TRANSMITTAL

HAZMAT

94 DEC 28 PM 4:19

TO: Ms. Eva Chu
Alameda County Health Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

DATE: December 27, 1994
PROJECT #: 4536701
SUBJECT: Abandonment of Hydraulic Hoists and Oil/Water Separator Report for Unocal Station 5043.

FROM:
Barbara Sieminski
Project Geologist
GeoStrategies, Inc.
6747 Sierra Court, Suite G
Dublin, California 94568

#521

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	12/14/94	Abandonment of Hydraulic Hoists and Oil/Water Separator Letter Report for Unocal Service Station No. 5043, 449 Hegenberger Road, Oakland, California.

THESE ARE TRANSMITTED as checked below:

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[ ] For approval [ ] Return for corrections [ ] Return ___ corrected prints
[ ] For your files

cc: **Mr. Syed Rizvi**, Unocal Corporation
Mr. H. M. Kazemi, RWQCB, San Francisco Region (Certified Mail)
Mr. Dave DeWitt, Unocal Corporation
GSI File

Not much TPH-g in soil, GW has been impacted
Ask to include TPH-g in monitoring events.

GeoStrategies Inc.

LETTER REPORT
ABANDONMENT OF HYDRAULIC HOISTS AND OIL/WATER SEPARATOR

at

Unocal Service Station No. 5043
449 Hegenberger Road
Oakland, California

4536701-1

Prepared for

Unocal Corporation
P.O. Box 2390
Brea, California 92622-2390

Prepared by

GeoStrategies Inc.
6747 Sierra Court
Dublin, California 94568

Barbara Sieminski
Project Geologist

Stephen J. Carter
Project Geologist RG #5577

REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

December 14, 1994

GeoStrategies Inc.

December 14, 1994

Mr. Syed Rizvi
Unocal Corporation
Post Office Box 2390
Brea, California 92622-2390

Subject: Abandonment of Hydraulic Hoists and Oil/Water Separator at Unocal Service Station No. 5043, 499 Hegenberger Road, Oakland, California

Mr. Rizvi:

This report was prepared by GeoStrategies Inc. (GSI) and summarizes field activities and chemical analytical data associated with the abandonment of an oil/water separator and three hydraulic hoists performed in September 1994 at the above referenced site. Excavation and abandonment work described in this report were performed by Gettler-Ryan Inc. (G-R) of Dublin, California. Soil sampling was performed by a GSI geologist. Field work was performed to comply with Regional Water Quality Control Board (RWQCB) - San Francisco Bay Region and Alameda County Health Care Services Agency (ACHCSA) guidelines.

FIELD PROCEDURES

The site is currently occupied by an operating Unocal Service Station with four pump islands, an underground storage tank complex, and a station building with three repair bays. The 2.3 by 5 by 3-foot deep oil/water separator and three 8 by 1.5-foot diameter hydraulic hoists were located in the repair bays as shown on Figure 1.

Oil/Water Separator Abandonment

On September 20, 1994, the contents of the separator were bailed into a 55-gallon steel drum. The separator and the lube bay drain pipes were steam cleaned, the rinsate bailed into drums, and the inside surfaces of the

6747 Sierra Court, Suite. G • Dublin, CA 94568 • (510) 551-8777 • Fax (510) 551-7888
3035 Prospect Park Drive, Suite 80 • Rancho Cordova, CA 95670 • (916) 631-1314 • Fax (916) 631-1317

separator wiped dry with absorbent pads. The concrete bottom of the separator was then broken out with a jackhammer to allow for collection of a soil sample.

Hoist Abandonment

On September 19 and 20, 1994, concrete surrounding the hoists was removed with a jackhammer, soil was excavated from around the hoists and the hoists were pulled out of the ground using a backhoe. Each hoist pit measured approximately 2 by 4 by 8 feet in depth. Soil surrounding the hoists consisted of clayey silt. Groundwater was present in the hoist pits at the depth of approximately 5 feet below ground surface (bgs).

The soil generated during hydraulic hoists abandonment activities was stockpiled onsite, placed on and covered with visqueen. Approximately 20 cubic yards of soil were removed from the former hydraulic hoist excavations.

Initial Sampling

A GSI geologist was present at the site on September 21, 1994, to collect soil and groundwater samples from beneath the former oil/water separator and from hydraulic hoist pits. Ms. Eva Chu of ACHCSA visited the site to observe sample collection.

One soil sample (OWS-1-5.0) was collected from beneath the oil/water separator. A hand auger was used to remove soil from below the concrete bottom of the inflow box and the soil sample was collected at a depth of approximately 5.0 feet bgs.

One soil sample was collected from each hoist excavation just above the groundwater. Soil samples UH-1-3.5 and UH-2-3.5 were collected at the depth of approximately 3.5 feet bgs from the western sidewalls of the eastern and middle hoist pits, respectively. Sample UH-3-4.0 was collected at the depth of approximately 4 feet bgs from the western sidewall of the western hoist pit. Groundwater sample OH-W-1 was collected from the western hoist pit. Four soil samples (UH-1A through US-1D) were collected

from the soil stockpile and submitted for analysis for disposal purposes. Sample locations are shown on Figure 1.

Soil samples OWS-1-5, UH-1-3.5, UH-2-3.5 and UH-3-4.0 were collected using a hand-driven soil sampler, fitted with a stainless steel sample tube. After removing the sample tube from the sampler, both ends of each tube were covered with aluminum foil and sealed with plastic end caps. The sample was then labeled, placed in a cooler with ice, and entered on a chain-of-custody form. The initial soil and groundwater samples were submitted for analysis to American Environmental Network (AEN), a State-certified environmental laboratory located in Pleasant Hill, California (Hazardous Waste Testing Laboratory # 1172).

Overexcavation and Collection of Confirmation Soil Samples

Upon receiving laboratory analytical data for the initial soil samples, the western hoist pit was overexcavated to approximately 8 feet in length and 5 feet in width. Further overexcavation was not performed because it would have undermined the integrity of the station building structure.

On September 29, 1994, confirmation soil samples HS-4-E, HS-4-W, HS-4-N and HS-4-S were collected by a GSI geologist from the sidewalls of the western hoist excavation. These samples were collected just above groundwater at the depth of approximately 4 feet bgs. The samples were collected using a backhoe bucket. The top 3 to 6 inches of soil in the bucket was removed and a stainless steel sample tube was driven with a mallet into the soil until completely filled. Both ends of each sample tube were covered with aluminum foil and sealed with plastic end caps. The sample was then labeled, placed in a cooler with ice, entered on a chain-of-custody form, and transported to Sequoia Analytical (Sequoia), a State-certified environmental laboratory located in Concord, California (Hazardous Waste Testing Laboratory # 1271).

Backfilling

After overexcavation and sampling, the former hydraulic hoist pits were backfilled with clean sand and oil/water separator was backfilled with clean

pea gravel to approximately 4 inches bgs. Concrete was then placed on top of the backfill and finished even with the lube bay floor.

Waste Disposal

Liquid wastes generated during the oil/water separator cleaning and abandonment were disposed by H& H Environmental Services. The waste manifest is presented in Attachment A. The soil generated during the hydraulic hoists abandonment was removed from the site on October 21, 1994, by Dillard Trucking Inc. under direction of Kaprealian Engineering.

LABORATORY ANALYSIS AND RESULTS

The soil sample collected from beneath the former oil/water separator was analyzed for total petroleum hydrocarbons calculated as gasoline (TPHg) by Environmental Protectionn Agency (EPA) Method 5030 and a gas chromatograph using a flame ionization detector (GC-FID); gasoline constituents benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method 8020; total petroleum hydrocarbons as diesel (TPHd) using EPA Method 3550 and GC-FID; oil and grease (O&G) using Standard Method 5520 E&F; volatile organic compounds (VOCs) using EPA Method 8010; and metals cadmium, chromium, lead, zinc and nickel using EPA Method 6010. The soil and groundwater samples collected from the former hoist excavations were analyzed for total petroleum hydrocarbons as hydraulic oil (TPHho) using EPA Methods 3550 and GC-FID (soil) and 3510 and GC-FID (groundwater). The soil stockpile samples were analyzed for TPHho using EPA Method 3550/8015.

Laboratory analytical results for the soil sample collected from beneath the oil/water separator indicated 1.6 parts per million (ppm) TPHg, 0.014 ppm benzene, 0.014 ppm toluene, 0.15 ppm ethylbenzene, 0.12 ppm total xylenes, 0.011 ppm chlorobenzene, 0.014 ppm methylene chloride and 0.007 ppm 1,1,2trichlorotrifluoroethane. However, methylene chloride and 1,1,2trichlorotrifluoroethane were detected in the method blank and are suspected laboratory contaminants. Chromium, lead, zinc and nickel were present in this sample at concentrations of 29 ppm, 6 ppm, 31 ppm, and 37 ppm, respectively. These metals concentrations are below their respective current Total Threshold Limit Concentrations (TTLCs) as

presented in Title 22 of the California Code of Regulations. O&G and cadmium were not detected in this sample.

Laboratory analytical results for initial soil samples UH-13.5, UH-2-3.5, and UH-3-4.0 collected from the eastern, middle and western hoist pits indicated 9 ppm, 20 ppm and 1,700 ppm TPH-HO, respectively. Groundwater sample UHW-1 collected from the western hoist pit indicated 95 ppm of TPHho. Laboratory analytical results for confirmation soil samples HS-4-N and HS-4-W collected from the overexcavated western hoist pit indicated nondetectable concentrations of TPHho. Confirmation soil samples HS-4-E and HS-4-S indicated 14 ppm and 650 ppm, respectively.

Laboratory analytical results for the composite stockpile sample indicated 740 ppm TPH-G and up to 68 BTEX. Metals cadmium, chromium, lead, nickel and zinc were present in this sample at concentrations of 0.010 ppm, 0.14 ppm, 0.37 ppm, 0.35 ppm and 0.74 ppm, respectively. Sulfide and cyanide were nondetectable, reaction with water negative, corrosivity 7.8pH, and ignitability 54°C.

The laboratory analyses results are summarized in Table 1. The chemical analytical reports and chain-of-custody forms are presented in Attachment B.

If you have questions or comments, please call us at (510) 551-8777.

Table 1. Soil Analytical Data

Figure 1. Hydraulic Hoists and Oil/Water Separator Sampling Plan

Attachment A: Waste Manifest
Attachment B: Chemical Analytical Reports and Chain-of-Custody Forms

TABLE 1

SOIL ANALYTICAL DATA
Unocal Service Station No. 5043
449 Hegenberger Road
Oakland, California

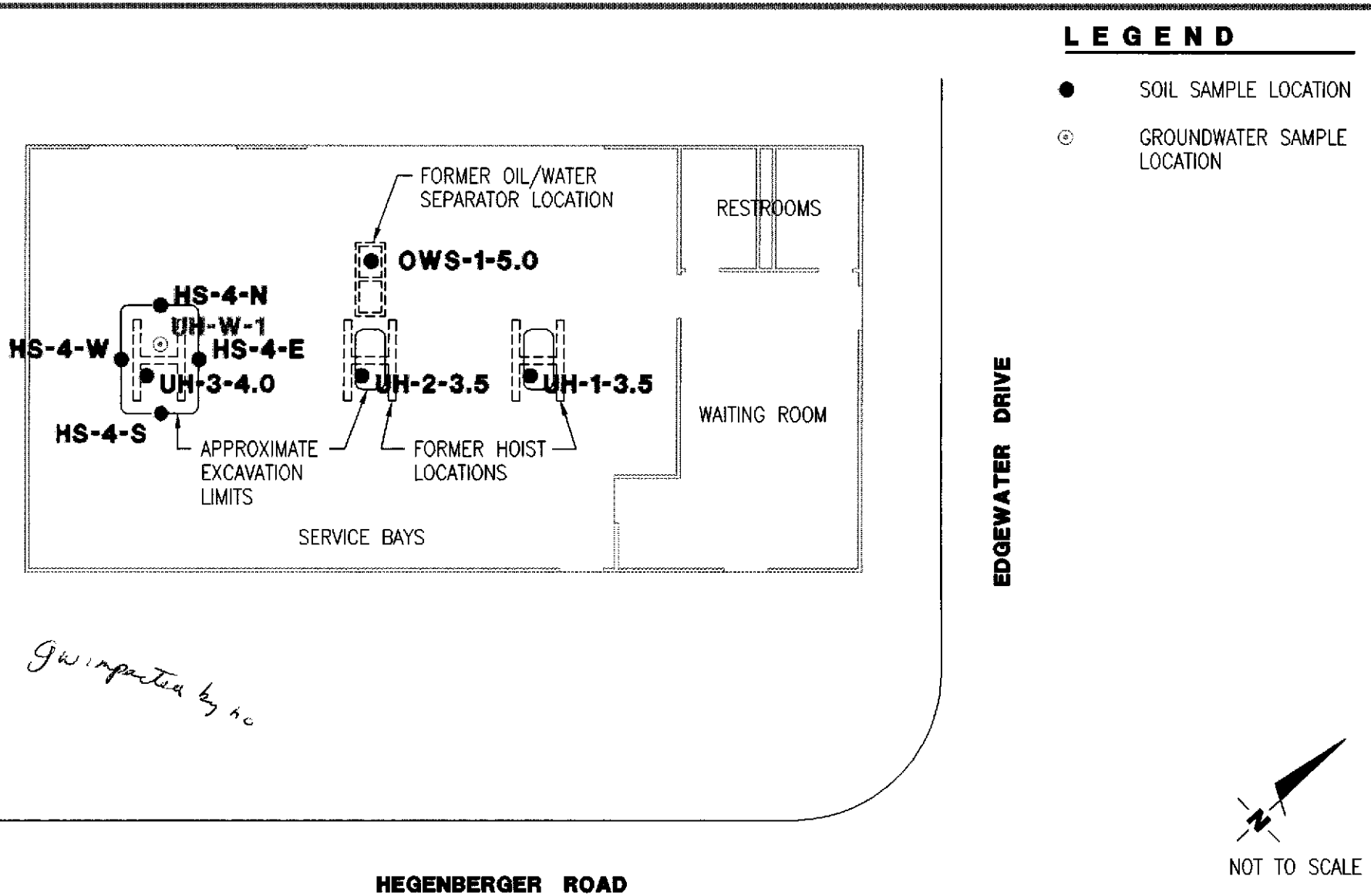
SAMPLE I.D.	SAMPLE DEPTH (FT)	SAMPLE DATE	TPHg (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYL-BENZENE (PPM)	XYLENES (PPM)	TPHd (PPM)	O&G (PPM)	TPHho (PPM)	VOCs (PPM)	Cd (PPM)	Cr (PPM)	Pb (PPM)	Zn (PPM)	Ni (PPM)
UH-1-3.5	3.5	21-Sep-94	NA	NA	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA
UH-2-3.5	3.5	21-Sep-94	NA	NA	NA	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA
UH-3-4.0	4.0	21-Sep-94	NA	NA	NA	NA	NA	NA	NA	1,700	NA	NA	NA	NA	NA	NA
OWS-1-5.0	5.0	21-Sep-94	1.6	0.014	0.014	0.15	0.12	<1	<30	NA	ND*	<0.1	29	6	31	37
UH-W-1	---	21-Sep-94	NA	NA	NA	NA	NA	NA	NA	95	NA	NA	NA	NA	NA	NA
HS-4-E	4.0	29-Sep-94	NA	NA	NA	NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA
HS-4-W	4.0	29-Sep-94	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA
HS-4-N	4.0	29-Sep-94	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA
HS-4-S	4.0	29-Sep-94	NA	NA	NA	NA	NA	NA	NA	650	NA	NA	NA	NA	NA	NA
UH-1(A-D)	---	21-Sep-94	740	2.7	12	16	68	NA	NA	NA	NA	<0.010	0.14	0.37	0.35	0.74

TPHg = Total Petroleum Hydrocarbons calculated as Gasoline.
TPHd = Total Petroleum Hydrocarbons calculated as Diesel.
O&G = Oil and Grease.
TPHho = Total Petroleum Hydrocarbons calculated as Hydraulic Oil.
VOCs = Volatile Organic Compounds.
PPM = Parts Per Million.
NA = Not Analyzed.
ND* = Not detected (31 compounds analyzed) except chlorobenzene (0.011 ppm), methylene chloride (0.014 ppm) and 1,1,2trichlorotrifluoroethane (0.007 ppm). Methylene chloride and 1,1,2trichlorotrifluoroethane were detected in the method blank and are suspected laboratory contaminants.

Cd = Cadmium
Cr = Chromium
Pb = Lead
Ni = Nickel
Zn = Zinc

Notes:
1. All data shown as <x are reported as ND (none detected).
2. Laboratory values are reported in units of mg/kg which are generally synonymous with parts per million (ppm).
3. Sample UH-1(A-D) was also analyzed for total lead (13 ppm), ignitability (54°C), reactivity (sulfide - <13 ppm, cyanide - <0.50 ppm, reaction with water - negative), and corrosivity (7.8 pH).

4536701-1



GeoStrategies Inc.

HYDRAULIC HOIST & OIL/WATER SEPARATOR SAMPLING PLAN
UNOCAL Service Station #5043
449 Hegenberger Road
Oakland, California

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
4536.701		12/94	

ATTACHMENT A

WASTE MANIFEST

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CAD982056251	17800		

A. State Manifest Document Number: 93617800

3. Generator's Name and Mailing Address
UNOCAL HAZARDOUS MATERIALS ANALYST
2000 Crow Canyon Road, San Ramon, CA. 94583

B. State Generator's ID: HWH03-0018012

4. Generator's Phone (510) 277-2334

5. Transporter 1 Company Name: H & H SHIP SERVICE COMPANY
6. US EPA ID Number: CAD004771168
C. State Transporter's ID: 428046
D. Transporter's Phone: (415) 543-4835

7. Transporter 2 Company Name: PRC Patterson
8. US EPA ID Number: CAT080010059
E. State Transporter's ID: 42885
F. Transporter's Phone: (800) 874-4449

9. Designated Facility Name and Site Address
ENVIROPUR WEST CORPORATION
1835 East 29th Street
Signal Hill, CA. 90806
10. US EPA ID Number: CAT080011059
G. State Facility's ID: CAT080011059
H. Facility's Phone: (310) 595-7431

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Numbers
a. OIL AND WATER NON-RCRA HAZARDOUS WASTE LIQUID	004	DM	00220	G	State 223
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
PUMP OUT ONLY
POS # 44-2173

K. Handling Codes for Wastes Listed Above
a. D1
b.
c.
d.

15. Special Handling Instructions and Additional Information
JOB #15058
24 Hr. Emergency Contact: H & H #(415) 543-4835
APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR.

JOB SITE: UNOCAL STATION #5043
449 Hegenberger Road
Oakland, California

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
BARBARA ALLEN	Barbara Allen Manager Unocal	10	24	91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
JOSE J. MORENO	Jose J Moreno	10	24	91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Armando Gonzalez	Armando Gonzalez	10	27	91

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR
TRANSPORTER
FACILITY

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

93617800

DO NOT WRITE BELOW THIS LINE.

White: TSDF SENDS THIS COPY TO DTSC WITHIN 30 DAYS.
To: P.O. Box 3000, Sacramento, CA 95812

DTSC 8022A (9/93)
EPA 8700—22

ATTACHMENT B

CHEMICAL ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GETTLER-RYAN, INC.
6747 SIERRA COURT
DUBLIN, CA 94568

REPORT DATE: 10/06/94
DATE(S) SAMPLED: 09/21/94
DATE RECEIVED: 09/22/94
AEN WORK ORDER: 9409309

ATTN: ROBERT MALLORY
CLIENT PROJ. ID: 4536.701

PROJECT SUMMARY:

On September 22, 1994, this laboratory received 5 (4 soil and 1 water) sample(s).

Client requested sample(s) be analyzed for inorganic and organic parameters. Results of analysis are summarized on the following page(s).

Please see quality control report for a summary of QC data pertaining to this project.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GETTLER-RYAN, INC.

SAMPLE ID: UH-1-3.5
AEN LAB NO: 9409309-01
AEN WORK ORDER: 9409309
CLIENT PROJ. ID: 4536.701

DATE SAMPLED: 09/21/94
DATE RECEIVED: 09/22/94
REPORT DATE: 10/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	09/22/94
TPH as Hydraulic Oil	GC-FID	9 *	5	mg/kg	09/23/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GETTLER-RYAN, INC.

SAMPLE ID: UH-2-3.5
AEN LAB NO: 9409309-02
AEN WORK ORDER: 9409309
CLIENT PROJ. ID: 4536.701

DATE SAMPLED: 09/21/94
DATE RECEIVED: 09/22/94
REPORT DATE: 10/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	09/22/94
TPH as Hydraulic Oil	GC-FID	20 *	5	mg/kg	09/23/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GETTLER-RYAN, INC.

SAMPLE ID: UH-3-4.0
AEN LAB NO: 9409309-03
AEN WORK ORDER: 9409309
CLIENT PROJ. ID: 4536.701

DATE SAMPLED: 09/21/94
DATE RECEIVED: 09/22/94
REPORT DATE: 10/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	09/22/94
TPH as Hydraulic Oil	GC-FID	1,700 *	100	mg/kg	09/23/94

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GETTLER-RYAN, INC.

SAMPLE ID: OWS-1-5.0
AEN LAB NO: 9409309-04
AEN WORK ORDER: 9409309
CLIENT PROJ. ID: 4536.701

DATE SAMPLED: 09/21/94
DATE RECEIVED: 09/22/94
REPORT DATE: 10/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	14 *	5	ug/kg	09/22/94
Toluene	108-88-3	14 *	5	ug/kg	09/22/94
Ethylbenzene	100-41-4	150 *	5	ug/kg	09/22/94
Xylenes, Total	1330-20-7	120 *	5	ug/kg	09/22/94
Purgeable HCs as Gasoline	5030/GCFID	1.6 *	0.2	mg/kg	09/22/94
#Extraction for TPH	EPA 3550	-		Extrn Date	09/22/94
TPH as Diesel	GC-FID	ND	1	mg/kg	09/23/94
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	09/22/94
Cadmium	EPA 6010	ND	0.1	mg/kg	09/23/94
Chromium	EPA 6010	29 *	1	mg/kg	09/23/94
Lead	EPA 6010	6 *	1	mg/kg	09/23/94
Nickel	EPA 6010	37 *	1	mg/kg	09/23/94
Zinc	EPA 6010	31 *	1	mg/kg	09/23/94
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	09/23/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	09/23/94
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	5	ug/kg	09/23/94
Bromoform	75-25-2	ND	5	ug/kg	09/23/94
Bromomethane	74-83-9	ND	5	ug/kg	09/23/94
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	09/23/94
Chlorobenzene	108-90-7	11 *	5	ug/kg	09/23/94
Chloroethane	75-00-3	ND	5	ug/kg	09/23/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	5	ug/kg	09/23/94
Chloroform	67-66-3	ND	5	ug/kg	09/23/94
Chloromethane	74-87-3	ND	5	ug/kg	09/23/94
Dibromochloromethane	124-48-1	ND	5	ug/kg	09/23/94
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	09/23/94
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	09/23/94
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	09/23/94
Dichlorodifluoromethane	75-71-8	ND	5	ug/kg	09/23/94

GETTLER-RYAN, INC.

SAMPLE ID: OWS-1-5.0
AEN LAB NO: 9409309-04
AEN WORK ORDER: 9409309
CLIENT PROJ. ID: 4536.701

DATE SAMPLED: 09/21/94
DATE RECEIVED: 09/22/94
REPORT DATE: 10/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	09/23/94
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	09/23/94
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	09/23/94
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/kg	09/23/94
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/kg	09/23/94
1,2-Dichloropropane	78-87-5	ND	5	ug/kg	09/23/94
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/kg	09/23/94
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/kg	09/23/94
Methylene Chloride	75-09-2	14 *	5	ug/kg	09/23/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/kg	09/23/94
Tetrachloroethene	127-18-4	ND	5	ug/kg	09/23/94
1,1,1-Trichloroethane	71-55-6	ND	5	ug/kg	09/23/94
1,1,2-Trichloroethane	79-00-5	ND	5	ug/kg	09/23/94
Trichloroethene	79-01-6	ND	5	ug/kg	09/23/94
Trichlorofluoromethane	75-69-4	ND	5	ug/kg	09/23/94
1,1,2Trichlorotrifluoroethane	76-13-1	7 *	5	ug/kg	09/23/94
Vinyl Chloride	75-01-4	ND	5	ug/kg	09/23/94

Methylene chloride and 1,1,2-trichlorotrifluoroethane are suspected laboratory contaminants.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

GETTLER-RYAN, INC.

SAMPLE ID: UH-W-1
AEN LAB NO: 9409309-05
AEN WORK ORDER: 9409309
CLIENT PROJ. ID: 4536.701

DATE SAMPLED: 09/21/94
DATE RECEIVED: 09/22/94
REPORT DATE: 10/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3510	-		Extrn Date	09/22/94
TPH as Hydraulic Oil	GC-FID	95 *	4	mg/L	09/23/94

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9409309

CLIENT PROJECT ID: 4536.701

Quality Control and Project Summary

Methylene chloride and 1,1,2-trichlorotrifluoroethane were detected in the EPA 8010 method blank at 7 ug/kg and 8 ug/kg, respectively.

All other laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

AEN JOB NO: 9409309
DATE EXTRACTED: 09/22/94
INSTRUMENT: D
MATRIX: SOIL

Surrogate Standard Recovery Summary
Method: EPA 3550 GCFID

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
09/23/94	UH-1-3.5	01	107
09/23/94	UH-2-3.5	02	94
09/23/94	UH-3-4.0	03	D
09/23/94	OWS-1-5.0	04	99
09/23/94	UH-W-1	05	I

D: Surrogate diluted out
I: Matrix interference

Current QC Limits

Surrogate	Percent Recovery
n-Pentacosane	45-120

QUALITY CONTROL DATA

AEN JOB NO: 9409309
DATE EXTRACTED: 09/23/94
DATE ANALYZED: 09/24/94
SAMPLE SPIKED: 9409309-04
INSTRUMENT: C
MATRIX: SOIL

Matrix Spike Recovery Summary
Method: EPA 3550 GCFID

Analyte	Spike Added (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	40.2	63	2	44-108	13

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

AEN JOB NO: 9409309
DATE EXTRACTED: 09/09/94
DATE ANALYZED: 09/09/94
SAMPLE SPIKED: LCS
INSTRUMENT: GRAVIMETRIC
MATRIX: SOIL

Laboratory Control Sample
Method: SM 5520

Analyte	Spike Added (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Oil	2,960	95	90-102

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

AEN JOB NO: 9409309
INSTRUMENT: G
MATRIX: SOIL

Surrogate Standard Recovery Summary
Method: EPA 8010

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Bromochloro-methane	1-Bromo-3-chloro-propane
09/23/94	OWS-1-5.0	04	101	85

Current QC Limits

Surrogate	Percent Recovery
Bromochloromethane	62-137
1-Bromo-3-chloropropane	53-143

QUALITY CONTROL DATA

AEN JOB NO: 9409309
DATE ANALYZED: 09/22/94
SAMPLE SPIKED: 9409258-01
INSTRUMENT: G

Matrix Spike Recovery Summary
Method: EPA 8010

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
1,1-Dichloroethene	250	84	2	48-111	12
Trichloroethene	250	92	2	63-129	8
Chlorobenzene	250	80	2	56-114	13

QUALITY CONTROL DATA

AEN JOB NO: 9409309
INSTRUMENT: E
MATRIX: SOIL

Surrogate Standard Recovery Summary
Method: EPA 8020, 5030 GCFID

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
09/22/94	OWS-1-5.0	04	107

Current QC Limits

Surrogate	Percent Recovery
Fluorobenzene	84-117

QUALITY CONTROL DATA

AEN JOB NO: 9409309
DATE ANALYZED: 09/20/94
SAMPLE SPIKED: 9409177-13
INSTRUMENT: E
MATRIX: SOIL

Matrix Spike Recovery Summary
Method: EPA 8020, 5030 GCFID

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	34	104	3	80-130	26
Toluene	93	106	<1	75-129	27
Chlorobenzene	1000	82	4	66-128	34

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

AEN JOB NO: 9409309
SAMPLE SPIKED: SAND
DATE ANALYZED: 09/23/94
MATRIX: SOIL

Method Spike Recovery Summary

Analyte	Inst./ Method	Spike Added (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Cd, Cadmium	ICP/6010	10	100	1	85-106	7
Cr, Chromium	ICP/6010	50	99	<1	87-110	6
Ni, Nickel	ICP/6010	50	99	<1	87-109	6
Pb, Lead	ICP/6010	50	101	<1	85-111	6
Zn, Zinc	ICP/6010	50	94	1	84-105	7

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

R-1,-G 4709304

UNOCAL 76

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

Company Name: GEO STRATEGIES INC.	Project Name: 4536.701
Address: 6747 SIERRA CT. # G	UNOCAL Project Manager: [redacted] SYED R/RVJ
City: DUBLIN State: CA. Zip Code: 94568	Release #:
Telephone: (510) 551-8777 FAX #: (510) 551 7888	Site #: 5043
Report To: ROBERT MALLORY Sampler: ROBERT MALLORY	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

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH - GAS	BTEX	EPA 8010	TPH - DIESEL	SM 5520 E+F	METALS Cr, Cd, Ni, Pb, Zn	TPH - HYDROCARBON OIL			Comments
1. UH-1-3.5	9/21/94	SOIL	1	4" TUBE	01A							X			O&G =
2. UH-2-3.5	〃	SOIL	1	〃	02A							X			5520 F Grav.
3. UH-3-4.0	〃	SOIL	1	〃	03A							X			RL 50
4. OWS-1-5.0	〃	SOIL	1	〃	04A	X	X	X	X	X	X				
5. UH-W-1	〃	WATER	2	AMBER LITER	05AB							X			
6.															
7.															
8.															
9.					5520 ANALYSES = FEL CLEAN-UP & GRAVIMETRIC										
10.															ANALYSIS

Relinquished By: Robert C. Mallory	Date: 9/22/94	Time: 11:25	Received By: [signature]	Date: 9/22/94	Time: 11:25
Relinquished By: [signature]	Date: 9-22-94	Time: 12:10	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Gina Gillespie	Date: 9-22-94	Time: 1210

Were Samples Received in Good Condition? ☑ Yes ☐ No Samples on Ice? ☑ Yes ☐ No Method of Shipment: Courier 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

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

GeoStrategies, Inc.
6747 Sierra Court
Dublin, CA 94568
Attention: Robert Mallory

Client Project ID: Unocal #5043, 4536.701
Sample Matrix: Soil
Analysis Method: EPA 5030/8015/8020
First Sample #: 409-1415

Sampled: Sep 21, 1994
Relogged: Oct 3, 1994
Reported: Oct 12, 1994

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 409-1415 UH-1 (A-D)
Purgeable Hydrocarbons	1.0	740
Benzene	0.0050	2.7
Toluene	0.0050	12
Ethyl Benzene	0.0050	16
Total Xylenes	0.0050	68
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	100
Date Analyzed:	10/5/94
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	122

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

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Sequoia Analytical

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GeoStrategies, Inc.
6747 Sierra Court
Dublin, CA 94568
Attention: Robert Mallory

Client Project ID: Unocal #5043, 4536.701
Sample Descript: Soil
Analysis for: Lead
First Sample #: 409-1415

Sampled: Sep 21, 1994
Relogged: Oct 3, 1994
Extracted: Oct 6, 1994
Analyzed: Oct 6, 1994
Reported: Oct 12, 1994

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
409-1415	UH-1 (A-D)	1.0	13

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

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Sequoia Analytical

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GeoStrategies, Inc.
6747 Sierra Court
Dublin, CA 94568
Attention: Robert Mallory

Client Project ID: Unocal #5043, 4536.701
Sample Descript: Soil, UH-1 (A-D)
Lab Number: 409-1415

Sampled: Sep 21, 1994
Relogged: Oct 3, 1994
Analyzed: Oct 6-10, 1994
Reported: Oct 12, 1994

CORROSIVITY AND IGNITABILITY

Analyte	Detection Limit	Sample Results
Corrosivity:		
pH	N.A.	7.8
Ignitability:		
Flashpoint (Pensky-Martens), °C	N.A.	54 °C

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

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager

Sequoia Analytical

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GeoStrategies, Inc.	Client Project ID:	Unocal #5043, 4536.701	Sampled:	Sep 21, 1994
6747 Sierra Court	Sample Descript:	Soil, UH-1 (A-D)	Relogged:	Oct 3, 1994
Dublin, CA 94568			Analyzed:	Oct 7, 1994
Attention: Robert Mallory	Lab Number:	409-1415	Reported:	Oct 12, 1994

REACTIVITY

Analyte	Detection Limit	Sample Results
Reactivity:		
Sulfide, mg/kg	13	N.D.
Cyanide, mg/kg	0.50	N.D.
Reaction with water	N.A.	Negative

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

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Sequoia Analytical

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

GeoStrategies, Inc.	Client Project ID:	Unocal #5043, 4536.701	Sampled:	Sep 21, 1994
6747 Sierra Court	Sample Descript:	STLC extract of soil, UH-1 (A-D)	Relogged:	Oct 3, 1994
Dublin, CA 94568			Analyzed:	Oct 10, 1994
Attention: Robert Mallory	Lab Number:	409-1415	Reported:	Oct 12, 1994

LABORATORY ANALYSIS

Analyte	Detection Limit mg/L	Sample Results mg/L
STLC Cadmium	0.010	N.D.
STLC Chromium	0.010	0.14
STLC Lead	0.020	0.37
STLC Nickel	0.020	0.74
STLC Zinc	0.020	0.35

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

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Sequoia Analytical

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GeoStrategies, Inc.
6747 Sierra Court
Dublin, CA 94568
Attention: Robert Mallory

Client Project ID: Unocal #5043, 4536.701
Matrix: Solid
QC Sample Group: 409-1415

Reported: Oct 21, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Lead
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 6010
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	J. Dinsay
MS/MSD Batch#:	4092069	4092069	4092069	4092069	4091973
Date Prepared:	10/5/94	10/5/94	10/5/94	10/5/94	10/4/94
Date Analyzed:	10/5/94	10/5/94	10/5/94	10/5/94	10/4/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	Liberty-100
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg	50 mg/kg
Matrix Spike % Recovery:	115	115	120	116	104
Matrix Spike Duplicate % Recovery:	115	112	117	116	104
Relative % Difference:	0.0	2.6	2.5	0.0	0.0
LCS Batch#:	1LCS100594	1LCS100594	1LCS100594	1LCS100594	BLK100494
Date Prepared:	10/5/94	10/5/94	10/5/94	10/5/94	10/4/94
Date Analyzed:	10/5/94	10/5/94	10/5/94	10/5/94	10/4/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	Liberty-100
LCS % Recovery:	121	115	117	116	96
% Recovery Control Limits:	55-145	47-149	47-155	56-140	75-125

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

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

Sequoia Analytical

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GeoStrategies, Inc.
6747 Sierra Court
Dublin, CA 94568
Attention: Robert Mallory

Client Project ID: Unocal #5043, 4536.701
Matrix: Liquid

QC Sample Group: 409-1415

Reported: Oct 21, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	STLC Copper	STLC Cadmium	STLC Chromium	STLC Nickel	STLC Arsenic
Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	K. Anderson	K. Anderson	K. Anderson	K. Anderson	K. Anderson
MS/MSD Batch#:	4091917	4091917	4091917	4091917	4091917
Date Prepared:	10/10/94	10/10/94	10/10/94	10/10/94	10/10/94
Date Analyzed:	10/10/94	10/10/94	10/10/94	10/10/94	10/10/94
Instrument I.D.#:	Liberty-100	Liberty-100	Liberty-100	Liberty-100	Liberty-100
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Matrix Spike % Recovery:	123	122	113	119	113
Matrix Spike Duplicate % Recovery:	120	121	111	119	109
Relative % Difference:	2.5	0.82	1.8	0.0	3.6
LCS Batch#:	BLK100794	BLK100794	BLK100794	BLK100794	BLK100794
Date Prepared:	10/7/94	10/7/94	10/7/94	10/7/94	10/7/94
Date Analyzed:	10/10/94	10/10/94	10/10/94	10/10/94	10/10/94
Instrument I.D.#:	Liberty-100	Liberty-100	Liberty-100	Liberty-100	Liberty-100
LCS % Recovery:	90	92	88	87	85
% Recovery Control Limits:	75-125	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL, #1271

for Karen L. Enstrom
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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GeoStrategies, Inc.
6747 Sierra Court
Dublin, CA 94568
Attention: Robert Mallory

Client Project ID: Unocal #5043, 4536.701
Matrix: Solid
QC Sample Group: 409-1415

Reported: Oct 21, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Reactive Cyanide	Reactive Sulfide
Method:	SW 846	SW 846
Analyst:	J. Heider	K. Newberry
Date Analyzed:	10/7/94	10/7/94
Instrument I.D.#:	-	-
Sample #:	9410025-3	9410025-3
Sample Concentration:	N.D.	N.D.
Sample Duplicate Concentration:	N.D.	N.D.
RPD:	0.0	0.0
RPD Control Limits:	±20	±20

SEQUOIA ANALYTICAL, #1210

for Kenneth K.F. Lee
Project Manager

SEQUOIA/UNOCAL ANALYTICAL RELOG SHEET

CLIENT: Geostrategies
PROJECT ID: Unocal 5043
PROJ. MANAGER: KAREN ENSTROM
DATE REC'D: 9/22/94 MATRIX: Soil

DATE RELOG: 10/3/94
DATE DUE: 10/10/94
DATE SAMP: 9/21/94
T.A.T 5DAY

PREVIOUSLY LOGGED SAMPLES

[X] TAT Change status to: 5DAY
Change status as of Day: 10/3/94 Time: 1430

[X] CHANGE ANALYSES
Add Analyses: [X]
Cancel Analyses [ ]

Sample Number	Analyses
4091415	GAS/BTEX
	Total Lead
	RCI
	STLC Cd, Cr, Pb, Ni, Zn

SAMPLES ON HOLD
Add analyses

Sample description	Analyses

TAT

Client Authorization (Person/Date/Time) Robert Mallory 10/3/94 1430
Project Manager Karen Enstrom
(Please submit to sample control with a copy of the COC & log-in sheets)

To be completed upon receipt of 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?

Rev2.0.ADS

Approved by: Signature: Company:

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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: GeoSTRATEGIES INC.	Project Name: 4536.701
Address: 6747 SIERRA CT. #G	UNOCAL Project Manager: ~~STEVE PEVIT~~/DAVE DeWITT
City: DUBLIN State: CA. Zip Code: 94568	Release #:
Telephone: (510) 551 8777 FAX #: (510) 551 7888	Site #: 5043
Report To: ROBERT MALLORY Sampler: ROBERT MALLORY	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

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #,	TPH-HYDRAULIC OIL	Comments
1. UH-1A	9/21/94	SOIL	1	4" TUBE	4091415 AD	X	~~Hold~~ COMPOSITE AND ANALYZE AS ONE SAMPLE
2. UH-1B	↓	↓	1	↓		X	
3. UH-1C			1			X	
4. UH-1D	↓	↓	1	↓		X	
5.							
6.							
7.							
8.							
9.							
10.							

Relinquished By: Robert Mallory	Date: 9/22/94	Time: 12:31	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Melissa Cousere	Date: 9/22/94	Time: 12:31 pm

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

To be completed upon receipt of report:

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

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

Approved by: Signature: Company: Date:

Pink - Client
Yellow - Laboratory
White - Laboratory

Sequoia Analytical

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

GeoStrategies, Inc.	Client Project ID:	Unocal #5043 / 4536.702	Sampled: Sep 29, 1994
6747 Sierra Court	Sample Matrix:	Soil	Received: Oct 3, 1994
Dublin, CA 94568	Analysis Method:	EPA 5030/8015	Reported: Oct 17, 1994
Attention: Robert Mallory	First Sample #:	410-0384	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS AS HYDRAULIC OIL

Analyte	Reporting Limit mg/kg	Sample I.D. 410-0384 H5 - 4 - E	Sample I.D. 410-0385 H5 - 4 - W	Sample I.D. 410-0386 H5 - 4 - N	Sample I.D. 410-0387 H5 - 4 - S
Purgeable Hydrocarbons	1.0	14	N.D.	N.D.	650
Chromatogram Pattern:		Hydraulic Oil	--	--	Hydraulic Oil

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	50
Date Extracted:	10/12/94	10/12/94	10/12/94	10/12/94
Date Analyzed:	10/14/94	10/13/94	10/13/94	10/14/94
Instrument Identification:	HP-3B	HP-3B	HP-3B	HP-3B

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

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Sequoia Analytical

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

GeoStrategies, Inc.
6747 Sierra Court
Dublin, CA 94568
Attention: Robert Mallory

Client Project ID: Unocal #5043 / 4536.702
Matrix: Solid
QC Sample Group: 410384-87
Reported: Oct 17, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel
Method:	EPA 8015 Mod.
Analyst:	K.V.S.
MS/MSD Batch#:	4100230
Date Prepared:	10/13/94
Date Analyzed:	10/13/94
Instrument I.D.#:	HP-3A
Conc. Spiked:	10 mg/kg
Matrix Spike % Recovery:	85
Matrix Spike Duplicate % Recovery:	71
Relative % Difference:	18
LCS Batch#:	BLK101394
Date Prepared:	10/13/94
Date Analyzed:	10/13/94
Instrument I.D.#:	HP-3A
LCS % Recovery:	89
% Recovery Control Limits:	38-122

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
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.

UNOCAL 76

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600
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☐ 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: GeoSTRATEGIES INC.	Project Name: 4536.702
Address: 6747 SIERRA CT. # G	UNOCAL Project Manager: DAVE DeWITT
City: DUBLIN State: CA. Zip Code: 94568	Release #:
Telephone: 510 551 8777 FAX #: (510) 551-7888	Site #: 5043
Report To: ROBERT MALLORY Sampler: ROBERT MALLORY	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

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH - HYDRAULIC OIL	Comments
1. HS-4-E	9/21/94	SOIL	1	4" TUBE	4100384	X	
2. HS-4-N	9/21/94	"	1	"	4100385	X	
3. HS-4-N	9/21/94	"	1	"	4100386	X	
4. HS-4-S	9/21/94	"	1	"	4100387	X	
5.							
6.							
7.							
8.							
9.							
10.							

Relinquished By: Robert F. Mallory	Date: 10/3/94	Time: 13:02	Received By: [signature]	Date: 10/3/94 Time: 1302
Relinquished By:	Date:	Time:	Received By:	Date: Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date: Time:

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

To be completed upon receipt of report:

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

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

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

Pink - Client
Yellow - Laboratory
White - Laboratory