	96	97	62	76	92
Matrix Spike Duplicate % Recovery:	75	104	101	68	80	93
Relative % Difference:	5.4	8.0	4.0	9.2	5.1	1.1
LCS Batch#:	LCS062194	LCS062194	LCS062194	LCS062194	LCS062194	LCS062194
Date Prepared:	6/21/94	6/21/94	6/21/94	6/21/94	6/21/94	6/21/94
Date Analyzed:	6/21/94	6/21/94	6/21/94	6/21/94	6/21/94	6/21/94
Instrument I.D.#:	HP5890/6	HP5890/6	HP5890/6	HP5890/7	HP5890/7	HP5890/7
LCS % Recovery:	59	96	92	71	74	90
% Recovery Control Limits:	28-167	35-146	38-150	28-167	35-146	38-150

SEQUOIA ANALYTICAL, #1271

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.

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

SAMPLER: (JOE) HOVSIA AJEMIAN
WITNESSING AGENCY:
UNOCAL S/S # 2512 CITY: S. Leandro
ADDRESS: 1300 Davis st.
TURN AROUND TIME: Regular

ANALYSES REQUESTED: 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	REMARKS
MW-1	6-9-94	9:35 AM	✓	✓		4(VOA)	Wells	✓			✓	4060477 AD
MW-2	"	10:55 AM	✓	✓		4(VOA)	"	✓			✓	4060478 ↓
MW-3	"	11:40 AM	✓	✓		4(VOA) 1 Amber	"	✓	✓		✓	4060479 AE
MW-4	"	10:12 AM	✓	✓		4(VOA) 1 Amber	"	✓	✓		✓	4060480 ↓
MW-7	"	9:00 AM	✓	✓		4(VOA)	"	✓			✓	4060481 AJ

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
(SIGNATURE) Joe Ajemian	6-9-94	(SIGNATURE) 6/9/94 15:15
(SIGNATURE)	6/10/94 1325	(SIGNATURE)
(SIGNATURE)	6/10 1443	(SIGNATURE) Melissa Crevere
(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: Analyst DATE: 6/9/94