



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

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

KEI-J89-1204.R1
January 19, 1990

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

Attention: Mr. Rick Sisk

RE: Stockpiled Soil Sampling for
Unocal Service Station #5781
3535 Pierson Street
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 January 3, 1990, soil samples from approximately 400 cubic yards of stockpiled soil at the referenced site were collected to determine proper disposal of the soil. The soil was generated during underground fuel tank pit excavation. Eight composite soil samples (designated as Comp A, Comp B, Comp C, Comp D, Comp E, Comp F, Comp G and Comp H) were taken. Each composite sample consisted of four individual grab samples taken at various locations and depths ranging from 18 to 24 inches. 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 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 in conjunction with modified 8015; benzene, toluene, xylenes and ethylbenzene (BTX&E) using EPA method 8020. In addition, one composite sample, Comp A, was analyzed for organic lead using the California LUFT manual method. The results of the soil analyses showed concentrations of TPH as gasoline ranging from non-detectable to 87 ppm. Organic lead was non-detectable for Comp A. Analytical results are summarized in Table 1. Copies of the laboratory analyses, and the Chain of Custody documentation are attached to this report.

KEI-J89-1204.R1
January 19, 1990
Page 2

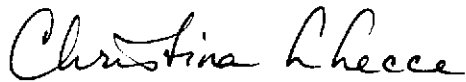
Based on TPH levels in the stockpiled soil of less than 100 ppm, the soil can be disposed of at an approved Class III disposal site (based on Regional Water Quality Control Board guidelines). However, KEI recommends that during disposal, when obvious isolated high contamination is detected within the stockpiled soil, that portion of the soil be separately stockpiled for further sampling and treatment.

A copy of this report should be sent to Mr. Ariu Levi of 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

c11

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

1/25/90

Uno. # 3135 - Galland
KEI - P88-1203.P1

Mr. Levy

Enclosed please find the lab analyses + Chain of Custody for samples P6 + P7, which were inadvertently omitted from the subject report. Also please replace Table 2 with the attached (I had P7 twice). I'm very sorry for the inconvenience. Judy Dewey

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1 <input type="checkbox"/> PRIORITY 1 Overnight Delivery	6 <input type="checkbox"/> OVERNIGHT LETTER*	1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box H)					
2 <input type="checkbox"/> COURIER-PAK OVERNIGHT ENVELOPE*	7 <input type="checkbox"/>	2 <input type="checkbox"/> DELIVER WEEKDAY					
3 <input type="checkbox"/> OVERNIGHT BOX	8 <input type="checkbox"/>	3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge)					
4 <input type="checkbox"/> OVERNIGHT TUBE	9 <input type="checkbox"/>	4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge)					
5 <input type="checkbox"/> STANDARD AIR Delivery not later than second business day	10 <input type="checkbox"/>	5 <input type="checkbox"/> CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge) (Release Signature Not Applicable)	Total	Total	Total		
		6 <input type="checkbox"/> DAY ICE _____ Lbs.					
		7 <input type="checkbox"/> OTHER SPECIAL SERVICE					
		8 <input type="checkbox"/>					
		9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge)					
		10 <input type="checkbox"/>					
		11 <input type="checkbox"/>					
		12 <input type="checkbox"/> HOLIDAY DELIVERY (if offered) (Extra charge)					

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Company [Redacted]	Department/Floor No. [Redacted]	Recipient's Phone Number (Very Important) [Redacted]
Street Address [Redacted]	City State ZIP Required [Redacted]	Company [Redacted]
City State ZIP Required [Redacted]	City State ZIP Required [Redacted]	Department/Floor No. [Redacted]
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Consulting Engineers

P.O. BOX 996 • BENICIA, CA 94510
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January 26, 1990

Alameda County Health Agency
80 Swan Way, Rm. 200
Oakland, CA 94621

Attention: Mr. Ariu Levi

RE: Unocal Service Station #5781
3535 Pierson Street
Oakland, California

Dear Mr. Levi:

Per the request of Mr. Rick Sisk of Unocal Corporation, enclosed please find our report dated January 19, 1990, 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: Rick Sisk, Unocal Corporation

50 JAN 29 AM 10:27

KEI-J89-1204.R1
January 19, 1990

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(Results in ppm)
(Samples collected on January 3, 1990)

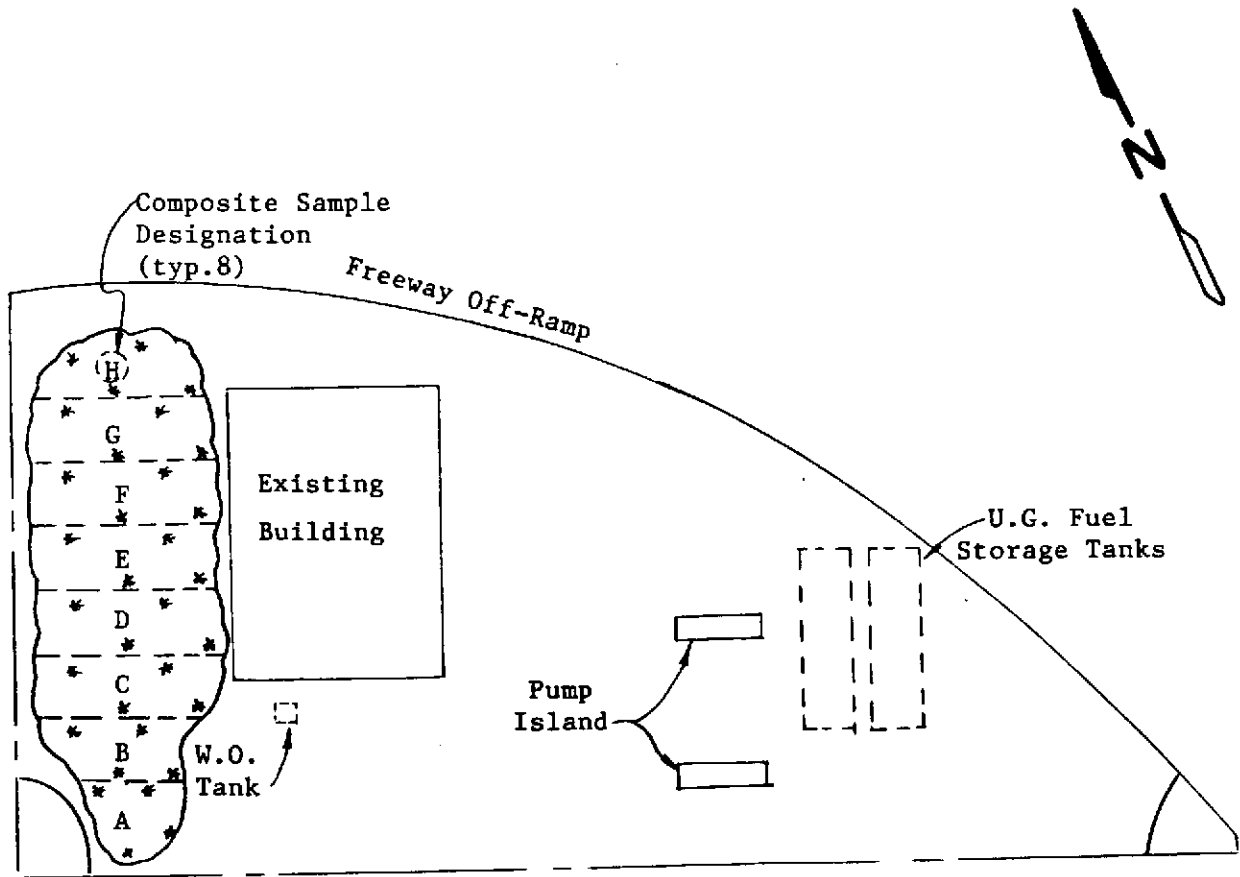
<u>Sample</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethylbenzene</u>
Comp A	ND	ND	ND	ND	ND
Comp B	19	ND	ND	ND	ND
Comp C	11	ND	ND	ND	ND
Comp D	63	ND	0.76	4.0	0.92
Comp E	87	ND	ND	3.7	0.43
Comp F	53	ND	ND	1.1	0.14
Comp G	66	ND	ND	0.63	0.11
Comp H	4.1	ND	ND	ND	ND
Detection Limits	1.0	0.05	0.1	0.1	0.1

ND = Non-detectable.



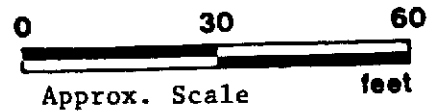
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PIERSON STREET

SITE PLAN



LEGEND

* Sample Point Location

Unocal Service Station #5781
3535 Pierson Street
Oakland, California



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal, Oakland, Pierson/MacArthur	Sampled: Jan 3, 1990
P.O. Box 996	Matrix Descript: Soil	Received: Jan 3, 1990
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Jan 3, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #: 001-0097 A-B	Reported: Jan 4, 1990

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)
0010097 A-B	Composite A	N.D.	N.D.	N.D.	N.D.	N.D.
0010098 A-B	Composite B	19	N.D.	N.D.	N.D.	N.D.
0010099 A-B	Composite C	11	N.D.	N.D.	N.D.	N.D.
0010100 A-B	Composite D	63	N.D.	0.76	0.92	4.0
0010101 A-B	Composite E	87	N.D.	N.D.	0.43	3.7
0010102 A-B	Composite F	53	N.D.	N.D.	0.14	1.1
0010103 A-B	Composite G	66	N.D.	N.D.	0.11	0.63
0010104 A-B	Composite H	4.1	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
Project Manager



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER JOE/KEI		SITE NAME & ADDRESS Unocal/Oakland Pierson/MacArthur					ANALYSES REQUESTED			TURN AROUND TIME: 24 hrs.
WITNESSING AGENCY							TPHG, BTKE			REMARKS
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	NO. OF CONT.	SAMPLING LOCATION			
Comp. A	2/3/90	12:00 P.M.	✓			2	Stockpile	✓		
" B	"	"	✓			2	"	✓		
" C	"	12:00 P.M.	✓			2	"	✓		
" D	"	"	✓			2	"	✓		
" E	"	10:00	✓			2	"	✓		
" V	"	"	✓			2	"	✓		
" G	"	"	✓			2	"	✓		
" H	"	"	✓			2	"	✓		

Relinquished by: (Signature) Joe Guin	Date/Time 2/3/90	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>NO</u> 4. Were samples in appropriate containers and properly packaged? <u>YES</u>
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time 1/3/90 15:10	Received by: (Signature) Brenda Olin	

BW Signature	<u>Logan</u> Title	<u>1/3</u> Date
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KEI-P88-1203.P1
 January 15, 1990

TABLE 2

SUMMARY OF LABORATORY ANALYSES
 SOIL

(Results in ppm)
 (Samples Collected on November 29, and
 December 5 & 29, 1989)

<u>Sample</u>	<u>Depth (feet)</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl- benzene</u>
SW1	9.0	--	1.6	ND	ND	ND	ND
SW2	9.0	--	3.8	ND	ND	ND	ND
SW3	9.0	--	5.6	ND	ND	2.3	0.42
SW4	9.0	--	32	1.2	ND	1.0	2.1
SW5	9.0	--	4.8	0.20	ND	0.11	ND
SW6	8.0	--	ND	ND	ND	ND	ND
D1	3.5	--	ND	ND	ND	ND	ND
D2	3.5	--	1.5	0.08	ND	ND	ND
D3	3.5	--	6.6	0.14	ND	0.31	ND
D4	3.5	--	7.4	0.11	ND	0.1	ND
D5	3.5	--	1.9	ND	ND	ND	ND
D6	3.5	--	2.0	ND	0.17	0.25	ND
P1	6.0	--	15	0.086	ND	8.5	0.18
P2	5.5	--	3,800	6.1	290	750	140
P2 (12)	12.0	--	ND	ND	ND	ND	ND
P3	5.0	--	11	0.13	ND	1.3	0.18
P4	4.5	--	1.4	ND	ND	0.23	ND
P5	4.5	--	ND	ND	ND	ND	ND
P6	3.0	--	ND	ND	ND	ND	ND
P7	4.0	--	ND	ND	ND	ND	ND
SWP2E	11.0	--	2	ND	0.16	3.1	0.50
SWP2W	11.0	--	ND	ND	ND	ND	ND
WO1*	8.5	ND	1.6	ND	ND	ND	ND



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal, Oakland, 66th Ave/San Leandro	Sampled: Dec 29, 1989
P.O. Box 996	Matrix Descript: Soil	Received: Jan 3, 1990
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Jan 3, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #: 001-0082	Reported: Jan 4, 1990

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)
001-0082	P2	3,800	6.1	290	140	750
001-0083	P3	11	0.13	N.D.	0.18	1.3
001-0084	P4	1.4	N.D.	N.D.	N.D.	0.23
001-0085	P5	N.D.	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



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal, Oakland, 66th/San Leandro	Sampled: Jan 10, 1990
P.O. Box 996	Matrix Descript: Soil	Received: Jan 11, 1990
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Jan 11, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #: 001-1121	Reported: Jan 12, 1990

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)
001-1121	P6	N.D.	N.D.	N.D.	N.D.	N.D.
001-1122	P7	N.D.	N.D.	N.D.	N.D.	N.D.

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

Belinda Vega
Belinda C. Vega
Project Manager



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER HAGOP		SITE NAME & ADDRESS Unocal - Oakland - 664th Ave / San Leandro					ANALYSES REQUESTED		TURN AROUND TIME: 24 Hrs	
WITNESSING AGENCY							TPT-5 BTX-E		REMARKS 001121d22	
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	CONT.			
P6	11/10/90		✓		✓		1	Pipe Trench		✓
PM	11/10/90		✓		✓		1	Pipe Trench	✓	✓
Relinquished by: (Signature) Hagop Kevork		Date/Time 11/10 5:15	Received by: (Signature) Walter Mojander TCH		The following <u>MUST</u> BE completed by the laboratory accepting samples for analysis:					
Relinquished by: (Signature) Walter Mojander		Date/Time 1-10 19:15	Received by: (Signature) E.H. [Signature]		1. Have all samples received for analysis been stored in ice? <u>YES</u>					
Relinquished by: (Signature)		Date/Time	Received by: (Signature)		2. Will samples remain refrigerated until analyzed? <u>YES</u>					
Relinquished by: (Signature)		Date/Time	Received by: (Signature)		3. Did any samples received for analysis have head space? <u>— N/A</u>					
Relinquished by: (Signature)		Date/Time	Received by: (Signature)		4. Were samples in appropriate containers and properly packaged? <u>YES</u>					
					Signature E.H.			Title analyst	Date 1-10	