KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P. O. BOX 913
BENICIA, CA 94510
(707) 746-6915

August 4, 1989

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

Attention: Mr. Dennis Byrne

RE: Unocal Service Station #3538
411 W. MacArthur Blvd.
Oakland, California 94609

Dear Mr. Byrne:

Per the request of Mr. Rick Sisk of Unocal, enclosed please find our reports and proposal dated July 31, 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

Judy A. Dewey

Enclosure

cc: Rick Sisk, Unocal

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P. O. BOX 913
BENICIA, CA 94510
(707) 746 - 6915

KEI-J89-0703.R3
July 31, 1989

Unocal Corporation
2175 N. California Blvd., Suite 650
Walnut Creek, CA 94569

Attention: Mr. Rick Sisk

RE: Stockpiled Soil Sampling for
Unocal Service Station #3538
411 W. MacArthur Blvd.
Oakland, California

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 July 18, 1989, soil samples from approximately 450 cubic yards of stockpiled soil at the referenced site were collected to determine proper disposal of the stockpile. Nine composite soil samples (designated as Comp D, Comp E, Comp F, Comp G, Comp H, Comp I, Comp J, Comp K and Comp L) were taken. 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, TPH as diesel using EPA method 3550 in conjunction with modified 8015, and 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 11 to 100 ppm. 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 TPH levels in the stockpiled soil represented by samples Comp D through Comp K inclusive of less than 100 ppm, the soil can be disposed of at an approved Class III disposal site (based on Regional Water Quality Control Board guidelines). The soil represented by sample Comp L should be retained on-site for aeration and resampling prior to disposal.

A copy of this report should be sent to Mr. Dennis Byrne of the Alameda County Health, 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.

Richard M. Bradish

Richard M. Bradish
Staff Engineer

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

KEI-J89-0703.R3
July 31, 1989

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(Results in ppm)
(Samples collected on July 18, 1989)

Sample	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
Comp D	39	0.072	0.8	6.0	0.65
Comp E	11	ND	0.34	1.8	0.23
Comp F	23	0.057	1.0	3.3	0.45
Comp G	35	ND	1.2	4.9	0.6
Comp H	63	ND	1.7	6.6	0.80
Comp I	35	ND	0.89	4.6	0.58
Comp J	59	ND	1.8	10	1.2
Comp K	14	ND	ND	0.68	ND
Comp L	100	0.16	4.3	18	2.6
Detection Limits	1.0	0.05	0.1	0.1	0.1

ND = Non-detectable.

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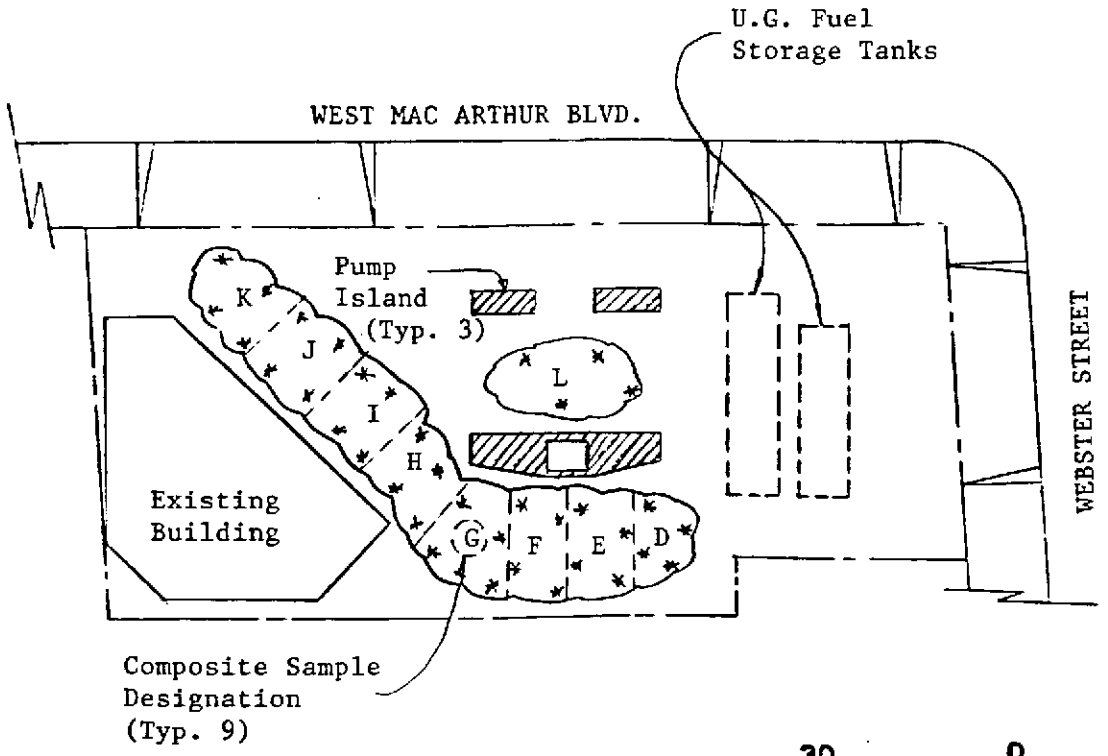

SITE PLAN

* Sample Point Location

Unocal S/S #3538
411 W. MacArthur Blvd.
Oakland, California

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CHAIN OF CUSTODY

SAMPLER: (Signature) [signature] DATE/TIME OF COLLECTION: 7/18/89 TURN AROUND TIME: 24 Hrs.

SAMPLE DESCRIPTION AND PROJECT NUMBER: Unocal Oakland - MacArthur & Webster

SAMPLE #	ANALYSES	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER	
Comp D	TPHG & BTXE	g	2	S	9070009
Comp E	TPHG & BTXE	g	2	S	10
Comp F	TPHG & BTXE	g	2	S	11
Comp G	TPHG & BTXE	g	2	S	12
Comp H	TPHG & BTXE	g	2	S	13
Comp I	TPHG & BTXE	g	2	S	14
Comp J	TPHG & BTXE	g	2	S	15
Comp K	TPHG & BTXE	g	2	S	16

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. [signature]	7/18/89 4:03	Tom Bohn	7-18 4:03
2. Tom Bohn	7-18 5:35	[signature]	5:35pm 7-18
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.

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CHAIN OF CUSTODY

SAMPLER: R. M. Braddish (Signature) DATE/TIME OF COLLECTION: 7-12-89 TURN AROUND TIME: 24 HR

SAMPLE DESCRIPTION AND PROJECT NUMBER: Unocal - Oakland
Mac Arthur & Webster

SAMPLE #	ANALYSES	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
Comp A	TPH-G & BTXE	C	2	S
" B	" "	C	2	S
" C	" "	C	2	S

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. Hagop Kevork	5:15 7-12-89	Tom Bohan	515 7-12-89
2. Tom Bohan	6 10 7-12-89	Derek Nimmel	6:10 pm 7-12-89
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.

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CHAIN OF CUSTODY

SAMPLER: [signature] (Signature) DATE/TIME OF COLLECTION: 7/18/89 TURN AROUND TIME: 24 HRS.

SAMPLE DESCRIPTION AND PROJECT NUMBER: Unocal - Oakland
McArthur ; Webster

SAMPLE #	ANALYSES	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
Comp L	TPHG ; BTXE	G	2	S

17

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. [signature]	7/18/89 4:03	Tom Bolan	4:03 7/18
2. Tom Bolan	7-18 535	Derek Leverett	5:35PM 7-18
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.

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, Oakland	Sampled:	Jul 18, 1989
P.O. Box 913	Matrix Descript:	Soil	Received:	Jul 18, 1989
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Jul 19, 1989
Attention: Mardo Kaprealian, P.E.	First Sample #:	907-2009 A-B	Reported:	Jul 20, 1989

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)
9072009 A-B	Composite D	39	0.072	0.80	0.65	6.0
9072010 A-B	Composite E	11	N.D.	0.34	0.23	1.8
9072011 A-B	Composite F	23	0.057	1.0	0.45	3.3
9072012 A-B	Composite G	35	N.D.	1.2	0.60	4.9
9072013 A-B	Composite H	63	N.D.	1.7	0.80	6.6
9072014 A-B	Composite I	35	N.D.	0.89	0.58	4.6
9072015 A-B	Composite J	59	N.D.	1.8	1.2	10
9072016 A-B	Composite K	14	N.D.	N.D.	N.D.	0.68
9072017 A-B	Composite L	100	0.16	4.3	2.6	18
Detection Limits:		**1.0**	**0.05**	**0.1**	**0.1**	**0.1**

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.	Client Project ID:	Unocal-Oakland, MacArthur & Webster	Sampled:	Jul 12, 1989
P.O. Box 913	Matrix Descript:	Soil	Received:	Jul 13, 1989
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Jul 13, 1989
Attention: Mardo Kaprealian, P.E.	First Sample #:	907-1005 A - B	Reported:	Jul 14, 1989

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)
907-1005	Comp A	1.4	N.D.	N.D.	N.D.	N.D.
907-1006	Comp B	5.6	N.D.	N.D.	N.D.	0.28
907-1007	Comp C	14	N.D.	0.14	N.D.	0.81
Detection Limits:		**1.0**	**0.05**	**0.1**	**0.1**	**0.1**

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