



KAPREALIAN ENGINEERING, INC.

Consulting Engineers
P. O. BOX 913
BENICIA, CA 94510
(415) 676-9100 (707) 746-6915

KEI-P89-0301.R2
March 16, 1989

Alameda County Department of
Environmental Health
470 27th Street, Room 322
Oakland, California 94612

Attention: Mr. Larry Seto

RE: Interim Subsurface Report for
Unocal Service Station #6277
15803 East 14th Street
San Leandro, California

Dear Mr. Seto:

This report summarizes the soil sampling to date performed by Kaprealian Engineering, Inc. (KEI) at the referenced site. All work has been performed in compliance with the guidelines established by the Regional Water Quality Control Board (RWQCB), and the Alameda County Health Agency.

The scope of the work performed to date by KEI has consisted of the following:

Coordination with regulatory agencies.

Collection of samples of native soil from the sidewalls of the storage tank pit.

Delivery of soil, including proper Chain of Custody documentation, to a certified analytical laboratory.

Technical review and preparation of this report.

SITE DESCRIPTION AND BACKGROUND

The subject site is presently used as a gasoline station. Site vicinity and site descriptions are shown on the attached sketch.

FIELD ACTIVITIES

KEI's first field work was conducted on March 13, 1989. 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

ALAMEDA COUNTY
DEPT. OF ENVIRONMENTAL HEALTH
HAZARDOUS WASTE SECTION
3/16/89

observed in the tanks. Due to the tar coating and wrapping, very little of the actual tank walls could be observed. Tank removal and soil and water sampling were performed in the presence of Ms. Mary Jo Meyers-Barnes of the Alameda County Health Agency, and Mr. James Ferdinand of the Fire Prevention Bureau.

Water was encountered in the fuel tank pit at a depth of 11 feet, thus prohibiting the collection of any soil samples from immediately beneath the tanks. Six soil samples labeled SW-1, SW-2, SW-3, SW-4, SW-5 and SW-6 were collected from the sidewalls of the fuel tank pit at a depth approximately one foot above the water table. One sample, labeled WO-1, was collected of native soil from beneath the waste oil tank. The undisturbed soil samples were collected from bulk material excavated by backhoe. Soil samples were placed in clean, 2" diameter brass tubes, sealed with aluminum foil, plastic caps and tape, and stored in a cooled ice chest for delivery to a state certified laboratory.

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 wall is adjacent to the existing building.) On March 14, 1989 four trenches were dug to define the limits of additional soil excavation needed. Four soil samples were then collected, SW-3(15), SW-4/5(6), SW-6(12) and SW-7(14). SW-7(14) was 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 on-going soil excavation, contaminated soil was falling into the water and a representative ground water sample could not be collected. KEI intends to return to the site on Friday, March 17, 1989 to observe ground water pumping and to collect a representative ground water sample from the pit.

SUBSURFACE CONDITIONS

Subsurface soils exposed in the excavation consisted primarily of clay. Excavated soil was stockpiled on the site for further sampling.

ANALYTICAL RESULTS

Soil samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California, and were accompanied by properly executed Chain of Custody documentation. Samples from the fuel tank pit were analyzed for total petroleum hydrocarbon (TPH) as gasoline using EPA method 3810 or 5030 in conjunction with modified 8015, and benzene, toluene, xylenes and ethylbenzene (BTX&E) using EPA methods 5030 and 8020. The samples from the

waste oil tank pit (WO-1 and SW-7{14}) are being analyzed for TPH as gasoline, TPH as diesel using EPA method 3550 in conjunction with modified 8015, total oil and grease (TOG) by 413.1 and EPA 8240 constituents.

Soil sample analyses from the fuel tank pit indicate TPH as gasoline ranging from 24 to 150 ppm for samples SW-3 through SW-6. SW-1 and SW-2, adjacent to the existing building, had 3,500 and 390 ppm TPH as gasoline, respectively. The soil samples from the waste oil tank pit are still being analyzed. The analytical results are summarized in Table 1.

DISCUSSION AND RECOMMENDATIONS

After reviewing the field data, KEI recommended additional excavation beneath the waste oil tank. The contractor is in the process of excavating the additional soil and should be completed by March 18, 1989.

According to the guidelines established by the RWQCB, additional investigation is necessary at the site. To comply with the requirements of the RWQCB, KEI recommends installation of four monitoring wells to determine the ground water flow direction, and begin to determine the vertical and lateral extent of the soil and ground water contamination.

LIMITATIONS

The results of this study are based on the data obtained from the field and laboratory investigations. 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, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

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Should you have any questions regarding this report, please feel free to call me at (707) 746-6915.

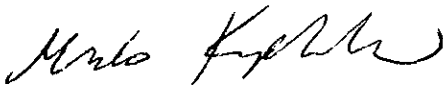
Sincerely,

Kaprealian Engineering, Inc.



Gary S. Johnson
Registered Geologist

License No. 4315
Exp. Date 6/30/90



Mardo Kaprealian
President

Attachments: Table 1
Site Plan
Laboratory Analyses
Chain of Custody documentation

cc: Tim Ross, Unocal

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March 16, 1989

TABLE 1

SUMMARY OF LABORATORY ANALYSES
Soil
(Results in ppm)
(Samples collected on March 13 and 14, 1989)

<u>Sample #</u>	<u>Depth (feet)</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl- benzene</u>
SW-1	10	3500	22	280	600	100
SW-2	10	390	40	4.3	71	10
SW-3(15)	10	60	1.6	2.9	7.8	1.5
SW-4/5(6)	10	24	2.6	1.7	2.7	0.56
SW-6(12)	10	150	3.1	6.2	5.6	3.6



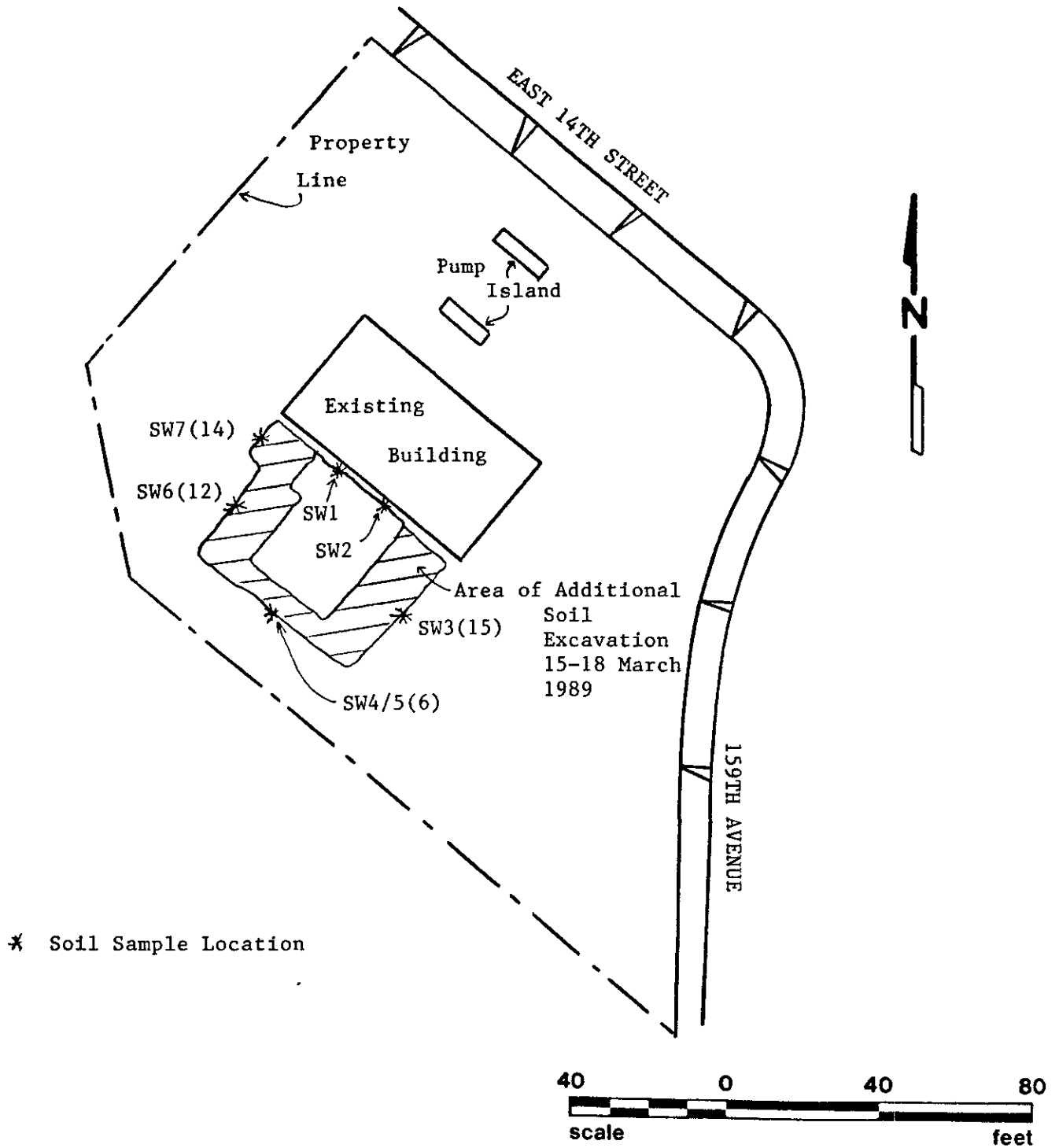
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* Soil Sample Location

SITE PLAN

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



SEQUOIA ANALYTICAL

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

Kaprelian Engineering, Inc. P.O. Box 913 Benicia, CA 94510 Attention: Mardo Kaprelian, P.E.	Client Project ID: Unocal, San Leandro, E 14th/159th Matrix Descript: Soil Analysis Method: EPA 5030 or 3810/8015/8020 First Sample #: 903-1420	Sampled: Mar 13, 1989 Received: Mar 14, 1989 Analyzed: Mar 15, 1989 Reported: Mar 16, 1989
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TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
903-1420	SW1	3,500	22	280	100	600
903-1421	SW2	390	4.0	43	10	71

Detection Limits:	1.0	0.05	0.1	0.1	0.1
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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


Arthur G. Burton
Laboratory Director



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

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BENICIA, CA 94810

(415) 876-9100 (707) 746-6915

CHAIN OF CUSTODY

SAMPLER: R.M. Bradish DATE/TIME OF COLLECTION: 3-13-89 TURN AROUND TIME: 24 Hr
 (signature)

SAMPLE DESCRIPTION AND PROJECT NUMBER: Unsat. - San Leandro
E 14th & 159th

SAMPLE #	ANALYSES	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/WATER
<u>SW1</u>	<u>TPH-G & BTXE</u>	<u>G</u>	<u>1</u>	<u>S</u>
<u>SW2</u>	<u>" "</u>	<u>G</u>	<u>1</u>	<u>S</u>
<u>(Hold) SW3</u>	<u>" "</u>	<u>G</u>	<u>1</u>	<u>S</u>
<u>(Hold) SW4</u>	<u>" "</u>	<u>G</u>	<u>1</u>	<u>S</u>
<u>(Hold) SW5</u>	<u>" "</u>	<u>G</u>	<u>1</u>	<u>S</u>
<u>(Hold) SW6</u>	<u>" "</u>	<u>G</u>	<u>1</u>	<u>S</u>

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
<u>R.M. Bradish</u>	<u>951 / 3/14/89</u>	<u>Tom M. Poir</u>	<u>951 / 3/14/89</u>
<u>Tom M. Poir</u>	<u>11²² 3/14/89</u>	<u>Joseph Newcomb</u>	<u>3/14/89</u>
3.			
4.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: _____



SEQUOIA ANALYTICAL

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Kaprelian Engineering, Inc. P.O. Box 913 Benicia, CA 94510 Attention: Mardo Kaprelian, P.E.	Client Project ID: Unocal, San Leandro, E 14th/159th Matrix Descript: Soil Analysis Method: EPA 5030 or 3810/8015/8020 First Sample #: 903-1504	Sampled: Mar 14, 1989 Received: Mar 15, 1989 Analyzed: Mar 16, 1989 Reported: Mar 16, 1989
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TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
903-1504	8W3 (15)	60	1.6	2.9	1.5	7.8
903-1505	8W4/5 (6)	24	2.6	1.7	0.56	2.7
903-1506	8W6 (12)	150	3.1	6.2	3.8	5.6

Detection Limits:

1.0

0.05

0.1

0.1

0.1

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.

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 Laboratory Director

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CHAIN OF CUSTODY

SAMPLER: R.M. Bradish DATE/TIME OF COLLECTION: 3-14-89 TURN AROUND TIME: 24 Hr
 (signature)

SAMPLE DESCRIPTION AND PROJECT NUMBER: Uucal - San Leandro
E 12th & 157th

<u>SAMPLE #</u>	<u>ANALYSES</u>	<u>GRAB OR COMP.</u>	<u>NUMBER OF CONTAINERS</u>	<u>SOIL/WATER</u>
<u>SW 3 (15)</u>	<u>TPH-G & BTXE</u>	<u>G</u>	<u>1</u>	<u>S</u>
<u>SW 4/5 (6)</u>	<u>" "</u>	<u>G</u>	<u>1</u>	<u>S</u>
<u>SW 6 (12)</u>	<u>" "</u>	<u>G</u>	<u>1</u>	<u>S</u>

<u>RELINQUISHED BY*</u>	<u>TIME/DATE</u>	<u>RECEIVED BY*</u>	<u>TIME/DATE</u>
<u>R.M. Bradish</u>	<u>9:20 3/15/89</u>	<u>Tim McLean</u>	<u>7:20 3/15/89</u>
<u>Tim McLean</u>	<u>10:55 3/15/89</u>	<u>Deborah Stewart</u>	<u>10:55 3/15/89</u>
3.			
4.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: _____