RO 466

GeoStrategies

LETTER REPORT
OIL/WATER SEPARATOR ABANDONMENT

at

Unocal Service Station No. 3292

15008 ~~15005~~ East 14th Street

San Leandro, California

4531.701-1

Prepared for

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

Prepared by

GeoStrategies
6747 Sierra Court, Suite G
Dublin, California 94568

Barbara Sieminski
Project Geologist

Stephen J. Carter
Project Geologist
RG #5577

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

July 31, 1995

July 31, 1995

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

Subject: Oil/Water Separator Abandonment at Unocal Service Station No. 3292, 15005 East 14th Street, San Rafael, California

Mr. Rizvi:

This report was prepared by GeoStrategies (GSI) and summarizes field activities and chemical analytical data associated with the abandonment of an oil/water separator performed in May and June 1995 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 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 1.6 by 3 by 2.8-foot deep oil/water separator is located in the middle repair bay as shown on Figure 1.

On May 30, 1995, G-R bailed the contents of the separator 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 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.

Soil Sampling

Soil sample OWS-S-4.5 was collected from beneath the oil/water separator by a GSI geologist on May 31, 1995. A hand auger was used to remove soil from beneath the concrete bottom of the inflow box. The soil beneath the separator consisted of brown silty clay. A hand-driven soil sampler, fitted with a stainless steel sample tube, was used to collect the soil sample. Soil sample OWS-S-4.5 was collected at a depth of approximately 4.5 feet below ground surface (bgs). The sample location is shown on Figure 1. After removing the sample from the sampling device, both ends were covered with aluminum foil and sealed with plastic end caps. The sample was then placed in a cooler with blue ice, entered on a chain-of-custody form, and transported to American Environmental Network (AEN), a State-certified environmental laboratory located in Pleasant Hill, California (ELAP # 1172).

Backfilling

After receiving laboratory analytical results for the soil sample, G-R backfilled the former oil/water separator with clean base rock to approximately four inches below ground surface. Concrete was then placed on top of the base rock in the separator and in the drain pipes, and finished even with the lube bay floor.

Waste Disposal

Liquid and solid wastes generated during the oil/water separator cleaning and abandonment were disposed by H & H Environmental Services of San Francisco, California. Waste manifest is presented in Attachment A.

ANALYSIS AND RESULTS

Soil sample OWS-S-4.5 was analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 5030/GC-FID; gasoline constituents benzene, toluene, ethylbenzene and xylenes (BTEX) using modified Environmental Protection Agency (EPA) Method 8020; total petroleum hydrocarbons as diesel (TPHd) using EPA Method 3550/GC-FID; oil and grease (O&G) using Standard Method (SM) 5520 E&F; volatile organic

compounds (VOCs) using EPA Method 8010; and the metals cadmium, chromium, lead, nickel, and zinc using EPA Method 6010.
Laboratory analytical results for soil sample OWS-S-4.5 indicated 10 parts per million (ppm) TPHd, 50 ppm total O&G (SM5520E) and 40 ppm petroleum origin O&G (SM5520EF). TPHg, BTEX, VOCs and cadmium were not detected in this sample. Chromium, lead, nickel and zinc were detected at concentrations of 41 ppm, 8 ppm, 46 ppm and 45 ppm, respectively. These metal concentrations are below their respective current Total Threshold Limit Concentrations (TTLCs) as presented in Title 22 of the California Code of Regulations. The AEN chemical analytical report and completed chain-of-custody form are presented in Attachment B.

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

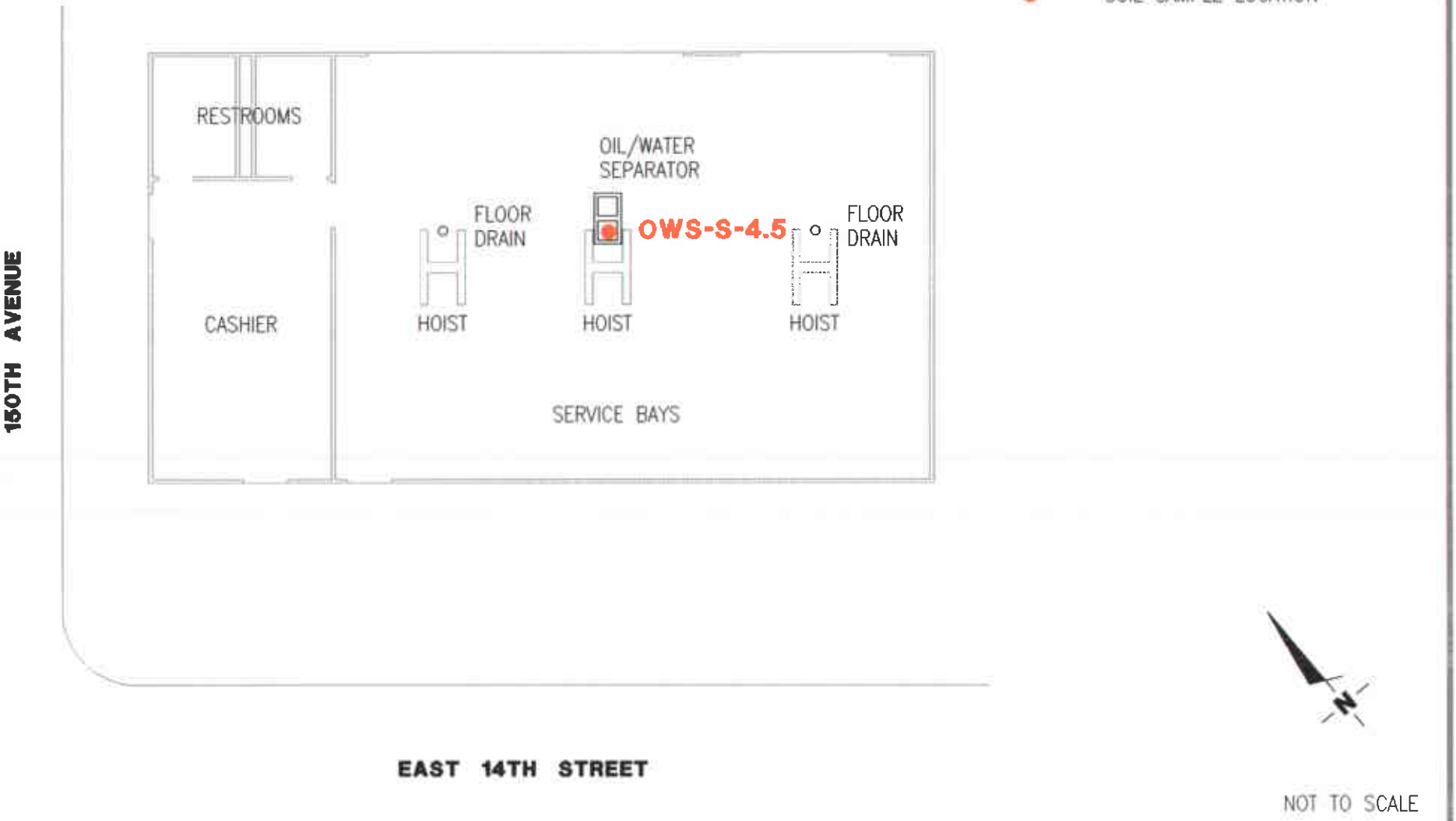
Figure 1. Oil/Water Separator Sampling Plan

Attachment A: Waste Manifest
Attachment B: AEN Chemical Analytical Report and Chain-of-Custody Form

FIGURES

LEGEND

● SOIL SAMPLE LOCATION



GeoStrategies

OIL/WATER SEPARATOR SAMPLING PLAN
UNOCAL Service Station #3292
15005 East 14th Street
San Leandro, California

FIGURE 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
4531.701		7/95	

ATTACHMENT A

WASTE MANIFEST

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-96)
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.
CAD982055022	08570		

GENERATOR

3. Generator's Name and Mailing Address
UNOCAL CORPORATION
2929 E. Imperial Highway, Brea, CA. 92621

4. Generator's Phone (714) 572-7655 Attn: SYED RIZVI

A. State Manifest Document Number: 95208570

B. State Generator's ID: HYH036-00801

5. Transporter 1 Company Name: H & H SHIP SERVICE COMPANY
6. US EPA ID Number: CAD004711168

C. State Transporter's ID: 600948

D. Transporter's Phone: (415) 543-4835

7. Transporter 2 Company Name:
8. US EPA ID Number:

E. State Transporter's ID:

F. Transporter's Phone:

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 Number
a. OIL AND WATER NON-RCRA HAZARDOUS WASTE LIQUID	001	DM	00055	G	State 223 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
FUEL, OIL AND WATER

PQS #94-2173

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

15. Special Handling Instructions and Additional Information
JOB #16032
24 Hr. Emergency Contact: H & H #(415) 543-4835
APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR.

JOB SITE: UNOCAL STATION #3292
15005 East 14th Street
San Leandro, 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
DAVID CHAU		08	01	95

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
ROBERT V. PETRUCCI		08	01	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

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

DO NOT WRITE BELOW THIS LINE.

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

95208570

DTSC 8022A (9/94)
EPA 8700—22

Yellow: GENERATOR RETAINS

ATTACHMENT B

AEN CHEMICAL ANALYTICAL REPORT AND CHAIN-OF-CUSTODY FORM

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

GEOSTRATEGIES, INC.
6747 SIERRA COURT, #G
DUBLIN, CA 94568

ATTN: BARBARA SIEMINSKI
CLIENT PROJ. ID: 4531.701

REPORT DATE: 06/13/95

DATE(S) SAMPLED: 05/31/95

DATE RECEIVED: 06/01/95

AEN WORK ORDER: 9506003

PROJECT SUMMARY:

On June 1, 1995, this laboratory received 1 soil 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.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

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

Larry Klein
Laboratory Director

GEOSTRATEGIES, INC.

SAMPLE ID: OWS-S-4.5
AEN LAB NO: 9506003-01
AEN WORK ORDER: 9506003
CLIENT PROJ. ID: 4531.701

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	06/01/95
Toluene	108-88-3	ND	5	ug/kg	06/01/95
Ethylbenzene	100-41-4	ND	5	ug/kg	06/01/95
Xylenes, Total	1330-20-7	ND	5	ug/kg	06/01/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.2	mg/kg	06/01/95
#Extraction for TPH	EPA 3550	-		Extrn Date	06/03/95
TPH as Diesel	GC-FID	10 *	1	mg/kg	06/05/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	06/01/95
Cadmium	EPA 6010	ND	0.2	mg/kg	06/02/95
Chromium	EPA 6010	41 *	0.5	mg/kg	06/02/95
Lead	EPA 6010	8 *	1	mg/kg	06/02/95
Nickel	EPA 6010	46 *	1	mg/kg	06/02/95
Zinc	EPA 6010	45 *	1	mg/kg	06/02/95
#Soil Extrn for HCs (IR)	SM 5520EF	-		Extrn Date	06/01/95
#Soil Extrn for O&G (IR)	SM 5520E	-		Extrn Date	06/01/95
Hydrocarbons (IR)	SM 5520EF	40 *	10	mg/kg	06/02/95
Oil & Grease (IR)	SM 5520E	50 *	10	mg/kg	06/02/95
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	5	ug/kg	06/01/95
Bromoform	75-25-2	ND	5	ug/kg	06/01/95
Bromomethane	74-83-9	ND	20	ug/kg	06/01/95
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	06/01/95
Chlorobenzene	108-90-7	ND	5	ug/kg	06/01/95
Chloroethane	75-00-3	ND	20	ug/kg	06/01/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	5	ug/kg	06/01/95
Chloroform	67-66-3	ND	5	ug/kg	06/01/95
Chloromethane	74-87-3	ND	20	ug/kg	06/01/95
Dibromochloromethane	124-48-1	ND	5	ug/kg	06/01/95

GEOSTRATEGIES, INC.

SAMPLE ID: OWS-S-4.5
AEN LAB NO: 9506003-01
AEN WORK ORDER: 9506003
CLIENT PROJ. ID: 4531.701

DATE SAMPLED: 05/31/95
DATE RECEIVED: 06/01/95
REPORT DATE: 06/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	06/01/95
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	06/01/95
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	06/01/95
Dichlorodifluoromethane	75-71-8	ND	20	ug/kg	06/01/95
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	06/01/95
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	06/01/95
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	06/01/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/kg	06/01/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/kg	06/01/95
1,2-Dichloropropane	78-87-5	ND	5	ug/kg	06/01/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/kg	06/01/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/kg	06/01/95
Methylene Chloride	75-09-2	ND	20	ug/kg	06/01/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/kg	06/01/95
Tetrachloroethene	127-18-4	ND	5	ug/kg	06/01/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/kg	06/01/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/kg	06/01/95
Trichloroethene	79-01-6	ND	5	ug/kg	06/01/95
Trichlorofluoromethane	75-69-4	ND	20	ug/kg	06/01/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	5	ug/kg	06/01/95
Vinyl Chloride	75-01-4	ND	20	ug/kg	06/01/95

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

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9506003

CLIENT PROJECT ID: 4531.701

Quality Control and Project Summary

All 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

METHOD: EPA 3550 GCFID

AEN JOB NO: 9506003
DATE EXTRACTED: 06/03/95
INSTRUMENT: C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
06/05/95	OWS-S-4.5	01	94
QC Limits:			45-110

DATE EXTRACTED: 06/01/95
DATE ANALYZED: 06/05/95
SAMPLE SPIKED: 9505348-01
INSTRUMENT: C

Matrix Spike Recovery Summary

Analyte	Spike Added (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	36.3	78	7	44-108	13

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

QUALITY CONTROL DATA

METHOD: SM 5520

AEN JOB NO: 9506003
DATE EXTRACTED: 06/01/95
DATE ANALYZED: 06/02/95
SAMPLE SPIKED: 9505432-03
INSTRUMENT: IR
MATRIX: SOIL

Matrix Spike Recovery Summary

Analyte	Spike Added (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Oil	261	85	<1	61-127	14

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

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9506003
INSTRUMENT: G
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery: Bromochloro-methane	Percent Recovery: 1-Bromo-3-chloro-propane
06/01/95	OWS-S-4.5	01	85	92
QC Limits:			70-130	70-130

DATE ANALYZED: 05/15/95
SAMPLE SPIKED: 9505181-01
INSTRUMENT: G

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits: Percent Recovery	QC Limits: RPD
1,1-Dichloroethene	50	81	2	37-156	20
Trichloroethene	50	108	3	54-122	20
Chlorobenzene	50	92	5	54-141	20

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9506003
INSTRUMENT: H
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
06/01/95	OWS-S-4.5	01	99
QC Limits:			92-110

DATE ANALYZED: 05/30/95
SAMPLE SPIKED: 9505389-04
INSTRUMENT: H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	36.3	108	5	79-113	26
Toluene	103.0	104	5	84-110	20
Hydrocarbons as Gasoline	1000	86	12	60-126	20

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

QUALITY CONTROL DATA

AEN JOB NO: 9506003
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 06/02/95
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	3	87-108	5
Cr, Chromium	ICP/6010	50	98	2	88-110	5
Ni, Nickel	ICP/6010	50	101	2	88-109	5
Pb, Lead	ICP/6010	50	102	2	88-110	5
Zn, Zinc	ICP/6010	50	96	2	85-105	5

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

*** END OF REPORT ***

UNOCAL 76

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

Company Name: GeoStrategies	Project Name: 4531.701
Address: 6747 Sierra Ct, Suite G	UNOCAL Project Manager: Syed Rizvi
City: Dublin State: CA Zip Code: 94568	Release #:
Telephone: (510) 551-8777 FAX #: (510) 551-7888	Site #: 3292
Report To: Barbara Sieminski Sampler: B. Sieminski	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	TPH diesel	O&G (IR) SM5520EF	EPA 8010	Metals Cd Cr Ni Zn Pb					Comments
1. DWS-5-4.5	05/31/95	Soil	1	2" tube	01A	X	X	X	X	X					
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															

Relinquished By: Barbara Sieminski	Date: 06/01/95	Time: 10:05	Received By:	Date: 6-1-95	Time: 10:05
Relinquished By:	Date: 6-1-95	Time: 10:30	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Lisa L. Pruitt	Date: 6-1-95	Time: 10:30

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