



KAPREALIAN ENGINEERING
INCORPORATED

KEI-P91-1101.QR1
August 10, 1992

92 AUG 21 PM 12:10

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

Attention: Ms. Penny Silzer

RE: Quarterly Report
Former Unocal Service Station #5847
2701 East Avenue
Hayward, California

Dear Ms. Silzer:

This report presents the results of the first quarter of monitoring and sampling of the monitoring wells at the referenced site by Kaprealian Engineering, Inc. (KEI), per KEI's proposal KEI-P91-1101.P1 dated December 6, 1991. The wells are currently monitored monthly and sampled on a quarterly basis. This report covers the work performed by KEI from May through July of 1992.

BACKGROUND

The subject site formerly contained a service station facility. The site is currently vacant and all improvements have been demolished. Two underground gasoline storage tanks and one waste oil tank were removed from the site in September of 1985, during demolition activities. Nine monitoring wells and ten exploratory borings have been installed at 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-P91-1101.R1) dated April 15, 1992.

RECENT FIELD ACTIVITIES

The nine wells (MW1B, MW2B, and MW3 through MW9) were monitored three times and were sampled once during the quarter. During monitoring, the wells were checked for depth to water and the presence of free product. Prior to sampling, the wells were also checked for the presence of 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.

Water samples were collected from the wells on July 15, 1992. Prior to sampling, the wells were each purged of between 9 and 13 gallons of water by the use of a surface pump. 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 and stored in a cooler, on ice, until delivery to the state-certified laboratory.

HYDROLOGY

The measured depth to ground water at the site on July 15, 1992, ranged between 19.43 and 25.15 feet below grade. The water levels in all of the wells, except MW8 and MW9, have shown net decreases ranging from 0.04 to 2.76 feet since March 14, 1992. The water levels in wells MW8 and MW9 have shown net increases of 0.15 and 0.01 feet, respectively. Based on the water level data gathered on July 15, 1992, the ground water flow direction appeared to be to the north-northwest, as shown on the attached Potentiometric Surface Map, Figure 1. The flow direction reported this quarter is changed slightly from the north-northeast flow direction reported on March 14, 1992. The average hydraulic gradient across the site on July 15, 1992, was approximately 0.047.

ANALYTICAL RESULTS

The ground water samples 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, xylenes, and ethylbenzene (BTX&E) by EPA method 8020. In addition, the ground water samples collected from monitoring wells MW2B and MW8 were also analyzed for TPH as diesel by EPA method 3510/modified 8015, total oil and grease (TOG) by Standard Methods 5520B&F, and EPA method 8010 constituents.

The ground water samples collected from all nine monitoring wells showed non-detectable concentrations of TPH as gasoline and BTX&E. In addition, the ground water samples collected from wells MW2B and MW8 showed non-detectable concentrations of TPH as diesel, TOG, and all EPA method 8010 constituents. The ground water sample analytical results are summarized in Table 2. Copies of the laboratory analytical results and Chain of Custody documentation are attached to this report.

DISCUSSION AND RECOMMENDATIONS

Based on the analytical results for the ground water samples collected and evaluated to date, and no evidence of free product or sheen in any of the wells, KEI recommends the continuation of the current monitoring and sampling program, per KEI's proposal (KEI-P91-1101.P1) dated December 6, 1991. The wells are currently monitored monthly and sampled on a quarterly basis.

DISTRIBUTION

A copy of this report should be sent to 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.

KEI-P91-1101.QR1
August 10, 1992
Page 4

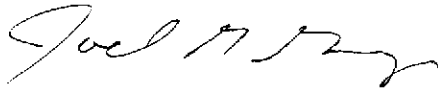
If you have any questions regarding this report, please do not
hesitate to call me at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.



Thomas J. Berkins
Senior Environmental Engineer



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

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



Timothy R. Ross
Project Manager

/bp

Attachments: Tables 1 & 2
Location Map
Potentiometric Surface Map - Figure 1
Laboratory Analyses
Chain of Custody documentation

KEI-P91-1101.QR1
August 10, 1992

TABLE 1

SUMMARY OF GROUND WATER MONITORING AND PURGING DATA

<u>Well #</u>	<u>Ground Water Elevation (feet)</u>	<u>Depth to Water (feet)</u>	<u>Product Thickness (feet)</u>	<u>Sheen</u>	<u>Gallons Pumped</u>
(Monitored and Sampled on July 15, 1992)					
MW1B	424.92	20.88	0	No	10
MW2B	425.01	23.60	0	No	11
MW3	424.84	22.16	0	No	9
MW4	424.94	22.08	0	No	9
MW5	427.40	19.43	0	No	10.5
MW6	425.51	25.15	0	No	10
MW7	427.96	19.78	0	No	10
MW8	427.22	24.49	0	No	10
MW9	429.40	21.58	0	No	13
(Monitored on June 17, 1992)					
MW1B	425.22	20.58	0	--	0
MW2B	425.31	23.30	0	--	0
MW3	425.12	21.88	0	--	0
MW4	425.24	21.78	0	--	0
MW5	427.87	18.96	0	--	0
MW6	425.88	24.78	0	--	0
MW7	428.44	19.30	0	--	0
MW8	427.57	24.14	0	--	0
MW9	429.78	21.20	0	--	0
(Monitored on May 14, 1992)					
MW1B	427.29	18.51	0	--	0
MW2B	427.32	21.29	0	--	0
MW3	427.08	19.92	0	--	0
MW4	427.04	19.98	0	--	0
MW5	430.73	16.10	0	--	0
MW6	426.34	24.32	0	--	0
MW7	431.46	16.28	0	--	0
MW8	427.81	23.90	0	--	0
MW9	430.14	20.84	0	--	0

KEI-P91-1101.QR1
August 10, 1992

TABLE 1 (Continued)

SUMMARY OF GROUND WATER MONITORING AND PURGING DATA

<u>Well</u>	<u>Well Cover Elevation* (feet)</u>
MW1	445.80
MW2	448.61
MW3	447.00
MW4	447.02
MW5	446.83
MW6	450.66
MW7	447.74
MW8	451.71
MW9	450.98

-- Sheen determination was not performed.

* The elevations of the tops of the well covers have been surveyed relative to Mean Sea Level, per a County of Alameda Benchmark "HAN-E 1980."

KEI-P91-1101.QR1
August 10, 1992

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

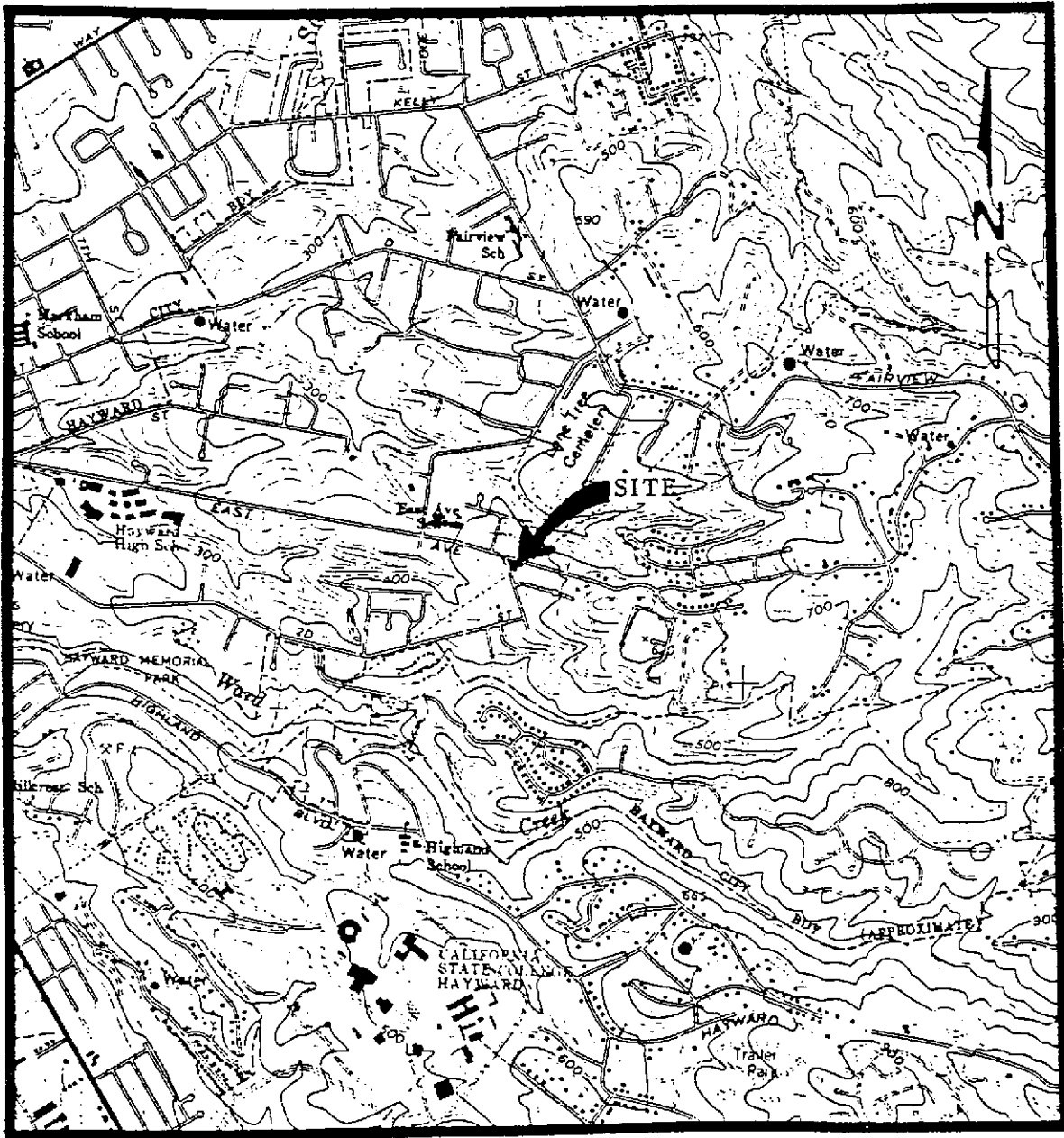
<u>Date</u>	<u>Sample Number</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl-benzene</u>
7/15/92	MW1B	--	ND	ND	ND	ND	ND
	MW2B*	ND	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	ND	ND	ND	ND
	MW6	--	ND	ND	ND	ND	ND
	MW7	--	ND	ND	ND	ND	ND
	MW8*	ND	ND	ND	ND	ND	ND
	MW9	--	ND	ND	ND	ND	ND
3/14/92	MW1B	--	240	ND	ND	4.4	20
	MW2B*	ND	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	ND	ND	ND	ND
	MW6	--	ND	ND	ND	ND	ND
	MW7	--	ND	ND	ND	ND	ND
	MW8*	ND	ND	ND	ND	ND	ND
	MW9	--	ND	ND	ND	ND	ND

* TOG and all EPA method 8010 constituents were non-detectable.

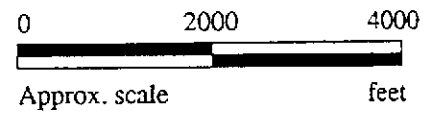
ND = Non-detectable.


-- Indicates analysis was not performed.

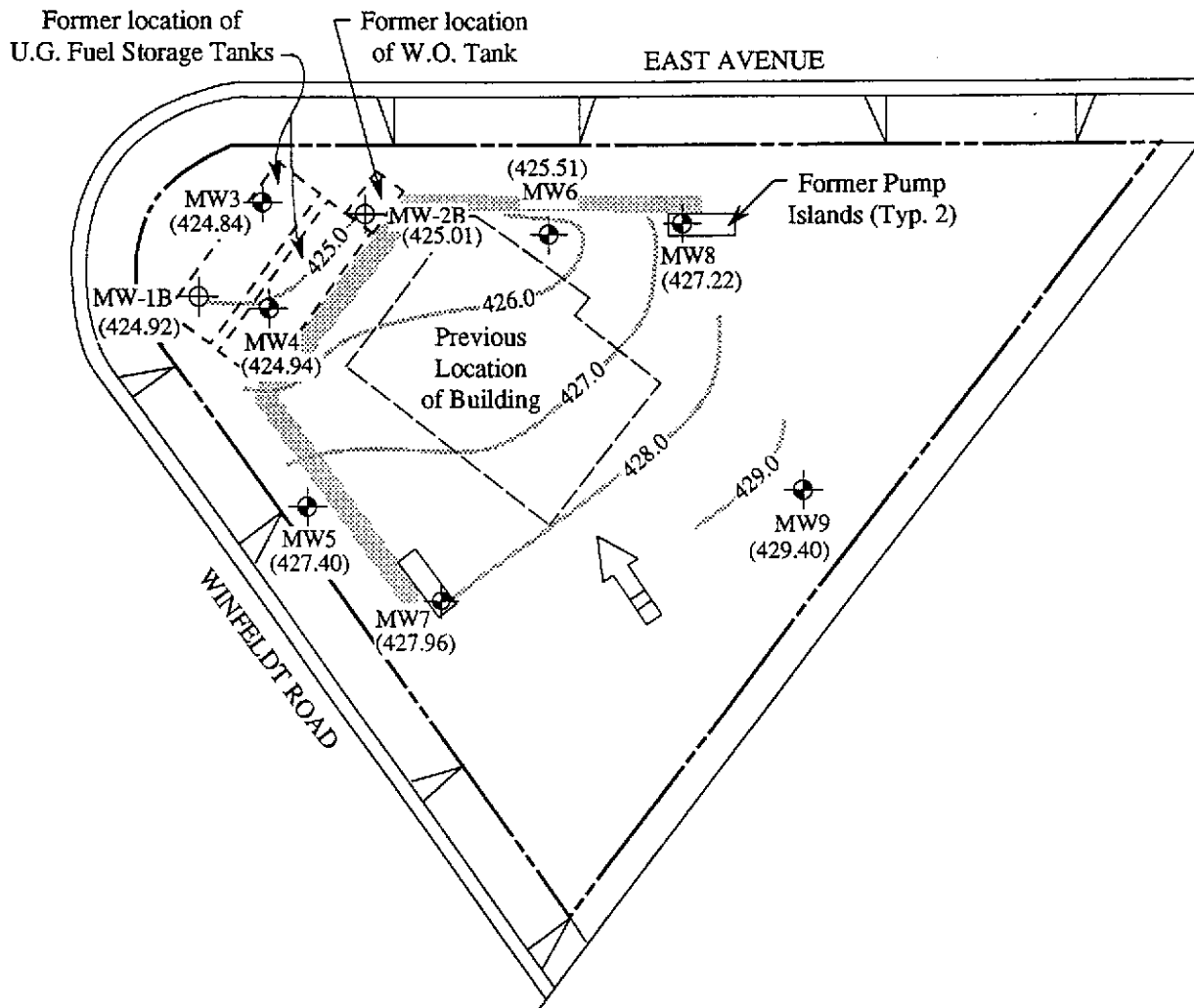
Results in parts per billion (ppb), unless otherwise indicated.



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



 <p>KAPREALIAN ENGINEERING INCORPORATED</p>	<p>FORMER UNOCAL S/S #5847 2701 EAST AVENUE HAYWARD, CA</p>	<p>LOCATION MAP</p>
--	--	---------------------------------------



LEGEND

- Monitoring well (by KEI)
- Monitoring well (by AGS, 1986)
- () Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow
- Contours of ground water elevation



POTENTIOMETRIC SURFACE MAP FOR THE JULY 15, 1992 MONITORING EVENT



**UNOCAL SERVICE STATION # 5847
2701 EAST AVENUE
HAYWARD, CA**

**FIGURE
1**



SEQUOIA ANALYTICAL

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

Kapreallan Engineering, Inc.	Client Project ID: Unocal, 2701 E. Ave., Hayward	Sampled: Jul 15, 1992
2401 Stanwell Drive, Suite 400	Sample Matrix: Water	Received: Jul 15, 1992
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported: Jul 27, 1992
Attention: Mardo Kapreallan, P.E.	First Sample #: 207-0593	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

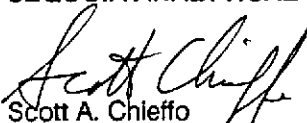
Analyte	Reporting Limit µg/L	Sample I.D. 207-0593 MW-1B	Sample I.D. 207-0594 MW-2B	Sample I.D. 207-0595 MW-3	Sample I.D. 207-0596 MW-4	Sample I.D. 207-0597 MW-5	Sample I.D. 207-0598 MW-6
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	7/17/92	7/17/92	7/17/92	7/17/92	7/17/92	7/17/92
Instrument Identification:	HP-4	HP-4	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	107	105	107	107	107	107

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

SEQUOIA ANALYTICAL


 Scott A. Chieffo
 Project Manager



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc. 2401 Stanwell Drive, Suite 400 Concord, CA 94520 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, 2701 E. Ave., Hayward Sample Matrix: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 207-0599	Sampled: Jul 15, 1992 Received: Jul 15, 1992 Reported: Jul 27, 1992
--	---	---

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

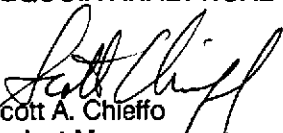
Analyte	Reporting Limit µg/L	Sample I.D. 207-0599 MW-7	Sample I.D. 207-0600 MW-8	Sample I.D. 207-0601 MW-9	Sample I.D. Matrix Blank
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	
Benzene	0.5	N.D.	N.D.	N.D.	
Toluene	0.5	N.D.	N.D.	N.D.	
Ethyl Benzene	0.5	N.D.	N.D.	N.D.	
Total Xylenes	0.5	N.D.	N.D.	N.D.	
Chromatogram Pattern:		--	--	--	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Analyzed:	7/17/92	7/17/92	7/17/92	7/17/92
Instrument Identification:	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	104	102	101	112

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

SEQUOIA ANALYTICAL


Scott A. Chieffo
Project Manager



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal, 2701 E. Ave., Hayward	Sampled: Jul 15, 1992
2401 Stanwell Drive, Suite 400	Sample Matrix: Water	Received: Jul 15, 1992
Concord, CA 94520	Analysis Method: EPA 3510/3520/8015	Reported: Jul 27, 1992
Attention: Mardo Kaprealian, P.E.	First Sample #: 207-0594	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 207-0594 MW-2B	Sample I.D. 207-0600 MW-8	Sample I.D. Matrix Blank
Extractable Hydrocarbons	50	N.D.	N.D.	
Chromatogram Pattern:		--	--	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Extracted:	7/20/92	7/20/92	7/20/92
Date Analyzed:	7/21/92	7/21/92	7/21/92
Instrument Identification:	HP-3	HP-3	HP-3

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

SEQUOIA ANALYTICAL

Scott A. Chieffo
 Scott A. Chieffo
 Project Manager



SEQUOIA ANALYTICAL

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

Kapreallan Engineering, Inc. 2401 Stanwell Drive, Suite 400 Concord, CA 94520 Attention: Mardo Kapreallan, P.E.	Client Project ID: Unocal, 2701 E. Ave., Hayward Matrix Descript: Water Analysis Method: SM 5520 B&F (Gravimetric) First Sample #: 207-0594	Sampled: Jul 15, 1992 Received: Jul 15, 1992 Extracted: Jul 17, 1992 Analyzed: Jul 22, 1992 Reported: Jul 27, 1992
--	--	--

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
207-0594	MW-2B	N.D.
207-0600	MW-8	N.D.

Detection Limits:

5.0

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

SEQUOIA ANALYTICAL


Scott A. Chieffo
Project Manager

2070593.KEI <4>



SEQUOIA ANALYTICAL

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

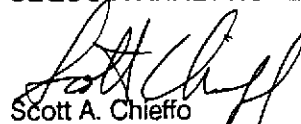
Kaprealian Engineering, Inc.	Client Project ID: Unocal, 2701 E. Ave., Hayward	Sampled: Jul 15, 1992
2401 Stanwell Drive, Suite 400	Sample Descript: Water, MW-2B	Received: Jul 15, 1992
Concord, CA 94520	Analysis Method: EPA 5030/8010	Analyzed: Jul 23, 1992
Attention: Mardo Kaprealian, P.E.	Lab Number: 207-0594	Reported: Jul 27, 1992

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.....	0.50	N.D.
Carbon tetrachloride.....	0.50	N.D.
Chlorobenzene.....	0.50	N.D.
Chloroethane.....	0.50	N.D.
2-Chloroethylvinyl ether.....	0.50	N.D.
Chloroform.....	0.50	N.D.
Chloromethane.....	0.50	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.
1,1,1,2-Tetrachloroethane.....	0.50	N.D.
Tetrachloroethene.....	0.50	N.D.
1,1,1-Trichloroethane.....	0.50	N.D.
1,1,2-Trichloroethane.....	0.50	N.D.
Trichloroethene.....	0.50	N.D.
Trichlorofluoromethane.....	0.50	N.D.
Vinyl chloride.....	0.50	N.D.

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

SEQUOIA ANALYTICAL


 Scott A. Chieffo
 Project Manager



SEQUOIA ANALYTICAL

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

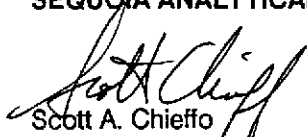
Kaprealian Engineering, Inc.	Client Project ID: Unocal, 2701 E. Ave., Hayward	Sampled: Jul 15, 1992
2401 Stanwell Drive, Suite 400	Sample Descript: Water, MW-8	Received: Jul 15, 1992
Concord, CA 94520	Analysis Method: EPA 5030/8010	Analyzed: Jul 24, 1992
Attention: Mardo Kaprealian, P.E.	Lab Number: 207-0600	Reported: Jul 27, 1992

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.....	0.50	N.D.
Carbon tetrachloride.....	0.50	N.D.
Chlorobenzene.....	0.50	N.D.
Chloroethane.....	0.50	N.D.
2-Chloroethylvinyl ether.....	0.50	N.D.
Chloroform.....	0.50	N.D.
Chloromethane.....	0.50	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	N.D.
1,1,1-Trichloroethane.....	0.50	N.D.
1,1,2-Trichloroethane.....	0.50	N.D.
Trichloroethene.....	0.50	N.D.
Trichlorofluoromethane.....	0.50	N.D.
Vinyl chloride.....	0.50	N.D.

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

SEQUOIA ANALYTICAL


 Scott A. Chieffo
 Project Manager



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520

Client Project ID: Unocal, 2701 E. Ave., Hayward

Attention: Mardo Kaprealian, P.E. QC Sample Group: 2070593-601


Reported: Jul 27, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Diesel	Oil and Grease
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA8015	SM5520
Analyst:	A.P.	A.P.	A.P.	A.P.	K.Wimer	D. Newcomb
Reporting Units:	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
Date Analyzed:	Jul 17, 1992	Jul 17, 1992	Jul 17, 1992	Jul 17, 1992	Jul 21, 1992	Jul 17, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60	300	100
Conc. Matrix Spike:	19	21	21	67	305	93
Matrix Spike % Recovery:	95	105	105	111	102	93
Conc. Matrix Spike Dup.:	19	21	21	70	285	91
Matrix Spike Duplicate % Recovery:	95	105	105	116	95	91
Relative % Difference:	0.0	0.0	0.0	4.4	6.8	2.0

Laboratory blank contained the following analytes: None Detected

SEQUOIA ANALYTICAL


Scott A. Chieffo
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

2070593.KEL <7>



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520

Client Project ID: Unocal, 2701 E. Ave., Hayward

Attention: Mardo Kaprealian, P.E. QC Sample Group: 2070593-601

Reported: Jul 27, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloroethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	K.Nill	K.Nill	K.Nill
Reporting Units:	µg/L	µg/L	µg/L
Date Analyzed:	Jul 23, 1992	Jul 23, 1992	Jul 23, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10
Conc. Matrix Spike:	8.7	8.2	9.4
Matrix Spike % Recovery:	87	82	94
Conc. Matrix Spike Dup.:	9.6	8.9	9.7
Matrix Spike Duplicate % Recovery:	96	89	97
Relative % Difference:	9.8	8.2	3.1

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.
Laboratory Blank contained the following analytes: None detected.

SEQUOIA ANALYTICAL


Scott A. Chieffo
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

2070593.KEI <8>



SEQUOIA ANALYTICAL

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

Kapreallan Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520

Client Project ID: Unocal, 2701 E. Ave., Hayward

Attention: Mardo Kapreallan, P.E. QC Sample Group: 2070593-601

Reported: Jul 27, 1992

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	K.NIII	K.NIII	K.NIII
Reporting Units:	µg/L	µg/L	µg/L
Date Analyzed:	Jul 23, 1992	Jul 23, 1992	Jul 23, 1992
Sample #:	207-0594	207-0600	Matrix Blank

Surrogate #1			
% Recovery:	81	94	94

Surrogate #2			
% Recovery:	109	110	125

SEQUOIA ANALYTICAL

Scott A. Chieffo
Scott A. Chieffo
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520

Client Project ID: Unocal, 2701 E. Ave., Hayward

Attention: Mardo Kaprealian, P.E. QC Sample Group: 2070593-601

Reported: Jul 27, 1992

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA8015	EPA8015	EPA8015
Analyst:	K.Wimer	K.Wimer	K.Wimer
Reporting Units:	µg/L	µg/L	µg/L
Date Analyzed:	Jul 21, 1992	Jul 21, 1992	Jul 21, 1992
Sample #:	207-0594	207-0600	Matrix Blank

Surrogate			
% Recovery:	111	112	97

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

2070593.KEI <10>

CHAIN OF CUSTODY

SAMPLER JOE		SITE NAME & ADDRESS Unocal / Hayward 2701 E. Ave.						ANALYSES REQUESTED				TURN AROUND TIME: <u>Regular</u>	
WITNESSING AGENCY								TPHG, BTXE	8010	TOG (5520 5&F)	TPHD		
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG, BTXE	8010	TOG (5520 5&F)	TPHD	REMARKS
MW-1B	7/15/92			✓	✓		2	MW	✓				2070593AB 594AF 595AB 596AB 597AB 598AB 599AB 600AF 601AB
MW-2B	"	12:45 P.M.		✓	✓		6	"	✓	✓	✓	✓	
MW-3	"			✓	✓		2	"	✓				
MW-4	"			✓	✓		2	"	✓				
MW-5	"	8:50 A.M.		✓	✓		2	"	✓				
MW-6	"			✓	✓		2	"	✓				
MW-7	"			✓	✓		2	"	✓				
MW-8	"			✓	✓		6	"	✓	✓	✓	✓	
MW-9	"			✓	✓		2	"	✓				
Relinquished by: (Signature) <i>Joe Lewis</i>		Date/Time 7/15/92		Received by: (Signature) <i>MW</i>		Date/Time 7/15 7:40 pm		The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? 2. Will samples remain refrigerated until analyzed? 3. Did any samples received for analysis have head space? 4. Were samples in appropriate containers and properly packaged? Signature: <i>MW</i> Title: <i>Analyst</i> Date: <i>7/15</i>					
Relinquished by: (Signature) <i>Sophin Fatiga</i>		Date/Time 7-16 12:50		Received by: (Signature) <i>[Signature]</i>		Date/Time 7-16 4:45 pm							
Relinquished by: (Signature) <i>[Signature]</i>		Date/Time 7-16-92 11:40		Received by: (Signature) <i>[Signature]</i>		Date/Time 7-16 4:45 pm							
Relinquished by: (Signature) <i>[Signature]</i>		Date/Time 7-16-92 11:40		Received by: (Signature) <i>[Signature]</i>		Date/Time 7-16 4:45 pm							


KAPREALIAN ENGINEERING
INCORPORATED

August 19, 1992

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

RE: Former Unocal Service Station #5847
2701 East Avenue
Hayward, California

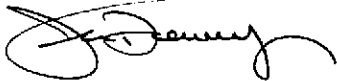
Gentlemen:

Per the request of Ms. Penny Silzer of Unocal Corporation, enclosed please find our report dated August 10, 1992, 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: Penny Silzer, Unocal Corporation