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KAPREALIAN ENGINEERING, INC.

Consulting Engineers

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

KEI-J88-1203.R11

May 23, 1991

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

Attention: Mr. Rick Sisk

RE: Stockpiled Soil Sampling for
Unocal Service Station #3135
845 - 66th Avenue
Oakland, California

RECEIVED

9:16 am, May 14, 2009

Alameda County
Environmental Health

Dear Mr. Sisk:

This letter report summarizes the results of the stockpiled soil sampling and laboratory analyses for the referenced site. The soil analyses were conducted to comply with the County Health Department requirements for proper disposal of contaminated soil.

On March 26, 1991, soil samples from approximately 950 cubic yards of stockpiled soil excavated from the former fuel tank pit were collected to determine proper disposal of the soil. Nineteen composite soil samples (designated as Comp A through Comp S) were taken. Each composite sample consisted of four individual grab samples taken at various locations and at depths of approximately 2 feet. The samples were collected in two-inch diameter, clean brass tubes, which were then sealed with aluminum foil, plastic caps and tape, and placed in a cooled ice chest for subsequent delivery to a certified laboratory for analysis. All samples were analyzed at Sequoia Analytical Laboratory in Concord, California, and were accompanied by properly executed Chain of Custody documentation. Sample point locations are as shown on the attached Site Plan, Figure 1.

Upon review of the analytical results of the above mentioned stockpiled soil (Comp A through Comp S), an aeration permit was obtained and approximately 850 cubic yards of stockpiled soil represented by composite soil samples Comp A through Comp K, Comp M through Comp P, Comp R and Comp S were aerated.

On April 29, 1991, Kaprealian Engineering, Inc. (KEI) collected soil samples from approximately 250 cubic yards of aerated stockpiled soil (previously sampled as Comp A, Comp B, Comp C, Comp H and Comp R). Five composite soil samples, designated as Comp 1 through Comp 5, were taken. Samples were collected and stored as

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May 23, 1991
Page 2

described above. Sample point locations are as shown on the attached Site Plan, Figure 2.

On May 2, 1991, soil samples were collected from approximately 200 cubic yards of aerated stockpiled soil (previously sampled as Comp D, Comp I, Comp J and Comp P). Four composite soil samples designated as Comp 6 through Comp 9 were collected and stored as described above. Sample point locations are as shown on the attached Site Plan, Figure 3.

On May 7, 1991, soil samples from approximately 300 cubic yards of aerated stockpiled soil (previously sampled as Comp E, Comp F, Comp G, Comp K, Comp N and Comp S) were taken. Five composite soil samples, designated as Comp 10 through Comp 14, were collected and stored as described above. Sample point locations are as shown on the attached Site Plan, Figure 4.

On May 15, 1991, KEI again returned to collect soil samples from approximately 150 cubic yards of aerated stockpiled soil (previously samples as Comp M, Comp O and Comp 12). Three composite soil samples, designated as Comp 15, Comp 16 and Comp 17, were collected and stored as described above. Sample point locations are as indicated on the attached Site Plan, Figure 5.

Soil samples were analyzed to determine concentrations of 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. In addition, samples Comp M and Comp Q were analyzed for STLC lead, reactivity, corrosivity and ignitability. Sample Comp K was analyzed further for STLC metals. Finally, samples Comp A through Comp S were analyzed also for total oil and grease (TOG) using Standard Method 5520E&F, and TPH as diesel using EPA method 3550 in conjunction with 8015.

Analytical results of the soil samples Comp L and Comp Q indicate levels of TPH as gasoline at 92 ppm and 54 ppm, respectively; however, analytical results of the soil samples (Comp A through Comp K, Comp M through Comp P, Comp R and Comp S) indicate levels of TPH as gasoline ranging from 110 ppm to 1,500 ppm. Analytical results of the soil samples (Comp A through Comp S) indicate levels of TOG ranging from 110 ppm to 830 ppm, with levels of TPH as diesel ranging from 17 ppm to 930 ppm.

After aeration, approximately 850 cubic yards of stockpiled soil were resampled. Analytical results of the soil samples Comp 1 through Comp 16 (previously sampled as Comp A through Comp F, and Comp H through Comp S), indicate levels of TPH as gasoline ranging

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May 23, 1991
Page 3

from 6.2 ppm to 47 ppm for all samples except Comp 12, which showed a level of TPH as gasoline at 240 ppm. Because of the high level of TPH as gasoline, the soil represented by Comp 12 was aerated further. Analytical results of the soil sample Comp 17 (collected after further aeration) indicate a level of TPH as gasoline at 12 ppm.

Results of the soil analyses are summarized in Table 1. Copies of the laboratory analyses, and the Chain of Custody documentation are attached to this report.

Based on the analytical results of the soil samples, approximately 950 cubic yards of stockpiled soil, represented by samples Comp L, Comp Q and Comp 1 through Comp 17, were disposed of at BFI Waste Systems in Livermore, California, an approved Class III disposal site, by Paradiso Construction. However, prior to loading and off-hauling of the stockpiled soil, KEI recommended that when obvious isolated high contamination is detected within the stockpiled soil, that portion of the soil be separately stockpiled for further treatment and sampling.

DISTRIBUTION

A copy of this report should be sent to Ms. Cynthia Chapman of the Alameda County Health Care Services Agency, and to the Regional Water Quality Control Board, San Francisco Bay Region.

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

Sincerely,

Kaprealian Engineering, Inc.



Kristin B. Mascarenas

\bam:jad

Attachments: Table 1
Site Plans - Figures 1 through 5
Laboratory Results
Chain of Custody documentation

KEI-J88-1203.R11

May 23, 1991

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(Collected on March 26, April 29, and
May 2, 7, 15 & 21, 1991)

<u>Sample</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl-benzene</u>	<u>TOG</u>
Comp A	110	130	0.072	0.48	10	0.64	270
Comp B	400	180	0.16	2.6	15	2.7	110
Comp C	230	180	0.070	1.1	18	2.6	460
Comp D	210	290	0.18	0.94	44	3.7	270
Comp E	340	410	2.4	8.2	33	6.2	390
Comp F	930	910	0.53	2.4	46	5.9	220
Comp G	69	400	0.25	1.2	18	2.6	830
Comp H	270	190	0.058	0.20	4.1	0.33	540
Comp I	220	350	0.67	3.4	24	3.2	260
Comp J	290	220	0.26	0.36	6.8	1.1	630
Comp K*	130	520	2.6	0.74	18	5.6	210
Comp L	17	92	0.13	0.16	3.4	0.31	160
Comp M**	360	1,500	1.1	3.0	140	8.2	430
Comp N	270	380	0.21	0.38	15	0.62	410
Comp O	150	1,400	0.54	8.3	170	13	300
Comp P	92	320	0.24	1.1	30	1.4	370
Comp Q***	30	54	0.086	0.21	2.6	0.41	120
Comp R	130	110	0.13	0.18	2.8	0.17	540
Comp S	31	390	2.0	11	66	13	270
Comp 1	--	33	0.046	0.017	0.79	0.086	--
Comp 2	--	23	0.091	0.019	0.43	0.046	--
Comp 3	--	10	0.030	0.016	0.14	0.028	--
Comp 4	--	7.6	0.028	0.016	0.13	0.058	--
Comp 5	--	6.2	0.011	0.031	0.071	0.019	--
Comp 6	--	24	0.017	0.048	0.35	0.049	--
Comp 7	--	20	0.024	0.046	0.12	0.035	--
Comp 8	--	9.7	0.026	ND	0.16	0.047	--
Comp 9	--	9.0	0.064	0.0070	0.12	0.021	--
Comp 10	--	12	0.076	0.007	0.16	0.032	--
Comp 11	--	39	0.023	0.048	1.1	0.11	--
Comp 12	--	240	0.20	0.17	26	3.2	--
Comp 13	--	47	0.079	0.14	0.62	0.12	--
Comp 14	--	32	0.16	ND	0.43	0.066	--
Comp 15	--	6.8	0.057	0.019	0.22	0.051	--
Comp 16	--	20	0.013	0.022	0.18	0.041	--
Comp 17	--	12	0.020	0.029	0.32	0.062	--
Detection Limits	1.0	1.0	0.0050	0.0050	0.0050	0.0050	30

KEI-J88-1203.R11
May 23, 1991

TABLE 1 (Continued)

SUMMARY OF LABORATORY ANALYSES

- * STLC metals: See attached analyses.
- ** STLC lead was detected at 0.81 ppm; For reactivity, corrosivity and ignitability, see attached analyses.
- *** STLC lead was detected at 0.11 ppm; For reactivity, corrosivity and ignitability, see attached analyses.

ND = Non-detectable.

-- Indicates analyses not performed.

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



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(415) 686-9600 • FAX (415) 686-9689

Kaprealian Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	Sampled: Mar 26, 1991
P.O. Box 996	Matrix Descript: Soil	Received: Mar 27, 1991
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Mar 27, 1991
Attention: Mardo Kaprealian, P.E.	First Sample #: 103-0827 A-D	Reported: Mar 29, 1991

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)
103-0827 A-D	Comp A	130	0.072	0.48	0.64	10
103-0828 A-D	Comp B	180	0.16	2.6	2.7	15
103-0829 A-D	Comp C	180	0.070	1.1	2.6	18
103-0830 A-D	Comp D	290	0.18	0.94	3.7	44
103-0831 A-D	Comp E	410	2.4	8.2	6.2	33
103-0832 A-D	Comp F	910	0.53	2.4	5.9	46
103-0833 A-D	Comp G	400	0.25	1.2	2.6	18
103-0834 A-D	Comp H	190	0.058	0.20	0.33	4.1
103-0835 A-D	Comp I	350	0.67	3.4	3.2	24
103-0836 A-D	Comp J	220	0.26	0.36	1.1	6.8

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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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


Julia R. Malerstein
Project Manager

1030827.KEI <1>



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Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, 845 66th Ave., Oakland Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 103-0837 A-D	Sampled: Mar 26, 1991 Received: Mar 27, 1991 Analyzed: Mar 27, 1991 Reported: Mar 29, 1991
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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)
103-0837 A-D	Comp K	520	2.6	0.74	5.6	18
103-0838 A-D	Comp L	92	0.13	0.16	0.31	3.4
103-0839 A-D	Comp M	1,500	1.1	3.0	8.2	140
103-0840 A-D	Comp N	380	0.21	0.38	0.62	15
103-0841 A-D	Comp O	1,400	0.54	8.3	13	170
103-0842 A-D	Comp P	320	0.24	1.1	1.4	30
103-0843 A-D	Comp Q	54	0.086	0.21	0.41	2.6
103-0844 A-D	Comp R	110	0.13	0.18	0.17	2.8
103-0845 A-D	Comp S	390	2.0	11	13	66

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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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


Julia R. Malerstein
Project Manager

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Kaprealian Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	Sampled: -----
P.O. Box 996	Sample Descript.: Matrix Blank	Received: -----
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Mar 27, 1991
Attention: Mardo Kaprealian, P.E.	Lab Number: -----	Reported: Mar 29, 1991

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.....	1.0	N.D.
Benzene.....	0.0050	N.D.
Toluene.....	0.0050	N.D.
Ethyl Benzene.....	0.0050	N.D.
Xylenes.....	0.0050	N.D.

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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Julia R. Malerstein
Project Manager



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

Client Project ID: Unocal, 845 66th Ave., Oakland

QC Sample Group: 1030827-45

Reported: Mar 29, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	JRM/EH	JRM/EH	JRM/EH	JRM/EH	JRM/EH	JRM/EH	JRM/EH
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991
Sample #:	103-0827	103-0828	103-0829	103-0830	103-0831	103-0832	103-0833

Surrogate	83	83	77	97	93	67	120
% Recovery:							

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Julia R. Malerstein
Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Kaprealian Engineering, Inc.

Client Project ID: Unocal, 845 66th Ave., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E.

QC Sample Group: 1030827-45

Reported: Mar 29, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	JRM/EH	JRM/EH	JRM/EH	JRM/EH	JRM/EH	JRM/EH	JRM/EH
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991
Sample #:	103-0834	103-0835	103-0836	103-0837	103-0838	103-0839	103-0840

Surrogate	87	110	93	83	73	100	70
% Recovery:							

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Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1030827-45

Reported: Mar 29, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	JRM/EH	JRM/EH	JRM/EH	JRM/EH	JRM/EH	JRM/EH
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991
Sample #:	103-0841	103-0842	103-0843	103-0844	103-0845	Blank

Surrogate						
% Recovery:	96	70	77	70	100	100

SEQUOIA ANALYTICAL


Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1030827-845

Reported: Mar 29, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
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Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	JRM/EH	JRM/EH	JRM/EH	JRM/EH
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991	Mar 27, 1991
QC Sample #:	103-0726	103-0726	103-0726	103-0726

Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.40	0.40	0.40	1.2
Conc. Matrix Spike:	0.37	0.35	0.55	1.8
Matrix Spike % Recovery:	93	88	140	150
Conc. Matrix Spike Dup.:	0.38	0.36	0.34	1.0
Matrix Spike Duplicate % Recovery:	95	90	85	83
Relative % Difference:	2.7	2.8	47	57

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Julia R. Malerstein
Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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

Client Project ID: Unocal, 845 66th Ave., Oakland
Matrix Descript: Soil
Analysis Method: EPA 3550/8015
First Sample #: 103-0827 A-D

Sampled: Mar 26, 1991
Received: Mar 27, 1991
Extracted: Mar 27, 1991
Analyzed: Mar 28, 1991
Reported: Mar 29, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

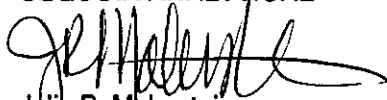
Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
103-0827 A-D	Comp A	110
103-0828 A-D	Comp B	400
103-0829 A-D	Comp C	230
103-0830 A-D	Comp D	210
103-0831 A-D	Comp E	340
103-0832 A-D	Comp F	930
103-0833 A-D	Comp G	69
103-0834 A-D	Comp H	270
103-0835 A-D	Comp I	220
103-0836 A-D	Comp J	290

Detection Limits:

1.0

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


Julia R. Malerstein
Project Manager



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Kaprealian Engineering, Inc.

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Benicia, CA 94510

Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 845 66th Ave., Oakland

Matrix Descript: Soil

Analysis Method: EPA 3550/8015

First Sample #: 103-0837 A-D

Sampled: Mar 26, 1991

Received: Mar 27, 1991

Extracted: Mar 27, 1991

Analyzed: Mar 28, 1991

Reported: Mar 29, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
103-0837 A-D	Comp K	130
103-0838 A-D	Comp L	17
103-0839 A-D	Comp M	360
103-0840 A-D	Comp N	270
103-0841 A-D	Comp O	150
103-0842 A-D	Comp P	92
103-0843 A-D	Comp Q	30
103-0844 A-D	Comp R	130
103-0845 A-D	Comp S	31

Detection Limits:

1.0

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

Julia R. Malerstein
Project Manager

1030827.KEI <9>



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

Client Project ID: Unocal, 845 66th Ave., Oakland
Matrix Descript: Matrix Blank
Analysis Method: EPA 3550/8015
First Sample #: -----

Sampled: -----
Received: -----
Extracted: Mar 27, 1991
Analyzed: Mar 28, 1991
Reported: Mar 29, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
-----	Matrix Blank	N.D.

Detection Limits:

1.0

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

Julia R. Malerstein
Project Manager

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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1030827-45

Reported: Mar 29, 1991

QUALITY CONTROL DATA REPORT

ANALYTE

Diesel

Method: EPA 8015
Analyst: M.R.
Reporting Units: ng
Date Analyzed: Mar 28, 1991
QC Sample #: Matrix

Sample Conc.: N.D.

Spike Conc.
Added: 900

Conc. Matrix
Spike: 790

Matrix Spike
% Recovery: 87

Conc. Matrix
Spike Dup.: 830

Matrix Spike
Duplicate
% Recovery: 93

Relative
% Difference: 5.8

SEQUOIA ANALYTICAL


Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

1030827.KEI <11>



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 845 66th Ave., Oakland

Matrix Descript: Soil

Analysis Method: SM 5520 E&F (Gravimetric)

First Sample #: 103-0827 A-D

Sampled: Mar 26, 1991

Received: Mar 27, 1991

Extracted: Mar 28, 1991

Analyzed: Mar 28, 1991

Reported: Mar 29, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
103-0827 A-D	Comp A	270
103-0828 A-D	Comp B	110
103-0829 A-D	Comp C	460
103-0830 A-D	Comp D	270
103-0831 A-D	Comp E	390
103-0832 A-D	Comp F	220
103-0833 A-D	Comp G	830
103-0834 A-D	Comp H	540
103-0835 A-D	Comp I	260
103-0836 A-D	Comp J	630

Detection Limits:

30

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

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Julia R. Malerstein
Project Manager

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

Client Project ID: Unocal, 845 66th Ave., Oakland
Matrix Descript: Soil
Analysis Method: SM 5520 E&F (Gravimetric)
First Sample #: 103-0837 A-D

Sampled: Mar 26, 1991
Received: Mar 27, 1991
Extracted: Mar 28, 1991
Analyzed: Mar 28, 1991
Reported: Mar 29, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
103-0837 A-D	Comp K	210
103-0838 A-D	Comp L	160
103-0839 A-D	Comp M	430
103-0840 A-D	Comp N	410
103-0841 A-D	Comp O	300
103-0842 A-D	Comp P	370
103-0843 A-D	Comp Q	120
103-0844 A-D	Comp R	540
103-0845 A-D	Comp S	270

Detection Limits:

30

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

SEQUOIA ANALYTICAL


Julia R. Malerstein
Project Manager

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Kaprealian Engineering, Inc.

Client Project ID: Unocal, 845 66th Ave., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1030827-45

Reported: Mar 29, 1991

QUALITY CONTROL DATA REPORT

ANALYTE

Oil & Grease

Method: 5520 E&F
Analyst: L. Laikhtman
Reporting Units: mg/kg
Date Analyzed: Mar 28, 1991
QC Sample #: BLK032891

Sample Conc.: N.D.

Spike Conc.
Added: 100

Conc. Matrix
Spike: 87

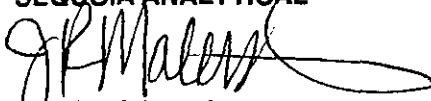
Matrix Spike
% Recovery: 87

Conc. Matrix
Spike Dup.: 88

Matrix Spike
Duplicate
% Recovery: 88

Relative
% Difference: 1.1

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Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <i>Tom</i>		SITE NAME & ADDRESS						ANALYSES REQUESTED				TURN AROUND TIME:		
<i>Masoremas</i>		<i>UNOCAL - Oakland #3135</i>						<i>TPH-G</i> <i>BTEX</i> <i>TPH-D</i> <i>TCG</i>				<i>24 hrs.</i>		
WITNESSING AGENCY		<i>845 66th AVE</i>												
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION					REMARKS	
<i>Comp A</i>	<i>3-26-91</i>		✓			✓	<i>4</i>	<i>Fuel tank pit S+KAL</i>	✓	✓	✓	✓		<i>Depth 30 @ 150 ft.</i>
<i>Comp B</i>	<i>"</i>		✓			✓	<i>4</i>	<i>"</i>	✓	✓	✓	✓		<i>828</i>
<i>Comp C</i>	<i>"</i>		✓			✓	<i>4</i>	<i>"</i>	✓	✓	✓	✓		<i>829</i>
<i>Comp D</i>	<i>"</i>		✓			✓	<i>4</i>	<i>"</i>	✓	✓	✓	✓		<i>830</i>
<i>Comp E</i>	<i>"</i>		✓			✓	<i>4</i>	<i>"</i>	✓	✓	✓	✓		<i>831</i>
<i>Comp F</i>	<i>"</i>		✓			✓	<i>4</i>	<i>"</i>	✓	✓	✓	✓		<i>832</i>
<i>Comp G</i>	<i>"</i>		✓			✓	<i>4</i>	<i>"</i>	✓	✓	✓	✓		<i>833</i>
<i>Comp H</i>	<i>"</i>		✓			✓	<i>4</i>	<i>"</i>	✓	✓	✓	✓		<i>834</i>
<i>Comp I</i>	<i>"</i>		✓			✓	<i>4</i>	<i>"</i>	✓	✓	✓	✓		<i>835</i>
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? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <i>NO</i> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>								
<i>Tom Masoremas</i>		<i>3/27 10:15</i>		<i>Ken Chiner</i>										
Relinquished by: (Signature)		Date/Time		Received by: (Signature)										
Relinquished by: (Signature)		Date/Time		Received by: (Signature)										
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Signature		Title		Date				
						<i>Ken</i>		<i>SR</i>		<i>3/27</i>				



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <u>Tom Mascaronas</u>		SITE NAME & ADDRESS <u>UNOCAL - Oakland #3135</u> <u>845 66th Ave.</u>				ANALYSES REQUESTED <u>TPH-G</u> <u>BTEX</u> <u>TPH-D</u> <u>TOC</u>				TURN AROUND TIME: <u>24 hrs.</u>			
WITNESSING AGENCY										REMARKS			
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION					
<u>Comp J</u>	<u>3-26-91</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>Fuel tank pit</u> <u>stapl.</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>None of these results.</u>
<u>Comp K</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>837</u>
<u>Comp L</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>838</u>
<u>Comp M</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>839</u>
<u>Comp N</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>840</u>
<u>Comp O</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>841</u>
<u>Comp P</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>842</u>
<u>Comp Q</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>843</u>
<u>Comp R</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>844</u>
Relinquished by: (Signature) <u>Tom Mascaronas</u>		Date/Time <u>3/27 10:15</u>		Received by: (Signature) <u>[Signature]</u>		The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <u>NO</u> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>							
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
						Signature <u>[Signature]</u>		Title <u>SE</u>		Date <u>3/27</u>			



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <u>TOM</u>		SITE NAME & ADDRESS					ANALYSES REQUESTED				TURN AROUND TIME:		
<u>MASCOAREAS</u>		<u>UNOCAL - ORKLAND #3135</u> <u>845 66th AVE</u>									<u>24 HRS.</u>		
WITNESSING AGENCY													
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION				REMARKS	
<u>COMAS</u>	<u>3-26-91</u>		<input checked="" type="checkbox"/>				<u>4</u>	<u>Fuel tank pit SKPL.</u>	<u>TPH-G</u>	<u>BTEX</u>	<u>TPH-D</u>	<u>TCG</u>	<u>LABS OK Results.</u>
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? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <u>NO</u> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>							
<u>Tom M...</u>		<u>3/27 10:15</u>		<u>Ken-Quinn</u>									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Signature: <u>[Signature]</u> Title: <u>SR</u> Date: <u>3/27</u>							



SEQUOIA ANALYTICAL

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

Client Project ID: Unocal, 845 66th Ave., Oakland
Sample Descript: Soil, Comp K
Lab Number: 103-0837

Sampled: Mar 26, 1991
Relogged: Apr 19, 1991
Extracted: Apr 24, 1991
Reported: Apr 25, 1991

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration Waste Extraction Test

Total Threshold Limit Concentration

Analyte	Soluble Threshold Limit Concentration			Total Threshold Limit Concentration		
	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.0050	0.0075	500	0.0050	-
Arsenic	5	0.010	0.079	500	0.0050	-
Barium	100	0.10	-	10,000	0.10	-
Beryllium	0.75	0.010	0.011	75	0.010	-
Cadmium	1	0.010	0.084	100	0.010	-
Chromium (VI)	5	0.0050	-	500	0.0050	-
Chromium (III)	560	0.0050	0.17	2,500	0.0050	-
Cobalt	80	0.050	-	8,000	0.050	-
Copper	25	0.010	0.82	2,500	0.010	-
Lead	5	0.0050	-	1,000	0.0050	-
Mercury	0.2	0.00040	N.D.	20	0.00020	-
Molybdenum	350	0.050	-	3,500	0.050	-
Nickel	20	0.050	0.90	2,000	0.050	-
Selenium	1	0.010	N.D.	100	0.0050	-
Silver	5	0.010	0.31	500	0.010	-
Thallium	7	0.0050	N.D.	700	0.0050	-
Vanadium	24	0.050	-	2,400	0.050	-
Zinc	250	0.010	1.9	5,000	0.010	-

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director



SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-0837

Reported: Apr 25, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Arsenic	Selenium	Antimony	Thallium	Nickel	Silver
Method:	EPA 245.1	EPA 206.2	EPA 270.2	EPA 204.2	EPA 279.2	EPA 6010	EPA 6010
Analyst:	C. Medefesser	R. Sharma	R. Sharma	R. Sharma	R. Sharma	R. Sharma	R. Sharma
Reporting Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/kg
Date Analyzed:	Apr 24, 1991	Apr 24, 1991	Apr 24, 1991	Apr 24, 1991	Apr 24, 1991	Apr 24, 1991	Apr 24, 1991
QC Sample #:	104-3458	104-3306	104-3306	104-3306	104-3306	104-3306	104-3306
Sample Conc.:	0.0022	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.0020	0.25	0.25	0.20	0.20	5.0	5.0
Conc. Matrix Spike:	0.0044	0.24	0.23	0.20	0.19	4.4	4.4
Matrix Spike % Recovery:	110	96	92	100	95	88	88
Conc. Matrix Spike Dup.:	0.0044	0.25	0.25	0.20	0.19	4.5	5.1
Matrix Spike Duplicate % Recovery:	110	100	100	100	95	90	100
Relative % Difference:	0	4.1	8.3	0	0	2.2	15

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-0837

Reported: Apr 25, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Zinc	Beryllium	Cadmium	Chromium	Copper
Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	R. Sharma	R. Sharma	S. Foster	S. Foster	S. Foster
Reporting Units:	mg/L	mg/kg	mg/L	mg/L	mg/L
Date Analyzed:	Apr 24, 1991	Apr 24, 1991	Apr 24, 1991	Apr 24, 1991	Apr 24, 1991
QC Sample #:	104-3306	104-3306	104-3300	104-3300	104-3300
Sample Conc.:	0.045	N.D.	0.014	0.11	0.29
Spike Conc. Added:	5.0	5.0	5.0	5.0	5.0
Conc. Matrix Spike:	4.7	4.6	4.5	4.6	4.7
Matrix Spike % Recovery:	93	92	90	90	88
Conc. Matrix Spike Dup.:	5.0	5.7	5.0	5.2	5.4
Matrix Spike Duplicate % Recovery:	99	110	100	100	100
Relative % Difference:	6.2	21	11	12	14

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <u>Tom</u>		SITE NAME & ADDRESS				ANALYSES REQUESTED				TURN AROUND TIME:			
<u>Mascarnas</u>		<u>UNOCHL - Oakland #3135</u>				<u>TPH-G</u> <u>BTEX</u> <u>TPH-D</u> <u>TCE</u>				<u>24 hrs.</u>			
WITNESSING AGENCY		<u>845 66th Ave.</u>								REMARKS			
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION					
<u>Comp S</u>	<u>3-26-91</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>Fuel Tank Pit Skpl.</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>At 3135th St. Reservoirs.</u>
<u>Comp K</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>837</u>
<u>Comp L</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>838</u>
<u>Comp M</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>839</u>
<u>Comp N</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>840</u>
<u>Comp O</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>841</u>
<u>Comp P</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>842</u>
<u>Comp Q</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>843</u>
<u>Comp R</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>844</u>
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? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <u>NO</u> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>							
<u>Tom Mascarnas</u>		<u>3/27 10:15</u>		<u>[Signature]</u>									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Signature		Title		Date			
						<u>[Signature]</u>		<u>SR</u>		<u>3/27</u>			



SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland
Sample Descript: Soil, Comp M

Sampled: Mar 26, 1991
Relogged: Apr 4, 1991

Attention: Mardo Kaprealian, P.E. Lab Number: 103-0839

Analyzed: Apr 5, 1991
Reported: Apr 10, 1991

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Reactivity		
Cyanide.....	0.5	N.D.
Sulfide.....	10.0	N.D.
Reaction w/Water.....	NA	None
Corrosivity.....	NA	8.5
Ignitability.....	NA	> 100°C
	mg/L	mg/L
STLC Lead.....	0.0050	0.81

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

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-0839

Reported: Apr 10, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Cyanide	pH	STLC Lead
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Method:	EPA 335.2	EPA 9045	EPA 239.2
Analyst:	A. Maralit	A. Pannu	R. Eastman
Reporting Units:	mg/kg	NA	mg/L
Date Analyzed:	Apr 5, 1991	Apr 5, 1991	Apr 8, 1991
QC Sample #:	103-3583	104-0827	104-0716
Sample Conc.:	N.D.	8.4	0.18
Spike Conc. Added:	2.5	NA	0.50
Conc. Matrix Spike:	2.3	NA	0.65
Matrix Spike % Recovery:	94	NA	94
Conc. Matrix Spike Dup.:	240	8.4	0.66
Matrix Spike Duplicate % Recovery:	95	NA	96
Relative % Difference:	1.3	0	1.5

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Kaprealian Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	Sampled: Mar 26, 1991
P.O. Box 996	Sample Descript: Extract of Soil Sample, Comp M	Relogged: Apr 4, 1991
Benicia, CA 94510		Extracted: Apr 8, 1991
Attention: Mardo Kaprealian, P.E.	Lab Number: 103-0839	Analyzed: Apr 9, 1991
		Reported: Apr 10, 1991

TCLP METALS

Analyte	EPA HW No.	Detection	Chronic Toxicity	Regulatory	Sample
		Limit	Reference Level	Level	Results
		mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)
Arsenic.....	D004	0.0050	0.05	5.0	N.D.
Barium.....	D005	0.10	1	100	1.2
Cadmium.....	D006	0.010	0.01	1.0	N.D.
Chromium.....	D007	0.0050	0.05	5.0	N.D.
Lead.....	D008	0.0050	0.05	5.0	0.022
Mercury.....	D009	0.00020	0.002	0.2	N.D.
Selenium.....	D010	0.0050	0.01	1.0	N.D.
Silver.....	D011	0.010	0.05	5.0	0.018

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

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director



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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-0839

Reported: Apr 10, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Lead TCLP	Barium	Cadmium	Chromium	Silver
Method:	EPA 245.1	EPA 239.2	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Analyst:	C. Medefesser	R. Eastman	V. Patel	V. Patel	V. Patel	V. Patel
Reporting Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Date Analyzed:	Apr 9, 1991	Apr 9, 1991	Apr 9, 1991	Apr 9, 1991	Apr 9, 1991	Apr 9, 1991
QC Sample #:	103-3833	104-0866	103-3583	103-3583	103-3583	103-3583
Sample Conc.:	N.D.	0.012	1.2	N.D.	N.D.	0.018
Spike Conc. Added:	0.0020	1.0	5.0	5.0	5.0	5.0
Conc. Matrix Spike:	0.0021	0.87	7.0	6.0	4.8	4.3
Matrix Spike % Recovery:	110	86	120	120	96	86
Conc. Matrix Spike Dup.:	0.0021	0.86	5.9	4.9	4.7	4.7
Matrix Spike Duplicate % Recovery:	110	85	94	98	94	94
Relative % Difference:	0	1.2	17	20	2.1	8.9

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-0839

Reported: Apr 10, 1991

QUALITY CONTROL DATA REPORT

ANALYTE

Arsenic

Selenium

Method:	EPA 206.2	EPA 270.2
Analyst:	R. Sharma	R. Sharma
Reporting Units:	mg/L	mg/L
Date Analyzed:	Apr 9, 1991	Apr 9, 1991
QC Sample #:	103-3583	103-3583

Sample Conc.: N.D. N.D.

Spike Conc. Added: 0.10 0.10

Conc. Matrix Spike: 0.091 0.051

Matrix Spike % Recovery: 91 51

Conc. Matrix Spike Dup.: 0.087 0.053

Matrix Spike Duplicate % Recovery: 87 53

Relative % Difference: 4.5 3.8

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <i>Tom</i>		SITE NAME & ADDRESS						ANALYSES REQUESTED				TURN AROUND TIME:	
<i>Masoreans</i>		<i>UNOCAL - Oakland #3135</i>										<i>24 hrs.</i>	
WITNESSING AGENCY		<i>845 66th Ave</i>											
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTEX	TPH-D	TCG	REMARKS
<i>Comp A</i>	<i>3-26-91</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>Fuel tank pit S+KAL.</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Prep 828-835</i>
<i>Comp B</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>828</i>
<i>Comp C</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>829</i>
<i>Comp D</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>830</i>
<i>Comp E</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>831</i>
<i>Comp F</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>832</i>
<i>Comp G</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>833</i>
<i>Comp H</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>834</i>
<i>Comp I</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>835</i>
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? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <i>NO</i> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>							
<i>Tom Masoreans</i>		<i>3/27 10:15</i>		<i>Ken Winter</i>									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Signature		Title		Date			
						<i>[Signature]</i>		<i>SR</i>		<i>3/27</i>			



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <u>Tom</u> <u>Mascaronas</u>		SITE NAME & ADDRESS <u>UNOCAL - Oakland #3135</u> <u>845 66th Ave.</u>					ANALYSES REQUESTED				TURN AROUND TIME: <u>24 hrs.</u>	
WITNESSING AGENCY							TPH-G	BTEX	TPH-D	TC-G	REMARKS	
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	NO. OF CONT.	SAMPLING LOCATION					
<u>Comp S</u>	<u>3-26-91</u>		✓			✓ 4	<u>Fuel Tank Pit Skipl.</u>	✓	✓	✓	✓	<u>NEAREST RESIDUALS</u>
<u>Comp T</u>	<u>11</u>		✓			✓ 4	<u>11</u>	✓	✓	✓	✓	837
<u>Comp L</u>	<u>11</u>		✓			✓ 4	<u>11</u>	✓	✓	✓	✓	838
<u>Comp M</u>	<u>11</u>		✓			✓ 4	<u>11</u>	✓	✓	✓	✓	839
<u>Comp N</u>	<u>11</u>		✓			✓ 4	<u>11</u>	✓	✓	✓	✓	840
<u>Comp O</u>	<u>11</u>		✓			✓ 4	<u>11</u>	✓	✓	✓	✓	841
<u>Comp P</u>	<u>11</u>		✓			✓ 4	<u>11</u>	✓	✓	✓	✓	842
<u>Comp Q</u>	<u>11</u>		✓			✓ 4	<u>11</u>	✓	✓	✓	✓	843
<u>Comp R</u>	<u>11</u>		✓			✓ 4	<u>11</u>	✓	✓	✓	✓	844
Relinquished by: (Signature) <u>Tom Mascaronas</u>		Date/Time <u>3/27 10:15</u>		Received by: (Signature) <u>[Signature]</u>		<p>The following MUST BE completed by the laboratory accepting samples for analysis:</p> <p>1. Have all samples received for analysis been stored in ice? <u>✓</u></p> <p>2. Will samples remain refrigerated until analyzed? <u>✓</u></p> <p>3. Did any samples received for analysis have head space? <u>NO</u></p> <p>4. Were samples in appropriate containers and properly packaged? <u>✓</u></p>						
Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
						<u>[Signature]</u>	<u>SR</u>	<u>3/27</u>				
						Signature	Title	Date				



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

P. 14

SAMPLER <u>TOM</u>		SITE NAME & ADDRESS					ANALYSES REQUESTED				TURN AROUND TIME:		
<u>MASCO/EMAS</u>		<u>UNOCAL - Oakland #3135</u>					<u>TPH-6</u> <u>BTEX</u> <u>TPH-1</u> <u>TCE</u>				<u>24 HRS.</u>		
WITNESSING AGENCY		<u>845 66th AVE</u>									REMARKS		
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION					
<u>COMAS</u>	<u>3-26-91</u>		<input checked="" type="checkbox"/>				<u>4</u>	<u>Fuel tank pit S+KPI.</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>NO BODY FOR RESULTS</u>
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? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <u>NO</u> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>							
<u>TOM MASCO/EMAS</u>		<u>3/27 10:15</u>		<u>Ken L. Quinn</u>									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Signature		Title		Date			

APR 05 '91 15:20 SEQUOIA ANALYTICAL



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	Sampled: Mar 26, 1991
P.O. Box 996	Sample Descript: Soil, Comp Q	Relogged: Apr 12, 1991
Benicia, CA 94510		Extracted: Apr 15, 1991
Attention: Mardo Kaprealian, P.E.	Lab Number: 103-0843	Analyzed: Apr 15, 1991
		Reported: Apr 16, 1991

LABORATORY ANALYSIS

Analyte	Detection Limit mg/L	Sample Results mg/L
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STLC Lead	0.0050	0.11
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Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

1030843.KEI <1>



SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-0843

Reported: Apr 16, 1991

QUALITY CONTROL DATA REPORT

ANALYTE

Lead

Method: EPA 239.2
Analyst: R. Eastman
Reporting Units: mg/L
Date Analyzed: Apr 15, 1991
QC Sample #: 104-0552

Sample Conc.: 0.062

Spike Conc.
Added: 1.0

Conc. Matrix
Spike: 1.0

Matrix Spike
% Recovery: 95

Conc. Matrix
Spike Dup.: 0.99

Matrix Spike
Duplicate
% Recovery: 93

Relative
% Difference: 1.0

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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

Client Project ID: Unocal, 845 66th Ave., Oakland
Sample Descript: Soil
Lab Number: 103-0843

Sampled: Mar 26, 1991
Relogged: Apr 12, 1991
Extracted: Apr 15, 1991
Analyzed: 4/12-4/15/91
Reported: Apr 16, 1991

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Reactivity		
Cyanide.....	0.5	N.D.
Sulfide.....	10.0	N.D.
Reaction with water.....	NA	None
Ignitability.....	NA	> 100°C
Corrosivity.....	NA	9.2

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

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director



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Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-0843

Reported: Apr 16, 1991

QUALITY CONTROL DATA REPORT

ANALYTE

pH

Sulfide

Method:	EPA 9045	EPA 376.1
Analyst:	A. Pannu	Sukthankar D.
Reporting Units:	NA	mg/kg
Date Analyzed:	Apr 14, 1991	Apr 15, 1991
QC Sample #:	103-3587	103-3587

Sample Conc.: 9.2 N.D.

Spike Conc. Added: NA 10

Conc. Matrix Spike: NA 11.0

Matrix Spike % Recovery: NA 110

Conc. Matrix Spike Dup.: 9.2 11.0

Matrix Spike Duplicate % Recovery: NA 110

Relative % Difference: 0.020 0

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <i>Tom</i>		SITE NAME & ADDRESS							ANALYSES REQUESTED				TURN AROUND TIME:
<i>Masoremas</i>		<i>UNOCAL - Oakland #3135</i>							<i>TPH-G</i> <i>BTEX</i> <i>TPH-D</i> <i>TCG</i>				<i>24 hrs.</i>
WITNESSING AGENCY		<i>845 66th Ave</i>											REMARKS
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION					
<i>Comp A</i>	<i>3-26-91</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>Fuel tank pit S+KAL.</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Dep @ 300 ft</i>
<i>Comp B</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>828</i>
<i>Comp C</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>829</i>
<i>Comp D</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>830</i>
<i>Comp E</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>831</i>
<i>Comp F</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>832</i>
<i>Comp G</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>833</i>
<i>Comp H</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>834</i>
<i>Comp I</i>	<i>"</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>"</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>835</i>

Relinquished by: (Signature) <i>Tom Masoremas</i>	Date/Time <i>3/27 10:15</i>	Received by: (Signature) <i>Ken Whiner</i>	The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <i>NO</i> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

<i>Ken Whiner</i>	<i>SR</i>	<i>3/27</i>
Signature	Title	Date



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <u>Tom</u> <u>Mascarnas</u>		SITE NAME & ADDRESS <u>UNOCHL - Oakland #3135</u> <u>845 66th Ave.</u>							ANALYSES REQUESTED				TURN AROUND TIME: <u>24 hrs.</u>
WITNESSING AGENCY									<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> REMARKS </div>				
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTEX	TPH-D	TCG	REMARKS
<u>Comp J</u>	<u>3-26-91</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>Fuel tank pit</u> <u>st. 1.</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>near 837</u>
<u>Comp K</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>837</u>
<u>Comp L</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>838</u>
<u>Comp M</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>839</u>
<u>Comp N</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>840</u>
<u>Comp O</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>841</u>
<u>Comp P</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>842</u>
<u>Comp Q</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>843</u>
<u>Comp R</u>	<u>11</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>11</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>844</u>
Relinquished by: (Signature) <u>Tom Mascarnas</u>		Date/Time <u>3/27 10:51</u>		Received by: (Signature) <u>[Signature]</u>		The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <u>NO</u> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>							
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)									
						Signature <u>[Signature]</u>		Title <u>SE</u>		Date <u>3/27</u>			



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	Sampled: Apr 29, 1991
P.O. Box 996	Matrix Descript: Soil	Received: Apr 29, 1991
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Apr 29, 1991
Attention: Mardo Kaprealian, P.E.	First Sample #: 104-0980 A-D	Reported: May 1, 1991

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)
104-0980 A-D	Comp 1	33	0.046	0.017	0.086	0.79
104-0981 A-D	Comp 2	23	0.091	0.019	0.046	0.43
104-0982 A-D	Comp 3	10	0.030	0.016	0.028	0.14
104-0983 A-D	Comp 4	7.6	0.028	0.016	0.058	0.13
104-0984 A-D	Comp 5	6.2	0.011	0.031	0.019	0.071

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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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

Belinda C. Vega
Belinda C. Vega
Laboratory Director

1040980.KEI <1>



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Kaprealian Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	
P.O. Box 996	Sample Descript.: Matrix Blank	
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Apr 29, 1991
Attention: Mardo Kaprealian, P.E.	Q.C. Sample Grou 1040980-84	Reported: May 1, 1991

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.....	1.0	N.D.
Benzene.....	0.0050	N.D.
Toluene.....	0.0050	N.D.
Ethyl Benzene.....	0.0050	N.D.
Xylenes.....	0.0050	N.D.

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



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Kaprealian Engineering, Inc.

Client Project ID: Unocal, 845 66th Ave., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1040980-84

Reported: May 1, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene		Ethyl Benzene		Xylenes	

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
Reporting Units:	ppm	ppm	ppm	ppm
Date Analyzed:	Apr 29, 1991	Apr 29, 1991	Apr 29, 1991	Apr 29, 1991
QC Sample #:	104-0853	104-0853	104-0853	104-0853
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.40	0.40	0.40	1.2
Conc. Matrix Spike:	0.52	0.42	0.40	1.2
Matrix Spike % Recovery:	130	110	100	100
Conc. Matrix Spike Dup.:	0.40	0.38	0.40	1.2
Matrix Spike Duplicate % Recovery:	100	95	100	100
Relative % Difference:	26	10	0	0

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1040980-84

Reported: May 1, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	J.F.	J.F.	J.F.	J.F.	J.F.	J.F.
Reporting Units:	ppm	ppm	ppm	ppm	ppm	ppm
Date Analyzed:	Apr 29, 1991	Apr 29, 1991	Apr 29, 1991	Apr 29, 1991	Apr 29, 1991	Apr 29, 1991
Sample #:	104-0980	104-0981	104-0982	104-0983	104-0984	Blank

Surrogate						
% Recovery:	100	100	97	82	100	93

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <u>Tom</u>		SITE NAME & ADDRESS						ANALYSES REQUESTED				TURN AROUND TIME:
<u>MOSCARENAS</u>		<u>UNOCAL - Oakland #3135</u>										<u>24 hrs.</u>
WITNESSING AGENCY		<u>845 66th Ave</u>										
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	NO. OF COMP CONT.	SAMPLING LOCATION			REMARKS		
<u>Comp 1</u>	<u>4-29-91</u>		<input checked="" type="checkbox"/>			<u>4</u>	<u>Fuel tank pit sample</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Please Fax Results.</u>		
<u>Comp 2</u>	↓		<input checked="" type="checkbox"/>			↓		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Comp 3</u>	↓		<input checked="" type="checkbox"/>			↓		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Comp 4</u>	↓		<input checked="" type="checkbox"/>			↓		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Comp 5</u>	↓		<input checked="" type="checkbox"/>			↓		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
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? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <u>NO</u> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>						
<u>Tom Moscarenas</u>		<u>4/29 2:55</u>		<u>[Signature]</u>								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Signature		Title		Date		
						<u>[Signature]</u>		<u>SR</u>		<u>4/29</u>		



SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, 845 66th Ave., Oakland Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 105-0042 A-D	Sampled: May 2, 1991 Received: May 2, 1991 Analyzed: May 3, 1991 Reported: May 6, 1991
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TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons		Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
		mg/kg (ppm)	Benzene mg/kg (ppm)			
105-0042 A-D	Comp 6	24	0.017	0.048	0.049	0.35
105-0043 A-D	Comp 7	20	0.024	0.046	0.035	0.12
105-0044 A-D	Comp 8	9.7	0.026	N.D.	0.047	0.16
105-0045 A-D	Comp 9	9.0	0.064	0.0070	0.021	0.12

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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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


Belinda C. Vega
Laboratory Director

1050042.KEI <1>



SEQUOIA ANALYTICAL

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Kapreallan Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	
P.O. Box 996	Sample Descript.: Matrix Blank	
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: May 3, 1991
Attention: Mardo Kapreallan, P.E.	Q.C. Sample Grou 1050042-45	Reported: May 6, 1991

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.....	1.0	N.D.
Benzene.....	0.0050	N.D.
Toluene.....	0.0050	N.D.
Ethyl Benzene.....	0.0050	N.D.
Xylenes.....	0.0050	N.D.

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
Belinda C. Vega
Laboratory Director



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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 105-0042

Reported: May 6, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Ethyl			
	Benzene	Toluene	Benzene	Xylenes
Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	E. Hamilton	E. Hamilton	E. Hamilton	E. Hamilton
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	May 3, 1991	May 3, 1991	May 3, 1991	May 3, 1991
QC Sample #:	105-0061	105-0061	105-0061	105-0061
Sample Conc.:	0.13	0.026	0.032	0.17
Spike Conc. Added:	0.40	0.40	0.40	1.2
Conc. Matrix Spike:	0.41	0.34	0.35	1.1
Matrix Spike % Recovery:	85	79	80	78
Conc. Matrix Spike Dup.:	0.41	0.40	0.40	1.2
Matrix Spike Duplicate % Recovery:	85	94	92	86
Relative % Difference:	0	16	13	9.8

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <u>Tom Mascarenas</u>		SITE NAME & ADDRESS <u>UNOCAL - Oakland #3135</u> <u>845 - 66th AVE</u>						ANALYSES REQUESTED		TURN AROUND TIME: <u>24 hrs.</u>	
WITNESSING AGENCY										REMARKS	
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTEX	
<u>Comp 6</u>	<u>5-2-91</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>4</u>	<u>FUEL TANK PIT STHPL.</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>1050042A-D</u>
<u>Comp 7</u>	↓		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>43</u>
<u>Comp 8</u>	↓		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>44</u>
<u>Comp 9</u>	↓		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>45</u>
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? <u>Yes</u> 2. Will samples remain refrigerated until analyzed? <u>Yes</u> 3. Did any samples received for analysis have head space? <u>N/A</u> 4. Were samples in appropriate containers and properly packaged? <u>Yes</u> <u>CH</u> Signature Title Date <u>5-2-91</u>		
<u>Tom Mascarenas</u>			<u>5-2 10:20 PM</u>			<u>Ed Henrich</u>					
Relinquished by: (Signature)			Date/Time			Received by: (Signature)					
Relinquished by: (Signature)			Date/Time			Received by: (Signature)					
Relinquished by: (Signature)			Date/Time			Received by: (Signature)					
Relinquished by: (Signature)			Date/Time			Received by: (Signature)					



SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, 845 66th Ave., Oakland Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 105-0174 A-D	Sampled: May 7, 1991 Received: May 7, 1991 Analyzed: 5/7-5/8/91 Reported: May 9, 1991
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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)
105-0174 A-D	Comp 10	12	0.076	0.007	0.032	0.16
105-0175 A-D	Comp 11	39	0.023	0.048	0.11	1.1
105-0176 A-D	Comp 12	240	0.2	0.17	3.2	26
105-0177 A-D	Comp 13	47	0.079	0.14	0.12	0.62
105-0178 A-D	Comp 14	32	0.16	N.D.	0.066	0.43

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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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
Arthur G. Burton
Laboratory Director



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Kaprealian Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	Sampled: -----
P.O. Box 996	Sample Descript.: Matrix Blank	Received: -----
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: May 8, 1991
Attention: Mardo Kaprealian, P.E.	Lab Number: -----	Reported: May 9, 1991

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.....	1.0	N.D.
Benzene.....	0.0050	N.D.
Toluene.....	0.0050	N.D.
Ethyl Benzene.....	0.0050	N.D.
Xylenes.....	0.0050	N.D.

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
Arthur G. Burton
Laboratory Director



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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1050174-78

Reported: May 9, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
Reporting Units:	ppm	ppm	ppm	ppm	ppm	ppm
Date Analyzed:	May 8, 1991	May 8, 1991	May 8, 1991	May 8, 1991	May 8, 1991	May 8, 1991
Sample #:	105-0174	105-0175	105-0176	105-0177	105-0178	Blank

Surrogate						
% Recovery:	87	100	106	97	106	91

SEQUOIA ANALYTICAL

Arthur G. Burton
Arthur G. Burton
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Kapreallan Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kapreallan, P.E. QC Sample Group: 1050174-78

Reported: May 9, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene		Ethyl Benzene		Xylenes	

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
Reporting Units:	ppm	ppm	ppm	ppm
Date Analyzed:	May 8, 1991	May 8, 1991	May 8, 1991	May 8, 1991
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank

Sample Conc.: N.D. N.D. N.D. N.D.

Spike Conc. Added: 0.4 0.4 0.4 1.2

Conc. Matrix Spike: 0.37 0.36 0.37 1.1

Matrix Spike % Recovery: 92 90 92 92

Conc. Matrix Spike Dup.: 0.38 0.35 0.36 1.1

Matrix Spike Duplicate % Recovery: 95 88 90 92

Relative % Difference: 2.6 2.8 2.7 0

SEQUOIA ANALYTICAL

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Arthur G. Burton
Arthur G. Burton
Laboratory Director



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <i>Tom Mascarenas</i>		SITE NAME & ADDRESS <i>UNOCAL-Oakland #3135</i> <i>845 66th Ave</i>					ANALYSES REQUESTED			TURN AROUND TIME: <i>24 hrs.</i>		
WITNESSING AGENCY							<i>TPH-G</i> <i>BTEX</i>					
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION			REMARKS	
<i>Comp 10</i>	<i>5-7-91</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<i>4</i>	<i>FUEL TANK PTF</i> <i>STKPL.</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>1050 174 AD</i>	<i>Please fix Results.</i>
<i>Comp 11</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>175</i>	
<i>Comp 12</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>176</i>	
<i>Comp 13</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>177</i>	
<i>Comp 14</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>178</i>	
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? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <i>NO</i> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>						
<i>Tom Mascarenas</i>		<i>5/19/2:50</i>		<i>Paul [Signature]</i>								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Signature		Title		Date		
						<i>[Signature]</i>		<i>SR</i>		<i>5/7</i>		



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal, 845 66th Ave., Oakland	Sampled: May 15, 1991
P.O. Box 996	Matrix Descript: Soil	Received: May 15, 1991
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: May 15, 1991
Attention: Mardo Kaprealian, P.E.	First Sample #: 105-0532 A-D	Reported: May 17, 1991

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

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons		Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
		mg/kg (ppm)	Benzene mg/kg (ppm)			
105-0532 A-D	Comp 15	6.8	0.057	0.019	0.051	0.22
105-0533 A-D	Comp 16	20	0.013	0.022	0.041	0.18
105-0534 A-D	Comp 17	12	0.020	0.029	0.062	0.32

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


Julia R. Malerstein
Project Manager



SEQUOIA ANALYTICAL

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

Client Project ID: Unocal, 845 66th Ave., Oakland
Sample Descript.: Matrix Blank
Analysis Method: EPA 5030/8015/8020
Q.C. Sample Grou 1050532-34

Analyzed: May 15, 1991
Reported: May 17, 1991

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.....	1.0	N.D.
Benzene.....	0.0050	N.D.
Toluene.....	0.0050	N.D.
Ethyl Benzene.....	0.0050	N.D.
Xylenes.....	0.0050	N.D.

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



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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1050532-34

Reported: May 17, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
---------	---------	---------	---------------	---------

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
Reporting Units:	ppm	ppm	ppm	ppm
Date Analyzed:	May 15, 1991	May 15, 1991	May 15, 1991	May 15, 1991
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank

Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.40	0.40	0.40	1.2
Conc. Matrix Spike:	0.38	0.38	0.36	1.1
Matrix Spike % Recovery:	95	95	90	92
Conc. Matrix Spike Dup.:	0.37	0.37	0.36	1.1
Matrix Spike Duplicate % Recovery:	92	92	90	92
Relative % Difference:	2.7	2.7	0	0

SEQUOIA ANALYTICAL

J. R. Malerstein
Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510

Client Project ID: Unocal, 845 66th Ave., Oakland

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1050532-34

Reported: May 17, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
Reporting Units:	ppm	ppm	ppm	ppm
Date Analyzed:	May 15, 1991	May 15, 1991	May 15, 1991	May 15, 1991
Sample #:	105-0532	105-0533	105-0534	Blank

Surrogate				
% Recovery:	100	93	105	96

SEQUOIA ANALYTICAL

J. R. Malerstein
Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <i>Tom</i> <i>MASCARINAS</i>		SITE NAME & ADDRESS <i>UNOCAL - Oakland #3135</i> <i>845 - 66th Ave</i>					ANALYSES REQUESTED <i>TPH-C</i> <i>BTEX</i>			TURN AROUND TIME: <i>24 HRS</i>		
WITNESSING AGENCY										REMARKS		
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	NO. OF CONT.	COMP	SAMPLING LOCATION				
<i>Comp 15</i>	<i>5-15-91</i>		<input checked="" type="checkbox"/>			<i>4</i>	<input checked="" type="checkbox"/>	<i>Fuel tank pit & Hpl.</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>1050532A-D</i>	<i>Please fax Results</i>
<i>Comp 16</i>	<i>↓</i>		<input checked="" type="checkbox"/>			<i>1</i>	<input checked="" type="checkbox"/>	<i>↓</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>533</i>	
<i>Comp 17</i>	<i>↓</i>		<input checked="" type="checkbox"/>			<i>1</i>	<input checked="" type="checkbox"/>	<i>↓</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>534</i>	

Relinquished by: (Signature) <i>Tom Mascarnas</i>	Date/Time <i>5/15 3:00</i>	Received by: (Signature) <i>Paul Decker</i>	The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? <input checked="" type="checkbox"/> 2. Will samples remain refrigerated until analyzed? <input checked="" type="checkbox"/> 3. Did any samples received for analysis have head space? <i>NO</i> 4. Were samples in appropriate containers and properly packaged? <input checked="" type="checkbox"/>
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
		<i>JW</i>	Signature
		<i>SR</i>	Title
		<i>5/15</i>	Date

3135

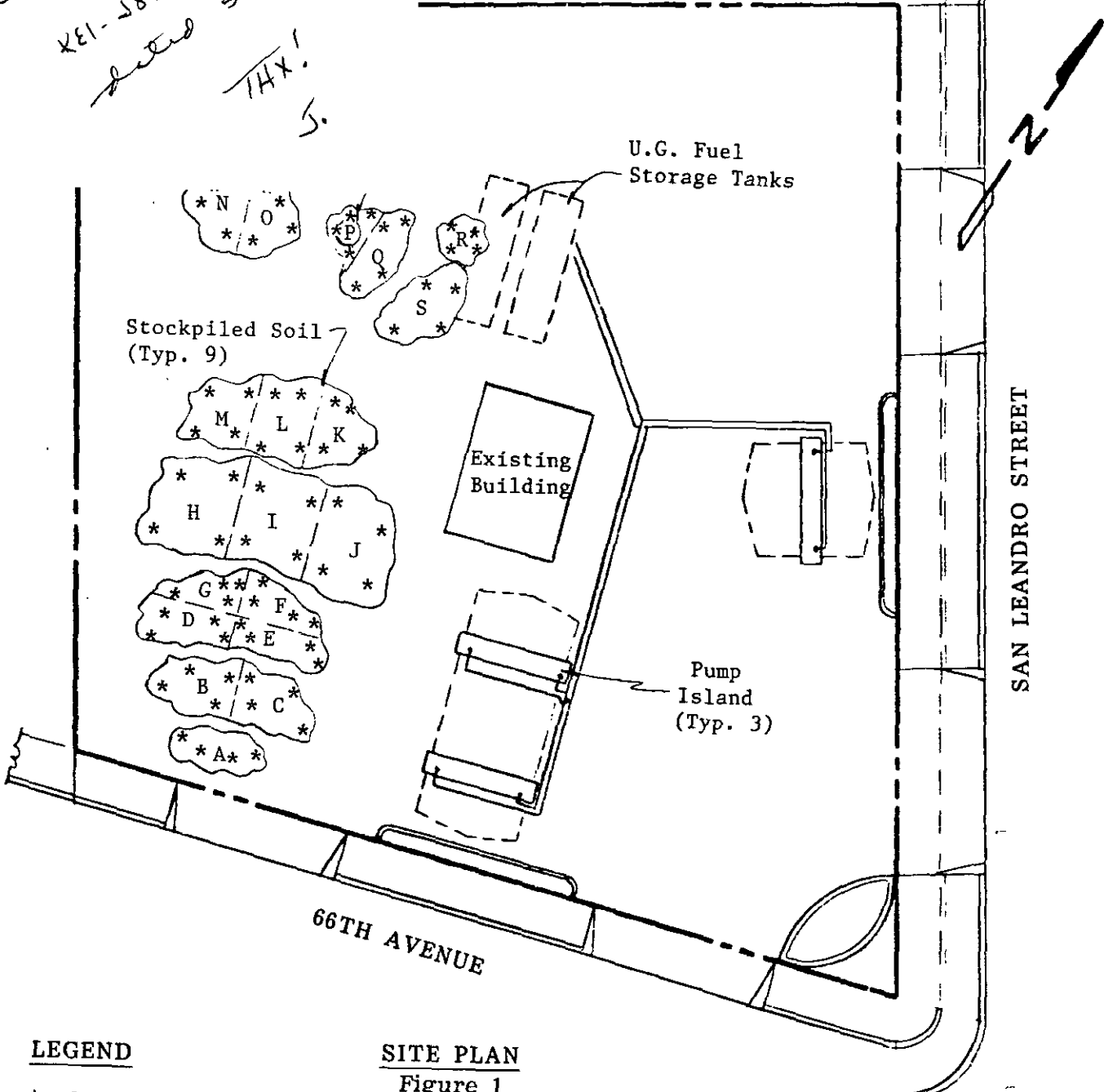
FILE # 3135 RECEIVED BP
 RPT. X QM TRANSMITTAL
 JUN 17 1991
 1 2 3 4 5 6

ALIAN ENGINEERING, INC.
 Consulting Engineers

BOX 996 • BENICIA, CA 94510
 15 • (707) 746-6916 • FAX: (707) 746-5581

SAN RAMON
 MAINT. & CONST.

*Rick -
 To replace the
 originals you sent
 back for Unocal 3135-Oakland
 XEL-188-1203.RH
 dated 5-23-91.
 THX!
 S.*

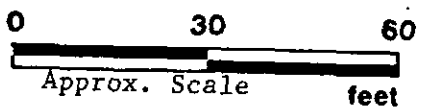


LEGEND

* Sample Point Location

SITE PLAN

Figure 1



Unocal Service Station #3135
 845 - 66th Avenue
 Oakland, California

3135

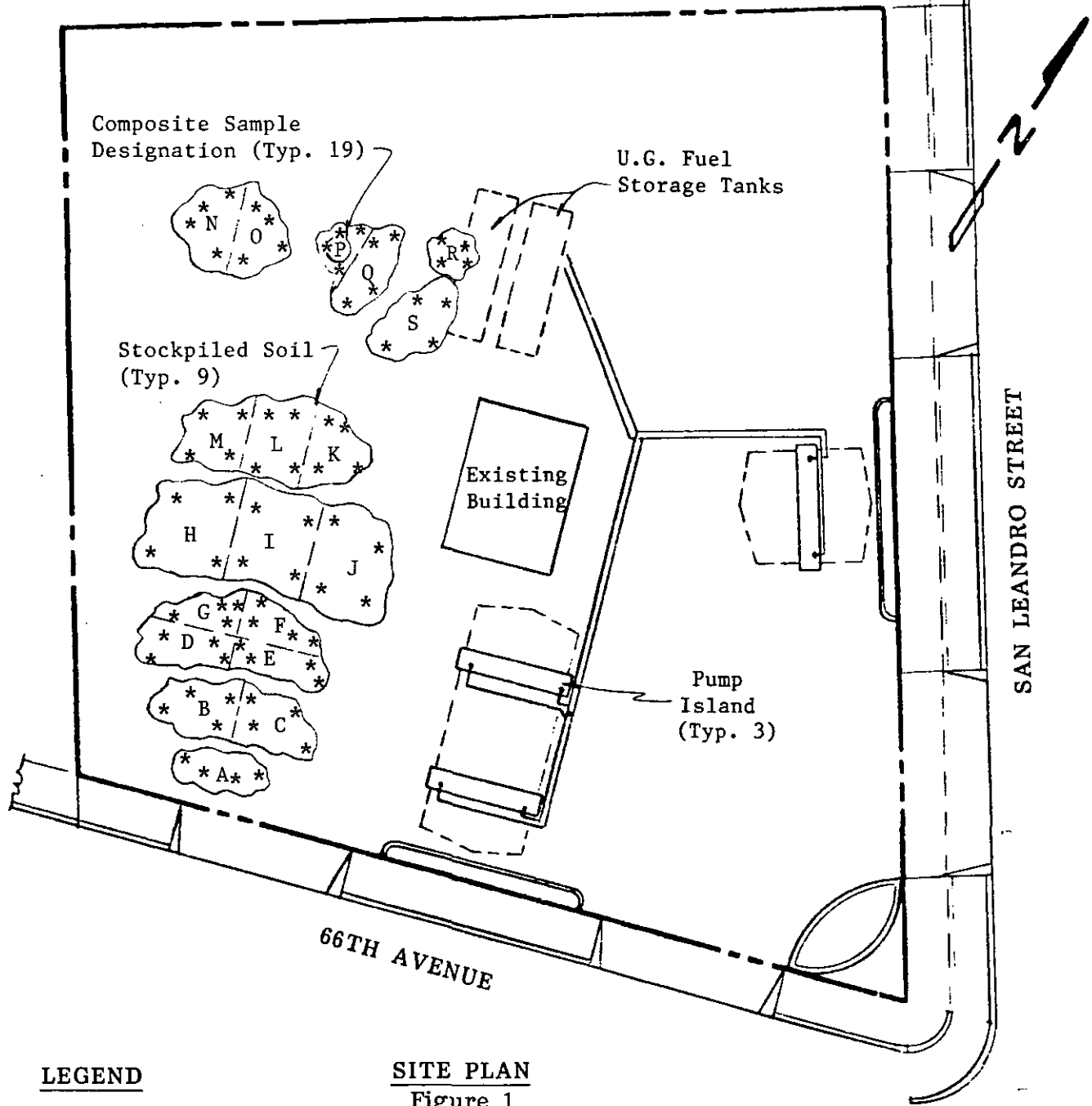


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FILE #	3	RECEIVED	BP
RPT	X	QM	TRANSMITTAL
		JUN 17 1991	
1	2	3	4 5 6
		SAN RAMON	
		MAINT. & CONST.	

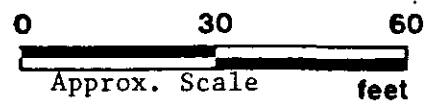


LEGEND

* Sample Point Location

SITE PLAN

Figure 1

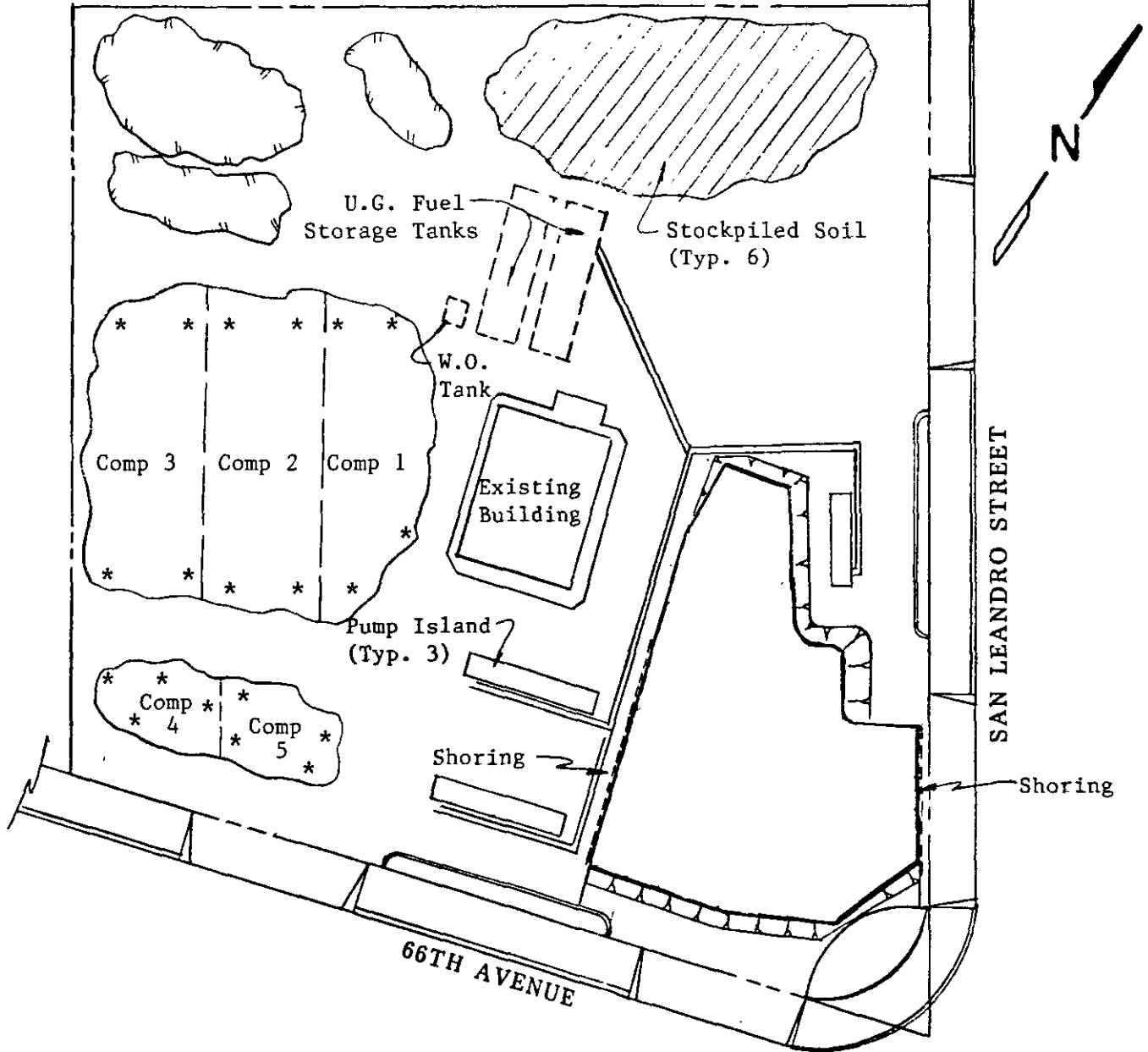


Unocal Service Station #3135
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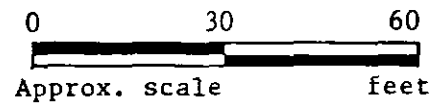
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SITE PLAN
Figure 2

LEGEND

- * Sample Point Location
-  Previously sampled soil
-  Soil to be sampled at a later date

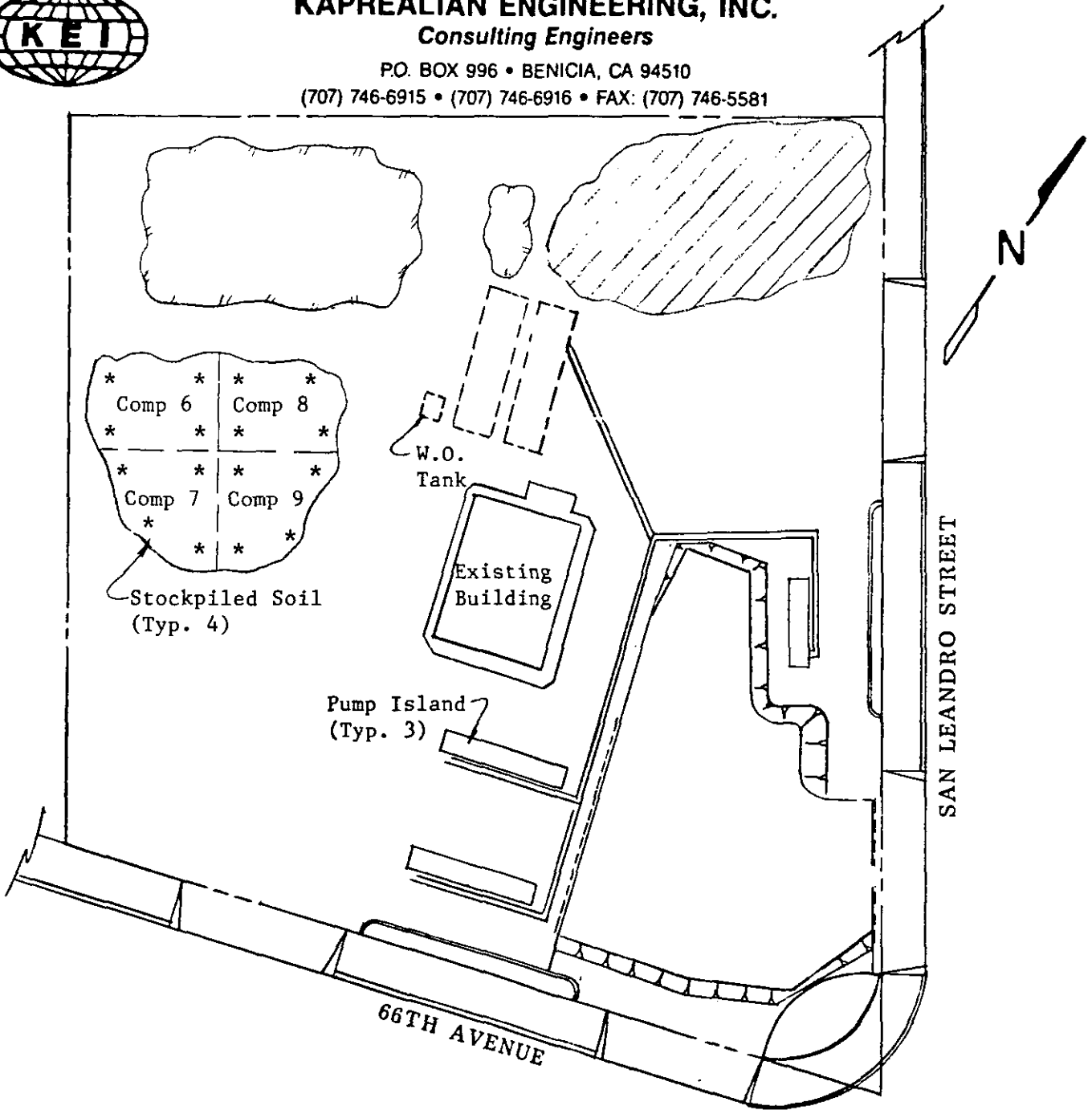


Unocal S/S #3135
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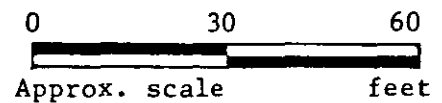
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SITE PLAN
Figure 3

LEGEND

- * Sample Point Location
-  Previously sampled soil
-  Soil to be sampled at a later date

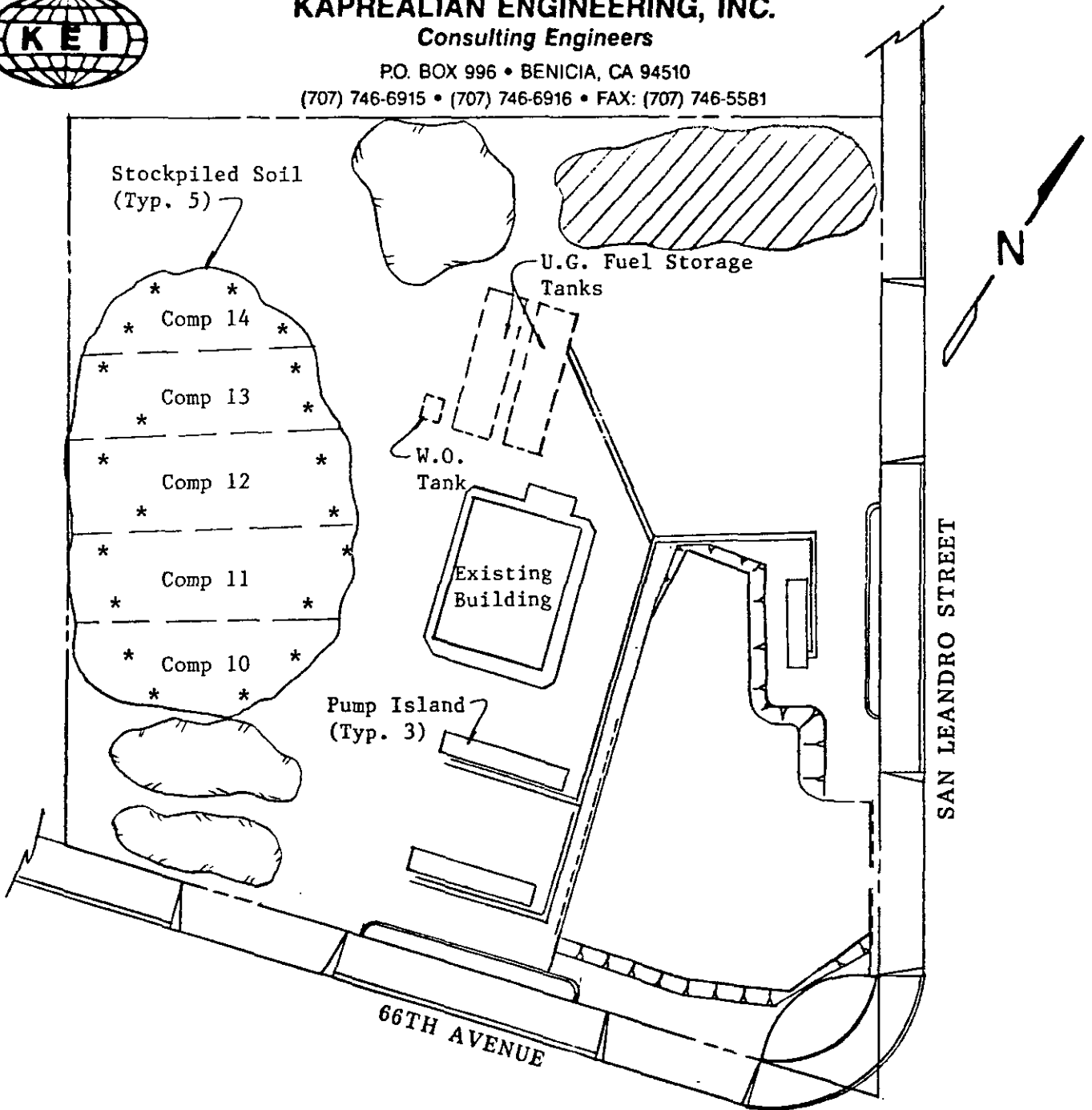


Unocal S/S #3135
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Oakland, CA





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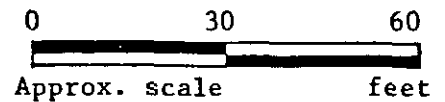
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(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581



SITE PLAN
Figure 4

LEGEND

- * Sample Point Location
-  Previously sampled soil
-  Soil to be sampled at a later date



Unocal S/S #3135
845 - 66th Avenue
Oakland, CA

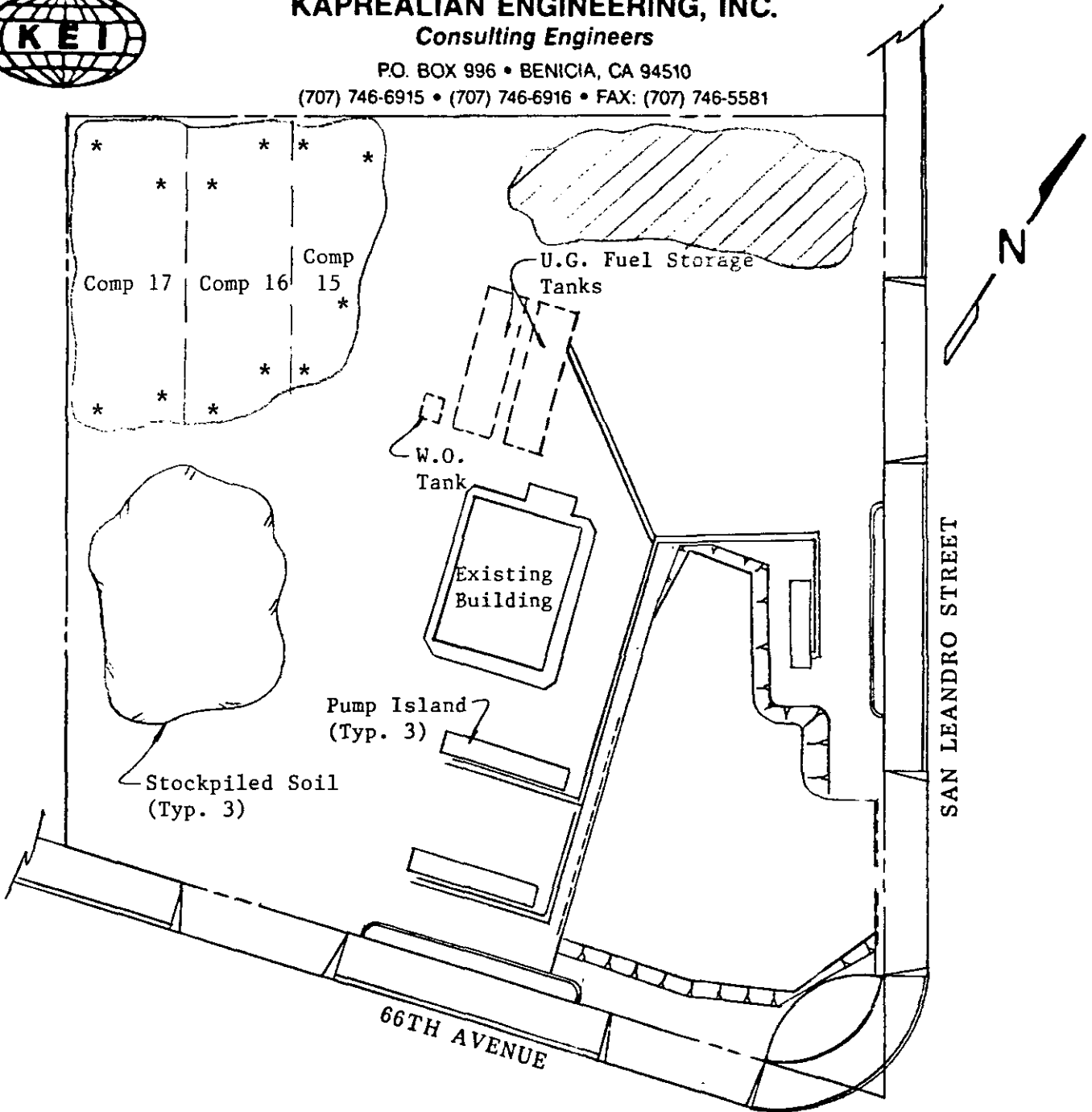


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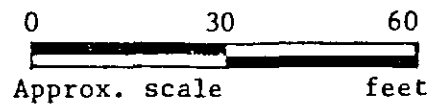


SITE PLAN

Figure 5

LEGEND

- * Sample Point Location
-  Previously sampled soil
-  Soil to be sampled at a later date



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Oakland, CA