STID 1163

ENVIRONMENTAL RESOLUTIONS, INC.

August 24, 1998
ERI 223532.R01

Ms. Tina Berry
Tosco Marketing Company
2000 Crow Canyon Place Suite 400
San Ramon, California 94583

Subject: Underground Storage Tank and Associated Piping and Dispenser Replacement, Tosco (Union) 76 Service Station 1156, 4276 MacArthur Boulevard, Oakland, California.

Ms. Berry:

At the request of Tosco Marketing Company (Tosco), Environmental Resolutions, Inc. (ERI) performed an environmental investigation at Tosco 76 Service Station 1156 in Oakland, California, in conjunction with removal of one used-oil underground storage tank (UST) and removal and replacement of two gasoline USTs and associated piping and dispensers. Tosco requested ERI conduct the investigation to evaluate soil and groundwater conditions beneath the site.

BACKGROUND

The site is on the northern corner of MacArthur Boulevard and High Street in Oakland, California, as shown on the Site Vicinity Map (Plate 1). The locations of new and former USTs, dispenser islands, and other selected site features are shown on the Generalized Site Plan (Plate 2). Properties in the vicinity of the site are typically occupied by residential and commercial developments.

FIELD WORK

ERI performed field work at the site between March 23 and April 9, 1998, in accordance with ERI's Field Procedures (Attachment A) and Site Safety Plan. Field work and soil sampling are discussed below.

Removal of Gasoline USTs

On March 23, 1998, ERI's representative observed Paradiso Mechanical, Inc. (Paradiso) of San Leandro, California remove two 10,000-gallon single-walled steel gasoline USTs. No holes or cracks were noted in the gasoline USTs. Mr. Hernan Gomez of City of Oakland Fire Services Agency (COFSA) observed the UST removal. Groundwater was measured at approximately 7.5 feet below ground surface (ft bgs) in the fuel UST cavity. Ecology Control Industries (ECI) transported the tanks to their Richmond, California facility for recycling.

ERI's representative collected one sidewall sample of native soil from each end of each UST. Ms. Tina Berry of Tosco and Mr. Hernan Gomez of COFSA observed soil sampling. Soil sample locations are shown on Plate 2. A water sample was collected from the UST cavity at a depth of approximately 7.5 ft bgs.

Removal of the Used-Oil UST

On March 23, 1998, ERI's representative observed Paradiso remove one 280-gallon single-walled steel used-oil UST from the site. Several holes, up to 1 inch in diameter, were noted on the top of the used-oil UST. Ms. Tina Berry of Tosco and Mr. Hernan Gomez of COFSA observed UST removal. ECI transported the tank to their Richmond facility for recycling.

Removal of Product Lines and Dispensers

Paradiso removed product lines and dispensers prior to the arrival of ERI, COFSA, or Tosco representatives. On April 9, 1998, ERI's representative collected 1 native soil sample from approximately 3 ft bgs from adjacent to each of the four former dispenser locations, and 2 native soil samples from approximately 3 ft bgs within former product line trenching. Mr. Stephen Crafort of COFSA observed soil sampling. Soil sample locations are shown on Plate 2.

Additional Excavation

On April 9, 1998, ERI's representative observed Paradiso overexcavate approximately 4.6 tons of soil from the base and western and southern sidewalls of the former used-oil UST cavity. Lateral excavation in the northern and eastern directions was not conducted due to limited backhoe access. Excavation in the western and southern directions was discontinued due to the proximity of the station building. ERI's representative collected native soil samples from the western, and southern limits of the used-oil UST cavity overexcavation at locations requested by Mr. Stephen Crafort of COFSA, at depths ranging from approximately 3 to 6.5 ft bgs. Soil sample locations are shown on Plate 2.

LABORATORY ANALYSES AND RESULTS

The laboratory analyses, methods of testing, and analytical results are summarized in Table 1. Copies of the Chain of Custody Records and laboratory reports are included (Attachment B).

Laboratory analyses of soil samples collected from the sidewall at each end of each gasoline UST detected concentrations of total purgeable petroleum hydrocarbons as gasoline (TPPHg) of up to 1,200 mg/Kg. TPPHg was not detected at or above laboratory method detection limits in soil samples collected from adjacent to dispensers D1 and D4, but was detected in soil samples collected from adjacent to dispensers D2 and D3 and within the former product line trenching up to 590 mg/Kg.

Laboratory analyses of soil samples collected from the bottom and western and southern limits of the used-oil UST overexcavation detected TPPHg up to 130 mg/Kg, total extractable petroleum hydrocarbons as diesel (TEPHd) up to 78,000 mg/Kg, and total recoverable petroleum hydrocarbons (TRPH) up to 8,400 mg/Kg.

Laboratory analyses of the groundwater sample collected from the fuel UST cavity at approximately 7.5 ft bgs detected TPPHg and methyl tertiary butyl ether at 41,000 micrograms per liter (μg/L) and 1,800 μg/L, respectively.

SAMPLING AND DISPOSAL OF SOIL

Paradiso removed approximately 1,350.56 tons of soil and backfill from the new and former gasoline and used-oil UST cavities and product line trenches. ERI's representative collected one composite soil sample (four brass sleeves) for each 100 cubic yards of stockpiled soil. Results of laboratory analyses of the composite soil samples are shown in Table 1.

At Tosco's request, DenBeste Transportation, Inc. of Windsor, California transported and disposed of stockpiled soil at Forward Landfill in Manteca, California. The disposal documentation is attached (Attachment C).

LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental geological practice in California at the time this investigation was performed. This investigation was conducted solely for the purpose of evaluating environmental conditions of the soil and groundwater with respect to hydrocarbons. No soil engineering or geotechnical references are implied or should be inferred. Evaluation of the geologic conditions at the site for the purpose of this investigation is made from a limited number of observation points. Subsurface conditions may vary away from the data points available.

ERI recommends copies of this report be forwarded to:

Mr. Hernan Gomez
Hazardous Materials Inspector
City of Oakland Fire Services Agency
505 14th Street, 7th Floor
Oakland, California 94612

Mr. Stephen Hill
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Please call (415) 382-5988 with any questions regarding the information in this report.

Sincerely,
Environmental Resolutions, Inc.

Paul D. Blank
Environmental Technician

Steve M. Zigan
R.G. 4333
H.G. 133

Attachments:
Table 1: Sample Analysis Results of Soil and Groundwater

Plate 1: Site Vicinity Map
Plate 2: Generalized Site Plan

Attachment A: Field Procedures
Attachment B: Laboratory Analyses and Chain of Custody Records
Attachment C: Stockpile Disposal Documentation

TABLE 1
SAMPLE ANALYSIS RESULTS OF SOIL AND GROUNDWATER
Tosco (Union) 76 Service Station 1156
4276 MacArthur Boulevard
Oakland, California
(Page 1 of 2)

Sample #	Depth	Date	TEPHd	TPPHg	B	T	E	X	TRPH	TTLC Lead	SVOC's	HVOC's
FUEL USTS - SOIL												
S-6-T1N	6.0	3/23/98	NA	1,200	0.90	ND	14	100	NA	6.8	NA	NA
S-9.5-T1S	9.5	3/23/98	NA	590	[illegible]	ND	5.6	33	NA	NA	NA	NA
S-7-T2S	7.0	3/23/98	NA	670	1.0	0.74	6.8	51	NA	NA	NA	NA
S-6-T2N	6.0	3/23/98	NA	83	ND	ND	0.15	0.41	NA	NA	NA	NA
DISPENSERS - SOIL												
S-2-D1	2.0	4/9/98	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA
S-3-D2	3.0	4/9/98	NA	16	ND	ND	ND	0.13	NA	NA	NA	NA
S-3-D3	3.0	4/9/98	NA	[illegible]	1.6	15	18	99	NA	110*	NA	NA
S-3-D4	3.0	4/9/98	NA	ND	ND	ND	ND	0.070	NA	NA	NA	NA
PRODUCT LINES - SOIL												
S-3-PL1	3.0	4/9/98	NA	160	ND	ND	ND	8.4	NA	NA	NA	NA
S-3.5-PL2	3.5	4/9/98	NA	63	ND	ND	ND	0.45	NA	NA	NA	NA
USED - OIL UST - SOIL												
S-6.5-T3S	6.5	3/23/98	[illegible]	130	[illegible]	1.3	1.2	11	8,400	7.2	ND	ND**
S-4.5-T3W	4.5	4/9/98	2.3	5.0	ND	0.066	ND	0.011	ND	ND	ND	ND
S-3-T3S	3.0	4/9/98	ND	1.6	0.043	ND	0.0091	ND	ND	ND	ND	ND
S-6-T3S	6.0	4/9/98	[illegible]	81	[illegible]	1.4	1.1	5.9	360	ND	ND***	ND
FUEL UST CAVITY- WATER												
W-7.5-T2	7.5	3/23/98	NA	[illegible]	ND	400	770	8,900	NA	NA	NA	NA
STOCKPILE												
SP-1-(1-4)	NA	4/3/98	NA	15	0.024	0.034	0.024	0.069	NA	16	NA	NA
SP-1-(5-8)	NA	4/3/98	NA	3.2	0.013	ND	ND	0.014	NA	12	NA	NA
SP-2-(1-4)	NA	4/3/98	NA	13	0.076	ND	0.019	0.060	NA	5.0	NA	NA
SP-2-(5-8)	NA	4/3/98	NA	42	0.19	ND	0.11	0.60	NA	5.4	NA	NA
SP-2-(9-12)	NA	4/3/98	NA	15	0.19	ND	0.034	0.092	NA	ND	NA	NA
SP-2-(13-16)	NA	4/3/98	NA	41	0.66	0.61	0.42	2.2	NA	ND	NA	NA
SP-2-(17-20)	NA	4/3/98	NA	10	0.036	0.027	0.013	0.058	NA	ND	NA	NA
SP-3-(1-4)	NA	4/9/98	290	12	0.13	0.027	0.094	0.53	570	30	ND	ND
SP-4-(A-10)	NA	4/9/98	NA	19	0.0076	0.058	0.068	0.40	NA	10	NA	NA

TABLE 1
SAMPLE ANALYSIS RESULTS OF SOIL AND GROUNDWATER
Tosco (Union) 76 Service Station 1156
4276 MacArthur Boulevard
Oakland, California

Sample #	Depth	Date	TEPHd	TPPHg	B	T	E	X	TRPH	TTLC Lead	SVOC's	HVOC's

Notes:
Soil results (S) in milligrams per kilogram (mg/kg) unless otherwise noted.
Water results (W) in micrograms per liter (ug/L).

ug/kg	=	rograms per liter
TEPHd	=	s as diesel analyzed using modified EPA method 8015.
TPPHg	=	s gasoline analyzed using modified EPA method 8015.
BTEX	=	Total Xylenes analyzed using EPA method 8020.
TRPH	=	carbons analyzed using EPA method 5520 E&F.
TTLC Lead	=	on of lead analyzed using EPA method 6010.
STLC Lead	=	tion of lead analyzed using EPA method 6010.
SVOC's	=	ounds analyzed using EPA method 8270.
HVOC's	=	mpounds analyzed using EPA method 8010.
NA	=	lyzed/Not Applicable
ND	=	Not detected
*	=	sis: STLC Lead = 8.0 mg/L
**	=	cis-1,2-Dichloroethene = 56 ug/kg
***	=	thalene = 580 ug/kg; Naphthalene = 500 ug/kg

Additional Analyses:

Sample S-6.5-T3S analyzed for TTLC Cadmium = ND; Chromium = 50 mg/kg; Nickel = 64 mg/kg; Zinc = 52 mg/kg using EPA method 6010.

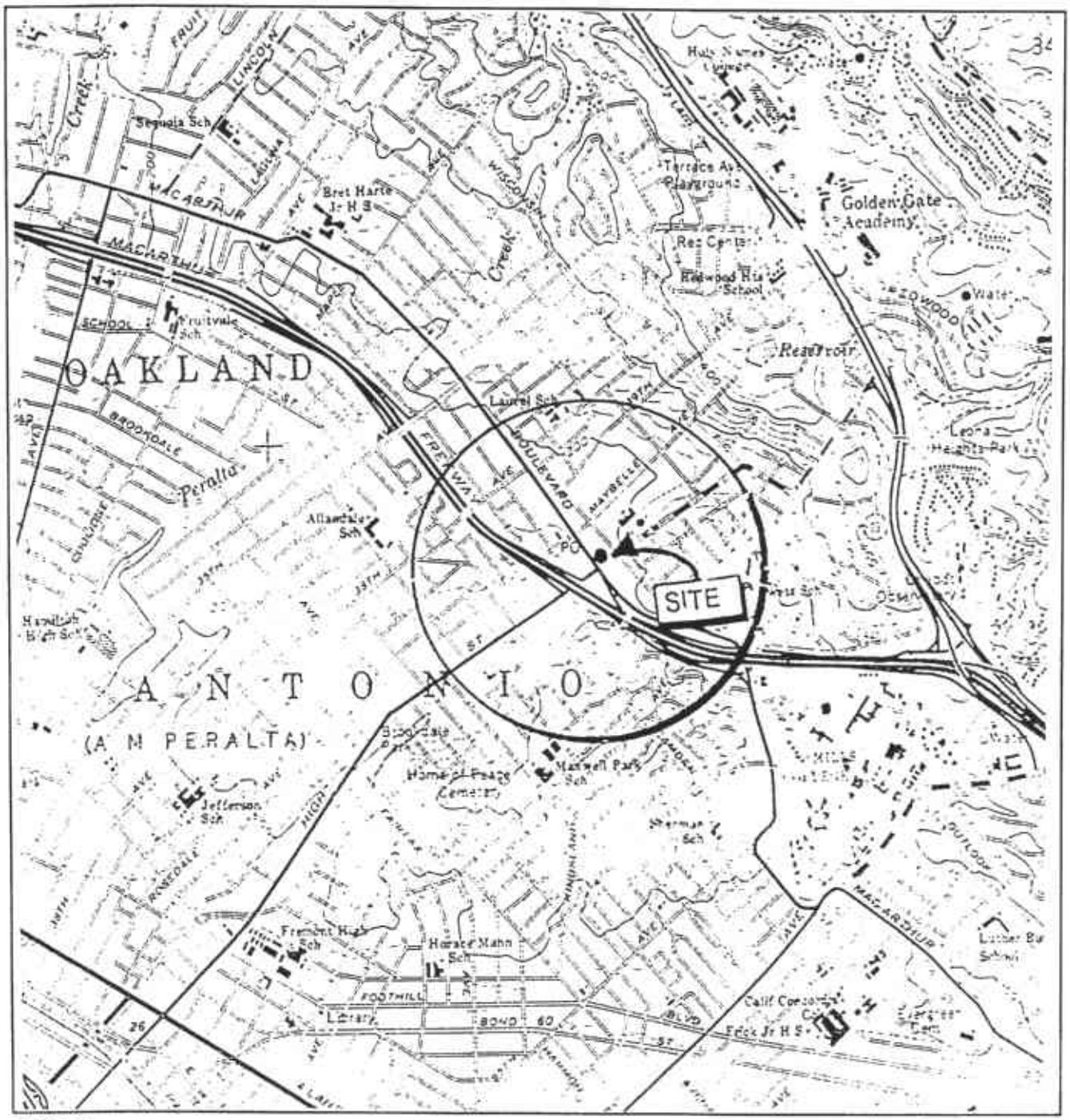
Sample S-4.5-T3W analyzed for TTLC Cadmium = ND; Chromium = 22 mg/kg; Nickel = 70 mg/kg; Zinc = 22 mg/kg using EPA method 6010.

Sample S-3-T3S analyzed for TTLC Cadmium = ND; Chromium = 37 mg/kg; Nickel = 34 mg/kg; Zinc = 34 mg/kg using EPA method 6010.

Sample S-6-T3S analyzed for TTLC Cadmium = ND; Chromium = 27 mg/kg; Nickel = 25 mg/kg; Zinc = 27 mg/kg using EPA method 6010.

Sample SP-3-(1-4) analyzed for TTLC Cadmium = ND; Chromium = 35 mg/kg; Nickel = 40 mg/kg; Zinc = 42 mg/kg using EPA method 6010.

Sample W-7.5-T2 analyzed for methyl tertiary butyl ether = 1,800 ug/L using EPA method 8020.



EXPLANATION

N

APPROXIMATE SCALE

0 1/2 1

MILE

Source: U.S.G.S. 7.5 minute topographic quadrangle map Oakland East, California (Photorevised 1980)

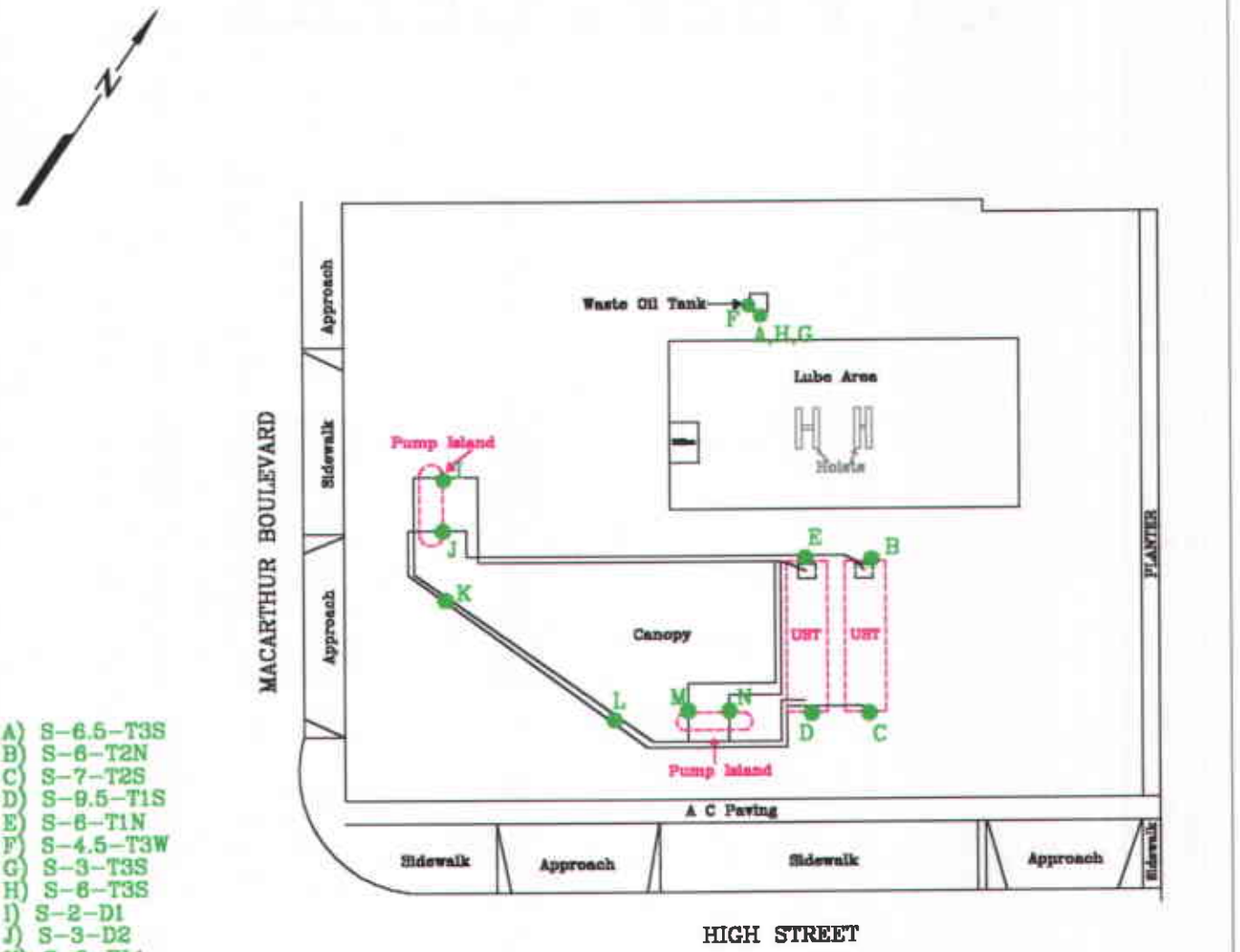
ENVIRONMENTAL RESOLUTIONS, INC.

PROJECT ERI 2235

SITE VICINITY MAP

TOSCO (UNION) 76 SERVICE STATION 1156
4276 MacArthur Boulevard
Oakland, California

PLATE 1



A) S-6.5-T3S
B) S-6-T2N
C) S-7-T2S
D) S-9.5-T1S
E) S-6-T1N
F) S-4.5-T3W
G) S-3-T3S
H) S-6-T3S
I) S-2-D1
J) S-3-D2
K) S-3-PL1
L) S-3.5-PL2
M) S-3-D3
N) S-3-D4

Source: Modified from a map provided by Tosco

FN 22350002

EXPLANATION

N

● Soil Sample

APPROXIMATE SCALE

0 30 60 FEET

GENERALIZED SITE PLAN

TOSCO (UNION) 76 SERVICE STATION 1156
4276 MacArthur Boulevard
Oakland, California

ENVIRONMENTAL RESOLUTIONS, INC.

PROJECT NO. 2235

PLATE 2

October 22, 1997

ATTACHMENT A

FIELD PROCEDURES

FIELD PROCEDURES

Safety Plan

This plan describes the basic safety requirements for the subsurface environmental investigation related to monitoring the removal of underground storage tanks and excavation of soil at the site. The Site Safety Plan is applicable to personnel of ERI and to subcontractors of ERI. Personnel scheduled to work at the site were briefed on the contents of the Site Safety Plan before work began. A copy of the Site Safety Plan was kept at the work site and was available for reference by appropriate parties during work at the site. The geologist from ERI was the Site Safety Officer onsite.

Sampling Under Former Dispensers, Product Lines, and Underground Storage Tanks

Soil samples were collected from by driving a hand-operated percussion sampler fitted with a clean brass sleeve into the soil. The sleeve was removed from the sampler and sealed promptly with Teflon® tape and plastic caps.

A photoionization detector (PID) was used to evaluate the presence of hydrocarbon vapors in soil samples. Field instruments such as the PID are useful for indicating relative levels of hydrocarbon vapors, but do not detect the concentration of hydrocarbons present with the same precision as laboratory analyses.

Sampling of Stockpiled Soil

These samples were collected and analyzed to characterize the soil for disposal. A PID was used to assist in selecting samples representative of the stockpile. Each of these soil samples was collected by driving a hand-operated percussion soil-sampling device lined with a clean brass sleeve into the soil after approximately 1 foot of soil was removed from the stockpile. Each sample sleeve was removed from the sampler and promptly sealed with Teflon® tape and plastic caps. The sample was then labeled and placed in iced storage. Four samples were collected for approximately every 50 cubic yards of stockpiled soil; each group of four samples was composited into one soil sample by the analytical laboratory.

Sample Labeling and Handling

The soil samples selected for possible laboratory analysis were removed from the sampler and quickly sealed in their brass sleeves with Teflon® tape and plastic caps. The respective sample containers were labeled in the field with the job number, sample location and depth, and date, and promptly placed in iced storage for transport to the laboratory. Chain of Custody Records were initiated in the field by the geologist and accompanied the samples to a laboratory certified by the State of California to perform the analyses requested.

ATTACHMENT B

LABORATORY ANALYSES
AND CHAIN OF CUSTODY RECORDS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

APR 23 1998

Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1

Lab Proj. ID: 9803I43

Sampled: 03/23/98
Received: 03/24/98
Analyzed: see below

Reported: 04/14/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9803I43-01				
Sample Desc : SOLID,S-6-T1N				
Lead by ICP	**mg/Kg**	**04/02/98**	**5.0**	**6.8**
Lab No: 9803I43-05				
Sample Desc : SOLID,S-6.5-T3S				
Cadmium by ICP	mg/Kg	04/02/98	0.50	N.D.
Chromium by ICP	**mg/Kg**	**04/02/98**	**0.50**	**50**
Lead by ICP	**mg/Kg**	**04/02/98**	**5.0**	**7.2**
Nickel by ICP	**mg/Kg**	**04/02/98**	**2.5**	**64**
TRPH (SM 5520 E&F)	**mg/Kg**	**03/31/98**	**50**	**8400**
Zinc by ICP	**mg/Kg**	**04/02/98**	**0.50**	**52**

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

EQUOIA ANALYTICAL - ELAP #1210

ichard Herling
roject Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1
Sample Descript: S-6-T1N
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9803143-01

Sampled: 03/23/98
Received: 03/24/98
Extracted: 04/01/98
Analyzed: 04/02/98
Reported: 04/14/98

QC Batch Number: GC040198BTEXEXA
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**100**	**1200**
Benzene	**0.50**	**0.90**
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**14**
Xylenes (Total)	**0.50**	**100**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	128
4-Bromofluorobenzene	60	140	6 Q

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

EQUOIA ANALYTICAL - ELAP #1210

ichard Herling
roject Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1
Sample Descript: S-9.5-T1S
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9803143-02

Sampled: 03/23/98
Received: 03/24/98
Extracted: 04/01/98
Analyzed: 04/02/98
Reported: 04/14/98

QC Batch Number: GC040198BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**100**	**590**
Benzene	**0.50**	**1.5**
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**5.6**
Xylenes (Total)	**0.50**	**33**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104
4-Bromofluorobenzene	60	140	10 Q

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

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ichard Herling
roject Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1
Sample Descript: S-7-T2S
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9803143-03

Sampled: 03/23/98
Received: 03/24/98
Extracted: 04/01/98
Analyzed: 04/03/98
Reported: 04/14/98

QC Batch Number: GC040198BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	50	670
Benzene	0.25	1.0
Toluene	0.25	0.74
Ethyl Benzene	0.25	6.8
Xylenes (Total)	0.25	51
Chromatogram Pattern:		Gas

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	114
4-Bromofluorobenzene	60	140	18 Q

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

EQUOIA ANALYTICAL - ELAP #1210

chard Herling
oject Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1
Sample Descript: S-6D-T2N
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9803143-04

Sampled: 03/23/98
Received: 03/24/98
Extracted: 04/01/98
Analyzed: 04/03/98
Reported: 04/14/98

QC Batch Number: GC040198BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**5.0**	**83**
Benzene	0.025	N.D.
Toluene	0.025	N.D.
Ethyl Benzene	**0.025**	**0.15**
Xylenes (Total)	**0.025**	**0.41**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98
4-Bromofluorobenzene	60	140	53 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1

Lab Proj. ID: 9803I43

Received: 03/24/98

Reported: 04/14/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of ___ pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

8270 Note: The extract for the sample S-6.5-T35 (9803I43-05) would not concentrate beyond 2.5 ml. In order to bring the results within calibration range, the extract was further diluted 20 times.

This project was revised on May 1, 1998.

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1
Sample Descript: S-6.5-T3S
Matrix: SOLID
Analysis Method: EPA 8010
Lab Number: 9803143-05

Sampled: 03/23/98
Received: 03/24/98
Extracted: 04/01/98
Analyzed: 04/01/98
Reported: 04/14/98

C Batch Number: GC0401988010EXA
strument ID: GCHP09

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	50	N.D.
Bromoform	50	N.D.
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	N.D.
1,3-Dichlorobenzene	50	N.D.
1,4-Dichlorobenzene	50	N.D.
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	**56**
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.

Surrogates	Control Limits %		% Recovery
Chloro-2-fluorobenzene	60	130	89
Bromofluorobenzene	60	140	66

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

UOIA ANALYTICAL - ELAP #1210

rd Herling
ct Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 03/23/98
74 Digital Drive , Suite 6	Sample Descript: S-6.5-T3S	Received: 03/24/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/01/98
	Analysis Method: EPA 8270	Analyzed: 04/01/98
Attention: Glenn Matteucci	Lab Number: 9803143-05	Reported: 04/14/98

QC Batch Number: MS0401988270EXA
Instrument ID: F4

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	12500	N.D.
Acenaphthylene	12500	N.D.
Anthracene	12500	N.D.
Benzoic Acid	25000	N.D.
Benzo(a)anthracene	12500	N.D.
Benzo(b)fluoranthene	12500	N.D.
Benzo(k)fluoranthene	12500	N.D.
Benzo(g,h,i)perylene	12500	N.D.
Benzo(a)pyrene	12500	N.D.
Benzyl alcohol	12500	N.D.
Bis(2-chloroethoxy)methane	12500	N.D.
Bis(2-chloroethyl)ether	12500	N.D.
Bis(2-chloroisopropyl)ether	12500	N.D.
Bis(2-ethylhexyl)phthalate	25000	N.D.
4-Bromophenyl phenyl ether	12500	N.D.
Butyl benzyl phthalate	12500	N.D.
4-Chloroaniline	25000	N.D.
2-Chloronaphthalene	12500	N.D.
4-Chloro-3-methylphenol	12500	N.D.
2-Chlorophenol	12500	N.D.
4-Chlorophenyl phenyl ether	12500	N.D.
Chrysene	12500	N.D.
Dibenzo(a,h)anthracene	12500	N.D.
Dibenzofuran	12500	N.D.
Di-n-butyl phthalate	25000	N.D.
1,2-Dichlorobenzene	12500	N.D.
1,3-Dichlorobenzene	12500	N.D.
1,4-Dichlorobenzene	12500	N.D.
3,3'-Dichlorobenzidine	25000	N.D.
2,4-Dichlorophenol	12500	N.D.
Diethyl phthalate	12500	N.D.
2,4-Dimethylphenol	12500	N.D.
Dimethyl phthalate	12500	N.D.
4,6-Dinitro-2-methylphenol	25000	N.D.
2,4-Dinitrophenol	25000	N.D.
2,4-Dinitrotoluene	12500	N.D.
2,6-Dinitrotoluene	12500	N.D.
Di-n-octyl phthalate	12500	N.D.
Fluoranthene	12500	N.D.

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1
Sample Descript: S-6.5-T3S
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9803143-05

Sampled: 03/23/98
Received: 03/24/98
Extracted: 04/01/98
Analyzed: 04/01/98
Reported: 04/14/98

)C Batch Number: MS0401988270EXA
ıstrument ID: F4

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Fluorene	12500	N.D.
Hexachlorobenzene	12500	N.D.
Hexachlorobutadiene	12500	N.D.
Hexachlorocyclopentadiene	25000	N.D.
Hexachloroethane	12500	N.D.
ındeno(1,2,3-cd)pyrene	12500	N.D.
sophorone	12500	N.D.
2-Methylnaphthalene	12500	N.D.
2-Methylphenol	12500	N.D.
4-Methylphenol	12500	N.D.
Naphthalene	12500	N.D.
2-Nitroaniline	25000	N.D.
3-Nitroaniline	25000	N.D.
4-Nitroaniline	25000	N.D.
Nitrobenzene	12500	N.D.
2-Nitrophenol	12500	N.D.
4-Nitrophenol	25000	N.D.
N-Nitrosodiphenylamine	12500	N.D.
N-Nitroso-di-n-propylamine	12500	N.D.
Pentachlorophenol	25000	N.D.
Phenanthrene	12500	N.D.
Phenol	12500	N.D.
Pyrene	12500	N.D.
,2,4-Trichlorobenzene	12500	N.D.
2,4,5-Trichlorophenol	25000	N.D.
2,4,6-Trichlorophenol	12500	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	25	121	Q
Phenol-d5	24	113	Q
Nitrobenzene-d5	23	120	Q
2-Fluorobiphenyl	30	115	Q
2,4,6-Tribromophenol	19	122	Q
p-Terphenyl-d14	18	137	Q

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

EQUOIA ANALYTICAL - ELAP #1210

chard Herling
oject Manager

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1
Sample Descript: S-6.5-T3S
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9803I43-05

Sampled: 03/23/98
Received: 03/24/98
Extracted: 03/30/98
Analyzed: 04/01/98
Reported: 04/14/98

QC Batch Number: GC0330980HBPEXA
nstrument ID: GCHP19B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	100	78000
Chromatogram Pattern: **Weathered Diesel**		C9-C24

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	Q

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

EQUOIA ANALYTICAL - ELAP #1210

hard Herling
oject Manager

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 03/23/98
74 Digital Drive , Suite 6	Sample Descript: S-6.5-T3S	Received: 03/24/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/01/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/02/98
Attention: Glenn Matteucci	Lab Number: 9803I43-05	Reported: 04/14/98

QC Batch Number: GC040198BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	10	130
Benzene	0.050	0.55
Toluene	0.050	1.3
Ethyl Benzene	0.050	1.2
Xylenes (Total)	0.050	11
Chromatogram Pattern:		Gas

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	110
4-Bromofluorobenzene	60	140	12 Q

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

EQUOIA ANALYTICAL - ELAP #1210

Richard Herling
Project Manager

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 03/23/98
74 Digital Drive , Suite 6	Sample Descript: W-7.5-T2	Received: 03/24/98
Novato, CA 94949	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/01/98
Attention: Glenn Matteucci	Lab Number: 9803143-06	Reported: 04/14/98

QC Batch Number: GC040198BTEX02A
nstrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	5000	41000
Methyl t-Butyl Ether	250	1800
Benzene	50	N.D.
Toluene	50	400
Ethyl Benzene	50	770
Xylenes (Total)	50	8900
Chromatogram Pattern:		Gas

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	125

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

EQUOIA ANALYTICAL - ELAP #1210

chard Herling
roject Manager

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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532T1
Matrix: Solid
Work Order #: 9803I43 01

Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0401986010MDE	ME0401986010MDE	ME0401986010MDE	ME0401986010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050
Analyst:	S. LaBarron	S. LaBarron	S. LaBarron	S. LaBarron
MS/MSD #:	9803I4301	9803I4301	9803I4301	9803I4301
Sample Conc.:	N.D.	N.D.	20	15
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/2/98	4/2/98	4/2/98	4/2/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
Result:	47	47	70	66
MS % Recovery:	94	94	100	102
Dup. Result:	47	47	64	62
MSD % Recov.:	94	94	88	94
RPD:	0.0	0.0	9.0	6.3
RPD Limit:	0-20	0-20	0-20	0-20
LCS #:	BLK040198	BLK040198	BLK040198	BLK040198
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/2/98	4/2/98	4/2/98	4/2/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
LCS Result:	51	49	49	49
LCS % Recov.:	102	98	98	98
MS/MSD Control Limits	80-120	80-120	80-120	80-120
LCS Control Limits	80-120	80-120	80-120	80-120

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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

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

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532T1
Matrix: Solid
Work Order #: 9803143 05

Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0401986010MDG	ME0401986010MDG	ME0401986010MDG	ME0401986010MDG
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050
Analyst:	S. LaBarron	S. LaBarron	S. LaBarron	S. LaBarron
MS/MSD #:	9803K3801	9803K3801	9803K3801	9803K3801
Sample Conc.:	N.D.	N.D.	47	69
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/2/98	4/2/98	4/2/98	4/2/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
Result:	47	47	92	110
MS % Recovery:	94	94	90	82
Dup. Result:	44	46	91	99
MSD % Recov.:	88	92	88	60
RPD:	6.6	2.2	1.1	11
RPD Limit:	0-20	0-20	0-20	0-20
LCS #:	BLK040198	BLK040198	BLK040198	BLK040198
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/2/98	4/2/98	4/2/98	4/2/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
LCS Result:	48	47	48	48
LCS % Recov.:	96	94	96	96
MS/MSD Control Limits	80-120	80-120	80-120	80-120
LCS Control Limits	80-120	80-120	80-120	80-120

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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

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

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Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Solid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9803I43 05	Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Petroleum Hydrocarbons
QC Batch#:	SP033098552000A
Analy. Method:	SM 5520EF
Prep. Method:	SM 5520EF

Analyst:	P. Cheung
MS/MSD #:	9803I0501
Sample Conc.:	N.D.
Prepared Date:	3/30/98
Analyzed Date:	3/31/98
Instrument I.D.#:	MANUAL
Conc. Spiked:	150 mg/Kg
Result:	123
MS % Recovery:	82
Dup. Result:	114
MSD % Recov.:	76
RPD:	7.6
RPD Limit:	0-30

LCS #:	LCS033098
Prepared Date:	3/30/98
Analyzed Date:	3/31/98
Instrument I.D.#:	MANUAL
Conc. Spiked:	150 mg/Kg
LCS Result:	129
LCS % Recov.:	86

MS/MSD	60-140
LCS	70-130
Control Limits	

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532T1
Matrix: Solid
Work Order #: 9803I43 01-05
Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC040198BTEXEXA	GC040198BTEXEXA	GC040198BTEXEXA	GC040198BTEXEXA	GC040198BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9803J5705	9803J5705	9803J5705	9803J5705	9803J5705
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.18	0.18	0.19	0.54	1.2
MS % Recovery:	90	90	95	90	100
Dup. Result:	0.19	0.18	0.19	0.57	1.2
MSD % Recov.:	95	90	95	95	100
RPD:	5.4	0.0	0.0	5.4	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK040198	BLK040198	BLK040198	BLK040198	BLK040198
Prepared Date:	3/30/98	3/30/98	3/30/98	3/30/98	3/30/98
Analyzed Date:	3/31/98	3/31/98	3/31/98	3/31/98	3/31/98
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.20	0.19	0.20	0.59	1.3
LCS % Recov.:	100	95	100	98	108
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Liquid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9803143 06	Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC040198BTEX02A	GC040198BTEX02A	GC040198BTEX02A	GC040198BTEX02A	GC040198BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	C. DeMartini	C. DeMartini	C. DeMartini	C. DeMartini	C. DeMartini
MS/MSD #:	9803K0001	9803K0001	9803K0001	9803K0001	9803K0001
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	10.6	10.5	10.7	33	62
MS % Recovery:	106	105	107	110	103
Dup. Result:	10.7	10.5	10.7	33	62
MSD % Recov.:	107	105	107	110	103
RPD:	0.94	0.0	0.0	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK040198	BLK040198	BLK040198	BLK040198	BLK040198
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	10.6	10.4	10.6	32	62
LCS % Recov.:	106	104	106	107	103

MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Solid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9803I43 05	Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-Benzene
QC Batch#:	GC0401988010EXA	GC0401988010EXA	GC0401988010EXA
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030
Analyst:	L. Kim	L. Kim	L. Kim
MS/MSD #:	9803I4305	9803I4305	9803I4305
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	GCHP9	GCHP9	GCHP9
Conc. Spiked:	25 µg/Kg	25 µg/Kg	25 µg/Kg
Dilution Factor:	2	2	2
Result:	31	40	30
MS % Recovery:	62	80	60
Dup. Result:	33	37	28
MSD % Recov.:	66	74	56
RPD:	6.3	7.8	6.9
RPD Limit:	0-25	0-25	0-25
LCS #:	BLK040198	BLK040198	BLK040198
Prepared Date:	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	GCHP9	GCHP9	GCHP9
Conc. Spiked:	50 µg/Kg	25 µg/Kg	25 µg/Kg
LCS Result:	48	53	46
LCS % Recov.:	96	106	92
MS/MSD	60-140	60-140	60-140
LCS	65-135	70-130	70-130
Control Limits			

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Solid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9803I43 05	Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine
QC Batch#:	MS0401988270EXA	MS0401988270EXA	MS0401988270EXA	MS0401988270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9803I4305	9803I4305	9803I4305	9803I4305
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	F4	F4	F4	F4
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
Result:				
MS % Recovery:				
Dup. Result:	Diluted out.	Diluted out.	Diluted out.	Diluted out.
MSD % Recov.:				
RPD:				
RPD Limit:				

LCS #:	LCS040198	LCS040198	LCS040198	LCS040198
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	F4	F4	F4	F4
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
LCS Result:	2130	2350	2110	2440
LCS % Recov.:	65	71	64	74
MS/MSD LCS Control Limits	26-90	25-102	28-104	41-126

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Solid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9803I43 05	Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol	Acenaphthene	4-Nitrophenol
QC Batch#:	MS0401988270EXA	MS0401988270EXA	MS0401988270EXA	MS0401988270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9803I4305	9803I4305	9803I4305	9803I4305
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	F4	F4	F4	F4
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
Result:				
MS % Recovery:				
Dup. Result:	Diluted out.	Diluted out.	Diluted out.	Diluted out.
MSD % Recov.:				
RPD:				
RPD Limit:				
LCS #:	LCS040198	LCS040198	LCS040198	LCS040198
Prepared Date:	4/1/98	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	F4	F4	F4	F4
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
LCS Result:	2900	2640	1930	1530
LCS % Recov.:	88	80	58	46
MS/MSD LCS Control Limits	38-107	26-103	31-137	11-114

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Solid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9803I43	Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
QC Batch#:	MS0401988270EXA	MS0401988270EXA	MS0401988270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9803I4305	9803I4305	9803I4305
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	F4	F4	F4
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
Result:			
MS % Recovery:			
Dup. Result:	Diluted out.	Diluted out.	Diluted out.
MSD % Recov.:			
RPD:			
RPD Limit:			
LCS #:	LCS040198	LCS040198	LCS040198
Prepared Date:	4/1/98	4/1/98	4/1/98
Analyzed Date:	4/1/98	4/1/98	4/1/98
Instrument I.D.#:	F4	F4	F4
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
LCS Result:	2360	1620	2660
LCS % Recov.:	72	49	81

MS/MSD LCS Control Limits	28-89	17-109	35-142

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Solid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9803I43 05	Reported: Apr 21, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC0330980HBPEXA
Analy. Method:	EPA 8015M
Prep. Method:	EPA 3550/DHS

Analyst:	A. Porter
MS/MSD #:	9803I2311
Sample Conc.:	N.D.
Prepared Date:	3/30/98
Analyzed Date:	3/31/98
Instrument I.D.#:	GCHP5B
Conc. Spiked:	25 mg/Kg
Result:	18
MS % Recovery:	72
Dup. Result:	20
MSD % Recov.:	80
RPD:	11
RPD Limit:	0-50

LCS #:	BLK033098
Prepared Date:	3/30/98
Analyzed Date:	3/31/98
Instrument I.D.#:	GCHP5B
Conc. Spiked:	25 mg/Kg
LCS Result:	21
LCS % Recov.:	84

MS/MSD	50-150
LCS	6-140
Control Limits	

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Environmental Resolutions 74 Digital Drive , Suite 6 Novato, CA 94949 Attention: Glenn Matteucci	Client Proj. ID: Unocal 1156, 223532T1 Lab Proj. ID: 9803I43	Received: 03/24/98 Reported: 04/14/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 23 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

8270 Note: The extract for the sample S-6.5-T35 (9803I43-05) would not concentrate beyond 2.5 ml. In order to bring the results within calibration range, the extract was further diluted 20 times.

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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: ENVIRONMENTAL RESOLUTIONS INC	Project Name: 2235321
Address: 74 DIGITAL DR. SUITE 6	UNOCAL Project Manager: TINA BERRY
City: NOVATO State: CA Zip Code: 94945	Release #:
Telephone: (415) 382-5994 FAX #: (415) 382-1856	Site #: UN 1156
Report To: GLENN L. MATTHEWS Sampler: TRACY FAULKNER	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

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

☐ Drinking Water ☐ Waste Water ☐ Other

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

Analyses Requested

9803I43

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPPH/BTEX 8015 TEPH 8015	TPH 5520 E&F SVOCs 8270	HVOCs 8010	TTLC LEAD-CADMIUM-CHROMIUM-NICKEL-ZINC	TTLC LEAD ONLY MTBE 8020	Comments
1. S-6-T1N	3/23 12:10	SOIL	1	BRASS	01	X				X	FUEL TANK
2. S-9.5-T1S	12:05				02	X					
3. S-7-T2S	12:00				03	X					
4. S-5.0-T2N	11:50				04	X					WASH OIL TANK
5. S-6.5-T3S	11:30				05	X	X	X	X		
6.											
7.											
8. W-7.5-T2	3/23 11:45	WATER	3	40 ML	06	X				X	FUEL UST CAVITY
9.											
10.											

Relinquished By: Tracy Faulkner	Date: 3/24	Time: 10:58	Received By: Jeff Bennett	Date: 3-24-98	Time: 10:58
Relinquished By: Jeff Bennett	Date: 3-24-98	Time: 1248	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Ray Sorge	Date: 3-24-98	Time: 1248

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

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1

Lab Proj. ID: 9804A33

Sampled: 04/09/98
Received: 04/15/98
Analyzed: see below

Reported: 04/30/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9804A33-01				
Sample Desc : **SOLID,S-4.5-T3W**				
Cadmium by ICP	mg/Kg	04/18/98	0.50	N.D.
Chromium by ICP	**mg/Kg**	**04/18/98**	**0.50**	**22**
Lead by ICP	mg/Kg	04/18/98	5.0	N.D.
Nickel by ICP	**mg/Kg**	**04/18/98**	**2.5**	**70**
TRPH (SM 5520 E&F)	mg/Kg	04/22/98	50	N.D.
Zinc by ICP	**mg/Kg**	**04/18/98**	**0.50**	**22**
Lab No: 9804A33-02				
Sample Desc : **SOLID,S-3-T3S**				
Cadmium by ICP	mg/Kg	04/18/98	0.50	N.D.
Chromium by ICP	**mg/Kg**	**04/18/98**	**0.50**	**37**
Lead by ICP	mg/Kg	04/18/98	5.0	N.D.
Nickel by ICP	**mg/Kg**	**04/18/98**	**2.5**	**34**
TRPH (SM 5520 E&F)	mg/Kg	04/22/98	50	N.D.
Zinc by ICP	**mg/Kg**	**04/18/98**	**0.50**	**34**
Lab No: 9804A33-03				
Sample Desc : **SOLID,S-6-T3S**				
Cadmium by ICP	mg/Kg	04/18/98	0.50	N.D.
Chromium by ICP	**mg/Kg**	**04/18/98**	**0.50**	**27**
Lead by ICP	mg/Kg	04/18/98	5.0	N.D.
Nickel by ICP	**mg/Kg**	**04/18/98**	**2.5**	**25**
TRPH (SM 5520 E&F)	**mg/Kg**	**04/22/98**	**50**	**360**
Zinc by ICP	**mg/Kg**	**04/18/98**	**0.50**	**27**
Lab No: 9804A33-04				
Sample Desc : **SOLID,SP-3-(1-4) Comp**				
Cadmium by ICP	mg/Kg	04/18/98	0.50	N.D.
Chromium by ICP	**mg/Kg**	**04/18/98**	**0.50**	**35**

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

SEQUOIA ANALYTICAL - ELAP #1210

Steven Hobbs For

Richard Herling
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1

Lab Proj. ID: 9804A33

Sampled: 04/09/98
Received: 04/15/98
Analyzed: see below

Reported: 04/30/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lead by ICP	mg/Kg	04/18/98	5.0	30
Nickel by ICP	mg/Kg	04/18/98	2.5	40
TRPH (SM 5520 E&F)	mg/Kg	04/22/98	50	570
Zinc by ICP	mg/Kg	04/18/98	0.50	42

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-4.5-T3W	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/16/98
	Analysis Method: EPA 8270	Analyzed: 04/20/98
Attention: Glenn Matteucci	Lab Number: 9804A33-01	Reported: 04/30/98

QC Batch Number: MS0416988270EXC
Instrument ID: F4

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	250	N.D.
Acenaphthylene	250	N.D.
Anthracene	250	N.D.
Benzoic Acid	500	N.D.
Benzo(a)anthracene	250	N.D.
Benzo(b)fluoranthene	250	N.D.
Benzo(k)fluoranthene	250	N.D.
Benzo(g,h,i)perylene	250	N.D.
Benzo(a)pyrene	250	N.D.
Benzyl alcohol	250	N.D.
Bis(2-chloroethoxy)methane	250	N.D.
Bis(2-chloroethyl)ether	250	N.D.
Bis(2-chloroisopropyl)ether	250	N.D.
Bis(2-ethylhexyl)phthalate	500	N.D.
4-Bromophenyl phenyl ether	250	N.D.
Butyl benzyl phthalate	250	N.D.
4-Chloroaniline	500	N.D.
2-Chloronaphthalene	250	N.D.
4-Chloro-3-methylphenol	250	N.D.
2-Chlorophenol	250	N.D.
4-Chlorophenyl phenyl ether	250	N.D.
Chrysene	250	N.D.
Dibenzo(a,h)anthracene	250	N.D.
Dibenzofuran	250	N.D.
Di-n-butyl phthalate	500	N.D.
1,2-Dichlorobenzene	250	N.D.
1,3-Dichlorobenzene	250	N.D.
1,4-Dichlorobenzene	250	N.D.
3,3'-Dichlorobenzidine	500	N.D.
2,4-Dichlorophenol	250	N.D.
Diethyl phthalate	250	N.D.
2,4-Dimethylphenol	250	N.D.
Dimethyl phthalate	250	N.D.
4,6-Dinitro-2-methylphenol	500	N.D.
2,4-Dinitrophenol	500	N.D.
2,4-Dinitrotoluene	250	N.D.
2,6-Dinitrotoluene	250	N.D.
Di-n-octyl phthalate	250	N.D.
Fluoranthene	250	N.D.

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-4.5-T3W	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/16/98
	Analysis Method: EPA 8270	Analyzed: 04/20/98
Attention: Glenn Matteucci	Lab Number: 9804A33-01	Reported: 04/30/98

QC Batch Number: MS0416988270EXC
Instrument ID: F4

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Fluorene	250	N.D.
Hexachlorobenzene	250	N.D.
Hexachlorobutadiene	250	N.D.
Hexachlorocyclopentadiene	500	N.D.
Hexachloroethane	250	N.D.
Indeno(1,2,3-cd)pyrene	250	N.D.
Isophorone	250	N.D.
2-Methylnaphthalene	250	N.D.
2-Methylphenol	250	N.D.
4-Methylphenol	250	N.D.
Naphthalene	250	N.D.
2-Nitroaniline	500	N.D.
3-Nitroaniline	500	N.D.
4-Nitroaniline	500	N.D.
Nitrobenzene	250	N.D.
2-Nitrophenol	250	N.D.
4-Nitrophenol	500	N.D.
N-Nitrosodiphenylamine	250	N.D.
N-Nitroso-di-n-propylamine	250	N.D.
Pentachlorophenol	500	N.D.
Phenanthrene	250	N.D.
Phenol	250	N.D.
Pyrene	250	N.D.
1,2,4-Trichlorobenzene	250	N.D.
2,4,5-Trichlorophenol	500	N.D.
2,4,6-Trichlorophenol	250	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	25	121	59
Phenol-d5	24	113	53
Nitrobenzene-d5	23	120	62
2-Fluorobiphenyl	30	115	56
2,4,6-Tribromophenol	19	122	83
p-Terphenyl-d14	18	137	76

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

SEQUOIA ANALYTICAL - ELAP #1210

Steve Sabatini For

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-4.5-T3W	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/20/98
	Analysis Method: EPA 8010	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804A33-01	Reported: 04/30/98

QC Batch Number: GC0420988010EXA
Instrument ID: GCHP09

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	25	N.D.
Bromoform	25	N.D.
Bromomethane	50	N.D.
Carbon Tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.
Chloroform	25	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	25	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
cis-1,3-Dichloropropene	25	N.D.
trans-1,3-Dichloropropene	25	N.D.
Methylene chloride	250	N.D.
1,1,2,2-Tetrachloroethane	25	N.D.
Tetrachloroethene	25	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	25	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
Vinyl chloride	50	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	101
4-Bromofluorobenzene	60	140	64

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

EQUOIA ANALYTICAL - ELAP #1210

For

ichard Herling
roject Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1
Sample Descript: S-4.5-T3W
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804A33-01

Sampled: 04/09/98
Received: 04/15/98
Extracted: 04/20/98
Analyzed: 04/22/98
Reported: 04/30/98

QC Batch Number: GC042098BTEXEXB
Instrument ID: GCHP01

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1.0**	**5.0**
Benzene	0.0050	N.D.
Toluene	**0.0050**	**0.066**
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	**0.0050**	**0.011**
Chromatogram Pattern:		
Weathered Gas		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	114
4-Bromofluorobenzene	60	140	118

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

SEQUOIA ANALYTICAL - ELAP #1210

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1
Sample Descript: S-4.5-T3W
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9804A33-01

Sampled: 04/09/98
Received: 04/15/98
Extracted: 04/17/98
Analyzed: 04/21/98
Reported: 04/30/98

QC Batch Number: GC0417980HBPEXB
Instrument ID: GCHP19B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	1.0	2.3
Chromatogram Pattern: **Unidentified HC**		C9-C24

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	96

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-3-T3S	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/16/98
	Analysis Method: EPA 8270	Analyzed: 04/20/98
Attention: Glenn Matteucci	Lab Number: 9804A33-02	Reported: 04/30/98

QC Batch Number: MS0416988270EXC
Instrument ID: F4

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	250	N.D.
Acenaphthylene	250	N.D.
Anthracene	250	N.D.
Benzoic Acid	500	N.D.
Benzo(a)anthracene	250	N.D.
Benzo(b)fluoranthene	250	N.D.
Benzo(k)fluoranthene	250	N.D.
Benzo(g,h,i)perylene	250	N.D.
Benzo(a)pyrene	250	N.D.
Benzyl alcohol	250	N.D.
Bis(2-chloroethoxy)methane	250	N.D.
Bis(2-chloroethyl)ether	250	N.D.
Bis(2-chloroisopropyl)ether	250	N.D.
Bis(2-ethylhexyl)phthalate	500	N.D.
4-Bromophenyl phenyl ether	250	N.D.
Butyl benzyl phthalate	250	N.D.
4-Chloroaniline	500	N.D.
2-Chloronaphthalene	250	N.D.
4-Chloro-3-methylphenol	250	N.D.
2-Chlorophenol	250	N.D.
4-Chlorophenyl phenyl ether	250	N.D.
Chrysene	250	N.D.
Dibenzo(a,h)anthracene	250	N.D.
Dibenzofuran	250	N.D.
Di-n-butyl phthalate	500	N.D.
1,2-Dichlorobenzene	250	N.D.
1,3-Dichlorobenzene	250	N.D.
1,4-Dichlorobenzene	250	N.D.
3,3'-Dichlorobenzidine	500	N.D.
2,4-Dichlorophenol	250	N.D.
Diethyl phthalate	250	N.D.
2,4-Dimethylphenol	250	N.D.
Dimethyl phthalate	250	N.D.
4,6-Dinitro-2-methylphenol	500	N.D.
2,4-Dinitrophenol	500	N.D.
2,4-Dinitrotoluene	250	N.D.
2,6-Dinitrotoluene	250	N.D.
Di-n-octyl phthalate	250	N.D.
Fluoranthene	250	N.D.

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-3-T3S	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/16/98
	Analysis Method: EPA 8270	Analyzed: 04/20/98
Attention: Glenn Matteucci	Lab Number: 9804A33-02	Reported: 04/30/98

QC Batch Number: MS0416988270EXC
Instrument ID: F4

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Fluorene	250	N.D.
Hexachlorobenzene	250	N.D.
Hexachlorobutadiene	250	N.D.
Hexachlorocyclopentadiene	500	N.D.
Hexachloroethane	250	N.D.
Indeno(1,2,3-cd)pyrene	250	N.D.
Isophorone	250	N.D.
2-Methylnaphthalene	250	N.D.
2-Methylphenol	250	N.D.
4-Methylphenol	250	N.D.
Naphthalene	250	N.D.
2-Nitroaniline	500	N.D.
3-Nitroaniline	500	N.D.
4-Nitroaniline	500	N.D.
Nitrobenzene	250	N.D.
2-Nitrophenol	250	N.D.
4-Nitrophenol	500	N.D.
N-Nitrosodiphenylamine	250	N.D.
N-Nitroso-di-n-propylamine	250	N.D.
Pentachlorophenol	500	N.D.
Phenanthrene	250	N.D.
Phenol	250	N.D.
Pyrene	250	N.D.
1,2,4-Trichlorobenzene	250	N.D.
2,4,5-Trichlorophenol	500	N.D.
2,4,6-Trichlorophenol	250	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	25	121	55
Phenol-d5	24	113	62
Nitrobenzene-d5	23	120	59
2-Fluorobiphenyl	30	115	54
2,4,6-Tribromophenol	19	122	77
p-Terphenyl-d14	18	137	70

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

SEQUOIA ANALYTICAL - ELAP #1210

for

ichard Herling
roject Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-3-T3S	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/20/98
	Analysis Method: EPA 8010	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804A33-02	Reported: 04/30/98

QC Batch Number: GC0420988010EXA
Instrument ID: GCHP09

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	25	N.D.
Bromoform	25	N.D.
Bromomethane	50	N.D.
Carbon Tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.
Chloroform	25	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	25	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
cis-1,3-Dichloropropene	25	N.D.
trans-1,3-Dichloropropene	25	N.D.
Methylene chloride	250	N.D.
1,1,2,2-Tetrachloroethane	25	N.D.
Tetrachloroethene	25	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	25	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
Vinyl chloride	50	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	111
4-Bromofluorobenzene	60	140	78

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

SEQUOIA ANALYTICAL - ELAP #1210

FOV

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1
Sample Descript: S-3-T3S
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804A33-02

Sampled: 04/09/98
Received: 04/15/98
Extracted: 04/20/98
Analyzed: 04/23/98
Reported: 04/30/98

C Batch Number: GC042098BTEXEXB
strument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	1.6
Benzene	0.0050	0.043
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	0.0091
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
Unidentified HC		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	97
4-Bromofluorobenzene	60	140	104

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

EQUOIA ANALYTICAL - ELAP #1210

For

hard Herling
oject Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1
Sample Descript: S-3-T3S
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9804A33-02

Sampled: 04/09/98
Received: 04/15/98
Extracted: 04/17/98
Analyzed: 04/21/98
Reported: 04/30/98

)C Batch Number: GC0417980HBPEXB
nstrument ID: GCHP19B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	1.0	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	79

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

EQUOIA ANALYTICAL - ELAP #1210

Steven Goldstein For

chard Herling
oject Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-6-T3S	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/16/98
	Analysis Method: EPA 8270	Analyzed: 04/20/98
Attention: Glenn Matteucci	Lab Number: 9804A33-03	Reported: 04/30/98

QC Batch Number: MS0416988270EXC
Instrument ID: F4

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	250	N.D.
Acenaphthylene	250	N.D.
Anthracene	250	N.D.
Benzoic Acid	500	N.D.
Benzo(a)anthracene	250	N.D.
Benzo(b)fluoranthene	250	N.D.
Benzo(k)fluoranthene	250	N.D.
Benzo(g,h,i)perylene	250	N.D.
Benzo(a)pyrene	250	N.D.
Benzyl alcohol	250	N.D.
Bis(2-chloroethoxy)methane	250	N.D.
Bis(2-chloroethyl)ether	250	N.D.
Bis(2-chloroisopropyl)ether	250	N.D.
Bis(2-ethylhexyl)phthalate	500	N.D.
4-Bromophenyl phenyl ether	250	N.D.
Butyl benzyl phthalate	250	N.D.
4-Chloroaniline	500	N.D.
2-Chloronaphthalene	250	N.D.
4-Chloro-3-methylphenol	250	N.D.
2-Chlorophenol	250	N.D.
4-Chlorophenyl phenyl ether	250	N.D.
Chrysene	250	N.D.
Dibenzo(a,h)anthracene	250	N.D.
Dibenzofuran	250	N.D.
Di-n-butyl phthalate	500	N.D.
1,2-Dichlorobenzene	250	N.D.
1,3-Dichlorobenzene	250	N.D.
1,4-Dichlorobenzene	250	N.D.
3,3'-Dichlorobenzidine	500	N.D.
2,4-Dichlorophenol	250	N.D.
Diethyl phthalate	250	N.D.
2,4-Dimethylphenol	250	N.D.
Dimethyl phthalate	250	N.D.
4,6-Dinitro-2-methylphenol	500	N.D.
2,4-Dinitrophenol	500	N.D.
2,4-Dinitrotoluene	250	N.D.
2,6-Dinitrotoluene	250	N.D.
Di-n-octyl phthalate	250	N.D.
Fluoranthene	250	N.D.

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-6-T3S	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/16/98
	Analysis Method: EPA 8270	Analyzed: 04/20/98
Attention: Glenn Matteucci	Lab Number: 9804A33-03	Reported: 04/30/98

QC Batch Number: MS0416988270EXC
nstrument ID: F4

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Fluorene	250	N.D.
Hexachlorobenzene	250	N.D.
Hexachlorobutadiene	250	N.D.
Hexachlorocyclopentadiene	500	N.D.
Hexachloroethane	250	N.D.
Indeno(1,2,3-cd)pyrene	250	N.D.
Isophorone	250	N.D.
2-Methylnaphthalene	**250**	***580**
2-Methylphenol	250	N.D.
4-Methylphenol	250	N.D.
Naphthalene	**250**	**500**
2-Nitroaniline	500	N.D.
3-Nitroaniline	500	N.D.
4-Nitroaniline	500	N.D.
Nitrobenzene	250	N.D.
2-Nitrophenol	250	N.D.
4-Nitrophenol	500	N.D.
N-Nitrosodiphenylamine	250	N.D.
N-Nitroso-di-n-propylamine	250	N.D.
Pentachlorophenol	500	N.D.
Phenanthrene	250	N.D.
Phenol	250	N.D.
Pyrene	250	N.D.
1,2,4-Trichlorobenzene	250	N.D.
2,4,5-Trichlorophenol	500	N.D.
2,4,6-Trichlorophenol	250	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	25	121	56
Phenol-d5	24	113	59
Nitrobenzene-d5	23	120	56
2-Fluorobiphenyl	30	115	57
2,4,6-Tribromophenol	19	122	68
p-Terphenyl-d14	18	137	52

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

SEQUOIA ANALYTICAL - ELAP #1210

For

ichard Herling
roject Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-6-T3S	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/20/98
	Analysis Method: EPA 8010	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804A33-03	Reported: 04/30/98

QC Batch Number: GC0420988010EXA
Instrument ID: GCHP09

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	25	N.D.
Bromoform	25	N.D.
Bromomethane	50	N.D.
Carbon Tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.
Chloroform	25	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	25	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
cis-1,3-Dichloropropene	25	N.D.
trans-1,3-Dichloropropene	25	N.D.
Methylene chloride	250	N.D.
1,1,2,2-Tetrachloroethane	25	N.D.
Tetrachloroethene	25	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	25	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
Vinyl chloride	50	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	108
4-Bromofluorobenzene	60	140	76

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-6-T3S	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/20/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804A33-03	Reported: 04/30/98

QC Batch Number: GC042098BTEXEXB
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	5.0	81
Benzene	0.025	0.64
Toluene	0.025	1.4
Ethyl Benzene	0.025	1.1
Xylenes (Total)	0.025	5.9
Chromatogram Pattern:		GAS

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	147 Q
4-Bromofluorobenzene	60	140	39 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1
Sample Descript: S-6-T3S
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9804A33-03

Sampled: 04/09/98
Received: 04/15/98
Extracted: 04/17/98
Analyzed: 04/20/98
Reported: 04/30/98

QC Batch Number: GC0417980HBPEXB
Instrument ID: GCHP19B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	100	560
Chromatogram Pattern: **Unidentified HC**		C9-C24

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	Q

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

EQUOIA ANALYTICAL - ELAP #1210

for

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1
Sample Descript: SP-3-(1-4) Comp
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9804A33-04

Sampled: 04/09/98
Received: 04/15/98
Extracted: 04/16/98
Analyzed: 04/20/98
Reported: 04/30/98

)C Batch Number: MS0416988270EXC
ıstrument ID: F4

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	250	N.D.
Acenaphthylene	250	N.D.
Anthracene	250	N.D.
Benzoic Acid	500	N.D.
Benzo(a)anthracene	250	N.D.
Benzo(b)fluoranthene	250	N.D.
Benzo(k)fluoranthene	250	N.D.
Benzo(g,h,i)perylene	250	N.D.
Benzo(a)pyrene	250	N.D.
Benzyl alcohol	250	N.D.
Bis(2-chloroethoxy)methane	250	N.D.
Bis(2-chloroethyl)ether	250	N.D.
Bis(2-chloroisopropyl)ether	250	N.D.
Bis(2-ethylhexyl)phthalate	500	N.D.
4-Bromophenyl phenyl ether	250	N.D.
Butyl benzyl phthalate	250	N.D.
4-Chloroaniline	500	N.D.
2-Chloronaphthalene	250	N.D.
4-Chloro-3-methylphenol	250	N.D.
2-Chlorophenol	250	N.D.
4-Chlorophenyl phenyl ether	250	N.D.
Chrysene	250	N.D.
Dibenzo(a,h)anthracene	250	N.D.
Dibenzofuran	250	N.D.
Di-n-butyl phthalate	500	N.D.
,2-Dichlorobenzene	250	N.D.
,3-Dichlorobenzene	250	N.D.
,4-Dichlorobenzene	250	N.D.
,3'-Dichlorobenzidine	500	N.D.
,4-Dichlorophenol	250	N.D.
Diethyl phthalate	250	N.D.
,4-Dimethylphenol	250	N.D.
Dimethyl phthalate	250	N.D.
,6-Dinitro-2-methylphenol	500	N.D.
,4-Dinitrophenol	500	N.D.
,4-Dinitrotoluene	250	N.D.
,6-Dinitrotoluene	250	N.D.
Di-n-octyl phthalate	250	N.D.
luoranthene	250	N.D.

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1
Sample Descript: SP-3-(1-4) Comp
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9804A33-04

Sampled: 04/09/98
Received: 04/15/98
Extracted: 04/16/98
Analyzed: 04/20/98
Reported: 04/30/98

QC Batch Number: MS0416988270EXC
Instrument ID: F4

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Fluorene	250	N.D.
Hexachlorobenzene	250	N.D.
Hexachlorobutadiene	250	N.D.
Hexachlorocyclopentadiene	500	N.D.
Hexachloroethane	250	N.D.
Indeno(1,2,3-cd)pyrene	250	N.D.
Isophorone	250	N.D.
2-Methylnaphthalene	250	N.D.
2-Methylphenol	250	N.D.
4-Methylphenol	250	N.D.
Naphthalene	250	N.D.
2-Nitroaniline	500	N.D.
3-Nitroaniline	500	N.D.
4-Nitroaniline	500	N.D.
Nitrobenzene	250	N.D.
2-Nitrophenol	250	N.D.
4-Nitrophenol	500	N.D.
N-Nitrosodiphenylamine	250	N.D.
N-Nitroso-di-n-propylamine	250	N.D.
Pentachlorophenol	500	N.D.
Phenanthrene	250	N.D.
Phenol	250	N.D.
Pyrene	250	N.D.
1,2,4-Trichlorobenzene	250	N.D.
2,4,5-Trichlorophenol	500	N.D.
2,4,6-Trichlorophenol	250	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	25	121	53
Phenol-d5	24	113	59
Nitrobenzene-d5	23	120	57
2-Fluorobiphenyl	30	115	58
2,4,6-Tribromophenol	19	122	63
p-Terphenyl-d14	18	137	54

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

EQUOIA ANALYTICAL - ELAP #1210

For

ichard Herling
roject Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: SP-3-(1-4) Comp	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/20/98
	Analysis Method: EPA 8010	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804A33-04	Reported: 04/30/98

QC Batch Number: GC0420988010EXA
Instrument ID: GCHP09

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	25	N.D.
Bromoform	25	N.D.
Bromomethane	50	N.D.
Carbon Tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.
Chloroform	25	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	25	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
cis-1,3-Dichloropropene	25	N.D.
trans-1,3-Dichloropropene	25	N.D.
Methylene chloride	250	N.D.
1,1,2,2-Tetrachloroethane	25	N.D.
Tetrachloroethene	25	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	25	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
Vinyl chloride	50	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	97
4-Bromofluorobenzene	60	140	64

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532J1
Sample Descript: SP-3-(1-4) Comp
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804A33-04

Sampled: 04/09/98
Received: 04/15/98
Extracted: 04/20/98
Analyzed: 04/22/98
Reported: 04/30/98

)C Batch Number: GC042098BTEXEXB
ıstrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	12
Benzene	0.0050	0.13
Toluene	0.0050	0.027
Ethyl Benzene	0.0050	0.094
Xylenes (Total)	0.0050	0.53
Chromatogram Pattern:		GAS

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	218 Q
4-Bromofluorobenzene	60	140	99

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

EQUOIA ANALYTICAL - ELAP #1210

For

hard Herling
ject Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: SP-3-(1-4) Comp	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/17/98
	Analysis Method: EPA 8015 Mod	Analyzed: 04/21/98
Attention: Glenn Matteucci	Lab Number: 9804A33-04	Reported: 04/30/98

QC Batch Number: GC0417980HBPEXB
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	20	290
Chromatogram Pattern:		
Unidentified HC		C9-C24

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Steven Sabatini For
Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532J1
Matrix: Solid
Work Order #: 9804A33 01-04

Reported: May 1, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Petroleum Hydrocarbons
QC Batch#:	SP042298552000A
Analy. Method:	SM 5520EF
Prep. Method:	SM 5520EF

Analyst:	N.A.
MS/MSD #:	9804A3321
Sample Conc.:	N.D.
Prepared Date:	4/21/98
Analyzed Date:	4/22/98
Instrument I.D.#:	MANUAL
Conc. Spiked:	150 mg/Kg
Result:	170
MS % Recovery:	110
Dup. Result:	150
MSD % Recov.:	100
RPD:	13
RPD Limit:	0-30

LCS #:	LCS042198
Prepared Date:	4/21/98
Analyzed Date:	4/22/98
Instrument I.D.#:	MANUAL
Conc. Spiked:	150 mg/Kg
LCS Result:	134
LCS % Recov.:	89

MS/MSD	60-140
LCS	70-130
Control Limits	

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

Please Note:
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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532J1
Matrix: Solid
Work Order #: 9804A33 01-04

Reported: May 1, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine
QC Batch#:	MS0416988270EXC	MS0416988270EXC	MS0416988270EXC	MS0416988270EXC
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9804A1301	9804A1301	9804A1301	9804A1301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/16/98	4/16/98	4/16/98	4/16/98
Analyzed Date:	4/17/98	4/17/98	4/17/98	4/17/98
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
Result:	2180	2140	1900	2210
MS % Recovery:	66	65	58	67
Dup. Result:	2030	1980	1840	2070
MSD % Recov.:	62	60	56	63
RPD:	7.1	7.8	3.2	6.5
RPD Limit:	0-40	0-40	0-40	0-40
LCS #:	LCS041698	LCS041698	LCS041698	LCS041698
Prepared Date:	4/16/98	4/16/98	4/16/98	4/16/98
Analyzed Date:	4/17/98	4/17/98	4/17/98	4/17/98
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
LCS Result:	1900	1830	1610	1870
LCS % Recov.:	58	55	49	57
MS/MSD LCS Control Limits	26-90	25-102	28-104	41-126

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532J1
Matrix: Solid
Work Order #: 9804A33 01-04
Reported: May 1, 1998

QUALITY CONTROL DATA REPORT

Analyte:	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol	Acenaphthene	4-Nitrophenol
QC Batch#:	MS0416988270EXC	MS0416988270EXC	MS0416988270EXC	MS0416988270EXC
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9804A1301	9804A1301	9804A1301	9804A1301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/16/98	4/16/98	4/16/98	4/16/98
Analyzed Date:	4/17/98	4/17/98	4/17/98	4/17/98
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
Result:	2230	2330	1940	2340
MS % Recovery:	68	71	59	71
Dup. Result:	2080	2200	1860	2250
MSD % Recov.:	63	67	56	68
RPD:	7.0	5.7	4.2	3.9
RPD Limit:	0-40	0-40	0-40	0-40
LCS #:	LCS041698	LCS041698	LCS041698	LCS041698
Prepared Date:	4/16/98	4/16/98	4/16/98	4/16/98
Analyzed Date:	4/17/98	4/17/98	4/17/98	4/17/98
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
LCS Result:	1860	1960	1660	2010
LCS % Recov.:	56	59	50	61
MS/MSD LCS Control Limits	38-107	26-103	31-137	11-114

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532J1
Matrix: Solid

Work Order #: 9804A33 01-04

Reported: May 1, 1998

QUALITY CONTROL DATA REPORT

Analyte:	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
QC Batch#:	MS0416988270EXC	MS0416988270EXC	MS0416988270EXC
Analy. Method:	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9804A1301	9804A1301	9804A1301
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	4/16/98	4/16/98	4/16/98
Analyzed Date:	4/17/98	4/17/98	4/17/98
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
Result:	2090	2430	2390
MS % Recovery:	63	74	72
Dup. Result:	1990	2120	2320
MSD % Recov.:	60	64	70
RPD:	4.9	14	3.0
RPD Limit:	0-40	0-40	0-40
LCS #:	LCS041698	LCS041698	LCS041698
Prepared Date:	4/16/98	4/16/98	4/16/98
Analyzed Date:	4/17/98	4/17/98	4/17/98
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg
LCS Result:	1710	1880	1970
LCS % Recov.:	52	57	60
MS/MSD LCS Control Limits	28-89	17-109	35-142

SEQUOIA ANALYTICAL

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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532J1
Matrix: Solid
Work Order #: 9804A33 01-04
Reported: May 1, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0417986010MDE	ME0417986010MDE	ME0417986010MDE	ME0417986010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050
Analyst:	S.LaBarron	S.LaBarron	S.LaBarron	S.LaBarron
MS/MSD #:	9804A3301	9804A3301	9804A3301	9804A3301
Sample Conc.:	N.D.	N.D.	22	70
Prepared Date:	4/17/98	4/17/98	4/17/98	4/17/98
Analyzed Date:	4/18/98	4/18/98	4/18/98	4/18/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
Result:	40	40	61	79
MS % Recovery:	80	80	78	18
Dup. Result:	37	38	63	150
MSD % Recov.:	74	76	82	160
RPD:	7.8	5.1	3.2	62
RPD Limit:	0-20	0-20	0-20	0-20
LCS #:	BLK041798	BLK041798	BLK041798	BLK041798
Prepared Date:	4/17/98	4/17/98	4/17/98	4/17/98
Analyzed Date:	4/18/98	4/18/98	4/18/98	4/18/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
LCS Result:	48	49	49	49
LCS % Recov.:	96	98	98	98
MS/MSD Control Limits	80-120	80-120	80-120	80-120
LCS Control Limits	80-120	80-120	80-120	80-120

SEQUOIA ANALYTICAL

Richard Herling
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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: Environmental Resolutions Inc	Project Name: 223532T1
Address: 74 Digital Dr., Suite 6	UNOCAL Project Manager: Tina Berry
City: Novato State: CA Zip Code: 94945	Release #:
Telephone: (415) 382-5994 FAX #: (415) 38[illegible]	Site #: OW 1156
Report To: Glenn L. Mattson Sampler: Paul Blank	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

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

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

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested 98 of A33

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH(D) / BTEX 8015 Soil TEPHd	TRPH 5520 E&F	HVOCs 8010	SVOCs 8270	TTLC Cadmium - Lead - Nickel - Zinc	Comments
1. S-6-T3N	4/9 1145	Soil	1								Hold
2. S-4-T3E	13:45										Hold
3. S-4.5-T3W	11:40					X	X	X	X		
4. S-3-T3S	11:30					X	X	X	X		
5. S-6-T3S	11:30					X	X	X	X		
6. SP-3-(1-4)	4/9 12:00					X	X	X	X		BOTTOM SAMPLE
7.											
8.											
9.											
10.											

AR 15 1

Relinquished By: Paul D. Blank	Date:	Time:	Received By: [illegible]	Date: 4/15/98	Time: 1110
Relinquished By: [illegible]	Date: 4/14/98	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Jerri Downs	Date: 4/15	Time: 1315

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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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532J1	Received: 04/15/98
74 Digital Drive , Suite 6		
Novato, CA 94949	Lab Proj. ID: 9804A33	Reported: 04/30/98
Attention: Glenn Matteucci		

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 29 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156

Lab Proj. ID: 9804350

Sampled: 04/03/98
Received: 04/06/98
Analyzed: see below

Reported: 04/16/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9804350-01 Sample Desc : **SOLID,SP-1-(1-4)-Comp**				
Lead by ICP	**mg/Kg**	**04/08/98**	**5.0**	**16**
Lab No: 9804350-02 Sample Desc : **SOLID,SP-1-(5-8)-Comp**				
Lead by ICP	**mg/Kg**	**04/08/98**	**5.0**	**12**
Lab No: 9804350-03 Sample Desc : **SOLID,SP-2-(1-4)-Comp**				
Lead by ICP	**mg/Kg**	**04/08/98**	**5.0**	**5.0**
Lab No: 9804350-04 Sample Desc : **SOLID,SP-2-(5-8)-Comp**				
Lead by ICP	**mg/Kg**	**04/08/98**	**5.0**	**5.4**
Lab No: 9804350-05 Sample Desc : **SOLID,SP-2-(9-12)-Comp**				
Lead by ICP	mg/Kg	04/08/98	5.0	N.D.
Lab No: 9804350-06 Sample Desc : **SOLID,SP-2-(13-16)-Comp**				
Lead by ICP	mg/Kg	04/08/98	5.0	N.D.
Lab No: 9804350-07 Sample Desc : **SOLID,SP-2-(17-20)-Comp**				
Lead by ICP	mg/Kg	04/08/98	5.0	N.D.

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

EQUOIA ANALYTICAL - ELAP #1210

For

chard Herling
oject Manager

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Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156
Sample Descript: SP-1-(1-4)-Comp
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804350-01

Sampled: 04/03/98
Received: 04/06/98
Extracted: 04/08/98
Analyzed: 04/13/98
Reported: 04/16/98

QC Batch Number: GC040898BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	15
Benzene	0.0050	0.024
Toluene	0.0050	0.034
Ethyl Benzene	0.0050	0.024
Xylenes (Total)	0.0050	0.069
Chromatogram Pattern:		
Gas & Unidentified HC		>C10

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	39 Q
4-Bromofluorobenzene	60	140	115

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156	Sampled: 04/03/98
74 Digital Drive , Suite 6	Sample Descript: SP-1-(5-8)-Comp	Received: 04/06/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/08/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/13/98
Attention: Glenn Matteucci	Lab Number: 9804350-02	Reported: 04/16/98

QC Batch Number: GC040898BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	3.2
Benzene	0.0050	0.013
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	0.014
Chromatogram Pattern:		
Unidentified HC		>C10
Weathered Gas		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98
4-Bromofluorobenzene	60	140	97

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156
Sample Descript: SP-2-(1-4)-Comp
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804350-03

Sampled: 04/03/98
Received: 04/06/98
Extracted: 04/08/98
Analyzed: 04/13/98
Reported: 04/16/98

QC Batch Number: GC040898BTEXEXB
nstrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1.0**	**13**
Benzene	**0.0050**	**0.076**
Toluene	0.0050	N.D.
Ethyl Benzene	**0.0050**	**0.019**
Xylenes (Total)	**0.0050**	**0.060**
Chromatogram Pattern:		
Gas & Unidentified HC		**>C10**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	148 Q
4-Bromofluorobenzene	60	140	113

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

EQUOIA ANALYTICAL - ELAP #1210

For

hard Herling
oject Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156
Sample Descript: SP-2-(5-8)-Comp
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804350-04

Sampled: 04/03/98
Received: 04/06/98
Extracted: 04/08/98
Analyzed: 04/13/98
Reported: 04/16/98

QC Batch Number: GC040898BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	5.0	42
Benzene	0.025	0.19
Toluene	0.025	N.D.
Ethyl Benzene	0.025	0.11
Xylenes (Total)	0.025	0.60
Chromatogram Pattern:		
Gas & Unidentified HC		>C10

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	146 Q
4-Bromofluorobenzene	60	140	30 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156
Sample Descript: SP-2-(9-12)-Comp
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804350-05

Sampled: 04/03/98
Received: 04/06/98
Extracted: 04/08/98
Analyzed: 04/13/98
Reported: 04/16/98

QC Batch Number: GC040898BTEXEXB
nstrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**5.0**	**15**
Benzene	**0.025**	**0.19**
Toluene	0.025	N.D.
Ethyl Benzene	**0.025**	**0.034**
Xylenes (Total)	**0.025**	**0.092**
Chromatogram Pattern:		
Gas & Unidentified HC		**>C10**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	128
4-Bromofluorobenzene	60	140	23 Q

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

QUOIA ANALYTICAL - ELAP #1210

For

ard Herling
ect Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156
Sample Descript: SP-2-(13-16)-Comp
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804350-06

Sampled: 04/03/98
Received: 04/06/98
Extracted: 04/08/98
Analyzed: 04/13/98
Reported: 04/16/98

QC Batch Number: GC040898BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	5.0	41
Benzene	0.025	0.66
Toluene	0.025	0.61
Ethyl Benzene	0.025	0.42
Xylenes (Total)	0.025	2.2
Chromatogram Pattern:		GAS

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	129
4-Bromofluorobenzene	60	140	30 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Edward Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156
Sample Descript: SP-2-(17-20)-Comp
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9804350-07

Sampled: 04/03/98
Received: 04/06/98
Extracted: 04/08/98
Analyzed: 04/13/98
Reported: 04/16/98

QC Batch Number: GC040898BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	10
Benzene	0.0050	0.036
Toluene	0.0050	0.027
Ethyl Benzene	0.0050	0.013
Xylenes (Total)	0.0050	0.058
Chromatogram Pattern:		GAS

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104
4-Bromofluorobenzene	60	140	122

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

SEQUOIA ANALYTICAL - ELAP #1210

For

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156
Matrix: Solid
Work Order #: 9804350 01-07

Reported: Apr 22, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0408986010MDE	ME0408986010MDE	ME0408986010MDE	ME0408986010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050
Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	980438701	980438701	980438701	980438701
Sample Conc.:	N.D.	17	80	230
Prepared Date:	4/8/98	4/8/98	4/8/98	4/8/98
Analyzed Date:	4/8/98	4/8/98	4/8/98	4/8/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
Result:	37	49	110	210
MS % Recovery:	74	64	60	-
Dup. Result:	36	49	110	220
MSD % Recov.:	72	64	60	-
RPD:	2.7	0.0	0.0	4.7
RPD Limit:	0-20	0-20	0-20	0-20
LCS #:	BLK040898	BLK040898	BLK040898	BLK040898
Prepared Date:	4/8/98	4/8/98	4/8/98	4/8/98
Analyzed Date:	4/8/98	4/8/98	4/8/98	4/8/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
LCS Result:	46	45	46	46
LCS % Recov.:	92	90	92	92
MS/MSD Control Limits	80-120	80-120	80-120	80-120
LCS Control Limits	80-120	80-120	80-120	80-120

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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

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

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156
Matrix: Solid
Work Order #: 9804350 01-07

Reported: Apr 22, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC040898BTEXEXB	GC040898BTEXEXB	GC040898BTEXEXB	GC040898BTEXEXB	GC040898BTEXEXB
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	980418009	980418009	980418009	980418009	980418009
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/8/98	4/8/98	4/8/98	4/8/98	4/8/98
Analyzed Date:	4/8/98	4/8/98	4/8/98	4/8/98	4/8/98
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.17	0.18	0.18	0.52	1.1
MS % Recovery:	85	90	90	87	92
Dup. Result:	0.22	0.22	0.22	0.66	1.4
MSD % Recov.:	110	110	110	110	117
RPD:	26	20	20	24	24
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK040898	BLK040898	BLK040898	BLK040898	BLK040898
Prepared Date:	4/8/98	4/8/98	4/8/98	4/8/98	4/8/98
Analyzed Date:	4/8/98	4/8/98	4/8/98	4/8/98	4/8/98
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.22	0.22	0.22	0.65	1.3
LCS % Recov.:	110	110	110	108	108
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Richard Herling
Project Manager

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

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

UNOCAL 76

❑ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 ❑ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
❑ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 ❑ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Company Name: ENVIRONMENTAL RESOLUTIONS, INC	Project Name: UNOCAL 2235321
Address: 74 DIGITAL DR, SUITE 6	UNOCAL Project Manager: TINA BERRY
City: NOVATO State: CA Zip Code: 94949	Release #:
Telephone: (415) 382-9105 FAX #: (415) 382-1856	Site #: 1156
Report To: GLENN MATTEUCCI Sampler: SUE SHALLENBERGER	QC Data: ☒ Level D (Standard) ❑ Level C ❑ Level B ❑ Level A

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

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

❑ Drinking Water ❑ Waste Water ❑ Other

Analyses Requested 9804350 — 6 1 10

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPPHg 8015	BTEX 8020	TTLC LEAD	Comments
1. SP-1-1	4/3/98 1340	SOIL	1	SLEEVE	01	X	X	X	
2. SP-1-2	1340		1						COMPOSITE
3. SP-1-3	1340		1						
4. SP-1-4	1340		1						
5. SP-1-5	1350		1		02				
6. SP-1-6	1350		1						COMPOSITE
7. SP-1-7	1350		1						
8. SP-1-8	1350	SS	1	SS					
9.									
10.									

Relinquished By: Sue Shallenberger	Date: 4-6-98	Time: 11:04	Received By: Jeff Bannister	Date: 4-6-98	Time: 11:04
Relinquished By: Jeff Bannister	Date: 4-6-98	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date: 4/6/98	Time: 1310

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: _____

White - Laboratory Yellow - Laboratory Pink - Client

UNOCAL 76

❑ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
❑ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600
❑ 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: ENVIRONMENTAL RESOLUTIONS, INC	Project Name: 223532T1
Address: 74 DIGITAL DR, SUITE 6	UNOCAL Project Manager: TINA BERRY
City: NOVATO State: CA Zip Code: 94949	Release #:
Telephone: (415) 382-9105 FAX #: (415) 382-1856	Site #: 1156
Report To: GLENN MATTEUCCI Sampler: SUE SHALLENBERGER	QC Data: ☒ Level D (Standard) ❑ Level C ❑ Level B ❑ Level A

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

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

❑ Drinking Water ❑ Waste Water ❑ Other

Analyses Requested 9804350 a 6 1 10

	Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPHg 8015	BTEX 8020	TTLC LEAD	Comments
1	SP-2-1	4/3/98 1430	SOIL	1	SLEEVE	03	X	X	X	
2	SP-2-2	1430								
3	SP-2-3	1430								
4	SP-2-4	1430								
5	SP-2-5	1450				04				
6	SP-2-6	1450								
7	SP-2-7	1450								
8	SP-2-8	1450								
9	SP-2-9	1510				05				
10	SP-2-10	1510	SS	SS	SS	1				

Relinquished By: Sue Shallenberger	Date: 4-6-98	Time: 11:03	Received By: Jeff Bonnivill	Date: 4-6-98	Time: 11:03
Relinquished By: Jeff Bonnivill	Date: 4-6-98	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Kevin Key	Date: 4/6/98	Time: 1:30

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

UNOCAL 76

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1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600
East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
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Company Name: ENVIRONMENTAL RESOLUTIONS, INC	Project Name: 223532T1
Address: 74 DIGITAL DR, SUITE 6	UNOCAL Project Manager: TINA BERRY
City: NOVATO State: CA Zip Code: 94949	Release #:
Telephone: (415) 382-9105 FAX #: (415) 382-1856	Site #: 1156
Report To: GLENN MATTEUCCI Sampler: SUE SHALLEN	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

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

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

☐ Drinking Water ☐ Waste Water ☐ Other

Analyses Requested 9804350

Pink - Client

Yellow - Laboratory

White - Laboratory

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH-g 8015	BTEX 8020	TTLC LEAD	Comments
1. SP-2-11	4/3/98 1510	SOIL	1	SLEEVE	05	X	X	X	COMPOSITE
2. SP-2-12	1510	"	"	"	1	X	X	X	
3. SP-2-13	1530	"	"	"	06	X	X	X	
4. SP-2-14	1530	"	"	"	"	X	X	X	COMPOSITE
5. SP-2-15	1530	"	"	"	"	X	X	X	
6. SP-2-16	1530	"	"	"	"	X	X	X	
7. SP-2-17	1550	"	"	"	07	X	X	X	
8. SP-2-18	1550	"	"	"	"	X	X	X	
9. SP-2-19	1550	"	"	"	"	X	X	X	COMPOSITE
10. SP-2-20	1550	SS	SS	SS	"	X	X	X	

Relinquished By: Sue Shallenberger	Date: 4-6-98	Time: 11:03	Received By: Jeff Bennville	Date: 4-6-98	Time: 11:03
Relinquished By: Jeff Bennville	Date: 4-6-98	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Kevin Lloyd	Date: 4/6/98	Time: 1310

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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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156

Lab Proj. ID: 9804350

Received: 04/06/98

Reported: 04/16/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 4 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

EQUOIA ANALYTICAL

For

chard Herling
oject Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Environmental Resolutions
74 Digital Drive , Suite 6
Novato, CA 94949

Attention: Glenn Matteucci

Client Proj. ID: Unocal 1156, 223532T1

Lab Proj. ID: 9804960

Sampled: 04/09/98
Received: 04/15/98
Analyzed: see below

Reported: 05/12/98

LABORATORY ANALYSIS

Analyte		Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9804960-03					
Sample Desc : SOLID,S-3-D3					
#1271	Lead	mg/Kg	04/20/98	2.5	110
Lab No: 9804960-07					
Sample Desc : SOLID,SP-4-1 Comp (A-D)					
#1271	Lead	mg/Kg	04/21/98	2.5	10

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

ELAP Number
SEQUOIA ANALYTICAL - ELAP #1210

RECEIVED
MAY 22 1998

for

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-2-D1	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/22/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804960-01	Reported: 05/12/98

QC Batch Number: GC042298BTEXEXA
Instrument ID: HP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	125

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

SEQUOIA ANALYTICAL - ELAP #1271

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-3-D2	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/22/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804960-02	Reported: 05/12/98

QC Batch Number: GC042298BTEXEXA
Instrument ID: HP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**10**	**16**
Benzene	0.050	N.D.
Toluene	0.050	N.D.
Ethyl Benzene	0.050	N.D.
Xylenes (Total)	**0.050**	**0.13**
Chromatogram Pattern:		
Gas & Non Gas Mix		**>C8**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100

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

SEQUOIA ANALYTICAL - ELAP #1271

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-3-D3	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/22/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804960-03	Reported: 05/12/98

QC Batch Number: GC042298BTEXEXA
Instrument ID: HP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**100**	**590**
Benzene	**0.50**	**1.6**
Toluene	**0.50**	**15**
Ethyl Benzene	**0.50**	**18**
Xylenes (Total)	**0.50**	**99**
Chromatogram Pattern:		**Gasoline**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	920 Q

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

SEQUOIA ANALYTICAL - ELAP #1271

Richard Herling
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-3-D4	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/22/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/24/98
Attention: Glenn Matteucci	Lab Number: 9804960-04	Reported: 05/12/98

QC Batch Number: GC042298BTEXEXA
Instrument ID: HP4

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	10	N.D.
Benzene	0.050	N.D.
Toluene	0.050	N.D.
Ethyl Benzene	0.050	N.D.
Xylenes (Total)	**0.050**	**0.070**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	119

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

SEQUOIA ANALYTICAL - ELAP #1271

Richard Herling
Project Manager

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-3-PL1	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/22/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804960-05	Reported: 05/12/98

QC Batch Number: GC042298BTEXEXA
Instrument ID: HP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**100**	**160**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**8.4**
Chromatogram Pattern:		
Gas & Non Gas Mix		**>C8**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	170 Q

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

SEQUOIA ANALYTICAL - ELAP #1271

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: S-3.5-PL2	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/22/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804960-06	Reported: 05/12/98

QC Batch Number: GC042298BTEXEXA
Instrument ID: HP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**10**	**63**
Benzene	0.050	N.D.
Toluene	0.050	N.D.
Ethyl Benzene	0.050	N.D.
Xylenes (Total)	**0.050**	**0.45**
Chromatogram Pattern:		
Gas & Non Gas Mix		**>C8**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	220 Q

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

EQUOIA ANALYTICAL - ELAP #1271

ichard Herling
roject Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Sampled: 04/09/98
74 Digital Drive , Suite 6	Sample Descript: SP-4-1 Comp (A-D)	Received: 04/15/98
Novato, CA 94949	Matrix: SOLID	Extracted: 04/22/98
	Analysis Method: 8015Mod/8020	Analyzed: 04/22/98
Attention: Glenn Matteucci	Lab Number: 9804960-07	Reported: 05/12/98

QC Batch Number: GC042298BTEXEXA
Instrument ID: HP4

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	19
Benzene	0.0050	0.0076
Toluene	0.0050	0.058
Ethyl Benzene	0.0050	0.068
Xylenes (Total)	0.0050	0.40
Chromatogram Pattern:		Gasoline

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

EQUOIA ANALYTICAL - ELAP #1271

Richard Herling
Project Manager

Sequoia Analytical

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Environmental Resolutions	Client Proj. ID: Unocal 1156, 223532T1	Received: 04/15/98
74 Digital Drive , Suite 6		
Novato, CA 94949	Lab Proj. ID: 9804960	Reported: 05/12/98
Attention: Glenn Matteucci		

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of_____ pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

EQUOIA ANALYTICAL

chard Herling
oject Manager

Sequoia Analytical

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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532T1
Matrix: Solid
Work Order #: 9804960 01-07

Reported: May 12, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	SP0422988020EXB	SP0422988020EXB	SP0422988020EXB	SP0422988020EXB	SP0422988020EXB
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8041179	8041179	8041179	8041179	8041179
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/22/98	4/22/98	4/22/98	4/22/98	4/22/98
Analyzed Date:	4/22/98	4/22/98	4/22/98	4/22/98	4/22/98
Instrument I.D.#:	HP2	HP2	HP2	HP2	HP2
Conc. Spiked:	0.80 mg/Kg	0.80 mg/Kg	0.80 mg/Kg	2.4 mg/Kg	6.8 mg/Kg
Result:	0.70	0.69	0.69	2.1	12
MS % Recovery:	88	86	86	88	175
Dup. Result:	0.77	0.77	0.75	2.2	14
MSD % Recov.:	96	96	94	92	206
RPD:	9.5	11	8.3	4.7	15.4
RPD Limit:	0-20	0-20	0-20	0-20	0-50
LCS #:	LCS042298	LCS042298	LCS042298	LCS042298	LCS042298
Prepared Date:	4/22/98	4/22/98	4/22/98	4/22/98	4/22/98
Analyzed Date:	4/22/98	4/22/98	4/22/98	4/22/98	4/22/98
Instrument I.D.#:	HP2	HP2	HP2	HP2	HP2
Conc. Spiked:	0.40 mg/Kg	0.40 mg/Kg	0.40 mg/Kg	1.2 mg/Kg	6.8 mg/Kg
LCS Result:	0.42	0.40	0.42	1.2	360
LCS % Recov.:	105	100	105	100	106
MS/MSD LCS Control Limits	50-150	50-150	50-150	50-150	60-140

SEQUOIA ANALYTICAL
ELAP #1271

Richard Herling
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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Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Solid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9804960 01-07	Reported: May 12, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	SP0424988020EXA	SP0424988020EXA	SP0424988020EXA	SP0424988020EXA	SP0424988020EXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill	K. Nill
MS/MSD #:	8041135	8041135	8041135	8041135	8041135
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/24/98	4/24/98	4/24/98	4/24/98	4/24/98
Analyzed Date:	4/24/98	4/24/98	4/24/98	4/24/98	4/24/98
Instrument I.D.#:	HP4	HP4	HP4	HP4	HP4
Conc. Spiked:	0.80 mg/Kg	0.80 mg/Kg	0.80 mg/Kg	2.4 mg/Kg	6.6 mg/Kg
Result:	0.84	0.85	0.78	2.4	11
MS % Recovery:	105	106	98	100	167
Dup. Result:	0.81	0.82	0.78	2.4	11
MSD % Recov.:	101	103	98	100	167
RPD:	3.6	3.6	0.0	0.30	0.0
RPD Limit:	0-20	0-20	0-20	0-20	0-50
LCS #:	LCS042498	LCS042498	LCS042498	LCS042498	LCS042498
Prepared Date:	4/24/98	4/24/98	4/24/98	4/24/98	4/24/98
Analyzed Date:	4/24/98	4/24/98	4/24/98	4/24/98	4/24/98
Instrument I.D.#:	HP4	HP4	HP4	HP4	HP4
Conc. Spiked:	0.40 mg/Kg	0.40 mg/Kg	0.40 mg/Kg	1.2 mg/Kg	6.6 mg/Kg
LCS Result:	0.38	0.38	0.36	1.1	290
LCS % Recov.:	95	95	90	92	88
MS/MSD LCS Control Limits	50-150	50-150	50-150	50-150	60-140

SEQUOIA ANALYTICAL
ELAP #1271

Richard Herling
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Environmental Resolutions
74 Digital Drive, Ste. 6
Novato, CA 94949
Attention: Glenn Matteucci

Client Project ID: Unocal 1156, 223532T1
Matrix: Solid
Work Order #: 9804960 01-07

Reported: May 12, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	SP0422988020EXA	SP0422988020EXA	SP0422988020EXA	SP0422988020EXA	SP0422988020EXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8041432	8041432	8041432	8041432	8041432
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/22/98	4/22/98	4/22/98	4/22/98	4/22/98
Analyzed Date:	4/22/98	4/22/98	4/22/98	4/22/98	4/22/98
Instrument I.D.#:	HP4	HP4	HP4	HP4	HP4
Conc. Spiked:	0.80 mg/Kg	0.80 mg/Kg	0.80 mg/Kg	2.4 mg/Kg	7.2 mg/Kg
Result:	0.76	0.75	0.71	2.2	10
MS % Recovery:	95	94	89	92	139
Dup. Result:	0.78	0.78	0.73	2.3	10
MSD % Recov.:	98	98	91	96	139
RPD:	2.6	3.9	2.8	4.4	0.0
RPD Limit:	0-20	0-20	0-20	0-20	0-50
LCS #:	LCS042298	LCS042298	LCS042298	LCS042298	LCS042298
Prepared Date:	4/22/98	4/22/98	4/22/98	4/22/98	4/22/98
Analyzed Date:	4/22/98	4/22/98	4/22/98	4/22/98	4/22/98
Instrument I.D.#:	HP4	HP4	HP4	HP4	HP4
Conc. Spiked:	0.40 mg/Kg	0.40 mg/Kg	0.40 mg/Kg	1.2 mg/Kg	7.2 mg/Kg
LCS Result:	0.40	0.40	0.38	1.2	350
LCS % Recov.:	100	100	95	100	97
MS/MSD LCS Control Limits	50-150	50-150	50-150	50-150	60-140

SEQUOIA ANALYTICAL
ELAP #1271

Richard Herling
Project Manager

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Environmental Resolutions	Client Project ID:	Unocal 1156, 223532T1	
74 Digital Drive, Ste. 6	Matrix:	Solid	
Novato, CA 94949			
Attention: Glenn Matteucci	Work Order #:	9804960 01-07	Reported: May 12, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Lead	Lead
QC Batch#:	ME0420986010MDA	Me0421986010MDA
Analy. Method:	EPA 7420	EPA 7420
Prep. Method:	EPA 3050	EPA 3050
Analyst:	T. Le	K. Anderson
MS/MSD #:	8040907	8041282
Sample Conc.:	62	6.0
Prepared Date:	4/20/98	4/21/98
Analyzed Date:	4/20/98	4/21/98
Instrument I.D.#:	MV1	MV1
Conc. Spiked:	50 mg/Kg	50 mg/Kg
Result:	99	46
MS % Recovery:	74	80
Dup. Result:	100	47
MSD % Recov.:	76	82
RPD:	1.0	2.2
RPD Limit:	0-20	0-20
LCS #:	LCS042098	LCS042198
Prepared Date:	4/20/98	4/21/98
Analyzed Date:	4/20/98	4/21/98
Instrument I.D.#:	MV1	MV1
Conc. Spiked:	50 mg/Kg	50 mg/Kg
LCS Result:	47	48
LCS % Recov.:	94	96
MS/MSD	75-125	75-125
LCS	80-120	80-120
Control Limits		

SEQUOIA ANALYTICAL
ELAP #1271

Richard Herling
Project Manager

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❑ 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: ENVIRONMENTAL RESOLUTIONS INC	Project Name: [illegible, struck out] 2Z5532T1
Address: 74 DIGITAL DR, SUITE 6	UNOCAL Project Manager: TINA BERRY
City: NOVATO State: CA Zip Code: 94945	Release #:
Telephone: (415) 382 5994 FAX #:	Site #: Unocal 1156
Report To: B. MATTEUCCI Sampler: PAUL BLANK	QC Data: ☒ Level D (Standard) ❑ Level C ❑ Level B ❑ Level A

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

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

❑ Drinking Water ❑ Waste Water ☒ Other

Analyses Requested 9804960

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPPH / BTEX 8015 / 8020	TTLC LEAD								Comments
1. S-2-D1	4/9 12:15	SOIL	1		1	X									
2. S-3-D2	↓ 12:20	↓	↓		2	X									
3. S-3-D3	12:35				3	X	X								
4. S-3-D4	12:40				4	X									
5. S-3-PL1	12:23				5	X									
6. S-3.5-PL2	↓ 12:30	↓	↓		6	X									AP 15 1 16
7.															
8. SP-4-(1-4)	4/9 13:00	SOIL	4												HOLD
9.															
10.															

Relinquished By: Paul D. [signature]	Date:	Time:	Received By: [signature]	Date: 4/15/98	Time: 1110
Relinquished By: [signature]	Date: 4/15/98	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Terri Downs	Date: 4/15	Time: 1316

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: ______

White - Laboratory Yellow - Laboratory Pink - Client

ATTACHMENT C

STOCKPILE DISPOSAL DOCUMENTATION

DENBESTE TRANSPORTATION, INC.

930 Shiloh Rd. Bld. 44#
Windsor, CA 95492
(707) 838-1407

-Fax Cover Sheet-

Date: May 5, 1998

Pages: 1 Page

To: Paul Blank

Fax Phone: 415-382-1856

From: Melissa Chrapin

Subject:

comments: Total tons hauled out of MacArthur Blvd, Oakland, Sta.# 11516 is 1,350.56.

FORWARD
INCORPORATED

P.O. Box 6336
1145 W. Charter Way • Stockton, CA 92506
(209) 466-4482 • (800) 204-4242 • FAX (209) 466-1067

April 22, 1998

Environmental Resolutions
74 Digital Drive, Suite 6
Novato, CA 94949

Attn: Glenn Matteucci

Re: Approval No. 657622
Contaminated Soil w/Gasoline
S/S#1156, 4276 MacArthur Blvd, Oakland, CA

Dear Mr. Matteucci:

FORWARD INC. is pleased to inform you that the approximately 800 tons of Contaminated Soil w/Gasoline from the referenced site has been approved for acceptance at our Manteca, California Landfill as a Class 2 waste. This approval has been based on the information provided in the waste profile and associated materials submitted on behalf of Tosco Marketing Company (Generator). Acceptance of the waste is subject to regulatory requirements, and is also subject to the "Terms and Conditions" agreed to and signed by Generator in the waste profile.

Your approval number for this project will be 657622. This number should be used in all scheduling and correspondence with ***FORWARD, INC.*** regarding this waste profile.

This profile shall remain in effect until December 31, 1998, or until any significant changes in the waste stream occur. At that time, ***FORWARD, INC.*** will re-evaluate the profile, and current analytical data and requirements will be reviewed.

Please schedule all waste shipments with the Landfill (209-982-4298) at least 24 hours in advance. The landfills hours of operation are Monday through Friday 6:00 am to 4:30 pm for soil, 6:00 am to 3:00 pm for all other waste types.

Thank you for the opportunity to be of service. Should you have any questions, please do not hesitate to contact me or our Customer Service at (800) 204-4242.

Sincerely,

FORWARD, INC.

Brad Bonner

Brad J. Bonner
Sales Manager

BJB/sr

F:\FORWARD\MERGE FORMS\ACCEPT.DOC