M P D S

SERVICES, INCORPORATED

ALCO
HAZMAT
94 FEB 14 PM 3:32

February 10, 1994

Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

RE: Unocal Service Station #5484
18950 Lake Chabot Road
Castro Valley, California

Per the request of the Project Manager, Ms. Tina R. Berry of Unocal Corporation, enclosed please find our report (MPDS-UN5484-01) dated January 10, 1994, for the above referenced site.

Should you have any questions regarding the reporting of data, please feel free to call our office at (510) 602-5120. Any other questions may be directed to the Project Manager at (510) 277-2321.

Sincerely,

MPDS Services, Inc.

Deanna L. Harding
Technical Assistant

/dlh

Enclosure

cc: Ms. Tina R. Berry

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: (510) 602-5120 Fax: (510) 689-1918

MPDS
SERVICES, INCORPORATED

Reviewed 6/20/94

MPDS-UN5484-01
January 20, 1994

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

Attention: Ms. Tina R. Berry

RE: Quarterly Data Report
Unocal Service Station #5484
18950 Lake Chabot Road
Castro Valley, California

Dear Ms. Berry:

This data report presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced site by MPDS Services, Inc.

RECENT FIELD ACTIVITIES

The monitoring wells that were monitored and sampled during this quarter are indicated on Table 1. Prior to sampling, the wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations are summarized in Table 1. The ground water flow direction during the most recent quarter is shown on the attached Figure 1.

Ground water samples were collected on December 9, 1993. Prior to sampling, the wells were each purged of between 6.5 and 51 gallons of water. Samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory.

ANALYTICAL RESULTS

The ground water samples were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The analytical results of the ground water samples collected to date are summarized in Tables 2 and 3. The concentrations of TPH as gasoline and benzene detected in the ground water samples collected this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

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Tel: (510) 602-5120 Fax: (510) 689-1918

DISTRIBUTION

A copy of this report should be sent to the Alameda County Health Care Services, and to Mr. Lester Feldman of the Regional Water Quality Control Board, San Francisco Bay Region.

If you have any questions regarding this report, please do not hesitate to call at (510) 602-5120.

Sincerely,

MPDS Services, Inc.

Joel G. Greger, C.E.G.
Senior Engineering Geologist

License No. EG 1633
Exp. Date 6/30/94

/dlh

Attachments: Tables 1, 2 & 3
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Thomas Berkins, Kaprealian Engineering, Inc.

TABLE 1

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)◆
(Monitored and Sampled on December 9, 1993)						
MW-2	221.94	6.94	0	No	8.5	19.20
MW-4	WELL WAS INACCESSIBLE					
MW-5	215.14	9.97	0	No	36	23.85
MW-6	231.61	7.43	0	No	51	27.00
MW-7	220.74	10.65	0	No	6.5	19.56
(Monitored and Sampled on September 9, 1993)						
MW2	222.29	6.59	0	No	9	
MW4	217.86	9.91	0	No	29	
MW5	215.99	9.12	0	No	26	
MW6*	232.22	6.82	0	--	0	
MW7	221.29	10.11	0	No	7	
(Monitored and Sampled on June 9, 1993)						
MW2	223.62	5.85	0	No	10	
MW4	219.29	8.79	0	No	32	
MW5	216.85	8.57	0	No	29	
MW6	233.44	5.94	0	No	41	
MW7	223.07	8.59	0	No	8	
(Monitored and Sampled on March 10, 1993)						
MW2	224.78	4.69	0	No	11	
MW4	220.84	7.24	0	No	31	
MW5	217.75	7.67	0	No	26	
MW6*	234.06	5.32	0	--	0	
MW7	223.97	7.69	0	No	9	

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Well Cover Elevation (feet)**	Well Casing Elevation (feet)***
MW2	229.47	228.88
MW4	228.08	227.77
MW5	225.42	225.11
MW6	239.38	239.04
MW7	231.66	231.39

◆ The depth to water level and total well depth measurements were taken from the top of the well casing. Prior to September 9, 1993, the water level and total well depth measurements were taken from the top of the well covers.

* Monitored only.

** The elevations of the top of the well covers have surveyed relative to Mean Sea Level (MSL), per the Alameda County Benchmark (elevation = 219.68 MSL).

*** Relative to MSL.

-- Sheen determination was not performed.

Note: Monitoring data prior to December 9, 1993, were provided by Kaprealian Engineering, Inc.

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
12/09/93	MW2	--	96*	ND	ND	ND	ND	--
	MW4	WELL WAS INACCESSIBLE						
	MW5	87**	ND	ND	ND	ND	ND	--
	MW6	--	150	ND	ND	ND	1.7	--
	MW7	250♦	980	54	4.6	71	5.6	--
9/09/93	MW2	--	210*	ND	ND	ND	ND	--
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	58**	ND	ND	ND	ND	ND	--
	MW6	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW7	550**	2,600♦♦	160	19	250	120	--
6/09/93	MW2	--	120*	ND	ND	ND	ND	300
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	64	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	830**	4,600	430	ND	510	430	--
3/10/93	MW2	--	110*	ND	ND	ND	ND	350
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	69♦	ND	ND	ND	ND	ND	--
	MW6	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW7	1,100♦	4,400	310	ND	300	330	--
12/10/92	MW2	--	100*	ND	ND	ND	ND	170
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	83**	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	200**	1,200	28	ND	37	13	--
9/10/92	MW2	--	61*	ND	ND	ND	ND	110
	MW4	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW5	110♦	ND	ND	ND	ND	ND	--
	MW6	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW7	290♦	2,100	160	1.9	140	150	--

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
6/18/92	MW2	--	140*	ND	ND	ND	ND	--
	MW4	--	ND	0.41	0.84	ND	0.55	--
	MW5	ND	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	990♦	5,500	340	4.2	380	410	--
3/20/92	MW2	--	120	ND	ND	ND	ND	--
	MW4	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW5	170	ND	ND	ND	ND	ND	--
	MW6	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW7	3,200	11,000	980	ND	990	1,600	--
12/19/91	MW2	--	140	0.66	ND	0.64	1.2	--
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	--	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	770	3,900	240	2.4	280	270	--
10/10/91	MW5	ND	--	--	--	--	--	--
9/20/91	MW2	--	ND	ND	ND	ND	ND	--
	MW4	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW5	450	ND	ND	ND	ND	ND	--
	MW6	SAMPLED ON A SEMI-ANNUAL BASIS						
	MW7	580	1,400	160	0.75	89	130	--
5/23/91	MW2	--	ND	ND	ND	ND	ND	--
	MW4	--	ND	ND	ND	ND	ND	--
	MW5	--	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	540	3,000	160	1.2	25	120	--

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

* Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

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

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.

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

ND = Non-detectable.

-- Indicates analysis was not performed.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: Laboratory analyses data prior to December 9, 1993, were provided by Kaprealian Engineering, Inc.

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TOG (mg/L)	bis(2-ethylhexyl) phthalate	2-methyl-napthalene	naphthalene	1,2-Dichloroethane
12/09/93	MW5	--	--	--	--	ND
	MW7	--	ND	ND	15	1.5
9/09/93	MW5	--	--	--	--	ND
	MW7♦	--	ND	11	48	1.5
6/09/93	MW5	--	--	--	--	ND
	MW7♦♦	--	13	19	83	1.3
3/10/93	MW5	--	ND	ND	ND	ND
	MW7♦♦♦	--	16	11	54	1.7
12/10/92	MW7	--	--	--	--	2.0
9/10/92	MW7	--	--	--	--	2.3
6/18/92	MW7	ND	--	--	--	ND
3/20/92	MW7	ND	--	--	--	ND
12/19/91	MW7	ND	--	--	--	3.1
9/20/91	MW7	ND	--	--	--	ND
5/23/91	MW7	ND	--	--	--	3.4

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

♦ Seven "tentatively identified compounds" were detected by the EPA method 8270 open scan at concentrations ranging 11 µg/L to 88 µg/L. Refer to laboratory analysis sheets for the specific compounds and concentrations.

♦♦ Ten "tentatively identified compounds" were detected by the EPA method 8270 open scan at concentrations ranging from 14 µg/L to 150 µg/L. Refer to laboratory analysis sheets for the specified compounds and concentrations.

♦♦♦ Nine "tentatively identified compounds" were detected by the EPA method 8270 open scan at concentrations ranging from 10 µg/L to 59 µg/L. Refer to laboratory analysis sheets for the specific compounds and concentrations.

ND = Non-detectable.

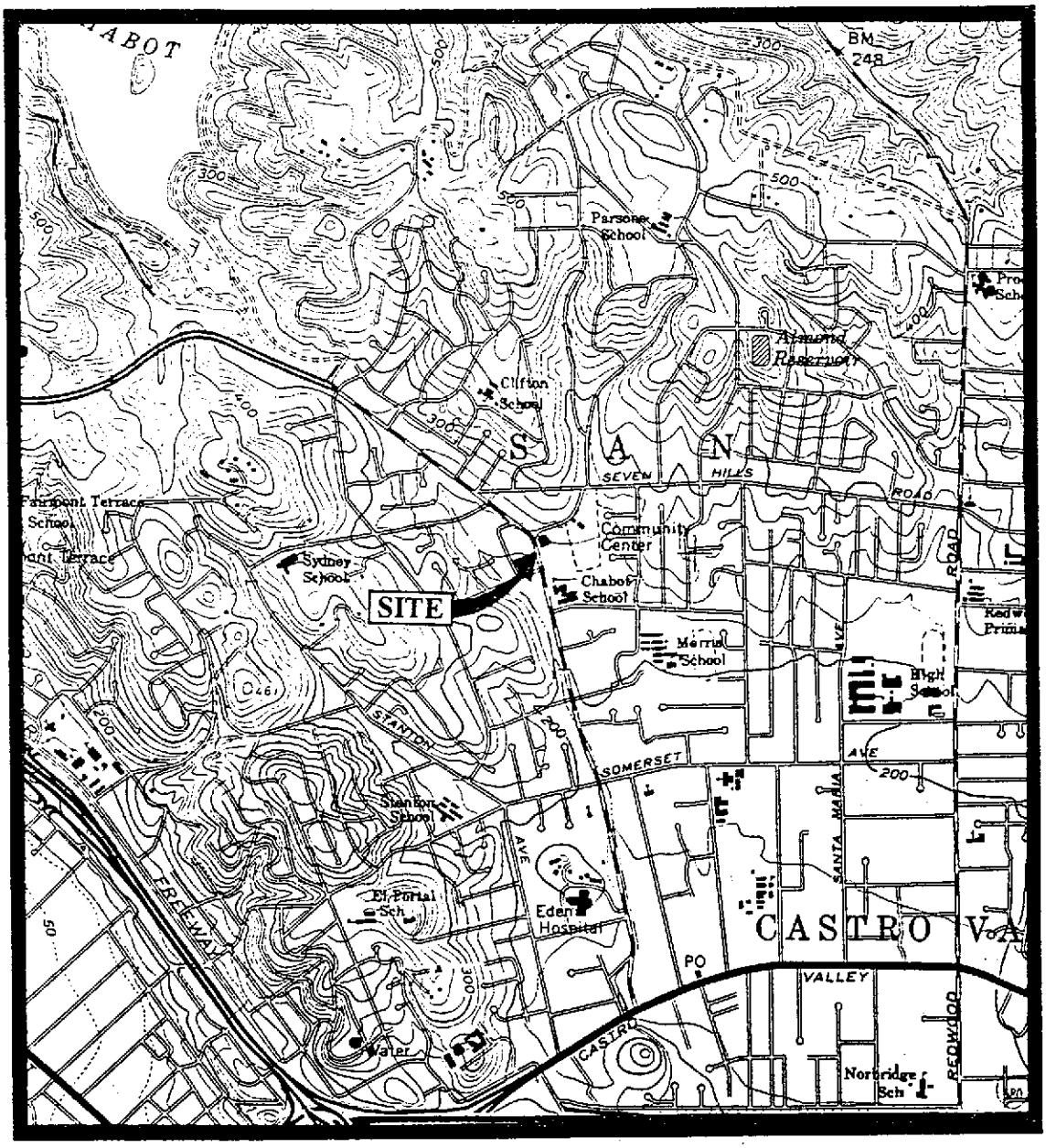
-- Indicates analysis was not performed.

mg/l = Milligrams per liter.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

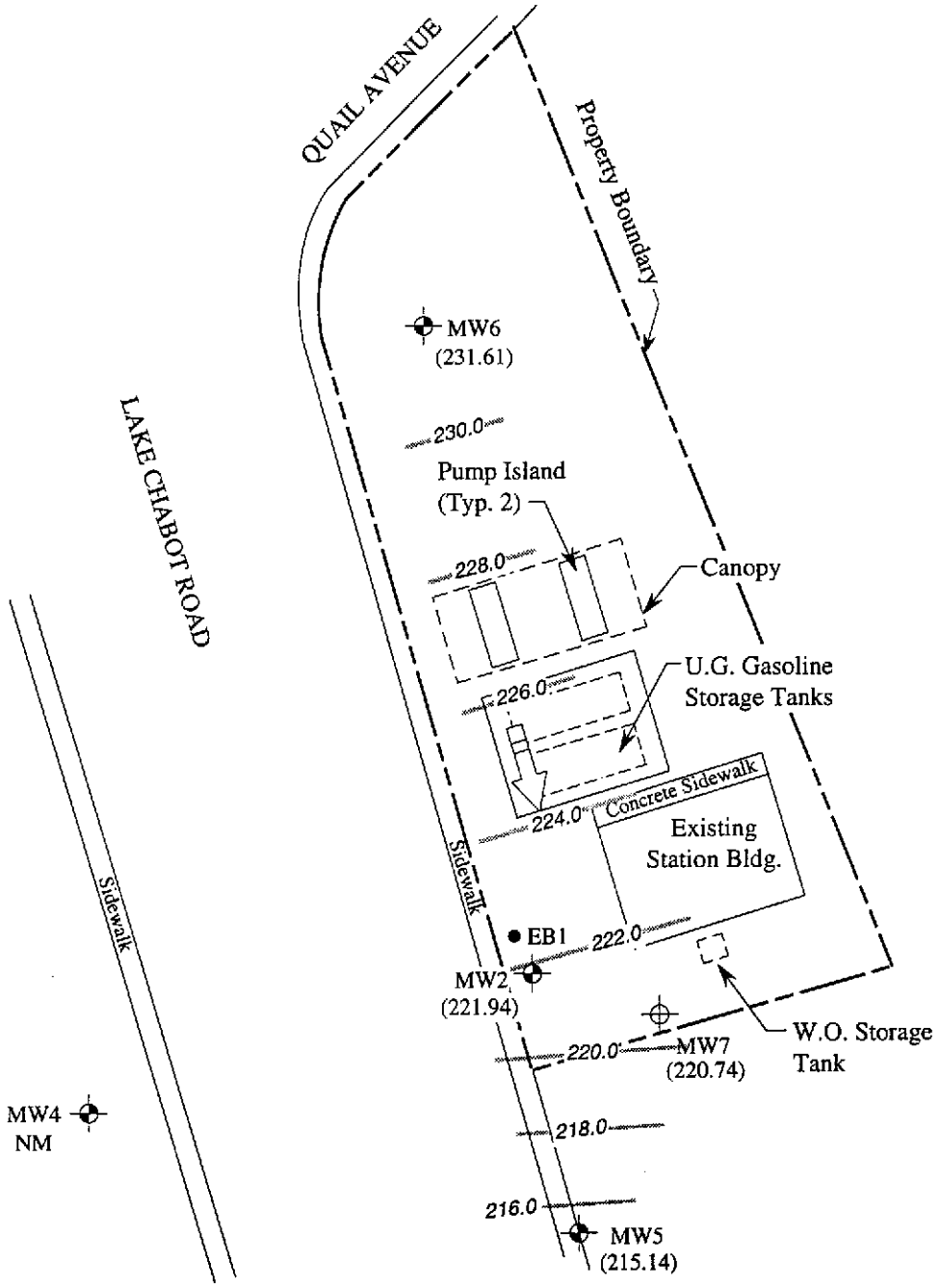
Note: - All EPA methods 8010 and 8270 compounds were non-detectable, except for the compounds listed.

- Laboratory analyses data prior to December 9, 1993, were provided by Kaprealian Engineering, Inc.



Base modified from 7.5 minute U.S.G.S. Hayward Quadrangle
(photorevised 1980)

MPDS SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #5484** **18950 LAKE CHABOT ROAD** **CASTRO VALLEY, CALIFORNIA**	**LOCATION MAP**



LEGEND

- Monitoring well (by KEI)
- Monitoring well (by AGS)
- Exploratory boring (by KEI)

NM = Not monitored

( ) Elevation of ground water in feet above Mean Sea Level

Contours of ground water elevation

Direction of ground water flow

0 40 80

Approx. scale feet

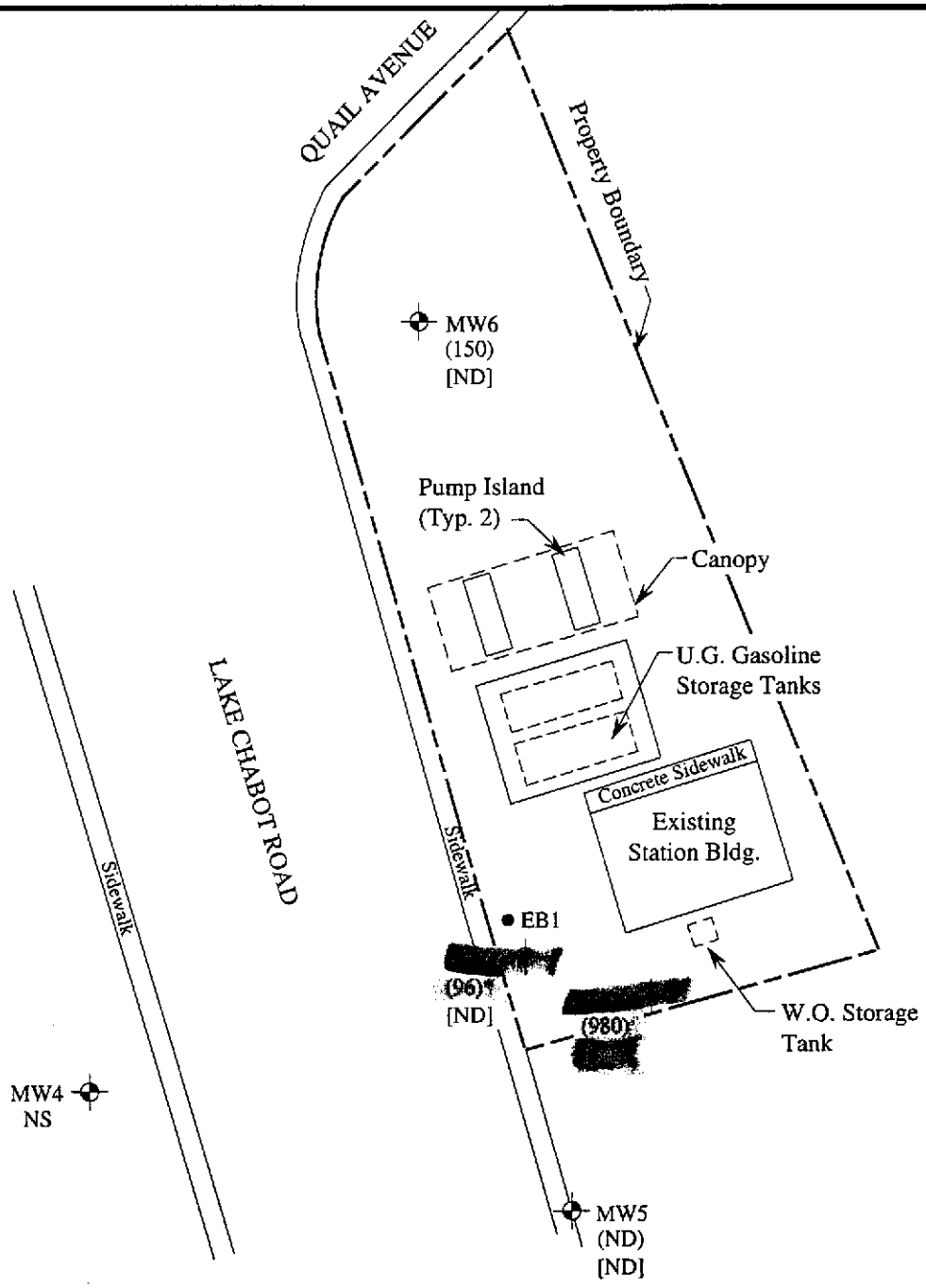
(Base modified from AGS report 18061-4 Plate P-2)

POTENTIOMETRIC SURFACE MAP FOR THE DECEMBER 9, 1993 MONITORING EVENT

MPDS
SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5484
18950 LAKE CHABOT ROAD
CASTRO VALLEY, CALIFORNIA

FIGURE
1



LEGEND

- Monitoring well (by KEI)
- Monitoring well (by AGS)
- Exploratory boring (by KEI)
- ( ) Concentration of TPH as gasoline in µg/L
- [ ] [redacted]

ND = Non-detectable, NS = Not sampled

* The lab reported that the hydrocarbons detected do not appear to be gasoline.

0 40 80

Approx. scale feet

(Base modified from AGS report 18061-4 Plate P-2)

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON DECEMBER 9, 1993

MPDS
SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5484
18950 LAKE CHABOT ROAD
CASTRO VALLEY, CA

FIGURE
2

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

MPDS Services	Client Project ID:	Unocal #5484, 18950 Lake Chabot Rd., Castro Valley	Sampled:	Dec 9, 1993
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received:	Dec 10, 1993
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Dec 28, 1993
Attention: Avo Avedissian	First Sample #:	312-0871		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 312-0871 MW-2	Sample I.D. 312-0872 MW-5	Sample I.D. 312-0873 MW-6	Sample I.D. 312-0874 MW-7	Sample I.D. Method Blank
Purgeable Hydrocarbons	50	96	N.D.	150	980	
Benzene	0.5	N.D.	N.D.	N.D.	54	
Toluene	0.5	N.D.	N.D.	N.D.	4.6	
Ethyl Benzene	0.5	N.D.	N.D.	N.D.	71	
Total Xylenes	0.5	N.D.	N.D.	1.7	5.6	
Chromatogram Pattern:		Discrete Peak	--	Gasoline	Gasoline	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	12/21/93	12/21/93	12/21/93	12/21/93	12/21/93
Instrument Identification:	ML #2	ML #2	ML #2	ML #2	ML #2
Surrogate Recovery, %: (QC Limits = 70-130%)	100	95	100	90	96

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

Please Note:

* Discrete Peak refers to an unidentified peak in the MTBE range.

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
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MPDS Services	Client Project ID:	Unocal #5484, 18950 Lake Chabot Rd., Castro Valley	Sampled:	Dec 9, 1993
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received:	Dec 10, 1993
Concord, CA 94520	Analysis Method:	EPA 3510/3520/8015	Reported:	Dec 28, 1993
Attention: Avo Avedissian	First Sample #:	312-0872		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 312-0872 MW-5*	Sample I.D. 312-0874 MW-7**	Sample I.D. Method Blank
Extractable Hydrocarbons	50	87	250	
Chromatogram Pattern:		Diesel and Discrete Peaks	Non-Diesel Mixture (<C14)	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Extracted:	12/15/93	12/15/93	12/15/93
Date Analyzed:	12/17/93	12/17/93	12/16/93
Instrument Identification:	HP-3B	HP-3A	HP-3B

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

Please Note:

* Discrete Peaks refers to unidentified peaks in the EPA 8270 range.
** Non-Diesel Mixture <C14 is probably Gasoline.

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
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MPDS Services	Client Project ID:	Unocal #5484, 18950 Lake Chabot Rd., Castro Valley	Sampled:	Dec 9, 1993
2401 Stanwell Dr., Ste. 400	Sample Descript:	Water, MW-5	Received:	Dec 10, 1993
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed:	Dec 22, 1993
Attention: Avo Avedissian	Lab Number:	312-0872	Reported:	Dec 28, 1993

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

MPDS Services	Client Project ID:	Unocal #5484, 18950 Lake Chabot Rd., Castro Valley	Sampled:	Dec 9, 1993
2401 Stanwell Dr., Ste. 400	Sample Descript:	Water, MW-7	Received:	Dec 10, 1993
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed:	Dec 22, 1993
Attention: Avo Avedissian	Lab Number:	312-0874	Reported:	Dec 28, 1993

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	1.5
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

MPDS Services	Client Project ID:	Unocal #5484, 18950 Lake Chabot Rd., Castro Valley	Sampled:	Dec 9, 1993
2401 Stanwell Dr., Ste. 400	Sample Descript:	Water, MW-7	Received:	Dec 10, 1993
Concord, CA 94520	Analysis Method:	EPA 8270	Extracted:	Dec 15, 1993
Attention: Avo Avedissian	Lab Number:	312-0874	Analyzed:	Dec 23, 1993
			Reported:	Dec 28, 1993

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

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	2.0	N.D.
Acenaphthylene	2.0	N.D.
Aniline	2.0	N.D.
Anthracene	2.0	N.D.
Benzidine	50	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	2.0	N.D.
Benzo(b)fluoranthene	2.0	N.D.
Benzo(k)fluoranthene	2.0	N.D.
Benzo(g,h,i)perylene	2.0	N.D.
Benzo(a)pyrene	2.0	N.D.
Benzyl alcohol	2.0	N.D.
Bis(2-chloroethoxy)methane	2.0	N.D.
Bis(2-chloroethyl)ether	2.0	N.D.
Bis(2-chloroisopropyl)ether	2.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	2.0	N.D.
Butyl benzyl phthalate	2.0	N.D.
4-Chloroaniline	2.0	N.D.
2-Chloronaphthalene	2.0	N.D.
4-Chloro-3-methylphenol	2.0	N.D.
2-Chlorophenol	2.0	N.D.
4-Chlorophenyl phenyl ether	2.0	N.D.
Chrysene	2.0	N.D.
Dibenz(a,h)anthracene	2.0	N.D.
Dibenzofuran	2.0	N.D.
Di-N-butyl phthalate	10	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	2.0	N.D.
Diethyl phthalate	2.0	N.D.
2,4-Dimethylphenol	2.0	N.D.
Dimethyl phthalate	2.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.

SEQUOIA ANALYTICAL

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MPDS Services	Client Project ID:	Unocal #5484, 18950 Lake Chabot Rd., Castro Valley	Sampled:	Dec 9, 1993
2401 Stanwell Dr., Ste. 400	Sample Descript:	Water, MW-7	Received:	Dec 10, 1993
Concord, CA 94520	Analysis Method:	EPA 8270	Extracted:	Dec 15, 1993
Attention: Avo Avedissian	Lab Number:	312-0874	Analyzed:	Dec 23, 1993
			Reported:	Dec 28, 1993

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

Analyte	Detection Limit µg/L	Sample Results µg/L
2,4-Dinitrotoluene	2.0	N.D.
2,6-Dinitrotoluene	2.0	N.D.
Di-N-octyl phthalate	2.0	N.D.
Fluoranthene	2.0	N.D.
Fluorene	2.0	N.D.
Hexachlorobenzene	2.0	N.D.
Hexachlorobutadiene	2.0	N.D.
Hexachlorocyclopentadiene	2.0	N.D.
Hexachloroethane	2.0	N.D.
Indeno(1,2,3-cd)pyrene	2.0	N.D.
Isophorone	2.0	N.D.
2-Methylnaphthalene	2.0	N.D.
2-Methylphenol	2.0	N.D.
4-Methylphenol	2.0	N.D.
Naphthalene	**2.0**	**15**
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	2.0	N.D.
2-Nitrophenol	2.0	N.D.
4-Nitrophenol	10	N.D.
N-Nitrosodiphenylamine	2.0	N.D.
N-Nitroso-di-N-propylamine	2.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	2.0	N.D.
Phenol	2.0	N.D.
Pyrene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	2.0	N.D.

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

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Alan B. Kemp
Project Manager

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

Client Project ID: Unocal #5484, 18950 Lake Chabot Rd., Castro Valley
Matrix: Liquid
QC Sample Group: 3120871-74

Reported: Dec 28, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	J. Dinsay	J. Dinsay	J. Dinsay	J. Dinsay	K. Wimer
MS/MSD Batch#:	3120982	3120982	3120982	3120982	BLK121593
Date Prepared:	12/21/93	12/21/93	12/21/93	12/21/93	12/15/93
Date Analyzed:	12/21/93	12/21/93	12/21/93	12/21/93	12/16/93
Instrument I.D.#:	ML #2	ML #2	ML #2	ML #2	HP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	107	114	130	130	95
Matrix Spike Duplicate % Recovery:	116	124	146	140	89
Relative % Difference:	8.1	8.4	12	7.4	6.5
LCS Batch#:	LCS122193	LCS122193	LCS122193	LCS122193	BLK121593
Date Prepared:	12/21/93	12/21/93	12/21/93	12/21/93	12/15/93
Date Analyzed:	12/21/93	12/21/93	12/21/93	12/21/93	12/16/93
Instrument I.D.#:	ML #2	ML #2	ML #2	ML #2	HP-3B
LCS % Recovery:	103	112	130	125	95
% Recovery Control Limits:	71-133	72-128	72-130	71-120	28-122

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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Alan B. Kemp
Project Manager

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MPDS Services	Client Project ID:	Unocal #5484, 18950 Lake Chabot Rd., Castro Valley
2401 Stanwell Dr., Ste. 400	Matrix:	Liquid
Concord, CA 94520		
Attention: Avo Avedissian	QC Sample Group: 3120872 & 74	Reported: Dec 28, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	K. Nill	K. Nill	K. Nill
MS/MSD Batch#:	3120907	3120907	3120907
Date Prepared:	12/22/93	12/22/93	12/22/93
Date Analyzed:	12/22/93	12/22/93	12/22/93
Instrument I.D.#:	HP-7	HP-7	HP-7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L
Matrix Spike % Recovery:	147	100	97
Matrix Spike Duplicate % Recovery:	140	103	93
Relative % Difference:	4.9	3.0	4.2
LCS Batch#:	LCS122293	LCS122293	LCS122293
Date Prepared:	12/22/93	12/22/93	12/22/93
Date Analyzed:	12/22/93	12/22/93	12/22/93
Instrument I.D.#:	HP-7	HP-7	HP-7
LCS % Recovery:	114	86	90
% Recovery Control Limits:	28-167	35-146	38-150

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Project Manager

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

Client Project ID: Unocal #5484, 18950 Lake Chabot Rd., Castro Valley
Matrix: Liquid
QC Sample Group: 312-0874

Reported: Dec 28, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-D-N-propylamine	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	S. Le	S. Le	S. Le	S. Le	S. Le	S. Le
MS/MSD Batch#:	BLK121593	BLK121593	BLK121593	BLK121593	BLK121593	BLK121593
Date Prepared:	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93
Date Analyzed:	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	200 µg/L	200 µg/L	100 µg/L	100 µg/L	100 µg/L	200 µg/L
Matrix Spike % Recovery:	76	82	82	80	78	67
Matrix Spike Duplicate % Recovery:	72	77	76	74	76	63
Relative % Difference:	5.4	6.3	7.6	7.8	2.6	6.2
LCS Batch#:	LCS121593	LCS121593	LCS121593	LCS121593	LCS121593	LCS121593
Date Prepared:	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93
Date Analyzed:	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	76	82	82	80	78	67
% Recovery Control Limits:	12-89	27-123	36-97	41-116	39-98	23-97

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MPDS Services
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Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #5484, 18950 Lake Chabot Rd., Castro Valley
Matrix: Liquid
QC Sample Group: 312-0874

Reported: Dec 28, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Acenaphthene	4-Nitrophenol	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	S. Le	S. Le	S. Le	S. Le	S. Le
MS/MSD Batch#:	BLK121593	BLK121593	BLK121593	BLK121593	BLK121593
Date Prepared:	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93
Date Analyzed:	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	100 µg/L	200 µg/L	100 µg/L	200 µg/L	100 µg/L
Matrix Spike % Recovery:	80	69	62	53	88
Matrix Spike Duplicate % Recovery:	78	64	58	47	78
Relative % Difference:	2.5	7.5	6.7	12	12
LCS Batch#:	LCS121593	LCS121593	LCS121593	LCS121593	LCS121593
Date Prepared:	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93
Date Analyzed:	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	80	69	62	53	88
% Recovery Control Limits:	46-118	10-80	24-96	9-103	26-127

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MPDS Services
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Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #5484, 18950 Lake Chabot Rd., Castro Valley

QC Sample Group: 3120872 & 874

Reported: Dec 28, 1993

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8015	EPA 8015	EPA 8015
Analyst:	K. Wimer	K. Wimer	K. Wimer
Reporting Units:	µg/L	µg/L	µg/L
Date Analyzed:	Dec 17, 1993	Dec 17, 1993	Dec 16, 1993
Sample #:	312-0872	312-0874	Method Blank
Surrogate % Recovery:	104	90	103

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Alan B. Kemp
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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Attention: Avo Avedissian

Client Project ID: Unocal #5484, 18950 Lake Chabot Rd., Castro Valley

QC Sample Group: 3120872 & 874

Reported: Dec 28, 1993

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	K.Nill	K.Nill	K.Nill
Reporting Units:	µg/L	µg/L	µg/L
Date Analyzed:	Dec 22, 1993	Dec 22, 1993	Dec 22, 1993
Sample #:	312-0872	312-0874	Method Blank
Surrogate #1 % Recovery:	64	66	50
Surrogate #2 % Recovery:	99	95	101

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Alan B. Kemp
Project Manager

$$\text{\% Recovery:} = \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference:} = \frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}} \times 100$$

MPDS
Services, Inc.

CHAIN OF CUSTODY

IPLER: Joe

INESSING AGENCY:

SITE NAME & ADDRESS: Unocal/Castro Valley #5484
18950 Lake Chabot Rd.

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG BTEX	TPHD	8270	8010
MW-2	12/9/93			✓	✓		2	M. Wells	✓			
MW-5	"			✓	✓		5	"	✓	✓		✓
MW-6	"			✓	✓		2	"	✓			
MW-7	"			✓	✓		6	"	✓	✓	✓	✓

ANALYSES REQUESTED

TURN AROUND TIME: Regular

REMARKS

3120871 A-B
0872 A-E
0873 A-B
0874 A-F

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Joe Jensen	12-10-93/1300	Hugh
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	12/13 1415	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	12/13 3:30p	Melinda Chilcott
Relinquished by: (Signature)	Date/Time	Received by: (Signature)

The following MUST BE completed by the laboratory accepting samples for analysis:

1. Have all samples received for analysis been stored in ice? YES
2. Will samples remain refrigerated until analyzed? YES
3. Did any samples received for analysis have head space? NO
4. Were samples in appropriate containers and properly packaged? YES

Hugh — Signature | DM — Title | 12-10-93 — Date

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510 602 5100 Fax: 510 602 5102