

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS

SERVICES, INCORPORATED

HAZMAT

95 JAN 18 01 7:49

January 12, 1995

Mr. Scott Seery
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94501

RE: Unocal Service Station #3292
15008 E. 14th Street
San Leandro, California

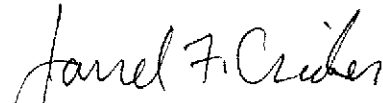
Dear Mr. Seery:

Per the request of the Unocal Corporation Project Manager, Mr. Edward C. Ralston, enclosed please find our report (MPDS-UN3292-05) dated November 23, 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.


Jarrel F. Crider

/jfc

Enclosure

cc: Mr. Edward C. Ralston

MPDS-UN3292-05
December 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 Data Report
Unocal Service Station #3292
15008 E. 14th 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 Unocal monitoring wells that were monitored and sampled during this quarter are indicated in Table 1. Prior to sampling, the Unocal wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations for the Unocal wells are summarized in Table 1. The ground water flow direction at the Unocal site during the most recent quarter is shown on the attached Figure 1.

A joint monitoring and sampling event was conducted with the consultant for the nearby former Mobil service station site on November 23, 1994. The monitoring data collected for the former Mobil site monitoring wells (provided by Alisto Engineering Group) are summarized Table 3. The ground water flow direction at the former Mobil site during the most recent quarter is also shown on the attached Figure 1.

Ground water samples were collected from the Unocal wells on November 23, 1994. Prior to sampling, the Unocal wells were each purged of between 5 and 8 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 collected from the Unocal wells 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 from the Unocal wells are summarized in Table 2. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected from the Unocal wells this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation for the Unocal wells 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 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, & 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)♦	Total Well Depth (feet)♦	Product Thickness (feet)	Sheen	Water Purged (gallons)
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(Monitored and Sampled on November 23, 1994)

MW1	25.20	11.17	18.94	0	No	5.5
MW2	25.37	10.97	19.10	0	No	6
MW3	25.44	10.98	22.13	0	No	8
MW4	25.39	11.65	19.60	0	No	5.5
MW5	25.23	10.71	22.13	0	No	8
MW6	25.46	10.21	20.13	0	No	7
MW7	25.40	10.69	21.19	0	No	7.5
MW8	24.91	11.98	19.08	0	No	5
MW9	24.98	11.31	19.08	0	No	5.5
MW10	24.94	11.10	19.85	0	No	6
MW11	24.83	10.67	18.97	0	No	6

(Monitored and Sampled on August 23, 1994)

MW1	24.39	11.98	18.93	0	No	5
MW2	24.52	11.82	19.08	0	No	5
MW3	24.54	11.88	22.12	0	No	7
MW4	24.47	12.57	19.60	0	No	5
MW5	24.37	11.57	22.12	0	No	7.5
MW6	24.70	10.97	20.11	0	No	6.5
MW7	24.66	11.43	21.18	0	No	7
MW8	24.28	12.61	19.07	0	No	4.5
MW9	24.30	11.99	19.06	0	No	5
MW10	24.23	11.81	19.85	0	No	5.5
MW11	24.11	11.39	18.97	0	No	5.5

TABLE 1 (Continued)

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 May 25, 1994)

MW1	25.92	10.45	18.96	0	No	6
MW2	26.04	10.30	19.11	0	No	6
MW3	26.08	10.34	22.15	0	No	8.5
MW4	26.02	11.02	19.65	0	No	6
MW5	25.91	10.03	22.08	0	No	8.5
MW6	26.12	9.55	20.10	0	No	7.5
MW7	26.09	10.00	21.20	0	No	8
MW8	25.77	11.12	19.02	0	No	5.5
MW9	25.81	10.48	19.03	0	No	6
MW10	25.72	10.32	19.84	0	No	6.5
MW11	25.56	9.94	18.92	0	No	6.5

(Monitored and Sampled on February 24, 1994)

MW1	26.92	9.45	18.93	0	No	6.5
MW2	27.07	9.27	19.07	0	No	7
MW3	27.21	9.21	22.11	0	No	9
MW4	27.15	9.89	19.60	0	No	7
MW5	26.92	9.02	22.11	0	No	9
MW6	27.28	8.39	20.11	0	No	8
MW7	27.14	8.95	21.21	0	No	8.5
MW8	26.45	10.44	19.07	0	No	6
MW9	26.55	9.74	19.07	0	No	6.5
MW10	26.47	9.57	19.86	0	No	7
MW11	26.30	9.20	18.98	0	No	7

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

<u>Well #</u>	<u>Well Casing Elevation (feet)*</u>
MW1	36.37
MW2	36.34
MW3	36.42
MW4	37.04
MW5	35.94
MW6	35.67
MW7	36.09
MW8	36.89
MW9	36.29
MW10	36.04
MW11	35.50

◆ 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), per a Benchmark located at the northwest corner of East 14th Street and 150th Avenue (elevation = 36.88 feet MSL).

TABLE 2

**SUMMARY OF LABORATORY ANALYSES
WATER**

<u>Date</u>	<u>Well #</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
11/23/94	MW1	23,000	180	44	970	270
	MW2	15,000	61	24	440	ND
	MW3	3,200	48	ND	22	ND
	MW4	420	5.0	1.1	4.2	1.2
	MW5	46,000	230	260	3,900	14,000
	MW6	460	6.4	1.1	1.9	1.1
	MW7	10,000	220	ND	1,000	730
	MW8	1,700	34	ND	ND	3.1
	MW9	2,000	24	2.2	2.2	2.5
	MW10	16,000	260	ND	1,600	49
	MW11	5,800	250	10	120	22
8/23/94	MW1	24,000	130	57	970	320
	MW2	12,000	45	10	360	20
	MW3	2,900	37	49	14	2.9
	MW4	690	9.2	1.3	7.1	1.9
	MW5	61,000	360	380	4,800	17,000
	MW6	570	8.8	2.5	3.2	2.6
	MW7	19,000	210	50	2,000	2,800
	MW8	3,200	46	18	2.0	7.2
	MW9	2,800	28	32	ND	ND
	MW10	16,000	250	41	1,800	74
	MW11	7,300	250	13	150	42
5/25/94	MW1▲	6,400	72	ND	170	67
	MW2	11,000	50	ND	400	22
	MW3	1,400	20	ND	ND	ND
	MW4	1,700	22	ND	4.5	ND
	MW5	53,000	ND	ND	4,000	14,000
	MW6	500	11	ND	ND	0.73
	MW7	14,000	200	ND	1,500	1,800
	MW8	14,000	29	ND	ND	ND
	MW9	ND	ND	ND	ND	ND
	MW10	14,000	240	ND	230	62
	MW11	1,400	49	ND	26	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
2/24/94	MW1	18,000	74	30	940	480
	MW2♦	11,000	44	ND	580	32
	MW3	3,400	46	ND	53	11
	MW4	1,300	8.9	ND	20	ND
	MW5	57,000	140	400	4,400	16,000
	MW6♦	810	12	ND	2.6	0.77
	MW7♦	16,000	220	19	2,400	3,200
	MW8	1,200	10	2.3	ND	3.2
	MW9	2,900	35	ND	ND	ND
	MW10	15,000	330	19	2,000	83
	MW11	4,600	170	ND	140	36
11/23/93	MW1	18,000	210	63	900	620
	MW2	11,000	80	10	480	20
	MW3	2,300	34	ND	24	5.6
	MW4	720	10	ND	8.7	ND
	MW5	46,000	290	310	4,100	15,000
	MW6	520	ND	1.7	1.9	0.82
	MW7	19,000	310	30	2,500	2,300
	MW8	1,800	ND	3.4	ND	ND
	MW9	2,500	23	2.1	ND	ND
	MW10	18,000	300	10	2,800	110
	MW11	3,400	105	ND	120	43
8/23/93	MW1	24,000	160	110	840	810
	MW2	15,000	110	ND	590	64
	MW3	2,900	25	ND	50	18
	MW4	1,200	5.0	ND	16	ND
	MW5	61,000	340	380	3,600	14,000
	MW6	1,000	9.4	2.3	5.0	2.3
	MW7	33,000	360	ND	2,500	4,300
	MW8	280*	49	4.5	ND	ND
	MW9	3,000	29	ND	ND	ND
	MW10	20,000	230	13	3,200	140
	MW11	5,400	68	ND	230	43

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
5/21/93	MW1	27,000	150	200	1,200	950
	MW2	9,500	37	ND	470	62
	MW3	2,600	42	ND	43	15
	MW4	1,900	31	ND	20	4.5
	MW5	55,000	ND	160	3,500	12,000
	MW6	940	18	1.0	7.1	2.7
	MW7	22,000	330	37	2,100	2,900
	MW8	2,500	44	ND	ND	ND
	MW9	3,200	32	ND	8.1	ND
	MW10	23,000	250	ND	3,000	240
	MW11	7,100	64	ND	340	120
2/20/93	MW1	19,000	190	ND	880	620
	MW2	1,500	2.9	3.8	9.1	ND
	MW3	1,600	12	18	8.9	12
	MW4	2,400	40	2.1	33	ND
	MW5	17,000	75	ND	1,000	620
	MW6	2,400	43	ND	33	2.0
	MW7	1,800	37	4.6	11	7.7
	MW8	2,200	32	ND	42	5.0
	MW9	2,300	47	ND	32	ND
	MW10	17,000	74	ND	1,000	620
	MW11	18,000	76	ND	1,000	630
11/10/92	MW1	18,000	220	ND	690	830
	MW2	11,000	36	7.2	570	45
	MW3	3,400	37	ND	85	34
	MW4	690	9.1	ND	16	2.8
	MW5	57,000	800	1,800	4,400	18,000
	MW6	490	7.0	1.2	1.7	ND
	MW7	1,800	74	ND	230	350
	MW8	1,800	20	ND	ND	ND
	MW9	4,200	ND	ND	21	23
	MW10	15,000	300	42	3,500	330
	MW11	5,800	130	ND	260	42

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
8/20/92	MW1	18,000	230	22	640	950
	MW2	13,000	52	ND	660	70
	MW3	4,500	58	ND	65	35
	MW4	1,000	15	ND	11	3.0
	MW5	58,000	660	1,700	4,200	19,000
	MW6	280	8.4	ND	0.51	0.84
	MW7	13,000	460	54	ND	3,100
	MW8	3,500*	67	11	ND	ND
	MW9	3,800*	37	ND	ND	ND
	MW10	15,000	230	ND	1,000	350
	MW11	4,600*	62	ND	ND	54
5/19/92	MW1	29,000	650	370	1,100	1,200
	MW2	17,000	140	87	680	170
	MW3	3,400	25	3.6	66	41
	MW4	2,000	20	3.5	42	8.3
	MW5	84,000	760	1,500	4,000	17,000
	MW6	1,300	2.0	2.1	ND	2.7
	MW7	17,000	540	90	1,200	1,900
	MW8	5,300	28	3.3	2.6	2.1
	MW9	8,100	11	ND	25	5.8
3/17/92	MW1	23,000	320	19	1,000	940
	MW2	16,000	110	ND	730	220
	MW3	5,800	66	7.5	100	58
	MW4	1,800	3.7	1.4	90	21
	MW5	81,000	850	1,600	4,800	18,000
12/18/91	MW1	17,000	160	20	1,400	1,600
	MW2	10,000	110	5.1	420	96
	MW3	5,900	54	6.4	110	64
	MW4	2,500	28	2.5	54	22
	MW5	31,000	1,600	3,100	4,800	19,000

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
9/19/91	MW1	26,000	130	16	1,300	1,800
	MW2	19,000	100	6.8	790	310
	MW3	7,600	ND	13	190	170
	MW4	1,800	0.83	ND	54	46
	MW5	57,000	1,600	2,700	5,200	20,000
5/04/91	MW1	31,000	74	20	920	1,500
	MW2	19,000	6.6	1.4	460	630
	MW3	9,100	2.0	ND	55	180
	MW4	6,300	ND	ND	2.8	61
	MW5	69,000	1,400	2,500	3,500	15,000

▲ The analytical results of the ground water sample for well MW1 was inconsistent with the previous analytical results for this well. Therefore, Sequoia Analytical Laboratory re-analyzed the sample past hold time; therefore the results may be biased low.

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

◆ All EPA 8010 constituents were non-detectable.

ND = Non-detectable.

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

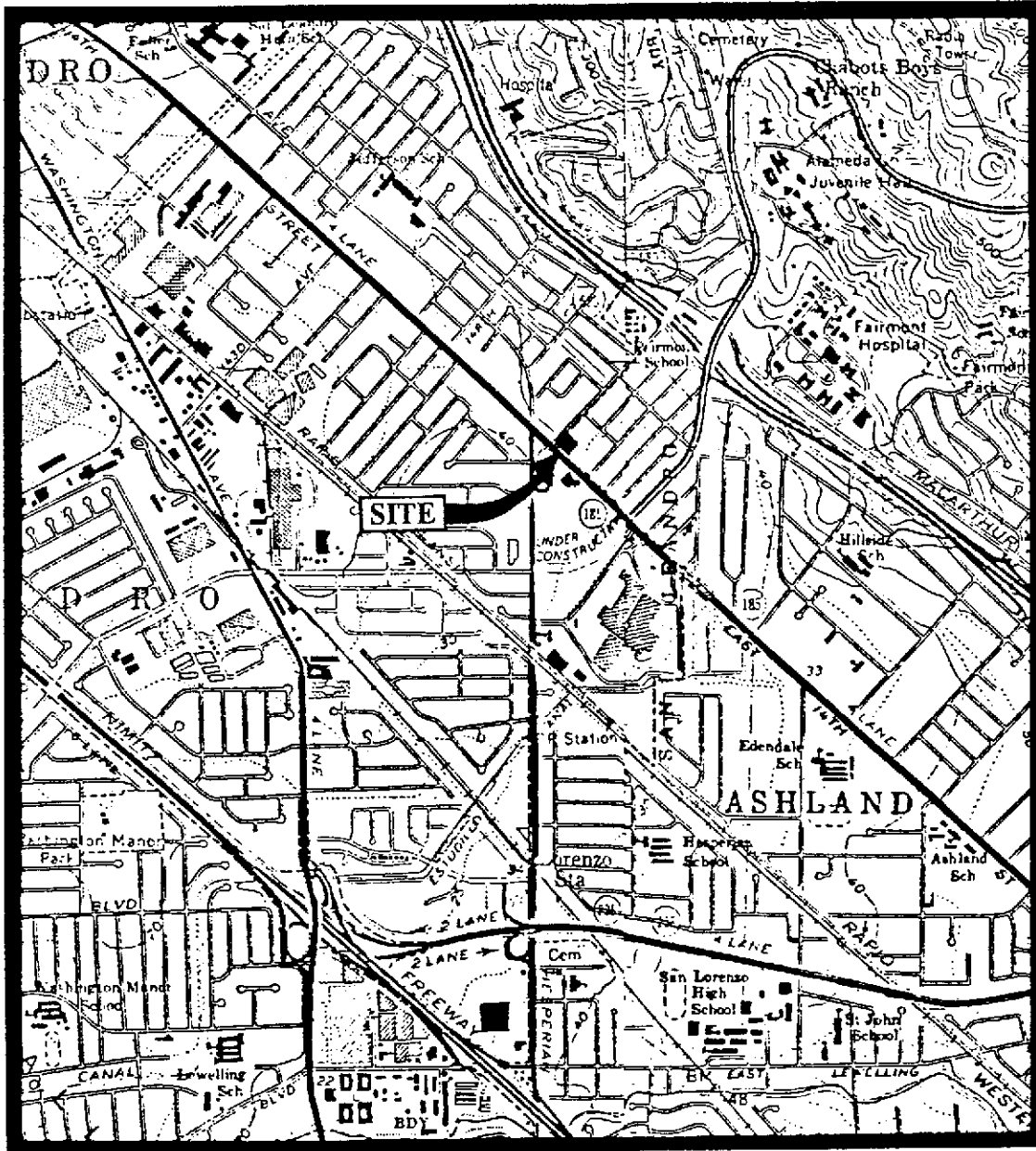
Note: Laboratory analyses data prior to November 23, 1993, were provided by Kaprealian Engineering, Inc.

TABLE 3

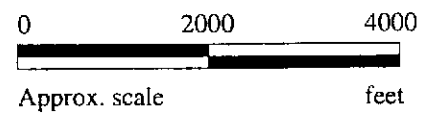
SUMMARY OF MONITORING DATA
FORMER MOBIL SERVICE STATION MONITORING WELLS
(Provided by Alisto Engineering Group)


<u>Well #</u>	<u>Ground Water Elevation (feet)</u>	<u>Depth to Water (feet)</u>	<u>Well Casing Elevation (feet)*</u>
(Monitored on November 23, 1994)			
MW-1	25.17	11.18	36.35
MW-2	25.36	11.25	36.61
MW-3	25.36	11.56	36.92
MW-A	WELL WAS INACCESSIBLE		

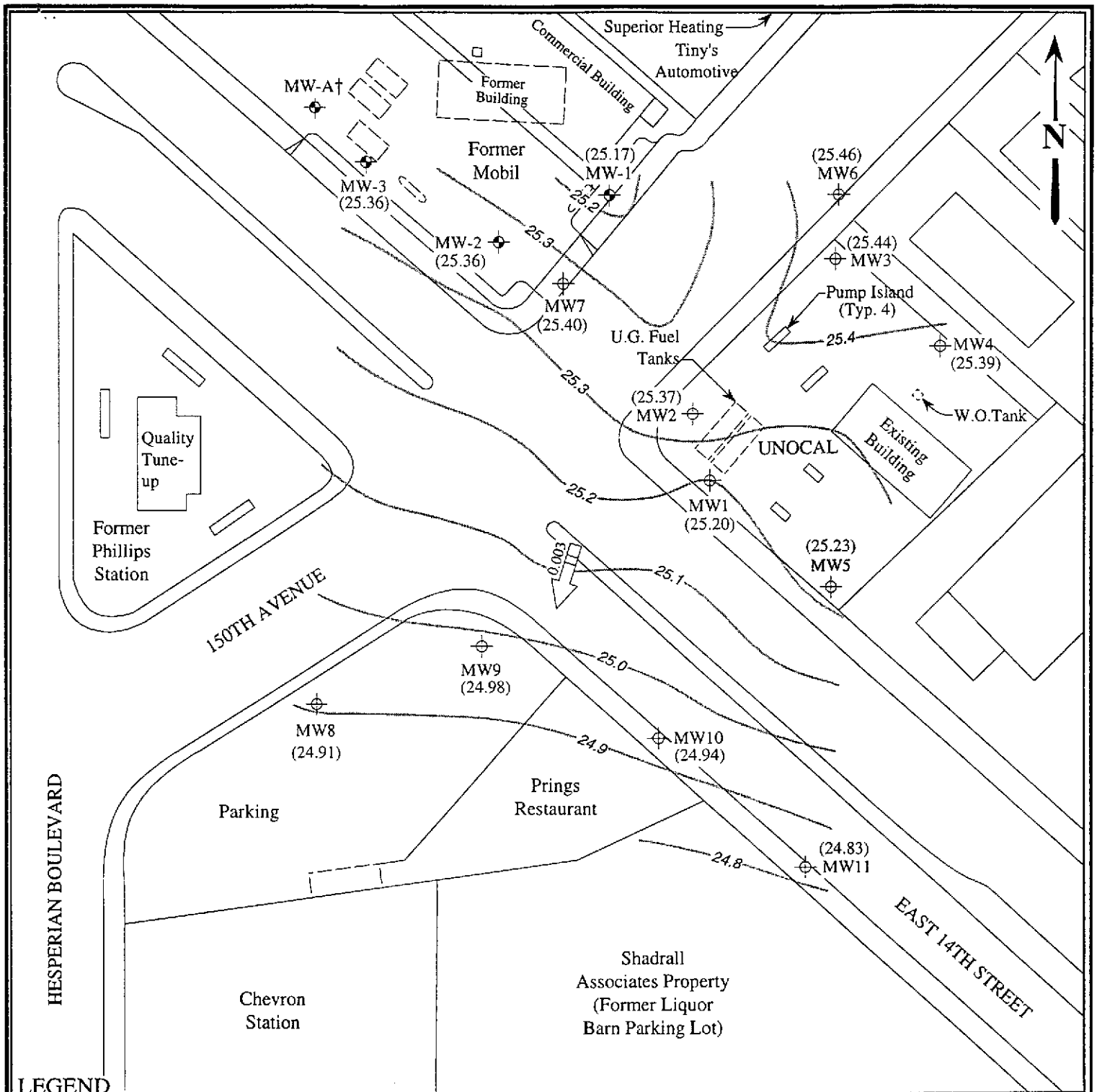
* The elevations of the top of the well casings have been surveyed relative to Mean Sea Level.



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



	<p>UNOCAL SERVICE STATION #3292 15008 E. 14TH STREET SAN LEANDRO, CALIFORNIA</p>	<p>LOCATION MAP</p>
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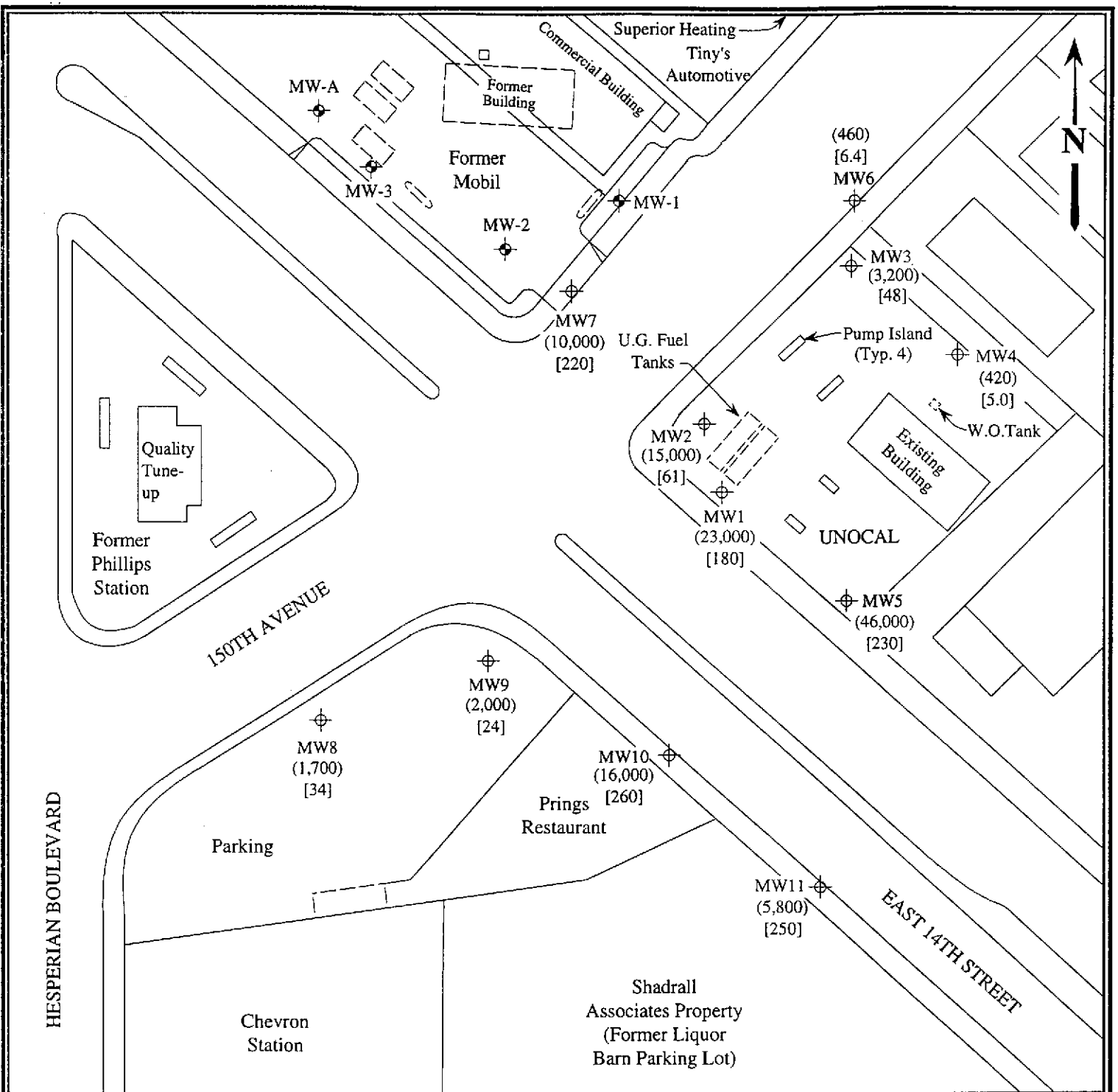


POTENTIOMETRIC SURFACE MAP FOR THE NOVEMBER 23, 1994 MONITORING EVENT



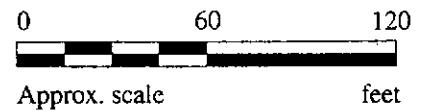
UNOCAL SERVICE STATION #3292
 15008 E. 14TH STREET
 SAN LEANDRO, CALIFORNIA

FIGURE
1



LEGEND

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



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON NOVEMBER 23, 1994



**UNOCAL SERVICE STATION #3292
15008 E. 14TH STREET
SAN LEANDRO, CALIFORNIA**

**FIGURE
2**



MPDS Services 2401 Stanwell Dr., Ste. 400 Concord, CA 94520 Attention: Avo Avedessian	Client Project ID: Unocal #3292, 15008 East 14th Street, Matrix Descript: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 411-1418	San Leandro	Sampled: Nov 23, 1994 Received: Nov 23, 1994 Reported: Dec 9, 1994
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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
411-1418	MW-1	23,000	180	44	970	270
411-1419	MW-2	15,000	61	24	440	ND
411-1420	MW-3	3,200	48	ND	22	ND
411-1421	MW-4	420	5.0	1.1	4.2	1.2
411-1422	MW-5	46,000	230	260	3,900	14,000
411-1423	MW-6	460	6.4	1.1	1.9	1.1
411-1424	MW-7	10,000	220	ND	1,000	730
411-1425	MW-8	1,700	34	ND	ND	3.1
411-1426	MW-9	2,000	24	2.2	2.2	2.5
411-1427	MW-10	16,000	260	ND	1,600	49

Detection Limits:	50	0.50	0.50	0.50	0.50
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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
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #3292, 15008 East 14th Street,
Matrix Descript: Water San Leandro
Analysis Method: EPA 5030/8015/8020
First Sample #: 411-1418

Sampled: Nov 23, 1994
Received: Nov 23, 1994
Reported: Dec 9, 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
411-1418	MW-1	Gasoline	40	12/6/94	HP-5	86
411-1419	MW-2	Gasoline	40	12/6/94	HP-5	83
411-1420	MW-3	Gasoline	10	12/6/94	HP-5	83
411-1421	MW-4	Gasoline	2.0	12/6/94	HP-2	109
411-1422	MW-5	Gasoline	50	12/7/94	HP-5	82
411-1423	MW-6	Gasoline	2.0	12/6/94	HP-2	117
411-1424	MW-7	Gasoline	40	12/6/94	HP-5	95
411-1425	MW-8	Gasoline	4.0	12/6/94	HP-2	144
411-1426	MW-9	Gasoline	4.0	12/6/94	HP-2	129
411-1427	MW-10	Gasoline	40	12/6/94	HP-5	83

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services 2401 Stanwell Dr., Ste. 400 Concord, CA 94520 Attention: Avo Avedessian	Client Project ID: Unocal #3292, 15008 East 14th Street, San Leandro Matrix: Liquid QC Sample Group: 4111418-1427	Reported: Dec 9, 1994
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QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	JF, AT	JF, AT	JF, AT	JF, AT

MS/MSD Batch#:	4111434	4111434	4111434	4111434
Date Prepared:	12/6/94	12/6/94	12/6/94	12/6/94
Date Analyzed:	12/6/94	12/6/94	12/6/94	12/6/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	105	110	102
Matrix Spike Duplicate % Recovery:	105	105	115	105
Relative % Difference:	0.0	0.0	4.4	2.9

LCS Batch#:	3LCS120694	3LCS120694	3LCS120694	3LCS120694
Date Prepared:	12/6/94	12/6/94	12/6/94	12/6/94
Date Analyzed:	12/6/94	12/6/94	12/6/94	12/6/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	96	99	108	98

% 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





MPDS Services 2401 Stanwell Dr., Ste. 400 Concord, CA 94520 Attention: Avo Avedessian	Client Project ID: Unocal #3292, 15008 East 14th Street, San Leandro Matrix: Liquid QC Sample Group: 4111418-1427	Reported: Dec 9, 1994
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QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	JF, AT	JF, AT	JF, AT	JF, AT

MS/MSD				
Batch#:	4111407	4111407	4111407	4111407
Date Prepared:	12/6/94	12/6/94	12/6/94	12/6/94
Date Analyzed:	12/6/94	12/6/94	12/6/94	12/6/94
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:	100	100	105	105
Matrix Spike Duplicate %				
Recovery:	100	100	105	105
Relative % Difference:	0.0	0.0	0.0	1.9

LCS Batch#:	1LCS120694	1LCS120694	1LCS120694	1LCS120694
Date Prepared:	12/6/94	12/6/94	12/6/94	12/6/94
Date Analyzed:	12/6/94	12/6/94	12/6/94	12/6/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	101	102	111	109

% 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





MPDS Services Client Project ID: Unocal #3292, 15008 East 14th Street, San Leandro
 2401 Stanwell Dr., Ste. 400 Matrix: Liquid
 Concord, CA 94520
 Attention: Avo Avedessian QC Sample Group: 4111418-1427 Reported: Dec 9, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	JF, AT	JF, AT	JF, AT	JF, AT

MS/MSD Batch#:	4111510	4111510	4111510	4111510
Date Prepared:	12/7/94	12/7/94	12/7/94	12/7/94
Date Analyzed:	12/7/94	12/7/94	12/7/94	12/7/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	110	110	105	105
Matrix Spike Duplicate % Recovery:	100	105	105	105
Relative % Difference:	9.5	4.6	0.0	0.0

LCS Batch#:	3LCS120794	3LCS120794	3LCS120794	3LCS120794
Date Prepared:	12/7/94	12/7/94	12/7/94	12/7/94
Date Analyzed:	12/7/94	12/7/94	12/7/94	12/7/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	95	98	100	98

% 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



CHAIN OF CUSTODY

SAMPLER			UNOCAL					ANALYSES REQUESTED							TURN AROUND TIME:	
NICHOLAS PERROW			S/S # <u>3292</u> CITY: <u>SAN LEANDRO</u>					TPH-GAS BTEX	TPH- DIESEL	TOG	8010					REGULAR
			ADDRESS: <u>15008 E. 14TH ST.</u>													
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION									
MW-1	11/23/94	1:15 PM	✓	✓		2 VOAS	WELL	✓						4111418	A, B	
MW-2	"	11:45 AM	✓	✓		"	"	✓						4111419		
MW-3	"	11:15 AM	✓	✓		"	"	✓						4111420		
MW-4	"	10:15 AM	✓	✓		"	"	✓						4111421		
MW-5	"	2:40 PM	✓	✓		"	"	✓						4111422		
MW-6	"	9:40 AM	✓	✓		"	"	✓						4111423		
MW-7	"	1:45 PM	✓	✓		"	"	✓						4111424		
MW-8	"	12:15 PM	✓	✓		"	"	✓						4111425		
MW-9	"	10:45 AM	✓	✓		"	"	✓						4111426		
MW-10	"	2:10 PM	✓	✓		"	"	✓						4111427		
RELINQUISHED BY:		DATE/TIME	RECEIVED BY:		DATE/TIME	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:										
(SIGNATURE) <i>[Signature]</i>		11/23/94 15:00	(SIGNATURE) <i>[Signature]</i>		11-23-94 1500	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>YES 6°C</u>										
(SIGNATURE) <i>[Signature]</i>		11/28/94 8:00	(SIGNATURE) <i>[Signature]</i>		1-28 1310	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>YES</u>										
(SIGNATURE) <i>[Signature]</i>		11-28	(SIGNATURE) <i>[Signature]</i>		11/28/94	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <u>NO</u>										
(SIGNATURE) <i>[Signature]</i>			(SIGNATURE) <i>[Signature]</i>			4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <u>YES</u>										
			(SIGNATURE) <i>[Signature]</i>			SIGNATURE: <i>[Signature]</i> TITLE: <u>DM</u> DATE: <u>11-23-94</u>										

Note: All water containers to be sampled for TPHG/BTEX, 8010 & 8240 are preserved with HCL. All water containers to be sampled for Lead or Metals are preserved with HNO3. All other containers are unpreserved.



MPDS Services	Client Project ID: Unocal #3292, 15008 East 14th Street,	Sampled: Nov 23, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript: Water	Received: Nov 23, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported: Dec 9, 1994
Attention: Avo Avedessian	First Sample #: 411-1417	

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
411-1417	MW-11	5,800	250	10	120	22

Detection Limits:	50	0.50	0.50	0.50	0.50
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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





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 #3292, 15008 East 14th Street, Matrix Descript: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 411-1417	San Leandro	Sampled: Nov 23, 1994 Received: Nov 23, 1994 Reported: Dec 9, 1994
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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
411-1417	MW-11	Gasoline	20	12/6/94	HP-5	86

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

4111417.MPD <2>





MPDS Services Client Project ID: Unocal #3292, 15008 East 14th Street, San Leandro
 2401 Stanwell Dr., Ste. 400 Matrix: Liquid
 Concord, CA 94520
 Attention: Avo Avedessian QC Sample Group: 411-1417 Reported: Dec 9, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	JF, AT	JF, AT	JF, AT	JF, AT

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	4111434	4111434	4111434	4111434
Date Prepared:	12/6/94	12/6/94	12/6/94	12/6/94
Date Analyzed:	12/6/94	12/6/94	12/6/94	12/6/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	105	110	102
Matrix Spike Duplicate % Recovery:	105	105	115	105
Relative % Difference:	0.0	0.0	4.4	2.9

LCS Batch#:	3LCS120694	3LCS120694	3LCS120694	3LCS120694
Date Prepared:	12/6/94	12/6/94	12/6/94	12/6/94
Date Analyzed:	12/6/94	12/6/94	12/6/94	12/6/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	96	99	108	98

% 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



CHAIN OF CUSTODY

SAMPLER NICHOLAS PERROW			UNOCAL S/S # <u>3292</u> CITY: <u>SAN LEANDRO</u> ADDRESS: <u>15008 E. 14TH ST.</u>					ANALYSES REQUESTED						TURN AROUND TIME: REGULAR REMARKS		
WITNESSING AGENCY								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					
MW-11	11/23/94	12:45 PM	✓	✓		2 VOAS	WELL	✓						4111	417 A, B	
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE/TIME 11/23/94 15:00	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>		DATE/TIME 11-23-94 15:00	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:										
(SIGNATURE) <i>[Signature]</i>		11/28/94 8:00	(SIGNATURE) <i>[Signature]</i>		11-28-13:00	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>YES 60C</u>										
(SIGNATURE) <i>[Signature]</i>		11-28-	(SIGNATURE) <i>[Signature]</i>		14:15 11/28/94	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>YES</u>										
(SIGNATURE) <i>[Signature]</i>			(SIGNATURE) <i>[Signature]</i>			3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <u>NO</u>										
(SIGNATURE) <i>[Signature]</i>			(SIGNATURE) <i>[Signature]</i>			4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <u>YES</u>										
						SIGNATURE: <i>[Signature]</i> TITLE: <u>DM</u> DATE: <u>11-23-94</u>										

Note: All water containers to be sampled for TPHG/BTEX, 8010 & 8240 are preserved with HCL. All water containers to be sampled for Lead or Metals are preserved with HNO3. All other containers are unpreserved.