

MPDS-UN0752-04
November 8, 1994

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

Attention: Ms. Tina R. Berry

RE: Quarterly Data Report
Unocal Service Station #0752
800 Harrison Street
Oakland, California

Dear Ms. Berry:

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 4 and 8.5 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, 3, and 4. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected this quarter are shown

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Page 2

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 Ms. Jennifer Eberle 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 through 4
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)
(Monitored and Sampled on October 6, 1994)						
MW1	13.82	20.87	33.60	0	No	4.5
MW2	14.17	20.55	30.10	0	No	6.5
MW3	13.41	19.73	30.61	0	No	7.5
MW4	13.46	19.25	32.33	0	No	4.5
MW5	13.58	19.37	31.50	0	No	8
MW6	13.31	18.85	31.15	0	No	4
MW7	12.95	19.25	31.17	0	No	8.5
MW8	13.02	18.98	26.02	0	No	5
(Monitored and Sampled on July 5, 1994)						
MW1	15.42	19.27	33.52	0	No	10
MW2	15.65	19.07	31.02	0	No	8.5
MW3	15.00	18.14	31.33	0	No	9
MW4	15.04	17.67	32.59	0	No	10.5
MW5	15.05	17.90	31.98	0	No	10
MW6	14.91	17.25	31.60	0	No	10
MW7	14.68	17.52	32.10	0	No	10
MW8	14.59	17.41	28.75	0	No	8
(Monitored and Sampled on April 2, 1994)						
MW1	14.53	20.16	33.63	0	No	9.5
MW2	14.84	19.88	30.53	0	No	7.5
MW3	14.13	19.01	30.97	0	No	8.5
MW4	14.18	18.53	32.51	0	No	10
MW5	14.27	18.68	31.57	0	No	9
MW6	14.01	18.15	31.21	0	No	9
MW7	13.70	18.50	31.45	0	No	9
MW8	13.70	18.30	27.32	0	No	6.5

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

<u>Well #</u>	<u>Ground Water Elevation (feet)</u>	<u>Depth to Water (feet)◆</u>	<u>Total Well Depth (feet)◆</u>	<u>Product Thickness (feet)</u>	<u>Sheen</u>	<u>Water Purged (gallons)</u>
(Monitored and Sampled on January 3, 1994)						
MW1	14.17	20.52	33.85	0	No	9.5
MW2	14.51	20.21	31.00	0	No	7.5
MW3	13.74	19.40	31.35	0	No	8.5
MW4	13.78	18.93	32.58	0	No	9.5
MW5	13.90	19.05	31.95	0	No	9
MW6	13.62	18.54	31.58	0	No	9
MW7	13.29	18.91	32.23	0	No	9.5
MW8	13.27	18.73	28.74	0	No	7

<u>Well #</u>	<u>Well Casing Elevation (feet) *</u>
MW1	34.69
MW2	34.72
MW3	33.14
MW4	32.71
MW5	32.95
MW6	32.16
MW7	32.20
MW8	32.00

◆ 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 the City of Oakland benchmark disk stamped "25/A" at the northeast corner of 7th and Harrison (elevation = 28.81 feet MSL).

TABLE 2
SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
10/06/94	MW1	--	540	1.4	ND	0.66	11
	MW2	--	170	15	ND	1.4	11
	MW3	--	49,000	1,300	200	280	300
	MW4	--	170	0.85	ND	ND	0.74
	MW5	--	1,600	79	5.7	28	22
	MW6	--	11,000**	ND	ND	ND	ND
	MW7	--	340	5.6	0.85	ND	1.2
	MW8	--	140**	ND	ND	ND	ND
7/05/94	MW1	--	250	4.8	13	1.2	7.3
	MW2	--	160	16	ND	0.73	10
	MW3	--	25,000**	ND	ND	ND	ND
	MW4	--	190**	ND	ND	ND	ND
	MW5	--	2,200	97	8.4	37	36
	MW6	--	ND	ND	ND	ND	ND
	MW7	--	ND	ND	ND	ND	ND
	MW8	--	730	17	ND	1.6	ND
4/02/94	MW1	ND	ND	ND	ND	ND	ND
	MW2	--	ND	0.65	ND	ND	0.99
	MW3	--	6,000	800	30	140	110
	MW4	--	89	ND	ND	ND	ND
	MW5	--	1,800	46	5.1	38	35
	MW6	--	5,300*	ND	ND	ND	ND
	MW7	--	360	2.0	ND	ND	0.80
	MW8	--	150	1.2	ND	ND	ND
1/03/94	MW1	ND	ND	ND	ND	ND	ND
	MW2	--	260	25	ND	5.5	26
	MW3	--	4,900	830	100	170	150
	MW4	--	210	ND	ND	0.76	1.6
	MW5	--	1,500	44	ND	42	46
	MW6	--	1,400	57	ND	8.5	11
	MW7	--	ND	0.93	ND	0.75	1.9
	MW8	--	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
10/05/93	MW1	57♦	92**	1.5	ND	ND	0.72
	MW2	--	120	12	ND	2.1	12
	MW3	--	9,200	720	88	140	140
	MW4	--	130**	ND	ND	ND	ND
	MW5	--	1,700	70	6.2	54	40
	MW6	--	1,400	34	ND	5.3	7.3
	MW7	--	360	10	1.2	0.91	0.99
	MW8	--	120**	1.7	ND	ND	ND
7/23/93	MW1	ND	ND	0.50	0.66	ND	ND
	MW2	--	66	1.8	ND	2.5	2.0
	MW3	--	4,400	660	26	160	82
	MW4	--	85*	ND	ND	ND	ND
	MW5	--	2,000	122	8.0	68	47
	MW6	--	580	19	0.99	3.4	2.7
	MW7	--	790	23	3.3	28	5.4
	MW8	--	260	5.1	ND	0.60	ND
4/28/93	MW1	470♦♦	920	3.1	2.3	1.2	9.7
	MW2	--	1,300	76	1.9	130	87
	MW3	--	2,600	220	7.6	41	27
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	6,700	200	190	250	430
	MW6	--	1,200	54	1.5	11	5.3
	MW7	--	110	2.8	1.3	1.4	1.7
	MW8	--	450	18	1.8	1.8	1.4
12/21/92	MW1	ND	95	0.69	ND	ND	1.0
	MW2	--	960	97	3.2	74	96
	MW3	--	8,500	1,500	150	310	330
	MW4	--	220*	ND	ND	0.97	0.74
	MW5	--	1,700	51	4.7	83	34
	MW6	--	2,300	370	11	39	15
10/19/92	MW4	--	480	0.51	2.1	2.8	6.8
	MW5	--	2,700	61	5.0	100	61
	MW6	--	3,900	420	12	60	28

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
9/15/92	MW1	ND	76	1.0	ND	ND	ND
	MW2	--	1,300	91	5.7	80	110
	MW3	--	10,000	1,900	330	400	580
6/30/92	MW1	120	ND	ND	ND	ND	ND
	MW2	--	76	9.3	0.76	4.8	6.9
	MW3	--	8,900	1,900	210	430	550
4/02/92	MW1	94	ND	ND	ND	ND	ND
	MW2	--	88	12	0.32	6.3	7.2
	MW3	--	8,000	1,400	200	300	310
12/30/91	MW1	ND	ND	ND	ND	ND	ND
	MW2	--	91	16	0.89	11	1.9
	MW3	--	7,200	2,100	690	410	550
9/30/91	MW1	ND	ND	ND	ND	ND	ND
	MW2	--	130	18	0.53	14	9.6
	MW3	--	6,800	1,400	130	290	240
6/05/91	MW1	ND	47	ND	ND	ND	ND
	MW2	--	49	ND	ND	ND	ND
	MW3	--	5,800	1,200	40	140	97

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

- ◆ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.
- ◆◆ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- * 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 gasoline.

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 3, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Well #</u>	<u>Chloroform</u>	<u>Tetrachloroethene</u>	<u>Trichloroethene</u>
4/02/94	MW1	15	1.1	0.68
1/03/94	MW1*	18	1.4	0.93
	MW4**	9.0	1.0	ND
	MW8◆	1.5	1.2	ND
10/05/93	MW1	13	1.3	0.66
7/23/93	MW1	16	1.3	0.91
4/28/93	MW1◆◆	12	0.89	0.85
12/21/92	MW1	12	1.4	0.83
9/15/92	MW1	12	2.2	1.3
6/30/92	MW1	9.5	2.2	1.3
4/02/92	MW1	7.1	2.6	1.4
12/30/91	MW1	6.4	2.1	0.9
9/30/91	MW1	--	--	--
6/04/91	MW1	7.8	2.9	1.3

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

- * A fuel fingerprint analysis was conducted on this sample. Sequoia Analytical Laboratory reported that total extractable petroleum hydrocarbons in this sample were not detected in high enough concentrations to compare with known standards and approximate their make-up.
- ** Methyl tert butyl ether (MTBE) was detected at a concentration of 240 $\mu\text{g/L}$.
- ◆ 1,2-dichloroethane was detected at a concentration of 4.0 $\mu\text{g/L}$, and MTBE was detected at a concentration of 51 $\mu\text{g/L}$.
- ◆◆ 1,2-dichloroethane was detected at a concentration of 1.1 $\mu\text{g/L}$.

ND = Non-detectable.

-- Indicates analysis was not performed.

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

- Note: - All EPA method 8010 constituents were non-detectable, except as indicated above.
- Laboratory analyses data prior to January 3, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 4

SUMMARY OF LABORATORY ANALYSES
WATER

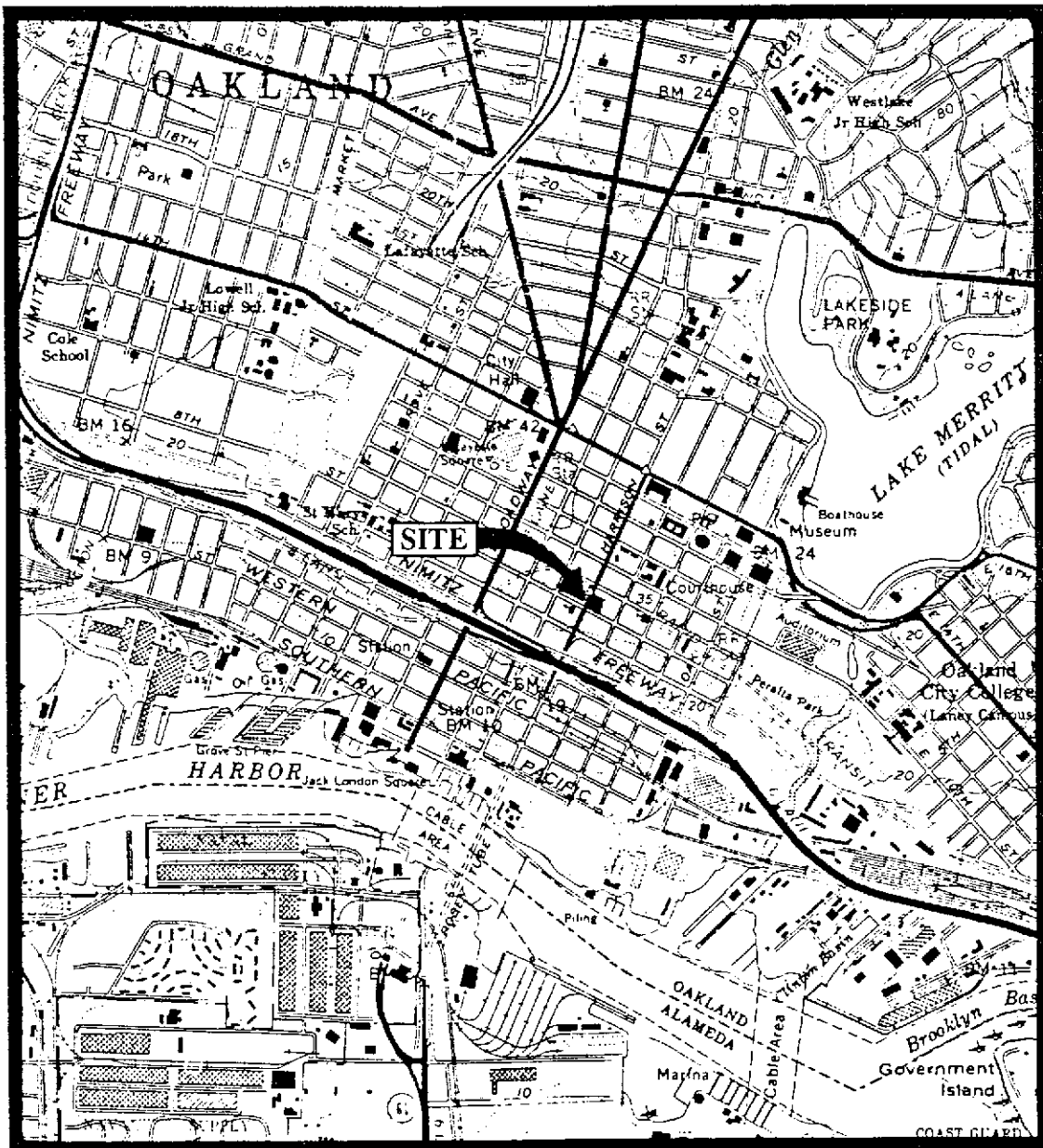
<u>Date</u>	<u>Well #</u>	<u>TOG</u>	<u>Cadmium</u>	<u>Chromium</u>	<u>Lead</u>	<u>Nickel</u>	<u>Zinc</u>
4/02/92	MW1	ND	ND	0.015	0.016	ND	0.020
12/30/91	MW1	ND	ND	0.0078	0.0057	ND	0.046
9/30/91	MW1	ND	ND	0.019	ND	ND	0.11
6/05/91	MW1	ND	ND	0.0083	0.011	0.063	0.023

TOG = Total Oil & Grease.

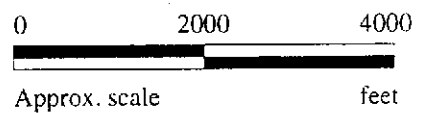
ND = Non-detectable.

Results are in milligrams per liter (mg/L), unless otherwise indicated.

Note: Laboratory analyses data were provided by Kaprealian Engineering, Inc.



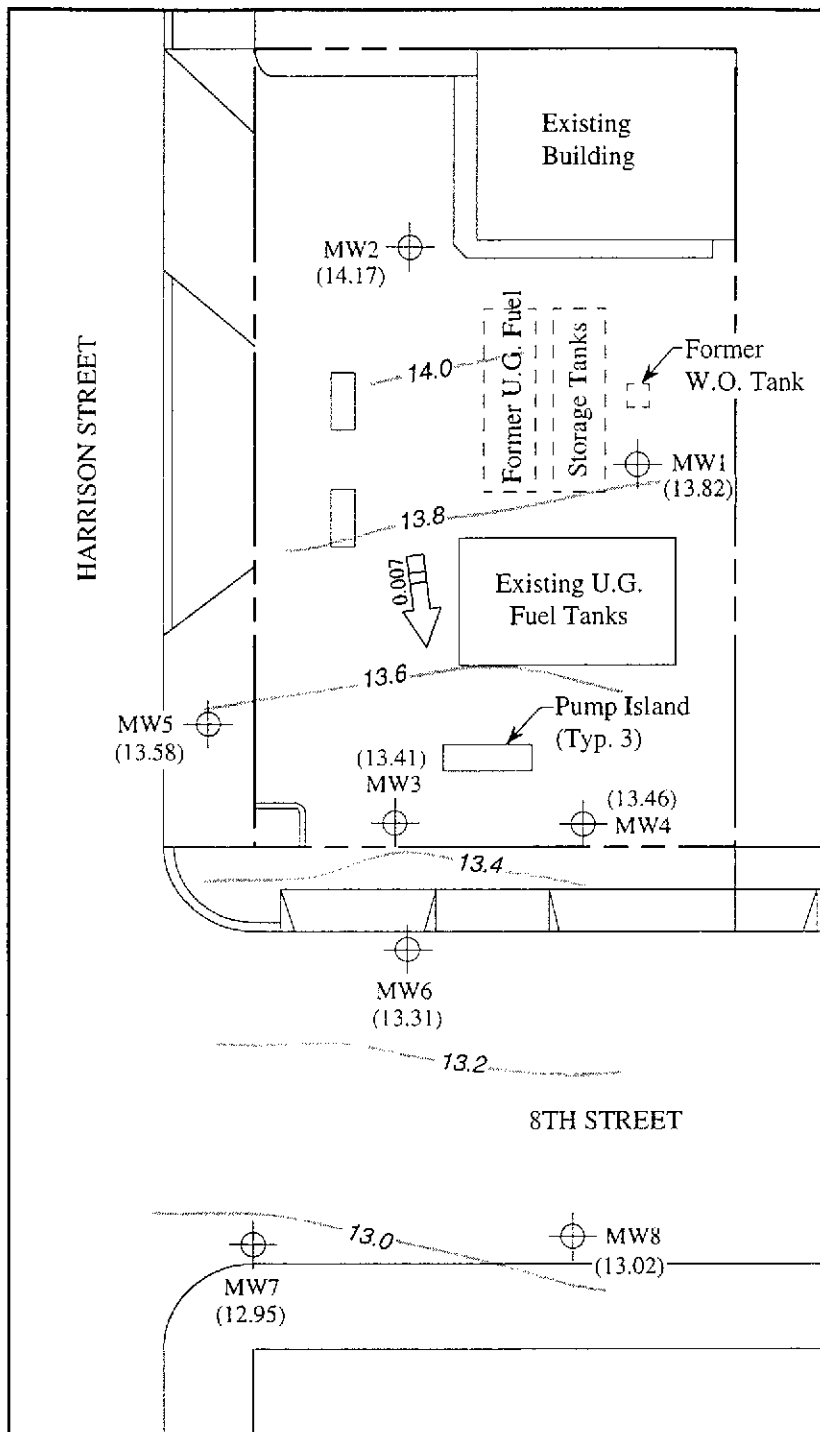
Base modified from 7.5 minute U.S.G.S. Oakland West Quadrangle
(photorevised 1980)







mpds SERVICES, INCORPORATED

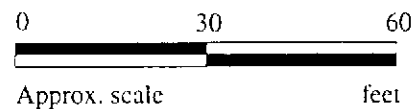
UNOCAL SERVICE STATION #0752
800 HARRISON STREET
OAKLAND, CALIFORNIA

LOCATION
MAP

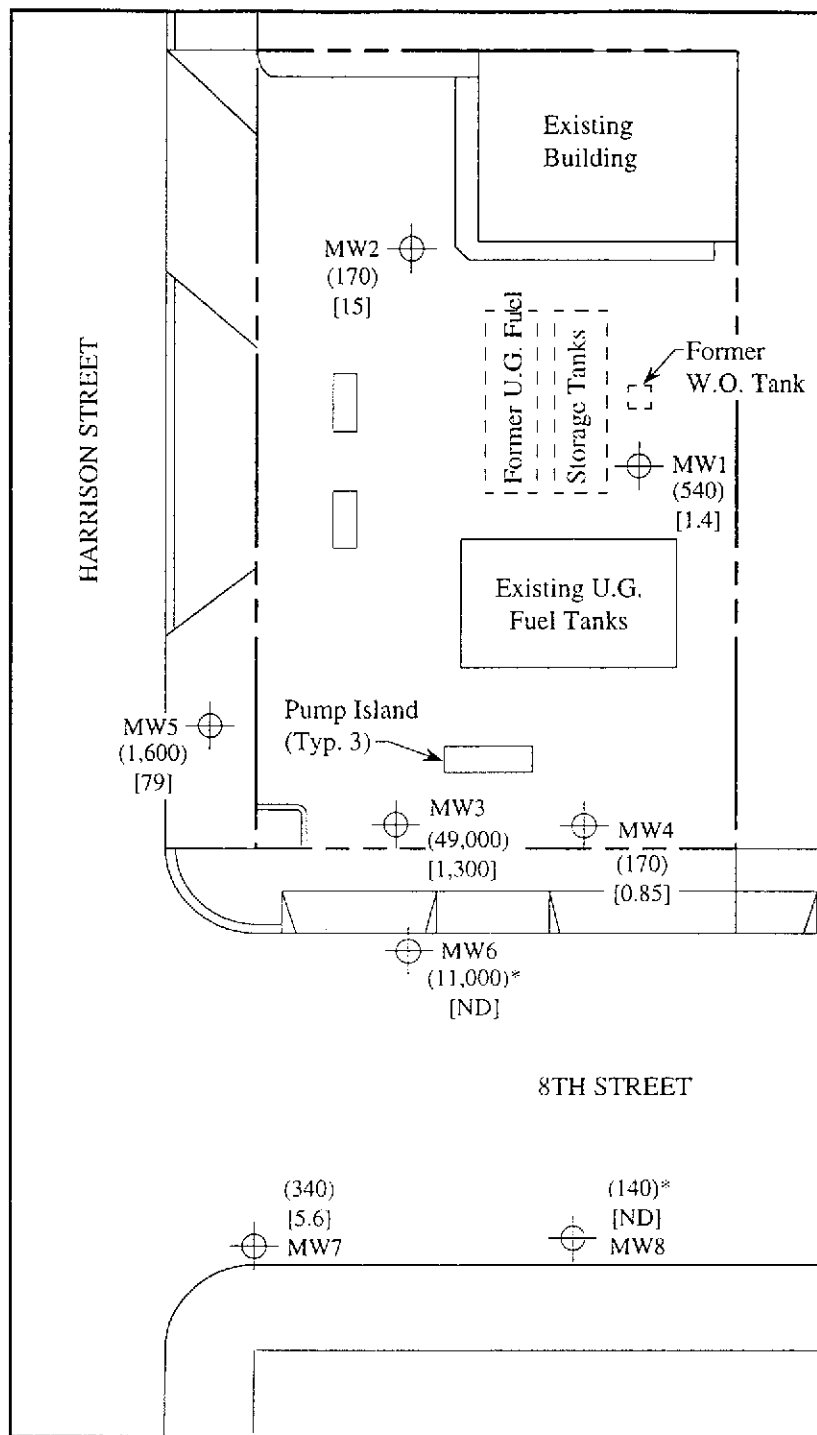


LEGEND

-  Monitoring well
-  () 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 OCTOBER 6, 1994 MONITORING EVENT



LEGEND

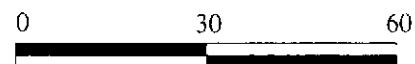
⊕ Monitoring well

() Concentration of TPH as gasoline in µg/L

[] Concentration of benzene in µg/L

ND = Non-detectable

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



Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON OCTOBER 6, 1994



**UNOCAL SERVICE STATION #0752
800 HARRISON STREET
OAKLAND, CALIFORNIA**

**FIGURE
2**



MPDS Services 2401 Stanwell Dr., Ste. 400 Concord, CA 94520 Attention: Avo Avedessian	Client Project ID: Unocal #0752, 800 Harrison St., Oakland Matrix Descript: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 410-0632	Sampled: Oct 6, 1994 Received: Oct 7, 1994 Reported: Oct 21, 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
410-0632	MW-1	540	1.4	N.D.	0.66	11
410-0633	MW-2	170	15	N.D.	1.4	11
410-0634	MW-3	49,000 [^]	1,300	200	280	300
410-0635	MW-4	170	0.85	N.D.	N.D.	0.74
410-0636	MW-5	1,600	79	5.7	28	22
410-0637	MW-6	11,000*	N.D.	N.D.	N.D.	N.D.
410-0638	MW-7	340	5.6	0.85	N.D.	1.2
410-0639	MW-8	140*	N.D.	N.D.	N.D.	N.D.

* Hydrocarbons detected did not appear to be gasoline.

[^] Hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

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 N.D. 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 #0752, 800 Harrison St., Oakland	Sampled: Oct 6, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript: Water	Received: Oct 7, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported: Oct 21, 1994
Attention: Avo Avedessian	First Sample #: 410-0632	

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%)
410-0632	MW-1	Gasoline	1.0	10/17/94	HP-2	129
410-0633	MW-2	Gasoline	1.0	10/17/94	HP-2	115
410-0634	MW-3	Gasoline & Discrete Peak^	400	10/17/94	HP-2	105
410-0635	MW-4	Gasoline	1.0	10/17/94	HP-2	106
410-0636	MW-5	Gasoline	10	10/18/94	HP-4	106
410-0637	MW-6	Discrete Peak*	200	10/19/94	HP-2	103
410-0638	MW-7	Gasoline	1.0	10/17/94	HP-4	114
410-0639	MW-8	Discrete Peak*	1.0	10/17/94	HP-4	95

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

Please Note:
 *^Discrete peak refers to an unidentified peak in the MTBE range.





MPDS Services 2401 Stanwell Dr., Ste. 400 Concord, CA 94520 Attention: Avo Avedessian	Client Project ID: Unocal #0752, 800 Harrison St., Oakland Matrix: Liquid QC Sample Group: 4100632-639	Reported: Nov 2, 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:	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon

MS/MSD				
Batch#:	4100401	4100401	4100401	4100401
Date Prepared:	10/17/94	10/17/94	10/17/94	10/17/94
Date Analyzed:	10/17/94	10/17/94	10/17/94	10/17/94
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:	110	110	115	113
Matrix Spike Duplicate % Recovery:	110	110	115	113
Relative % Difference:	0.0	0.0	0.0	0.0

LCS Batch#:	1LCS101794	1LCS101794	1LCS101794	1LCS101794
Date Prepared:	10/17/94	10/17/94	10/17/94	10/17/94
Date Analyzed:	10/17/94	10/17/94	10/17/94	10/17/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	102	110	106	108

% Recovery Control Limits:	71-133	72-128	72-130	71-120
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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.





MPDS Services Client Project ID: Unocal #0752, 800 Harrison St., Oakland
 2401 Stanwell Dr., Ste. 400 Matrix: Liquid
 Concord, CA 94520
 Attention: Avo Avedessian QC Sample Group: 4100632-639 Reported: Nov 2, 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 Batch#:	4100705	4100705	4100705	4100705
Date Prepared:	10/19/94	10/19/94	10/19/94	10/19/94
Date Analyzed:	10/19/94	10/19/94	10/19/94	10/19/94
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:	105	105	110	108
Matrix Spike Duplicate % Recovery:	105	105	110	110
Relative % Difference:	0.0	0.0	0.0	1.8

LCS Batch#:	1LCS101994	1LCS101994	1LCS101994	1LCS101994
Date Prepared:	10/19/94	10/19/94	10/19/94	10/19/94
Date Analyzed:	10/19/94	10/19/94	10/19/94	10/19/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	100	100	107	107

% 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 #0752, 800 Harrison St., Oakland
 2401 Stanwell Dr., Ste. 400 Matrix: Liquid
 Concord, CA 94520
 Attention: Avo Avedessian QC Sample Group: 4100632-639 Reported: Nov 2, 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#:	4100396	4100396	4100396	4100396
Date Prepared:	10/17/94	10/17/94	10/17/94	10/17/94
Date Analyzed:	10/17/94	10/17/94	10/17/94	10/17/94
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:	85	95	100	102
Matrix Spike Duplicate % Recovery:	85	95	100	102
Relative % Difference:	0.0	0.0	0.0	0.0

LCS Batch#:	2LCS101794	2LCS101794	2LCS101794	2LCS101794
Date Prepared:	10/17/94	10/17/94	10/17/94	10/17/94
Date Analyzed:	10/17/94	10/17/94	10/17/94	10/17/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	77	93	90	93

% 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 #0752, 800 Harrison St., Oakland
 Matrix: Liquid

QC Sample Group: 4100632-639

Reported: Nov 2, 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#:	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	60 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



CHAIN OF CUSTODY

SAMPLER			UNOCAL					ANALYSES REQUESTED								TURN AROUND TIME:		
ALEXANDER ARZOMANOV			S/S # <u>0752</u> CITY: <u>Oakland</u>					TPH-GAS BTEX	TPH-DIESEL	TOG	8010							REGULAR
WITNESSING AGENCY			ADDRESS: <u>800 Harrison st</u>															
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION											
MW-1	10-6-94		X	X	2			X									4100632 AB	
MW-2	"		X	X	2			Y									4100633	
MW-3	"		✓	X	2			X									4100634	
MW-4	"		✓	X	2			X									4100635	
MW-5	"		X	X	2			X									4100636	
MW-6	"		✓	X	2			Y									4100637	
MW-7	"		X	X	2			Y									4100638	
MW-8	"		X	X	2			Y									4100639 ✓	
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>			10-6-94 8-05		(SIGNATURE) <i>[Signature]</i>			10/7/94 8:40		1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>Yes</u>								
(SIGNATURE) <i>[Signature]</i>					(SIGNATURE) <i>[Signature]</i>			10/7/94 5:45 PM		2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>Yes</u>								
(SIGNATURE) <i>[Signature]</i>			10-7-94		(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>Melissa Crews</i>				TITLE: <i>Sample Control</i>		DATE: <i>10/7/94</i>		

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 HN03. All other containers are unpreserved.