KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 748-6581

November 15, 1991

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

Attention: Mr. Gil Wistar

RE: Unocal Service Station #3538
411 W. MacArthur Blvd.
Oakland, California

Dear Mr. Wistar:

Per the request of Mr. Rick Sisk of Unocal Corporation, enclosed please find our report dated November 15, 1991, for the above referenced site.

If you have any questions, please call our office at (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.

Judy A. Dewey

jad\82

Enclosure

cc: Rick Sisk, Unocal Corporation

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581

KEI-P89-0703.QR8
November 15, 1991

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

Attention: Mr. Rick Sisk

RE: Quarterly Report
Unocal Service Station #3538
411 W. MacArthur Boulevard
Oakland, California

Dear Mr. Sisk:

This report presents the results of the eighth quarter of monitoring and sampling of the monitoring wells at the referenced site by Kaprealian Engineering, Inc. (KEI), per KEI's proposal KEI-P89-0703.P3 dated February 28, 1991. The wells are currently monitored monthly and sampled on a quarterly basis. This report covers the work performed by KEI from August through October, 1991.

SITE DESCRIPTION AND BACKGROUND

The subject site is presently used as a gasoline station. The site is located on gently sloping, south-southwest trending topography, and is situated approximately 1,900 feet northwest of Glen Echo Creek. Also, the site is located adjacent to and west of Mosswood Park and southwest of a BP Service Station. A Location Map, Site Vicinity Map, and Site Plans are attached to this report.

KEI's initial work at the site began in July 1989, when KEI was asked to collect soil samples following the removal of two underground fuel storage tanks and one waste oil tank at the site. The tanks consisted of one 10,000 gallon super unleaded gasoline tank, one 12,000 gallon regular unleaded gasoline tank, and one 550 gallon waste oil tank. No apparent holes or cracks were observed in the fuel tanks; however, the waste oil tank had four small holes. Water was encountered in the fuel tank pit at a depth of 10.5 feet below grade, thus prohibiting sampling directly from beneath the fuel tanks. Six sidewall samples, labeled SW1, SW1(4), SW2, SW3, SW4, and SW4(2), were collected from the fuel tank pit at depths of 10 feet below grade. The soil sample collected from beneath the waste oil tank, labeled WO1, was collected at a depth of 8.5 feet below grade. KEI also collected four samples, labeled P1 through P4, from the piping trenches at depths of 5 to 10 feet

below grade. After sampling, the water was pumped from the fuel tank pit. Since there was no recharge, a water sample was not collected. All samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California, for total petroleum hydrocarbons (TPH) as gasoline, and benzene, toluene, xylenes, and ethylbenzene (BTX&E). In addition, the waste oil tank sample was analyzed for TPH as diesel, total oil and grease (TOG), and EPA methods 8010 and 8270 compounds.

The analytical results of the fuel tank pit soil samples showed levels of TPH as gasoline ranging from non-detectable to 11 ppm, except for sample SW1, which showed 3,100 ppm of TPH as gasoline. However, following excavation of approximately 4 feet of the sidewall where sample SW1 was collected, an additional sample, labeled SW1(4), was collected, analyzed, and indicated non-detectable levels of TPH as gasoline and BTX&E. The sample collected from the waste oil pit showed non-detectable levels of TPH as gasoline, TPH as diesel, and BTX&E, with TOG levels of 36 ppm. Results of the soil analyses are summarized in Table 3, and the sample locations are as shown on the attached Site Plan, Figure 2. Documentation of the tank and piping removal procedures, sample collection techniques, and analytical results from the tank excavation are summarized in KEI's report (KEI-J89-0703.R1) dated July 31, 1989. To comply with the requirements of the regulatory agencies and based on the results of the laboratory analyses, KEI recommended the installation of four monitoring wells.

On September 6 and 7, 1989, four two-inch diameter monitoring wells, designated as MW1, MW2, MW3, and MW4 on the attached Site Plan, Figure 1, were installed at the site. The four wells were drilled and completed to total depths ranging from 29 to 30 feet below grade. Ground water was encountered at depths ranging from 19 to 19.5 feet beneath the surface during drilling. The wells were developed on September 12, 1989, and were initially sampled on September 15, 1989.

Water and selected soil samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California. Samples were analyzed for TPH as gasoline and BTX&E. In addition, the sample collected from monitoring well MW1 was analyzed for TPH as diesel, TOG, and purgeable halocarbons using EPA method 8010. Analytical results of soil samples collected from the borings for the monitoring wells showed levels of TPH as gasoline ranging from non-detectable to 20 ppm in all samples. TPH as diesel and EPA method 8010 compounds were non-detectable in all samples collected from MW1. All TOG levels in MW1 were less than 50 ppm. Benzene levels were non-detectable in all samples, except MW2 at 19 feet and MW3 at 10 feet, which were 1.5 ppm and 0.29 ppm, respectively. The analyti-

cal results of water samples collected from the monitoring wells MW1 through MW4 indicated non-detectable levels of benzene. Analytical results of the water sample collected from MW1 also revealed non-detectable levels of TPH as diesel, less than 50 ppm of TOG, and non-detectable levels of all EPA method 8010 constituents, except for 2.7 ppb of tetrachloroethene (PCE). TPH as gasoline levels were 290 ppb in MW2, 32 ppb in MW3, and non-detectable in wells MW1 and MW4. Laboratory results of the soil samples are summarized in Table 3, and results of the water samples are summarized in Table 2. The details of the monitoring well installation procedures, sample collection techniques, and analytical results are presented in KEI's report (KEI-P89-0703.R5) dated October 23, 1989. Based on these analytical results, KEI recommended the implementation of a monthly monitoring and quarterly sampling program. The monthly monitoring and quarterly sampling was initiated in November 1989.

Based on the contaminant levels detected in monitoring wells MW2 and MW3 in subsequent quarters, KEI recommended the installation of two additional monitoring wells (see the attached Site Vicinity Map) in KEI's fifth quarterly report (KEI-P89-0703.QR5) dated February 28, 1991. KEI considered proposing the installation of monitoring wells in the median strip in the center of MacArthur Boulevard; however, access is precluded due to the presence of underground utilities and trees.

RECENT FIELD ACTIVITIES

The four wells (MW1 through MW4) were monitored three times and monitoring wells MW2 and MW3 were sampled once during the quarter. During monitoring, the wells were checked for depth to water and presence of free product. During sampling, the wells were also checked for the presence of sheen. In addition, wells MW2 and MW3 were purged of between 5 to 55 gallons during each monthly monitoring event. No free product or sheen was noted in any of the wells during the quarter. Monitoring data are summarized in Table 1.

Water samples were collected from wells MW2 and MW3 on October 15, 1991. Prior to sampling, the wells were each purged of between 5 to 6 gallons by the use of a surface pump. Samples were then collected using a clean Teflon bailer. 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 AND REGIONAL GEOLOGY

Based on the water level data gathered on October 15, 1991, the ground water flow direction appeared to be generally toward the east, relatively unchanged from the previous quarter. The average hydraulic gradient at the site on October 15, 1991 was approximately 0.006. Water levels have fluctuated during the quarter, showing a net decrease of 0.12 to 0.19 feet in all wells since July 15, 1991. The measured depth to ground water at the site on October 15, 1991 ranged between 18.50 and 18.72 feet below grade.

Based on review of regional geologic maps (U.S. Geological Survey Professional Paper 943 "Flatland Deposits of the San Francisco Bay Region, California - Their Geology and Engineering Properties, and their Importance to Comprehensive Planning" by E.J. Helley and K.R. Lajoie, 1979), the subject site is underlain by Late Pleistocene Alluvium (Qpa). These materials, considered to be alluvial fan deposits, are described as consisting of weakly consolidated, slightly weathered, irregular interbedded clay, silt, sand, and gravel. The maximum thickness of these deposits is unknown, but is considered to be at least 150 feet thick.

The results of our previous subsurface study (log of borings for MW1 through MW4) indicate the site is underlain by alluvial materials to at least the maximum depth explored (30.5 feet below grade). The alluvium materials underlying the site typically consist of clay with variable amounts of sand and/or gravel to depths below grade of 16.5 to 21 feet, with occasional lenses of sand and gravel (see log of MW2). The upper clay zone is inturn underlain by a coarse-grained zone consisting of gravel and/or sand lenses, which range in thickness from a minimum of 8 feet up to a maximum of about 11.5 feet. This coarse-grained zone appears to be underlain by a second clay zone, which was generally encountered at depths below grade of about 27.5 to 29 feet (except in the vicinity of well MW3, where clayey gravel was encountered to the maximum depth explored of 29 feet below grade). Immediately underlying the surface of the site is a relatively thin layer of artificial fill materials varying in thickness from 1 to 2 feet.

ANALYTICAL RESULTS

Ground water samples were analyzed at Sequoia Analytical Laboratory in Concord, California, and were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline using EPA method 5030 in conjunction with modified 8015, and BTX&E using EPA method 8020.

Analytical results of the ground water samples collected from monitoring wells MW2 and MW3 indicated levels of TPH as gasoline at concentrations of 140 ppb and 3,100 ppb, respectively. Benzene was detected in monitoring wells MW2 and MW3 at concentrations of 44 ppb and 390 ppb, respectively. Concentrations of TPH as gasoline and benzene detected in ground water samples collected on October 15, 1991, are shown on the attached Site Plan, Figure 1a. Results of the analyses are summarized in Table 2. Copies of the analytical results and Chain of Custody documentation are attached to this report.

DISCUSSION AND RECOMMENDATIONS

Based on the analytical results 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 of the existing wells, per KEI's proposal (KEI-P89-0703.P3) dated February 28, 1991. In addition, KEI recommends that wells MW1 and MW4 be sampled on an annual basis as proposed in KEI's quarterly report (KEI-P89-0703.QR7) dated August 20, 1991. These annual samples will be conducted in order to verify that the contamination detected in wells MW2 and MW3 has not migrated to wells MW1 and MW4. Monthly monitoring of all wells will continue in order to collect ground water elevation data.

KEI has obtained the necessary permits for the installation of two off-site monitoring wells, as proposed in KEI's work plan/proposal (KEI-P89-0703.P3) dated February 28, 1991. KEI understands that Unocal is currently in the process of obtaining off-site access permission for the installation of the additional wells. The approximate locations of the off-site wells are shown on the attached Site Vicinity Map. KEI is prepared to install the additional monitoring wells as soon as access permission is received.

DISTRIBUTION

A copy of this report should be sent to 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 this 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.

Should you have any questions regarding this report, please do not hesitate to call me at (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.

Thomas J. Berkins
Senior Environmental Engineer

Joel G. Greger
Certified Engineering Geologist

License No. 1633
Exp. Date 6/30/92

Timothy R. Ross
Project Manager

\kbm

Attachments: Tables 1, 2 & 3
Location Map
Site Vicinity Map
Site Plans - Figures 1, 1a & 2
Laboratory Analyses
Chain of Custody documentation

KEI-P89-0703.QR8
November 15, 1991

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 10/15/91)					
MW1	82.10	18.72	0	--	0
MW2	81.47	18.53	0	No	6
MW3	81.69	18.72	0	No	5
MW4	81.85	18.50	0	--	0
(Monitored on 9/30/91)					
MW1	82.09	18.73	0	--	--
MW2	81.47	18.53	0	--	55
MW3	81.69	18.72	0	--	55
MW4	81.85	18.50	0	--	--
(Monitored on 8/15/91)					
MW1	82.31	18.51	0	--	0
MW2	81.65	18.35	0	--	55
MW3	81.88	18.53	0	--	33
MW4	82.03	18.32	0	--	0

Well	Well Cover Elevation (feet)*
MW1	100.82
MW2	100.00
MW3	100.41
MW4	100.35

* Elevations of top of well covers surveyed to assumed datum of 100.00 feet at top of MW2 well cover.

-- Sheen determination not performed.

KEI-P89-0703.QR8
November 15, 1991

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene	PCE
10/15/91	MW2	--	140	44	0.56	12	1.5	--
	MW3	--	3,100	390	34	390	150	--
7/15/91	MW1*	ND	ND	ND	ND	ND	ND	1.8
	MW2	--	2,200	770	12	370	72	--
	MW3	--	9,200	1,300	230	1,900	490	--
	MW4	--	ND	ND	ND	ND	ND	--
4/12/91	MW1*	ND	ND	ND	ND	ND	ND	2.0
	MW2	--	2,200	160	4.3	62	23	--
	MW3	--	880	170	1.1	110	34	--
	MW4	--	ND	ND	ND	ND	ND	--
1/15/91	MW1*	ND	ND	ND	ND	ND	ND	2.1
	MW2	--	680	170	0.7	81	19	--
	MW3	--	3,200	460	1.5	270	120	--
	MW4	--	ND	ND	ND	ND	ND	--
10/16/90	MW1*	ND	ND	ND	ND	ND	ND	2.0
	MW2	--	1,400	430	2.0	240	48	--
	MW3	--	740	210	1.4	82	2.5	--
	MW4	--	ND	ND	ND	ND	ND	--
7/17/90	MW1*	ND	ND	ND	ND	ND	ND	1.7
	MW2	--	490	76	0.59	46	11	--
	MW3	--	4,000	270	48	250	130	--
	MW4	--	ND	ND	ND	ND	ND	--
4/19/90	MW1*	ND	ND	ND	ND	ND	ND	2.2
	MW2	--	3,900	550	5.1	390	91	--
	MW3	--	3,100	600	27	220	54	--
	MW4	--	ND	ND	0.48	ND	ND	--
1/23/90	MW1**	ND	ND	1.5	2.3	4.3	ND	2.1
	MW2	--	400	73	36	40	10	--
	MW3	--	450	110	1.2	11	4.4	--
	MW4	--	ND	ND	0.40	ND	ND	--

KEI-P89-0703.QR8
November 15, 1991

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene	PCE
9/15/89	MW1***	ND	ND	ND	0.61	ND	ND	2.7
	MW2	--	290	ND	12	ND	ND	--
	MW3	--	32	ND	ND	ND	ND	--
	MW4	--	ND	ND	ND	ND	ND	--
Detection Limits		50	30	0.3	0.3	0.3	0.3	0.5

* TOG was non-detectable. All EPA method 8010 compounds were non-detectable, except for PCE.

** TOG was 1.5 ppm. All EPA method 8010 compounds were non-detectable, except for PCE.

*** TOG was <50 ppm. All EPA method 8010 compounds were non-detectable, except for PCE.

ND = Non-detectable.

-- Indicates analysis not performed.

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

KEI-P89-0703.QR8
November 15, 1991

TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

Sample	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
(Collected on July 12 & 17, 1989)							
SW1	10.0	--	3,100	12	300	730	110
SW1(4)	10.0	--	ND	ND	ND	ND	ND
SW2	10.0	--	1.1	0.10	ND	0.18	ND
SW3	10.0	--	5.7	0.26	ND	0.45	0.23
SW4	10.0	--	2.5	ND	ND	0.24	ND
SW4(2)	10.0	--	11	0.61	0.51	1.3	0.44
P1	6.5	--	ND	ND	ND	ND	ND
P2	6.5	--	ND	ND	ND	ND	ND
P3	5.5	--	ND	ND	ND	ND	ND
P4	10.0	--	170	0.71	12	47	6.8
WO1*	8.5	ND	ND	ND	ND	ND	ND
(Collected on September 6 & 7, 1989)							
MW1**	5.0	ND	3.4	ND	ND	ND	ND
MW1**	10.0	ND	5.0	ND	ND	ND	ND
MW1**	15.0	ND	2.2	ND	ND	ND	ND
MW1**	19.0	ND	ND	ND	ND	ND	ND
MW2	5.0	--	1.4	ND	ND	ND	ND
MW2	10.0	--	ND	ND	ND	ND	ND
MW2	15.0	--	1.8	ND	ND	ND	ND
MW2	19.0	--	13	1.5	2.1	1.8	0.34
MW3	5.0	--	1.3	ND	ND	ND	ND
MW3	10.0	--	1.8	0.29	ND	ND	ND
MW3	15.0	--	3.3	ND	ND	ND	ND
MW3	18.5	--	ND	ND	ND	ND	ND
MW4	5.0	--	3.1	ND	ND	ND	ND
MW4	10.0	--	17	ND	ND	0.10	ND
MW4	15.0	--	20	ND	ND	0.27	ND
MW4	18.5	--	2.1	ND	ND	ND	ND
Detection Limits		1.0	1.0	0.05	0.1	0.1	0.11

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
SOIL

* TOG was 36 ppm, and EPA method 8010 and 8270 constituents were non-detectable.

** TOG was <50 ppm for these samples. EPA method 8010 compounds were non-detectable for these samples.

ND = Non-detectable.

-- Indicates analysis not performed.

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

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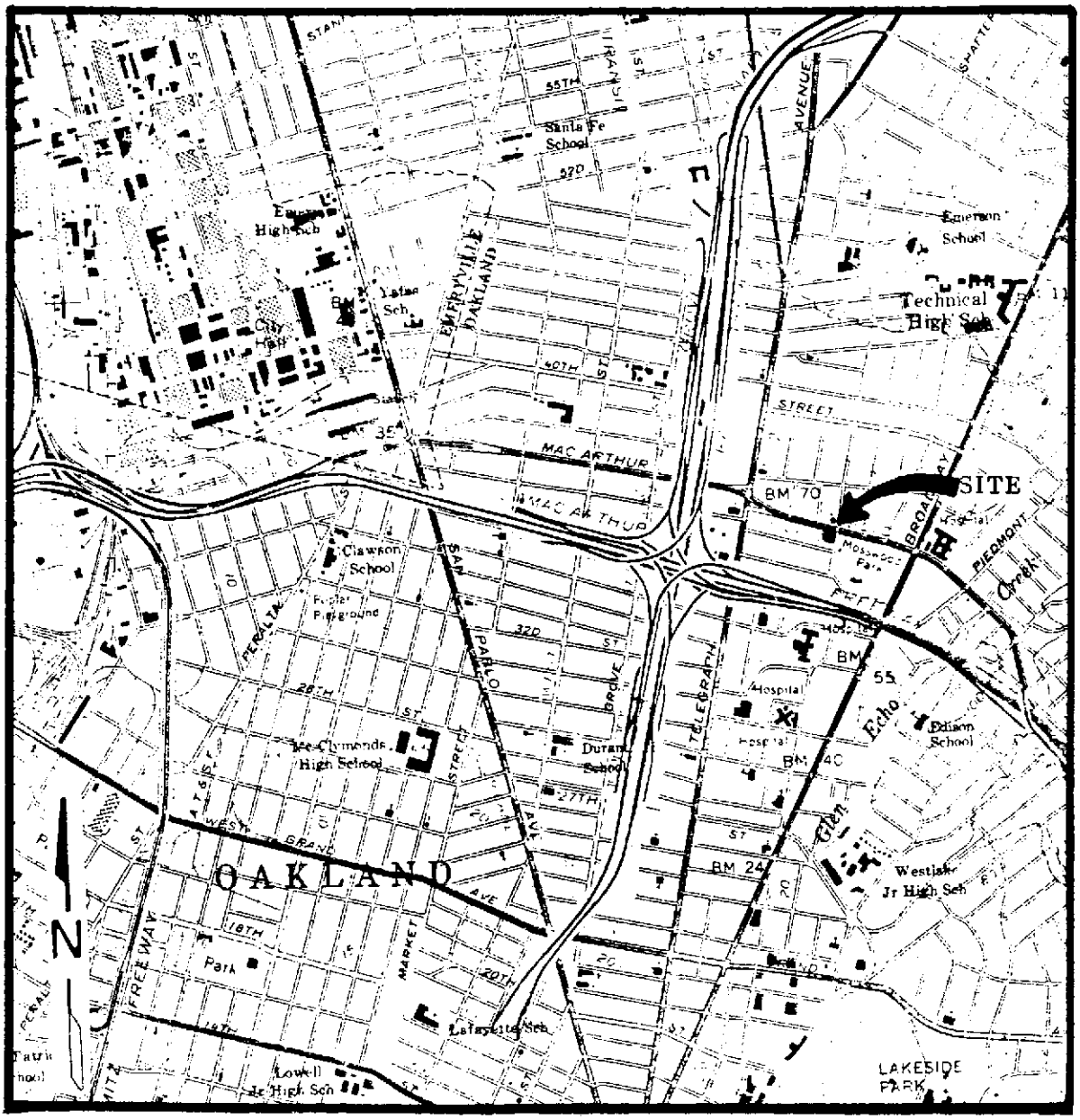

LOCATION MAP

Unocal S/S #3538
411 W. MacArthur Blvd.
Oakland, CA

KAPREALIAN ENGINEERING, INC.
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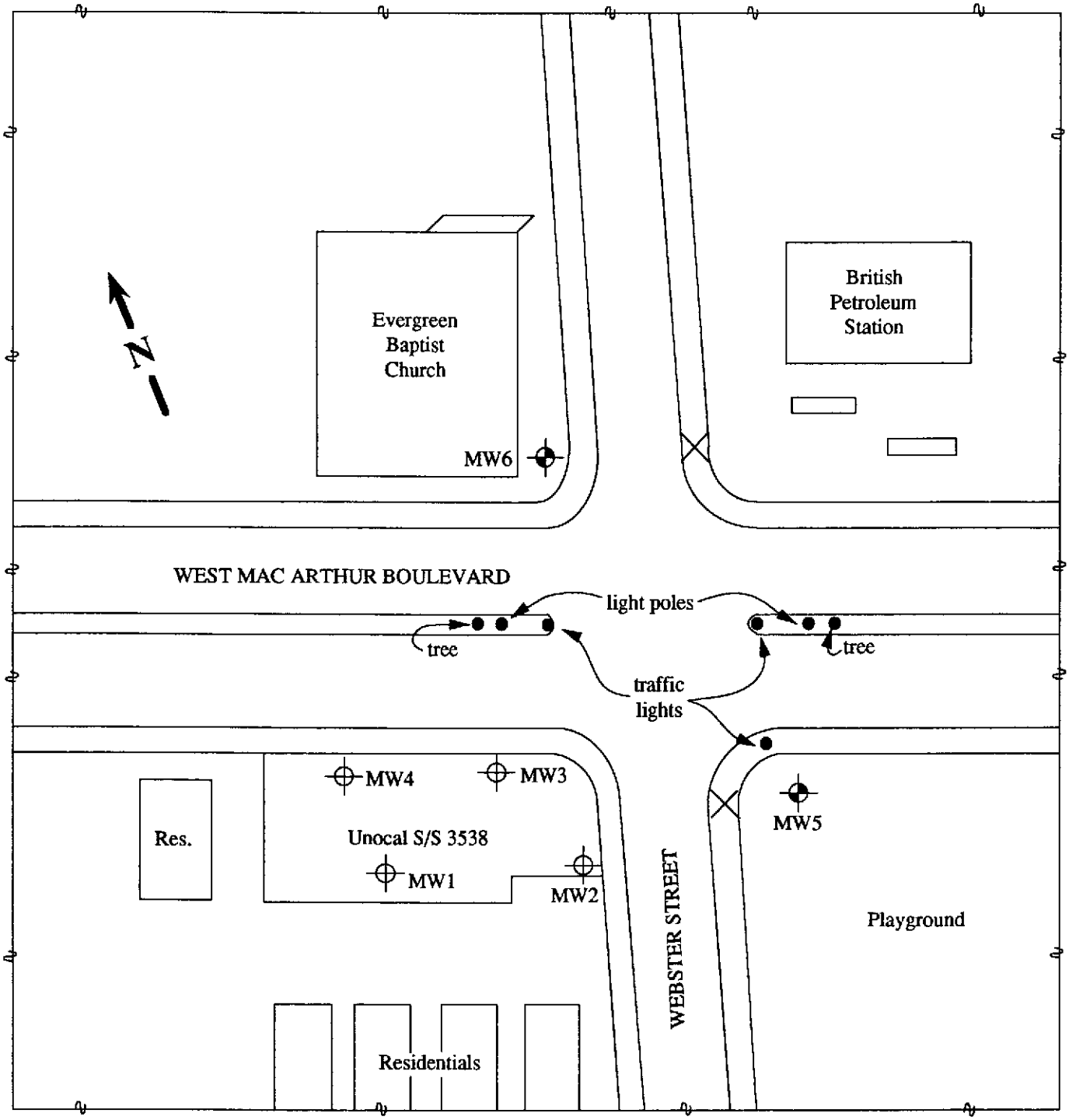

LEGEND

- Monitoring well (existing)
- Monitoring well (proposed)
- Utility pole and overhead lines

SITE VICINITY MAP

0 60 120

Approx. scale feet

Unocal Service Station # 3538
411 W. MacArthur Boulevard
Oakland, CA

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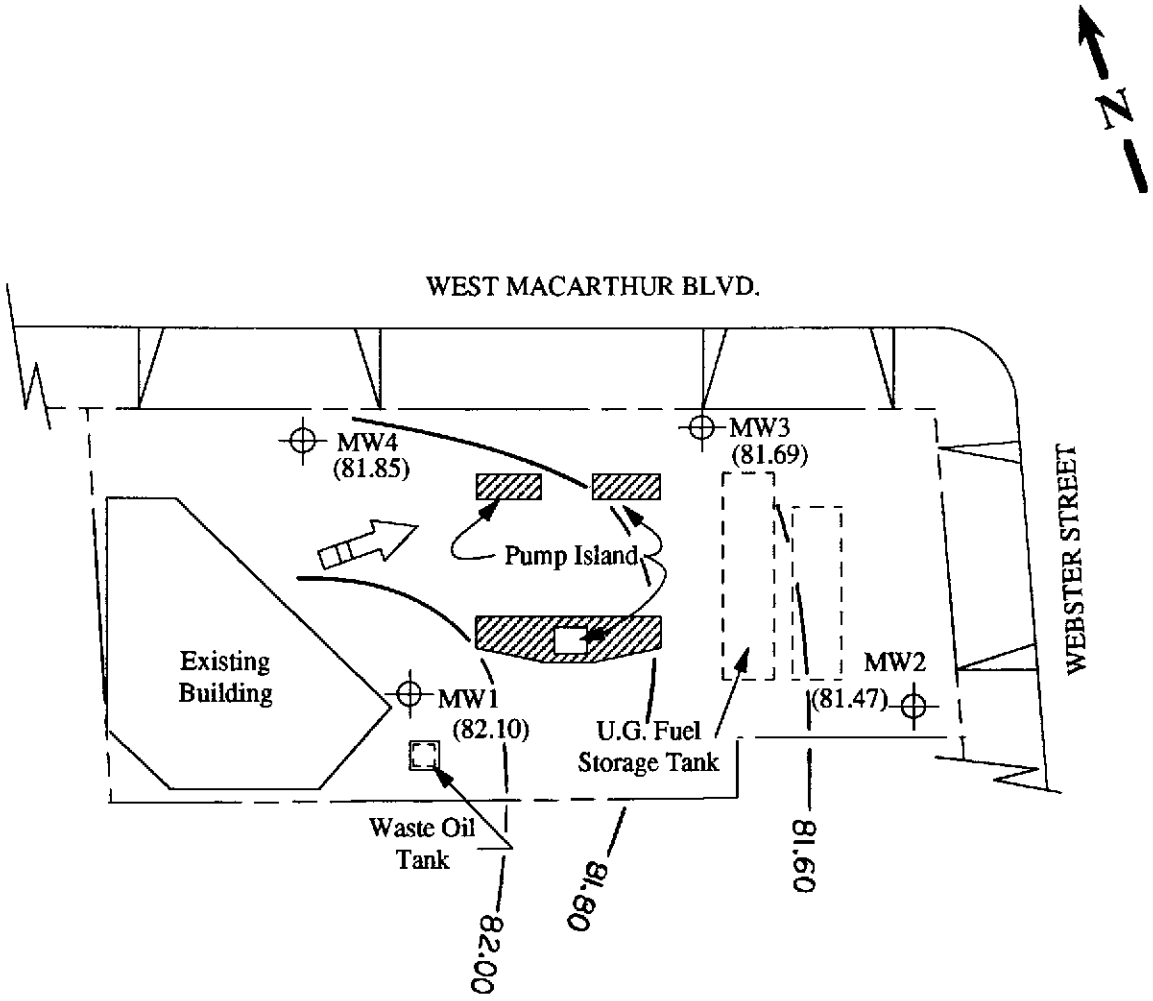

SITE PLAN
Figure 1

0 30 60
Approx. scale feet

LEGEND

⊕ Monitoring well

( ) Water table elevation in feet on 10/15/91. Top of MW2 well cover assumed 100.00 feet as datum.

⇨ Ground water flow direction

—— Contour of water table elevation

Unocal Service Station # 3538
411 W. MacArthur Blvd.
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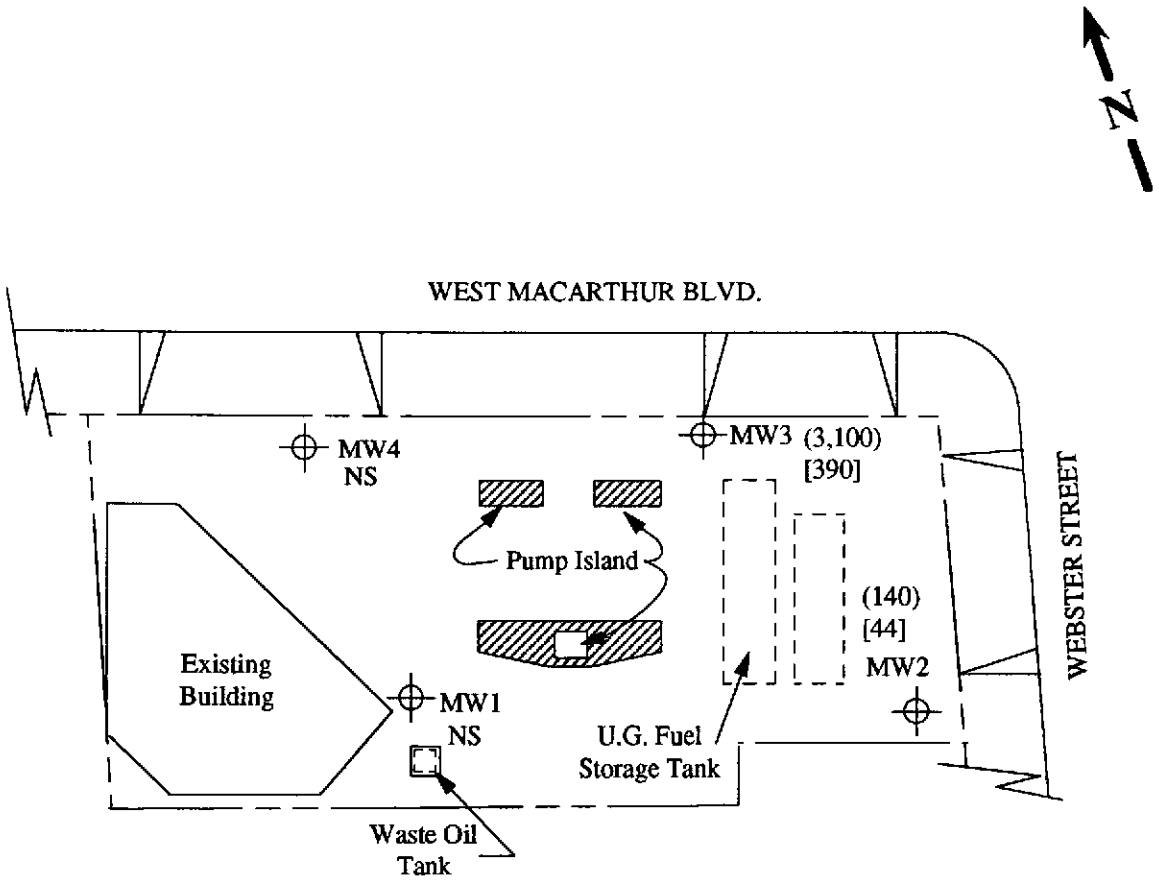

SITE PLAN

Figure 1a
(Samples collected on 10/15/91)

LEGEND

⊕ Monitoring well

( ) Concentration of TPH as gasoline in ppb

[ ] Concentration of benzene in ppb

ND = Non-detectable

NS = Not sampled

0 30 60
Approx. scale feet

Unocal Service Station # 3538
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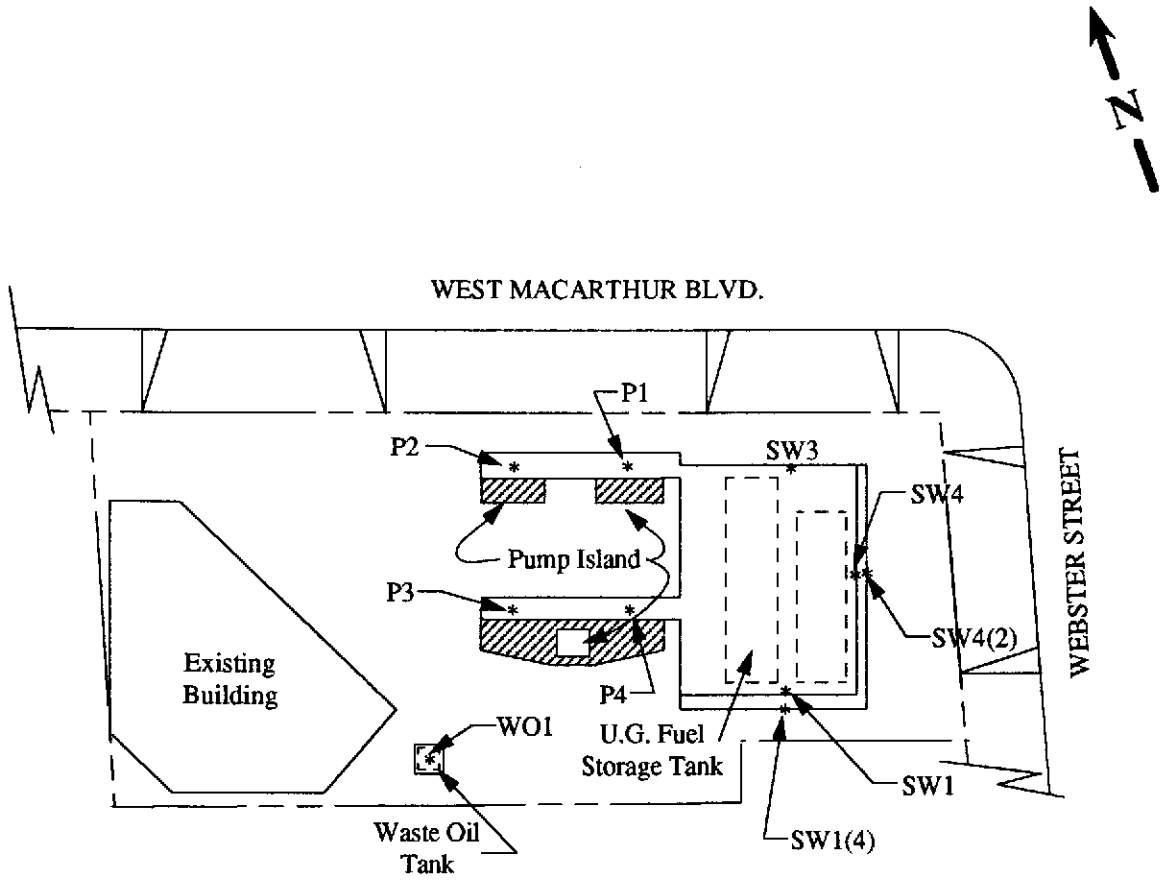

SITE PLAN
Figure 2

0 30 60
Approx. scale feet

LEGEND

* Soil Sample Point Location

Unocal Service Station # 3538
411 W. MacArthur Blvd.
Oakland, CA

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, Oakland, 411 W. Mac Arthur	Sampled:	Oct 15, 1991
P.O. Box 996	Matrix Descript:	Water	Received:	Oct 15, 1991
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Oct 22, 1991
Attention: Mardo Kaprealian, P.E.	First Sample #:	110-0698	Reported:	Oct 26, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)
110-0698	MW2	140	44	0.56	1.5	12
110-0699	MW3	3,100	390	34	150	390
Detection Limits:		**30**	**0.30**	**0.30**	**0.30**	**0.30**

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

1100698.KEI <1>

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, Oakland, 411 W. Mac Arthur Blvd.
QC Sample Group: 1100698-9
Reported: Oct 26, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020
Analyst:	R.H./J.F.	R.H./J.F.	R.H./J.F.	R.H./J.F.
Reporting Units:	ug/L	ug/L	ug/L	ug/L
Date Analyzed:	Oct 23, 1991	Oct 23, 1991	Oct 23, 1991	Oct 23, 1991
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60
Conc. Matrix Spike:	22	21	22	69
Matrix Spike % Recovery:	110	105	110	115
Conc. Matrix Spike Dup.:	22	22	23	71
Matrix Spike Duplicate % Recovery:	110	110	115	118
Relative % Difference:	0	4.7	4.4	2.9

Laboratory blank contained the following analytes: None Detected

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

% 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

SEQUOIA ANALYTICAL

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(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, Oakland, 411 W. Mac Arthur Blvd.
QC Sample Group: 1100698-9
Reported: Oct 26, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020
Analyst:	R.H./J.F.	R.H./J.F.	R.H./J.F.
Reporting Units:	ug/L	ug/L	ug/L
Date Analyzed:	Oct 23, 1991	Oct 23, 1991	Oct 23, 1991
Sample #:	110-0698	110-0699	Blank
Surrogate % Recovery:	98	98	108

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

% 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 / Oakland
411 W. MacArthur Blvd.

ANALYSES REQUESTED: TPHG; BTXE

TURN AROUND TIME: Regular

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG; BTXE		REMARKS
MW 2	10/15/91	A.M. 11:35		✓	✓		2	Monitoring Well	J	1100698 AB	VOA's Preserved in HCl.
MW 3	"	P.M. 12:15		✓	✓		2	" "	J	699 AB	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
W. Tackelson	10/15/91 1:15 PM	Elora Lin 10-15-91 1:15 PM
K. Murano	10-15 7:05p	
[illegible]	10/15/91/2050	

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 / Title / Date