

KAPREALIAN ENGINEERING  
INCORPORATED

ENVIRONMENTAL  
PROTECTION

97 MAR 26 PM 2:11  
KEI-P88-0205.R10  
April 1, 1996

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

Attention: Mr. Edward C. Ralston

RE: Stockpiled Soil Sampling and  
Disposal Report for  
Former Unocal Service Station #5366  
7375 Amador Valley Boulevard  
Dublin, California

Dear Mr. Ralston:

This report summarizes the analytical results of the composite soil samples that were collected from the soil stockpiled at the referenced site. The soil analyses were conducted to comply with the local regulatory agency requirements for proper disposal of potentially contaminated soil.

Fuel  
W.O.  
O.W.S.

On March 8, 1996, Kaprealian Engineering, Inc. (KEI) collected composite soil samples from stockpiled soil that was generated during demolition activities at the former service station. Composite soil samples Comp A through Comp D were collected from approximately 508 tons (376 cubic yards) of soil that were generated during the removal of the former underground gasoline storage tanks; Comp WO was collected from approximately 139 tons (103 cubic yards) of soil that were generated during the removal of the former underground waste oil tank; and Comp OWS was collected during the removal of the former hoists and oil/water separator. The composite samples each consisted of four individual grab samples taken from depths of approximately 1 to 2 feet into the stockpiles. The individual samples were collected in two-inch diameter, clean brass tubes that were then sealed with Teflon-lined plastic caps and placed in a cooled ice chest. The samples were accompanied by properly executed Chain of Custody documentation for transport to a California-certified laboratory for analysis. Soil samples Comp A through Comp D, Comp WO and Comp OWS were subsequently composited and analyzed by Sequoia Analytical Laboratory in Walnut Creek, California. The location of the stockpiled soil and the grab sample collection points is provided on the attached Figure 1.

Comp A through Comp D were analyzed to determine the concentrations of total petroleum hydrocarbons (TPH) as gasoline by EPA method

5030/modified 8015, benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA method 8020, and total lead by EPA method 7420. Comp WO and Comp OWS were analyzed to determine the concentrations of total recoverable petroleum hydrocarbons (total oil and grease - TOG) by EPA method 418.1, BTEX by EPA method 8020, volatile organic compounds by EPA method 8240, semi-volatile organic compounds by EPA method 8270, and the CAM 17 metals. The results of the soil analyses are summarized in Table 1. Copies of the laboratory analyses sheets and the Chain of Custody documentation are attached to this report.

The stockpiles of soil represented by composite samples Comp A through Comp D, Comp WO and Comp OWS were profiled for disposal to the BFI Waste Systems (BFI) facilities in Livermore, California (an approved Class II/III disposal facility). Based on the concentrations of the constituents analyzed in Comp A through Comp D, BFI issued approval number CA 405 031296 04171 on March 12, 1996, for the disposal of the 508 tons of stockpiled soil generated during the removal of the former underground gasoline storage tank. Based on the concentrations of the constituents analyzed in Comp WO, BFI issued approval number CA 405 032596 04168 on March 25, 1996, for the disposal of 139 tons of stockpiled soil generated during the removal of the former underground waste oil storage tank. Based on the concentrations of the constituents analyzed in Comp OWS, BFI issued approval number CA 405 03/25/96 04168-A on March 25, 1996, for the disposal of 159 tons of stockpiled soil generated during the removal of the former oil/water separator. On March 13 and 19, 1996, Conrad & Sons Trucking, Inc. (Conrad) of Escalon, California, transported and disposed of 508 tons of soil represented by Comp A *Fuel* through Comp D to BFI's Vasco Road landfill in Livermore.

On March 18, 1996, KEI returned to the subject site and collected composite soil samples (designated as Comp E and Comp F) from approximately 297 tons (220 cubic yards) of additional stockpiled *Fuel overex* soil that were generated during subsequent excavation in the area of the former product pump island. Comp E and Comp F were collected, stored, and analyzed for concentrations of TPH as gasoline, BTEX, and total lead as described above.

The soil represented by composite samples Comp E and Comp F was profiled for disposal at BFI. Based on the concentrations of the constituents analyzed in Comp E and Comp F, BFI issued approval number CA 405 031996 04164 on March 19, 1996, for the disposal of 297 tons of soil. On March 20, 21, and 26, 1996, Conrad transported and disposed of 297 tons of soil represented by Comp E and Comp F to BFI's Vasco Road landfill in Livermore. *Fuel overex* On March 26, 1996, Conrad transported and disposed of 298 tons of stockpiled soil represented by Comp WO and Comp OWS to BFI's Vasco Road

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April 1, 1996

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landfill. In summary, a cumulative total of approximately 1,103 tons (817 cubic yards) of soil were disposed of at BFI.

Should you have any question concerning this report please do not hesitate to contact me at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

A handwritten signature in cursive script that reads "Dennis Royce".

Dennis Royce  
Technical Assistant

/dr

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

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 April 1, 1996

TABLE 1

SUMMARY OF LABORATORY ANALYSES  
 SOIL

<u>Sample</u>	<u>Date Collected</u>	<u>TPH as Gasoline</u>	<u>TOG</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethylbenzene</u>	<u>Total Xylenes</u>	<u>Total Lead</u>
Comp A	3/8/96	ND	--	ND	0.0067	0.0061	0.027	ND
Comp B	3/8/96	ND	--	ND	0.0067	ND	0.024	ND
Comp C	3/8/96	ND	--	ND	0.0062	0.0052	0.023	ND
Comp D	3/8/96	22	--	0.15	0.025	0.38	1.8	ND
Comp WO	3/8/96	--	13	ND	0.0078	ND	0.013	--
Comp OWS	3/8/96	--	1,400	ND	ND	5.1	31	--
Comp E	3/18/96	900	--	1.4	25	28	150	4.5
Comp F	3/18/96	850	--	2.2	29	40	210	4.6

Inorganic Persistent and Bioaccumulative Toxic Substances  
 Total Threshold Limit Concentrations (TTL)  
 (Cam 17 Metals)

<u>Analyte</u>	<u>Comp WO</u>	<u>Comp OWS</u>	<u>Analyte</u>	<u>Comp WO</u>	<u>Comp OWS</u>
Antimony	ND	ND	Mercury	0.029	0.027
Arsenic	ND	ND	Molybdenum	ND	ND
Barium	100	120	Nickel	27	32

April 1, 1996

TABLE 1 (Continued)SUMMARY OF LABORATORY ANALYSES  
SOILInorganic Persistent and Bioaccumulative Toxic Substances  
Total Threshold Limit Concentrations (TTLIC)  
(Cam 17 Metals)

<u>Analyte</u>	<u>Comp WO</u>	<u>Comp OWS</u>	<u>Analyte</u>	<u>Comp WO</u>	<u>Comp OWS</u>
Beryllium	ND	ND	Selenium	ND	ND
Cadmium	ND	ND	Silver	ND	ND
Chromium (III)	20	28	Thallium	ND	ND
Cobalt	5.9	7.5	Vanadium	15	20
Copper	30	21	Zinc	43	40
Lead	5.9	6.6			

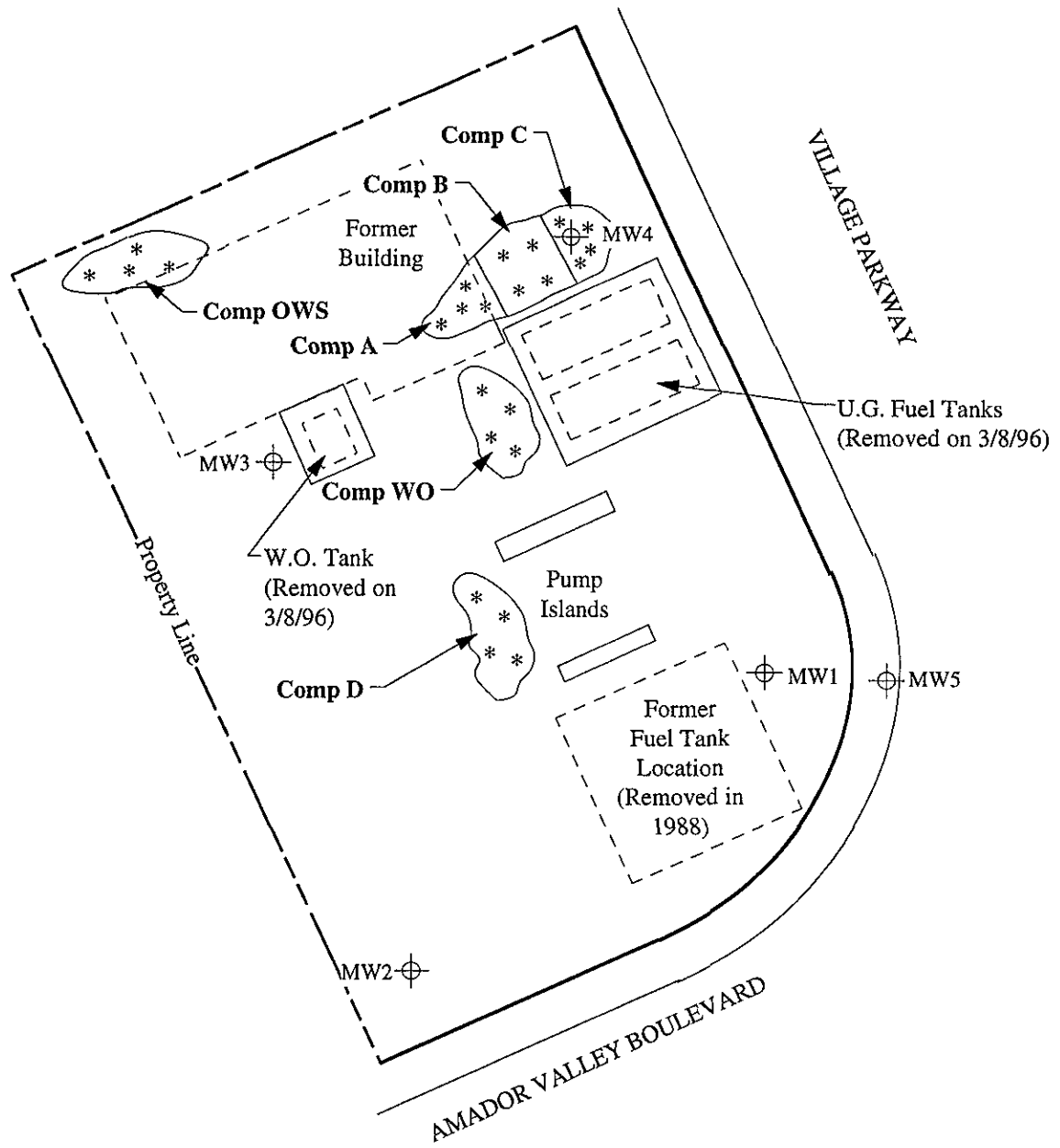
\* Additional Analyses: All volatile organic compounds analyzed by EPA method 8240 and semi-volatile organic compounds analyzed by EPA method 8270 were non-detectable in Comp WO.

All volatile organic compounds analyzed in Comp OWS by EPA method 8240 were non-detectable except for ethylbenzene, toluene, and total xylenes which were reported at concentrations of 870, 120, and 7600  $\mu$ /kg (micrograms per kilogram), respectively. All semi-volatile organic compounds analyzed in Comp OWS by EPA method 8270 were non-detectable except for 2-methylnaphthalene and Naphthalene which were reported at concentrations of 2,500 and 640  $\mu$ /kg, respectively.




-- Indicates that analyses was not performed

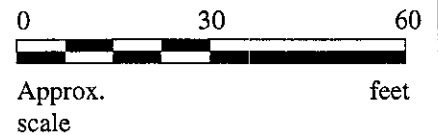
ND = Non-detectable.

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



**LEGEND**

-  Monitoring well
-  Sample point location
-  Stockpiled soil (not to scale)



**SITE PLAN**



**FORMER UNOCAL S/S #5366  
7375 AMADOR VALLEY BLVD.  
DUBLIN, CALIFORNIA**

**FIGURE  
1**



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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Matrix: Soil  
Analysis Method: EPA 5030/8015 Mod./8020  
First Sample #: 603-0502

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

**TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION**

Analyte	Reporting Limit mg/kg	Sample I.D. 603-0502 Comp A	Sample I.D. 603-0503 Comp B	Sample I.D. 603-0504 Comp C	Sample I.D. 603-0505 Comp D
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	22
Benzene	0.0050	N.D.	N.D.	N.D.	0.15
Toluene	0.0050	0.0067	0.0067	0.0062	0.025
Ethyl Benzene	0.0050	0.0061	N.D.	0.0052	0.38
Total Xylenes	0.0050	0.027	0.024	0.023	1.8

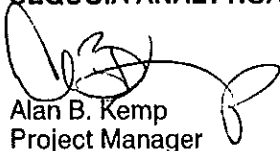
Chromatogram Pattern: -- -- -- Gasoline

**Quality Control Data**

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Analyzed:	3/11/96	3/11/96	3/11/96	3/11/96
Instrument Identification:	HP-2	HP-2	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	106	104	103	75

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

**SEQUOIA ANALYTICAL, #1271**

  
Alan B. Kemp  
Project Manager





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil  
Analysis for: Lead  
First Sample #: 603-0502

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Digested: Mar 11, 1996  
Analyzed: Mar 11, 1996  
Reported: Mar 12, 1996

**LABORATORY ANALYSIS FOR: Lead**

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
603-0502	Comp A	2.5	N.D.
603-0503	Comp B	2.5	N.D.
603-0504	Comp C	2.5	N.D.
603-0505	Comp D	2.5	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL, #1271**

  
Alan B. Kemp  
Project Manager







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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd., Dublin  
Matrix: Solid

QC Sample Group: 6030502-507

Reported: Mar 14, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	S. Chullakorn	S. Chullakorn	S. Chullakorn	S. Chullakorn

<b>MS/MSD</b>				
Batch#:	6030487	6030487	6030487	6030487
Date Prepared:	3/11/96	3/11/96	3/11/96	3/11/96
Date Analyzed:	3/11/96	3/11/96	3/11/96	3/11/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg
<b>Matrix Spike</b>				
% Recovery:	143	138	150	142
<b>Matrix Spike Duplicate</b>				
% Recovery:	143	140	150	150
<b>Relative % Difference:</b>	0.0	1.8	1.7	5.7

<b>LCS Batch#:</b>	2LCS031196	2LCS031196	2LCS031196	2LCS031196
Date Prepared:	3/11/96	3/11/96	3/11/96	3/11/96
Date Analyzed:	3/11/96	3/11/96	3/11/96	3/11/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
<b>LCS % Recovery:</b>	115	110	110	115

<b>% Recovery Control Limits:</b>	55-145	47-149	47-155	56-140
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**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, #1271**

Alan B. Kemp  
Project Manager





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd., Dublin  
 Matrix: Solid

QC Sample Group: 6030502-507

Reported: Mar 14, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Lead
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 7420
<b>Analyst:</b>	S. Chullakorn	S. Chullakorn	S. Chullakorn	S. Chullakorn	T. Le

<b>MS/MSD Batch#:</b>	6030487	6030487	6030487	6030487	6030502
<b>Date Prepared:</b>	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
<b>Date Analyzed:</b>	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	MV-1
<b>Conc. Spiked:</b>	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg	50 mg/kg
<b>Matrix Spike % Recovery:</b>	120	120	128	125	98
<b>Matrix Spike Duplicate % Recovery:</b>	115	115	120	125	90
<b>Relative % Difference:</b>	4.3	4.3	6.1	0.0	8.5

<b>LCS Batch#:</b>	3LCS031196	3LCS031196	3LCS031196	3LCS031196	BLK031196
<b>Date Prepared:</b>	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
<b>Date Analyzed:</b>	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	MV-1
<b>LCS % Recovery:</b>	95	95	95	97	108

<b>% Recovery Control Limits:</b>	55-145	47-149	47-155	56-140	75-125
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**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, #1271**

Alan B. Kemp  
 Project Manager





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Matrix: Soil  
Analysis Method: EPA 5030/8015 Mod./8020  
First Sample #: 603-0506

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Reported: Mar 25, 1996

**BTEX DISTINCTION**

Analyte	Reporting Limit mg/kg	Sample I.D. 603-0506 Comp WO	Sample I.D. 603-0507 Comp OWS
Benzene	0.0050	N.D.	N.D.
Toluene	0.0050	0.0078	N.D.
Ethyl Benzene	0.0050	N.D.	5.1
Total Xylenes	0.0050	0.013	31

**Quality Control Data**

Report Limit Multiplication Factor:	1.0	500
Date Analyzed:	3/12/96	3/13/96
Instrument Identification:	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	93	98

Purgeable Hydrocarbons are quantitated against a fresh gasoline 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 5366, 7375 Amador Valley Blvd.  
Matrix Descript: Soil  
Analysis Method: EPA 418.1 (I.R. with clean-up)  
First Sample #: 603-0506

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 22, 1996  
Analyzed: Mar 22, 1996  
Reported: Mar 25, 1996

**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS**

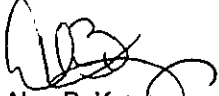
Sample Number	Sample Description	Petroleum Oil mg/kg (ppm)	D.L. Mult. Factor	QC Batch Number	Instrument ID
603-0506	Comp WO	13	1.0	SP0322964181MDA	Miran 1A
603-0507	Comp OWS	1,400	25	SP0322964181MDA	Miran 1A

**Detection Limits:**

**5.0**

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL, #1271**

  
Alan B. Kemp  
Project Manager





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp WO  
Analysis Method: EPA 8240  
Lab Number: 603-0506

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 12, 1996  
Analyzed: Mar 12, 1996  
Reported: Mar 25, 1996

**VOLATILE ORGANICS by GC/MS (EPA 8240)**

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp WO  
Analysis Method: EPA 8240  
Lab Number: 603-0506

Dublin  
Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 12, 1996  
Analyzed: Mar 12, 1996  
Reported: Mar 25, 1996

**VOLATILE ORGANICS by GC/MS (EPA 8240)**

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes .....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**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 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp OWS  
Analysis Method: EPA 8240  
Lab Number: 603-0507

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 12, 1996  
Analyzed: Mar 12, 1996  
Reported: Mar 25, 1996

**VOLATILE ORGANICS by GC/MS (EPA 8240)**

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	870
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	120
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp OWS  
Analysis Method: EPA 8240  
Lab Number: 603-0507

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 12, 1996  
Analyzed: Mar 12, 1996  
Reported: Mar 25, 1996

**VOLATILE ORGANICS by GC/MS (EPA 8240)**

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes .....	100	7600

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL, #1271**

  
Alan B. Kemp  
Project Manager







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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp WO  
Analysis Method: EPA 8270  
Lab Number: 603-0506

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 11, 1996  
Analyzed: Mar 11, 1996  
Reported: Mar 25, 1996

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acenaphthene.....	100	N.D.
Acenaphthylene.....	100	N.D.
Aniline.....	100	N.D.
Anthracene.....	100	N.D.
Benzidine.....	2,500	N.D.
Benzoic Acid.....	500	N.D.
Benzo(a)anthracene.....	100	N.D.
Benzo(b)fluoranthene.....	100	N.D.
Benzo(k)fluoranthene.....	100	N.D.
Benzo(g,h,i)perylene.....	100	N.D.
Benzo(a)pyrene.....	100	N.D.
Benzyl alcohol.....	100	N.D.
Bis(2-chloroethoxy)methane.....	100	N.D.
Bis(2-chloroethyl)ether.....	100	N.D.
Bis(2-chloroisopropyl)ether.....	100	N.D.
Bis(2-ethylhexyl)phthalate.....	500	N.D.
4-Bromophenyl phenyl ether.....	100	N.D.
Butyl benzyl phthalate.....	100	N.D.
4-Chloroaniline.....	100	N.D.
2-Chloronaphthalene.....	100	N.D.
4-Chloro-3-methylphenol.....	100	N.D.
2-Chlorophenol.....	100	N.D.
4-Chlorophenyl phenyl ether.....	100	N.D.
Chrysene.....	100	N.D.
Dibenz(a,h)anthracene.....	100	N.D.
Dibenzofuran.....	100	N.D.
Di-N-butyl phthalate.....	500	N.D.
1,3-Dichlorobenzene.....	100	N.D.
1,4-Dichlorobenzene.....	100	N.D.
1,2-Dichlorobenzene.....	100	N.D.
3,3-Dichlorobenzidine.....	500	N.D.
2,4-Dichlorophenol.....	100	N.D.
Diethyl phthalate.....	100	N.D.
2,4-Dimethylphenol.....	100	N.D.
Dimethyl phthalate.....	100	N.D.
4,6-Dinitro-2-methylphenol.....	500	N.D.
2,4-Dinitrophenol.....	500	N.D.
2,4-Dinitrotoluene.....	100	N.D.
2,6-Dinitrotoluene.....	100	N.D.
Di-N-octyl phthalate.....	100	N.D.





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp WO  
Analysis Method: EPA 8270  
Lab Number: 603-0506

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 11, 1996  
Analyzed: Mar 11, 1996  
Reported: Mar 25, 1996

**SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)**

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Fluoranthene.....	100	N.D.
Fluorene.....	100	N.D.
Hexachlorobenzene.....	100	N.D.
Hexachlorobutadiene.....	100	N.D.
Hexachlorocyclopentadiene.....	100	N.D.
Hexachloroethane.....	100	N.D.
Indeno(1,2,3-cd)pyrene.....	100	N.D.
Isophorone.....	100	N.D.
2-Methylnaphthalene.....	100	N.D.
2-Methylphenol.....	100	N.D.
4-Methylphenol.....	100	N.D.
Naphthalene.....	100	N.D.
2-Nitroaniline.....	500	N.D.
3-Nitroaniline.....	500	N.D.
4-Nitroaniline.....	500	N.D.
Nitrobenzene.....	100	N.D.
2-Nitrophenol.....	100	N.D.
4-Nitrophenol.....	500	N.D.
N-Nitrosodimethylamine.....	100	N.D.
N-Nitrosodiphenylamine.....	100	N.D.
N-Nitroso-di-N-propylamine.....	100	N.D.
Pentachlorophenol.....	500	N.D.
Phenanthrene.....	100	N.D.
Phenol.....	100	N.D.
Pyrene.....	100	N.D.
1,2,4-Trichlorobenzene.....	100	N.D.
2,4,5-Trichlorophenol.....	500	N.D.
2,4,6-Trichlorophenol.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL, #1271**

  
Alan B. Kemp  
Project Manager





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd  
Sample Descript: Soil, Comp OWS  
Analysis Method: EPA 8270  
Lab Number: 603-0507

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 11, 1996  
Analyzed: Mar 11, 1996  
Reported: Mar 25, 1996

**SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)**

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acenaphthene.....	100	N.D.
Acenaphthylene.....	100	N.D.
Aniline.....	100	N.D.
Anthracene.....	100	N.D.
Benzidine.....	2,500	N.D.
Benzoic Acid.....	500	N.D.
Benzo(a)anthracene.....	100	N.D.
Benzo(b)fluoranthene.....	100	N.D.
Benzo(k)fluoranthene.....	100	N.D.
Benzo(g,h,i)perylene.....	100	N.D.
Benzo(a)pyrene.....	100	N.D.
Benzyl alcohol.....	100	N.D.
Bis(2-chloroethoxy)methane.....	100	N.D.
Bis(2-chloroethyl)ether.....	100	N.D.
Bis(2-chloroisopropyl)ether.....	100	N.D.
Bis(2-ethylhexyl)phthalate.....	500	N.D.
4-Bromophenyl phenyl ether.....	100	N.D.
Butyl benzyl phthalate.....	100	N.D.
4-Chloroaniline.....	100	N.D.
2-Chloronaphthalene.....	100	N.D.
4-Chloro-3-methylphenol.....	100	N.D.
2-Chlorophenol.....	100	N.D.
4-Chlorophenyl phenyl ether.....	100	N.D.
Chrysene.....	100	N.D.
Dibenz(a,h)anthracene.....	100	N.D.
Dibenzofuran.....	100	N.D.
Di-N-butyl phthalate.....	500	N.D.
1,3-Dichlorobenzene.....	100	N.D.
1,4-Dichlorobenzene.....	100	N.D.
1,2-Dichlorobenzene.....	100	N.D.
3,3-Dichlorobenzidine.....	500	N.D.
2,4-Dichlorophenol.....	100	N.D.
Diethyl phthalate.....	100	N.D.
2,4-Dimethylphenol.....	100	N.D.
Dimethyl phthalate.....	100	N.D.
4,6-Dinitro-2-methylphenol.....	500	N.D.
2,4-Dinitrophenol.....	500	N.D.
2,4-Dinitrotoluene.....	100	N.D.
2,6-Dinitrotoluene.....	100	N.D.
Di-N-octyl phthalate.....	100	N.D.





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp OWS  
Analysis Method: EPA 8270  
Lab Number: 603-0507

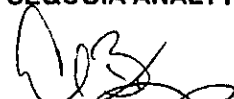
Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Extracted: Mar 11, 1996  
Analyzed: Mar 11, 1996  
Reported: Mar 25, 1996

**SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)**

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Fluoranthene.....	100	N.D.
Fluorene.....	100	N.D.
Hexachlorobenzene.....	100	N.D.
Hexachlorobutadiene.....	100	N.D.
Hexachlorocyclopentadiene.....	100	N.D.
Hexachloroethane.....	100	N.D.
Indeno(1,2,3-cd)pyrene.....	100	N.D.
Isophorone.....	100	N.D.
<b>2-Methylnaphthalene.....</b>	<b>100</b>	<b>2,500</b>
2-Methylphenol.....	100	N.D.
4-Methylphenol.....	100	N.D.
<b>Naphthalene.....</b>	<b>100</b>	<b>640</b>
2-Nitroaniline.....	500	N.D.
3-Nitroaniline.....	500	N.D.
4-Nitroaniline.....	500	N.D.
Nitrobenzene.....	100	N.D.
2-Nitrophenol.....	100	N.D.
4-Nitrophenol.....	500	N.D.
N-Nitrosodimethylamine.....	100	N.D.
N-Nitrosodiphenylamine.....	100	N.D.
N-Nitroso-di-N-propylamine.....	100	N.D.
Pentachlorophenol.....	500	N.D.
Phenanthrene.....	100	N.D.
Phenol.....	100	N.D.
Pyrene.....	100	N.D.
1,2,4-Trichlorobenzene.....	100	N.D.
2,4,5-Trichlorophenol.....	500	N.D.
2,4,6-Trichlorophenol.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp WO  
Lab Number: 603-0506

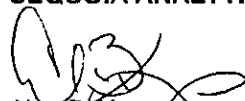
Dublin  
Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Digested: 3/11 & 14/96  
Analyzed: 3/12 - 21/96  
Reported: Mar 25, 1996

**CAM 17 METALS**

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	5.0	N.D.
Arsenic.....	5.0	N.D.
Barium.....	0.50	100
Beryllium.....	0.50	N.D.
Cadmium.....	0.50	N.D.
Chromium (III).....	0.50	20
Cobalt.....	0.50	5.9
Copper.....	0.50	30
Lead.....	1.0	5.9
Mercury.....	0.010	0.029
Molybdenum.....	0.50	N.D.
Nickel.....	1.0	27
Selenium.....	5.0	N.D.
Silver.....	0.50	N.D.
Thallium.....	5.0	N.D.
Vanadium.....	0.50	15
Zinc.....	1.0	43

Analytes reported as N.D. were not present above the stated limit of detection.

**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 5366, 7375 Amador Valley Blvd.  
Sample Descript: Soil, Comp OWS  
Lab Number: 603-0507

Sampled: Mar 8, 1996  
Received: Mar 8, 1996  
Digested: 3/11 & 14/96  
Analyzed: 3/12 - 21/96  
Reported: Mar 25, 1996

**CAM 17 METALS**

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	5.0	N.D.
Arsenic.....	5.0	N.D.
Barium.....	0.50	120
Beryllium.....	0.50	N.D.
Cadmium.....	0.50	N.D.
Chromium (III).....	0.50	28
Cobalt.....	0.50	7.5
Copper.....	0.50	21
Lead.....	1.0	6.6
Mercury.....	0.010	0.027
Molybdenum.....	0.50	N.D.
Nickel.....	1.0	32
Selenium.....	5.0	N.D.
Silver.....	0.50	N.D.
Thallium.....	5.0	N.D.
Vanadium.....	0.50	20
Zinc.....	1.0	40

Analytes reported as N.D. were not present above the stated limit of detection.

**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 5366, 7375 Amador Valley Blvd., Dublin  
 Matrix: Solid

QC Sample Group: 6030502-507

Reported: Mar 25, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Brewer	M. Brewer	M. Brewer	M. Brewer

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	6030506	6030506	6030506	6030506
Date Prepared:	3/13/96	3/13/96	3/13/96	3/13/96
Date Analyzed:	3/13/96	3/13/96	3/13/96	3/13/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg
Matrix Spike % Recovery:	122	113	120	116
Matrix Spike Duplicate % Recovery:	110	103	110	105
Relative % Difference:	11	9.3	8.7	9.7

LCS Batch#:	1LCS031396	1LCS031396	1LCS031396	1LCS031396
Date Prepared:	3/13/96	3/13/96	3/13/96	3/13/96
Date Analyzed:	3/13/96	3/13/96	3/13/96	3/13/96
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	110	105	105	106

% Recovery Control Limits:	Benzene	Toluene	Ethyl Benzene	Xylenes
	55-145	47-149	47-155	56-140

**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, #1271**

Alan B. Kemp  
 Project Manager





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd., Dublin  
Matrix: Solid

QC Sample Group: 6030502-507

Reported: Mar 25, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Oil & Grease
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 418.1
Analyst:	L. Huang	L. Huang	L. Huang	L. Huang	I. Dalvand

MS/MSD Batch#:	MS031296	MS031296	MS031296	MS031296	6031697
Date Prepared:	3/12/96	3/12/96	3/12/96	3/12/96	3/22/96
Date Analyzed:	3/12/96	3/12/96	3/12/96	3/12/96	3/22/96
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	Miran-1A
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg	125 mg/kg
Matrix Spike % Recovery:	93	90	93	92	113
Matrix Spike Duplicate % Recovery:	98	93	95	100	112
Relative % Difference:	5.3	2.7	2.6	8.7	0.71

LCS Batch#:	3LCS031296	3LCS031296	3LCS031296	3LCS031296	LCS032296
Date Prepared:	3/12/96	3/12/96	3/12/96	3/12/96	3/22/96
Date Analyzed:	3/12/96	3/12/96	3/12/96	3/12/96	3/22/96
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	Miran-1A
LCS % Recovery:	95	90	95	95	111

% Recovery Control Limits:	55-145	47-149	47-155	56-140	70-130
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**Please Note:**

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**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 5366, 7375 Amador Valley Blvd., Dublin  
Matrix: Solid

QC Sample Group: 6030506-507

Reported: Mar 25, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
Method:	EPA 8240	EPA 8240	EPA 8240	EPA 8240	EPA 8240
Analyst:	S. Le	S. Le	S. Le	S. Le	S. Le

MS/MSD Batch#:	6020507	6020507	6020507	6020507	6020507
Date Prepared:	3/12/96	3/12/96	3/12/96	3/12/96	3/12/96
Date Analyzed:	3/12/96	3/12/96	3/12/96	3/12/96	3/12/96
Instrument I.D.#:	GC/MS 2	GC/MS 2	GC/MS 2	GC/MS 2	GC/MS 2
Conc. Spiked:	2500 µg/kg	2500 µg/kg	2500 µg/kg	2500 µg/kg	2500 µg/kg
Matrix Spike % Recovery:	88	89	92	95	89
Matrix Spike Duplicate % Recovery:	85	112	76	92	86
Relative % Difference:	37	22	18	2.8	4.1

LCS Batch#:	LCS031296	LCS031296	LCS031296	LCS031296	LCS031296
Date Prepared:	3/12/96	3/12/96	3/12/96	3/12/96	3/12/96
Date Analyzed:	3/12/96	3/12/96	3/12/96	3/12/96	3/12/96
Instrument I.D.#:	GC/MS 2	GC/MS 2	GC/MS 2	GC/MS 2	GC/MS 2
LCS % Recovery:	85	92	90	89	83

% Recovery Control Limits:	DL-234	71-157	37-151	47-150	37-160
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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 5366, 7375 Amador Valley Blvd., Dublin  
Matrix: Solid

QC Sample Group: 6030506-507

Reported: Mar 25, 1996

**QUALITY CONTROL DATA REPORT**


ANALYTE	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol
<b>Method:</b>	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
<b>Analyst:</b>	T. Granicher	T. Granicher	T. Granicher	T. Granicher	T. Granicher	T. Granicher

<b>MS/MSD Batch#:</b>	6030507	6030507	6030507	6030507	6030507	6030507
<b>Date Prepared:</b>	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
<b>Date Analyzed:</b>	3/12/96	3/12/96	3/12/96	3/12/96	3/12/96	3/12/96
<b>Instrument I.D.#:</b>	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
<b>Conc. Spiked:</b>	5000 µg/kg	5000 µg/kg	2500 µg/kg	2500 µg/kg	2500 µg/kg	5000 µg/kg
<b>Matrix Spike % Recovery:</b>	72	75	74	106	84	79
<b>Matrix Spike Duplicate % Recovery:</b>	72	69	66	102	74	75
<b>Relative % Difference:</b>	0.0	8.3	11	3.8	13	5.2

<b>LCS Batch#:</b>	LCS031196	LCS031196	LCS031196	LCS031196	LCS031196	LCS031196
<b>Date Prepared:</b>	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
<b>Date Analyzed:</b>	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
<b>Instrument I.D.#:</b>	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
<b>LCS % Recovery:</b>	71	74	76	80	82	81

<b>% Recovery Control Limits:</b>	46-130	23-134	20-124	DL-230	44-142	22-147
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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.





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd., Dublin  
 Matrix: Solid

QC Sample Group: 6030506-507

Reported: Mar 25, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Acenaphthene	4-Nitrophenol	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	T. Granicher	T. Granicher	T. Granicher	T. Granicher	T. Granicher

MS/MSD Batch#:	6030507	6030507	6030507	6030507	6030507
Date Prepared:	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
Date Analyzed:	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	2500 µg/kg	5000 µg/kg	2500 µg/kg	5000 µg/kg	2500 µg/kg
Matrix Spike % Recovery:	90	63	78	101	94
Matrix Spike Duplicate % Recovery:	86	53	74	90	92
Relative % Difference:	4.5	17	5.2	12	2.1

LCS Batch#:	LCS031196	LCS031196	LCS031196	LCS031196	LCS031196
Date Prepared:	3/11/96	3/11/96	3/11/96	3/11/96	3/11/96
Date Analyzed:	3/12/96	3/12/96	3/12/96	3/12/96	3/12/96
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	80	55	76	94	94

% Recovery Control Limits:	47-145	DL-132	39-139	14-176	52-115
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SEQUOIA ANALYTICAL, #1271

  
 Alan B. Kemp  
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Concord, CA 94520  
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Client Project ID: Unocal 5366, 7375 Amador Valley Blvd., Dublin  
Matrix: Solid

QC Sample Group: 6030506-507

Reported: Mar 25, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Chromium	Vanadium	Beryllium	Nickel	Zinc	Barium	Copper
<b>Method:</b>	EPA 610	EPA 610	EPA 610	EPA 610	EPA 610	EPA 610	EPA 610
<b>Analyst:</b>	J. Kelly	J. Kelly	J. Kelly	J. Kelly	J. Kelly	J. Kelly	J. Kelly

<b>MS/MSD</b>							
<b>Batch#:</b>	6030506	6030506	6030506	6030506	6030506	6030506	6030506
<b>Date Prepared:</b>	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96
<b>Date Analyzed:</b>	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96
<b>Instrument I.D.#:</b>	MV-3	MV-3	MV-3	MV-3	MV-3	MV-3	MV-3
<b>Conc. Spiked:</b>	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg
<b>Matrix Spike</b>							
<b>% Recovery:</b>	106	100	98	94	90	120	78
<b>Matrix Spike Duplicate %</b>							
<b>Recovery:</b>	106	96	100	88	90	140	82
<b>Relative %</b>							
<b>Difference:</b>	0.0	3.1	2.0	4.1	0.0	6.1	2.9

<b>LCS Batch#:</b>	BLK031496A	BLK031496A	BLK031496A	BLK031496A	BLK031496A	BLK031496A	BLK031496A
<b>Date Prepared:</b>	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96
<b>Date Analyzed:</b>	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96
<b>Instrument I.D.#:</b>	MV-3	MV-3	MV-3	MV-3	MV-3	MV-3	MV-3
<b>LCS %</b>							
<b>Recovery:</b>	96	92	92	94	94	94	90

<b>% Recovery</b>							
<b>Control Limits:</b>	75-125	75-125	75-125	75-125	75-125	75-125	75-125

**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, #1271**

  
Alan B. Kemp  
Project Manager





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd., Dublin  
Matrix: Solid

QC Sample Group: 6030506-507

Reported: Mar 25, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Selenium	Molybdenum	Arsenic	Antimony	Lead	Cobalt	Cadmium
Method:	EPA 610	EPA 610	EPA 610	EPA 610	EPA 610	EPA 610	EPA 610
Analyst:	J. Kelly	J. Kelly	J. Kelly	J. Kelly	J. Kelly	J. Kelly	J. Kelly

<b>MS/MSD</b>							
Batch#:	6030506	6030506	6030506	6030506	6030506	6030506	6030506
Date Prepared:	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96
Date Analyzed:	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96
Instrument I.D.#:	MV-3	MV-3	MV-3	MV-3	MV-3	MV-3	MV-3
Conc. Spiked:	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg
<b>Matrix Spike</b>							
% Recovery:	88	74	104	22	86	96	98
<b>Matrix Spike</b>							
Duplicate %							
Recovery:	92	74	104	28	84	94	98
<b>Relative %</b>							
Difference:	4.4	0.0	0.0	24	2.1	1.9	0.0

<b>LCS Batch#:</b>	BLK031496A	BLK031496A	BLK031496A	BLK031496A	BLK031496A	BLK031496A	BLK031496A
Date Prepared:	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96	3/14/96
Date Analyzed:	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96	3/19/96
Instrument I.D.#:	MV-3	MV-3	MV-3	MV-3	MV-3	MV-3	MV-3
<b>LCS %</b>							
Recovery:	92	92	96	96	92	94	94

<b>% Recovery</b>							
Control Limits:	75-125	75-125	75-125	75-125	75-125	75-125	75-125

**Please Note:**  
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**SEQUOIA ANALYTICAL, #1271**

  
Alan B. Kemp  
Project Manager





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

Client Project ID: Unocal 5366, 7375 Amador Valley Blvd., Dublin  
 Matrix: Solid

QC Sample Group: 6030506-507

Reported: Mar 25, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Thallium	Silver	Mercury
Method:	EPA 6010	EPA 7760	EPA 7471
Analyst:	J. Kelly	T. Le	T. Le

<b>MS/MSD</b>			
Batch#:	6030506	6030506	6030506
Date Prepared:	3/14/96	3/14/96	3/11/96
Date Analyzed:	3/21/96	3/21/96	3/12/96
Instrument I.D.#:	MV-3	MV-1	MV-1
Conc. Spiked:	50 mg/kg	50 mg/kg	50 mg/kg
<b>Matrix Spike</b>			
% Recovery:	100	94	81
<b>Matrix Spike</b>			
Duplicate %			
Recovery:	102	94	81
<b>Relative %</b>			
Difference:	2.0	0.0	0.0

<b>LCS Batch#:</b>	BLK031496A	BLK031496	BLK031196A
Date Prepared:	3/14/96	3/14/96	3/11/96
Date Analyzed:	3/21/96	3/21/96	3/12/96
Instrument I.D.#:	MV-3	MV-1	MV-1
<b>LCS %</b>			
Recovery:	52	88	96

<b>% Recovery</b>			
Control Limits:	75-125	75-125	85-115

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SEQUOIA ANALYTICAL, #1271

  
 Alan B. Kemp  
 Project Manager



Company Name: KEI      Project Name: FORMER UNOCAL #5366 - DUBLIN  
 Address: 2401 STANWELL DR. #400      UNOCAL Project Manager: ED RALSTON  
 City: CONCORD State: CA Zip Code: 94520      Release #:  
 Telephone: 602-5100 FAX #: 687-0602      Site #: 5366-7375 AMADOR VALLEY BLVD.  
 Report To: KEI      Sampler: HAIG KEVORK      QC Data:  Level D (Standard)   
  Level C     Level B     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

Drinking Water     Waste Water     Other  
 Analyses Requested:

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Analyses Requested										Comments	
						TPH-G	BTEX	Total Pb	TOG 418.1	BTEX	EPAS 240	EPAS 210	Ca 19 metals				
1. Comp A	3/8/96	SOIL	4	TUBE	6030502	✓	✓	✓									24 Hrs
2. Comp B					6030503	✓	✓	✓									
3. Comp C					6030504	✓	✓	✓									
4. Comp D					6030505	✓	✓	✓									
5. Comp W0					6030506				✓	✓	✓	✓	✓				10 DAYS
6. Comp W5					6030507				✓	✓	✓	✓	✓				10 DAYS
7.																	
8.																	
9.																	
10.																	

Relinquished By: <u>[Signature]</u>	Date: <u>3/8/96</u>	Time: <u>1815</u>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <u>[Signature]</u>	Date: <u>3/8/96</u>	Time: <u>1815</u>

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



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

Client Project ID: Unocal #5366, 7375 Amador Valley Blvd.,  
Sample Matrix: Soil Dublin  
Analysis Method: EPA 5030/8015 Mod./8020  
First Sample #: 603-1153

Sampled: Mar 18, 1996  
Received: Mar 18, 1996  
Reported: Mar 19, 1996

**TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION**

Analyte	Reporting Limit mg/kg	Sample I.D. 603-1153 Comp E	Sample I.D. 603-1154 Comp F
Purgeable Hydrocarbons	1.0	900	850
Benzene	0.0050	1.4	2.2
Toluene	0.0050	25	29
Ethyl Benzene	0.0050	28	40
Total Xylenes	0.0050	150	210

Chromatogram Pattern: Gasoline Gasoline

**Quality Control Data**

Report Limit Multiplication Factor:	100	250
Date Analyzed:	3/18/96	3/18/96
Instrument Identification:	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	87	95

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
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  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
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

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

Client Project ID: Unocal #5366, 7375 Amador Valley Blvd.,  
Sample Descript: Soil Dublin  
Analysis for: Lead  
First Sample #: 603-1153

Sampled: Mar 18, 1996  
Received: Mar 18, 1996  
Extracted: Mar 19, 1996  
Analyzed: Mar 19, 1996  
Reported: Mar 19, 1996

## LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
603-1153	Comp E	2.5	4.5
603-1154	Comp F	2.5	4.6

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

  
Alan B. Kemp  
Project Manager





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

Client Project ID: Unocal #5366, 7375 Amador Valley Blvd., Dublin  
Matrix: Solid

QC Sample Group: 6031153-154

Reported: Mar 21, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Lead
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 7420
Analyst:	S. Chullakorn	S. Chullakorn	S. Chullakorn	S. Chullakorn	T. Le

MS/MSD					
Batch#:	6030733	6030733	6030733	6030733	G031153
Date Prepared:	3/18/96	3/18/96	3/18/96	3/18/96	3/19/96
Date Analyzed:	3/18/96	3/18/96	3/18/96	3/18/96	3/19/96
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	MV-1
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg	50 mg/kg
Matrix Spike % Recovery:	93	93	95	98	96
Matrix Spike Duplicate % Recovery:	113	110	113	115	90
Relative % Difference:	92	17	17	16	5.9

LCS Batch#:	3LCS031896	3LCS031896	3LCS031896	3LCS031896	BLK031996
Date Prepared:	3/18/96	3/18/96	3/18/96	3/18/96	3/19/96
Date Analyzed:	3/18/96	3/18/96	3/18/96	3/18/96	3/19/96
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	MV-1
LCS % Recovery:	90	90	90	95	92

% Recovery Control Limits:	55-145	47-149	47-155	56-140	75-125
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SEQUOIA ANALYTICAL, #1271

Alan B. Kemp  
Project Manager





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

Client Project ID: Unocal #5366, 7375 Amador Valley Blvd., Dublin  
Matrix: Solid

QC Sample Group: 6031153-154

Reported: Mar 21, 1996

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Lead
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 7420
<b>Analyst:</b>	S. Chullakorn	S. Chullakorn	S. Chullakorn	S. Chullakorn	T. Le

<b>MS/MSD Batch#:</b>	6030733	6030733	6030733	6030733	G031153
<b>Date Prepared:</b>	3/18/96	3/18/96	3/18/96	3/18/96	3/19/96
<b>Date Analyzed:</b>	3/18/96	3/18/96	3/18/96	3/18/96	3/19/96
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	MV-1
<b>Conc. Spiked:</b>	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg	50 mg/kg
<b>Matrix Spike % Recovery:</b>	93	93	95	98	96
<b>Matrix Spike Duplicate % Recovery:</b>	113	110	113	115	90
<b>Relative % Difference:</b>	92	17	17	16	5.9

<b>LCS Batch#:</b>	3LCS031896	3LCS031896	3LCS031896	3LCS031896	BLK031996
<b>Date Prepared:</b>	3/18/96	3/18/96	3/18/96	3/18/96	3/19/96
<b>Date Analyzed:</b>	3/18/96	3/18/96	3/18/96	3/18/96	3/19/96
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	MV-1
<b>LCS % Recovery:</b>	90	90	90	95	92

<b>% Recovery Control Limits:</b>	55-145	47-149	47-155	56-140	75-125
-----------------------------------	--------	--------	--------	--------	--------

**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, #1271**

Alan B. Kemp  
Project Manager



Company Name: **KEI**      Project Name: **FORMER UNOCAL #5366 - DUBLIN**  
 Address: **2401 STANWELL DR. #400**      UNOCAL Project Manager: **ED RALSTON**  
 City: **CONCORD** State: **CA** Zip Code: **94520**      Release #:  
 Telephone: **602-5100** FAX #: **687-0602**      Site #: **5366-7375 AMADOR VALLEY BLVD.**  
 Report To: **KEI**      Sampler: **HAIG KEVORK**      QC Data:  Level D (Standard)     Level C     Level B     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

Drinking Water     Waste Water     Other  
 Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Analyses Requested										Comments	
						TPH-G	BTXE	Total Pb									
1. <b>Comp E</b>	<b>3/18/96</b>	<b>SOIL</b>	<b>4</b>	<b>TUBE</b>	<b>6031153</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
2. <b>Comp F</b>	<b>↓</b>	<b>↓</b>	<b>4</b>	<b>↓</b>	<b>6031154</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

Relinquished By: <i>[Signature]</i>	Date: <b>3/18/96</b>	Time: <b>1530</b>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <i>[Signature]</i>	Date: <b>3/18/96</b>	Time: <b>1530</b>

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