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Alameda County
Environmental Health



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.R5
February 12, 1990

Unocal Corporation
2175 N. California Blvd., #650
Walnut Creek, CA 94596

Attention: Mr. Tim Ross

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

Dear Mr. Ross:

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 January 9, 1990, one composite soil sample, labeled Comp WOA, was collected from approximately 30 cubic yards of soil excavated from the waste oil pit during tank removal and sampling. This composite sample consisted of four individual grab samples taken at various locations and depths ranging from one to two feet and composited as one sample by the lab. The sample was 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. The sample was analyzed at Sequoia Analytical in Redwood City, California, and was accompanied by properly executed Chain of Custody documentation.

The composite sample was analyzed to determine total petroleum hydrocarbons as diesel using EPA method 3550 in conjunction with modified 8015; total oil and grease using EPA method 418.1 with clean up; organic lead using the California LUFT Manual method; EPA 8240; pH; total sulfides; total cyanides; and metals-arsenic, barium, cadmium, chromium, lead, copper, mercury, nickel, selenium, silver, thallium, vanadium and zinc.

Results of the analyses performed on the composite sample taken of soil from the waste oil tank pit are shown on the attached Table 1, and are as indicated on the attached laboratory analyses.

KEI-J88-1203.R5
February 12, 1990

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(Results in mg/kg)
(Samples collected on January 9, 1990)

<u>Parameter</u>	<u>Comp WOA</u>
TPH as Diesel	37
Total Oil and Grease	2,100
Organic Lead	10
pH	8.2
Sulfide	80
Cyanide	ND
Arsenic	7.8
Barium	100
Cadmium	ND
Chromium	36
Lead	38
Copper	18
Mercury	0.45
Nickel	ND
Selenium	1.0
Silver	ND
Thallium	ND
Vanadium	32
Zinc	210
EPA 8240	ND

ND = Non-detectable.

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Based on the levels in the stockpiled soil, the soil can be disposed of at an approved Class II disposal site.

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

Sincerely,

Kaprealian Engineering, Inc.



Christina L. Lecce

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Attachments: Table 1
Laboratory Results
Chain of Custody documentation



SEQUOIA ANALYTICAL

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

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

Client Project ID: Unocal, Oakland, 66th/San Leandro
Sample Descript: Soil
Analysis Method: California LUFT Manual, 12/87
First Sample #: 001-0936 A-B

Sampled: Jan 9, 1990
Received: Jan 9, 1990
Analyzed: Jan 10, 1990
Reported: Jan 11, 1990

ORGANIC LEAD

Sample Number	Sample Description	Sample Results mg/kg (ppm)
0010936 A-B	Composite WOA	10

Detection Limits:

0.05

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

SEQUOIA ANALYTICAL

Belinda C. Vega
Project Manager



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, Oakland, 66th/San Leandro Matrix Descript: Soil Analysis Method: EPA 3550/8015 First Sample #: 001-0936 A-B	Sampled: Jan 9, 1990 Received: Jan 9, 1990 Extracted: Jan 9, 1990 Analyzed: Jan 10, 1990 Reported: Jan 11, 1990
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TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
0010936 A-B	Composite WOA	37

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

Belinda C. Vega
Project Manager

10936.KEI <2>



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, Oakland, 66th/San Leandro Matrix Descript: Soil Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: 001-0936 A-B	Sampled: Jan 9, 1990 Received: Jan 9, 1990 Extracted: Jan 9, 1990 Analyzed: Jan 10, 1990 Reported: Jan 11, 1990
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TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Petroleum Oil mg/kg (ppm)
0010936 A-B	Composite WOA	2,100

Detection Limits:

2.0

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

SEQUOIA ANALYTICAL

Belinda C. Vega
Project Manager



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER Hagop		SITE NAME & ADDRESS Unocal - Oakland - 66th Ave / San Leandro					ANALYSES REQUESTED			TURN AROUND TIME: 24 Hrs
WITNESSING AGENCY							TPH-D TOG Organic Lead	REMARKS		
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP				
Complete	1/9/90		<input checked="" type="checkbox"/>				2	Waste Oil Stockpile	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
Relinquished by: (Signature) Hagop Kewok	Date/Time 1/9 3:40	Received by: (Signature) Greg Ben	The following MUST BE completed by the laboratory accepting samples for analysis:							
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	1. Have all samples received for analysis been stored in ice? <u>y</u>							
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	2. Will samples remain refrigerated until analyzed? <u>y</u>							
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	3. Did any samples received for analysis have head space? <u>n</u>							
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	4. Were samples in appropriate containers and properly packaged? <u>y</u>							
	18:45 1/9/90	B.L. Oliver	<u>BLO</u> Signature		<u>loggin</u> Title		<u>1/9</u> Date			



SEQUOIA ANALYTICAL

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(415) 364-9600 • FAX (415) 364-9233

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

Client Project ID: Unocal, Oakland, 66th/San Leandro
Sample Descript: Soil, Composite WOA
Lab Number: 001-0936 A-B

Sampled: Jan 9, 1990
Received: relogged 1/19
Analyzed: Jan 26, 1990
Reported: Feb 1, 1990

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
pH.....	N.A.	8.2
Cyanide.....	1.0	N.D.
Sulfide.....	10.0	80
Arsenic.....	0.25	7.8
Barium.....	5.0	100
Cadmium.....	0.5	N.D.
Chromium.....	0.5	36
Copper.....	0.5	18
Lead.....	25.0	38
Mercury.....	0.1	0.45
Silver.....	0.5	N.D.
Nickel.....	2.5	N.D.
Selenium.....	0.5	1.0
Thallium.....	5.0	N.D.
Vanadium.....	5.0	32
Zinc.....	0.5	210

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

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Project Manager



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(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, Oakland, 66th/San Leandro Sample Descript: Soil, Composite WOA Analysis Method: EPA 8240 Lab Number: 001-0936 A-B	Sampled: Jan 9, 1990 Received: relogged 1/19 Analyzed: Jan 23, 1990 Reported: Feb 2, 1990
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VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500.0	N.D.
Benzene.....	100.0	N.D.
Bromodichloromethane.....	100.0	N.D.
Bromoform.....	100.0	N.D.
Bromomethane.....	100.0	N.D.
2-Butanone.....	500.0	N.D.
Carbon disulfide.....	100.0	N.D.
Carbon tetrachloride.....	100.0	N.D.
Chlorobenzene.....	100.0	N.D.
Chlorodibromomethane.....	100.0	N.D.
Chloroethane.....	100.0	N.D.
2-Chloroethyl vinyl ether.....	500.0	N.D.
Chloroform.....	100.0	N.D.
Chloromethane.....	100.0	N.D.
1,1-Dichloroethane.....	100.0	N.D.
1,2-Dichloroethane.....	100.0	N.D.
1,1-Dichloroethene.....	100.0	N.D.
Total 1,2-Dichloroethene.....	100.0	N.D.
1,2-Dichloropropane.....	100.0	N.D.
cis 1,3-Dichloropropene.....	100.0	N.D.
trans 1,3-Dichloropropene.....	100.0	N.D.
Ethylbenzene.....	100.0	N.D.
2-Hexanone.....	500.0	N.D.
Methylene chloride.....	100.0	N.D.
4-Methyl-2-pentanone.....	500.0	N.D.
Styrene.....	100.0	N.D.
1,1,2,2-Tetrachloroethane.....	100.0	N.D.
Tetrachloroethene.....	100.0	N.D.
Toluene.....	100.0	N.D.
1,1,1-Trichloroethane.....	100.0	N.D.
1,1,2-Trichloroethane.....	100.0	N.D.
Trichloroethene.....	100.0	N.D.
Trichlorofluoromethane.....	100.0	N.D.
Vinyl acetate.....	100.0	N.D.
Vinyl chloride.....	100.0	N.D.
Total Xylenes.....	100.0	N.D.

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

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Belinda C. Vega
Belinda C. Vega
Project Manager



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CHAIN OF CUSTODY

SAMPLER Hagop		SITE NAME & ADDRESS Unocal - Oakland - 66th Ave / San Leandro				ANALYSES REQUESTED TPH-D TOG Organic Lead			TURN AROUND TIME: 24 Hrs
WITNESSING AGENCY									REMARKS 6010936A-B
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	NO. OF COMP CONT.	SAMPLING LOCATION		
Comp 10A	1/9/90		<input checked="" type="checkbox"/>			2	Waste Oil Stockpile	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
Relinquished by: (Signature) Hagop Kevork	Date/Time 1/9 3:40	Received by: (Signature) Lrey Ben	The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? <u> y </u> 2. Will samples remain refrigerated until analyzed? <u> y </u> 3. Did any samples received for analysis have head space? <u> n </u> 4. Were samples in appropriate containers and properly packaged? <u> y </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 18:45 1/9/90	Received by: (Signature) B.L. Oliver	Signature <u>BLO</u> Title <u>log in</u> Date <u>1/9</u>						