



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

P. O. BOX 913

BENICIA, CA 94510

(707) 746-6915 (707) 746-6916

FAX: (707) 746-5581

October 13, 1989

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

Attention: Mr. Larry Seto

RE: Unocal Service Station #0746
3943 Broadway Street
Oakland, California 94611

10/21/89
ALAMEDA COUNTY
DEPT. OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIAL

Dear Mr. Seto:

Per the request of Mr. Tim Ross of Unocal Corporation,
enclosed please find our report dated October 4, 1989 for the
above referenced site.

Should you have any questions, please feel free to call our
office at (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.

Judy A. Dewey

Enclosure

cc: Tim Ross, Unocal



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

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BENICIA, CA 94510

(707) 746-6915

KEI-J89-0805.R2

October 4, 1989

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

Attention: Mr. Tim Ross

RE: Stockpiled Soil Sampling for
Unocal Service Station #0746
3943 Broadway Street
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 August 16, 1989, soil samples from approximately 220 cubic yards of stockpiled soil, excavated from the fuel tank pit, were collected to determine proper disposal of the soil. Four composite soil samples (designated as Comp A, Comp B, Comp C and Comp D) were taken. On August 17, 1989, KEI returned to the site to collect stockpile samples from approximately 120 additional yards of soil. Two composite samples, labeled Comp E and F, were collected. Each composite sample consisted of four individual grab samples taken at various locations and depths ranging from one to two feet. The samples were collected in 2" 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 Redwood City, California, and were accompanied by properly executed Chain of Custody documentation. Sample locations are as shown on the attached Site Plan.

The composite samples were analyzed to determine concentrations of total petroleum hydrocarbons (TPH) as gasoline using EPA method 5030 or 3810 in conjunction with modified 8015, benzene, toluene, xylenes and ethylbenzene (BTX&E) using EPA methods 5030 and 8020. The results of the soil analyses showed concentrations of TPH as gasoline ranging from 1.3 ppm to 59 ppm, with the exception of Comp A and Comp F, which revealed 510 ppm and 160 ppm of TPH as gasoline, respectively. After obtaining permission from BAAQMD and further aeration, KEI returned to the site on September 22, 1989 to collect additional composite soil samples

KEI-J89-0805.R2
October 4, 1989
Page 2

from stockpiled soil represented by Comp A and Comp F (approximately 130 cu. yds.). Three composite soil samples (designated as Comp 1, Comp 2 and Comp 3) were collected. The samples were collected and stored as described above. Analytical results of the composite samples (Comp 1, Comp 2 and Comp 3) indicated levels of TPH as gasoline ranging from 19 ppm to 80 ppm with non-detectable levels of benzene. Analytical results are summarized in Table 1. Copies of the laboratory analyses, and the Chain of Custody documentation are attached to this report.

Based on levels of TPH as gasoline found in the stockpiled soil samples, the soil can be disposed of at an approved Class III disposal site (based on Regional Water Quality Control Board guidelines).

A copy of this report should be sent to the Alameda County Health Agency, and to the Regional Water Quality Control Board (RWQCB), 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.

Christina L. Lecce

Christina L. Lecce

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

KEI-J89-0805.R2
October 4, 1989

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(Results in ppm)
(Samples collected on August 16 & 17, 1989)

<u>Sample</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethylbenzene</u>
Comp A	510	ND	15	160	16
Comp B	44	ND	0.14	3.6	0.41
Comp C	53	ND	ND	0.96	ND
Comp D	59	ND	0.12	1.8	0.28
Comp E	1.3	ND	ND	ND	ND
Comp F	160	1.1	7.6	26	1.9
Comp 1*	80	ND	ND	0.17	0.15
Comp 2*	19	ND	ND	ND	ND
Comp 3*	27	ND	ND	ND	ND
Detection Limits	1.0	0.05	0.1	0.1	0.1

ND = Non-detectable.

* Comp 1, Comp 2 and Comp 3 represent Comp A and Comp F.



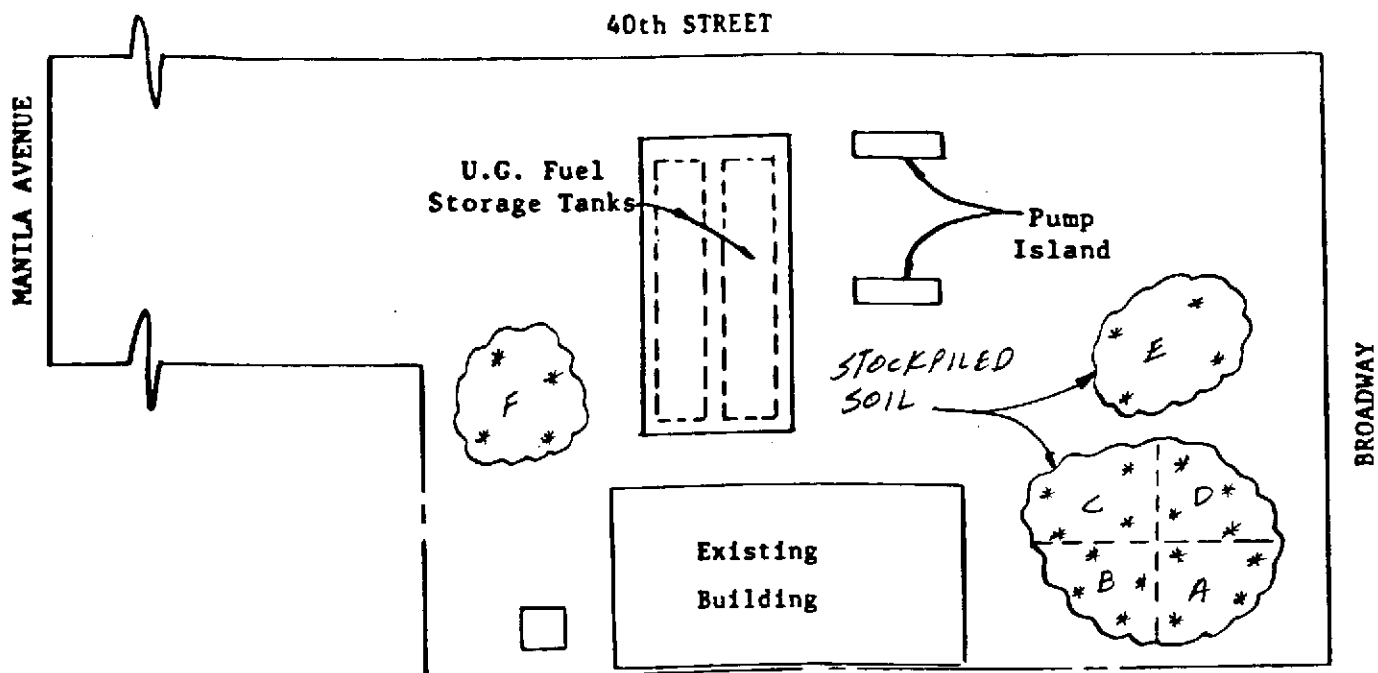
KAPREALIAN ENGINEERING, INC.

Consulting Engineers

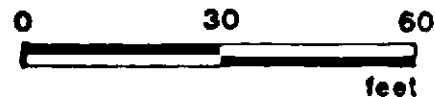
P. O. BOX 913

BENICIA, CA 94510

(707) 746-6915



SITE PLAN



* SOIL SAMPLE LOCATION

Unocal Service Station #0746
3943 Broadway Street
Oakland, California



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, Oakland, 3943 Broadway/40th St. Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 908-1747 A-B	Sampled: Aug 16, 1989 Received: Aug 16, 1989 Analyzed: Aug 22, 1989 Reported: Aug 25, 1989
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TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
9081747 A-b	Composite A	510	N.D.	15	16	160
90981748 A-B	Composite B	44	N.D.	0.14	0.41	3.6
9081749 A-B	Composite C	53	N.D.	N.D.	N.D.	0.96
9081750 A-B	Composite D	59	N.D.	0.12	0.28	1.8

Detection Limits:	1.0	0.05	0.1	0.1	0.1
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Arthur G. Burton
Laboratory Director



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, Oakland, 3943 Broadway/40th St. Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 908-2007 A-B	Sampled: Aug 17, 1989 Received: Aug 17, 1989 Analyzed: Aug 24, 1989 Reported: Aug 24, 1989
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TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
9082007 A-B	Composite E	1.3	N.D.	N.D.	N.D.	N.D.
9082008 A-B	Composite F	160	1.1	7.6	1.9	26

Detection Limits:	1.0	0.05	0.1	0.1	0.1
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Arthur G. Burton
Laboratory Director



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

P. O. BOX 913

BENICIA, CA 94510

(415) 676-9100 (707) 746-6915

CHAIN OF CUSTODY

SAMPLER: HAGOP DATE/TIME OF COLLECTION: 8-16-89 TURN AROUND TIME: Five Days
 (Signature)

SAMPLE DESCRIPTION AND PROJECT NUMBER: UNOCAL - OAKLAND - 3943 Broadway / 40th St.

<u>SAMPLE #</u>	<u>ANALYSES</u>	<u>GRAB OR COMP.</u>	<u>NUMBER OF CONTAINERS</u>	<u>SOIL/ WATER</u>
<u>COMP A</u>	<u>TPH-G/BTXE</u>	<u>C</u>	<u>2</u>	<u>S</u>
<u>COMP B</u>	<u>TPH-G/BTXE</u>	<u>C</u>	<u>2</u>	<u>S</u>
<u>COMP C</u>	<u>TPH-G/BTXE</u>	<u>C</u>	<u>2</u>	<u>S</u>
<u>COMP D</u>	<u>TPH-G/BTXE</u>	<u>C</u>	<u>2</u>	<u>S</u>
<u>COMP WA</u>	<u>TPH-G/BTXE/TPH-D/</u>		<u>2</u>	<u>S</u>
	<u>TOG/8010</u>			

<u>RELINQUISHED BY*</u>	<u>TIME/DATE</u>	<u>RECEIVED BY*</u>	<u>TIME/DATE</u>
<u>Hagop Revork</u>	<u>17:00</u> <u>8-16-89</u>	<u>Elc #23</u>	<u>8/16/89 - /1700</u>
<u>Elc #23</u>	<u>8/16/89</u>	<u>Paul Newcomb</u>	<u>18:32</u> <u>8-16-89</u>
<u>3.</u>			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: _____

NOTE: IF REGULAR TURNAROUND, SOIL ANALYSES MUST BE COMPLETED WITHIN 14 CALENDAR DAYS OF SAMPLE COLLECTION. WATER ANALYSES MUST BE COMPLETED WITHIN 7 CALENDAR DAYS FOR BTX&E (UNLESS SAMPLE HAS BEEN PRESERVED), AND 14 CALENDAR DAYS FOR TPH AS GASOLINE; EXTRACT TPH AS DIESEL WITHIN 14 CALENDAR DAYS.



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

P. O. BOX 913

BENICIA, CA 94510

(415) 676-9100 (707) 746-6915

CHAIN OF CUSTODY

SAMPLER: HAGOP (Signature) DATE/TIME OF COLLECTION: 8-17-89 TURN AROUND TIME: Five Days

SAMPLE DESCRIPTION AND PROJECT NUMBER: UNOCAL - OAKLAND - 3943 Broadway / 40th Str.

<u>SAMPLE #</u>	<u>ANALYSES</u>	<u>GRAB OR COMP.</u>	<u>NUMBER OF CONTAINERS</u>	<u>SOIL/WATER</u>
<u>COMP E</u>	<u>TPH-G/BTXE</u>	<u>C</u>	<u>2</u>	<u>S</u>
<u>COMP F</u>	<u>TPH-G/BTXE</u>	<u>C</u>	<u>2</u>	<u>S</u>

<u>RELINQUISHED BY*</u>	<u>TIME/DATE</u>	<u>RECEIVED BY*</u>	<u>TIME/DATE</u>
<u>1. Hagop Kewell</u>	<u>5:10 Pm. 8-17-89</u>	<u>[Signature]</u>	<u>8/17/89 5:10 Pm</u>
<u>2.</u>			
<u>3.</u>			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: _____

NOTE: IF REGULAR TURNAROUND, SOIL ANALYSES MUST BE COMPLETED WITHIN 14 CALENDAR DAYS OF SAMPLE COLLECTION. WATER ANALYSES MUST BE COMPLETED WITHIN 7 CALENDAR DAYS FOR BTX&E (UNLESS SAMPLE HAS BEEN PRESERVED), AND 14 CALENDAR DAYS FOR TPH AS GASOLINE; EXTRACT TPH AS DIESEL WITHIN 14 CALENDAR DAYS.



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, Oakland, 3943 Broadway Matrix Descript: Soil, Composite 1,2,3 Analysis Method: EPA 5030/8015/8020 First Sample #: 909-2827 A-B	Sampled: Sep 22, 1989 Received: Sep 22, 1989 Analyzed: Sep 25, 1989 Reported: Sep 25, 1989
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TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
9092827 A-B	Composite 1	80	N.D.	N.D.	0.15	0.17
9092828 A-B	Composite 2	19	N.D.	N.D.	N.D.	N.D.
9092829 A-B	Composite 3	27	N.D.	N.D.	N.D.	N.D.

Detection Limits:	1.0	0.05	0.1	0.1	0.1
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Project Manager

9092827.KEI <1>



KAPREALIAN ENGINEERING, INC.

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

CHAIN OF CUSTODY

SAMPLER: AK DATE/TIME OF COLLECTION: 9/22/59 TURN AROUND TIME: 2 1/2 hrs.
(Signature)

SAMPLE DESCRIPTION AND PROJECT NUMBER: Uncond. Oakland - 2003
Encadway -

SAMPLE #	ANALYSES	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/WATER
<u>Comp 1</u>	<u>TPH : 228</u>	<u>Grab</u>	<u>2</u>	<u>S</u>
<u>Comp 2</u>	<u>TPH : 358</u>	<u>Comp</u>	<u>2</u>	<u>S</u>
<u>Comp 3</u>	<u>TPH : 458</u>	<u>Comp</u>	<u>2</u>	<u>S</u>

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. <u>AK</u>	<u>4:04</u> <u>9-22-59</u>	<u>Tom Belton</u>	<u>4:04</u> <u>9-22-59</u>
2. <u>Tom Belton</u>	<u>5:45</u> <u>9-22</u>	<u>B.L. Olin</u>	<u>5:45 PM</u> <u>9/22</u>
3.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: _____

NOTE: IF REGULAR TURNAROUND, SOIL ANALYSES MUST BE COMPLETED WITHIN 14 CALENDAR DAYS OF SAMPLE COLLECTION. WATER ANALYSES MUST BE COMPLETED WITHIN 7 CALENDAR DAYS FOR BTX&E (UNLESS SAMPLE HAS BEEN PRESERVED), AND 14 CALENDAR DAYS FOR TPH AS GASOLINE; EXTRACT TPH AS DIESEL WITHIN 14 CALENDAR DAYS.