

December 12, 1994

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

Attn: Mr. Scott Seery

RE: Unocal Service Station #6277

15803 E. 14th Street San Leandro, California

Dear Mr. Seery:

1

Fer the request of the Unocal Corporation Project Manager, Mr. David J. Camille, enclosed please find our report (MPDS-UN6277-03) dated August 3, 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) 277-2335.

Sincerely,

MPDS Services, Inc.

Jarrel F. Crider

/jfc

Enclosure

cc: Mr. David J. Camille

MPDS-UN6277-03 August 3, 1994

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 #6277

15803 E. 14th Street 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 July 7, 1994. Prior to sampling, the wells were each purged of between 9 and 10 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 Teflonlined 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 and benzene detected in the ground water samples collected this

MPDS-UN6277-03 August 3, 1994 Page 2

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 Health Care Services Agency.

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

GED GEO

Sincerely,

MPDS Services, Inc.

Talin Kaloustian 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 & 3

Location Map Figures 1 & 2

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 Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)◆
	(Mon	itored and s	Sampled on Ju	ıly 7, 1	994)	
MW1	22.27	10.23	0	No	10	24.31
MW2A	22.37	11.16	0	No	10	25.20
MW3	22.55	9.67	0	No	9.5	23.17
MW4	22.38	9.38	0	No	9	22.12
MW5	22.33	6.96	0	No	9.5	20.53
MW6	22.42	6.42	0	No	9	19.22
	(Moni	tored and S	ampled on Ap	ril 4, :	1994)	
MW1	22.23	10.27	0	No	10	24.30
MW2A	22.30	11.23	0	No	9.5	25.20
MW3	22.50	9.72	0	No	9.5	23.17
MW4	22.37	9.39	0	No	9	22.10
MW5	22.25	7.04	0	No	9.5	20.51
MW6	22.32	6.52	0	No	9	19.23
	(Monit	ored and Sa	mpled on Jan	uary 6,	1994)	
MW1	22.19	10.31	0	No	10	24.30
MW2A	22.24	11.29	0	No	9.5	25.19
MW3	22.41	9.81	0	No	9.5	23.15
MW4	22.33	9.43	0	No	9	22.10
MW5	22.20	7.09	0	No	9.5	20.51
MW6	22.24	6.60	0	No	9	19.21
	(Monit	ored and Sa	mpled on Oct	ober 6,	1993)	
MW1	22.18	10.32	0	No	10	
MW2A	22.19	11.34	0	No	10	
MW3	22.37	9.85	0	No	9	
MW4	22.25	9.51	0	No	9	
MW5	22.14	7.15	0	No	9	
ммб	22.20	6.64	0	No	9	

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Well Casing Elevation (feet)*
MW1	32.50
MW2A	33.53
MW3	32.22
MW4	31.76
MW5	29.29
MW6	28.84

- The depth to water level and total well depth measurements were taken from the top of the well casings.
- * The elevations of the top of the well casings are relative to Mean Sea Level (MSL), based on a Benchmark located on the west side of East 14th Street, approximately 75 feet north of 155th Avenue (elevation = 31.65 MSL).

Note: Monitoring data prior to January 6, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 2
SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	Well #	TPH as <u>Diesel</u>	TPH as Gasoline	<u>Benzene</u>	<u>Toluene</u>	Ethyl- <u>benzene</u>	Xylenes
7/07/94	MW1		2,100♦♦	250	ND	57	200
	MW2A		90	5.2	ND	1.5	2.2
	MW3		190♦	ND	ND	ND	ND
	MW4		150♦	ND	${f N}{f D}$	ND	ND
	MW5		72♦	ND	ND	ND	ND
	MW6		ND	ND	ND	ND	ND
4/04/94	MW1	- -	1,100	15	ND	ND	7.4
	MW2A		80	8.0	ND	1.4	1.5
	MW3		170♦	ND	ND	ND	ND
	MW4		120	0.76	0.76	ND	0.98
	MW5		65♦	ND	ND	ND	ND
	MW6		57♦	ND	ND	ND	ND
1/06/94	MW1	- -	260	21	ND	2.5	14
	MW2A		110	2.6	ND	1.6	1.7
	MW3	- -	140♦	ND	ND	ND	ND
	MW4		100♦	ND	ND	ND	ND
	MW5		62♦	ND	${f N}{f D}$	ND	ND
	MW6		53♦	ND	ND	ND	ND
10/06/93	MW1		1,200♦	36	ND	ND	23
	MW2A		110♦	12	ND	7.4	1.4
	MW3		140♦	ND	ND	ND	ND
	MW4		130♦	ND	ND	ND	ND
	MW5		60♦	ND	ND	ND	ND
	MW6		ND	ND	ND	ND	ND
7/01/93	MW1		510	100	0.79	5.7	52
	MW2A		74♦	0.75	ND	ND	ND
	MW3		120♦	ND	ND	ND	ND
	MW4		91♦	ND	ND	ND	ND
	MW5		54♦	ND	ND	ND	ND
	MW6		ND	ND	ND	ND	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES WATER

'	-	TPH as	TPH as		:	Ethyl-	
<u>Date</u>	Well #	Diesel	Gasoline	<u>Benzene</u>	<u>Toluene</u>	<u>benzene</u>	Xylenes
4/02/93	MW1	ND	690	94	0.73	5.3	39
	MW2A	ND	120	7.2	ND	5.8	1.2
	MW3	ND	130♦	ND	ND	ND	ND
	MW4	ND	110♦	ND	ND	ND	ND
	MW5	ND	65♦	ND	ND	ND	ND
	MW6	ND	ND	ND	ND	ND	ND
1/29/93	MW1	ND	740♦♦	69	ND	3.8	43
	MW2A	ND	66♦	1.4	ND	ND	ND
	MM3	ND	130♦	0.84	ND	ND	ND
	MW4	ND	130♦	0.95	ND	ND	ND
10/20/92	MW1	ND	720	110	1.4	18	110
	MW2A	ND	96	2.8	ND	1.8	1.6
	MW3	ND	180♦	ND	ND	ND	ND
	MW4	ND	110♦	ND	ND	ND	ND
7/20/92	MW1	62*	630	100	2.8	6.3	52
	MW2A	ND	99	8.6	ND	2.4	0.95
	MW3	ND	120♦	ND	ND	ND	ИD
	MW4	ND	80♦	ND	ND	ND	ND
4/23/92	MW1		530	100	7.9	4.6	60
	MW2A	ND	190	15	ND	15	2.0
	MW3		150♦	1.6	ND	ND	ND
	MW4		120♦	ND	ND	ND	ND
1/13/92	MW1		450	240	4.6	8.6	73
	MW2A	ND	160	11	2.0	10	5.9
	MW3		120♦	ND	ND	ND	ND
	MW4		58♦	ND	ND	ND	ND
9/10/91	MW1.	- -	280	38	3.1	4.1	22
	MW2A	65	180	8.7	0.93	15	13
	MW3		170	ND	ND	ND	ND
	MW4		56	ND	ND	ND	ND

TABLE 2 (Continued)
SUMMARY OF LABORATORY ANALYSES

WATER

<u>Date</u>	Well #	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	Benzene	<u>Toluene</u>	Ethyl- <u>benzene</u>	Xylenes
6/10/91	MW1		310	1.5	ND	ND	0.31
	MW2A	100	54	1.2	ND	ND	0.69
	MW3		160	0.65	ND	ND	ND
	MW4		64	ND	ND	ND	ND
3/15/91	MW1		110	21	ND	ND	8.4
	MW2A	ND	160	2.5	ND	ND	51
	MW3		150	ND	ND	ND	0.45
	MW4		53	ND	ИD	ND	ND
12/14/90	MW1		450	150	6.8	0.28	49
	MW3		150	ND	ND	ND	ND
	MW4		54	ND	ND	ND	ND
9/19/90	MW1		140	ND	ND	ND	3.5
	MW3		74	0.74	ND	ND	ND
	MW4	- - →	61	ND	ND	ND	ND
6/25/90	MW1		310	10	0.89	0.37	2.1
	ММЗ		190	1.5	0.68	ND	5.3
	MW4		66	ND	ND	ND	ND
3/29/90	MW1		320	12	1.6	0.31	3.5
	MW3		85	ND	ND	ND	ND
	MW4		120	0.39	ND	ND	ND
12/12/89	MW1		340	100	13	3.4	44
	MW2	1,700	660	220	6.6	13	36
	MW3	→ →	120	6.7	0.64	0.46	1.5
	MW4	 →	97	4.6	ND	ND	ND
9/13/89	MW1	 →	550	32	17	3.4	52
	MW2	ND	170	2.0	0.38	ND	9.5
	MW3		76	ND	ND	ND	ND
	MW4		77	ND	ND	ND	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES WATER

<u>Date</u>	Well #	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Ethyl- <u>benzene</u>	Xylenes
6/06/89	MW1		590	ND	ND	ND	ND
	MW2	ND	77	ND	ND	ND	ND
	MW3		32	ND	ND	ND	ND
	MW4		37	ND	ND	ND	ND

- 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.
- * Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.
- -- Indicates analysis was not performed.

ND = Non-detectable.

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

Note: Laboratory analyses data prior to January 6, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 3
SUMMARY OF LABORATORY ANALYSES
WATER

			, •	1,2-	Cis-1,2-	Total Oil
\(\frac{1}{2}\)	,	Tetra-	Trichloro-	Dichloro-	Dichloro-	& Grease
<u>Date</u>	Well #	chloroethene	<u>ethene</u>	<u>ethane</u>	ethene	(mg/L)
4/04/94	MW1*	390	38	ND	17	
1/06/94	мwз	960	ND	ND	ND	
4/02/93	MW5	190	ND	ND	ND	
	MW6	71	ND	ND	ND	
1/29/93	MW1	300	ND	ND	ND	~ =
2,42,50	MW2A	140	10	ND	ND	en- m-
	MW3	980	ND	ND	ND	
	MW4	950	ND	ND	ND	
10/20/92	MW1	230	22	ND	16	
10/20/32	MW2A	64	11	ND	ND	
	MW3	1,100	20	ND	ND	
	MW4	360	17	ND	ND	
7/20/92	MW1	200	7.4	ND	ND	
1/20/52	MW2A	35	7.2	ND	4.8	ND
	MW3	1,400	25	ND	ND	
	MW4	440	11	ND	ND	
4/23/92	MW2A	17	5.6	ND	1.9	ND
1/13/92	MW2A**	33	ND	· ŅD	2.1	ND
6/10/91	MW2A	150	10	ND	ND	ND
3/15/91	MW2A	67	8.2	ND	2.6	ND
12/12/89	MW2	30	9.0	ND	ND	1.2
9/13/89	MW2	1.8	6.1.	4.2	1.2	ИD
6/06/89	MW2	110	4.4	2.8	ND	ND

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES WATER

- * All EPA method 8240 constituents were non-detectable, except for concentrations of benzene at 29 $\mu g/L$, ethylbenzene at 3.4 $\mu g/L$, total xylenes at 19 $\mu g/L$, and trans-1,2-dichloroethene at 2.4 $\mu g/L$.
- ** 1,1,2-trichloroethane was detected at a concentration of 9.9 μ g/L.

ND = Non-detectable.

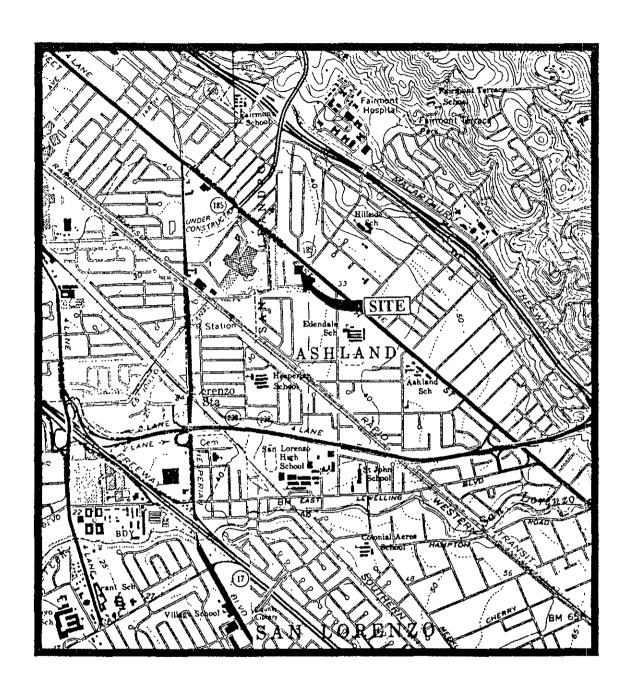
-- Indicates analysis was not performed.

mg/L = milligrams per liter.

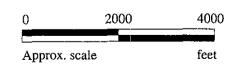
Results are in micrograms per liter $(\mu g/L)$, unless otherwise indicated.

Note: - All EPA method 8010 constituents were non-detectable in all of the ground water samples, except as indicated.

- Laboratory analyses data prior to January 6, 1994, were provided by Kaprealian Engineering, Inc.

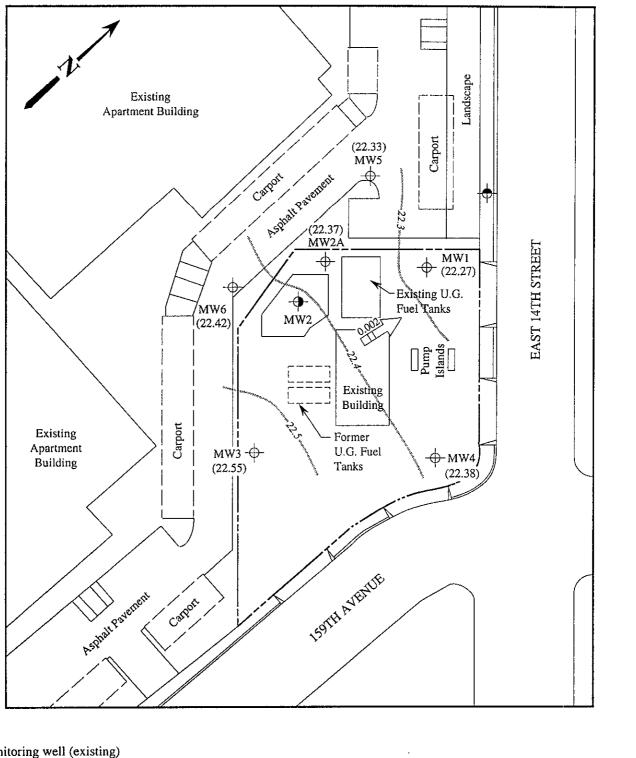


Base modified from 7.5 minute U.S.G.S. Hayward and San Leandro Quadrangles (both photorevised 1980)





UNOCAL SERVICE STATION #6277 15803 E. 14TH STREET SAN LEANDRO, CALIFORNIA LOCATION MAP



LEGEND

- Monitoring well (existing)
- Monitoring well (previously attempted)
- Monitoring well (destroyed February1, 1990)
- () Ground water elevation in feet above Mean Sea Level

Direction of ground water flow with approximate hydraulic gradient

Contours of ground water elevation



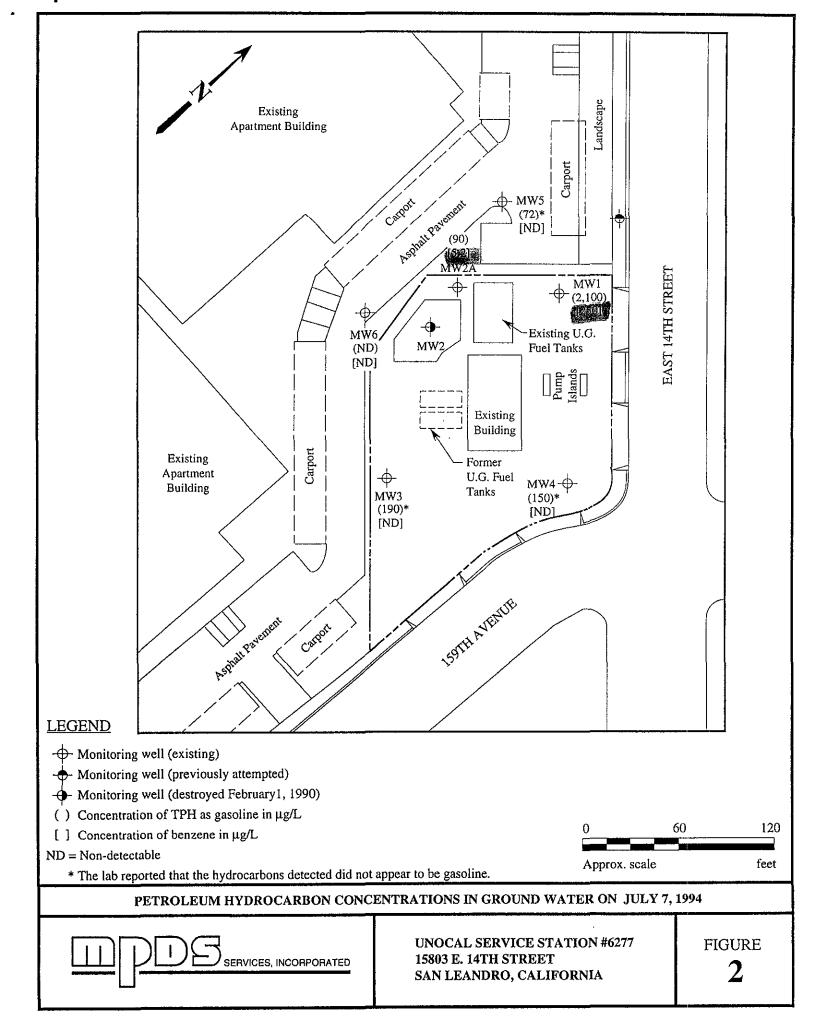
POTENTIOMETRIC SURFACE MAP FOR THE JULY 7, 1994 MONITORING EVENT

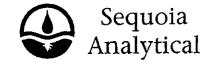


UNOCAL SERVICE STATION #6277 15803 E. 14TH STREET SAN LEANDRO, CALIFORNIA

FIGURE

1





680 Chesapeake Drive 819 Striker Avenue, Suite 8 Sacramento, CA 95834

Redwood City, CA 94063 1900 Bates Avenue, Suite L Concord, CA 94520

(415) 364-9600 (510) 686-9600 (916) 921-9600

FAX (415) 364-9233 FAX (510) 686-9689 FAX (916) 921-0100

MPDS Services

2401 Stanwell Dr., Ste. 400

Concord, CA 94520 Attention: Avo Avedessian Client Project ID: Unocal #6277, 15803 E 14th St, San Leandro

Water

Sampled:

Jul 7, 1994 Jul 7, 1994:

Matrix Descript: Analysis Method: EPA 5030/8015/8020

Received: Reported:

Jul 21, 1994%

First Sample #: into antre qualifie a gerese en geografest anaman orden mandemana na casso illa do deserbe en manatato ando espore esp

407-0510

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
407-0510	MW-1	2100**	250	ND	57	200
407-0511	MW-2A	90	5.2	ND	1.5	2.2
407-0512	MW-3	190*	ND	ND	ND	ND
407-0513	MW-4	150*	ND	ND	ND	ND
407-0514	MW-5	72*	ND	ND	ND	ND
407-0515	MW-6	ND	ND	ND	ND	ND

^{**} Hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

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.

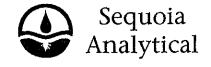
SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp Project Manager



Hydrocarbons detected did not appear to be gasoline.



680 Chesapeake Drive 1900 Bates Avenue, Suite L. Concord, CA 94520

Redwood City, CA 94063 819 Striker Avenue, Suite 8 Sacramento, CA 95834

(415) 364-9600 (510) 686-9600 (916) 921-9600

FAX (415) 364-9233 FAX (510) 686-9689 FAX (916) 921-0100

MPDS Services

2401 Stanwell Dr., Ste. 400 Concord, CA 94520

Attention: Avo Avedessian Subdiational to the first skill operation

gegeng<u>u</u>eken juggegraf karantingke rekemban <u>dan</u>kanangan pelakan dan ing Client Project ID: Unocal #6277, 15803 E 14th St, San Leandro

Matrix Descript: Water

Analysis Method: EPA 5030/8015/8020

First Sample #: 407-0510 na sikun Awakanan di kasunan dimekseksin manakan di meksikatan binah minamer (3-6) palah manamin mekilim melem

Sampled: Jul 7, 1994 Jul 7, 1994 Received:

Reported: Jul 21, 1994

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%
407-0510	MW-1	Gasoline & Discrete Peak**	10	7/18/94	HP-2	106
407-0511	MW-2A	Gasoline	1.0	7/18/94	HP-2	88
407-0512	MW-3	Unidentified Hydrocarbons <c7*< td=""><td>1.0</td><td>7/18/94</td><td>HP-2</td><td>88</td></c7*<>	1.0	7/18/94	HP-2	88
407-0513	MW-4	Unidentified Hydrocarbons <c7*< td=""><td>1.0</td><td>7/18/94</td><td>HP-2</td><td>86</td></c7*<>	1.0	7/18/94	HP-2	86
407-0514	MW-5	Unidentified Hydrocarbons <c7*< td=""><td>1.0</td><td>7/18/94</td><td>HP-2</td><td>83</td></c7*<>	1.0	7/18/94	HP-2	83
407-0515	MW-6		1.0	7/18/94	HP-2	91

SEQUOIA ANALYTICAL, #1271

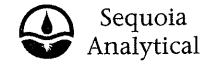
Signature on File

Alan B. Kemp **Project Manager**



^{*}Unidentified Hydrocarbons < C7 refers to unidentified peaks in the EPA 8010 range.

^{**}Discrete Peak refers to an unidentified peak in the MTBE range.



680 Chesapeake Drive 1900 Bates Avenue, Suite L Concord, CA 94520

Redwood City, CA 94063 819 Striker Avenue, Suite 8 Sacramento, CA 95834

(415) 364-9600 (510) 686-9600 (916) 921-9600 FAX (415) 364-9233 FAX (510) 686-9689 FAX (916) 921-0100

MPDS Services

2401 Stanwell Dr., Ste. 400

Concord, CA 94520 Attention: Avo Avedessian Client Project ID: Unocal #6277, 15803 E 14th St, San Leandro

Matrix: Liquid

QC Sample Group: 4070510-15 Jul 21, 1994 Reported: t on en grafiskeste til retorretskappopsiskerestingstilter och et et et er bladefinkart it tillt er skelle lage by b

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl	Xylenes	
			Benzene		
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	
MS/MSD					
Batch#:	4070289	4070289	4070289	4070289	
Date Prepared:	7/18/94	7/18/94	7/18/94	7/18/94	•
Date Analyzed:	7/18/94	7/18/94	7/18/94	7/18/94	
nstrument 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:	90	105	105	110	
Matrix Spike					
Duplicate %					
Recovery:	90	100	105	108	
Relative %					
Difference:	0.0	4.9	0.0	1.8	

LCS Batch#:	1LCS071894	1LCS071894	1LCS071894	1LCS071894
Date Prepared:	7/18/94	7/18/94	7/18/94	7/18/94
Date Analyzed:	7/18/94	7/18/94	7/18/94	7/18/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS %				
Recovery:	89	98	102	105
% Recovery	 			
Control Limits:	71-133	72-128	72-130	71-120

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.



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

STEVE BALIAN WITNESSING AGENCY				UNOCAL S/S # 6277 CITY: SAN LEANDRO ADDRESS: 15803 EAST 14 th ST.						TURN AROUND TIME:					
									rph-diesel	.	0				REGULAR
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	СОМР	NO. OF CONT.	SAMPLING LOCATION	TPH-GAS BTEX	TPH-	T0G	8010				REMARKS .
MW- 1	7-7-99	14:45	X	Χ		2-V	WELL	X							4070530 AC
MW-2A	"	14:20	X	X		U	"	X							4070531
Mw- 3	"	13:15	X	X		"	"	X							4070532
MW- 4	4	13:55	X	X		1	"	X							4070533
Mw. 5	"	12:45	X	X		/	"	X							4070514
MW- 6	4	12:10	X	X		"	2	X							4070535 V
. •							,								
	•			RECEIVED BY: Mussa Crusses (SIGNATURE)											
SIGNATURE)			(SIGNATURE)				3. DID ANY SAMPLES RECEIVED GOR ANALYSIS HAVE HEAD SPACE?								
SIGNATUREJ *	,			(SIGNATURE)		4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED?									
SIĞNATURE)		(SIGNATURE)				Melissa Creusere Sample 7-7-94									
			<u> </u>	* · · · · · · · · · · · · · · · · · · ·	, . w.a.			Mel	lissa	_Cre	nxry		Cont	rol	7-7-94