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

January 23, 1991

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

Attention: Mr. Larry Seto

RE: Unocal Service Station #6277
15803 E. 14th Street
San Leandro, California

Dear Mr. Seto:

Per the request of Mr. Ron Bock of Unocal Corporation, enclosed please find our report dated January 23, 1991, 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

Judy A. Dewey

jad\82

Enclosure

cc: Ron Bock, Unocal Corporation

91 JAN 25 AM 11:34

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

KEI-P89-0301.QR6
January 23, 1991

Unocal Corporation
P.O. Box 5155
San Ramon, CA 94583

Attention: Mr. Ron Bock

RE: Quarterly Report
Unocal Service Station #6277
15803 E. 14th Street
San Leandro, California

Dear Mr. Bock:

This report presents the results of the sixth quarter of monitoring and sampling of the monitoring wells at the referenced site by Kaprealian Engineering, Inc. (KEI), per proposal KEI-P89-0301.P2 dated June 19, 1989. The wells are currently monitored monthly and sampled on a quarterly basis. This report covers the work performed by KEI from October through December, 1990.

BACKGROUND

The subject site is presently used as a gasoline station. The site is characterized by gently sloping southwest trending topography and is located approximately 3.0 miles northeast of the present shoreline of San Francisco Bay. A Location Map and Site Plans are attached to this report.

KEI's work at the site began when KEI was asked to drill two exploratory borings (designated as EB1 and EB2) at the site. The borings were drilled on March 6, 1989 at the request of Alameda County to explore for the possible presence of soil contamination in the vicinity of the pit for a proposed new underground storage tank. The borings were drilled to depths of 10.5 and 13.5 feet below grade. Water was encountered in the borings at depths of 11 to 12 feet. Samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California. Samples collected from borings EB1 and EB2 were analyzed for total petroleum hydrocarbons as gasoline (TPH) using EPA method 5030 or 3810 in conjunction with modified 8015 and benzene, toluene, xylenes and ethylbenzene (BTX&E) using EPA methods 5030 and 8020. Analytical results of the soil samples collected from a depth of 5 feet below grade in the borings had TPH as gasoline levels ranging from non-detectable to 2.1 ppm, while

the samples collected from 10 feet below grade had levels of TPH as gasoline ranging from 200 ppm to 620 ppm. Based on results of the preliminary investigation, KEI recommended that the contractor excavate the tank pit to a depth of approximately 13 feet. Results of the exploratory boring investigation are presented in KEI's report (KEI-P89-0301.R1) dated March 13, 1989. Soil sample results from that report are summarized in Table 3. Exploratory boring locations are as shown on the attached Site Plan, Figure 3.

KEI returned to the site on March 13, 1989, when three underground storage tanks were removed from the site. The tanks consisted of two 10,000 gallon fuel storage tanks and one 550 gallon waste oil tank. The tanks were made of steel with a tar and wrapping coating, and no apparent holes or cracks were observed in the tanks. Due to the tar coating and wrapping, very little of the actual tank walls could be observed. Water was encountered in the fuel tank pit at a depth of about 11 feet, thus prohibiting the collection of any soil samples from immediately beneath the tanks. Six soil samples, labeled SW1, SW2, SW3, SW4, SW5 and SW6, were collected from the sidewalls of the fuel tank pit at a depth approximately 1 foot above the water table, and one sample, labeled WO1, was collected from beneath the waste oil tank at a depth of about 10 feet below grade.

Based on the subjective evidence observed in the field, it was decided to excavate additional soil from three of four tank pit walls. (The fourth tank pit wall adjacent to the existing building was not recommended to be excavated at that time). On March 14, 1989 four trenches were dug to define the limits of additional soil excavation needed. Four soil samples were then collected at a depth below grade of about 10 feet, and are referred to as SW3(15), SW4/5(6), SW6(12) and SW7(14). Sample SW7(14) was collected from the sidewall of the waste oil tank pit. After the soil sampling was completed, approximately 5,000 gallons of ground water was pumped from the fuel tank pit on March 15, 1989; however, due to ongoing soil excavation, contaminated soil was falling into the water and a representative ground water sample could not be collected.

On March 17, 1989 KEI again returned to the site. Additional soil, approximately 2 feet laterally, was excavated from the fourth tank pit wall adjacent to the building. One additional sidewall soil sample, labeled SW1(2), was collected at a depth below grade of about 10 feet at the location identified on the attached Site Plan, Figure 2. Following soil sampling, an additional 1,000 gallons of ground water were pumped from the excavation. One sample of water from the fuel tank pit, labeled W1, was collected in clean, glass VOA vials with Teflon screw caps.

On March 23, 1989, KEI returned to the site for pipe trench sampling. Six soil samples, labeled P1, P2, P3, P4, P5 and P6, were collected beneath the product lines at depths below grade of about 3 to 3.5 feet.

Soil samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California. Samples from the fuel tank pit were analyzed for TPH as gasoline using EPA method 3810 or 5030 in conjunction with modified 8015, and BTX&E using EPA methods 5030 and 8020. The samples from the waste oil tank pit (WO1 and SW7{14}) were analyzed for TPH as gasoline, TPH as diesel using EPA method 3550 in conjunction with modified 8015, total oil and grease (TOG) by EPA method 413.1 and EPA method 8240 constituents.

The analytical results of the soil samples collected from the fuel tank pit indicated TPH as gasoline levels ranging from 24 ppm to 150 ppm for samples SW3(15), SW4/5(6), and SW6(12). Sample SW1, adjacent to the existing building, showed 3,500 ppm of TPH as gasoline; however, SW1(2), which was collected after excavating 2 feet of sidewall toward the building, showed 100 ppm of TPH as gasoline. Sample SW2 showed 390 ppm of TPH as gasoline. Samples SW3, SW4, SW5 and SW6 were not analyzed because their locations were excavated and new samples [SW3(15), SW4/5(6), and SW6(12)] were collected. Analytical results of the soil samples collected from the waste oil tank pit indicated 280 ppm of TOG for WO1 and 41 ppm of TOG for SW7(14). Analytical results of the soil samples (P1 through P6) collected from pipe trenches indicated levels of TPH as gasoline ranging from 1.1 ppm to 6.8 ppm.

Analytical results of the water sample (W1) from the old fuel tank pit indicated 19,000 ppb of TPH as gasoline and 230 ppb of benzene. The analytical results for the water sample are summarized in Table 2, and soil samples in Table 3.

Based on the analytical results, KEI recommended the installation of four ground water monitoring wells. The details of the soil sampling activities are presented in KEI's report (KEI-P89-0301.R3) dated March 27, 1989.

On May 24, 1989, four two-inch diameter monitoring wells, designated as MW1 through MW4, were installed at the site (see attached Site Plan, Figures 1A through 1C). The four wells were drilled and completed to total depths ranging from 24.5 to 25 feet. Ground water was encountered at depths ranging from 11 to 12 feet beneath the surface during drilling. The wells were developed on June 5, 1989, and initially sampled on June 6, 1989. Water and selected soil samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California. Samples were analyzed for TPH as

gasoline by EPA method 5030 or 3810 in conjunction with modified 8015 and BTX&E by EPA methods 5030 and 8020. In addition, the sample collected from monitoring well MW2 was analyzed for TPH as diesel using EPA method 3550 in conjunction with modified 8015, TOG using EPA method 413.1, and purgeable halocarbons using EPA method 8010.

The analytical results of the soil samples collected from the borings for wells MW1, MW2, MW3 and MW4 showed levels of TPH as gasoline ranging from 2.3 ppm to 31 ppm, except in sample MW4(10), which showed a non-detectable level of TPH as gasoline, and in samples MW1(10) and MW2(5), which showed levels of 230 ppm and 290 ppm, respectively. The soil sample collected from MW2(5) also showed a TOG level of 7,700 ppm. The analytical results of water samples, collected from monitoring wells MW1 through MW4, showed non-detectable levels of BTX&E in all wells, and TPH as gasoline levels ranging from 32 ppb to 590 ppb. Documentation of the well installation, sampling and sample results are provided in KEI's report (KEI-P89-0301.R6) dated June 26, 1989. Sample results from that report are summarized in Tables 2 and 3. Based on the sample results, KEI recommended a monthly monitoring and quarterly sampling program for all of the wells and additional excavation of contaminated soil in the vicinity of MW2. The monitoring and sampling program was initiated in July, 1989, and the wells have been monitored on a monthly basis and sampled on a quarterly basis since that time. In KEI's second quarterly report (KEI-P89-0301.QR2) dated January 16, 1990, KEI recommended the installation of one additional off-site well (MW5) to further define the extent of ground water contamination at the site.

On February 1, 1990, well MW2 was destroyed in preparation for additional excavation in the vicinity of well MW2. Documentation of the well destruction is presented in a letter report dated March 7, 1990 addressed to Unocal Corporation.

In an attempt to remove as much of the contaminated soil as possible, KEI visited the site on March 30 and April 3, 1990 to observe soil excavation in the vicinity of previously abandoned monitoring well MW2, as indicated on the attached Site Plans, Figures 1A through 1C & Figure 2. Soil was excavated to a grade corresponding to approximately 6 to 12 inches below the level of the ground water, which was encountered at a depth of about 11.5 feet below grade.

After excavation, four soil samples, labeled SW8A, SW9A, SW10A and SW11A, were collected from the sidewalls of the excavation approximately 6 to 12 inches above ground water. Sample locations and the area excavated are as shown on the attached Site Plan,

Figure 2. Soil excavation activities were terminated due to the close proximity of the former and new underground storage tank pits and the property line of the site. After sampling, approximately 9,400 gallons of water were pumped from the excavation.

All samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California. All soil samples were analyzed for TPH as gasoline using EPA method 5030 in conjunction with modified 8015, BTX&E using EPA method 8020, TPH as diesel using EPA method 3550 in conjunction with modified 8015, TOG by EPA method 418.1, and EPA method 8010 constituents.

Analytical results of soil sample SW9A indicated non-detectable levels of TPH as gasoline and TPH as diesel. Analytical results of soil samples SW8A, SW10A, and SW11A indicated levels of TPH as gasoline ranging from 140 ppm to 1,100 ppm, while levels of TPH as diesel ranged from non-detectable to 280 ppm. Analytical results also indicated non-detectable levels of EPA method 8010 constituents and TOG for all four samples, except for sample SW11A, which showed 210 ppm of TOG. Results of the soil analyses are summarized in Table 4. Details of the soil sampling activities are presented in KEI's report (KEI-P89-0301.R7) dated May 2, 1990.

FIELD ACTIVITIES

The existing wells 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 monitoring wells MW1, MW3 and MW4 on December 14, 1990. Prior to sampling, the wells were purged of 15 gallons each using 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 sealed with Teflon-lined screw caps and stored in a cooler on ice until delivery to the state certified laboratory.

HYDROLOGY AND GEOLOGY

Based on the water level data gathered during the quarter, ground water flow direction is inconsistent and has significantly changed since September 19, 1990. The flow direction on October 19, 1990 was toward the southwest with a relatively flat gradient of approximately .001 (see the attached Site Plan, Figure 1C). This southwest ground water direction was almost opposite to the northeast direction indicated by the well elevations only a month

earlier on September 19, 1990. The flow direction on November 15, 1990, was toward the northwest with a gradient of approximately .0022 (see the attached Site Plan, Figure 1B). This northwest ground water direction was again significantly different than the southwest direction observed the previous month on October 19, 1990. The flow direction on December 14, 1990 was approximately due north with a gradient of .0017 (see the attached Site Plan, Figure 1A). This most recent direction change was not as dramatic as the previous two months, but was nevertheless significant. The frequently changing flow direction may be somewhat understandable given the fact that the gradient is relatively flat. Water levels have fluctuated during the quarter, but all three wells have shown net increases ranging from 0.01 to 0.44 feet since September 19, 1990. The water level in MW3 showed the least change. The measured depth to water at the site on December 14, 1990 ranged from 9.93 to 10.54 feet.

Based on review of regional geologic maps (U.S. Geological Survey Professional Paper 943 "Flatland Deposits - 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). The Late Pleistocene alluvium is described as typically consisting of weakly consolidated, poorly sorted, irregular interbedded clay, silt, sand, and gravel with a reported unknown maximum thickness, but is at least 150 feet thick. This alluvium is assumed to overly bedrock and deformed older sedimentary deposits on the alluvial plain marginal to San Francisco Bay.

In addition, the site is situated approximately 1,700 to 3,600 feet southwest of various mapped splays of the active Hayward Fault.

The subsurface soils exposed in the excavation adjacent to the former tank pit consisted primarily of silt, sand and gravel fill to a depth of about 3 feet below grade, underlain by sandy gravel with clay to a depth of about 7 feet below grade (possibly fill materials), and inturn underlain by clay to the maximum depth excavated (about 12 feet).

The results of our previous subsurface study (log of borings) indicates that the site is underlain by fill materials to a depth of about 2 to 5 feet below grade which are inturn underlain by silty clay materials to the maximum depth explored (25 feet).

ANALYTICAL RESULTS

All 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 MW1, MW3 and MW4, indicate levels of TPH as gasoline at concentrations of 450 ppb, 150 ppb and 54 ppb, respectively. Benzene was detected in MW1 at a concentration of 150 ppb, and was non-detectable in wells MW3 and MW4. 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 monitoring and sampling program of the existing wells per KEI's proposal (KEI-P89-0301.P2) dated June 19, 1989. Additional monitoring wells are necessary to adequately define the limits of the ground water contamination in the vicinity of the site. It is KEI's understanding that Unocal Corporation has been unable to obtain permission from the off-site property owner for site access for installation of the proposed off-site monitoring well (MW5). KEI will obtain a permit and subsequently schedule installation of well MW2A, and will evaluate the site for alternative monitoring well locations.

Also, in the absence of any outside influences such as pumping from adjacent wells, the ground water flow direction would tend to roughly follow the surface topography and therefore be approximately toward the southwest at the subject site. However, because of previous ground water flow directions toward the northwest, north and northeast, KEI recommends that a well survey be conducted within a 1/2 mile radius of the site to determine if there are any outside influences acting on the local ground water table.

DISTRIBUTION

A copy of this report should be sent to Mr. Larry Seto of the Alameda County Health Care Services Agency, the City of San Leandro, 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.

Aram B. Kaloustian
Staff Engineer

Thomas J. Berkins
Senior Environmental Engineer

Don R. Braun
Certified Engineering Geologist

License No. 1310
Exp. Date 6/30/92

\bam:jad

Attachments: Tables 1 through 4
Location Map
Site Plans - Figures 1A, 1B, 1C, 2 & 3
Laboratory Analyses
Chain of Custody documentation

KEI-P89-0301.QR6
January 23, 1991

TABLE 1

SUMMARY OF MONITORING DATA

Date	Well No.	Ground Water Elevation (feet)	Depth to Water (feet)	Product Thickness	Sheen	Water Bailed (gallons)
12/14/90	MW1	89.92	10.54	0	None	15
	MW3	90.19	10.08	0	None	15
	MW4	90.07	9.93	0	None	15
11/15/90	MW1	89.58	10.88	0	None	0
	MW3	89.78	10.49	0	None	0
	MW4	89.84	10.16	0	None	0
10/19/90	MW1	89.61	10.85	0	None	0
	MW3	89.49	10.78	0	None	0
	MW4	89.60	10.40	0	None	0

Well #	Surface Elevation* (feet)
MW1	100.46
MW3	100.27
MW4	100.00

* Elevation of top of well covers surveyed to assumed datum of 100.00 feet.

KEI-P89-0301.QR6
January 23, 1991

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
12/14/90	MW1	450	150	6.8	49	0.28
	MW3	150	ND	ND	ND	ND
	MW4	54	ND	ND	ND	ND
9/19/90	MW1	140	ND	ND	3.5	ND
	MW3	74	0.74	ND	ND	ND
	MW4	61	ND	ND	ND	ND
6/25/90	MW1	310	10	0.89	2.1	0.37
	MW3	190	1.5	0.68	5.3	ND
	MW4	66	ND	ND	ND	ND
3/29/90	MW1	320	12	1.6	3.5	0.31
	MW3	85	ND	ND	ND	ND
	MW4	120	0.39	ND	ND	ND
12/12/89	MW1	340	100	13	44	3.4
	MW2*	660	220	6.6	36	13
	MW3	120	6.7	0.64	1.5	0.46
	MW4	97	4.6	ND	ND	ND
9/13/89	MW1	550	32	17	52	3.4
	MW2**	170	2.0	0.38	9.5	ND
	MW3	76	ND	ND	ND	ND
	MW4	77	ND	ND	ND	ND
6/06/89	MW1	590	ND	ND	ND	ND
	MW2***	77	ND	ND	ND	ND
	MW3	32	ND	ND	ND	ND
	MW4	37	ND	ND	ND	ND
3/17/89	W1	19,000	230	79	1,300	ND
Detection Limits		30	0.3	0.3	0.3	0.3

NOTE: Well MW2 was destroyed on February 1, 1990.

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January 23, 1991

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

* TPH as diesel showed 1,700 ppb, TOG showed 1.2 ppm and EPA method 8010 showed 30 ppb of tetrachloroethane and 9.0 ppb of trichloroethene.

** Analysis was also performed for TOG, TPH as diesel and EPA method 8010. TOG was <50 ppm. TPH as diesel was non-detectable. EPA method 8010 showed 4.2 ppb of 1,2-dichloroethane; 1.2 ppb of total 1,2-dichloroethene; 18 ppb of tetrachloroethene, and 6.1 ppb of trichloroethene.

*** TPH as diesel and TOG were non-detectable. EPA method 8010 showed 2.8 ppb of 1,2-dichloroethane, 110 ppb of tetrachloroethane, and 4.4 ppb of trichloroethene.

ND = Non-detectable.

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

KEI-P89-0301.QR6
January 23, 1991

TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

Sample Number	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
(Collected on March 6, 1989)						
EB1(5)	5	2.1	ND	0.11	ND	0.14
EB1(10)	10	200	2.3	7.7	5.7	33
EB2(5)	5	ND	ND	ND	ND	ND
EB2(10)	10	620	2.2	20	13	78
(Collected on March 13, 14 & 17, 1989)						
SW1	10	3,500	22	280	600	100
SW1(2)	10	100	1.3	6.6	16	2.9
SW2	10	390	40	4.3	71	10
SW3(15)	10	60	1.6	2.9	7.8	1.5
SW4/5(6)	10	24	2.6	1.7	2.7	0.56
SW6(12)	10	150	3.1	6.2	5.6	3.6
SW7(14)*	10	ND	0.3	ND	ND	ND
P1	3	2.3	ND	0.15	ND	ND
P2	3	1.5	ND	0.31	ND	ND
P3	3	1.1	ND	0.1	ND	ND
P4	3	5.6	ND	0.15	0.39	ND
P5	3	6.8	0.15	0.58	0.55	0.12
P6	3.5	5.5	0.06	0.18	0.15	ND
WO1**	10	15	ND	ND	0.21	0.88
(Collected on May 24, 1989)						
MW1(5)	5	2.3	0.08	ND	0.62	ND
MW1(10)	10	290	1.0	11	48	8.8
MW2(5)***	5	230	13	1.7	3.2	1.5
MW2(10)+	10	31	1.2	1.0	5.5	1.1
MW3(5)	5	3.2	0.29	0.1	0.7	ND
MW3J(10)	10	4.6	ND	ND	0.44	0.3
MW4(5)	5	3.1	ND	0.11	ND	ND
MW4(10)	10	ND	ND	ND	ND	ND

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
SOIL

* TPH as diesel was 6.2 ppm; TOG was at 41 ppm; all 8240 constituents are non-detectable, except as noted above.

** TPH as diesel was non-detectable; TOG was at 280 ppm; all 8240 constituents are non-detectable, except as noted above.

*** TPH as diesel was non-detectable, TOG was 7,700 ppm, and trichloroethene at 0.063 ppm.

\+ TPH as diesel was non-detectable, TOG was 38 ppm, and trichloroethene at 0.065 ppm.

ND = Non-detectable.

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

KEI-P89-0301.QR6
January 23, 1991

TABLE 4

SUMMARY OF LABORATORY ANALYSES
SOIL

(Samples collected on April 3, 1990)

Sample	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
SW8A*	10.5	62	260	1.4	8.0	40	7.0
SW9A*	10.5	ND	ND	0.017	0.041	0.033	0.0092
SW10A*	10.5	ND	140	0.085	0.12	5.0	1.4
SW11A**	10.5	280	1,100	8.0	43	230	37
Detection Limits		1.0	1.0	0.0050	0.0050	0.0050	0.0050

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

** TOG showed 210 ppm, while all EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

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

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Consulting Engineers
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LOCATION MAP

Unocal S/S #6277
15803 E. 14th Street
San Leandro, CA

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
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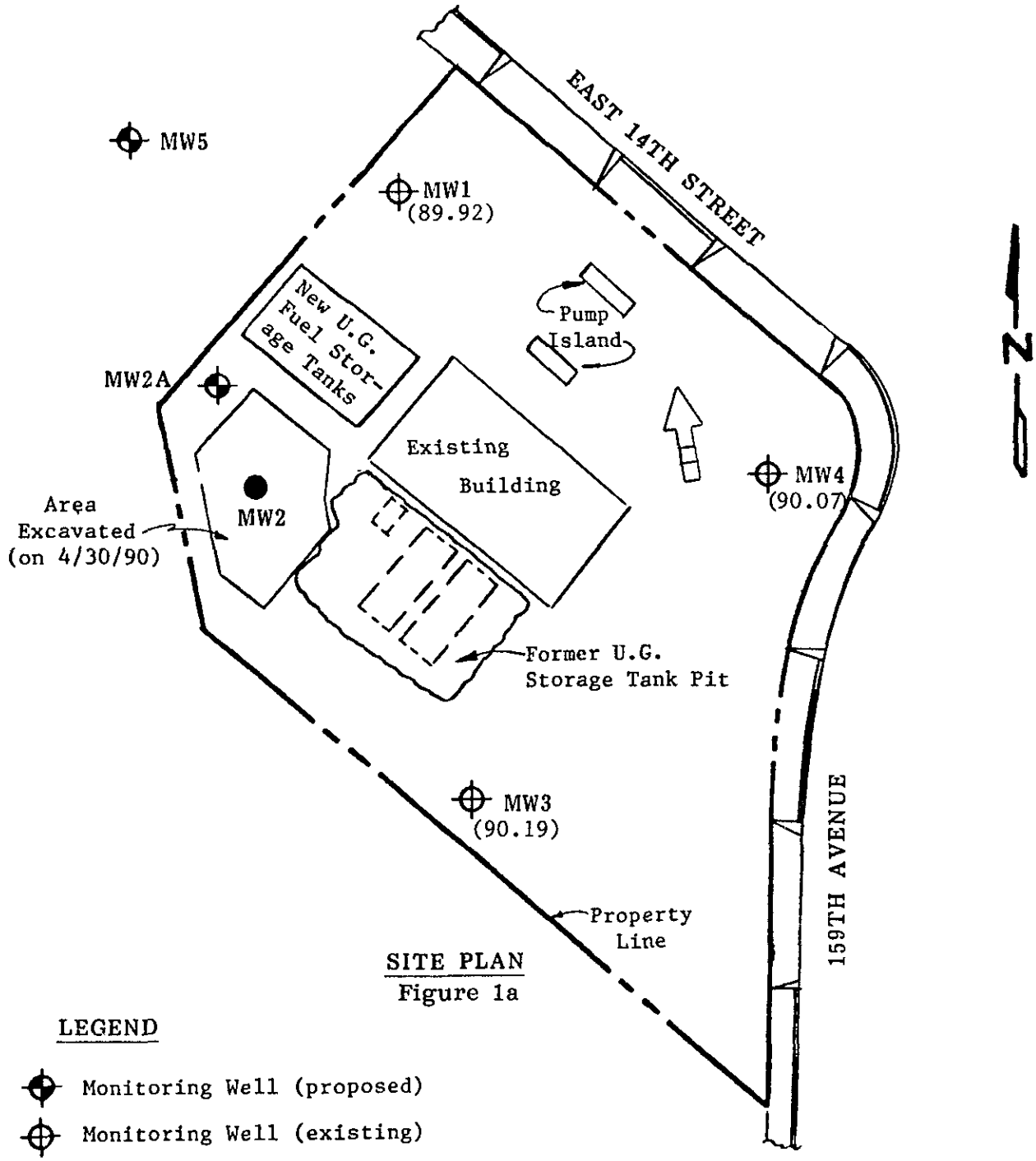

SITE PLAN
Figure 1a

LEGEND

- Monitoring Well (proposed)
- Monitoring Well (existing)
- ( ) Water table elevation in feet on 12/14/90 . Top of MW4 well cover assumed 100.00' as datum.
- Ground water flow direction.
- Monitoring Well (abandoned 2/1/90)

0 40 80
Approx. Scale feet

Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

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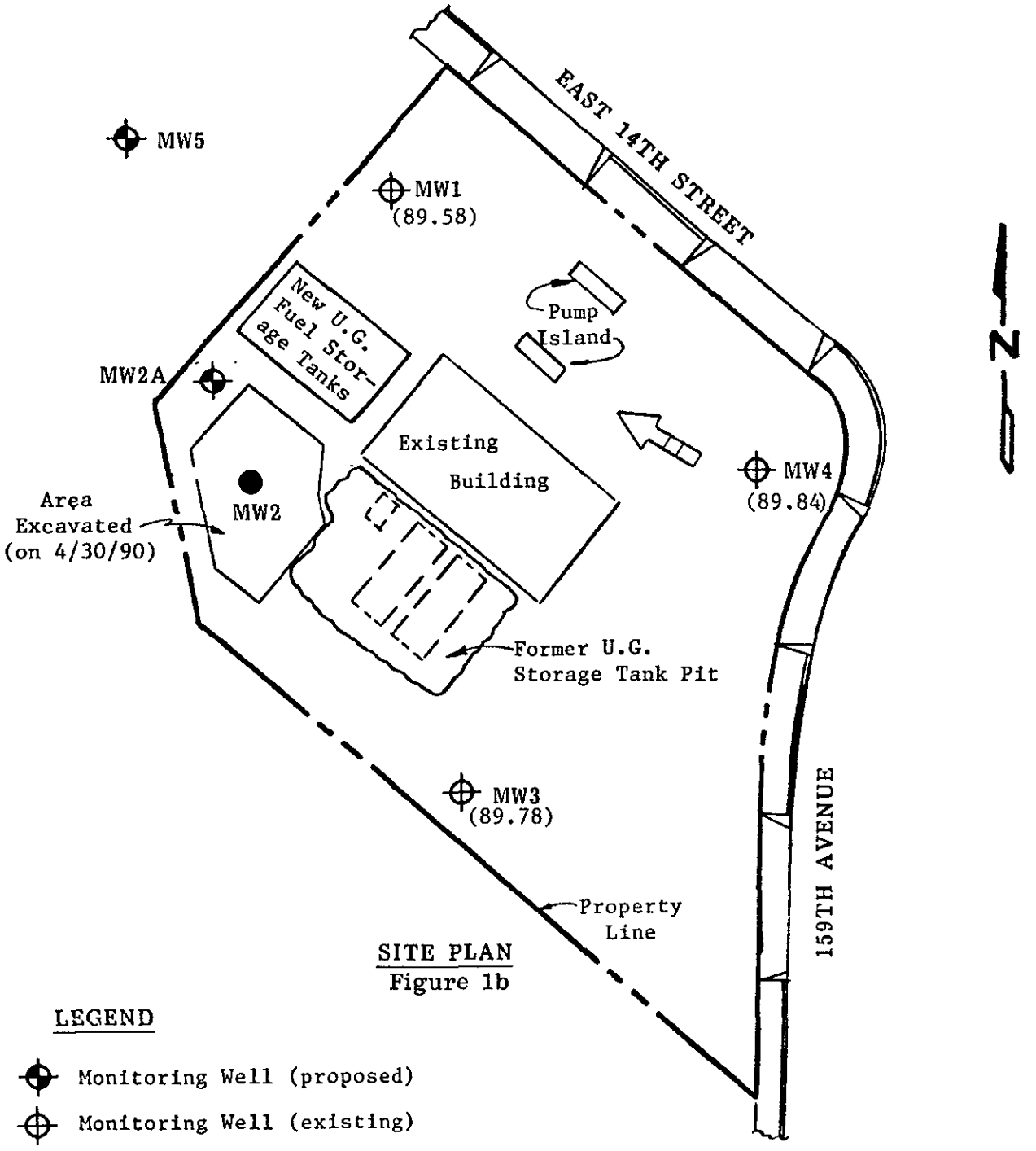

SITE PLAN
Figure 1b

LEGEND

- Monitoring Well (proposed)
- Monitoring Well (existing)
- ( ) Water table elevation in feet on 11/15/90 . Top of MW4 well cover assumed 100.00' as datum.
- Ground water flow direction.
- Monitoring Well (abandoned 2/1/90)

0 40 80
Approx. Scale feet

Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

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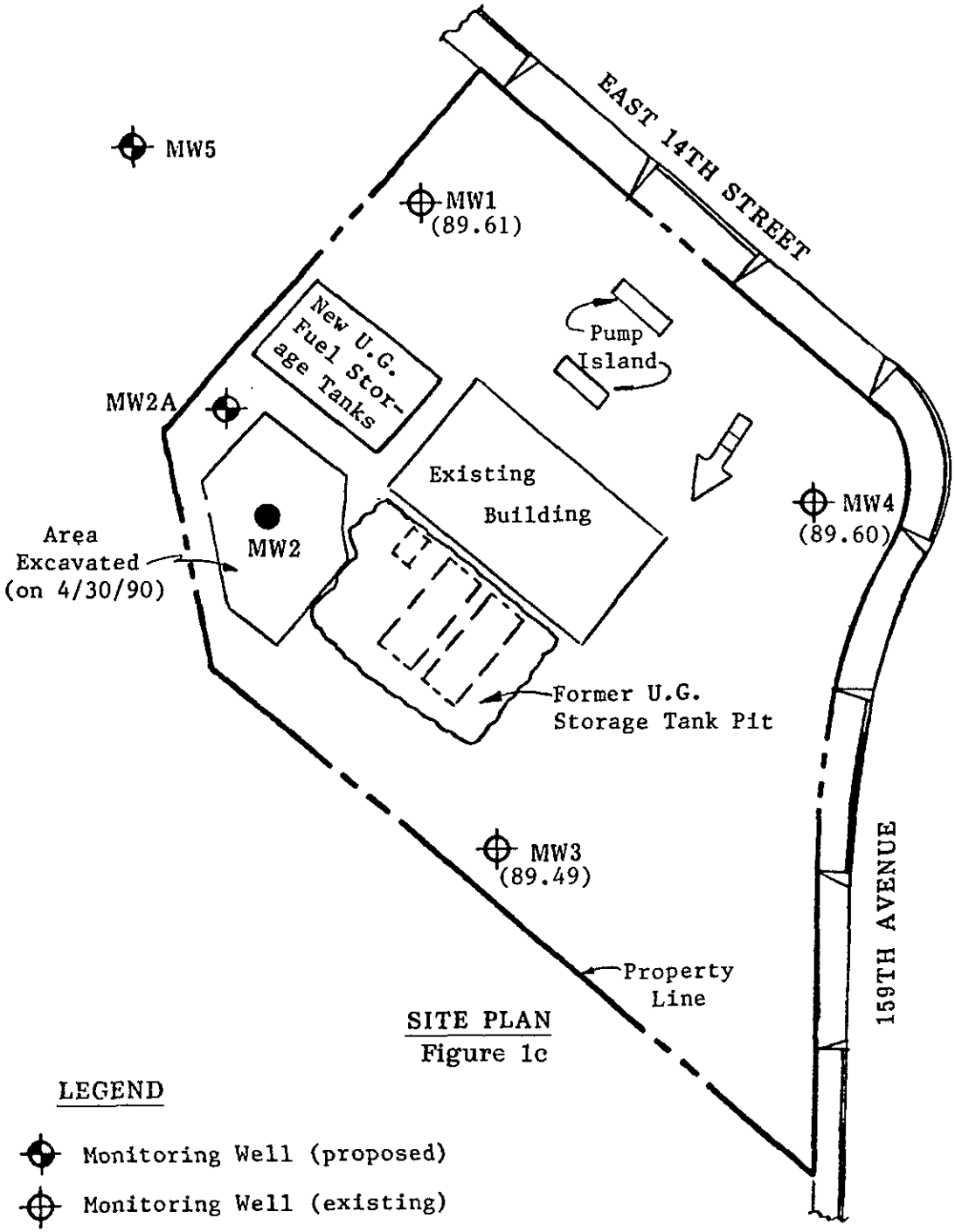

SITE PLAN
Figure 1c

LEGEND

- Monitoring Well (proposed)
- Monitoring Well (existing)
- ( ) Water table elevation in feet on 10/19/90 . Top of MW4 well cover assumed 100.00' as datum.
- Ground water flow direction.
- Monitoring Well (abandoned 2/1/90)

0 40 80
Approx. Scale feet

Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

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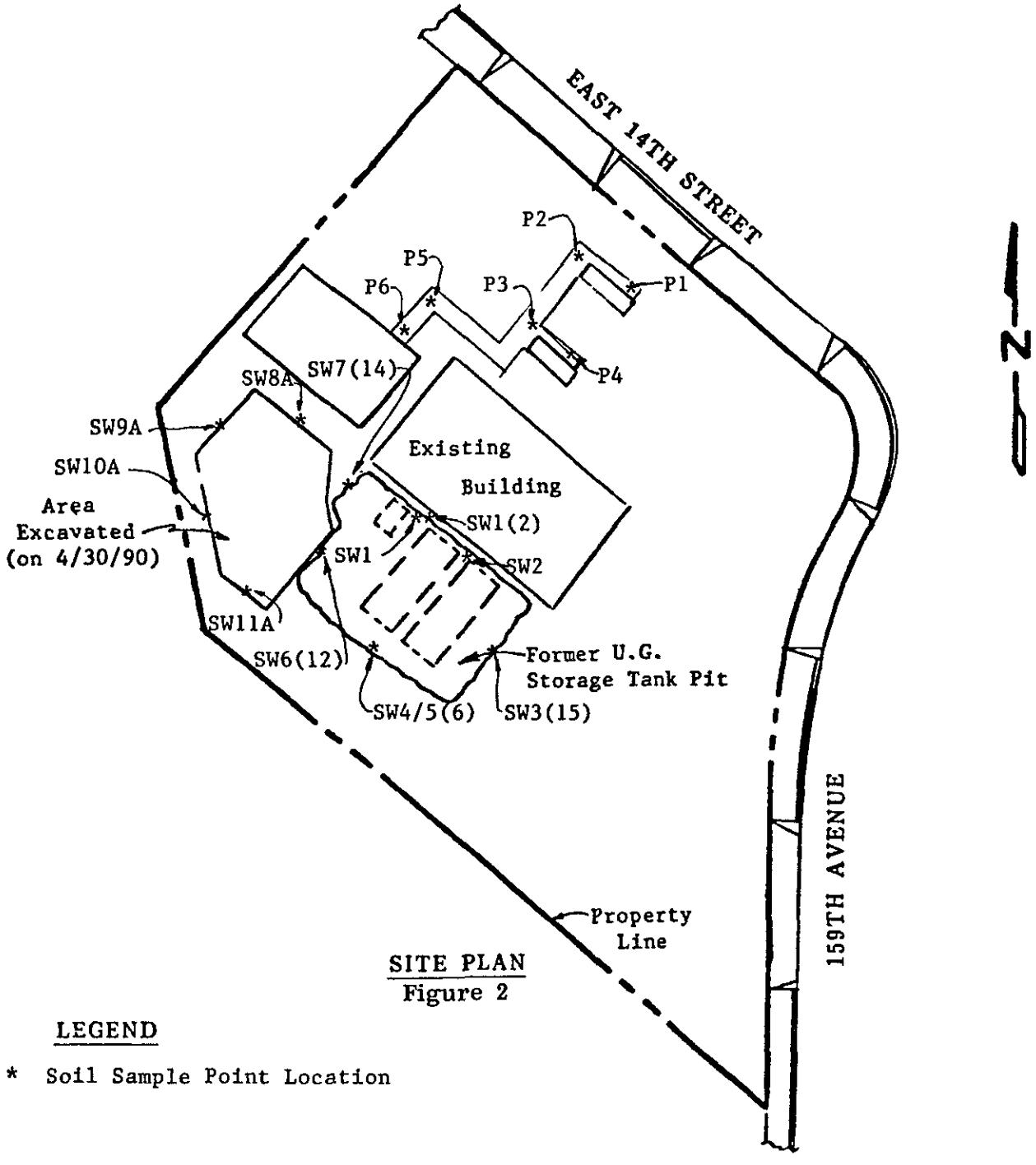
PO BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581



SITE PLAN
Figure 2

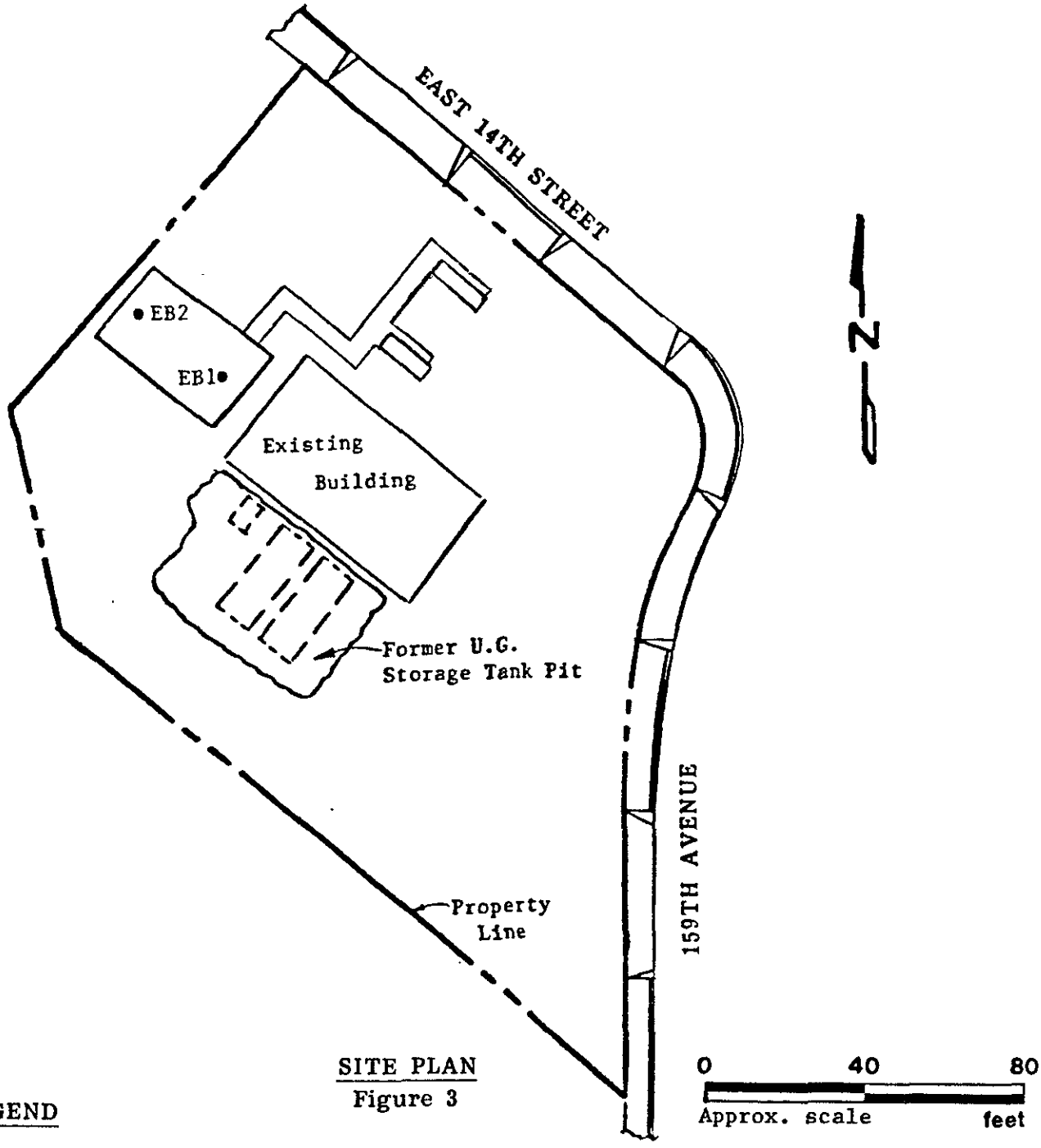
LEGEND

* Soil Sample Point Location

0 40 80
Approx. Scale feet

Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

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



SITE PLAN
Figure 3

LEGEND

- Exploratory boring

Unocal S/S #6277
15803 East 14th Street
San Leandro, CA

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(415) 686-9600 • FAX (415) 686-9689

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 15803 East 14th St., San Leandro	Sampled: Dec 14, 1990
P.O. Box 996	Matrix Descript:	Water	Received: Dec 14, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed: Dec 20, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	012-0383 A-B	Reported: Dec 26, 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)
012-0383 A-B	MW-1	450	150	6.8	0.28	49
012-0384 A-B	MW-3	150	N.D.	N.D.	N.D.	N.D.
012-0385 A-B	MW-4	54	N.D.	N.D.	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

Julia R. Malerstein
Project Manager

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: Vartkes

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal / San Leandro
15803 East 14th Street.

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-1	12/14/90	9 A.M. 10:30		✓	✓		2	Monitoring Well	✓	VOA's Preserved in HCL.
MW-3	12/14/90	A.M. 11:20		✓	✓		2	Monitoring Well	✓	
MW-4	12/14/90	noon 12:00		✓	✓		2	Monitoring Well	✓	MW-2 is now existent.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
W. Tahdjian	12/14/90	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time 12/14	Received by: (Signature)

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

1. Have all samples received for analysis been stored in ice? 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