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

KEI-J90-1003.R1
November 26, 1990

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

Attention: Mr. Rick Sisk

RE: **Soil Sampling Report**
Unocal Service Station #7004
15599 Hesperian Boulevard
San Leandro, California

Dear Mr. Sisk:

This report summarizes the soil sampling performed by Kaprealian Engineering, Inc. (KEI) at the referenced site. All work was performed in compliance with the guidelines established by the Regional Water Quality Control Board (RWQCB), and the City of San Leandro Fire Department.

The scope of the work performed by KEI consisted of the following:

Coordination with regulatory agencies.

Collection of soil samples from beneath the fuel storage tanks, from the tank pit sidewalls, and from the product pipe trenches.

Collection of a water sample from the fuel storage tank pit.

Delivery of samples, 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. The site is situated on gently sloping southwest trending topography and is located approximately 700 to 800 feet northeast of San Lorenzo Creek, and 2.1 miles northeast of the present shoreline of San Francisco Bay. A Location Map and Site Plan are attached to this report. No leaks or previous subsurface work performed at the site are known to KEI.

FIELD ACTIVITIES

KEI's field work was conducted on October 12, 1990, when three underground fuel storage tanks were removed from the site. The tanks consisted of one 12,000 gallon super unleaded gasoline tank, and two 12,000 gallon regular unleaded fuel storage tanks. The tanks were made of steel and no apparent holes or cracks were observed in the tanks. Mr. Michael Bakaldin of the City of San Leandro Fire Department was present during tank removal and subsequent soil sampling.

Nine soil samples, labeled A1, A2, A3, B1, B2, B3, C1, C2 and C3, were collected from beneath the fuel tanks at depths of approximately 14 to 15 feet below grade. Samples were collected from bulk material excavated by backhoe. Samples were placed in clean, two-inch diameter brass tubes, sealed with aluminum foil, plastic caps and tape, and stored in a cooled ice chest for delivery to a certified laboratory. Sample locations are as shown on the attached Site Plan.

In an attempt to remove as much of the contaminated soil as possible, KEI returned to the site on October 19, 1990, to observe additional soil excavation in the fuel tank pit. Soil was excavated from a depth below grade of 15 feet to a depth of 19 feet. Water was encountered in the fuel tank pit at a depth of approximately 18.5 feet, thus prohibiting the collection of any additional soil samples from the bottom of the fuel tank pit. Soil samples, labeled SW1 through SW4, were collected from the sidewalls of the fuel tank pit approximately six inches above the observed water table at lateral distances of 2, 4, 17 and 4 feet, respectively, from the original tank pit sidewalls. These samples were collected, handled and delivered as described above. Sample point locations are as shown on the attached Site Plan.

KEI returned to the site on October 22, 1990, in order to complete the fuel tank pit sidewall sampling. One soil sample, labeled SW5, was collected from the south sidewall at a depth of about 18 feet below grade. Due to obvious contamination observed in the area of sample point SW5, one additional soil sample, labeled SW5(20), was collected at a depth of 18 feet at a lateral distance of 20 feet from the original tank pit south sidewall. These samples were also collected and handled as described above.

After soil sampling was completed, the entire fuel tank pit was excavated 4 feet laterally and to a depth of approximately 19 feet. Following soil excavation, approximately 5,000 gallons of ground water were pumped from the fuel tank pit. On October 24, 1990, one water sample, labeled W1, was collected from the fuel tank pit in two clean glass VOA vials with Teflon screw caps. The water sample was stored and delivered as described above.

KEI returned to the site on October 31, 1990, in order to collect soil samples from the product pipe trenches. Four samples, labeled P1 through P4, were collected from trenches by using a driven tube type soil sampler at depths ranging from 2.5 to 3 feet below grade. The samples were collected in the presence of Mr. Michael Bakaldin of the City of San Leandro Fire Department. After additional excavation in the area of sample point P2, one soil sample, labeled P2(7.5), was collected at a depth of 7.5 feet below grade from bulk material excavated by backhoe. These samples were also collected in clean two-inch diameter brass tubes, and handled as described above. After the soil sampling was completed, pipe trenches were excavated to the depth of the sample points.

After reviewing the laboratory analyses and in an attempt to remove as much of the contaminated soil as possible, KEI returned to the site on November 2, 1990, to observe additional soil excavation in the area of sample points P1 and P3. Additional soil samples, labeled P1(8) and P3(5.5), were collected at depths of 8 and 5.5 feet, respectively. The samples were collected from bulk material excavated by backhoe and handled as described above. Sample point locations are shown on the attached Site Plan.

REGIONAL GEOLOGY AND SUBSURFACE CONDITIONS

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 other, 1979), the subject site is underlain by Holocene Coarse-grained Alluvium (Qhac). The coarse-grained alluvium is described as typically consisting of unconsolidated, moderately sorted, permeable sand and silt with a thickness ranging from less than 10 feet to as much as 50 feet.

The subsurface soil materials exposed in the excavation appeared to consist primarily of clayey silt interbedded with fine-grained sand to the maximum depth explored (19 feet). Ground water was observed at 18.5 feet below grade.

ANALYTICAL RESULTS

All samples were analyzed by Sequoia Analytical Laboratory in Concord, California and were accompanied by properly executed Chain of Custody documentation. All soil and water samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline using EPA method 5030 in conjunction with modified 8015, and benzene, toluene, xylenes and ethylbenzene (BTX&E) using EPA method 8020.

Analytical results of the soil samples, collected from beneath the fuel tanks, indicate levels of TPH as gasoline ranging from 180 ppm to 1,900 ppm, and benzene ranging from 0.64 ppm to 9.7 ppm.

Samples collected from the fuel tank pit sidewalls showed levels of TPH as gasoline ranging from non-detectable to 4.5 ppm, except for sample SW5, which showed 998 ppm of TPH as gasoline. However, the additional sample SW5(20), collected at a depth of 18 feet and a lateral distance of 16 feet from sample SW5, indicated 30 ppm of TPH as gasoline.

Analyses of soil samples, P1 through P4, collected from the pipe trenches, indicate levels of TPH as gasoline at 1,400 ppm, 3,900 ppm, 100 ppm and 19 ppm, respectively. However, after additional excavation, the levels of TPH as gasoline in samples P1(8), P2(7.5) and P3(5.5), collected beneath the samples P1, P2 and P3, respectively, were detected at 5.7 ppm, 20 ppm and 9.8 ppm, respectively. Results of the soil analyses are summarized in Table 1.

Analytical results of the water sample (W1), collected from the fuel tank pit, indicated 4,300 ppb of TPH as gasoline and 40 ppb of benzene. The results of the water analyses are summarized in Table 2. Copies of the laboratory analyses and the Chain of Custody documentation are attached to this report.

DISCUSSION AND RECOMMENDATIONS

Based on the analytical results and in accordance with the guidelines established by the RWQCB, further work is necessary at the site because of the level of contamination found in the soil and ground water. To comply with the requirements of the RWQCB and the City of San Leandro Fire Department, KEI recommends the installation of three monitoring wells at the site to begin to define the extent of the soil and ground water contamination, and to determine the ground water flow direction. KEI's proposal for this work is attached for your review and consideration.

DISTRIBUTION

A copy of this report should be sent to the Alameda County Health Care Services, to Mr. Michael Bakaldin of the City of San Leandro Fire Department, and to the RWQCB, San Francisco Bay Region.

LIMITATIONS

Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in 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 work and laboratory analyses. 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.

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

Sincerely,

Kaprealian Engineering, Inc.

Hagop Kevork
Civil Engineer

Don R. Braun
Certified Engineering Geologist

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

Mardo Kaprealian
President

\jad

Attachments: Tables 1 & 2
Location Map
Site Plan
Laboratory Analyses
Chain of Custody documentation
Proposal

KEI-J90-1003.R1
November 26, 1990

TABLE 1

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on October 12, 19, 22 & 31, and
November 2, 1990)

Sample	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
A1	14.5	350	2.0	3.6	47	7.7
A2	14.5	480	2.4	7.3	49	7.4
A3	14.0	570	0.97	5.6	50	8.3
B1	15.0	180	0.64	0.84	11	3.0
B2	15.0	1,900	9.7	120	250	33
B3	15.0	990	6.3	52	120	16
C1	15.0	270	0.64	3.7	22	5.4
C2	15.0	1,200	4.9	41	150	24
C3	15.0	590	4.6	23	80	9.4
SW1	18.0	3.7	0.21	0.024	0.42	0.14
SW2	18.0	4.5	0.46	0.024	0.46	0.26
SW3	18.0	4.1	0.024	0.0080	0.088	0.058
SW4	18.0	ND	0.0090	ND	0.0070	ND
SW5	18.0	998	0.58	ND	21	19
SW5(20)	18.0	30	0.054	0.047	0.054	0.46
P1	2.5	1,400	0.22	3.3	72	8.9
P1(8)	8.0	5.7	0.0078	0.0054	0.18	0.033
P2	3.0	3,900	1.1	23	280	41
P2(7.5)	7.5	20	ND	0.11	1.3	0.12
P3	2.5	100	0.057	0.63	12	0.97
P3(5.5)	5.5	9.8	0.015	0.15	1.3	0.13
P4	2.5	19	ND	0.10	0.13	ND
Detection Limits		1.0	0.0050	0.0050	0.0050	0.0050

ND = Non-detectable.

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

KEI-J90-1003.R1
November 26, 1990

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

(Collected on October 24, 1990)

Sample #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
W1	4,300	40	1.9	520	0.54
Detection Limits	30.0	0.3	0.3	0.3	0.3

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

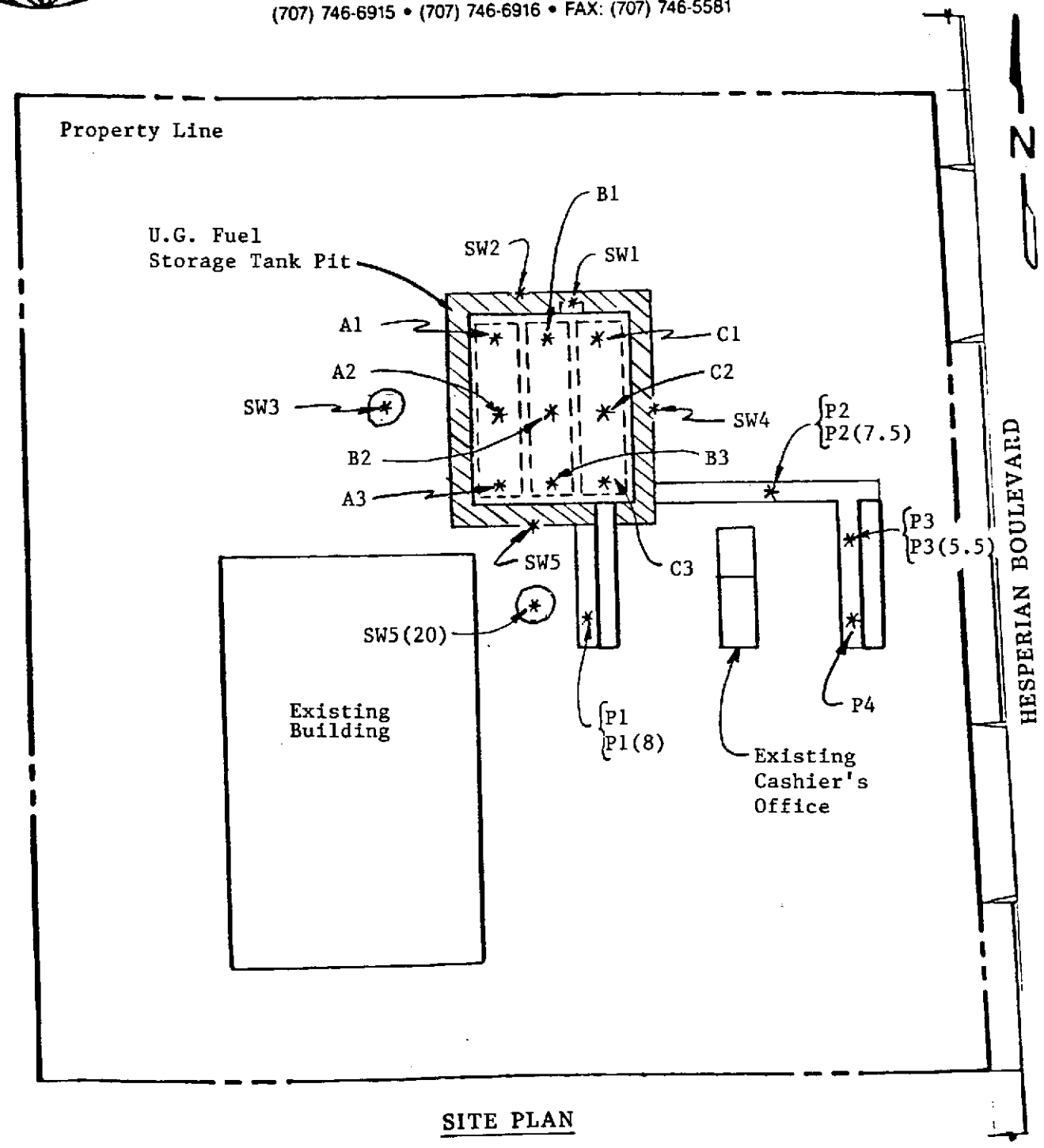
KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581

LOCATION MAP

Base from U.S.G.S. 7.5 min. Hayward and San Leandro Quadrangles (photorevised 1980)

Unocal S/S #7004
15599 Hesperian Boulevard
San Leandro, CA

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



SITE PLAN

0 30 60
Approx. scale feet

LEGEND

* Sample Point Location

Area of Additional Excavation

Unocal S/S #7004
15599 Hesperian Boulevard
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, 15599 Hesperian Blvd., San Leandro	Sampled:	Oct 12, 1990
P.O. Box 996	Matrix Descript:	Soil	Received:	Oct 15, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Oct 15, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	010-0403	Reported:	Oct 16, 1990

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)
010-0403	A1	350	2.0	3.6	7.7	47
010-0404	A2	480	2.4	7.3	7.4	49
010-0405	A3	570	0.97	5.6	8.3	50
010-0406	B1	180	0.64	0.84	3.0	11
010-0407	B2	1,900	9.7	120	33	250
010-0408	B3	990	6.3	52	16	120
010-0409	C1	270	0.64	3.7	5.4	22
010-0410	C2	1,200	4.9	41	24	150
010-0411	C3	590	4.6	23	9.4	80
Detection Limits:		**1.0**	**0.0050**	**0.0050**	**0.0050**	**0.0050**

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

100403.KEI <1>

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: Haig

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal - San Leandro
15599 Hesperian Blvd

TURN AROUND TIME: 24 Hrs

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-D	BTXE	ANALYSES REQUESTED	REMARKS
A1	10/12		✓		✓		1	Fuel Tank Pit	✓	✓	0100403	Please Fax the results
A2	10/12		✓		✓		1		✓	✓	404	
A3	10/12		✓		✓		1		✓	✓	405	
B1	10/12		✓		✓		1		✓	✓	406	
B2	10/12		✓		✓		1		✓	✓	407	
B3	10/12		✓		✓		1		✓	✓	408	
C1	10/12		✓		✓		1		✓	✓	409	
C2	10/12		✓		✓		1		✓	✓	410	
C3	10/12		✓		✓		1		✓	✓	411	

	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
1	Haig Kaprealian	12 Oct 1945	Jerry Hunter
2	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
3	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
4	Relinquished by: (Signature)	Date/Time	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? ✓
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? ✓

Signature	Title	Date
JWN	SR	10/12

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 15599 Hesperian Blvd., San Leandro	Sampled:	Oct 19, 1990
P.O. Box 996	Matrix Descript:	Soil	Received:	Oct 22, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Oct 23, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	010-0566	Reported:	Oct 24, 1990

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)
010-0566	SW-1	3.7	0.21	0.024	0.14	0.42
010-0567	SW-2	4.5	0.46	0.024	0.26	0.46
010-0568	SW-3	4.1	0.024	0.0080	0.058	0.088
010-0569	SW-4	N.D.	0.0090	N.D.	N.D.	0.0070
Detection Limits:		**1.0**	**0.0050**	**0.0050**	**0.0050**	**0.0050**

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

100566.KEI <1>

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: Haig

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal - San Leandro, 15599 Hesperian Blvd

ANALYSES REQUESTED

TURN AROUND TIME: ~~HOLD~~ as 10/22 24hr

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH d	BTXE		REMARKS
SW1	10/19		✓		✓		1	Tank Pit Sidewall	✓	✓	0100566	
SW2	10/19		✓		✓		1		✓	✓	0100567	
SW3	10/19		✓		✓		1		✓	✓	0100568	
SW4	10/19		✓		✓		1		✓	✓	0100569	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Haig Kevork	10-20-90/1:30	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	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? ✓
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? ✓

Signature | Title | Date: 10/22

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 15599 Hesperian Blvd., San Leandro	Sampled:	Oct 22, 1990
P.O. Box 996	Matrix Descript:	Soil	Received:	Oct 22, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Oct 23, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	010-0558	Reported:	Oct 24, 1990

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)
010-0558	SW-5	998	0.58	N.D.	19	21
010-0559	SW-5(20)	30	0.054	0.047	0.46	0.054
Detection Limits:		**1.0**	**0.0050**	**0.0050**	**0.0050**	**0.0050**

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

100558.KEI <1>

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: Haig

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal - San Leandro
15599 Hesperian Blvd

ANALYSES REQUESTED: TPH-D; BTEX

TURN AROUND TIME: 24 Hrs

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	REMARKS
SW5	10/22		✓		✓		1	Tank Pit Sidewall	0100558
SW5(20)	10/22		✓		✓		1	Tank Pit Sidewall	0100559

Please Fax the results

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Haig Kevork	5:10 - 10-22	Ramulo C. Fuerte
Ramulo C. Fuerte	10-22 17:35	Ed Hamilton

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? N/A
4. Were samples in appropriate containers and properly packaged? YES

Ed — Signature; Title; 10-22-92 — Date

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 15599 Hesperian Blvd., San Leandro	Sampled:	Oct 31, 1990
P.O. Box 996	Matrix Descript:	Soil	Received:	Nov 1, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Nov 1, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	011-0004	Reported:	Nov 2, 1990

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)
011-0004	P1 *	1,400	0.22	3.3	8.9	72
011-0005	P2	3,900	1.1	23	41	280
011-0006	P3 *	100	0.057	0.63	0.97	12
011-0007	P4 *	19	N.D.	0.10	N.D.	0.13
Detection Limits:		**1.0**	**0.0050**	**0.0050**	**0.0050**	**0.0050**

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

Please Note:
* The above samples do not appear to contain gasoline.

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: Haig

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal - San Leandro
15599 Hesperian Blvd

ANALYSES REQUESTED: TPH-D; BTXE

TURN AROUND TIME: 24 Hrs

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	REMARKS
P1	10/31		✓		✓		1	Product Pipe Trench	Please FAX the results 006
P2	10/31		✓		✓		1		007
P3	10/31		✓		✓		1		
P4	10/31		✓		✓		1		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Haig P. Kevork	11-1-90 9:44	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	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? ✓
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? ✓

Signature	Title	Date
[illegible]	SR	11/1

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 15599 Hesperian Blvd., San Leandro	Sampled:	Oct 31, 1990
P.O. Box 996	Sample Descript.:	Soil, P2 (7.5)	Received:	Nov 1, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Nov 1, 1990
Attention: Mardo Kaprealian, P.E.	Lab Number:	011-0008	Reported:	Nov 2, 1990

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

Analyte	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Low to Medium Boiling Point Hydrocarbons	5.0	20
Benzene	0.025	N.D.
Toluene	0.025	0.11
Ethyl Benzene	0.025	0.12
Xylenes	0.025	1.3

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. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

Please Note:
The above sample does not appear to contain gasoline.

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: Haig

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal - San Leandro, 15599 Hesperian Blvd

ANALYSES REQUESTED: TPH-D; BTXE

TURN AROUND TIME: 24 Hrs

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	REMARKS
P2(7.5)	10/31		✓		✓		1	Product Pipe Trench	0110008

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Haig Kewalk	11-1-90 9:44	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
(Signature)	Date/Time	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? ✓
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? ✓

KW — Signature; SR — Title; 11/1 — Date

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 15599 Hesperian Blvd., San Leandro	Sampled:	Nov 2, 1990
P.O. Box 996	Matrix Descript:	Soil	Received:	Nov 2, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Nov 5, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #:	011-0039	Reported:	Nov 5, 1990

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)
011-0039	P1 (8)	5.7	0.0078	0.0054	0.033	0.18
011-0040	P3 (5.5)	9.8	0.015	0.15	0.13	1.3
Detection Limits:		**1.0**	**0.0050**	**0.0050**	**0.0050**	**0.0050**

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

110039.KEI <1>

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: Haig

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal - San Leandro
15599 Hesperian Blvd

TURN AROUND TIME: 24 Hrs

ANALYSES REQUESTED: TPH-D; BTXE

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-D	BTXE		REMARKS
P1(8)	11/2		✓		✓		1	Product Pipe Trench	✓	✓	01100039	Please Fax the results
P3(5.5)	11/2		✓		✓		1	Product Pipe Trench	✓	✓	040	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Margaret Kenwork	11-2-96	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
quished by: (Signature)	Date/Time	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? ✓
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? ✓

Signature: [illegible] Title: SR Date: 11/2

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, Hesperian/Lewelling, San Leandro	Sampled:	Oct 24, 1990
P.O. Box 996	Sample Descript.:	Water, W1	Received:	Oct 25, 1990
Benicia, CA 94510	Analysis Method:	EPA 5030/ 8015/8020	Analyzed:	Oct 29, 1990
Attention: Mardo Kaprealian, P.E.	Lab Number:	010-0694 A-B	Reported:	Oct 31, 1990

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

Analyte	Detection Limit µg/L (ppb)	Sample Results µg/L (ppb)
Low to Medium Boiling Point Hydrocarbons	30	4,300
Benzene	0.30	40
Toluene	0.30	1.9
Ethyl Benzene	0.30	0.54
Xylenes	0.30	520

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

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: RAY (KEI)

WITNESSING AGENCY:

SITE NAME & ADDRESS: UNOCAL SAN LEANDRO
HESPERIAN/LEWELLING

ANALYSES REQUESTED: TPHG, BTXE

TURN AROUND TIME: 5 days

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION
W1	10-24	16:54		x	x		2 VOA	

REMARKS:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Ray (KEI)	10-24-90 1750	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	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

Signature | Log-in Title | 10/24/90 Date