



KAPREALIAN ENGINEERING, INC.
Consulting Engineers

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

KEI-J89-1106.R3
January 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 #3072
2445 Castro Valley Blvd.
Castro Valley, California

RECEIVED

2:45 pm, Apr 23, 2009

Alameda County
Environmental Health

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 November 14, 1989, 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; total oil and grease; organic lead; 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 as indicated on the attached laboratory analyses.

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

JA Dewey for Christina L. Lecce

Christina L. Lecce

c11

Attachments: Table 1
Laboratory Results
Chain of Custody documentation

KEI-J89-1106.R3
January 12, 1990

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(Results in mg/kg)
(Samples Collected on November 14, 1989)

<u>Parameter</u>	<u>Comp WOA</u>
TPH as Diesel	1,100
Total Oil and Grease	4,200
Organic Lead	2.8
pH	7.5
Sulfide	ND
Cyanide	ND
Arsenic	14
Barium	180
Cadmium	2.3
Chromium	40
Lead	110
Copper	31
Mercury	ND
Nickel	37
Selenium	0.82
Silver	ND
Thallium	2.5
Vanadium	41
Zinc	81
Benzene*	0.390
Ethylbenzene*	3.800
Toluene*	3.800
Total Xylenes*	29.000

* These levels are the only detectable constituents found in the EPA 8240 scan.

ND = Non-detectable.



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc. P.O. Box 913 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, Castro Valley, CA Sample Descript: Soil, Comp. WOA Analysis Method: California LUFT Manual, 12/87 First Sample #: 911-1770 A-B	Sampled: Nov 14, 1989 Received: Nov 15, 1989 Reported: Nov 17, 1989
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ORGANIC LEAD

Sample Number	Sample Description	Sample Results mg/kg (ppm)
911-1770	Comp. WOA	2.8

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

9111770.KEI <1>



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Kaprealian Engineering, Inc.
P.O. Box 913
Benicia, CA 94510
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, Castro Valley, CA
Matrix Descript: Soil, Comp. WOA
Analysis Method: EPA 418.1 (I.R. with clean-up)
First Sample #: 911-1770 A-B

Sampled: Nov 14, 1989
Received: Nov 15, 1989

Reported: Nov 17, 1989

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Petroleum Oil mg/kg (ppm)
911-1770	Comp. WOA	4,200

Detection Limits:

1.0

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

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Project Manager

9111770.KEI <2>



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Kaprealian Engineering, Inc. P.O. Box 913 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, Castro Valley, CA Matrix Descript: Soil, Comp. WOA Analysis Method: EPA 3550/8015 First Sample #: 911-1770 A-B	Sampled: Nov 14, 1989 Received: Nov 15, 1989 Reported: Nov 17, 1989
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TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
911-1770	Comp. WOA	1,100

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.

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Belinda C. Vega
Project Manager

9111770.KEI <3>



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <i>R.M. Bradish</i>		SITE NAME & ADDRESS <i>Unocal Castro Valley & Stockbridge Castro Valley, CA</i>					ANALYSES REQUESTED <i>TOG (A.B.1) TPH-D Organic Pb</i>			TURN AROUND TIME: <i>24 hrs.</i>	
WITNESSING AGENCY										REMARKS	
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB OR COMP.	NO. OF CONT.	SAMPLING LOCATION				
<i>Completed</i>	<i>11-14-89</i>		<input checked="" type="checkbox"/>		<i>C</i>	<i>2</i>	<i>W.O. Stockpile</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Relinquished by: (Signature) <i>R.M. Bradish</i>	Date/Time <i>11/15/89 9:25</i>	Received by: (Signature) <i>Tom McLain</i>	The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? _____ <i>y</i> 2. Will samples remain refrigerated until analyzed? _____ <i>y</i> 3. Did any samples received for analysis have head space? _____ <i>n</i> 4. Were samples in appropriate containers and properly packaged? _____ <i>y</i>
Relinquished by: (Signature) <i>Tom McLain</i>	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time <i>11-15 11:10 am</i>	Received by: (Signature) <i>B.L. Oho</i>	
			_____ <i>RLD</i> <i>y</i> _____ <i>Sample Control</i> _____ <i>11-15</i> Signature Title Date



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <i>R.M. Bradish</i>		SITE NAME & ADDRESS <i>Unocal Castro Valley & Strabridge Castro Valley, CA</i>					ANALYSES REQUESTED <i>TOG (A.B.1) TPH-D Organic Pb</i>			TURN AROUND TIME: <i>24 hrs.</i>	
WITNESSING AGENCY										REMARKS	
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB OR CONT.	NO. OF	SAMPLING LOCATION				
<i>Completed</i>	<i>11-89</i>		<input checked="" type="checkbox"/>		<i>C</i>	<i>2</i>	<i>W.O. Stockpile</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Relinquished by: (Signature) <i>R.M. Bradish</i>	Date/Time <i>11/15/89 9:25</i>	Received by: (Signature) <i>Tom McLain</i>
Relinquished by: (Signature) <i>Tom McLain</i>	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time <i>11-15 11:10 am</i>	Received by: (Signature) <i>B.L. Oho</i>

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

- Have all samples received for analysis been stored in ice?

- Will samples remain refrigerated until analyzed?
y
- Did any samples received for analysis have head space?
n
- Were samples in appropriate containers and properly packaged?
y

Signature: *all* Title: *sample coord* Date: *11-15*



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

Client Project ID: Unocal, Castro Valley, Castro Valley/Strobrid
Sample Descript: Soil, Composite WOA
Lab Number: 911-1770 A-B

Sampled: Nov 14, 1989
Received: relogged 11/20
Analyzed: Dec 6, 1989
Reported: Dec 7, 1989

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
pH.....	N.A.	7.5
Cyanide.....	1.0	N.D.
Sulfide.....	10.0	N.D.
Arsenic.....	0.01	14
Barium.....	1.0	180
Cadmium.....	0.5	2.3
Copper.....	0.5	31
Mercury.....	0.068	N.D.
Silver.....	0.5	N.D.
Nickel.....	0.5	37
Selenium.....	0.1	0.82
Thallium.....	0.5	2.5
Vanadium.....	5.0	41
Zinc.....	0.5	81
Lead.....	1.0	110

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

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Belinda C. Vega
Project Manager



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Kaprealian Engineering, Inc.	Client Project ID: Unocal, Castro Valley, Castro Valley/Strobrid	Sampled: Nov 14, 1989
P.O. Box 996	Sample Descript: Soil, Composite WOA	Received: relogged 11/20
Benicia, CA 94510	Analysis Method: EPA 8240	Analyzed: Nov 2, 1989
Attention: Mardo Kaprealian, P.E.	Lab Number: 911-1770 A-B	Reported: Dec 7, 1989

VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	1,000.0	N.D.
Benzene.....	200.0	390
Bromodichloromethane.....	200.0	N.D.
Bromoform.....	200.0	N.D.
Bromomethane.....	200.0	N.D.
2-Butanone.....	1,000.0	N.D.
Carbon disulfide.....	200.0	N.D.
Carbon tetrachloride.....	200.0	N.D.
Chlorobenzene.....	200.0	N.D.
Chlorodibromomethane.....	200.0	N.D.
Chloroethane.....	200.0	N.D.
2-Chloroethyl vinyl ether.....	1,000.0	N.D.
Chloroform.....	200.0	N.D.
Chloromethane.....	200.0	N.D.
1,1-Dichloroethane.....	200.0	N.D.
1,2-Dichloroethane.....	200.0	N.D.
1,1-Dichloroethene.....	200.0	N.D.
Total 1,2-Dichloroethene.....	200.0	N.D.
1,2-Dichloropropane.....	200.0	N.D.
cis 1,3-Dichloropropene.....	200.0	N.D.
trans 1,3-Dichloropropene.....	200.0	N.D.
Ethylbenzene.....	200.0	3,800
2-Hexanone.....	1,000.0	N.D.
Methylene chloride.....	200.0	N.D.
4-Methyl-2-pentanone.....	1,000.0	N.D.
Styrene.....	200.0	N.D.
1,1,2,2-Tetrachloroethane.....	200.0	N.D.
Tetrachloroethene.....	200.0	N.D.
Toluene.....	200.0	3,800
1,1,1-Trichloroethane.....	200.0	N.D.
1,1,2-Trichloroethane.....	200.0	N.D.
Trichloroethene.....	200.0	N.D.
Trichlorofluoromethane.....	200.0	N.D.
Vinyl acetate.....	200.0	N.D.
Vinyl chloride.....	200.0	N.D.
Total Xylenes.....	200.0	29,000

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

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Belinda C. Vega
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Project Manager