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

90 JUL 12 PM 2:27

July 10, 1990

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

RE: Unocal Service Station #2512
1300 Davis Street
San Leandro, California

Gentlemen:

Per the request of Mr. Rick Sisk of Unocal Corporation, enclosed please find our report dated June 4, 1990, for the above referenced site.

Should you have any questions, please feel free to 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-P88-1204.QR4
June 4, 1990

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

Attention: Mr. Rick Sisk

RE: Quarterly Report
Unocal Service Station #2512
1300 Davis Street
San Leandro, California

Dear Mr. Sisk:

This report presents the results of the fourth quarter of monitoring and sampling of the monitoring wells at the referenced site by Kaprealian Engineering, Inc. (KEI), per proposal KEI-P88-1204.P3 dated May 16, 1989. The wells are currently monitored monthly and sampled on a quarterly basis. This report covers the work performed by KEI from March through May, 1990.

BACKGROUND

The subject site is presently used as a gasoline station. A Location Map and Site Plans are attached to this report.

KEI's work at the site began on December 30, 1988, when KEI was asked to install exploratory borings. On January 3, 1989, six exploratory borings (designated as EB1 through EB6 on the attached Site Plan, Figure 2) were drilled at the site.

The six borings were drilled to depths ranging from 26.5 to 30 feet. Ground water was encountered at depths of 25 to 26.5 feet beneath the surface. Soil samples were collected every 5 feet beginning at a depth of 5 feet in each of the borings with the exception of EB2, in which samples were collected beginning at 10 feet. Samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California, and were accompanied by properly executed Chain of Custody documentation. Soil samples from EB2, EB3, EB4, EB5 and EB6 were analyzed for TPH as gasoline using EPA method 5030 or 3810 in conjunction with modified 8015 and BTX&E using EPA methods 5030 and 8020. Soil samples from EB1, adjacent to the waste oil tank, were analyzed for TPH as diesel by EPA method 3550 in conjunction with modified 8015, total oil and grease (TOG) by method 413.1, and EPA method 8010/8020.

Analytical results of the soil samples, collected from EB1 through EB5, indicated levels of TPH as gasoline ranging from non-detectable to 17 ppm. Benzene was detected only in samples EB5(20) and EB6(15) at concentrations of 0.12 ppm and 0.065 ppm, respectively. Analyses of soil samples, collected from EB6, indicated levels of TPH as diesel ranging from 3 ppm to 160 ppm, with TOG levels of up to 7,800 ppm. The results of the soil samples analyses are summarized in Table 3. Documentation for exploratory boring activities are presented in KEI's report (KEI-P88-1204.R1) dated February 3, 1989.

On April 17, 1989, three two-inch diameter monitoring wells (designated as MW1, MW2 and MW3 on the attached Site Plan, Figure 1) were installed at the site. The wells were drilled, constructed and completed in accordance with the guidelines of the Regional Water Quality Control Board (RWQCB) and county well standards.

The three wells were drilled and completed to a total depth of 33 feet. Ground water was encountered at depths ranging from 17.5 to 18.5 feet beneath the surface during drilling. Soil samples were taken at 5 foot intervals beginning at 5 feet below grade until ground water was encountered.

The wells were sampled on April 25, 1989. Prior to sampling, monitoring data were collected and water samples were then collected using a clean Teflon bailer. The samples were decanted into clean glass VOA vials and one liter amber bottles, sealed with Teflon lined screw caps, and labeled and stored on ice until delivery to a certified laboratory.

Water and selected soil samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California. All samples analyzed were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline and diesel by EPA methods 5030 or 3810 and 3550 in conjunction with modified 8015, benzene, toluene, xylenes and ethylbenzene (BTX&E) by EPA methods 5030 and 8020, TOG by EPA method 413.1 and purgeable halocarbons by EPA method 8010.

Analytical results of the soil samples indicated levels of TPH as gasoline ranging from non-detectable to 6.2 ppm, and TOG levels ranging from non-detectable to 180 ppm. Water sample analyses showed levels of benzene ranging from non-detectable to 0.35 ppb in all samples, and levels of TPH as diesel ranging from non-detectable to 5,700 ppb. Results of the soil analyses are summarized in Table 4, and water analyses in Table 5. For more detailed information, refer to KEI's report (KEI-P88-1204.R2) dated May 16, 1990.

On May 11, 1989, per KEI's recommendation, the area (as shown on the attached Site Plan, Figure 2) surrounding exploratory boring EB6, was excavated to remove as much of the contaminated soil as possible. Water was encountered in the excavation at a depth of 17 feet, thus prohibiting the collection of any soil samples from the excavation bottom. Four soil samples labeled SWA, SWB, SWC and SWD were collected from the sidewalls of the excavation at a depth approximately 16.5 feet (six inches above the water table). The undisturbed soil samples were collected from bulk material excavated by backhoe. Sample point locations are as shown on the attached Site Plan, Figure 2. Soil was excavated to 1 foot below ground water and stockpiled on-site.

Soil samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California, and were accompanied by properly executed Chain of Custody documentation. All samples were analyzed for total petroleum hydrocarbons (TPH) as diesel using EPA method 3550 in conjunction with modified 8015, and TOG by 413.1.

Analyses of the soil samples from the excavation indicated levels of TPH as diesel ranging from 16 to 26 ppm, while TOG concentrations ranged from 170 to 850 ppm. The analytical results are summarized in Table 6.

On August 16, 1989, three additional two-inch diameter monitoring wells (designated as MW4, MW5, and MW6 on the attached Site Plan, Figure 1) were installed at the site. The wells were drilled, constructed and completed in accordance with the guidelines of the RWQCB and County well standards.

The three additional monitoring wells (MW4, MW5 and MW6) were each drilled and completed to a total depth of 33 feet. Ground water was initially encountered at depths ranging from 19.8 to 22 feet beneath the surface during drilling. Soil samples were taken at 5 foot intervals beginning at 5 feet below grade until ground water was encountered. The wells were sampled on August 29, 1989. Prior to sampling, monitoring data were collected and water samples were then collected using a clean Teflon bailer. Water and soil samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California, and were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline and TPH as diesel using EPA methods 5030, 3550 and 3510 in conjunction with modified 8015, BTX&E using EPA methods 5030 and 8020, and TOG using EPA method 418.1. The soil samples were not analyzed for TPH as diesel. The soil sample analyses show non-detectable levels of TPH and BTX&E in all samples, except in MW4(5), MW5(15) and MW5(22), which had TPH levels of 3.3, 20 and 2.1 ppm, respectively. The

levels of TOG in all soil samples indicated less than 50 ppm. Water sample analyses of the wells (MW4, MW5 and MW6) showed non-detectable levels of TOG, TPH as gasoline, and BTX&E, except in MW5, which showed 0.94 ppb of toluene and 0.30 ppb of ethyl-benzene. TPH as diesel showed 120 ppb in MW4 and 100 ppb in MW5. TPH as diesel was non-detectable for MW6. The analytical results of the existing wells (MW1, MW2 and MW3) showed non-detectable levels of TPH and benzene in wells MW1 and MW2. In well MW3, the level of TPH as gasoline was 3,200 ppb, and the level of benzene was 73 ppb. TPH as diesel and TOG were non-detectable for MW1 and MW2; however, MW3 showed 860 ppb of TPH as diesel. Results of the soil analyses are summarized in Table 7, and water analyses in Table 8. Documentation for the installation of monitoring wells MW4 through MW6, and for the results of the first quarter of monitoring and sampling of wells MW1 through MW6, are presented in KEI's report (KEI-P88-1204.QR1) dated September 27, 1989.

FIELD ACTIVITIES

The monitoring wells (MW1 through MW6) were monitored three times and sampled once during the quarter. During monitoring, the wells were checked for depth to water and presence of free product and sheen. 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 the wells on May 10, 1990. Prior to sampling, the wells were purged of 15 to 17 gallons using a surface pump. Samples were then collected using a clean Teflon bailer. Samples were decanted into clean VOA vials and one liter amber bottles, which were sealed with Teflon-lined screw caps and stored in a cooler on ice until delivery to the state certified laboratory.

HYDROLOGY

Based on the water level data gathered during the quarter, ground water flow direction appeared to be to the west on May 10, 1990, relatively unchanged from the previous quarter. Water levels have fluctuated during the quarter, showing a net decrease in all of the wells ranging from 1.05 to 1.20 feet since the previous quarter. The measured depth to ground water at the site on May 10, 1990 ranged between 16.75 to 17.52 feet.

ANALYTICAL RESULTS

Ground water samples were analyzed at Sequoia Analytical Laboratory in Redwood City, 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, TPH as diesel using EPA method 3510 in conjunction with modified 8015 and TOG using EPA method 418.1 with clean up.

Analytical results of the ground water samples, collected from monitoring wells MW1, MW5 and MW6, indicate non-detectable levels of TPH as gasoline and benzene. Analytical results of the ground water samples, collected from MW2, MW3 and MW4, indicate levels of TPH as gasoline at concentrations of 43, 6,200 and 54 ppb, respectively, and benzene in MW4 at a concentration of 94 ppb. TPH as diesel was detected in MW3, MW4 and MW5 at levels of 850, 88 and 83 ppb, respectively. TOG was non-detectable in all of the wells except for MW3, which showed 2.8 ppm. 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-P88-1204.P3) dated May 16, 1989. In addition, KEI recommends looking for possible locations to install off-site monitoring wells downgradient of well MW3 to further define the extent of ground water contamination. In addition, KEI will evaluate adjacent off-site properties for possible locations of future monitoring wells, especially in the downgradient direction for well MW3. Recommendations for additional monitoring wells will be provided in the next quarterly report.

DISTRIBUTION

A copy of this report should be sent to the Alameda County Health Care Services, 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.

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

Sincerely,

Kaprealian Engineering, Inc.

Michael E. Heckathorn
Environmental Engineer

Don R. Braun
Certified Engineering Geologist

License No. 1310
Exp. Date 6/30/90

Mardo Kaprealian
President

jad

Attachments: Tables 1 through 8
Location Map
Site Plans - Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

KEI-P88-1204.QR4
June 4, 1990

TABLE 1

SUMMARY OF MONITORING DATA

Date	Well No.	Depth to Water (feet)	Product Thickness	Sheen	Water Bailed (gallons)
5/10/90	MW1	17.00	0	None	15
	MW2	17.52	0	None	15
	MW3	17.20	0	None	15
	MW4	16.75	0	None	15
	MW5	17.37	0	None	17
	MW6	17.45	0	None	15
4/16/90	MW1	16.52	0	None	0
	MW2	16.60	0	None	0
	MW3	16.78	0	None	0
	MW4	16.00	0	None	0
	MW5	16.68	0	None	0
	MW6	16.72	0	None	0
3/21/90	MW1	16.02	0	None	0
	MW2	16.58	0	None	0
	MW3	16.20	0	None	0
	MW4	15.80	0	None	0
	MW5	16.45	0	None	0
	MW6	16.55	0	None	0

KEI-P88-1204.QR4
June 4, 1990

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Sample Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
			(Collected on May 10, 1990)			
MW1*	ND	ND	ND	ND	ND	ND
MW2*	ND	43	ND	1.0	ND	ND
MW3**	850	6,200	94	460	540	160
MW4*	88	54	ND	2.0	0.37	ND
MW5*	83	ND	ND	ND	0.31	ND
MW6*	ND	ND	ND	1.2	ND	ND
			(Collected on February 23, 1990)			
MW1*	ND	ND	ND	ND	ND	ND
MW2*	ND	44	ND	ND	ND	ND
MW3***	350	ND	0.32	ND	ND	ND
MW4*	ND	ND	ND	ND	ND	ND
MW5*	ND	ND	ND	ND	ND	ND
MW6*	ND	ND	ND	ND	ND	ND
			(Collected on November 21, 1989)			
MW1***+	ND	ND	ND	ND	ND	ND
MW2***+	ND	48	ND	0.51	ND	ND
MW3***+	110	1,900	ND	ND	ND	ND
MW4*	ND	ND	ND	ND	ND	ND
MW5*	70	ND	ND	ND	ND	ND
MW6*	ND	ND	ND	ND	ND	ND
			(Collected on August 11 & 29, 1989)			
MW1*	ND	ND	ND	ND	ND	ND
MW2*	ND	ND	ND	0.39	ND	ND
MW3*	860	3,200	73	140	240	35
MW4*	120	ND	ND	ND	ND	ND
MW5*	100	ND	ND	0.94	ND	0.30
MW6*	ND	ND	ND	ND	ND	ND
Detection Limits	50	30	0.3	0.3	0.3	0.3

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

* TOG was non-detectable.

** TOG was detected at 2.8 ppm.

*** TOG was detected at 1.3 ppm.

***+ TOG was detected at concentrations of 8.9, 1.6 and 3.8 ppm in MW1, MW2 and MW3, respectively.

ND = Non-detectable.

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

KEI-P88-1204.QR4
June 4, 1990

TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on January 3, 1989)

Sample Number	TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Xylenes	Ethylbenzene
EB1(5)*	--	5.0	<0.005	0.05	<0.005	<0.005
EB1(10)*	--	1.0	<0.005	<0.005	<0.005	<0.005
EB1(15)*	--	1.0	<0.005	<0.005	<0.005	<0.005
EB1(25)*	--	2.0	--	--	--	--
EB2(10)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB2(15)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB2(20)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB2(25)	1.9	--	<0.05	<0.1	<0.1	<0.1
EB3(5)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB3(10)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB3(15)	2.7	--	<0.05	<0.1	<0.1	<0.1
EB3(20)	2.2	--	<0.05	<0.1	<0.1	<0.1
EB3(25)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB4(5)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB4(10)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB4(15)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB4(20)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB4(25)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB5(5)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB5(10)	<1.0	--	<0.05	<0.1	<0.1	<0.1
EB5(15)	2.0	--	<0.05	<0.1	<0.1	<0.1
EB5(20)	17	--	0.12	0.15	1.4	0.25
EB5(25)	3.9	--	<0.05	<0.1	0.17	<0.1
EB6(5)**	1.8	10	<0.05	<0.1	<0.1	<0.1
EB6(10)	73	160	<0.05	<0.1	<0.1	<0.1
EB6(15)	17	40	0.065	<0.1	0.21	<0.1
EB6(25)	<1.0	3.0	<0.05	<0.1	<0.1	<0.1

* TOG and 8010 non-detectable.

** TOG 7,800 @ 5 feet, 1,200 @ 10 feet, 900 @ 15 feet, and 130 ppm at 25 feet; 8010 non-detectable.

-- Indicates analysis not performed.

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

KEI-P88-1204.QR4
June 4, 1990

TABLE 4

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on April 17, 1989)

Sample Number	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene	TOG
MW1	5	4.0	ND	ND	ND	ND	ND
MW1	10	ND	ND	ND	ND	ND	ND
MW1	15	ND	ND	ND	ND	ND	ND
MW1	17	ND	ND	ND	ND	ND	31
MW2*	5	ND	ND	ND	ND	ND	31
MW2*	10	1.1	ND	ND	ND	ND	60
MW2*	15	ND	ND	ND	ND	ND	71
MW3	5	ND	ND	ND	ND	ND	ND
MW3	10	1.1	ND	ND	ND	ND	ND
MW3	15	1.2	ND	ND	ND	ND	32
MW3	17	6.2	ND	0.21	0.42	ND	180
Detection Limits		1.0	0.05	0.1	0.1	0.1	30.0

ND = Non-detectable.

* TPH as diesel and 8010 were non-detectable for all samples.

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

KEI-P88-1204.QR4
June 4, 1990

TABLE 5

SUMMARY OF LABORATORY ANALYSES
WATER

(Collected on April 25, 1989)

Sample Number	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
MW1*	15.64	100	ND	0.31	ND	ND	ND
MW2*	15.90	ND	32	0.35	ND	ND	ND
MW3*	15.50	5,700	56	ND	ND	0.49	0.31
Detection Limits		50	30	0.3	0.3	0.3	0.3

* TOG for all samples were non-detectable. MW1 showed PCE at 3.3 ppb and TCE at 0.55 ppb for 8010. MW2 showed PCE at 0.68 ppb for 8010. MW3 showed PCE at 1.0 ppb for 8010.

ND = Non-detectable.

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

KEI-P88-1204.QR4
June 4, 1990

TABLE 6

SUMMARY OF LABORATORY ANALYSES
SOIL

(Samples collected on May 11, 1989)

Sample #	TPH as Diesel	TOG
SWA	21	850
SWB	18	580
SWC	26	680
SWD	16	170
Detection Limits	1.0	30.0

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

KEI-P88-1204.QR4
June 4, 1990

TABLE 7

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on August 16, 1989)

Sample Number	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene	TOG
MW4	5	3.3	ND	ND	0.11	ND	<50
MW4	10	ND	ND	ND	ND	ND	<50
MW4	15	ND	ND	ND	ND	ND	<50
MW4	19	ND	ND	ND	ND	ND	<50
MW5	5	ND	ND	ND	ND	ND	<50
MW5	10	ND	ND	ND	ND	ND	<50
MW5	15	ND	ND	ND	ND	ND	<50
MW5	20	20	ND	ND	ND	ND	<50
MW5	22	ND	ND	ND	ND	ND	<50
MW6	5	ND	ND	ND	ND	ND	<50
MW6	10	ND	ND	ND	ND	ND	<50
MW6	15	ND	ND	ND	ND	ND	<50
MW6	20	ND	ND	ND	ND	ND	<50
Detection Limits		1.0	0.05	0.1	0.1	0.1	1.0

ND = Non-detectable.

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

KEI-P88-1204.QR4
June 4, 1990

TABLE 8

SUMMARY OF LABORATORY ANALYSES
WATER

(Collected on August 11 and 29, 1989)

Sample Well #	Depth (feet)	TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Xylenes	Ethyl-benzene
MW1*	17.24	ND	ND	ND	ND	ND	ND
MW2*	17.83	ND	ND	ND	0.39	ND	ND
MW3*	17.48	3,200	860	73	140	240	35
MW4*	17.14	ND	120	ND	ND	ND	ND
MW5*	17.81	ND	100	ND	0.94	ND	0.30
MW6*	17.82	ND	ND	ND	ND	ND	ND
Detection Limits		30	50	0.3	0.3	0.3	0.3

* TOG was non-detectable for all samples.

ND = Non-detectable.

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

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

LOCATION MAP

Unocal Service Station #2512
1300 Davis Street
San Leandro, California

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
PO BOX 996 • BENICIA, CA 94510
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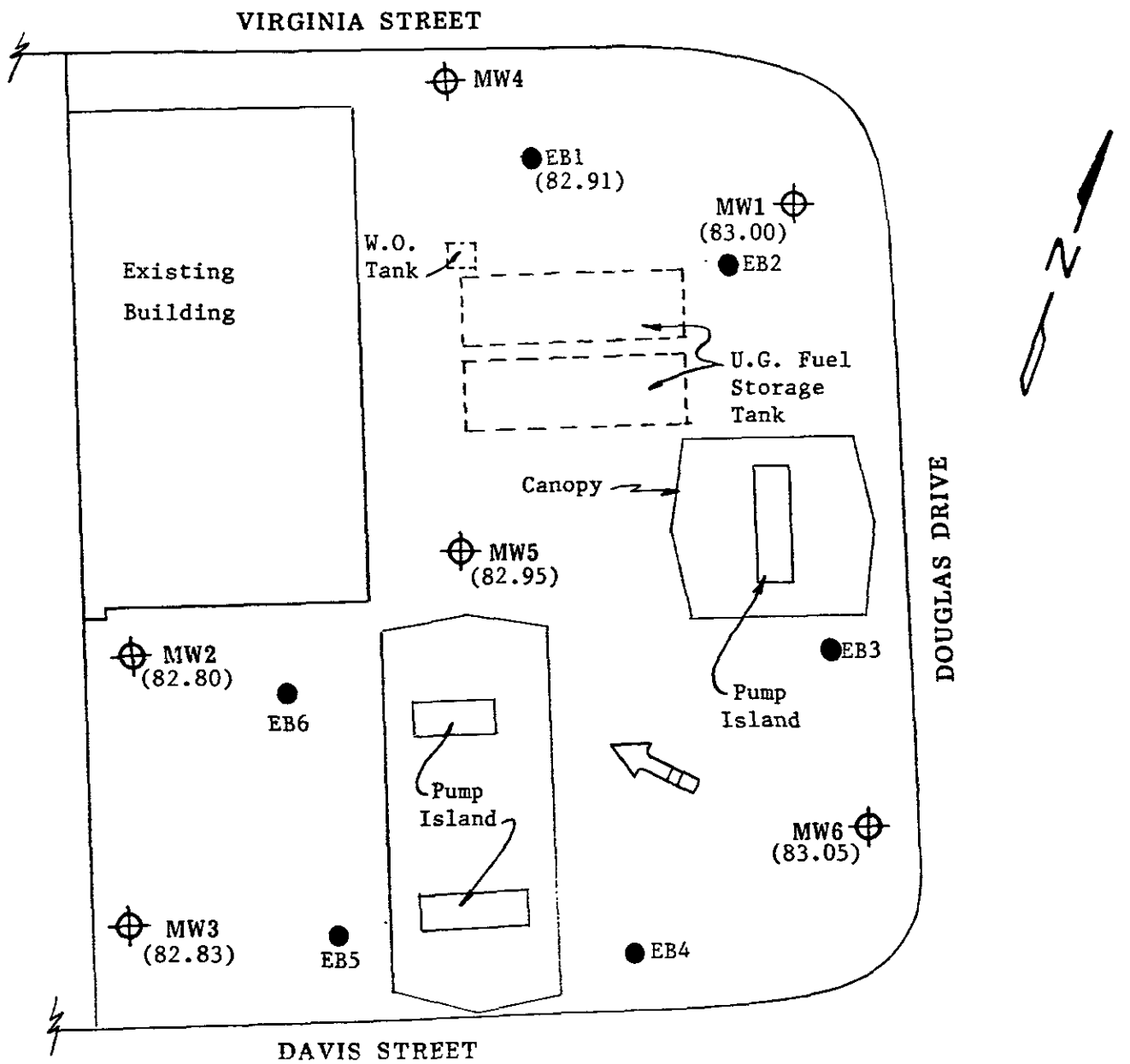

SITE PLAN
Figure 1

20 0 20
Approx. Scale feet

LEGEND

⊕ Monitoring Well

( ) Ground water elevation in feet on 5/10/90. Top of MW1 well cover assumed 100.00 feet as datum.

⇨ Direction of ground water flow.

Unocal Service Station #2512
1300 Davis Street
San Leandro, California

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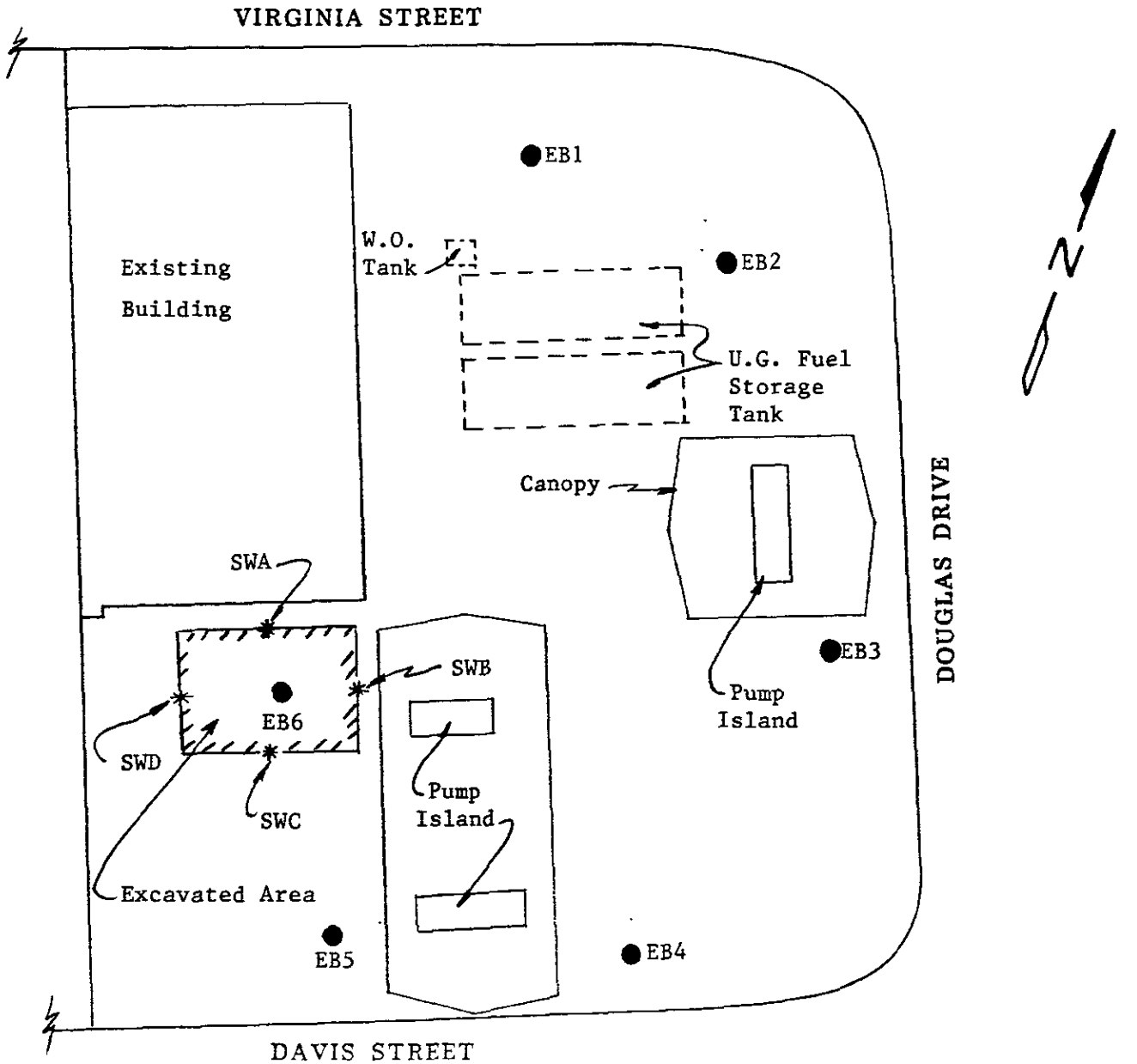

SITE PLAN
Figure 2

20 0 20
Approx. Scale feet

LEGEND

● Exploratory Boring

✱ Sample Point Location

Unocal Service Station #2512
1300 Davis Street
San Leandro, California

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, San Leandro, 1300 Davis	Sampled:	May 10, 1990
P.O. Box 996	Matrix Descript:	Water	Received:	May 10, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	May 11, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	005-1535	Reported:	May 18, 1990

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)
0051535 A-B	MW1	N.D.	N.D.	N.D.	N.D.	N.D.
0051536 A-B	MW2	43	N.D.	1.0	N.D.	N.D.
0051537 A-B	MW3	6,200	94	460	160	540
0051538 A-B	MW4	54	N.D.	2.0	N.D.	0.37
0051539 A-B	MW5	N.D.	N.D.	N.D.	N.D.	0.31
0051540 A-B	MW6	N.D.	N.D.	1.2	N.D.	N.D.
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
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, San Leandro, 1300 Davis	Sampled:	May 10, 1990
P.O. Box 996	Matrix Descript:	Water	Received:	May 10, 1990
Benicia, CA 94510	Analysis Method:	EPA 3510/8015	Extracted:	May 14, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	005-1535 C	Analyzed:	May 15, 1990
			Reported:	May 18, 1990

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons µg/L (ppb)
0051535 C	MW1	N.D.
0051536 C	MW2	N.D.
0051537 C	MW3	850
0051538 C	MW4	88
0051539 C	MW5	83
0051540 C	MW6	N.D.

Detection Limits:	50

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard
Analytes reported as N D were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Belinda C. Vega
Project Manager

Please Note
The above samples do not appear to contain diesel

SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal, San Leandro, 1300 Davis	Sampled:	May 10, 1990
P.O. Box 996	Matrix Descript:	Water	Received:	May 10, 1990
Benicia, CA 94510	Analysis Method:	EPA 418.1 (I.R. with clean-up)	Extracted:	May 17, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	005-1535 D	Analyzed:	May 17, 1990
			Reported:	May 18, 1990

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Petroleum Oil mg/L (ppm)
0051535 D	MW1	N.D.
0051536 D	MW2	N.D.
0051537 D	MW3	2.8
0051538 D	MW4	N.D.
0051539 D	MW5	N.D.
0051540 D	MW6	N.D.

Detection Limits:	1.0

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

SEQUOIA ANALYTICAL

Belinda C. Vega
Project Manager

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: Joe

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal / San Leandro
1300 Davis

ANALYSES REQUESTED: TPHG, BTXE; TOG; TPHD

TURN AROUND TIME: 5 days

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION
MW1	5/10/90			✓	✓		4	MW
" 2	"	"		✓	✓		4	"
" 3	"	"		✓	✓		4	"
" 4	"	"		✓	✓		4	"
" 5	"	"		✓	✓		4	"
" 6	"	"		✓	✓		4	"

REMARKS: VOA-s preserved in the field with HCL.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Joe Kamisa	5/10/90	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	5/10/90 1600	

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

1. Have all samples received for analysis been stored in ice? yes
2. Will samples remain refrigerated until analyzed? yes
3. Did any samples received for analysis have head space? no
4. Were samples in appropriate containers and properly packaged? yes

Signature | Title | Date: 5/10/90