KAPREALIAN ENGINEERING
INCORPORATED

KEI-P90-1103.QR8
November 8, 1993

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

Attention: Ms. Tina Berry

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

Dear Ms. Berry:

This report presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced site by Kaprealian Engineering, Inc. (KEI). The wells are currently monitored and sampled on a quarterly basis. This report covers the work performed by KEI in October of 1993.

BACKGROUND

The subject site contains a Unocal service station facility. Two underground gasoline storage tanks, one waste oil storage tank, and the product piping were removed from the site in November and December of 1990 during tank replacement activities. The fuel tank pit, waste oil tank pit, and one pump island were subsequently overexcavated in order to remove contaminated soil. Eight monitoring wells have been installed and two exploratory borings have been drilled at and in the vicinity of the site.

A site description, detailed background information including a summary of all of the soil and ground water subsurface investigation/remediation work conducted to date, site hydrogeologic conditions, and tables that summarize all of the soil and ground water sample analytical results are presented in KEI's report (KEI-P90-1103.R6) dated May 24, 1993.

RECENT FIELD ACTIVITIES

The eight existing monitoring wells (MW1 through MW8) were monitored and sampled once during the quarter. Prior to sampling, the wells were checked for depth to water and the presence of free product or a sheen. No free product or sheen was noted in any of the wells during the quarter. The monitoring data collected this quarter are summarized in Table 1.

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602

Ground water samples were collected from all of the wells on October 5, 1993. Prior to sampling, the wells were each purged of between 8 and 10 gallons of water by the use of a surface pump. The samples were collected by the use of 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.

HYDROLOGY

The measured depth to ground water at the site on October 5, 1993, ranged between 18.35 and 20.30 feet. The water levels in all of the wells have shown net decreases ranging from 0.39 to 0.45 feet since July 23, 1993. Based on the water level data gathered on October 5, 1993, the ground water flow direction appeared to be to the south-southwest, as shown on the attached Potentiometric Surface Map, Figure 1. The flow direction reported this quarter is similar to the south-southwesterly flow direction reported in the previous seven quarters. The average hydraulic gradient at the site on October 5, 1993, was approximately 0.008.

ANALYTICAL RESULTS

The ground water samples collected this quarter were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline by EPA method 5030/modified 8015, and benzene, toluene, ethylbenzene, and xylenes by EPA method 8020. In addition, the ground water sample collected from monitoring well MW1 was analyzed for TPH as diesel by EPA method 3510/modified 8015, and for EPA method 8010 constituents.

The analytical results of all of the ground water samples collected from the monitoring wells to date are summarized in Tables 2, 3, and 4. The concentrations of TPH as gasoline and benzene detected in the ground water samples collected this 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.

DISCUSSION AND RECOMMENDATIONS

Based on the analytical results of the ground water samples collected and evaluated to date, and based on no evidence of free product or sheen in any of the wells, KEI recommends the continuation of the current ground water monitoring and sampling program. The wells are currently monitored and sampled on a quarterly basis.

As shown on the attached laboratory analysis sheets, Sequoia Analytical Laboratory reported that "unidentified peaks in the methyl tert butyl ether (MTBE) and EPA method 8010 ranges" were detected in the ground water samples collected this quarter from wells MW4 and MW8. Therefore, KEI recommends that the ground water samples collected next quarter from wells MW4 and MW8 be analyzed on a one-time basis for MTBE and EPA method 8010 constituents. Sequoia Analytical Laboratory also reported that "unidentified peaks in the paint thinner/stoddard solvent range" were detected in the ground water sample collected this quarter from well MW1. Therefore, KEI also recommends that a "fingerprint" analysis be performed next quarter (one-time basis) for the ground water sample collected from well MW1 in order to determine the unidentified peaks.

DISTRIBUTION

A copy of this report should be sent to Ms. Jennifer Eberle of the Alameda County Health Care Services Agency, and to the Regional Water Quality Control Board, San Francisco Bay Region.

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.

Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

The results of this study are based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We have analyzed these data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, regarding the above, including laboratory analyses, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

If you have any questions regarding this report, please do not hesitate to call at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Thomas J. Berkins
Senior Environmental Engineer

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

License No. EG 1633
Exp. Date 6/30/94

Timothy R. Ross
Project Manager

/bp

Attachments: Tables 1 through 4
Location Map
Potentiometric Surface Map - Figure 1
Concentrations of Petroleum Hydrocarbons - Figure 2
Laboratory Analyses
Chain of Custody documentation

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November 8, 1993

TABLE 1

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Product Thickness (feet)	Sheen	Water Purged (gallons)
(Monitored and Sampled on October 5, 1993)					
MW1	14.39	20.30	0	No	10
MW2	14.77	19.95	0	No	8
MW3	13.94	19.20	0	No	10
MW4	13.97	18.74	0	No	10
MW5	14.12	18.83	0	No	10
MW6	13.81	18.35	0	No	10
MW7	13.44	18.76	0	No	10
MW8	13.43	18.57	0	No	8

Well #	Top of Casing Elevation in feet above Mean Sea Level (MSL)*
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 measurement was taken from the top of the well casing. Prior to October 5, 1993, the water level measurement was taken from the top of the well cover.

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

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TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

ppb

Date	Sample Number	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
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

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Number	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a non-diesel mixture.

♦♦ 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 appeared to be a non-gasoline mixture.

ND = Non-detectable.

-- Indicates analysis was not performed.

Results in parts per billion (ppb), unless otherwise indicated.

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TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Number	Chloroform	Tetrachloroethene	Trichloroethene
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

NOTE: All EPA method 8010 constituents were non-detectable, except for the above compounds.

♦ 1,2-Dichloroethane was detected at a concentration of 1.1 ppb.

-- Indicates analysis was not performed.

Results in parts per billion (ppb), unless otherwise indicated.

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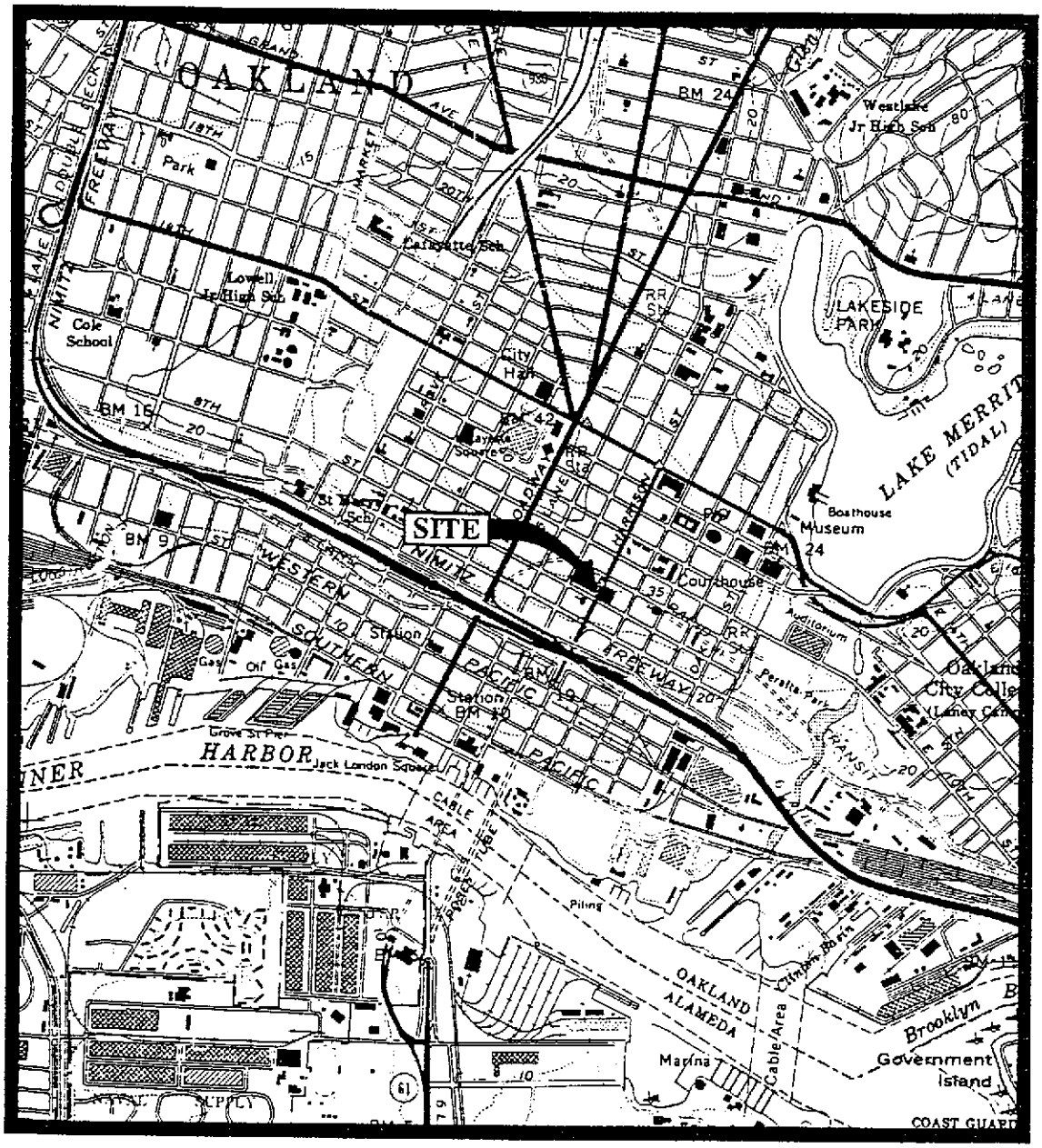
TABLE 4

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Number	TOG	Cadmium	Chromium	Lead	Nickel	Zinc
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

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.



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

0 2000 4000

Approx. scale feet

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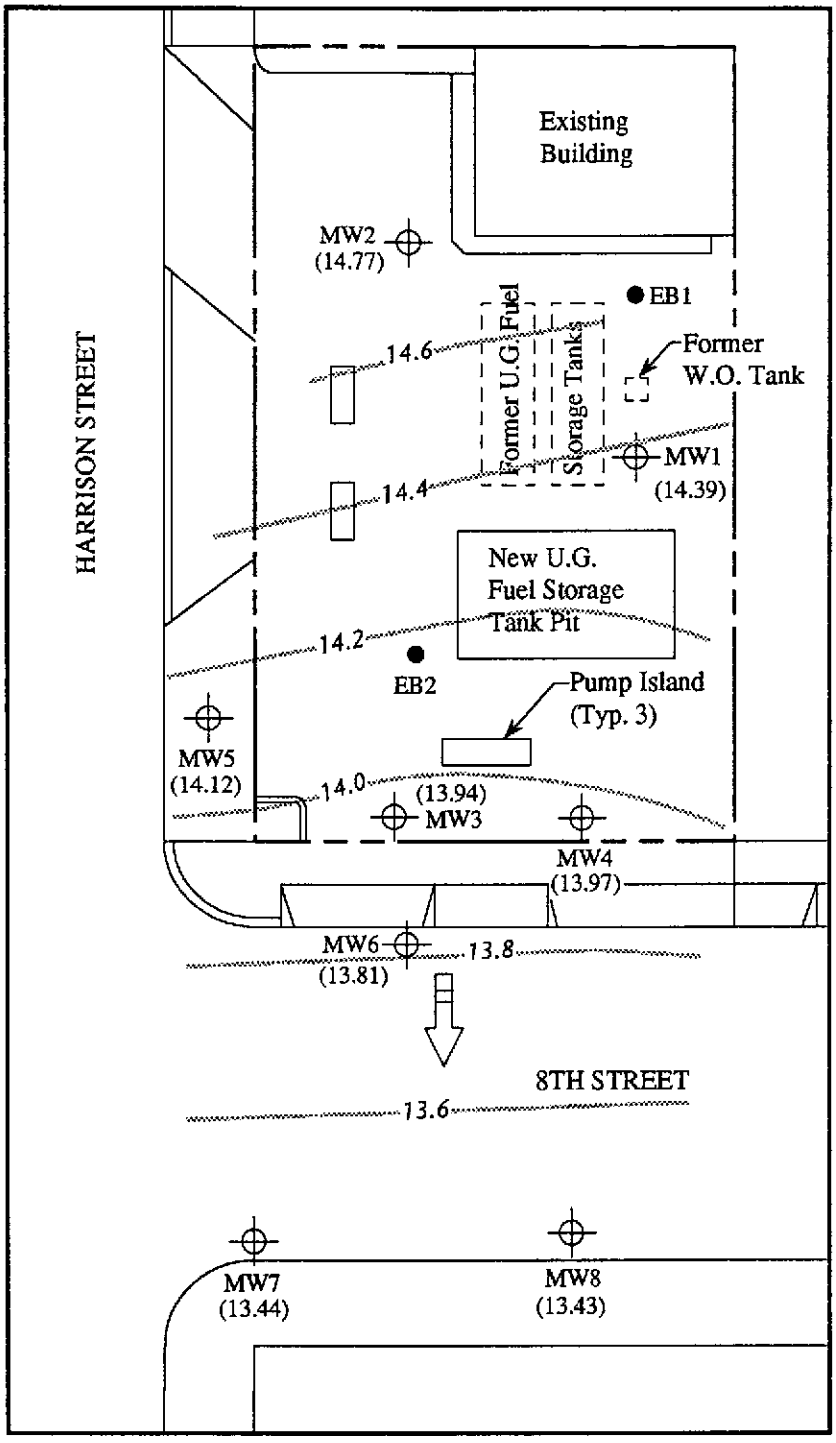
UNOCAL SERVICE STATION #0752
800 HARRISON STREET
OAKLAND, CALIFORNIA

LOCATION MAP



LEGEND

- Monitoring well
- ● Exploratory boring
- ( ) Ground water elevation in feet above Mean Sea Level
- Contours of ground water elevation
- Direction of ground water flow

0 30 60

Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE OCTOBER 5, 1993 MONITORING EVENT

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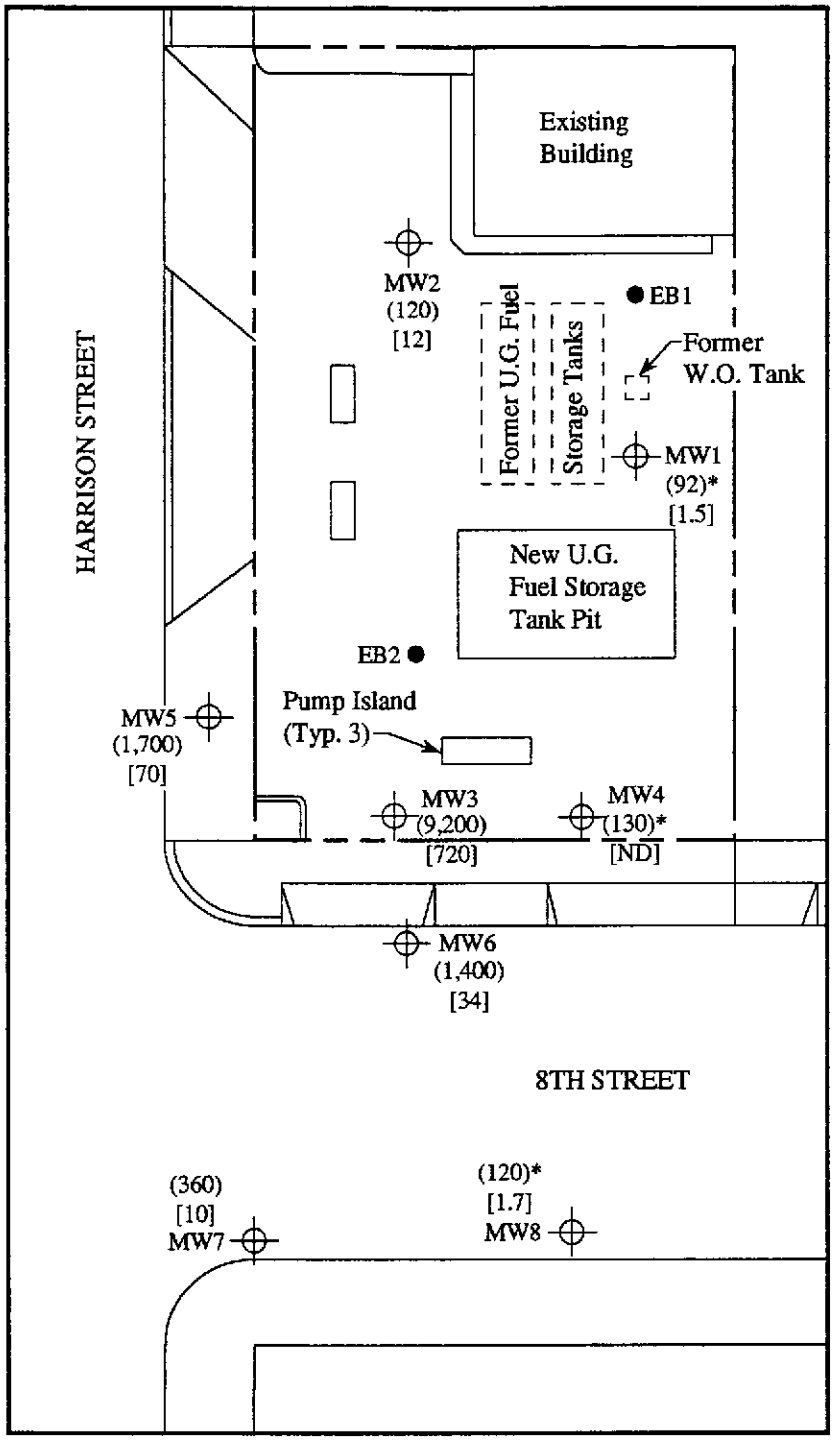
UNOCAL SERVICE STATION #0752
800 HARRISON STREET
OAKLAND, CALIFORNIA

FIGURE
1



LEGEND

- Monitoring well
- ● Exploratory boring
- ( ) Concentration of TPH as gasoline in ppb
- [ ] Concentration of benzene in ppb

ND = Non-detectable

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

0 30 60

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON OCTOBER 5, 1993

KAPREALIAN ENGINEERING INCORPORATED

UNOCAL SERVICE STATION #0752
800 HARRISON STREET
OAKLAND, CALIFORNIA

FIGURE **2**

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.	Client Project ID:	Unocal # 0752, 800 Harrison, Oakland	Sampled: Oct 5, 1993
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: Oct 6, 1993
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Oct 20, 1993
Attention: Avo Avedessian	First Sample #:	310-0250	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 310-0250 MW 1*	Sample I.D. 310-0251 MW 2	Sample I.D. 310-0252 MW 3	Sample I.D. 310-0253 MW 4**	Sample I.D. 310-0254 MW 5	Sample I.D. 310-0255 MW 6
Purgeable Hydrocarbons	50	92	120	9,200	130	1,700	1,400
Benzene	0.5	1.5	12	720	N.D.	70	34
Toluene	0.5	N.D.	N.D.	88	N.D.	6.2	N.D.
Ethyl Benzene	0.5	N.D.	2.1	140	N.D.	54	5.3
Total Xylenes	0.5	0.72	12	140	N.D.	40	7.3
Chromatogram Pattern:		Discrete Peaks and Non-Gasoline Mixture (>C8)	Gasoline	Gasoline	Discrete Peaks	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	50	1.0	2.0	2.0
Date Analyzed:	10/12/93	10/12/93	10/12/93	10/12/93	10/13/93	10/13/93
Instrument Identification:	HP-4	HP-4	HP-4	HP-4	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	99	94	89	100	190	114

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

Please Note:

* Discrete Peaks refers to EPA 8010 peaks.

** Discrete Peaks refers to unidentified peaks in the MTBE and EPA 8010 ranges.

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.	Client Project ID:	Unocal # 0752, 800 Harrison, Oakland	Sampled: Oct 5, 1993
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: Oct 6, 1993
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Oct 20, 1993
Attention: Avo Avedessian	First Sample #:	310-0256	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 310-0256 MW 7	Sample I.D. 310-0257 MW 8**	Sample I.D. Matrix Blank
Purgeable Hydrocarbons	50	360	120	
Benzene	0.5	10	1.7	
Toluene	0.5	1.2	N.D.	
Ethyl Benzene	0.5	0.91	N.D.	
Total Xylenes	0.5	0.99	N.D.	
Chromatogram Pattern:		Gasoline	Discrete Peaks	

Quality Control Data

Report Limit Muitiplication Factor:	1.0	1.0	1.0
Date Analyzed:	10/14/93	10/14/93	10/14/93
Instrument Identification:	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	86	100	101

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

Please Note:

** Discrete Peaks refers to unidentified peaks in the MTBE and EPA 8010 ranges.

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal # 0752, 800 Harrison, Oakland	Sampled: Oct 5, 1993
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: Oct 6, 1993
Concord, CA 94520	Analysis Method:	EPA 3510/3520/8015	Reported: Oct 20, 1993
Attention: Avo Avedessian	First Sample #:	310-0250	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 310-0250 MW 1*	Sample I.D. Matrix Blank
Extractable Hydrocarbons	50	57	
Chromatogram Pattern:		Non-Diesel Mixture (<C12)	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Extracted:	10/8/93	10/8/93
Date Analyzed:	10/12/93	10/12/93
Instrument Identification:	HP-3A	HP-3A

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

Please Note:

* Non-Diesel Mixture <C12 refers to unidentified peaks in the Paint Thinner / Stoddard Solvent range.

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Kapreallan Engineering, Inc.	Client Project ID:	Unocal # 0752, 800 Harrison, Oakland	Sampled:	Oct 5, 1993
2401 Stanwell Dr., Ste. 400	Sample Descript:	Water, MW 1	Received:	Oct 6, 1993
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed:	Oct 17, 1993
Attention: Avo Avedessian	Lab Number:	310-0250	Reported:	Oct 20, 1993

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	**0.50**	**13**
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**1.3**
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**0.66**
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

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

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Alan B. Kemp
Project Manager

3100250.KEI <4>

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(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal # 0752, 800 Harrison, Oakland
Matrix: Water
QC Sample Group: 3100250-57

Reported: Oct 20, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	J.F.	J.F.	J.F.	J.F.	K.Wimer
Conc. Spiked:	20	20	20	60	300
Units:	µg/L	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	2LCS101293	2LCS101293	2LCS101293	2LCS101293	BLK100893
Date Prepared:	10/12/93	10/12/93	10/12/93	10/12/93	10/8/93
Date Analyzed:	10/12/93	10/12/93	10/12/93	10/12/93	10/12/93
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3B
LCS % Recovery:	99	98	96	98	107
Control Limits:	70-130	70-130	70-130	70-130	80-120
MS/MSD Batch #:	3100349	3100349	3100349	3100349	BLK100893
Date Prepared:	10/12/93	10/12/93	10/12/93	10/12/93	10/8/93
Date Analyzed:	10/12/93	10/12/93	10/12/93	10/12/93	10/12/93
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3B
Matrix Spike % Recovery:	100	100	95	98	107
Matrix Spike Duplicate % Recovery:	100	100	100	102	110
Relative % Difference:	0.0	0.0	5.1	4.0	2.8

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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 LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL
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(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.	Client Project ID:	Unocal # 0752, 800 Harrison, Oakland
2401 Stanwell Dr., Ste. 400	Matrix:	Water
Concord, CA 94520		
Attention: Avo Avedessian	QC Sample Group: 310-0250	Reported: Oct 20, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloroethene	Trichloroethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	M. Nguyen	M. Nguyen	M. Nguyen
Conc. Spiked:	10	10	10
Units:	µg/L	µg/L	µg/L
LCS Batch#:	LCS101893	LCS101893	LCS101893
Date Prepared:	10/18/93	10/18/93	10/18/93
Date Analyzed	10/18/93	10/18/93	10/18/93
Instrument I.D.#:	HP5890/1	HP5890/1	HP5890/1
LCS % Recovery:	110	100	98
Control Limits:	28-167	35-146	38-150
MS/MSD Batch #:	3100471	3100471	3100471
Date Prepared:	10/18/93	10/18/93	10/18/93
Date Analyzed	10/18/93	10/18/93	10/18/93
Instrument I.D.#:	HP5890/1	HP5890/1	HP5890/1
Matrix Spike % Recovery:	110	100	92
Matrix Spike Duplicate % Recovery:	110	97	88
Relative % Difference:	0.0	3.1	4.4

SEQUOIA ANALYTICAL

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 LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL
1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal # 0752, 800 Harrison, Oakland
QC Sample Group: 310-0250
Reported: Oct 20, 1993

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8015	EPA 8015
Analyst:	K. Wimer	K. Wimer
Reporting Units:	µg/L	µg/L
Date Analyzed:	Oct 12, 1993	Oct 12, 1993
Sample #:	310-0250	Matrix Blank
Surrogate % Recovery:	91	95

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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

Client Project ID: Unocal # 0752, 800 Harrison, Oakland
QC Sample Group: 310-0250
Reported: Oct 20, 1993

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8010	EPA 8010
Analyst:	M. Nguyen	M. Nguyen
Reporting Units:	ug/L	ug/L
Date Analyzed:	Oct 17, 1993	Oct 17, 1993
Sample #:	310-0250	310-0250
Surrogate #1 % Recovery:	92	127
Surrogate #2 % Recovery:	130	112

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

KAPREALIAN ENGINEERING
INCORPORATED

CHAIN OF CUSTODY

SAMPLER: D. Giddings
WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal 0752 / Oakland
800 Harrison

TURN AROUND TIME: Regular

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTEX	TPH-D	8010				REMARKS
MW1	10/5	16:35		✓			Vocs 5		✓	✓	✓	✓				3100250 A-E
MW2	"	17:35		✓			" 2		✓	✓						251 A-B
MW3	"	20:15		✓			" 2		✓	✓						252
MW4	"	17:00		✓			" 2		✓	✓						253
MW5	"	19:45		✓			" 2		✓	✓						254
MW6	"	18:45		✓			" 2		✓	✓						255
MW7	"	19:20		✓			" 2		✓	✓						256
MW8	"	18:10		✓			" 2		✓	✓						257

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	10/6/93 14:30	[signature]
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)

The following MUST BE completed by the laboratory accepting samples for analysis:

1. Have all samples received for analysis been stored in ice? Y
2. Will samples remain refrigerated until analyzed? Y
3. Did any samples received for analysis have head space? N
4. Were samples in appropriate containers and properly packaged? Y

[signature] Signature — PS Title — 10/7/93 Date

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602

KAPREALIAN ENGINEERING
INCORPORATED

November 29, 1993

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

Attention: Ms. Jennifer Eberle

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

Dear Ms. Eberle:

Per the request of Ms. Tina Berry of Unocal Corporation, enclosed please find our report dated November 8, 1993, for the above referenced site.

If you should have any questions, please feel free to call our office at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Judy A. Dewey

jad\82

Enclosure

cc: Tina Berry, Unocal Corporation

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602