



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

P. O. BOX 913

BENICIA, CA 94510

(707) 746-8915 (707) 746-8916

FAX: (707) 746-5581

KEI-J89-1106.R1

December 5, 1989

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

Attention: Mr. Tim Ross

RE: Stockpiled Soil Sampling for
Unocal Service Station #3072
2445 Castro Valley Blvd.
Castro Valley, California

RECEIVED

2:47 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 28, 1989, soil samples from approximately 1800 cubic yards of stockpiled soil at the referenced site were collected to determine proper disposal of the soil. 36 composite soil samples (designated as Comp A, through Comp Z and Comp AA through Comp JJ) 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 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, the composite samples Comp Q, Comp R, Comp T, Comp U, Comp W, Comp X, Comp Y, and Comp Z were also analyzed for TPH as diesel using EPA method 3550 in conjunction with modified 8015. The results of the soil analyses showed concentrations of TPH as gasoline ranging from non-detectable to 120 ppm. TPH as diesel concentrations ranged from 7.1 ppm to 30 ppm. Analytical results are summarized in Table 1. Copies of the laboratory analyses, and the Chain of Custody documentation are attached to this report.

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December 5, 1989
Page 2

Based on the analytical results, all stockpiled soil, except stockpiled soil represented by sample Comp A, can be disposed of at an approved Class III disposal site (based on Regional Water Quality Control Board guidelines).

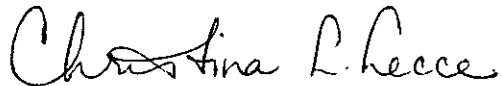
Comp A, which had TPH levels greater than 100 ppm, should be retained on-site for aeration and resampling.

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

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

KEI-J89-1106.R1
December 5, 1989

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(Results in ppm)
(Samples collected on November 28, 1989)

<u>Sample</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl-benzene</u>
Comp A	---	120	0.46	ND	3.0	0.20
Comp B	---	54	ND	ND	0.67	0.10
Comp C	---	11	ND	ND	0.29	ND
Comp D	---	3.2	ND	ND	ND	ND
Comp E	---	3.7	ND	ND	ND	ND
Comp F	---	5.2	ND	ND	ND	ND
Comp G	---	28	ND	ND	0.27	0.14
Comp H	---	7.5	ND	ND	ND	ND
Comp I	---	65	ND	0.16	0.58	0.24
Comp J	---	4.4	ND	ND	ND	ND
Comp K	---	6.5	ND	ND	ND	ND
Comp L	---	ND	ND	ND	ND	ND
Comp M	---	2.6	ND	ND	ND	ND
Comp N	---	9.1	ND	ND	ND	ND
Comp O	---	13	ND	ND	ND	ND
Comp P	---	22	0.068	ND	ND	ND
Comp Q	15	21	ND	ND	ND	ND
Comp R	16	9.1	0.054	ND	ND	ND
Comp S	---	5.5	ND	ND	ND	ND
Comp T	7.1	4.7	ND	ND	ND	ND
Comp U	30	4.2	ND	ND	ND	ND
Comp V	---	8.9	ND	ND	ND	ND
Comp W	14	5.9	ND	ND	ND	ND
Comp X	18	4.4	ND	ND	ND	ND
Comp Y	21	8.4	ND	ND	ND	ND
Comp Z	24	13	ND	ND	ND	ND
Comp AA	---	21	ND	ND	ND	ND
Comp BB	---	2.8	ND	ND	ND	ND
Comp CC	---	30	ND	0.12	3.2	0.34
Comp DD	---	1.7	ND	ND	ND	ND
Comp EE	---	5.2	ND	ND	ND	ND
comp FF	---	16	ND	ND	ND	ND
Comp GG	---	21	ND	ND	ND	ND
Comp HH	---	17	ND	ND	ND	ND
Comp II	---	12	ND	ND	ND	ND
Comp JJ	---	35	ND	0.28	3.4	0.70
Detection Limits	1.0	1.0	0.05	0.1	0.1	0.1

ND = Non-detectable.



KAPREALIAN ENGINEERING, INC.

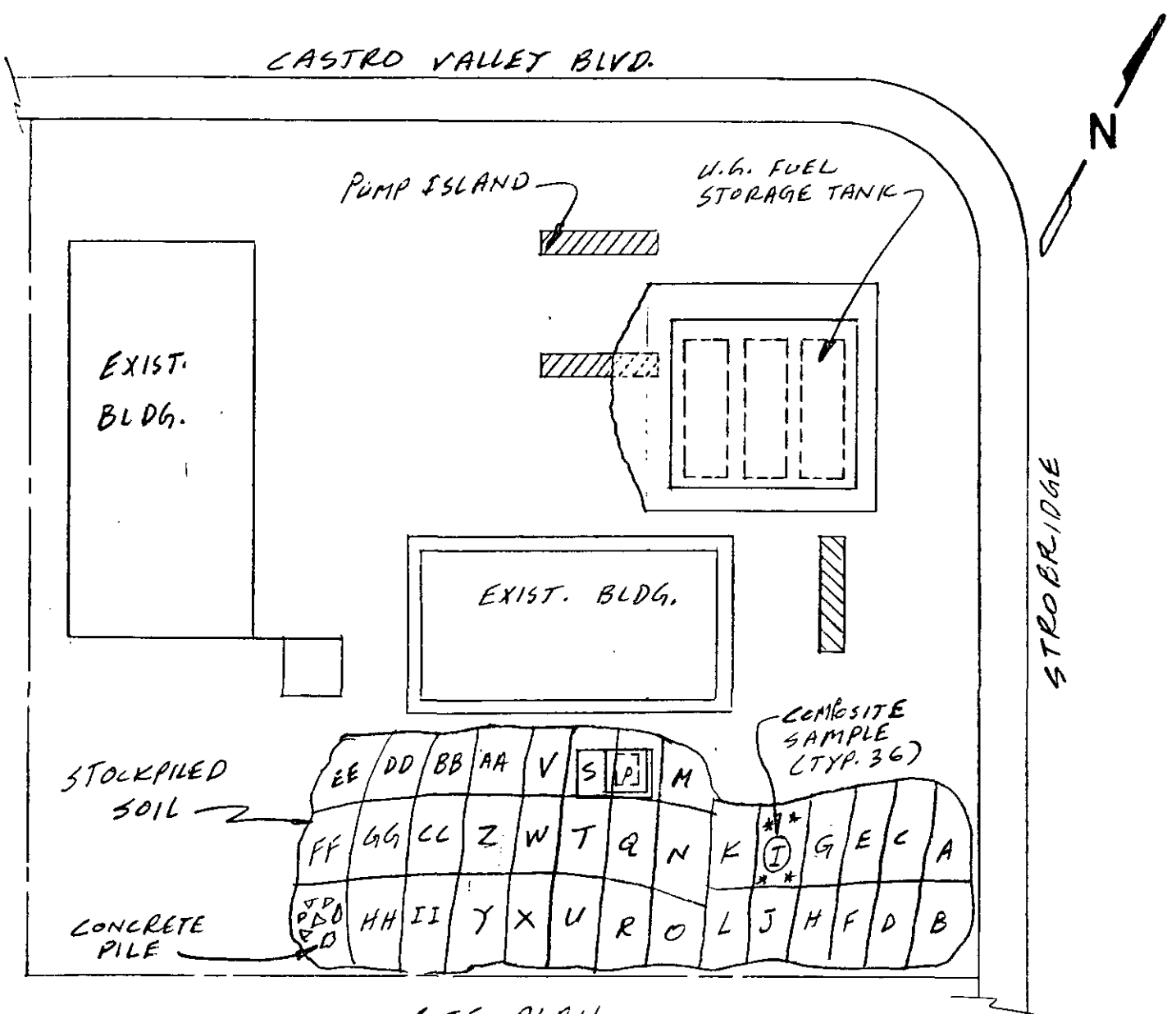
Consulting Engineers

P. O. BOX 913

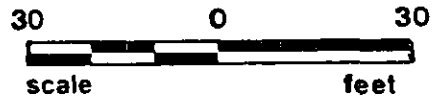
BENICIA, CA 94510

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

FAX: (707) 746-5581



SITE PLAN



UNOCAL S/S #3072
2445 Castro Valley Blvd.
Castro Valley, CA



SEQUOIA ANALYTICAL

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

Kapreallan Engineering, Inc. P.O. Box 913 Benicia, CA 94510 Attention: Mardo Kapreallan, P.E.	Client Project ID: Unocal, Castro Valley, Strohbridge Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 911-3548 A-B	Sampled: Nov 28, 1989 Received: Nov 28, 1989 Analyzed: Nov 29, 1989 Reported: Nov 30, 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)
9113548 A-B	Composite A	120	0.48	N.D.	0.20	3.0
9113549 A-B	Composite B	64	N.D.	N.D.	0.10	0.67
9113550 A-B	Composite C	11	N.D.	N.D.	N.D.	0.29
9113551 A-B	Composite D	3.2	N.D.	N.D.	N.D.	N.D.
9113552 A-B	Composite E	3.7	N.D.	N.D.	N.D.	N.D.
9113553 A-B	Composite F	6.2	N.D.	N.D.	N.D.	N.D.
9113554 A-B	Composite G	28	N.D.	N.D.	0.14	0.27
9113555 A-B	Composite H	7.5	N.D.	N.D.	N.D.	N.D.
9113556 A-B	Composite I	65	N.D.	0.16	0.24	0.58
9113557 A-B	Composite J	4.4	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

9113584.KEI <2>



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal, Castro Valley, Strohbridge	Sampled: Nov 28, 1989
P.O. Box 913	Matrix Descript: Soil	Received: Nov 28, 1989
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Nov 29, 1989
Attention: Mardo Kaprealian, P.E.	First Sample #: 911-3558 A-B	Reported: Nov 30, 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)
9113558 A-B	Composite K	6.5	N.D.	N.D.	N.D.	N.D.
9113559 A-B	Composite L	N.D.	N.D.	N.D.	N.D.	N.D.
9113560 A-B	Composite M	2.6	N.D.	N.D.	N.D.	N.D.
9113561 A-B	Composite N	9.1	N.D.	N.D.	N.D.	N.D.
9113562 A-B	Composite O	19	N.D.	N.D.	N.D.	N.D.
9113563 A-B	Composite P	22	0.068	N.D.	N.D.	N.D.
9113564 A-B	Composite Q	21	N.D.	N.D.	N.D.	N.D.
9113565 A-B	Composite R	9.1	0.054	N.D.	N.D.	N.D.
9113566 A-B	Composite S	5.5	N.D.	N.D.	N.D.	N.D.
9113567 A-B	Composite T	4.7	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

9113564.KEI <3>



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, Strohbridge Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 911-3568 A-B	Sampled: Nov 28, 1989 Received: Nov 28, 1989 Analyzed: Nov 29, 1989 Reported: Nov 30, 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)
9113568 A-B	Composite U	4.2	N.D.	N.D.	N.D.	N.D.
9113569 A-B	Composite V	8.9	N.D.	N.D.	N.D.	N.D.
9113570 A-B	Composite W	5.9	N.D.	N.D.	N.D.	N.D.
9113571 A-B	Composite X	4.4	N.D.	N.D.	N.D.	N.D.
9113572 A-B	Composite Y	8.4	N.D.	N.D.	N.D.	N.D.
9113573 A-B	Composite Z	13	N.D.	N.D.	N.D.	N.D.
9113574 A-B	Composite AA	21	N.D.	N.D.	N.D.	N.D.
9113575 A-B	Composite BB	2.8	N.D.	N.D.	N.D.	N.D.
9113576 A-B	Composite CC	30	N.D.	0.12	0.34	3.2
9113577 A-B	Composite DD	1.7	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

Kapreallan Engineering, Inc.	Client Project ID:	Unocal, Castro Valley, Strohbridge	Sampled:	Nov 28, 1989
P.O. Box 913	Matrix Descript:	Soil	Received:	Nov 28, 1989
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Nov 29, 1989
Attention: Mardo Kapreallan, P.E.	First Sample #:	911-3578 A-B	Reported:	Nov 30, 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)
9113578 A-B	Composite EE	5.2	N.D.	N.D.	N.D.	N.D.
9113579 A-B	Composite FF	16	N.D.	N.D.	N.D.	N.D.
9113580 A-B	Composite GG	21	N.D.	N.D.	N.D.	N.D.
9113581 A-B	Composite HH	17	N.D.	N.D.	N.D.	N.D.
9113582 A-B	Composite II	12	N.D.	N.D.	N.D.	N.D.
9113583 A-B	Composite JJ	35	N.D.	0.28	0.70	3.4

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

9113584.KEI <5>



SEQUOIA ANALYTICAL

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

Kapreallan Engineering, Inc.	Client Project ID: Unocal, Castro Valley, Stobridge	Sampled: Nov 28, 1989
P.O. Box 913	Matrix Descript: Soil	Received: Nov 28, 1989
Benicia, CA 94510	Analysis Method: EPA 3550/8015	Extracted: Nov 29, 1989
Attention: Mardo Kapreallan, P.E.	First Sample #: 911-3564 A-B	Analyzed: Nov 29, 1989
		Reported: Nov 30, 1989

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
9113564 A-B	Composite Q	15
9113565 A-B	Composite R	16
9113567 A-B	Composite T	7.1
9113568 A-B	Composite U	30
9113570 A-B	Composite W	14
9113571 A-B	Composite X	18
9113572 A-B	Composite Y	21
9113573 A-B	Composite Z	24

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

(1)



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER JOE / KEI		SITE NAME & ADDRESS Unocal / Castro Valley Castro Valley / Strobbridge				ANALYSES REQUESTED		TURN AROUND TIME: 24 hrs.
WITNESSING AGENCY						TPHG, BTX _E 581		REMARKS
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	NO. OF CONT.	SAMPLING LOCATION	
Comp. A	11/28/89		✓			2	Stockpile	9113548
" B	"		✓			"	"	91
" C	"		✓			"	"	501
" D	"		✓			"	"	11
" E	"		✓			"	"	2
" F	"		✓			"	"	3
" G	"		✓			"	"	4
" H	"		✓			"	"	5
" I	"		✓			"	"	6

Relinquished by: (Signature) Joe Yemian	Date/Time 11/28/89 6:00 pm	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>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 11/28 6:00pm	Received by: (Signature) Brenda Okw	

BW	Sample Control	11/28
Signature	Title	Date



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER JOE / KEI		SITE NAME & ADDRESS Unocal / Castro Valley Castro Valley / Strobbridge					ANALYSES REQUESTED SoeA		TURN AROUND TIME: 24 hrs.		
WITNESSING AGENCY											
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	CONT.	NO. OF CONT.	SAMPLING LOCATION	ANALYSES REQUESTED	REMARKS	
Comp. J	11/28/89		✓			✓	2	Stockpile	TPHG, BTXE, TPHD	9113547	Please see important remark on page 3.
K	"		✓			✓	"	"		18	
L	"		✓			✓	"	"		19	
M	"		✓			✓	"	"		60	
N	"		✓			✓	"	"		11	
O	"		✓			✓	"	"		12	
P	"		✓			✓	"	"		13	
Q	"		✓			✓	"	"		14	
R	"		✓			✓	"	"		15	
Relinquished by: (Signature) <i>Joe</i>		Date/Time 11/28/89 6:00 PM	Received by: (Signature)		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>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>No</u>						
Relinquished by: (Signature)		Date/Time 11/28 6:00 PM	Received by: (Signature) <i>Brenda L. Ohn</i>		4. Were samples in appropriate containers and properly packaged? <u>Yes</u>						
					<i>BW</i> Signature		<i>Sample</i> Title		<i>11/28</i> Date		

SENT BY: XEROX Telecopier 7017:11-30-89 : 12:58PM : 4153649233- 707 746 5581: # 8



KAPREALIAN ENGINEERING, INC.
CHAIN OF CUSTODY

SAMPLER: JOE/KEI
 WITNESSING AGENCY: _____
 SITE NAME & ADDRESS: Unocal / Castro Valley
Castro Valley / Strobbridge
 ANALYSES REQUESTED: (SIA) TPHG, BTXE
 TURN AROUND TIME: 24 hrs

SAMPLE ID NO.	DATE	TIME	MEDIUM				NO. OF CONT.	SAMPLING LOCATION	TPHG, BTXE	TPHD	ANALYSIS NO.	REMARKS
			SOIL	WATER	GRAB	COND.						
Comp S	11/28/89		✓			✓	2	Stockpile	✓		19113568	Please note: Because of a last minute change, run TPHD analysis ONLY on Comps T, U, W, X, Y, Z & Q, R.
" T	✓		✓			-	"	✓	✓	7		
" U	✓		✓			✓	"	✓	✓	8		
" V	✓		✓			✓	"	✓	✓	9		
" W	✓		✓			✓	"	✓	✓	10		
" X	✓		✓			✓	"	✓	✓	11		
" Y	✓		✓			✓	"	✓	✓	21		
" Z	✓		✓			✓	"	✓	✓	31		
COMRAA	✓		✓			✓	"	✓		41		

Joe Jimenez

Relinquished by: (Signature) <u>Joe Jimenez</u>	Date/Time <u>11/28/89 6:20 AM</u>	Received by: (Signature) _____
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time <u>11/28 6:00 PM</u>	Received by: (Signature) <u>Brenda L. Ocho</u>

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

- Have all samples received for analysis been stored in ice?
Yes
- Will samples remain refrigerated until analyzed?
Yes
- Did any samples received for analysis have head space?
No
- Were samples in appropriate containers and properly packaged?
Yes

Signature: EW Title: Sample Date: 11/28

SENT BY: XEROX Telecopier 7017:11-30-89 :12:58PM : 4153649233- 707 746 5581: # 9



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER JOE/KEI		SITE NAME & ADDRESS Unocal / Castro Valley		ANALYSES REQUESTED		TURN AROUND TIME: 24 hrs.
WITNESSING AGENCY		Castro Valley / Strobbridge		TPHG, BTXE (5-A)		REMARKS

SAMPLE ID NO.	DATE	TIME	NO. OF CONT.				SAMPLING LOCATION	ANALYSES	RESULTS	REMARKS
			SOIL	WATER	GRAB	COND				
Comp BB	11/14/89		✓			2	Stockpile	✓	9113575	Please see important remark on page 3.
" CC	"		✓			"	"	✓	6	
" DD	"		✓			"	"	✓	7	
" EE	"		✓			"	"	✓	8	
" FF	"		✓			"	"	✓	9	
" GG	"		✓			"	"	✓	180	
" HH	"		✓			"	"	✓		
" II	"		✓			"	"	✓	2	
" JJ	"		✓			"	"	✓	3	

Relinquished by: (Signature) <i>[Signature]</i>	Date/Time 11/28/89 6:00 PM	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 11/28 6:00 p.m.	Received by: (Signature) Brend L. Olin	
		[Signature]	Signature: [Signature] Sample Title: Sample Date: 11-28

SENT BY: XEROX Telecopier 7017:11-30-89 : 1:00PM : 4153649238 : 707 746 5581: #10