

MPDS-UN0752-06
May 3, 1995

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 ~~April 3,~~ 1995. Prior to sampling, the wells were each purged of between 8 and 12 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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May 3, 1995
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.

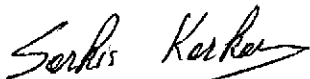
DISTRIBUTION

A copy of this report should be sent to Ms. Jennifer Eberle of the Alameda County Health Care Services Agency.

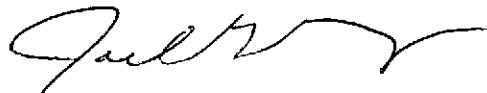
If you have any questions regarding this report, please do not hesitate to call Mr. Nubar Srabian at (510) 602-5120.

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 April 3, 1995)						
MW1	17.08 ↑	17.61	33.37	0	No	11
MW2	17.23 ↑	17.49	30.26	0	No	9
MW3	16.76 ↑	16.38	30.61	0	No	10
MW4	16.84 ↑	15.87	32.52	0	No	12
MW5	16.80 ↑	16.15	31.92	0	No	11
MW6	16.68 ↑	15.48	31.15	0	No	11
MW7	16.39 ↑	15.81	31.20	0	No	11
MW8	16.46 ↑	15.54	26.96	0	No	8
(Monitored and Sampled on January 2, 1995)						
MW1	15.02	19.67	33.50	0	No	10
MW2	15.47	19.25	31.00	0	No	8.5
MW3	14.78	18.36	31.35	0	No	9
MW4	14.96	17.75	32.60	0	No	10.5
MW5	15.03	17.92	31.96	0	No	10
MW6	14.65	17.51	31.62	0	No	10
MW7	14.53	17.67	32.10	0	No	10
MW8	14.42	17.58	28.77	0	No	8
(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

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)
(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

Well #	Well Casing Elevation (feet)*
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
4/03/95 ✓	MW1	--	580 ↑	3.6 ↑	0.75	ND	4.0
	MW2	--	2,400 ↑	65 ↑	6.6	19	63
	MW3	--	8,100** ↑	65 ↑	ND	ND	ND
	MW4	--	98** ↑	ND	ND	ND	ND
	MW5	--	5,400** ↑	190 ↑	240	170	420
	MW6	--	6,600** ↑	ND ↓	ND	ND	ND
	MW7	--	570 ↑	24 ↓	ND	3.4	5.8
	MW8	--	960 ↑	11 ↓	ND	ND	ND
1/02/95	MW1	--	140	ND	ND	ND	ND
	MW2	--	190	27	ND	0.95	11
	MW3	--	480	1.6	ND	1.4	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	1,700	50	8.6	30	28
	MW6	--	550	18	0.92	2.0	1.8
	MW7	--	ND	ND	ND	ND	ND
	MW8	--	440	18	0.72	2.0	1.8
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

TABLE 2 (Continued)SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
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
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

TABLE 2 (Continued)SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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
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

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
 WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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

- ◆ 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 3SUMMARY 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**

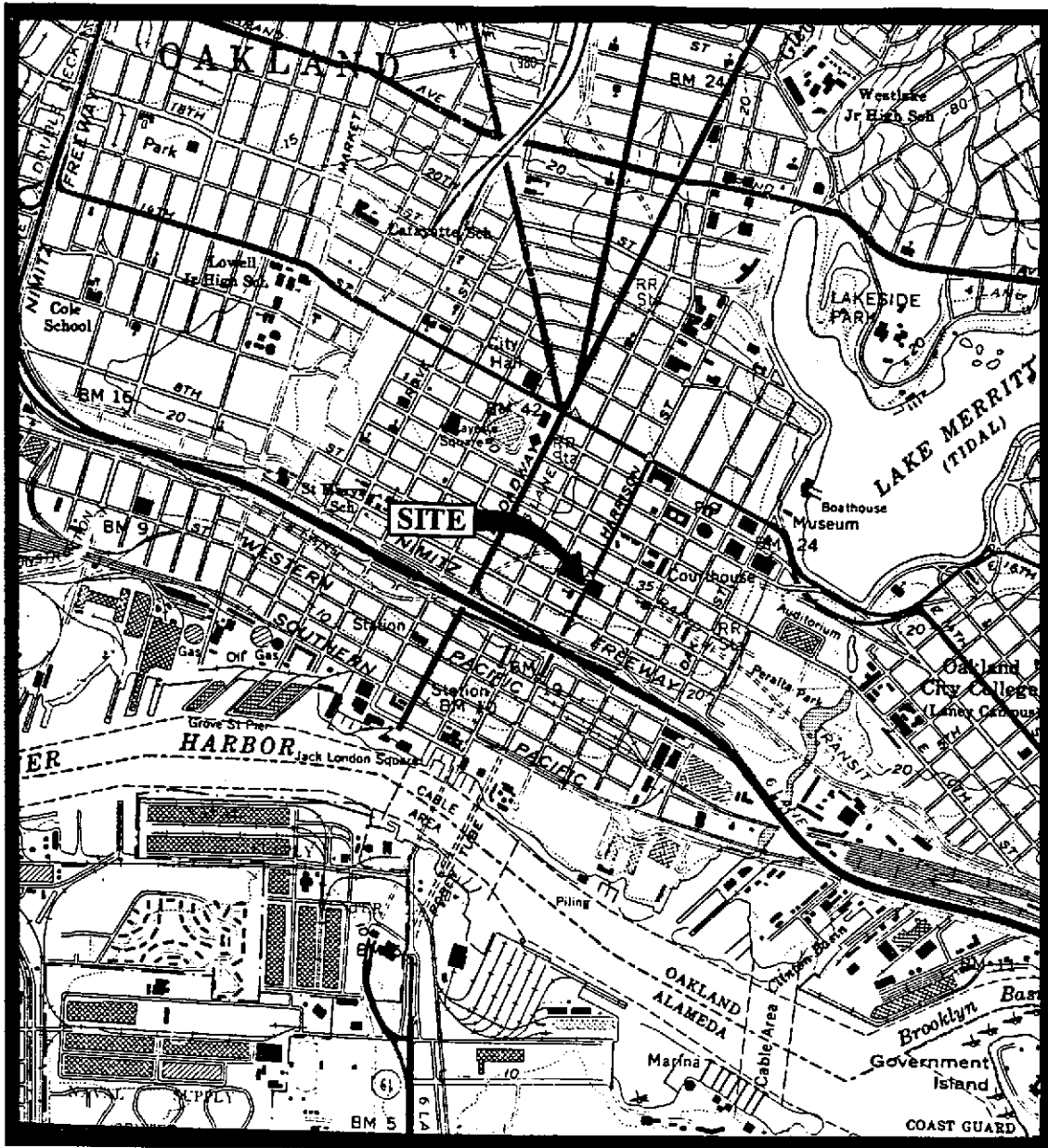
<u>Date</u>	<u>Well #</u>	<u>TOG</u>	<u>Cadmium</u>	<u>Chromium</u>	<u>Lead</u>	<u>Nickel</u>	<u>Zinc</u>
4/02/92	MW1	ND	ND	0.015	0.016	ND	0.020
12/30/91	MW1	ND	ND	0.0078	0.0057	ND	0.046
9/30/91	MW1	ND	ND	0.019	ND	ND	0.11
6/05/91	MW1	ND	ND	0.0083	0.011	0.063	0.023

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.



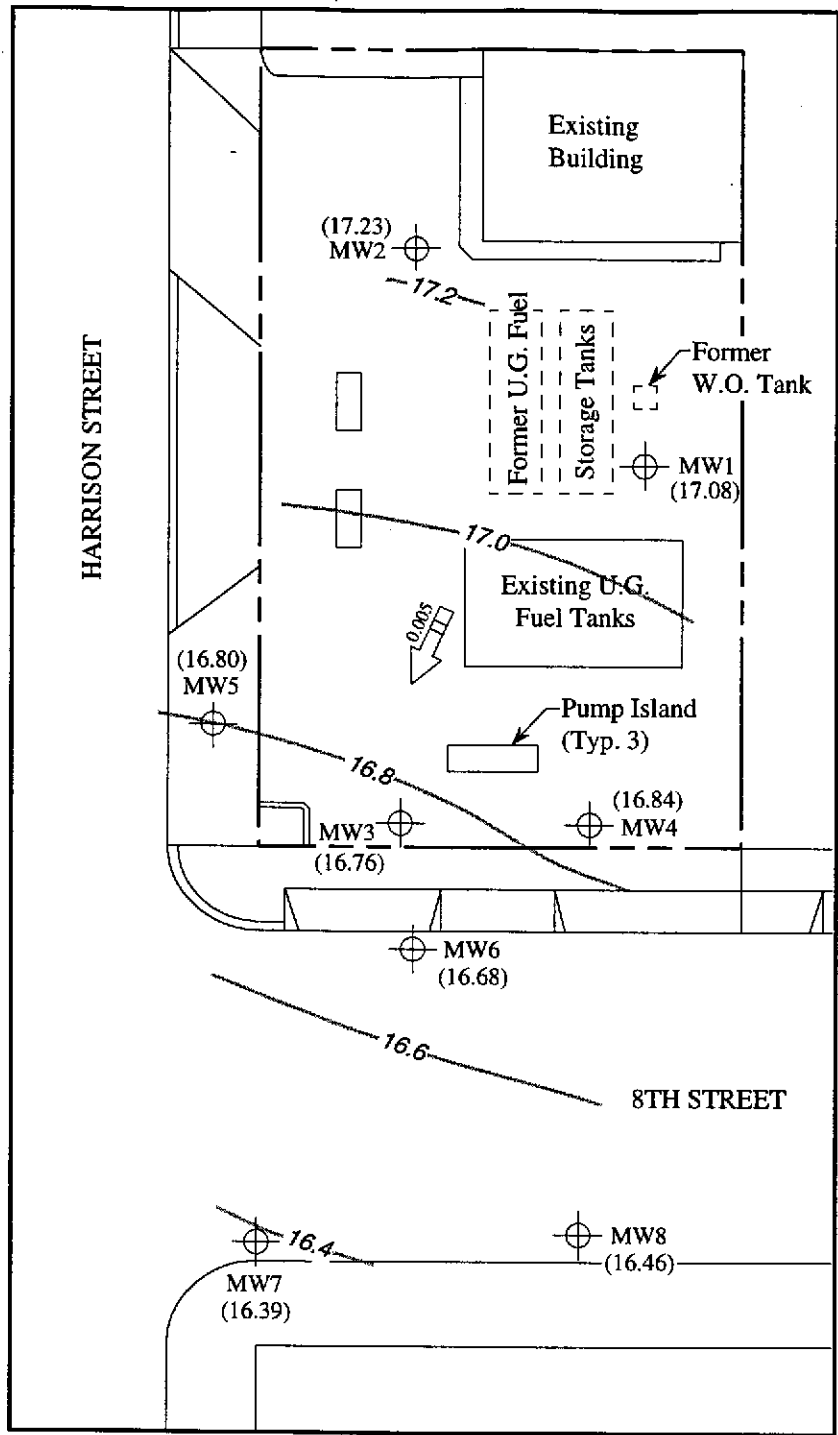
Base modified from 7.5 minute U.S.G.S. Oakland West Quadrangle
(photorevised 1980)






mpds SERVICES, INCORPORATED

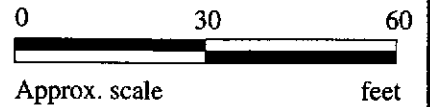
UNOCAL SERVICE STATION #0752
800 HARRISON STREET
OAKLAND, CALIFORNIA

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

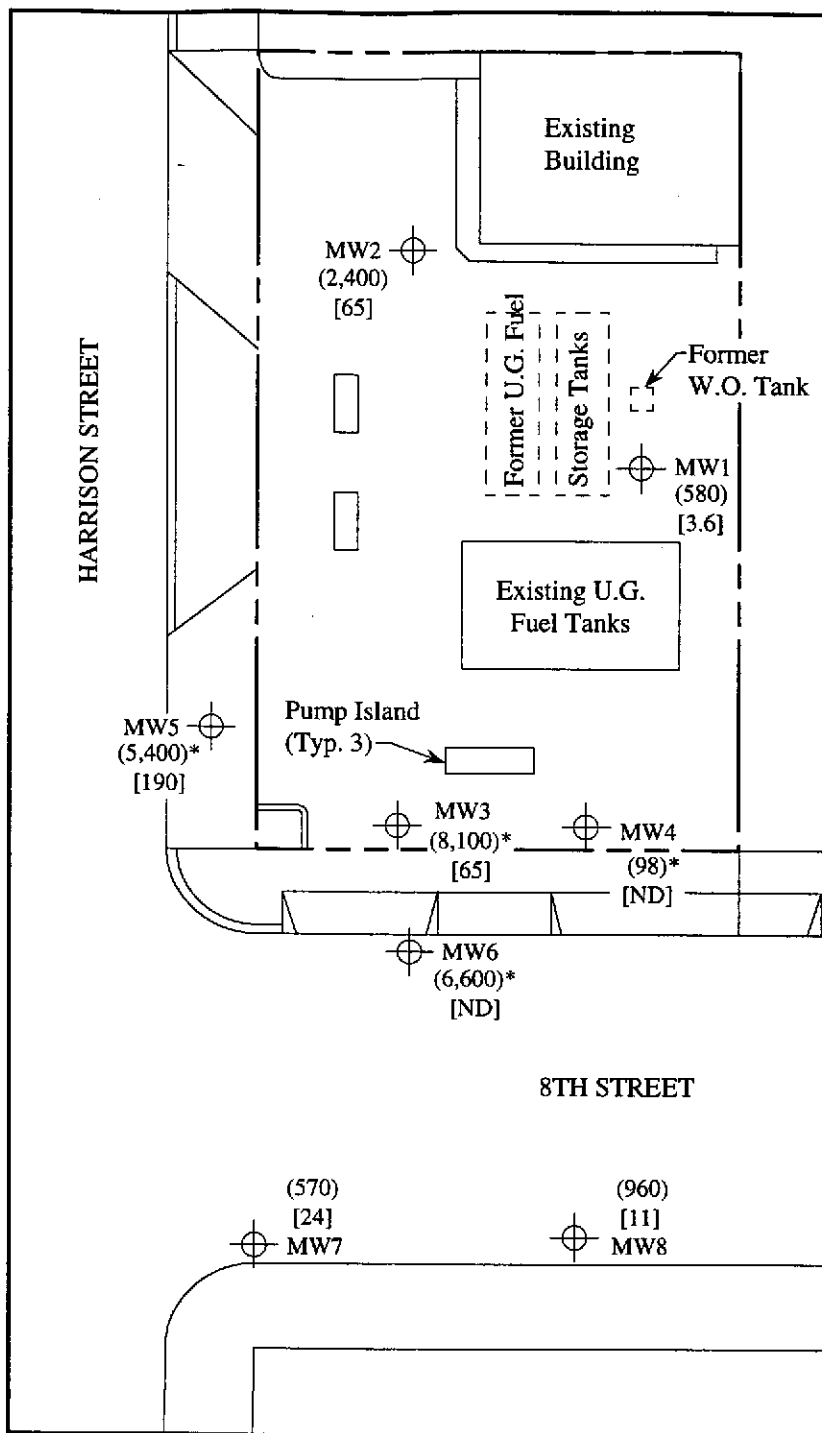


POTENTIOMETRIC SURFACE MAP FOR THE APRIL 3, 1995 MONITORING EVENT

MPDS SERVICES, INCORPORATED

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

**FIGURE
1**

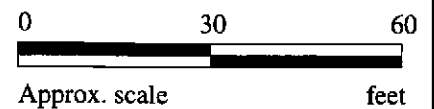


LEGEND

- ⊕ Monitoring well
- () Concentration of TPH as gasoline in $\mu\text{g/L}$
- [] Concentration of benzene in $\mu\text{g/L}$

ND = Non-detectable

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



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON APRIL 3, 1995



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

**FIGURE
2**



MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #0752, 800 Harrison St., Oakland Matrix Descript: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 504-0180	Sampled: Apr 3, 1995 Received: Apr 4, 1995 Reported: Apr 20, 1995
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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
504-0180	MW-1	580	3.6	0.75	ND	4.0
504-0181	MW-2	2,400	65	6.6	19	63
504-0182	MW-3	8,100*	65	ND	ND	ND
504-0183	MW-4	98*	ND	ND	ND	ND
504-0184	MW-5	5,400*	190	240	170	420
504-0185	MW-6	6,600*	ND	ND	ND	ND
504-0186	MW-7	570	24	ND	3.4	5.8
504-0187	MW-8	960	11	ND	ND	ND

* Hydrocarbons detected did not appear to be gasoline.

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. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #0752, 800 Harrison St., Oakland Matrix Descript: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 504-0180	Sampled: Apr 3, 1995 Received: Apr 4, 1995 Reported: Apr 20, 1995
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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
504-0180	MW-1	Gasoline	1.0	4/17/95	HP-4	90
504-0181	MW-2	Gasoline	10	4/17/95	HP-5	72
504-0182	MW-3	Discrete Peak*	100	4/17/95	HP-5	81
504-0183	MW-4	Discrete Peak*	1.0	4/14/95	HP-2	120
504-0184	MW-5	Gasoline	100	4/16/95	HP-5	85
504-0185	MW-6	Discrete Peak*	100	4/17/95	HP-5	88
504-0186	MW-7	Gasoline	5.0	4/18/95	HP-2	110
504-0187	MW-8	Gasoline	4.0	4/17/95	HP-4	90

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 Client Project ID: Unocal #0752, 800 Harrison St., Oakland
2401 Stanwell Dr., Ste. 300 Matrix: Liquid
Concord, CA 94520
Attention: Sarkis Karkarian QC Sample Group: 5040180-187 Reported: Apr 24, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere

MS/MSD				
Batch#:	5040568	5040568	5040568	5040568
Date Prepared:	4/17/95	4/17/95	4/17/95	4/17/95
Date Analyzed:	4/17/95	4/17/95	4/17/95	4/17/95
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	90	95	93
Matrix Spike Duplicate				
% Recovery:	90	90	95	97
Relative % Difference:	5.7	0.0	0.0	4.2

LCS Batch#:	2LCS041795	2LCS041795	2LCS041795	2LCS041795
Date Prepared:	4/17/95	4/17/95	4/17/95	4/17/95
Date Analyzed:	4/17/95	4/17/95	4/17/95	4/17/95
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	80	84	87	91

% 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. 300
Concord, CA 94520
Attention: Sarkis Karkarian

Client Project ID: Unocal #0752, 800 Harrison St., Oakland
Matrix: Liquid

QC Sample Group: 5040115-117

Reported: Apr 24, 1995

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#:	5040573	5040573	5040573	5040573
Date Prepared:	4/17/95	4/17/95	4/17/95	4/17/95
Date Analyzed:	4/17/95	4/17/95	4/17/95	4/17/95
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:	85	85	85	85
Matrix Spike Duplicate % Recovery:	80	85	80	85
Relative % Difference:	6.1	0.0	6.1	0.0

LCS Batch#:	3LCS041795	3LCS041795	3LCS041795	3LCS041795
Date Prepared:	4/17/95	4/17/95	4/17/95	4/17/95
Date Analyzed:	4/17/95	4/17/95	4/17/95	4/17/95
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	88	89	88	90

% 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. 300
Concord, CA 94520
Attention: Sarkis Karkarian

Client Project ID: Unocal #0752, 800 Harrison St., Oakland
Matrix: Liquid

QC Sample Group: 5040180-187

Reported: Apr 24, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere

MS/MSD

Batch#:	5040145	5040145	5040145	5040145
Date Prepared:	4/14/95	4/14/95	4/14/95	4/14/95
Date Analyzed:	4/14/95	4/14/95	4/14/95	4/14/95
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:	115	110	120	120
Matrix Spike Duplicate % Recovery:	115	115	120	120
Relative % Difference:	0.0	4.4	0.0	0.0

LCS Batch#:	1LCS041395	1LCS041395	1LCS041395	1LCS041395
Date Prepared:	4/14/95	4/14/95	4/14/95	4/14/95
Date Analyzed:	4/14/95	4/14/95	4/14/95	4/14/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	117	114	121	121

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

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SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Sarkis Karkarian

Client Project ID: Unocal #0752, 800 Harrison St., Oakland
Matrix: Liquid

QC Sample Group: 5040180-187

Reported: Apr 24, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere

MS/MSD Batch#:	5040208	5040208	5040208	5040208
Date Prepared:	4/16/95	4/16/95	4/16/95	4/16/95
Date Analyzed:	4/16/95	4/16/95	4/16/95	4/16/95
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:	75	75	75	77
Matrix Spike Duplicate % Recovery:	85	85	85	87
Relative % Difference:	13	13	13	12

LCS Batch#:	3LCS041695	3LCS041695	3LCS041695	3LCS041695
Date Prepared:	4/16/95	4/16/95	4/16/95	4/16/95
Date Analyzed:	4/16/95	4/16/95	4/16/95	4/16/95
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	98	100	100	101

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

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SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Sarkis Karkarian

Client Project ID: Unocal #0752, 800 Harrison St., Oakland
Matrix: Liquid

QC Sample Group: 5040180-187

Reported: Apr 24, 1995

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#: 5040390 5040390 5040390 5040390

Date Prepared: 4/18/95 4/18/95 4/18/95 4/18/95

Date Analyzed: 4/18/95 4/18/95 4/18/95 4/18/95

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: 130 130 145 137

Matrix Spike

Duplicate %
Recovery: 125 125 140 130

Relative %

Difference: 3.9 3.9 3.5 5.2

LCS Batch#: 1LCS041895 1LCS041895 1LCS041895 1LCS041895

Date Prepared: 4/18/95 4/18/95 4/18/95 4/18/95

Date Analyzed: 4/18/95 4/18/95 4/18/95 4/18/95

Instrument I.D.#: HP-2 HP-2 HP-2 HP-2

LCS %

Recovery: 113 112 119 118

% 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 MARGAR TEYMURAZOV			UNOCAL S/S # <u>0752</u> CITY: <u>OAKLAND</u>					ANALYSES REQUESTED							TURN AROUND TIME:	
WITNESSING AGENCY			ADDRESS: <u>800 HARRISON ST</u>					TPH-GAS BTEX	TPH-DIESEL	TOG	8010					REGULAR
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION									
MW-1	04-03-95		V	V		2 VOAS	WELL	V			5040180	AB				
MW-2	4		V	V		2	4	V			5040181					
MW-3	4		V	V		2	4	V			5040182					
MW-4	4		V	V		2	4	V			5040183					
MW-5	4		V	V		2	4	V			5040184					
MW-6	4		V	V		2	4	V			5040185					
MW-7	4		V	V		2	4	V			5040186					
MW-8	4		V	V		2	4	V			5040187					
RELINQUISHED BY:			DATE/TIME		RECEIVED BY:			DATE/TIME		THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:						
			04-04-95					4/4/95 8:45		1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? _____						
			4/4/95 6:07					4/4/95 6:07		2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? _____						
(SIGNATURE)					(SIGNATURE)					3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? _____						
(SIGNATURE)					(SIGNATURE)					4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? _____						
(SIGNATURE)					(SIGNATURE)					SIGNATURE: _____ TITLE: _____ DATE: _____						

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.