MPDS
SERVICES, INCORPORATED

ALCO
HAZMAT

94 MAR 10 PM 12:45

March 9, 1994

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

RE: Unocal Service Station #6034
4700 First Street
Livermore, California

Per the request of the Unocal Corporation Project Manager, Ms. Tina R. Berry, enclosed please find our report (MPDS-UN6034-01) dated February 15, 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

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

M P D S
SERVICES, INCORPORATED

MPDS-UN6034-01
February 15, 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 #6034
4700 First Street
Livermore, 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 Unocal monitoring wells that were monitored and sampled during this quarter are indicated in Table 1. Prior to sampling, the Unocal wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations for the Unocal wells are summarized in Table 1. The ground water flow direction at the Unocal site during the most recent quarter is shown on the attached Figure 1.

A joint monitoring and sampling event was conducted with the consultant for the nearby Chevron site on January 20, 1994. The monitoring data collected for the monitoring wells (provided by Groundwater Technology, Inc.) are summarized in Table 2. The ground water flow direction at the Chevron site during the most recent quarter is also shown on the attached Figure 1.

Ground water samples were collected from the Unocal wells on January 20, 1994. Prior to sampling, the wells were each purged of between 6 and 7.5 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.

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

ANALYTICAL RESULTS

The ground water samples collected from the Unocal wells 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 from the Unocal wells to date are summarized in Table 3. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected from the Unocal wells this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation for the Unocal wells are attached to this report.

DISTRIBUTION

A copy of this report should be sent to the Alameda County Health Care Services Agency, and 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 J. Berkins, Kaprealian Engineering, Inc.

TABLE 1

SUMMARY OF MONITORING DATA
UNOCAL MONITORING WELLS

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Product Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)♦
(Monitored and Sampled on January 20, 1994)						
MW1*	504.99	15.65	0	--	0	27.90
MW2	504.80	15.02	0	No	7.5	25.64
MW3*	505.29	14.37	0	--	0	25.40
MW4	505.46	14.15	0	No	7.5	25.45
MW5	504.88	15.39	0	No	6	23.58
MW6	504.61	14.14	0	No	6.5	23.25
MW7	504.61	14.22	0	No	6.5	23.64
(Monitored and Sampled on October 20, 1993)						
MW1*	504.95	15.69	0	--	0	
MW2	504.74	15.08	0	No	8	
MW3	505.24	14.42	0	No	8	
MW4	505.45	14.16	0	No	8	
MW5	504.71	15.56	0	No	8	
MW6	504.55	14.20	0	No	8	
MW7	504.54	14.29	0	No	8	
(Monitored and Sampled on July 20, 1993)						
MW1*	502.84	18.04	0	--	0	
MW2	502.76	17.41	0	No	6	
MW3	503.01	16.90	0	No	6.5	
MW4*	503.77	16.35	0	No	0	
MW5	503.20	17.38	0	No	5	
MW6	WELL WAS OBSTRUCTED					
MW7	502.69	16.68	0	No	5.5	

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA
UNOCAL MONITORING WELLS

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Product Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)♦
(Monitored and Sampled on April 22, 1993)						
MW1*	505.41	15.47	0	--	0	
MW2	505.19	14.98	0	No	10	
MW3	505.58	14.33	0	No	10	
MW4	505.82	14.30	0	No	10	
MW5	505.34	15.24	0	No	10	
MW6	WELL WAS DRY					
MW7	505.12	14.25	0	No	10	

Well #	Well Cover Elevation (feet)**	Well Casing Elevation (feet)***
MW1	520.88	520.64
MW2	520.17	519.82
MW3	519.91	519.66
MW4	520.12	519.61
MW5	520.58	520.27
MW6	519.34	518.75
MW7	519.37	518.83

♦ The depth to water level and total well depth measurements were taken from the top of the well casings. Prior to October 20, 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 been surveyed relative to Mean Sea Level (MSL), per the City of Livermore Benchmark No. C-18-5 (elevation = 551.77 MSL).

*** Relative to MSL.

-- Sheen determination was not performed.

Note: Monitoring data prior to January 20, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 2

SUMMARY OF MONITORING DATA
CHEVRON MONITORING WELLS

Well	Ground Water Elevation (feet)	Depth to Water (feet)	Well Casing Elevation (feet above MSL)
(Monitored on January 20, 1994, by GTI)			
C1	507.13	13.26	520.39
C2	507.16	13.60	520.76
C3	507.30	14.01	521.31
C5	507.22	13.60	520.82
C6	506.94	12.68	519.62
C7	507.11	13.19	520.30
C8	506.23	13.51	519.74
C9	506.88	12.84	519.72
C10	506.02	14.39	520.41
C11	505.92	14.12	520.04
C12	505.77	14.05	519.82
C13	507.59	14.65	522.24
C14	507.94	12.14	520.08
C15	507.40	15.01	522.41
C16	506.20	13.48	519.68
C17	506.35	14.47	520.82
C18	NOT MONITORED - WELL PAVED OVER		518.96
C19	506.15	14.84	520.99

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER
UNOCAL MONITORING WELLS

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
1/20/94	MW2	--	20,000	ND	ND	270	3,300	--
	MW3	SAMPLED SEMI-ANNUALLY						
	MW4	--	1,200	ND	2.6	4.7	7.4	--
	MW5	--	ND	ND	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--
10/20/93	MW2	--	12,000	27	10	100	3,000	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	640	ND	2.5	2.3	1.9	--
	MW5	--	110	0.80	ND	ND	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--
7/20/93	MW2	--	25,000	68	94	1,000	6,200	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	NOT SAMPLED - SAMPLING ACCESS DENIED						
	MW5	--	89	1.1	0.51	ND	1.8	2.2
	MW6	WELL WAS OBSTRUCTED						
	MW7	--	ND	ND	ND	ND	ND	--
4/22/93	MW2	--	49,000	150	1,000	3,000	18,000	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	1,100	8.8	1.0	7.2	6.0	--
	MW5	--	94	1.2	ND	ND	1.3	0.82
	MW6	WELL WAS OBSTRUCTED						
	MW7	--	ND	ND	ND	ND	ND	--
1/14/93	MW2	--	19,000	75	430	900	8,400	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	920	ND	6.3	12	3.9	--
	MW5	--	91	ND	0.53	1.2	11	1.2
	MW6	WELL WAS OBSTRUCTED						
	MW7	--	ND	ND	ND	ND	ND	--

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER
UNOCAL MONITORING WELLS

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
10/16/92	MW2	--	290	2.3	ND	5.1	15	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	300	2.1	ND	4.8	13	--
	MW5	--	180	7.8	1.1	17	6.4	2.0
	MW6	WELL WAS OBSTRUCTED						
	MW7	--	ND	ND	ND	ND	ND	--
7/07/92	MW2	--	44,000	160	1,100	1,000	17,000	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	340	ND	2.2	2.4	2.4	--
	MW5	--	76	0.48	1.1	0.32	1.3	1.5
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--
4/06/92	MW2	--	760	6.3	2.1	ND	130	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	660	1.3	3.8	2.9	4.1	--
	MW5	--	240♦	ND	ND	0.35	ND	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--
1/14/92	MW2	--	5,600	36	120	450	2,600	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	1,500	4.2	7.1	18	9.2	--
	MW5	--	99	1.0	1.2	ND	0.32	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--
10/14/91	MW2	--	11,000	79	130	660	4,700	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	880	3.8	2.2	8.6	5.8	--
	MW5	--	660	55	4.4	50	66	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER
UNOCAL MONITORING WELLS

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
7/10/91	MW1*	ND	ND	ND	ND	ND	ND	--
	MW2	--	14,000	70	160	570	5,400	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	830	8.4	19	7.7	7.2	--
	MW5	--	220	5.1	8.7	9.1	9.7	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--
4/10/91	MW1*	ND	ND	ND	ND	ND	ND	--
	MW2	--	22,000	170	190	490	6,200	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	950	0.84	4.3	9.6	5.0	--
	MW5	--	630	35	14	47	30	--
	MW6	--	ND	ND	ND	ND	ND	--
	MW7	--	ND	ND	ND	ND	ND	--
12/24/90	MW1*	ND	ND	ND	ND	ND	0.40	--
	MW2	--	32,000	440	340	460	13,000	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	1,400	ND	8.7	15	10	--
9/07/90	MW1*	ND	ND	ND	1.2	ND	ND	--
	MW2	--	ND	ND	1.5	ND	ND	--
	MW3	--	1,100	11	ND	6.6	16	--
	MW4	--	15,000	100	140	210	4,600	--
6/05/90	MW1*	ND	ND	ND	ND	ND	ND	--
	MW2	--	31,000	250	460	950	9,200	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	1,400	1.2	4.7	24	12	--
3/08/90	MW1**	ND	ND	ND	ND	ND	ND	--
	MW2	--	26,000	230	410	1,300	2,100	--
	MW3	--	ND	ND	ND	ND	ND	--
	MW4	--	1,200	18	8.4	37	28	--
11/18/89	MW1***	400	ND	ND	ND	ND	ND	--
	MW2	--	53,000	540	500	130	22,000	--
	MW3	--	ND	0.35	ND	ND	ND	--
	MW4	--	990	9.8	10	7.1	4.7	--

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER
UNOCAL MONITORING WELLS

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

* TOG and all EPA method 8010 constituents were non-detectable.

** TOG was detected at 4.7 mg/L. All EPA method 8010 compounds were non-detectable.

*** TOG was detected at 3.1 mg/L. All EPA method 8010 compounds were non-detectable, except for trichloroethene at 0.55 µg/L.

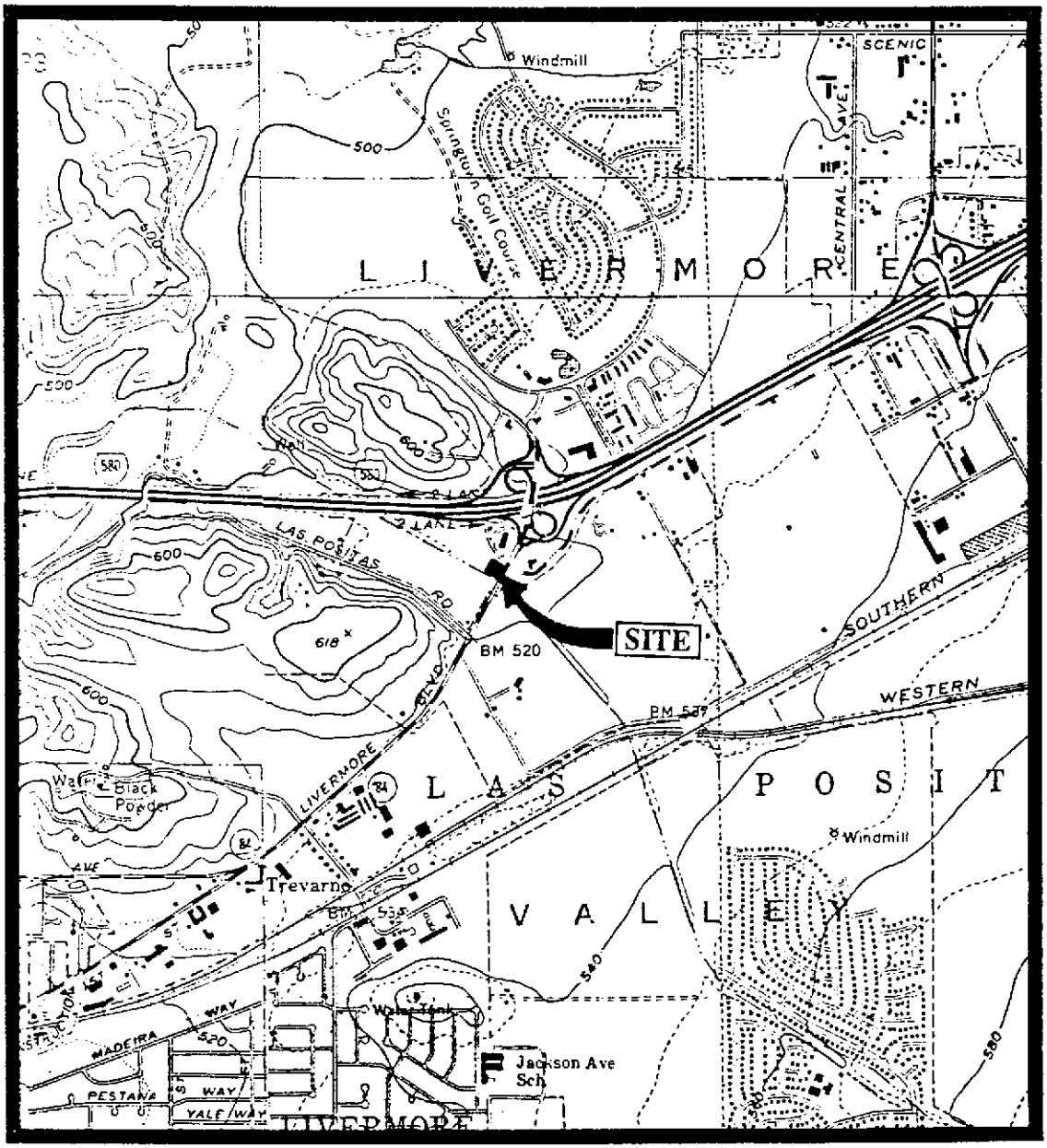
ND = Non-detectable.

-- Indicates analysis was not performed.

mg/L = milligrams per liter.

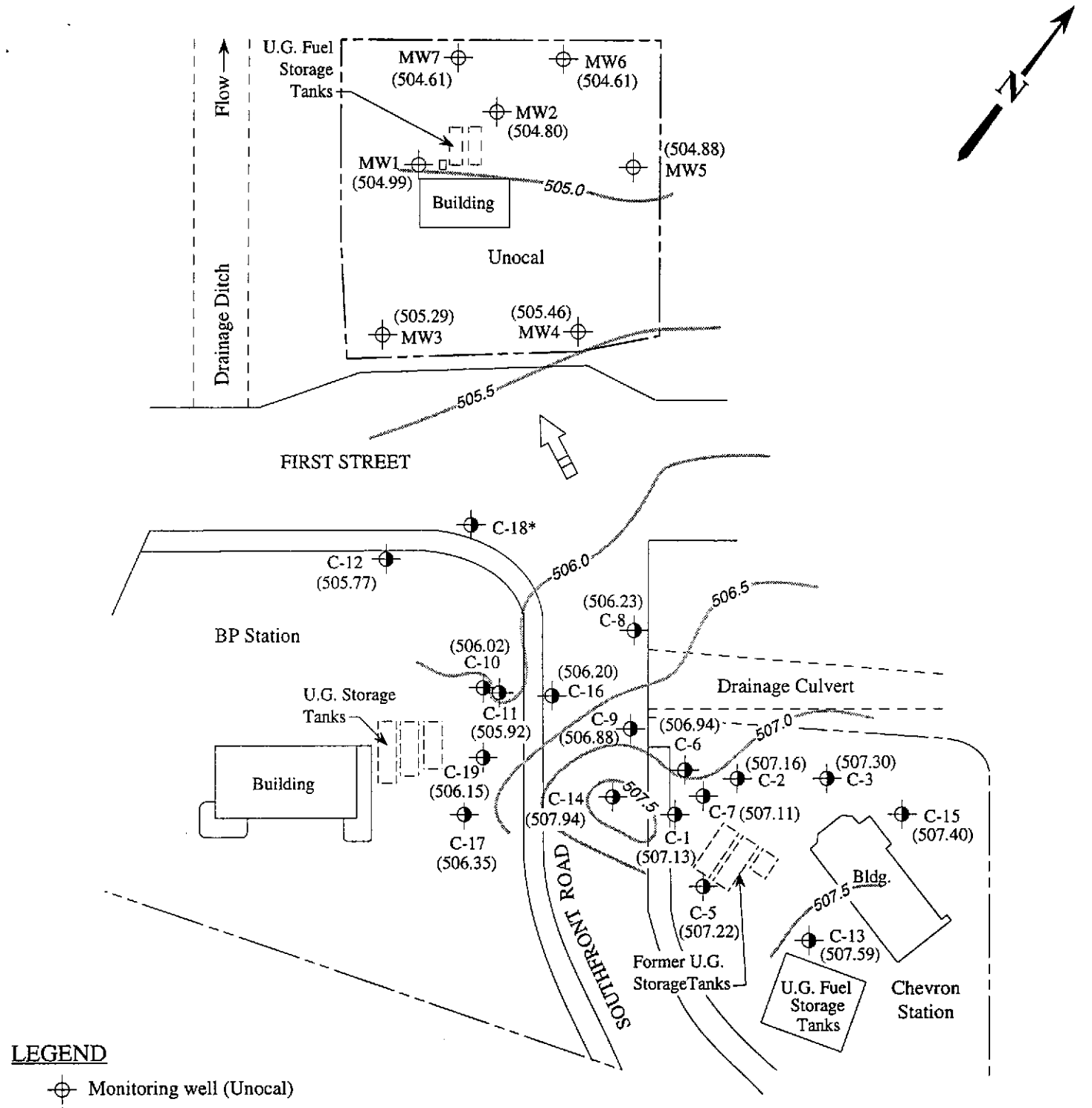
Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: Laboratory analyses data prior to January 20, 1994, were provided by Kaprealian Engineering, Inc.



Base modified from 7.5 minute U.S.G.S. Livermore and Altamont Quadrangles (photorevised 1980 and 1981, respectively)

MPDS SERVICES, INCORPORATED	**UNOCAL SERVICE STATION # 6034** **4700 FIRST STREET** **LIVERMORE, CA**	**LOCATION MAP**



LEGEND

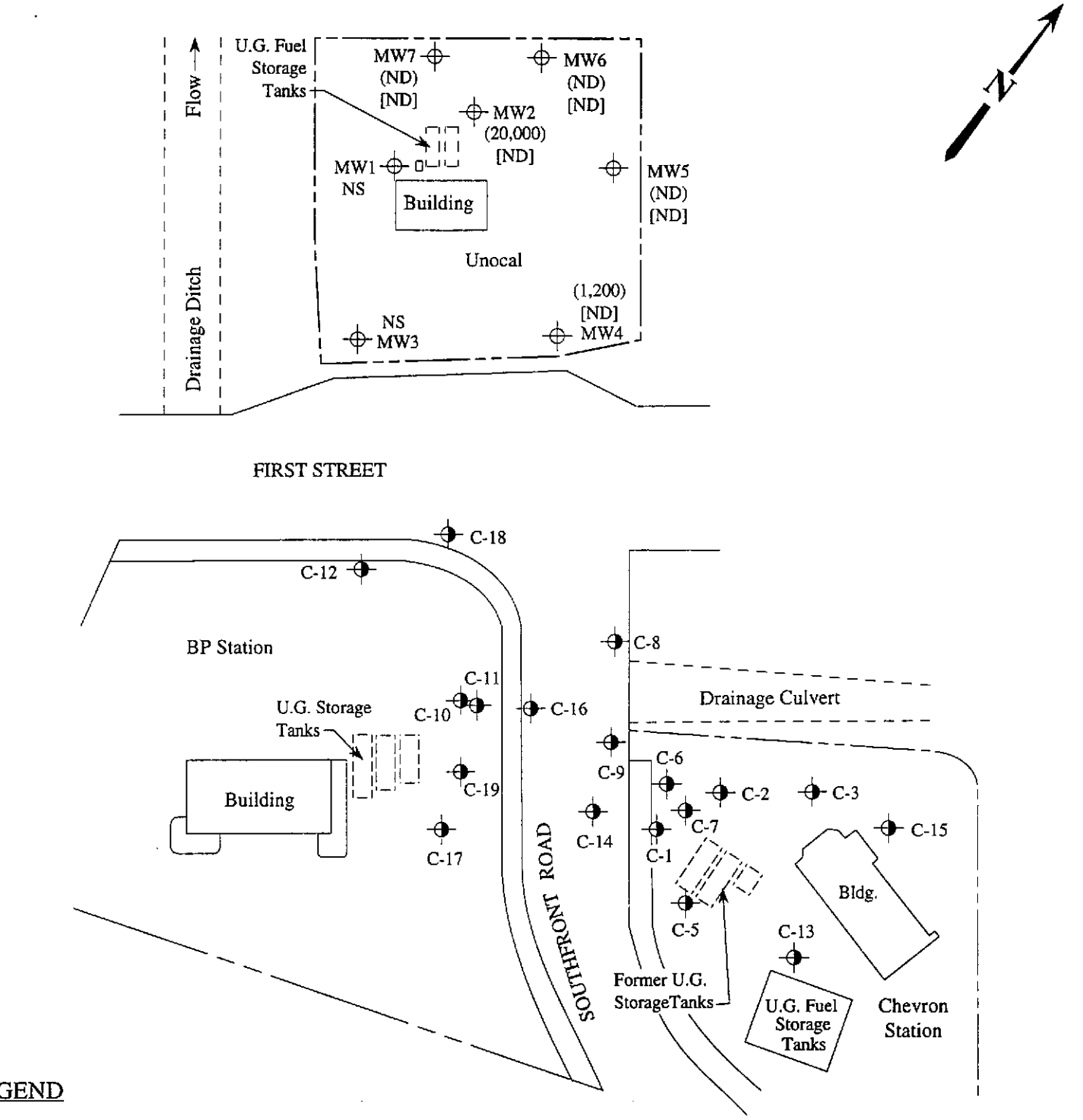
- Monitoring well (Unocal)
- Monitoring well (Chevron)
- ( ) Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow
- Contours of ground water elevation
- * Well paved over

0 80 160

Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE JANUARY 20, 1994 JOINT MONITORING EVENT

M P D S SERVICES, INCORPORATED	**UNOCAL SERVICE STATION # 6034** **4700 FIRST STREET** **LIVERMORE, CALIFORNIA**	FIGURE **1**



LEGEND

- Monitoring well (Unocal)
- Monitoring well (Chevron)
- ( ) Concentration of TPH as gasoline in µg/L
- [ ] Concentration of benzene in µg/L

ND = Non-detectable, NS = Not sampled

0 80 160

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JANUARY 20, 1994

MPDS SERVICES, INCORPORATED	**UNOCAL SERVICE STATION # 6034** **4700 FIRST STREET** **LIVERMORE, CALIFORNIA**	FIGURE **2**

SEQUOIA ANALYTICAL

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

MPDS Services, Inc.	Client Project ID:	Unocal #6034, 4700 1st St., Livermore	Sampled:	Jan 20, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received:	Jan 20, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Feb 3, 1994
Attention: Avo Avedissian	First Sample #:	401-1070		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 401-1070 MW-2	Sample I.D. 401-1071 MW-4	Sample I.D. 401-1072 MW-5	Sample I.D. 401-1073 MW-6	Sample I.D. 401-1074 MW-7	Sample I.D. Method Blank
Purgeable Hydrocarbons	50	20,000	1,200	N.D.	N.D.	N.D.	
Benzene	0.5	N.D.	N.D.	N.D.	N.D.	N.D.	
Toluene	0.5	N.D.	2.6	N.D.	N.D.	N.D.	
Ethyl Benzene	0.5	270	4.7	N.D.	N.D.	N.D.	
Total Xylenes	0.5	3,300	7.4	N.D.	N.D.	N.D.	
Chromatogram Pattern:		Gasoline	Gasoline	--	--	--	

Quality Control Data

Report Limit Multiplication Factor:	100	4.0	1.0	1.0	1.0	1.0
Date Analyzed:	1/26/94	1/27/94	1/26/94	1/26/94	1/26/94	1/26/94
Instrument Identification:	HP-4	HP-4	HP-2	HP-2	HP-5	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	92	89	101	94	96	110

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

SEQUOIA ANALYTICAL

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

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

Client Project ID: Unocal #6034, 4700 1st St., Livermore
Matrix: Liquid

QC Sample Group: 4011070-74

Reported: Feb 3, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD Batch#:	4010933	4010933	4010933	4010933
Date Prepared:	1/26/94	1/26/94	1/26/94	1/26/94
Date Analyzed:	1/26/94	1/26/94	1/26/94	1/26/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	95	95	95	93
Matrix Spike Duplicate % Recovery:	95	95	95	93
Relative % Difference:	0.0	0.0	0.0	0.0
LCS Batch#:	2LCS012694	2LCS012694	2LCS012694	2LCS012694
Date Prepared:	1/26/94	1/26/94	1/26/94	1/26/94
Date Analyzed:	1/26/94	1/26/94	1/26/94	1/26/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	90	90	90	91
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

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

SEQUOIA ANALYTICAL

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

MPDS Services, Inc.	Client Project ID:	Unocal #6034, 4700 1st St., Livermore
2401 Stanwell Dr., Ste. 400	Matrix:	Liquid
Concord, CA 94520		
Attention: Avo Avedissian	QC Sample Group: 4011070-74	Reported: Feb 3, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD Batch#:	4011136	4011136	4011136	4011136
Date Prepared:	1/27/94	1/27/94	1/27/94	1/27/94
Date Analyzed:	1/27/94	1/27/94	1/27/94	1/27/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	90	90	90	92
Matrix Spike Duplicate % Recovery:	95	95	95	95
Relative % Difference:	5.4	5.4	5.4	3.2
LCS Batch#:	2LCS012794	2LCS012794	2LCS012794	2LCS012794
Date Prepared:	1/27/94	1/27/94	1/27/94	1/27/94
Date Analyzed:	1/27/94	1/27/94	1/27/94	1/27/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	87	85	86	87
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

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

SEQUOIA ANALYTICAL

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

MPDS Services, Inc.	Client Project ID:	Unocal #6034, 4700 1st St., Livermore	
2401 Stanwell Dr., Ste. 400	Matrix:	Liquid	
Concord, CA 94520			
Attention: Avo Avedissian	QC Sample Group:	4011070-74	Reported: Feb 3, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD Batch#:	4010920	4010920	4010920	4010920
Date Prepared:	1/26/94	1/26/94	1/26/94	1/26/94
Date Analyzed:	1/26/94	1/26/94	1/26/94	1/26/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	115	110	110	113
Matrix Spike Duplicate % Recovery:	110	105	110	110
Relative % Difference:	4.4	4.6	0.0	2.7
LCS Batch#:	1LCS012694	1LCS012694	1LCS012694	1LCS012694
Date Prepared:	1/26/94	1/26/94	1/26/94	1/26/94
Date Analyzed:	1/26/94	1/26/94	1/26/94	1/26/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	98	95	94	96
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

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

SEQUOIA ANALYTICAL

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

MPDS Services, Inc.	Client Project ID:	Unocal #6034, 4700 1st St., Livermore
2401 Stanwell Dr., Ste. 400	Matrix:	Liquid
Concord, CA 94520		
Attention: Avo Avedissian	QC Sample Group: 4011070-74	Reported: Feb 3, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD Batch#:	4011128	4011128	4011128	4011128
Date Prepared:	1/26/94	1/26/94	1/26/94	1/26/94
Date Analyzed:	1/26/94	1/26/94	1/26/94	1/26/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	115	110	100	102
Matrix Spike Duplicate % Recovery:	115	105	100	101
Relative % Difference:	0.0	4.7	0.0	0.99
LCS Batch#:	3LCS012694	3LCS012694	3LCS012694	3LCS012694
Date Prepared:	1/26/94	1/26/94	1/26/94	1/26/94
Date Analyzed:	1/26/94	1/26/94	1/26/94	1/26/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	116	112	109	109
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

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

MPDS
Services, Inc.

CHAIN OF CUSTODY

SAMPLER: Joe

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal / Livermore # 6034
4700 1st Street

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG BTEX						
MW-2	1/20/94			✓	✓		2	M. Wells	✓						
MW-4	"			✓	✓		2	"	✓						
MW-5	"			✓	✓		2	"	✓						
MW-6	"			✓	✓		2	"	✓						
MW-7	"			✓	✓		2	"	✓						

ANALYSES REQUESTED

TURN AROUND TIME: Regular

REMARKS

4011070 A-B
1071
1072
1073
1074

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Joe Jones	1-20-94	Lisa Vanmud	1-20-94 1645
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
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? Y
2. Will samples remain refrigerated until analyzed? Y
3. Did any samples received for analysis have head space? N
4. Were samples in appropriate containers and properly packaged? Y

SV (Signature) E-5 (Title) 1/20/94 (Date)

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510 602 5100 Fax: 510 602 0602