KAPREALIAN ENGINEERING
INCORPORATED

January 21, 1993

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

RE: Unocal Service Station #5484
18950 Lake Chabot Road
Castro Valley, California

Gentlemen:

Per the request of Mr. Ron Bock of Unocal Corporation, enclosed please find our report dated January 15, 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: Ron Bock, Unocal Corporation

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

KAPREALIAN ENGINEERING
INCORPORATED

Reviewed
1/25/93
SD

KEI-P90-0806.QR6
January 15, 1993

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

Attention: Mr. Ron Bock

RE: Quarterly Report
Unocal Service Station #5484
18950 Lake Chabot Road
Castro Valley, California

Dear Mr. Bock:

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), per KEI's proposal (KEI-P90-0806.P1) dated January 9, 1991, and as modified in KEI's reports (KEI-P90-0806.R2) dated June 27, 1991 and (KEI-P90-0806.QR4) dated July 27, 1992. **The wells are currently monitored and sampled on a quarterly basis, except for wells MW4 and MW6, which are sampled on a semi-annual basis.** This report covers the work performed by KEI from October through December of 1992.

BACKGROUND

The subject site contains a Unocal service station facility. Two underground gasoline storage tanks and one waste oil tank were removed from the site in June of 1989 during tank replacement activities. The fuel tank pit and the waste oil tank pit were subsequently overexcavated in order to remove contaminated soil. Seven monitoring wells and six exploratory borings have been previously installed at the site; however, two of the monitoring wells (MW1 and MW3) were destroyed during tank replacement activities.

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 quarterly report (KEI-P90-0806.QR3) dated April 27, 1992.

RECENT FIELD ACTIVITIES

The five existing wells (MW2 and MW4 through MW7) were monitored and sampled once during the quarter. Prior to sampling, the wells

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were checked for depth to water and the presence of free product and 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 wells MW2 and MW4 through MW7 on December 10, 1992. Prior to sampling, the wells were each purged of between 6 and 35 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 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 December 10, 1992, ranged between 7.55 and 11.01 feet below grade. Since September 10, 1992, the water levels in MW2, MW5, and MW7 have shown net decreases ranging from 0.11 to 0.30 feet. However, the water levels in MW4 and MW6 have shown net increases of 0.80 and 0.06 feet, respectively. Based on the water level data gathered on December 10, 1992, 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 unchanged from the flow directions reported since May 23, 1991. The hydraulic gradient at the site on December 10, 1992, was approximately 0.08.

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 MW5 and MW7 were analyzed for TPH as diesel by EPA method 3510/modified 8015. The ground water sample collected from well MW7 was also analyzed for EPA method 8010 compounds, and the ground water sample collected from well MW2 was analyzed for methyl tert butyl ether (MTBE) by EPA 8020/modified.

The ground water sample analytical results are summarized in Tables 2 and 3. 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 for the ground water samples collected and evaluated to date, and based on a letter dated November 25, 1992, from the Alameda County Health Care Services Agency (ACHCS) to Unocal, KEI recommends a modification to the current ground water monitoring and sampling program. All of the wells will be monitored and sampled on a quarterly basis, except for well MW6, which will be sampled semi-annually. The total oil and grease (TOG) analysis for well MW7 will be discontinued. The ground water samples collected from all of the wells will be analyzed for TPH as gasoline and BTX&E. In addition, the ground water samples collected from wells MW5 and MW7 will be analyzed for TPH as diesel and EPA method 8010 constituents, and the sample collected from well MW2 will be analyzed for MTBE. Lastly, the ground water samples collected next quarter from wells MW5 and MW7 will be analyzed by EPA method 8270, including the "open scan." Based on the results of the EPA method 8270 analysis, KEI will make additional recommendations regarding further analyses for wells MW5 and MW7.

DISTRIBUTION

A copy of this report should be sent to the ACHCS, and to the Regional Water Quality Control Board, San Francisco 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. 1633
Exp. Date 6/30/94

Timothy R. Ross
Project Manager

\bp

Attachments: Tables 1, 2 & 3
Location Map
Potentiometric Surface Map - Figure 1
Concentrations of Petroleum Hydrocarbons - Figure 2
Laboratory Analyses
Chain of Custody documentation

KEI-P90-0806.QR6
January 15, 1993

TABLE 1

SUMMARY OF MONITORING DATA

Well No.	Ground Water Elevation (feet)	Depth to Water (feet)	Product Thickness (feet)	Sheen	Water Purged (gallons)
(Monitored and Sampled on December 10, 1992)					
MW2	221.92	7.55	0	No	9
MW4	218.34	9.74	0	No	27
MW5	215.30	10.12	0	No	22
MW6	231.31	8.07	0	No	35
MW7	220.65	11.01	0	No	6

Well	Well Cover Elevation* (feet)
MW2	229.47
MW4	228.08
MW5	225.42
MW6	239.38
MW7	231.66

* The elevations of the tops of the well covers have been surveyed relative to Mean Sea Level.

KEI-P90-0806.QR6
January 15, 1993

TABL[redacted]

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene	MTBE
12/10/92	MW2	--	100*	ND	ND	ND	ND	170
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	83♦	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	200♦	1,200	28	ND	13	37	--
9/10/92	MW2	--	61*	ND	ND	ND	ND	110
	MW4	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW5	110**	ND	ND	ND	ND	ND	--
	MW6	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW7	290**	2,100	160	1.9	150	140	--
6/18/92	MW2	--	140*	ND	ND	ND	ND	--
	MW4	--	ND	0.41	0.84	0.55	ND	--
	MW5	ND	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	990*	5,500	340	4.2	410	380	--
3/20/92	MW2	--	120	ND	ND	ND	ND	--
	MW4	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW5	170	ND	ND	ND	ND	ND	--
	MW6	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW7	3,200	11,000	980	ND	1,600	990	--
12/19/91	MW2	--	140	0.66	ND	1.2	0.64	--
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	--	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	770	3,900	240	2.4	270	280	--
10/10/91	MW5	ND	--	--	--	--	--	--
9/20/91	MW2	--	ND	ND	ND	ND	ND	--
	MW4	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW5	450	ND	ND	ND	ND	ND	--
	MW6	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW7	580	1,400	160	0.75	130	89	--
5/23/91	MW2	--	ND	ND	ND	ND	ND	--
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	--	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	540	3,000	160	1.2	120	25	--

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

-- Indicates analysis was not performed.

ND = Non-detectable.

* Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

** 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.

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

KEI-P90-0806.QR6
January 15, 1993

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

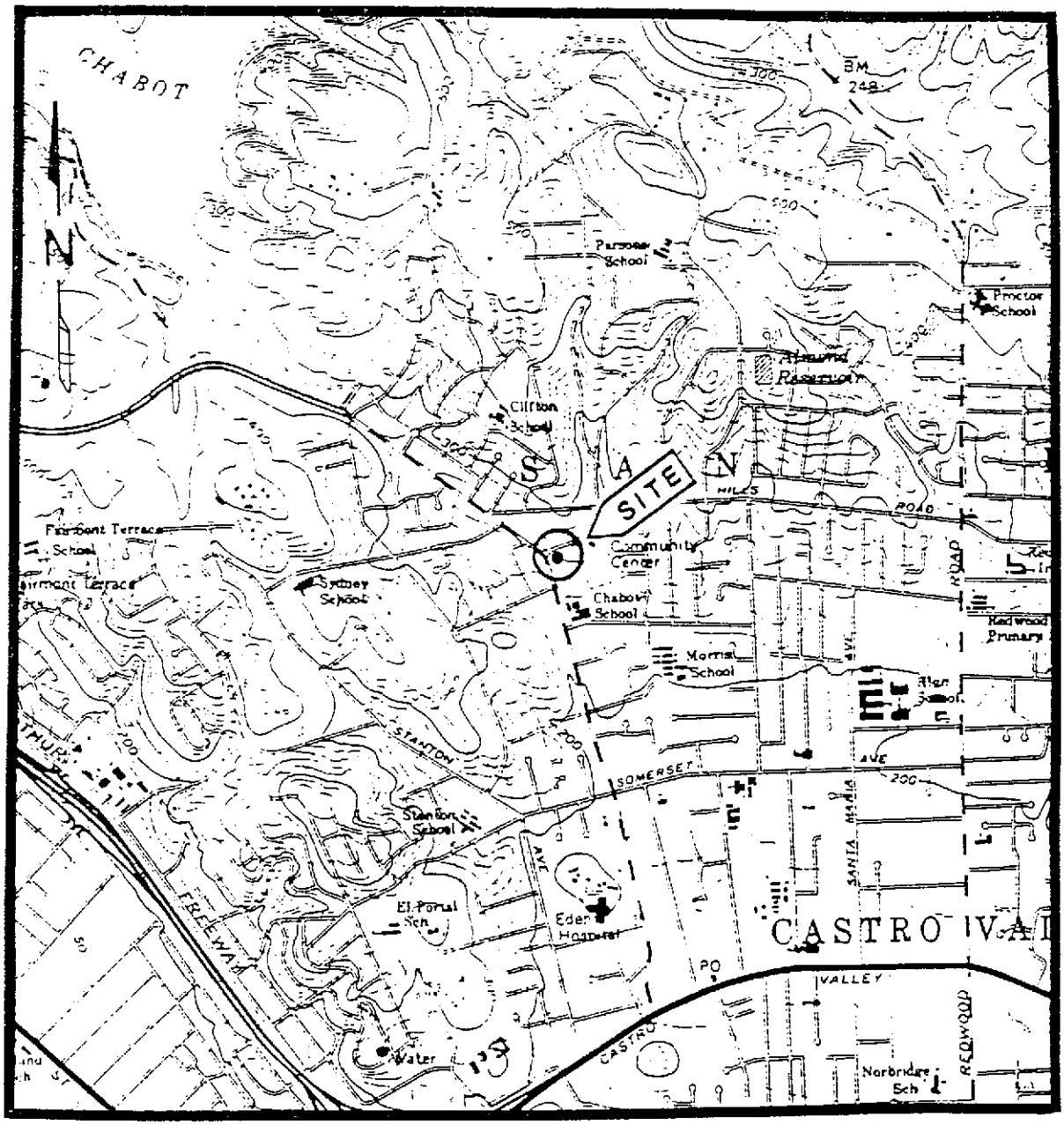
Date	Sample Well#	TOG (ppm)	1,2-Dichloroethane
12/10/92	MW7	--	2.0
9/10/92	MW7	--	2.3
6/18/92	MW7	ND	ND
3/20/92	MW7	ND	ND
12/19/91	MW7	ND	3.1
9/20/91	MW7	ND	ND
5/23/91	MW7	ND	3.4

-- Indicates analysis was not performed.

ND = Non-detectable.

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

NOTE: All EPA method 8010 compounds were non-detectable, except for 1,2-dichloroethane.

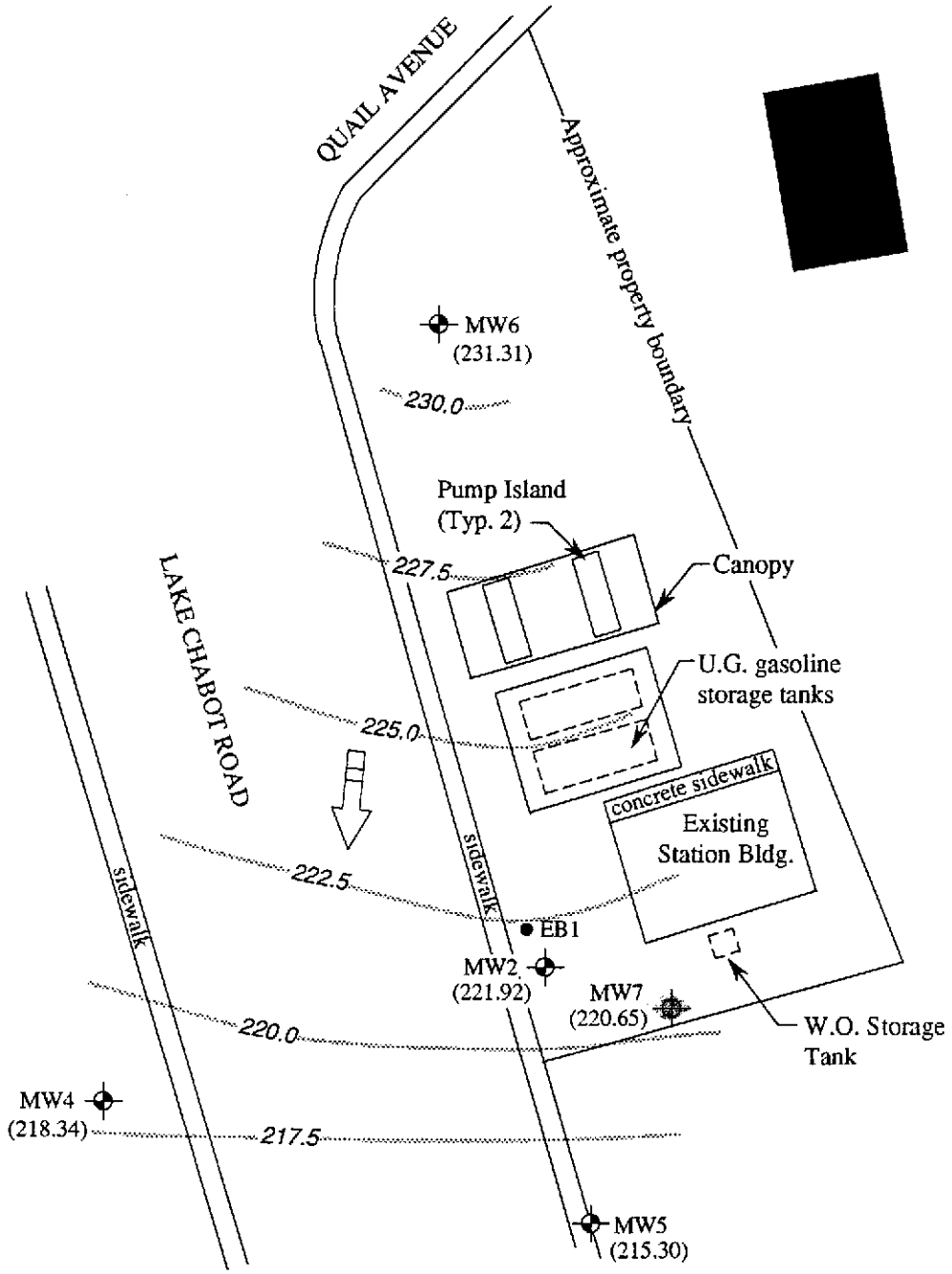


Base modified from 7.5 minute U.S.G.S. Hayward Quadrangle
(photorevised 1980)

0 2000 4000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED	**UNOCAL SERVICE STATION #5484** **18950 LAKE CHABOT ROAD** **CASTRO VALLEY, CA**	**LOCATION MAP**



LEGEND

- Monitoring well (by KEI)
- Monitoring well (by AGS)
- Exploratory boring (by KEI)
- ( ) Elevation of ground water table in feet above Mean Sea Level
- Contours of ground water elevation
- Direction of ground water flow

0 40 80

Approx. scale feet

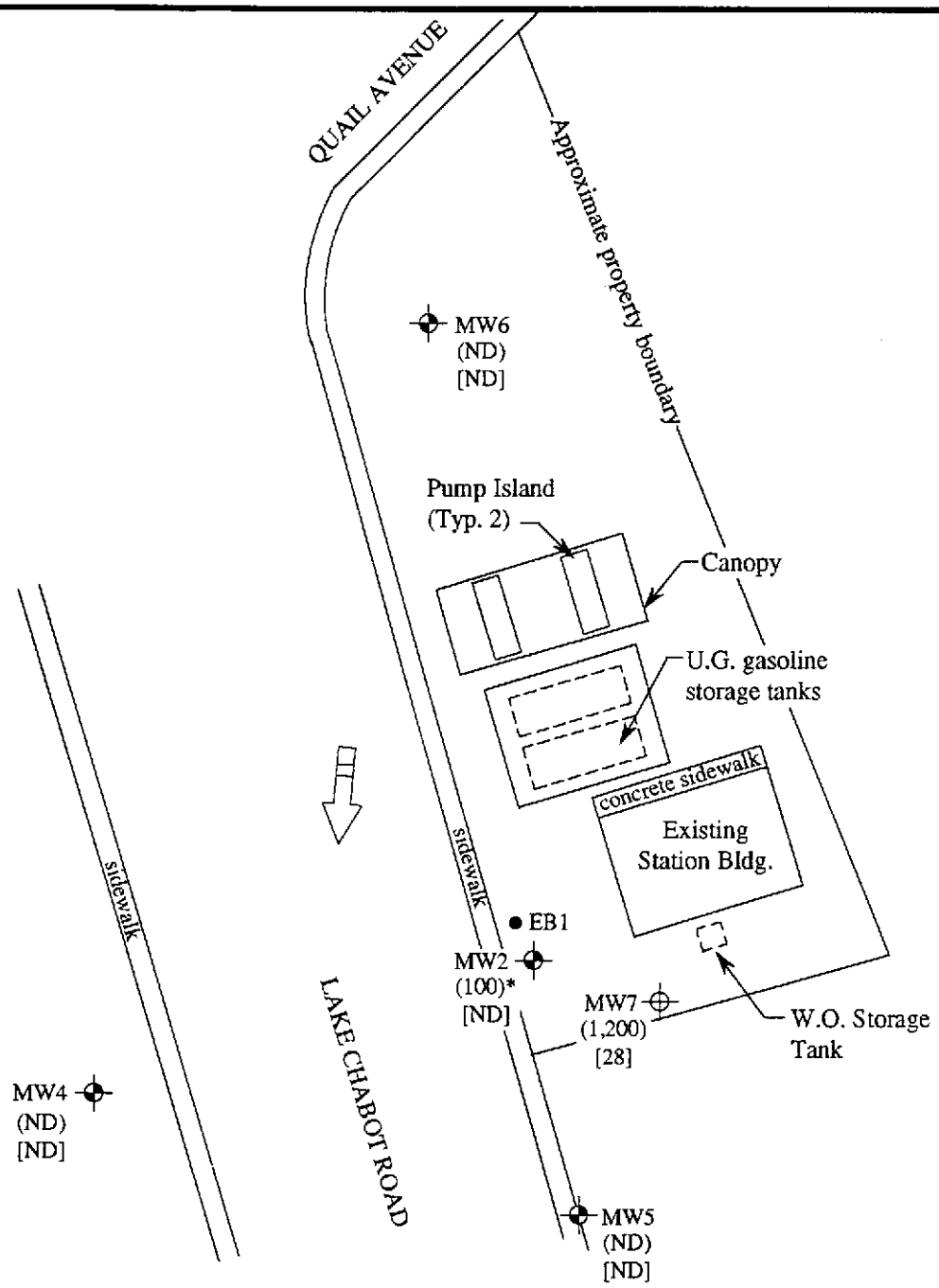
(Base modified from AGS report 18061-4 Plate P-2)

POTENTIOMETRIC SURFACE MAP FOR THE DECEMBER 10, 1992 MONITORING EVENT

KAPREALIAN ENGINEERING
INCORPORATED

UNOCAL SERVICE STATION #5484
18950 LAKE CHABOT ROAD
CASTRO VALLEY, CA

FIGURE
1



LEGEND

- Monitoring well (by KEI)
- Monitoring well (by AGS)
- Exploratory boring (by KEI)
- ( ) Concentration of TPH as gasoline in ppb
- [ ] Concentration of benzene in ppb
- Direction of ground water flow

ND = Non-detectable

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

0 40 80

Approx. scale feet

(Base modified from AGS report 18061-4 Plate P-2)

PETROLEUM HYDROCARBONS DETECTED IN GROUND WATER ON DECEMBER 10, 1992

KAPREALIAN ENGINEERING
INCORPORATED

UNOCAL SERVICE STATION #5484
18950 LAKE CHABOT ROAD
CASTRO VALLEY, CA

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, 18950 Lake Chabot Road,	Sampled:	Dec 10, 1992
2401 Stanwell Drive, Suite 400	Sample Matrix:	Water Castro Valley	Received:	Dec 10, 1992
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Dec 29, 1992
Attention: Mardo Kaprealian, P.E.	First Sample #:	212-0647		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 212-0647 MW 2	Sample I.D. 212-0648 MW 4	Sample I.D. 212-0649 MW 5	Sample I.D. 212-0650 MW 6	Sample I.D. 212-0651 MW 7	Sample I.D. Matrix Blank
Purgeable Hydrocarbons	50	100	N.D.	N.D.	N.D.	1,200	
Benzene	0.5	N.D.	N.D.	N.D.	N.D.	28	
Toluene	0.5	N.D.	N.D.	N.D.	N.D.	N.D.	
Ethyl Benzene	0.5	N.D.	N.D.	N.D.	N.D.	37	
Total Xylenes	0.5	N.D.	N.D.	N.D.	N.D.	13	
Chromatogram Pattern:		Discrete Peak	--	--	--	Gasoline	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	10	1.0
Date Analyzed:	12/16/92	12/16/92	12/16/92	12/16/92	12/18/92	12/16/92
Instrument Identification:	HP-2	HP-2	HP-2	HP-4	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	95	95	99	105	101	99

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

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 18950 Lake Chabot Road, Castro Valley	Sampled:	Dec 10, 1992
2401 Stanwell Drive, Suite 400	Sample Matrix:	Water	Received:	Dec 10, 1992
Concord, CA 94520	Analysis Method:	EPA 3510/3520/8015	Reported:	Dec 29, 1992
Attention: Mardo Kaprealian, P.E.	First Sample #:	212-0649		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 212-0649 MW 5*	Sample I.D. 212-0651 MW 7	Sample I.D. Matrix Blank
Extractable Hydrocarbons	50	83	200	
Chromatogram Pattern:		Diesel and Discrete Peaks	Diesel and Non-Diesel Mixture (<C14)	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Extracted:	12/16/92	12/16/92	12/16/92
Date Analyzed:	12/18/92	12/18/92	12/18/92
Instrument Identification:	HP-3B	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

Scott A. Chieffo
Project Manager

Please Note:

* Extractable Hydrocarbons are mainly due to several unidentified peaks in the EPA 8270 range.

Revised Report - 1/14/93

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 18950 Lake Chabot Road,	Sampled:	Dec 10, 1992
2401 Stanwell Drive, Suite 400	Sample Descript:	Water Castro Valley	Received:	Dec 10, 1992
Concord, CA 94520	Analysis for:	MTBE (EPA 8020 - Modified)		
Attention: Mardo Kaprealian, P.E.	First Sample #:	212-0647	Analyzed:	Dec 16, 1992
			Reported:	Dec 29, 1992

LABORATORY ANALYSIS FOR: MTBE (EPA 8020 - Modified)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L
212-0647	MW 2	0.60	170

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

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

Please Note:
Revised Report - 1/6/93

2120647.KEI <2>

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 18950 Lake Chabot Road,	Sampled:	Dec 10, 1992
2401 Stanwell Drive, Suite 400	Sample Descript:	Water, MW 7 Castro Valley	Received:	Dec 10, 1992
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed:	Dec 24, 1992
Attention: Mardo Kaprealian, P.E.	Lab Number:	212-0651	Reported:	Dec 29, 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	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	N.D.
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	2.0
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	1.0	N.D.

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

SEQUOIA ANALYTICAL

for Scott A. Chieffo
Project Manager

SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 18950 Lake Chabot Road, Castro Valley
QC Sample Group: 2120647-651
Reported: Dec 29, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Diesel
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015
Analyst:	J.F.	J.F.	J.F.	J.F.	K.Wimer
Reporting Units:	µg/L	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Dec 16, 1992	Dec 16, 1992	Dec 16, 1992	Dec 16, 1992	Dec 18, 1992
QC Sample #:	212-0509	212-0509	212-0509	212-0509	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60	300
Conc. Matrix Spike:	23	22	22	69	273
Matrix Spike % Recovery:	115	110	110	115	91
Conc. Matrix Spike Dup.:	23	22	22	68	263
Matrix Spike Duplicate % Recovery:	115	110	110	113	88
Relative % Difference:	0.0	0.0	0.0	1.4	3.7

Laboratory blank contained the following analytes: None Detected

SEQUOIA ANALYTICAL

Karen Chieffo

Scott A. Chieffo
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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Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 18950 Lake Chabot Road, Castro Valley
QC Sample Group: 2120647-651
Reported: Dec 29, 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:	ng	ng	ng
Date Analyzed:	Dec 24, 1992	Dec 24, 1992	Dec 24, 1992
QC Sample #:	212-0620	212-0620	212-0620
Sample Conc.:	N.D.	28	N.D.
Spike Conc. Added:	100	100	100
Conc. Matrix Spike:	86	130	99
Matrix Spike % Recovery:	86	102	99
Conc. Matrix Spike Dup.:	92	135	100
Matrix Spike Duplicate % Recovery:	92	107	100
Relative % Difference:	6.7	4.8	1.0

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

SEQUOIA ANALYTICAL

Karen Croston

Scott A. Chieffo
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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Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 18950 Lake Chabot Road, Castro Valley
QC Sample Group: 2120647-651
Reported: Dec 29, 1992

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8015	EPA 8015	EPA 8015
Analyst:	K. Wimer	K. Wimer	K. Wimer
Reporting Units:	µg/L	µg/L	µg/L
Date Analyzed:	Dec 18, 1992	Dec 18, 1992	Dec 18, 1992
Sample #:	212-0649	212-0651	Matrix Blank
Surrogate % Recovery:	126	96	106

SEQUOIA ANALYTICAL

Scott A. Chieffo
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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Kaprealian Engineering, Inc.
2401 Stanwell Drive, Suite 400
Concord, CA 94520
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 18950 Lake Chabot Road, Castro Valley
QC Sample Group: 2120647-651
Reported: Dec 29, 1992

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8010	EPA 8010
Analyst:	K. Nill	K. Nill
Reporting Units:	µg/L	µg/L
Date Analyzed:	Dec 24, 1992	Dec 24, 1992
Sample #:	212-0651	Matrix Blank
Surrogate #1 % Recovery:	129	124
Surrogate #2 % Recovery:	100	106

SEQUOIA ANALYTICAL

Scott A. Chieffo
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, INC.

CHAIN OF CUSTODY

SAMPLER: VartKes

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal / Castro Valley
18950 Lake chabot.

TURN AROUND TIME: Regular.

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG+BTXE	TPH D	MTBE	8010	REMARKS
MW 2	12/10/92	9:55 am.		X	X		4	Monitoring well	X		X		9212047 A-D
MW 4	"			X	X		2	" "	X				48 A/B
MW 5	"			X	X		3	" "	X	X			49 A-C
MW 6	"			X	X		2	" "	X				50 A/B
MW 7	"	12:50 pm.		X	X		5	" "	X	X		X	51 A-E

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
W. Kaprealian	12/10/92 6:15	[illegible] 12/10/92 1815
K Graves	12-11-92	L Buikeman 12/11/92 1229
L Buikeman	12/11/92 1330 PM	[illegible]
[illegible]	12/11/92 1540	[illegible] 12-11-92 1540

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? no
4. Were samples in appropriate containers and properly packaged? /

[illegible] — Signature | Analyst — Title | 12/10/92 — Date

[illegible] 12-14-92