KAPREALIAN ENGINEERING
INCORPORATED

September 21, 1994

WASTE OIL
TANK REMOVAL

Alameda County Health Care Services
1131 Harbor Way Parkway
Alameda, CA 94501

Attn: Ms. Jennifer Eberle

RE: Unocal Service Station #1871
96 MacArthur Boulevard
Oakland, California

Dear Ms. Eberle:

Per the request of Mr. Robert A. Boust of Unocal Corporation, enclosed please find our report dated September 13, 1994, for the above referenced site.

If you should have any questions, please feel free to call our office at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

for: Judy A. Dewey

jad\82

Enclosure

cc: Robert A. Boust, Unocal Corporation

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602

KAPREALIAN ENGINEERING
INCORPORATED

KEI-P94-0601.R1
September 13, 1994

waste oil
Tank Removal
report

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

Attention: Mr. Robert A. Boust

RE: Soil Sampling Report
Unocal Service Station #1871
96 MacArthur Boulevard
Oakland, California

Dear Mr. Boust:

This report summarizes the results of soil sampling performed by Kaprealian Engineering, Inc. (KEI) at the referenced site. All work was performed in compliance with the guidelines established by the Regional Water Quality Control Board (RWQCB) and the Alameda County Health Care Services (ACHCS) Agency.

The scope of the work performed by KEI consisted of the following:

Coordination with the regulatory agencies

Collection of soil samples from the underground waste oil storage tank pit excavation

Delivery of soil samples, with proper Chain of Custody documentation, to a certified analytical laboratory

Technical review and preparation of this report

SITE DESCRIPTION AND BACKGROUND

The subject site contains a Unocal service station facility. A Location Map and a Site Plan are attached to this report. Three ground water monitoring wells (designated as MW1, MW2, and MW3 on the attached Figure 1) were installed at the site in 1992 by ROUX Associates of Concord, California. A site description, detailed background information including a summary of all of the soil and ground water subsurface investigation work, site hydrogeologic conditions, Boring Logs, and tables that summarize all of the soil and ground water analytical results, are presented in ROUX Associates' Site Assessment Report #UL27003W.1.2 dated December 17, 1992. The most recent quarter of monitoring and sampling of the monitoring wells at the referenced site is presented in MPDS Services, Inc's. Quarterly Data Report (MPDS-UN1871-04) dated August 11, 1994.

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RECENT FIELD ACTIVITIES

KEI's field work was conducted on August 3, 1994, when one 280 gallon underground waste oil storage tank was removed from the site. The tank removal and soil sampling were performed in the presence of Ms. Jennifer Eberle of the ACHCS. Mr. Larry James of the City of Oakland Fire Prevention Bureau was also present during tank removal operations. The tank was made of single-walled steel, and no apparent holes or cracks were observed in the tank.

One soil sample, labeled WO1(9), was collected from beneath the tank at a depth of approximately 9 feet below grade. Due to observed soil contamination at a depth of about 9 feet below grade, additional excavation was performed from 9 feet to approximately 14 feet below grade (over an area of approximately 9 feet by 8 feet). One soil sample, labeled WO1(14), was collected from the bottom of the new excavation at a depth of about 14 feet below grade. Moisture was observed in the soil sample and the entire excavated area at a depth of about 14 feet below grade. In addition, per Ms. Eberle's request, four soil samples, labeled WOSW1 through WOSW4, were collected from the sidewalls of the waste oil tank pit excavation at depths of approximately 9 feet below grade. The undisturbed samples were collected from bulk material excavated by backhoe. The samples were placed in clean, two-inch diameter brass tubes, then sealed with aluminum foil and plastic caps, and stored in a cooled ice chest for delivery to a state-certified laboratory. The sample point locations are shown on the attached Figure 1. The excavated soil was stockpiled on-site for further sampling prior to disposal. A new 520 gallon double-walled steel waste oil storage tank was installed in the excavation by Gettler-Ryan, Inc. of Dublin, California.

SUBSURFACE CONDITIONS

The subsurface soils exposed in the excavation consisted primarily of clayey silt to a depth of about 12 feet below grade, and gravelly silty sand from 12 feet to the maximum depth excavated (approximately 14 feet below grade). Moisture was observed within the soil at a depth of about 14 feet below grade.

ANALYTICAL RESULTS

The samples were analyzed by Sequoia Analytical Laboratory in Concord, California, and were accompanied by properly executed Chain of Custody documentation. Samples WO1(9) and WOSW2 were analyzed for total petroleum hydrocarbons (TPH) as gasoline by EPA method 5030/modified 8015, benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA method 8020, TPH as diesel by EPA method 3550/modified 8015, halogenated volatile organic compounds by EPA

method 8010, semi-volatile organic compounds by EPA method 8270, total oil and grease (TOG) by Standard Methods 5520E&F, and the metals cadmium, chromium, lead, nickel, and zinc. Samples WOSW1, WOSW3, and WOSW4 were analyzed for TOG only. The soil sample WO1(14) was analyzed for TOG and EPA method 8270 constituents. The results of the soil analyses are summarized in Table 1. Copies of the laboratory analyses and the Chain of Custody documentation are attached to this report.

DISCUSSION AND RECOMMENDATIONS

Based upon the analytical results of the soil samples collected during the recent waste oil tank replacement project, and based upon visual inspection of the waste oil tank pit cavity, elevated concentrations of contamination remain in the soils in the vicinity of the waste oil tank pit at depths of about 9 feet below grade. Sample WO1(9), collected from beneath the waste oil tank, and sidewall samples WOSW2, WOSW3, and WOSW4, collected at depths of approximately 9 feet below grade, showed elevated concentrations of TOG contamination ranging from 1,400 mg/kg to 17,000 mg/kg. In addition, samples WO1(9) and WOSW2 showed elevated concentrations of some EPA method 8270 compounds. However, soil sample WO1(14), collected from beneath soil sample WO1(9) at a depth of about 14 feet below grade, showed no detectable concentrations of TOG and EPA method 8270 compounds.

In order to further define the lateral extent of soil contamination in the vicinity of the waste oil tank, KEI recommends the installation of two to three exploratory borings. In addition, KEI recommends the installation of one monitoring well downgradient of the waste oil tank in order to determine whether the ground water has been impacted by petroleum hydrocarbons. KEI will submit a work plan/proposal for this additional work upon your review and approval.

DISTRIBUTION

A copy of this report should be sent to Ms. Jennifer Eberle of the ACHCS, and to the RWQCB, 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 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.

Should you have any questions this report, please call me 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

Thomas J. Berkins
Project Manager

\jad

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

KEI-P94-0601.R1
September 13, 1994

TABLE 1

SUMMARY OF LABORATORY ANALYSES
SOIL

5520 E+F

Date	Sample	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	TOG
8/03/94	WO1(9)	9	97♦	46	0.12	0.11	0.12	0.47	1,400
	WO1(14)*	14	--	--	--	--	--	--	ND
	WOSW1	9	--	--	--	--	--	--	160
	WOSW2	9	1,400♦	960	2.2	2.6	9.5	22	17,000
	WOSW3	9	--	--	--	--	--	--	2,200
	WOSW4	9	--	--	--	--	--	--	2,400

ppm

huts left in place

Date	Sample	(8240) Bromoform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-dichlorobenzene
8/03/94	WO1(9)**	ND	22	ND	ND
	WOSW2**	220	1,800	63	540

	(8270) Acenaphthene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene
WO1(9)	6,500	9,900	5,300	5,000
WOSW2	3,300	6,100	4,000	

	Benzo(a)pyrene	Chrysene	Dibenzofuran	Fluoranthene	Fluorene
WO1(9)	4,300	7,500	3,400	25,000	6,600
WOSW2	2,900	4,800	ND	15,000	3,800

	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
WO1(9)	8,500	4,700	38,000	24,000
WOSW2	28,000	10,000	22,000	14,000

ppb

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September 13, 1994

TABLE 1 (Continued)

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample	Cadmium	Chromium	Lead	Nickel	Zinc
8/03/94	WO1(9)	ND	28	21	31	34
	WOSW2	1.2	33	39	35	42

ppm

* All EPA method 8270 constituents were non-detectable.

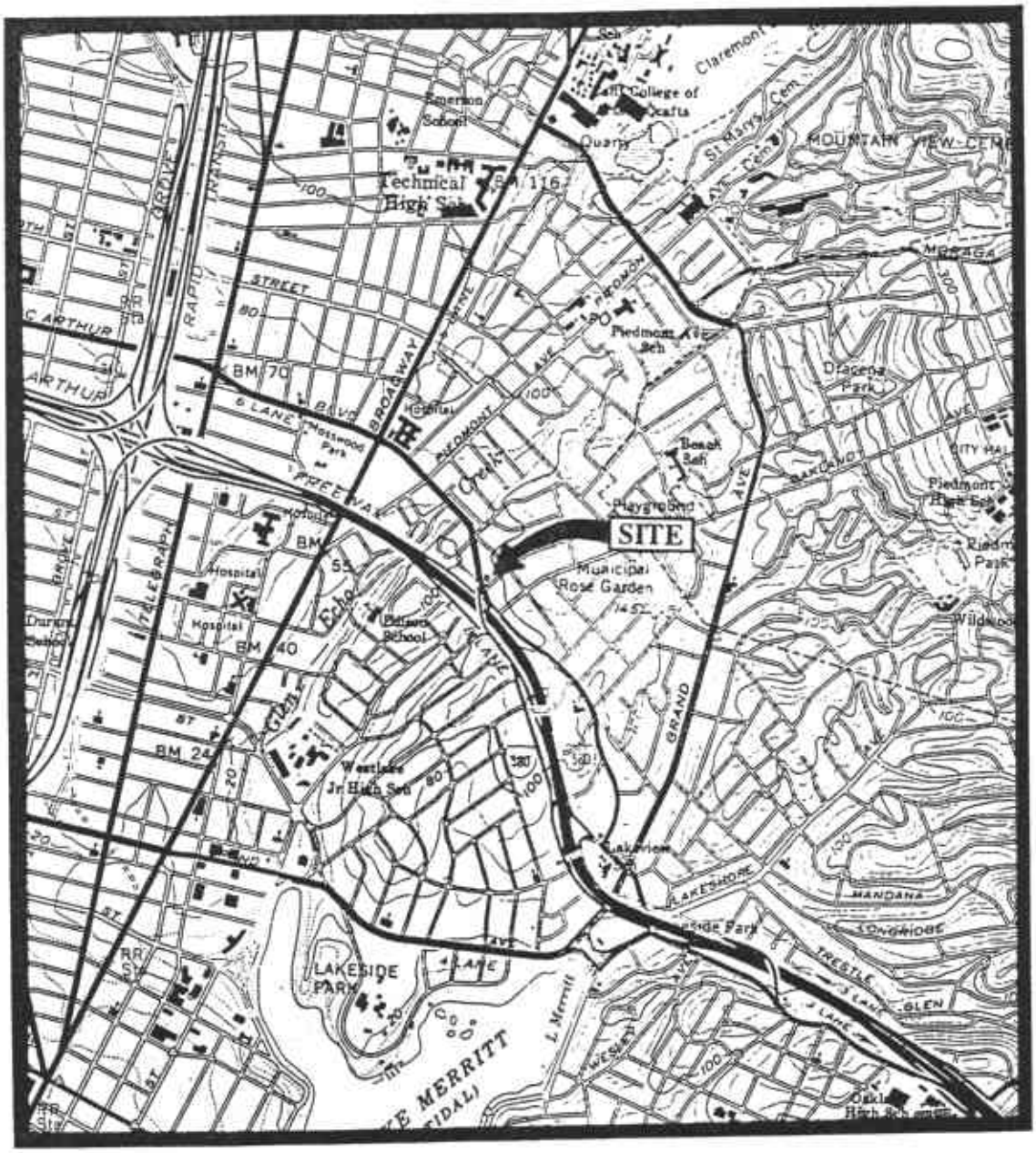
** All other EPA methods 8010 and 8270 constituents were non-detectable.

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

-- Indicates analysis was not performed.

ND = Non-detectable.

Results are in milligrams per kilogram (mg/kg), except for EPA methods 8010 and 8270 constituents, which were reported in micrograms per kilogram (µg/kg).

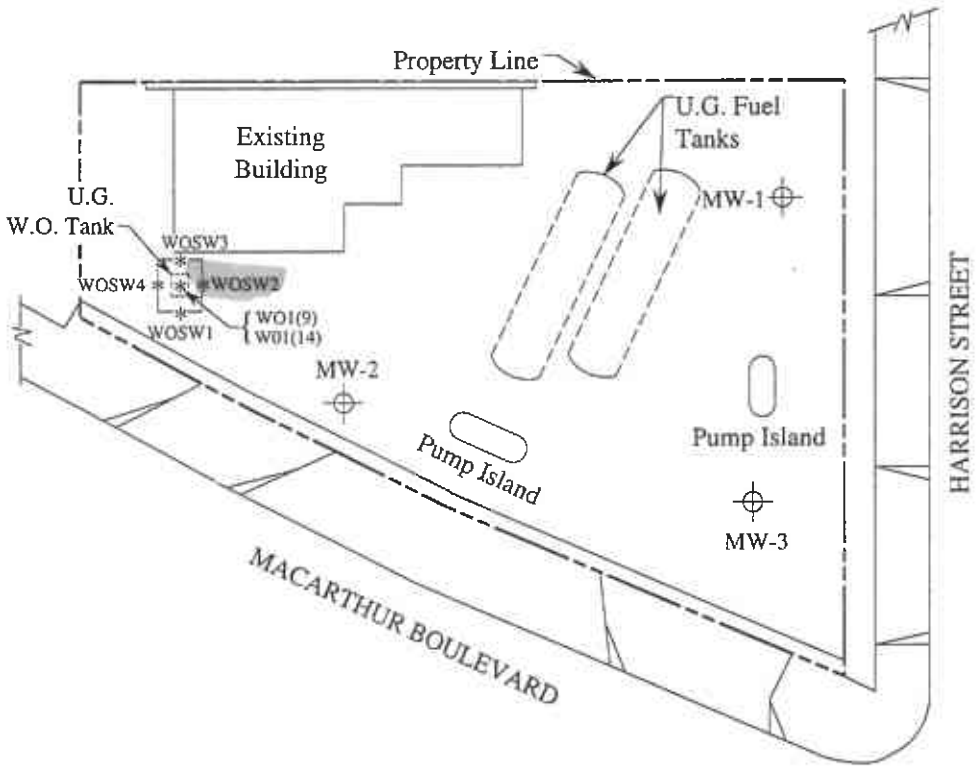


Base modified from 7.5 minute U.S.G.S.
Oakland East and West Quadrangles
(both photorevised 1980)

0 2000 4000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED	UNOCAL SERVICE STATION # 1871 96 MACARTHUR BOULEVARD OAKLAND, CALIFORNIA	LOCATION MAP



LEGEND

⊕ Monitoring well

* Sample point location

0 30 60

Approx. scale feet

SITE PLAN

KAPREALIAN ENGINEERING
INCORPORATED

UNOCAL SERVICE STATION # 1871
96 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FIGURE
1

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 MacArthur Blvd., Oakland	Sampled: Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Soil	Received: Aug 3, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Aug 11, 1994
Attention: Avo Avedisslan	First Sample #:	#4080189	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. #4080189 WO1(9)
Purgeable Hydrocarbons	1.0	46
Benzene	0.0050	0.12
Toluene	0.0050	0.11
Ethyl Benzene	0.0050	0.12
Total Xylenes	0.0050	0.47
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	2.5
Date Analyzed:	8/4/94
Instrument Identification:	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	87

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, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Kaprealian Engineering, Inc.	Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix: Soil	Received:	Aug 3, 1994
Concord, CA 94520	Analysis Method: EPA 3550/8015	Reported:	Aug 11, 1994
Attention: Avo Avedissian	First Sample #: 408-0189		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 408-0189 WO1(9)*
Extractable Hydrocarbons	1.0	97

Chromatogram Pattern: Diesel and Unidentified Hydrocarbons <C14 & >C20

Quality Control Data

Report Limit Multiplication Factor:	10
Date Extracted:	8/4/94
Date Analyzed:	8/11/94
Instrument Identification:	HP-3B

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

Please Note:
* This sample appears to contain diesel and non-diesel mixtures. "Unidentified Hydrocarbons <C14" are probably gasoline; ">C20" refers to unidentified peaks in the total oil and grease range.

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 MacArthur Blvd., Oakland	Sampled: Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Soil, WO1(9)	Received: Aug 3, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed: Aug 4, 1994
Attention: Avo Avedissian	Lab Number:	408-0189	Reported: Aug 11, 1994

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Bromodichloromethane	10	N.D.
Bromoform	10	N.D.
Bromomethane	20	N.D.
Carbon tetrachloride	10	N.D.
Chlorobenzene	10	N.D.
Chloroethane	20	N.D.
2-Chloroethylvinyl ether	20	N.D.
Chloroform	10	N.D.
Chloromethane	20	N.D.
Dibromochloromethane	10	N.D.
1,2-Dichlorobenzene	10	22
1,3-Dichlorobenzene	10	N.D.
1,4-Dichlorobenzene	10	N.D.
1,1-Dichloroethane	10	N.D.
1,2-Dichloroethane	10	N.D.
1,1-Dichloroethene	10	N.D.
cis-1,2-Dichloroethene	10	N.D.
trans-1,2-Dichloroethene	10	N.D.
1,2-Dichloropropane	10	N.D.
cis-1,3-Dichloropropene	10	N.D.
trans-1,3-Dichloropropene	10	N.D.
Methylene chloride	100	N.D.
1,1,2,2-Tetrachloroethane	10	N.D.
Tetrachloroethene	10	N.D.
1,1,1-Trichloroethane	10	N.D.
1,1,2-Trichloroethane	10	N.D.
Trichloroethene	10	N.D.
Trichlorofluoromethane	10	N.D.
Vinyl chloride	20	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

#4080189.KEI <3>

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Kaprealian Engineering, Inc.	Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript: Soil, WO1(9)	Received:	Aug 3, 1994
Concord, CA 94520	Analysis Method: EPA 8270	Extracted:	Aug 4, 1994
Attention: Avo Avedissian	Lab Number: 408-0189	Analyzed:	Aug 9, 1994
		Reported:	Aug 11, 1994

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

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acenaphthene	**2,000**	**6,500**
Acenaphthylene	2,000	N.D.
Aniline	2,000	N.D.
Anthracene	**2,000**	**9,900**
Benzidine	50,000	N.D.
Benzoic Acid	10,000	N.D.
Benzo(a)anthracene	**2,000**	**5,300**
Benzo(b)fluoranthene	**2,000**	**5,000**
Benzo(k)fluoranthene	2,000	N.D.
Benzo(g,h,i)perylene	2,000	N.D.
Benzo(a)pyrene	**2,000**	**4,300**
Benzyl alcohol	2,000	N.D.
Bis(2-chloroethoxy)methane	2,000	N.D.
Bis(2-chloroethyl)ether	2,000	N.D.
Bis(2-chloroisopropyl)ether	2,000	N.D.
Bis(2-ethylhexyl)phthalate	10,000	N.D.
4-Bromophenyl phenyl ether	2,000	N.D.
Butyl benzyl phthalate	2,000	N.D.
4-Chloroaniline	2,000	N.D.
2-Chloronaphthalene	2,000	N.D.
4-Chloro-3-methylphenol	2,000	N.D.
2-Chlorophenol	2,000	N.D.
4-Chlorophenyl phenyl ether	2,000	N.D.
Chrysene	**2,000**	**7,500**
Dibenz(a,h)anthracene	2,000	N.D.
Dibenzofuran	**2,000**	**3,400**
Di-N-butyl phthalate	10,000	N.D.
1,3-Dichlorobenzene	2,000	N.D.
1,4-Dichlorobenzene	2,000	N.D.
1,2-Dichlorobenzene	2,000	N.D.
3,3-Dichlorobenzidine	10,000	N.D.
2,4-Dichlorophenol	2,000	N.D.
Diethyl phthalate	2,000	N.D.
2,4-Dimethylphenol	2,000	N.D.
Dimethyl phthalate	2,000	N.D.
4,6-Dinitro-2-methylphenol	10,000	N.D.
2,4-Dinitrophenol	10,000	N.D.

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 MacArthur Blvd., Oakland	Sampled: Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Soil, WO1(9)	Received: Aug 3, 1994
Concord, CA 94520	Analysis Method:	EPA 8270	Extracted: Aug 4, 1994
Attention: Avo Avedissian	Lab Number:	408-0189	Analyzed: Aug 9, 1994
			Reported: Aug 11, 1994

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

Analyte	Detection Limit µg/kg	Sample Results µg/kg
2,4-Dinitrotoluene	2,000	N.D.
2,6-Dinitrotoluene	2,000	N.D.
Di-N-octyl phthalate	2,000	N.D.
Fluoranthene	2,000	25,000
Fluorene	2,000	6,600
Hexachlorobenzene	2,000	N.D.
Hexachlorobutadiene	2,000	N.D.
Hexachlorocyclopentadiene	2,000	N.D.
Hexachloroethane	2,000	N.D.
Indeno(1,2,3-cd)pyrene	2,000	N.D.
Isophorone	2,000	N.D.
2-Methylnaphthalene	2,000	8,500
2-Methylphenol	2,000	N.D.
4-Methylphenol	2,000	N.D.
Naphthalene	2,000	4,700
2-Nitroaniline	10,000	N.D.
3-Nitroaniline	10,000	N.D.
4-Nitroaniline	10,000	N.D.
Nitrobenzene	2,000	N.D.
2-Nitrophenol	2,000	N.D.
4-Nitrophenol	10,000	N.D.
N-Nitrosodiphenylamine	2,000	N.D.
N-Nitroso-di-N-propylamine	2,000	N.D.
Pentachlorophenol	10,000	N.D.
Phenanthrene	2,000	38,000
Phenol	2,000	N.D.
Pyrene	2,000	24,000
1,2,4-Trichlorobenzene	2,000	N.D.
2,4,5-Trichlorophenol	10,000	N.D.
2,4,6-Trichlorophenol	2,000	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

#4080189.KEI <5>

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Kaprealian Engineering, Inc.	Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript: Soil, WO1(9)	Received:	Aug 3, 1994
Concord, CA 94520		Extracted:	Aug 5, 1994
Attention: Avo Avedissian	Lab Number: 408-0189	Analyzed:	Aug 8, 1994
		Reported:	Aug 11, 1994

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	0.50	N.D.
Chromium	0.50	28
Lead	1.0	21
Zinc	1.0	34
Nickel	1.0	31

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Sequoia Analytical

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Kapreallan Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0189

Reported: Aug 12, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon
MS/MSD Batch#:	4071501	4071501	4071501	4071501
Date Prepared:	8/4/94	8/4/94	8/4/94	8/4/94
Date Analyzed:	8/4/94	8/4/94	8/4/94	8/4/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg
Matrix Spike % Recovery:	80	90	90	93
Matrix Spike Duplicate % Recovery:	70	80	83	88
Relative % Difference:	13	12	8.1	5.5
LCS Batch#:	2LCS080494	2LCS080494	2LCS080494	2LCS080494
Date Prepared:	8/4/94	8/4/94	8/4/94	8/4/94
Date Analyzed:	8/4/94	8/4/94	8/4/94	8/4/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	86	95	97	100
% Recovery Control Limits:	55-145	47-149	47-155	56-140

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

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0189
Reported:

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene	Diesel
Method:	EPA 8010	EPA 8010	EPA 8010	EPA 8015 Mod
Analyst:	K. Nill	K. Nill	K. Nill	K.V.S.
MS/MSD Batch#:	4071344	4071344	4071344	4071343
Date Prepared:	8/4/94	8/4/94	8/4/94	8/4/94
Date Analyzed:	8/4/94	8/4/94	8/4/94	8/4/94
Instrument I.D.#:	HP5890 / 7	HP5890 / 7	HP5890 / 7	HP-3B
Conc. Spiked:	10 mg/Kg	10 mg/Kg	10 mg/Kg	10 mg/Kg
Matrix Spike % Recovery:	64	108	107	93
Matrix Spike Duplicate % Recovery:	69	99	108	99
Relative % Difference:	7.5	8.7	0.93	6.3

LCS Batch#:	LCS080494	LCS080494	LCS080494	BLK080494
Date Prepared:	8/4/94	8/4/94	8/4/94	8/4/94
Date Analyzed:	8/4/94	8/4/94	8/4/94	8/5/94
Instrument I.D.#:	HP5890 / 7	HP5890 / 7	HP5890 / 7	HP-3B
LCS % Recovery:	72	66	86	112
% Recovery Control Limits:	28-167	35-146	38-150	38-122

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.

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2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0189

Reported: Aug 12, 1994

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
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	S. Le	S. Le	S. Le	S. Le	S. Le	S. Le
MS/MSD Batch#:	4071341	4071341	4071341	4071341	4071341	4071341
Date Prepared:	8/4/94	8/4/94	8/4/94	8/4/94	8/4/94	8/4/94
Date Analyzed:	8/9/94	8/9/94	8/9/94	8/9/94	8/9/94	8/9/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	5000 µg/KG	5000 µg/KG	2500 µg/Kg	2500 µg/Kg	2500 µg/Kg	5000 µg/Kg
Matrix Spike % Recovery:	75	78	80	86	86	82
Matrix Spike Duplicate % Recovery:	90	92	94	102	98	94
Relative % Difference:	18	16	16	17	13	14
LCS Batch#:	BLK080494	BLK080494	BLK080494	BLK080494	BLK080494	BLK080494
Date Prepared:	8/4/94	8/4/94	8/4/94	8/4/94	8/4/94	8/4/94
Date Analyzed:	8/9/94	8/9/94	8/9/94	8/9/94	8/9/94	8/9/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	76	78	80	82	84	79
% Recovery Control Limits:	46-130	23-134	20-124	DL-230	44-142	22-147

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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#4080189.KEI <9>

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0189

Reported: Aug 12, 1994

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:	S. Le	S. Le	S. Le	S. Le	S. Le
MS/MSD Batch#:	4071341	4071341	4071341	4071341	4071341
Date Prepared:	8/4/94	8/4/94	8/4/94	8/4/94	8/4/94
Date Analyzed:	8/9/94	8/9/94	8/9/94	8/9/94	8/9/94
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:	86	77	78	79	88
Matrix Spike Duplicate % Recovery:	98	88	88	91	102
Relative % Difference:	13	13	12	14	15
LCS Batch#:	BLK080494	BLK080494	BLK080494	BLK080494	BLK080494
Date Prepared:	8/4/94	8/4/94	8/4/94	8/4/94	8/4/94
Date Analyzed:	8/9/94	8/9/94	8/9/94	8/9/94	8/9/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	84	64	70	61	88
% Recovery Control Limits:	47-145	DL-132	39-139	14-176	52-115

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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#4080189.KEI <10>

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland
Matrix: Soil
QC Sample Group: 408-0189
Reported: Aug 12, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Cadmium	Chromium	Lead	Nickel	Zinc
Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	K. Anderson	K. Anderson	K. Anderson	K. Anderson	K. Anderson
MS/MSD Batch#:	4080185	4080185	4080185	4080185	4080185
Date Prepared:	8/5/94	8/5/94	8/5/94	8/5/94	8/5/94
Date Analyzed:	8/8/94	8/8/94	8/8/94	8/8/94	8/8/94
Instrument I.D.#:	Liberty-100	Liberty-100	Liberty-100	Liberty-100	Liberty-100
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
Matrix Spike % Recovery:	88	86	86	96	100
Matrix Spike Duplicate % Recovery:	92	78	82	80	88
Relative % Difference:	4.4	9.8	4.8	18	13
LCS Batch#:	BLK080594	BLK080594	BLK080594	BLK080594	BLK080594
Date Prepared:	8/5/94	8/5/94	8/5/94	8/5/94	8/5/94
Date Analyzed:	8/8/94	8/8/94	8/8/94	8/8/94	8/8/94
Instrument I.D.#:	Liberty-100	Liberty-100	Liberty-100	Liberty-100	Liberty-100
LCS % Recovery:	88	90	90	94	86
% Recovery Control Limits:	75-125	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

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UNOCAL 76

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☐ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Company Name: KET	Project Name: UNOCAL #1871 - OAKLAND
Address: 2401 STANWELL DR. # 400	UNOCAL Project Manager: BOB BOUST
City: CONCORD State: CA Zip Code: 94520	Release #:
Telephone: 602-5100 FAX #: 687-0602	Site #: 1871 - 96 MACARTHUR BLVD,
Report To: KET Sampler: HAIG	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D

Turnaround Time: ☐ 10 Working Days ☐ 2 Working Days ☒ 5 Working Days ☐ 24 Hours TOG ☐ 3 Working Days ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH-G	BTXE	TPH-D	TOG	EPA8010	EPA8270	Cd, Cr, Pb, Zn, Ni		Comments
1. W01(9)	8/3/94	SOIL	1	TUBE	4080189	✓	✓	✓	✓	✓	✓	✓	✓	TOG 24 Hrs
2.														
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10.														

Relinquished By: [signature]	Date: 8/3/94	Time: 4:50 pm	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: PJ KeQley	Date: 8/3/94	Time: 4:50 pm

Were Samples Received in Good Condition? ☒ Yes ☐ No Samples on Ice? ☒ Yes ☐ No Method of Shipment _____ Page 1 of 1

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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Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 MacArthur Blvd.,		Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript:	Soil	Oakland	Received:	Aug 3, 1994
Concord, CA 94520	Analysis Method:	SM 5520 E&F (Gravimetric)		Extracted:	Aug 3, 1994
Attention: Avo Avedissian	First Sample #:	408-0189		Analyzed:	Aug 4, 1994
				Reported:	Aug 4, 1994

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
408-0189	WO1(9)	1,400

Detection Limits:	50

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Sequoia Analytical

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0189
Reported: Aug 8, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Oil & Grease
Method:	SM 5520 EF
Analyst:	K. Wimer
MS/MSD Batch#:	4080190
Date Prepared:	8/3/94
Date Analyzed:	8/4/94
Instrument I.D.#:	N.A.
Conc. Spiked:	5,000 mg/kg
Matrix Spike % Recovery:	108
Matrix Spike Duplicate % Recovery:	112
Relative % Difference:	4.0

LCS Batch#:	BLK080394
Date Prepared:	8/3/94
Date Analyzed:	8/4/94
Instrument I.D.#:	N.A.
LCS % Recovery:	98
% Recovery Control Limits:	75-125

SEQUOIA ANALYTICAL, #1271

for Alan B. Kemp
Project Manager

Please Note:
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UNOCAL 76

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☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Company Name: KET	Project Name: UNOCAL #1871 - OAKLAND
Address: 2401 STANWELL DR. #400	UNOCAL Project Manager: BOB BOUST
City: CONCORD State: CA Zip Code: 94520	Release #:
Telephone: 602-5100 FAX #: 687-0602	Site #: 1871 - 96 MACARTHUR BLVD,
Report To: KET Sampler: HAIG	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D

Turnaround Time: ☐ 10 Working Days ☐ 2 Working Days ☒ 5 Working Days ☐ 24 Hours TOG ☐ 3 Working Days ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH-G	BTXE	TPH-D	TOG	EPA 8010	EPA 8270	Cd, Cr, Pb, Zn, Ni		Comments
1. W01(9)	8/3/94	SOIL	1	TUBE	4080189	✓	✓	✓	✓	✓	✓	✓	✓	TOG 24 Hrs
2.														
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10.														

Relinquished By: [signature]	Date: 8/3/94	Time: 4:50 pm	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: RH Kelley	Date: 8/3/94	Time: 4:50 pm

Were Samples Received in Good Condition? ☒ Yes ☐ No Samples on Ice? ☒ Yes ☐ No Method of Shipment _____ Page 1 of 1

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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Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 MacArthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript:	Soil	Received:	Aug 3, 1994
Concord, CA 94520	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Aug 3, 1994
Attention: Avo Avedissian	First Sample #:	408-0195	Analyzed:	Aug 4, 1994
			Reported:	Aug 10, 1994

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
408-0195	WOSW1	160
408-0196	WOSW2	17,000
408-0197	WOSW3	2,200
408-0198	WOSW4	2,400

Detection Limits:	**50**

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Sequoia Analytical

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 MacArthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 4080195-98
Reported: Aug 10, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Oil & Grease
Method:	SM 5520 EF
Analyst:	K. Wimer
MS/MSD Batch#:	4080190
Date Prepared:	8/3/94
Date Analyzed:	8/4/94
Instrument I.D.#:	N.A.
Conc. Spiked:	5,000 mg/kg
Matrix Spike % Recovery:	108
Matrix Spike Duplicate % Recovery:	112
Relative % Difference:	4.0
LCS Batch#:	BLK080394
Date Prepared:	8/3/94
Date Analyzed:	8/4/94
Instrument I.D.#:	N.A.
LCS % Recovery:	98
% Recovery Control Limits:	75-125

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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UNOCAL 76

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Company Name: KEI	Project Name: UNOCAL #1871 – OAKLAND
Address: 2401 STANWELL DR. #400	UNOCAL Project Manager: BOB BOUST
City: CONCORD State: CA Zip Code: 94520	Release #:
Telephone: 602-5100 FAX #: 687-0602	Site #: 1871 96 MACARTHUR BLVD.
Report To: KEI Sampler: HAIG	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D

Pink - Client

Turnaround Time: ☐ 10 Working Days ☒ 5 Working Days ☐ 3 Working Days ☐ 2 Working Days ☐ 24 Hours ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TOG								Comments
1. W0SW1	8/3/94	SOIL	1	TUBE	4080195	✓								
2. W0SW2	↓	↓	1	↓	4080196	✓								
3. W0SW3	↓	↓	1	↓	4080197	✓								
4. W0SW4	↓	↓	1	↓	4080198	✓								
5.														
6.														
7.														
8.														
9.														
10.														

Yellow - Laboratory

Relinquished By: [signature]	Date: 8/3/94	Time: 4:50 pm	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: RA Kelley	Date: 8/3/94	Time: 4:50 pm

White - Laboratory

Were Samples Received in Good Condition? ☒ Yes ☐ No Samples on Ice? ☒ Yes ☐ No Method of Shipment______ Page 1 of 1

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: ______

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 MacArthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Matrix Descript:	Soil	Received:	Aug 3, 1994
Concord, CA 94520	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Aug 3, 1994
Attention: Avo Avedissian	First Sample #:	408-0190	Analyzed:	Aug 4, 1994
			Reported:	Aug 4, 1994

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
408-0190	WO1(14)	N.D.

Detection Limits:	50

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 MacArthur Blvd., Oakland
2401 Stanwell Dr., Ste. 400	Matrix:	Solid
Concord, CA 94520		
Attention: Avo Avedissian	QC Sample Group: 408-0190	Reported: Aug 8, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Oil & Grease
Method:	SM 5520 EF
Analyst:	K. Wimer
MS/MSD Batch#:	4080190
Date Prepared:	8/3/94
Date Analyzed:	8/4/94
Instrument I.D.#:	N.A.
Conc. Spiked:	5,000 mg/kg
Matrix Spike % Recovery:	108
Matrix Spike Duplicate % Recovery:	112
Relative % Difference:	4.0
LCS Batch#:	BLK080394
Date Prepared:	8/3/94
Date Analyzed:	8/4/94
Instrument I.D.#:	N.A.
LCS % Recovery:	98
% Recovery Control Limits:	75-125

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.

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☐ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Company Name: KEI	Project Name: UNOCAL #1871 - OAKLAND
Address: 2401 STANWELL DR. # 400	UNOCAL Project Manager: BOB BOUST
City: CONCORD State: CA Zip Code: 94520	Release #:
Telephone: 602-5100 FAX #: 687-0602	Site #: 1871 - 96 MACARTHUR BLVD,
Report To: KEI Sampler: HAIG	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D

Pink - Client

Turnaround Time: ☐ 10 Working Days ☐ 2 Working Days ☐ 5 Working Days ☒ 24 Hours ☐ 3 Working Days ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested

	Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TOG									Comments
1.	W01 (14)	8/3/94	SOIL	1	TUBE	4080190	✓									
2.																
3.																
4.																
5.																
6.																
7.																
8.																
9.																
10.																

Yellow - Laboratory

White - Laboratory

Relinquished By: [signature]	Date: 8/3/94	Time: 4:50 pm	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: R. Kelley	Date: 8/3/94	Time: 4:50 pm

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: _____

Sequoia Analytical

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal # 1871, 96 Macarthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Soil, WO1 (14)	Relogged:	Aug 12, 1994
Concord, CA 94520	Analysis Method:	EPA 8270	Extracted:	Aug 15, 1994
Attention: Avo Avedissian	Lab Number:	#4080190	Analyzed:	Aug 15, 1994
			Reported:	Aug 26, 1994

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.

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal # 1871, 96 Macarthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Soil, WO1 (14)	Relogged:	Aug 12, 1994
Concord, CA 94520	Analysis Method:	EPA 8270	Extracted:	Aug 15, 1994
Attention: Avo Avedissian	Lab Number:	#4080190	Analyzed:	Aug 15, 1994
			Reported:	Aug 26, 1994

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

Analyte	Detection Limit µg/kg	Sample Results µg/kg
2,4-Dinitrotoluene	100	N.D.
2,6-Dinitrotoluene	100	N.D.
Di-N-octyl phthalate	100	N.D.
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-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

Sequoia Analytical

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal # 1871, 96 Macarthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0190

Reported: Aug 26, 1994

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
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	S. Le	S. Le	S. Le	S. Le	S. Le	S. Le
MS/MSD Batch#:	4080190	4080190	4080190	4080190	4080190	4080190
Date Prepared:	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94
Date Analyzed:	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	5000 µg/Kg	5000 µg/Kg	2500 µg/Kg	2500 µg/Kg	2500 µg/Kg	5000 µg/Kg
Matrix Spike % Recovery:	72	73	74	82	82	79
Matrix Spike Duplicate % Recovery:	74	74	78	82	86	80
Relative % Difference:	2.7	1.4	5.3	.0.0	4.8	1.3
LCS Batch#:	BLK081594	BLK081594	BLK081594	BLK081594	BLK081594	BLK081594
Date Prepared:	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94
Date Analyzed:	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	73	75	80	82	88	81
% Recovery Control Limits:	46-130	23-134	20-124	DL-230	44-142	22-147

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.

#4080190.KEI <3>

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal # 1871, 96 Macarthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0190

Reported: Aug 26, 1994

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:	S. Le	S. Le	S. Le	S. Le	S. Le
MS/MSD Batch#:	4080190	4080190	4080190	4080190	4080190
Date Prepared:	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94
Date Analyzed:	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94
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:	80	53	68	59	90
Matrix Spike Duplicate % Recovery:	82	53	70	61	96
Relative % Difference:	2.5	0.0	2.9	3.3	6.5
LCS Batch#:	BLK081594	BLK081594	BLK081594	BLK081594	BLK081594
Date Prepared:	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94
Date Analyzed:	8/15/94	8/15/94	8/15/94	8/15/94	8/15/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	84	43	72	59	102
% Recovery Control Limits:	47-145	DL-132	39-139	14-176	52-115

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Please Note:
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SEQUOIA ANALYTICAL/UNOCAL RELOG SHEET

CLIENT:	KEI	DATE RELOG:	8/12/94
PROJECT ID:	Unocal #1871, Oakland	DATE DUE:	8/26/94
PROJ. MANAGER:	Alan Kemp	DATE SAMP:	8/3/94
DATE REC'D: 8/3/94	MATRIX: Soil	T.A.T.	10d

PREVIOUSLY LOGGED SAMPLES

[ ] TAT Change status to: 0

Change status as of Day: 8/12/94 Time: 2:20 PM

[X] CHANGE ANALYSES

Add Analyses [X]

Cancel Analyses [ ]

Sample Number	Analyses
4080190	8270
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

SAMPLES ON HOLD

Add analyses

Sample Description	Analyses
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

TAT 0

Client Authorization (Person/Date/Time): Bob Kezerian 8/12/94 2:20 PM

Project Manager:

(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:

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☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Company Name: KEI	Project Name: UNOCAL #1871 - OAKLAND
Address: 2401 STANWELL DR. # 400	UNOCAL Project Manager: BOB BOUST
City: CONCORD State: CA Zip Code: 94520	Release #:
Telephone: 602-5100 FAX #: 687-0602	Site #: 1871 - 96 MACARTHUR BLVD,
Report To: KEI Sampler: HAIG	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D

Turnaround Time: ☐ 10 Working Days ☐ 2 Working Days ☐ 5 Working Days ☒ 24 Hours ☐ 3 Working Days ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested: TOG

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Comments
1. W01 (14)	8/3/94	SOIL	1	TUBE	4080190	
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

Relinquished By: [signature]	Date: 8/3/94	Time: 4:50 pm	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: R. Kelley	Date: 8/3/94	Time: 4:50 PM

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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Kaprealian Engineering, Inc.	Client Project ID:	Unocal # 1871, 96 Macarthur Blvd., Oakland	Sampled: Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Soil, WO1 (14)	Relogged: Aug 12, 1994
Concord, CA 94520	Analysis Method:	EPA 8270	Extracted: Aug 15, 1994
Attention: Avo Avedissian	Lab Number:	#4080190	Analyzed: Aug 15, 1994
			Reported: Aug 26, 1994

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.

Sequoia Analytical

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Kaprealian Engineering, Inc.	Client Project ID: Unocal #1871, 96 Macarthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix: Soil	Relogged:	Aug 16, 1994
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported:	Aug 24, 1994
Attention: Avo Avedissian	First Sample #: 408-0196		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 408-0196 WO SW2
Purgeable Hydrocarbons	1.0	960
Benzene	0.0050	2.2
Toluene	0.0050	2.6
Ethyl Benzene	0.0050	9.5
Total Xylenes	0.0050	22
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	100
Date Analyzed:	8/17/94
Instrument Identification:	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	93

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

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Kaprealian Engineering, Inc.	Client Project ID: Unocal #1871, 96 Macarthur Blvd., Oakland	Sampled:	Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix: Soil	Relogged:	Aug 16, 1994
Concord, CA 94520	Analysis Method: EPA 3550/8015	Reported:	Aug 24, 1994
Attention: Avo Avedissian	First Sample #: 408-0196		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 408-0196 WO SW2*
Extractable Hydrocarbons	1.0	1,400
Chromatogram Pattern:		Diesel and Unidentified Hydrocarbons <C14 & >C20

Quality Control Data

Report Limit Multiplication Factor:	100
Date Extracted:	8/16/94
Date Analyzed:	8/19/94
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

Please Note:
* This sample appears to contain diesel and non-diesel mixtures. "Unidentified Hydrocarbons <C14" are probably gasoline; ">C20" refers to unidentified peaks in the total oil and grease range.

Sequoia Analytical

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Kapreallan Engineering, Inc.	Client Project ID:	Unocal #1871, 96 Macarthur Blvd., Oakland	Sampled: Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Soil, WO SW2	Relogged: Aug 16, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed: Aug 16, 1994
Attention: Avo Avedissian	Lab Number:	408-0196	Reported: Aug 24, 1994

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Bromodichloromethane	50	N.D.
Bromoform	**50**	**220**
Bromomethane	100	N.D.
Carbon tetrachloride	50	N.D.
Chlorobenzene	50	N.D.
Chloroethane	100	N.D.
2-Chloroethylvinyl ether	100	N.D.
Chloroform	50	N.D.
Chloromethane	100	N.D.
Dibromochloromethane	50	N.D.
1,2-Dichlorobenzene	**50**	**1,800**
1,3-Dichlorobenzene	**50**	**63**
1,4-Dichlorobenzene	**50**	**540**
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
cis-1,2-Dichloroethene	50	N.D.
trans-1,2-Dichloroethene	50	N.D.
1,2-Dichloropropane	50	N.D.
cis-1,3-Dichloropropene	50	N.D.
trans-1,3-Dichloropropene	50	N.D.
Methylene chloride	500	N.D.
1,1,2,2-Tetrachloroethane	50	N.D.
Tetrachloroethene	50	N.D.
1,1,1-Trichloroethane	50	N.D.
1,1,2-Trichloroethane	50	N.D.
Trichloroethene	50	N.D.
Trichlorofluoromethane	50	N.D.
Vinyl chloride	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 Macarthur Blvd., Oakland	Sampled: Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Soil, WO SW2	Relogged: Aug 16, 1994
Concord, CA 94520	Analysis Method:	EPA 8270	Extracted: Aug 16, 1994
Attention: Avo Avedissian	Lab Number:	408-0196	Analyzed: Aug 17, 1994
			Reported: Aug 24, 1994

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

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acenaphthene	2,500	3,300
Acenaphthylene	2,500	N.D.
Aniline	2,500	N.D.
Anthracene	2,500	6,100
Benzidine	63,000	N.D.
Benzoic Acid	13,000	N.D.
Benzo(a)anthracene	2,500	4,000
Benzo(b)fluoranthene	2,500	3,300
Benzo(k)fluorenthene	2,500	N.D.
Benzo(g,h,i)perylene	2,500	N.D.
Benzo(a)pyrene	2,500	2,900
Benzyl alcohol	2,500	N.D.
Bis(2-chloroethoxy)methane	2,500	N.D.
Bis(2-chloroethyl)ether	2,500	N.D.
Bis(2-chloroisopropyl)ether	2,500	N.D.
Bis(2-ethylhexyl)phthalate	13,000	N.D.
4-Bromophenyl phenyl ether	2,500	N.D.
Butyl benzyl phthalate	2,500	N.D.
4-Chloroaniline	2,500	N.D.
2-Chloronaphthalene	2,500	N.D.
4-Chloro-3-methylphenol	2,500	N.D.
2-Chlorophenol	2,500	N.D.
4-Chlorophenyl phenyl ether	2,500	N.D.
Chrysene	2,500	4,800
Dibenz(a,h)anthracene	2,500	N.D.
Dibenzofuran	2,500	N.D.
Di-N-butyl phthalate	13,000	N.D.
1,3-Dichlorobenzene	2,500	N.D.
1,4-Dichlorobenzene	2,500	N.D.
1,2-Dichlorobenzene	2,500	N.D.
3,3-Dichlorobenzidine	13,000	N.D.
2,4-Dichlorophenol	2,500	N.D.
Diethyl phthalate	2,500	N.D.
2,4-Dimethylphenol	2,500	N.D.
Dimethyl phthalate	2,500	N.D.
4,6-Dinitro-2-methylphenol	13,000	N.D.
2,4-Dinitrophenol	13,000	N.D.

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal #1871, 96 Macarthur Blvd., Oakland	Sampled: Aug 3, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Soil, WO SW2	Relogged: Aug 16, 1994
Concord, CA 94520	Analysis Method:	EPA 8270	Extracted: Aug 16, 1994
Attention: Avo Avedissian	Lab Number:	408-0196	Analyzed: Aug 17, 1994
			Reported: Aug 24, 1994

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

Analyte	Detection Limit µg/kg	Sample Results µg/kg
2,4-Dinitrotoluene	2,500	N.D.
2,6-Dinitrotoluene	2,500	N.D.
Di-N-octyl phthalate	2,500	N.D.
Fluoranthene	2,500	15,000
Fluorene	2,500	3,800
Hexachlorobenzene	2,500	N.D.
Hexachlorobutadiene	2,500	N.D.
Hexachlorocyclopentadiene	2,500	N.D.
Hexachloroethane	2,500	N.D.
Indeno(1,2,3-cd)pyrene	2,500	N.D.
Isophorone	2,500	N.D.
2-Methylnaphthalene	2,500	28,000
2-Methylphenol	2,500	N.D.
4-Methylphenol	2,500	N.D.
Naphthalene	2,500	10,000
2-Nitroaniline	13,000	N.D.
3-Nitroaniline	13,000	N.D.
4-Nitroaniline	13,000	N.D.
Nitrobenzene	2,500	N.D.
2-Nitrophenol	2,500	N.D.
4-Nitrophenol	13,000	N.D.
N-Nitrosodiphenylamine	2,500	N.D.
N-Nitroso-di-N-propylamine	2,500	N.D.
Pentachlorophenol	13,000	N.D.
Phenanthrene	2,500	22,000
Phenol	2,500	N.D.
Pyrene	2,500	14,000
1,2,4-Trichlorobenzene	2,500	N.D.
2,4,5-Trichlorophenol	13,000	N.D.
2,4,6-Trichlorophenol	2,500	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 Macarthur Blvd., Oakland
Sample Descript: Soil, WO SW2

Lab Number: 408-0196

Sampled: Aug 3, 1994
Relogged: Aug 16, 1994
Extracted: Aug 18, 1994
Analyzed: Aug 19-22, 1994
Reported: Aug 24, 1994

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	0.50	1.2
Chromium	2.5	33
Lead	2.5	39
Nickel	2.5	35
Zinc	0.50	42

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

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 Macarthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0196
Reported: Aug 24, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 Mod.
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	K.V.S.
MS/MSD Batch#:	4080507	4080507	4080507	4080507	4080512
Date Prepared:	8/17/94	8/17/94	8/17/94	8/17/94	8/16/94
Date Analyzed:	8/17/94	8/17/94	8/17/94	8/17/94	8/18/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3B
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg	10 mg/kg
Matrix Spike % Recovery:	80	90	90	94	87
Matrix Spike Duplicate % Recovery:	80	90	90	94	76
Relative % Difference:	0.0	0.0	0.0	0.0	13
LCS Batch#:	2LCS081794	2LCS081794	2LCS081794	2LCS081794	BLK081694
Date Prepared:	8/17/94	8/17/94	8/17/94	8/17/94	8/16/94
Date Analyzed:	8/17/94	8/17/94	8/17/94	8/17/94	8/18/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3B
LCS % Recovery:	82	92	92	94	86
% Recovery Control Limits:	55-145	47-149	47-155	56-140	38-122

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 Macarthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0196

Reported: Aug 24, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	K. Nill	K. Nill	K. Nill
MS/MSD Batch#:	4080180	4080180	4080180
Date Prepared:	8/16/94	8/16/94	8/16/94
Date Analyzed:	8/16/94	8/16/94	8/16/94
Instrument I.D.#:	HP5890/1	HP5890/1	HP5890/1
Conc. Spiked:	10 µg/Kg	10 µg/Kg	10 µg/Kg
Matrix Spike % Recovery:	79	112	124
Matrix Spike Duplicate % Recovery:	67	113	119
Relative % Difference:	16	0.89	4.1
LCS Batch#:	LCS81694	LCS81694	LCS81694
Date Prepared:	8/16/94	8/16/94	8/16/94
Date Analyzed:	8/16/94	8/16/94	8/16/94
Instrument I.D.#:	HP5890/1	HP5890/1	HP5890/1
LCS % Recovery:	121	111	105
% Recovery Control Limits:	28-167	35-146	38-150

SEQUOIA ANALYTICAL, #1271

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 Macarthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0196
Reported: Aug 24, 1994

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
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	S. Le	S. Le	S. Le	S. Le	S. Le	S. Le
MS/MSD Batch#:	4080196	4080196	4080196	4080196	4080196	4080196
Date Prepared:	8/16/94	8/16/94	8/16/94	8/16/94	8/16/94	8/16/94
Date Analyzed:	8/17/94	8/17/94	8/17/94	8/17/94	8/17/94	8/17/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	5000 µg/Kg	5000 µg/Kg	2500 µg/Kg	2500 µg/Kg	2500 µg/Kg	5000 µg/Kg
Matrix Spike % Recovery:	92	94	115	124	110	95
Matrix Spike Duplicate % Recovery:	74	75	95	99	91	73
Relative % Difference:	22	24	19	18	19	27
LCS Batch#:	BLK081694	BLK081694	BLK081694	BLK081694	BLK081694	BLK081694
Date Prepared:	8/16/94	8/16/94	8/16/94	8/16/94	8/16/94	8/16/94
Date Analyzed:	8/17/94	8/17/94	8/17/94	8/17/94	8/17/94	8/17/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	67	70	70	72	72	71
% Recovery Control Limits:	46-130	23-134	20-124	DL-230	44-142	22-147

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 Macarthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0196
Reported: Aug 24, 1994

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:	S. Le	S. Le	S. Le	S. Le	S. Le
MS/MSD Batch#:	4080196	4080196	4080196	4080196	4080196
Date Prepared:	8/16/94	8/16/94	8/16/94	8/16/94	8/16/94
Date Analyzed:	8/17/94	8/17/94	8/17/94	8/17/94	8/17/94
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:	135	5.8	37	1.0	172
Matrix Spike Duplicate % Recovery:	92	4.3	26	1.0	114
Relative % Difference:	38	29	35	0.0	8.0
LCS Batch#:	BLK081694	BLK081694	BLK081694	BLK081694	BLK081694
Date Prepared:	8/16/94	8/16/94	8/16/94	8/16/94	8/16/94
Date Analyzed:	8/17/94	8/17/94	8/17/94	8/17/94	8/17/94
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	72	42	60	51	80
% Recovery Control Limits:	47-145	DL-132	39-139	14-176	52-115

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
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Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #1871, 96 Macarthur Blvd., Oakland
Matrix: Solid
QC Sample Group: 408-0196

Reported: Aug 24, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Cadmium	Chromium	Lead	Nickel	Zinc
Method:	EPA 7130	EPA 7190	EPA 7420	EPA 7520	EPA 7950
Analyst:	K. Wimer	K. Wimer	K. Anderson	K. Anderson	K. Wimer
MS/MSD Batch#:	4080196	4080196	4080986	4080920	4080196
Date Prepared:	8/18/94	8/18/94	8/18/94	8/18/94	8/18/94
Date Analyzed:	8/22/94	8/22/94	8/19/94	8/22/94	8/22/94
Instrument I.D.#:	SpectrAA-20	SpectrAA-20	SpectrAA-20	SpectrAA-20	SpectrAA-20
Conc. Spiked:	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg	50 mg/kg
Matrix Spike % Recovery:	102	113	100	102	106
Matrix Spike Duplicate % Recovery:	101	113	93	92	108
Relative % Difference:	0.99	0.0	7.3	10	1.9
LCS Batch#:	BLK081894	BLK081894	BLK081894	BLK081894	BLK081894
Date Prepared:	8/18/94	8/18/94	8/18/94	8/18/94	8/18/94
Date Analyzed:	8/22/94	8/22/94	8/19/94	8/22/94	8/22/94
Instrument I.D.#:	SpectrAA-20	SpectrAA-20	SpectrAA-20	SpectrAA-20	SpectrAA-20
LCS % Recovery:	94	98	88	94	100
% Recovery Control Limits:	75-125	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL, #1271

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Project Manager

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SEQUOIA ANALYTICAL/UNOCAL RELOG SHEET

CLIENT:	KEI	DATE RELOG:	8/16/94
PROJECT ID:	Unocal #1871, Oakland	DATE DUE:	8/23/94
PROJ. MANAGER:	Alan Kemp	DATE SAMP:	8/3/94
DATE REC'D: 8/3/94	MATRIX: Soil	T.A.T.	5d

PREVIOUSLY LOGGED SAMPLES

[ ] TAT Change status to: 0

Change status as of Day: 8/16/94 Time: 8:30 AM

[X] CHANGE ANALYSES

Add Analyses [X]
Cancel Analyses [ ]

Sample Number	Analyses
4080196	Gas / BTEX; Diesel; 8010; 8270; Cd, Cr, Pb, Ni, Zn
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

SAMPLES ON HOLD

Add analyses

Sample Description	Analyses
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

TAT 0

Client Authorization (Person/Date/Time): Haig 8/16/94 8:30 AM

Project Manager:

(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:

UNOCAL 76

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
☒ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600
☐ 18939 120th Ave., N.E., Suite 101 • Bothell, WA 98011 • (206) 481-9200
☐ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Company Name: KEI		Project Name: UNOCAL #1871 – OAKLAND	
Address: 2401 STANWELL DR. # 400		UNOCAL Project Manager: BOB BOUST	
City: CONCORD State: CA	Zip Code: 94520	Release #:	
Telephone: 602-5100	FAX #: 687-0602	Site #: 1871 – 96 MACARTHUR BLVD,	
Report To: KEI	Sampler: HAIG	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D	

Turnaround Time: ☐ 10 Working Days ☐ 5 Working Days ☐ 3 Working Days ☐ 2 Working Days ☐ 24 Hours ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested: TOG

	Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TOG	Comments
1.	WO SW1	8/3/94	SOIL	1	TUBE	4080195	✓	
2.	WO SW2	↓	↓	1	↓	4080196	✓	
3.	WO SW3			1		4080197	✓	
4.	WO SW4			1		4080198	✓	
5.								
6.								
7.								
8.								
9.								
10.								

Relinquished By: Heather Reilly	Date: 8/3/94	Time: 4:50 pm	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: R.A. Kelley	Date: 8/3/94	Time: 4:50 pm

Were Samples Received in Good Condition? ☒ Yes ☐ No Samples on Ice? ☒ Yes ☐ No Method of Shipment _____ Page 1 of 1

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