

RECEIVED

By Alameda County Environmental Health at 3:13 pm, Jun 20, 2014

KEI-P89-1106.R13
February 27, 1996

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Ms. Tina Berry

RE: Subsurface Soil Investigation at
Unocal Service Station #3072
2445 Castro Valley Boulevard
Castro Valley, California

FILE #	<u>3072</u>	SS	<input checked="" type="checkbox"/>	BP	<input type="checkbox"/>
RPT	<input checked="" type="checkbox"/>	QW	<input type="checkbox"/>	TRANSMITTAL	<input type="checkbox"/>
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>

Dear Ms. Berry:

Per the request of Unocal Corporation, on February 8, 1996, Kaprealian Engineering, Inc. (KEI) conducted a limited subsurface soil investigation at the referenced site. This investigation was conducted in order to characterize the subsurface soil conditions in the area beneath the diesel dispenser located in the pump island next to Strobridge Avenue. The investigation was requested by Unocal because of diesel dispenser weep that was reported in one of the connections in the diesel dispenser system. The leaking connection in the diesel dispenser system has been repaired and following the repair, the system was monitored daily for several weeks without showing any apparent sign of leakage.

Soil excavation was scheduled to be performed in the area beneath the diesel dispenser in order to remove as much of the hydrocarbon-impacted soil as possible. On February 8, 1996, an area of approximately 2.5 feet by 2.5 feet was excavated beneath the diesel dispenser to a depth of about 3.5 feet below grade. Mr. Don Atkinson-Adams of the Alameda County Health Care Services (ACHCS) Agency was present during excavation and inspection activities. The subsurface soils exposed beneath the dispenser consisted of pea gravel fill. Obvious diesel-impacted fill material was observed immediately beneath the dispenser and to a depth of about one foot below grade.

One composite soil sample, labeled Comp D, was collected from the excavated pea gravel. The composite sample consisted of two individual grab samples collected by the use of a driven tube-type soil sampler. The individual samples were placed in clean two-inch diameter brass tubes and then sealed with Teflon-lined plastic caps. The tubes were then labeled and stored in a cooled ice chest for subsequent delivery to a certified laboratory for analysis.

Following the removal of approximately one cubic yard of pea gravel, one sample, labeled D(3.5), was collected at a depth of about 3.5 feet below grade. This sample was also collected and handled as described above. Based on the field inspection performed in the sidewalls and the bottom of the excavation (2.5 feet by 2.5 feet and to a depth of 3.5 feet below grade), the amount of diesel-impacted soil remaining appeared to be negligible. The excavation beneath the diesel dispenser was backfilled with clean, imported pea gravel by the contractor, Gettler-Ryan, Inc. of Dublin, California. The sample point location and the excavated area are shown on the attached Figure 1.

The soil sample collected from the excavated pea gravel was analyzed for total petroleum hydrocarbons (TPH) as diesel by EPA method 3550/modified 8015, and for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA method 8020. The sample collected from the bottom of the excavation was analyzed for TPH as diesel. The results of the soil analyses are summarized in Table 1. Copies of the laboratory analyses and Chain of Custody documentation are attached to this report.

The stockpiled pea gravel (approximately one cubic yard) represented by Comp D was profiled and approved for disposal at BFI Industrial Waste Services, an approved Class II/III treatment and disposal site, in Livermore, California. The stockpiled soil will soon be transported to the landfill in the near future.

DISCUSSION AND RECOMMENDATION

Based on field observations and the analytical results of the recent soil samples collected, it appears that the majority of the known hydrocarbon-impacted soil beneath the diesel dispenser has been excavated, sampled (as Comp D), and approved for disposal at BFI Landfill. The sample collected from the bottom of the excavation at a depth of about 3.5 feet below grade showed a concentration of TPH as diesel at 20 mg/kg. Therefore, it does not appear that the subsurface soils beneath the subject diesel dispenser contain significant hydrocarbon concentrations.

DISTRIBUTION

A copy of this report should be sent to Mr. Don Atkinson-Adams of the ACHCS, and to the Regional Water Quality Control Board, San Francisco Bay Region.

LIMITATIONS

Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants. Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

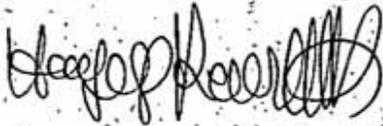
The results of this study are based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We have analyzed this data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, regarding the above, including laboratory analyses, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

KEI-P89-1106.R13
February 27, 1996
Page 4

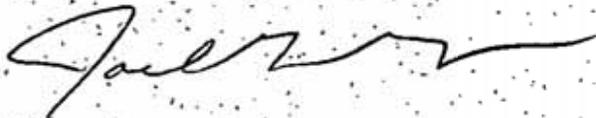
Should you have any questions on this report, please call our office at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

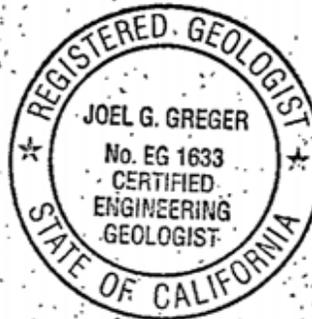


Hagop Kevork
Staff Engineer



Joel G. Greger, C.E.G.
Senior Engineering Geologist

License No. EG 1633
Exp. Date 8/31/96



Timothy R. Ross
General Manager

/jad

Attachments: Table 1
Location Map
Figure 1
Laboratory Analyses
Chain of Custody documentation

KEI-P89-1106.R13
February 27, 1996

TABLE 1
SUMMARY OF LABORATORY ANALYSES

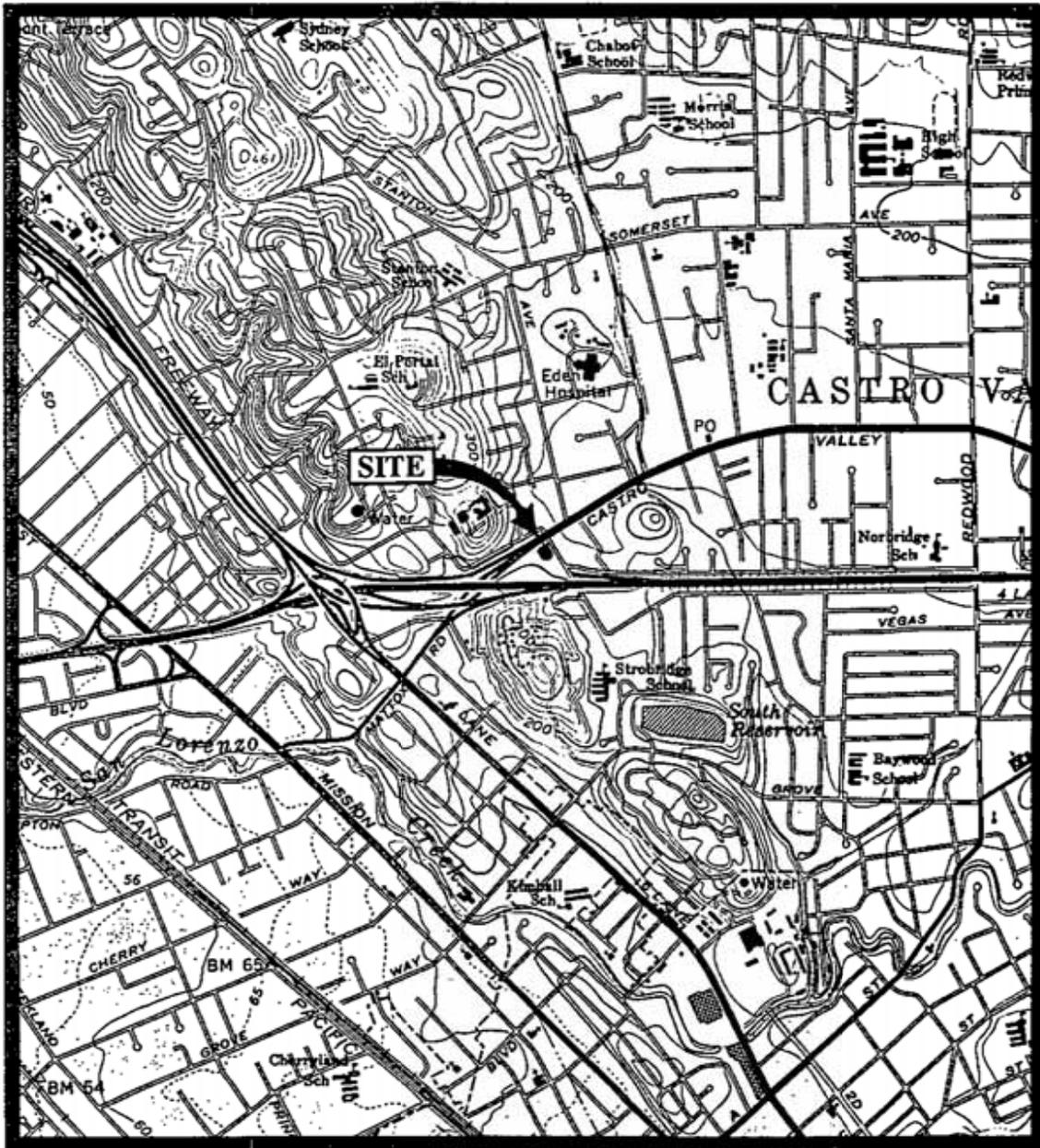
<u>Date</u>	<u>Sample</u>	<u>Depth (feet)</u>	<u>TPH as Diesel</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl- benzene</u>	<u>Xylenes</u>
2/08/96	Comp D	N/A	1,400	ND	ND	ND	ND
	D(3.5)	3.5	20	--	--	--	--

ND = Non-detectable.

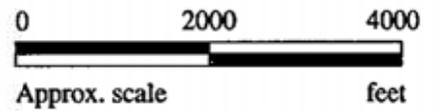
N/A = Not applicable (stockpiled soil).

-- Indicates analysis was not performed.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.



Base modified from 7.5 minute U.S.G.S. Hayward Quadrangle
(photorevised 1980)

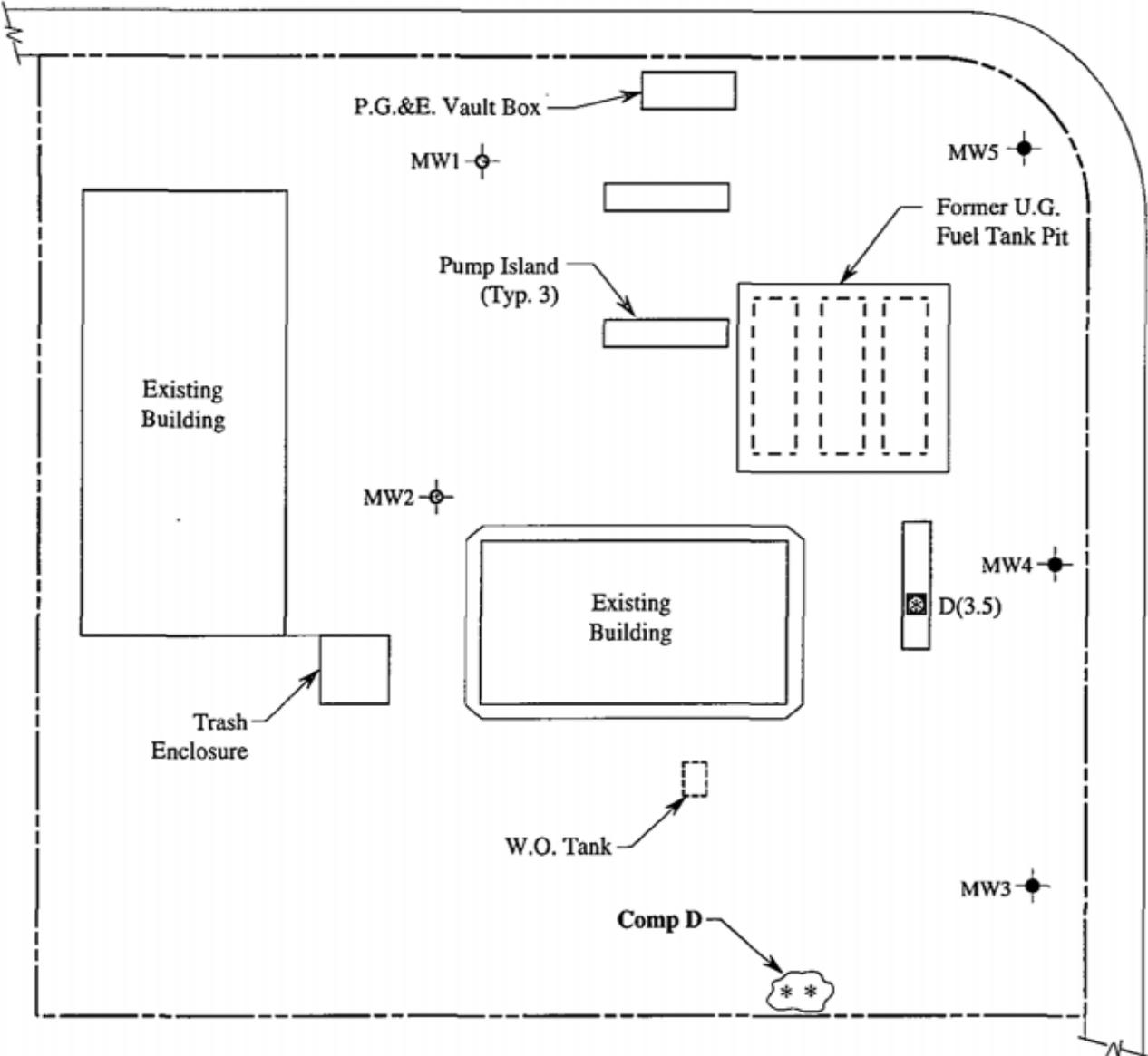


K E I
**KAPREALIAN ENGINEERING
 INCORPORATED**

**UNOCAL SERVICE STATION #3072
 2445 CASTRO VALLEY BLVD.
 CASTRO VALLEY, CALIFORNIA**

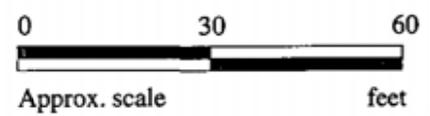
**LOCATION
 MAP**

CASTRO VALLEY BOULEVARD



LEGEND

-  Former monitoring well (destroyed on 6/15/93)
-  Area beneath diesel dispenser excavated to a depth of 3.5 feet below grade
-  Sample point location
-  Stockpiled soil (not to scale)



SITE PLAN



**UNOCAL SERVICE STATION #3072
2445 CASTRO VALLEY BLVD.
CASTRO VALLEY, CALIFORNIA**

**FIGURE
1**



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94065
Walnut Creek, CA 94598
Sacramento, CA 95834

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Dennis Royce

Client Project ID: Unocal #3072, 2445 Castro Valley Blvd.
Sample Matrix: Soil Castro Valley
Analysis Method: EPA 3550/8015 Mod.
First Sample #: 602-0530

Sampled: Feb 8, 1996
Received: Feb 8, 1996
Reported: Feb 12, 1996

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 602-0530 Comp D
Extractable Hydrocarbons	1.0	1400

Chromatogram Pattern: Diesel

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	2/8/96
Date Analyzed:	2/9/96
Instrument Identification:	HP-3A

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Project Manager





Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Dennis Royce

Client Project ID: Unocal #3072, 2445 Castro Valley Blvd., Castro Valley
Matrix: Solid

QC Sample Group: 6020530

Reported: Feb 12, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	SP020896 8015EXA
Analy. Method:	EPA 8015
Prep. Method:	EPA 3550
Analyst:	J. Dinsay
MS/MSD #:	6020363
Sample Conc.:	28 mg/kg
Prepared Date:	2/8/96
Analyzed Date:	2/9/96
Instrument I.D.#:	HP-3A
Conc. Spiked:	10 mg/kg
Result:	35
MS % Recovery:	70
Dup. Result:	29
MSD % Recov.:	10
RPD:	19
RPD Limit:	0-50

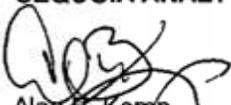
LCS #: LCS020896

Prepared Date: 2/8/96
Analyzed Date: 2/9/96
Instrument I.D.#: HP-3A
Conc. Spiked: 10 mg/kg

LCS Result: 9.0
LCS % Recov.: 90

MS/MSD LCS Control Limits	50-150
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SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Project Manager

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference





**Sequoia
Analytical**

580 Chesapeake Drive
404 N. Wiget Lane
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Sacramento, CA 95834

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(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Dennis Royce

Client Project ID: Unocal #3072, 2445 Castro Valley Blvd.
Sample Matrix: Soil
Analysis Method: EPA 5030/8020
First Sample #: 602-0530

Sampled: Feb 8, 1996
Relogged: Feb 12, 1996
Reported: Feb 15, 1996

BTEX DISTINCTION

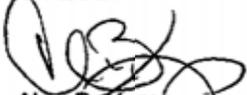
Analyte	Reporting Limit mg/kg	Sample I.D. 602-0530 Comp D
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Total Xylenes	0.0050	N.D.

Quality Control Data

Report Limit Multiplication Factor:	50
Date Analyzed:	2/13/96
Instrument Identification:	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	86

Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Project Manager





Sequoia Analytical

680 Chesapeake Drive
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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Dennis Royce

Client Project ID: Unocal #3072, 2445 Castro Valley Blvd., Castro Valley
Matrix: Solid

QC Sample Group: 602-0530

Reported: Feb 15, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill

MS/MSD Batch#:	6020149	6020149	6020149	6020149
Date Prepared:	2/13/96	2/13/96	2/13/96	2/13/96
Date Analyzed:	2/13/96	2/13/96	2/13/96	2/13/96
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg
Matrix Spike % Recovery:	97	95	97	100
Matrix Spike Duplicate % Recovery:	100	97	97	100
Relative % Difference:	2.5	2.6	0.0	0.0

LCS Batch#:	5LCS021396	5LCS021396	5LCS021396	5LCS021396
Date Prepared:	2/13/96	2/13/96	2/13/96	2/13/96
Date Analyzed:	2/13/96	2/13/96	2/13/96	2/13/96
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	100	95	100	100

% Recovery Control Limits:	55-145	47-149	47-155	56-140
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SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.



SEQUOIA ANALYTICAL/UNOCAL RELOG SHEET

CLIENT: KEI DATE RELOG: 2/12/96
 PROJECT ID: Unocal #3072, Castro Valley DATE DUE: 2/15/96
 PROJ. MANAGER: Alan Kemp DATE SAMP: 2/8/96
 DATE REC'D: 2/8/96 MATRIX: Soil T.A.T. 72h

PREVIOUSLY LOGGED SAMPLES

TAT Change status to: 72h
 Change status as of Day: 2/12/96 Time: 11:42 AM

9602181

CHANGE ANALYSES

Add Analyses
 Cancel Analyses

Sequoia Project ID:	Analyses
9602135	
Sample Number	
6020530	BTEX 6020738 A, B
NA	NA

SAMPLES ON HOLD

Add analyses

Sample Description	Analyses
NA	NA

E 12 03

TAT 0

Client Authorization (Person/Date/Time) Dennis 2/12/96 11:42 AM

Project Manager: [Signature]

(Please submit to Sample Control with a copy of the COC & log-in sheets)

To be completed upon receipt of report:

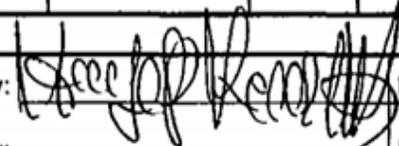
1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed?
 2) as the report issued within the requested turnaround time? Yes No If no, what was the turnaround time?

Approved by: _____ Signature: _____ Company: _____

Company Name: KEI		Project Name: UNOCAL # 3072 - CASTRO VALLEY	
Address: 2401 STANWELL DR. # 400		UNOCAL Project Manager: TINA BERRY	
City: CONCORD State: CA Zip Code: 94520	Release #: 9602181		
Telephone: 602-5100 FAX #: 687-0602	Site #: 3072 - 2445 CASTRO VALLEY BLVD.		
Report To: KEI	Sampler: HAIG KEVORK	QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A	

Turnaround <input type="checkbox"/> 10 Work Days <input type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days Time: <input type="checkbox"/> 2 Work Days <input checked="" type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours	<input type="checkbox"/> Drinking Water <input type="checkbox"/> Waste Water <input checked="" type="checkbox"/> Other	Analyses Requested
CODE: <input type="checkbox"/> Misc. <input type="checkbox"/> Detect. <input type="checkbox"/> Eval. <input type="checkbox"/> Remed. <input type="checkbox"/> Demol. <input type="checkbox"/> Closure		

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Analyses Requested	Comments
1. Comp D	2/8/96	SOIL	2	TUBE	6020530	<div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;"> TPH-D </div>	
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

Relinquished By: 	Date: 2/8/96	Time: 1600	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: 	Date: 2/8/96	Time: 1600

Were Samples Received in Good Condition? Yes No
 Samples on Ice? Yes No
 Method of Shipment _____
 Page ___ of ___

To be completed upon receipt of report:

1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____
 2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
 Yellow - Laboratory
 White - Laboratory



**Sequoia
Analytical**

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FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

Kaprealian Engineering, Inc. 2401 Stanwell Dr., Ste. 400 Concord, CA 94520 Attention: Dennis Royce	Client Project ID: Unocal #3072, 2445 Castro Valley Blvd. Sample Matrix: Soil Analysis Method: EPA 3550/8015 Mod. First Sample #: 602-0529	Castro Valley	Sampled: Feb 8, 1996 Received: Feb 8, 1996 Reported: Feb 12, 1996
-------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------	---------------	-------------------------------------------------------------------------

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 602-0529 D (3.5)
Extractable Hydrocarbons	1.0	20

Chromatogram Pattern: Diesel

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	2/8/96
Date Analyzed:	2/9/96
Instrument Identification:	HP-3A

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Project Manager





Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Dennis Royce

Client Project ID: Unocal #3072, 2445 Castro Valley Blvd., Castro Valley
Matrix: Solid

QC Sample Group: 6020529

Reported: Feb 12, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	SP020896 8015EXA
Analy. Method:	EPA 8015
Prep. Method:	EPA 3550
Analyst:	J. Dinsay
MS/MSD #:	6020363
Sample Conc.:	28 mg/kg
Prepared Date:	2/8/96
Analyzed Date:	2/9/96
Instrument I.D.#:	HP-3A
Conc. Spiked:	10 mg/kg
Result:	35
MS % Recovery:	70
Dup. Result:	29
MSD % Recov.:	10
RPD:	19
RPD Limit:	0-50

LCS #:	LCS020896
Prepared Date:	2/8/96
Analyzed Date:	2/9/96
Instrument I.D.#:	HP-3A
Conc. Spiked:	10 mg/kg
LCS Result:	9.0
LCS % Recov.:	90

MS/MSD LCS Control Limits	50-150
------------------------------------------	--------

SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference



UNOCAL 76

- 680 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600
- 18939 120th Ave., N.E., Suite 101 • Bothell, WA 98011 • (206) 481-9200
- 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
- East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
- 404 N. Wiget Lane • Walnut Creek, CA 94598 • (510) 988-9600
- 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Company Name: KEI		Project Name: UNOCAL #3072 - CASTRO VALLEY	
Address: 2401 STANWELL DR. #400		UNOCAL Project Manager: TINA BERRY	
City: CONCORD State: CA Zip Code: 94520	Release #:		
Telephone: 602-5100 FAX #: 687-0602	Site #: 3072 - 2445 CASTRO VALLEY BLVD.		
Report To: KEI	Sampler: HAIG KEVORK	QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A	

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours

CODE: Misc. Detect. Eval. Remed. Demol. Closure

Analyses Requested

Drinking Water
 Waste Water
 Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Analyses Requested										Comments									
1. D (3.5)	2/8/96	SOIL	1	TUBE	6020529	✓																			
2.																									
3.																									
4.																									
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									

Relinquished By: <i>[Signature]</i>	Date: 2/8/96	Time: 1600	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <i>[Signature]</i>	Date: 2/8/96	Time: 1600

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment _____ Page ___ of ___

To be completed upon receipt of report:

1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____

2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
Yellow - Laboratory
White - Laboratory