MONITORING
PURGING
DISPOSING
SAMPLING

MPDS SERVICES, INCORPORATED

Review for possible closure

May 27, 1997

Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94501

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

Per the request of the Tosco Marketing Company Project Manager, Ms. Tina R. Berry, enclosed please find our report (MPDS-UN6034-13) dated May 5, 1997, 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.

Jarrel F. Crider

/jfc

Enclosure

cc: Ms. Tina R. Berry

2401 Stanwell Drive, Suite 400, Concord, CA 94520
TEL: (510) 602-5120 FAX: (510) 689-1918

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS SERVICES, INCORPORATED

MPDS-UN6034-13
May 5, 1997

Tosco Marketing Company
Environmental Compliance Department
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

Attention: Ms. Tina R. Berry

RE: Semi-Annual Data Report
Unocal Service Station #6034
4700 First Street
Livermore, California

Dear Ms. Berry:

This data report presents the results of the most recent 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 are indicated in Table 1. Oxygen Release Compound (ORC®) filter socks were present in monitoring well MW2. 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 this most recent semi-annual period is shown on the attached Figure 1.

MPDS attempted to coordinate a joint monitoring event with the consultant for the nearby Chevron site for April 1997. However, MPDS was informed that the Chevron site was being monitored and sampled on an annual basis during the month of October.

Ground water samples were collected from monitoring wells MW2 and MW4 on April 8, 1997. Prior to sampling, wells MW2 and MW4 were purged of 6 and 6.5 gallons of water, respectively. In addition, dissolved oxygen concentrations were measured and are presented in Table 4. The ground water samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. MPDS transported the purged ground water to the Tosco Refinery located in Rodeo, California, for treatment and discharge to San Pablo Bay under NPDES permit.

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 Total Petroleum

2401 Stanwell Drive, Suite 400, Concord, CA 94520
TEL: (510) 602-5120 FAX: (510) 689-1918

Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples during this semi-annual period is shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants.

DISTRIBUTION

A copy of this report should be sent to the Alameda County Health Care Services Agency.

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

Sincerely,

MPDS Services, Inc.

Haig (Gary) Tejirian
Senior Staff Geologist

Hagop Kevork, P.E.
Senior Staff Engineer

License No. C55734
Exp. Date December 31, 2000

REGISTERED PROFESSIONAL ENGINEER
HAGOP KEVORK
No. C 55734
Exp. 12/31/00
CIVIL
STATE OF CALIFORNIA

Attachments: Tables 1 through 4
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Sarkis A. Soghomonian, Kaprealian Engineering, Inc.

Table 1

Summary of Monitoring Data

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Total Well Depth (feet)♦	Product Thickness (feet)	Sheen	Water Purged (gallons)
(Monitored and Sampled on April 8, 1997)						
MW1*	505.59	15.05	27.90	0	--	0
MW2	505.33	14.49	25.65	0	No	6
MW3*	505.93	13.73	25.43	0	--	0
MW4	506.25	13.36	25.48	0	No	6.5
MW5*	505.56	14.71	23.61	0	--	0
MW6	WELL WAS OBSTRUCTED AT 13.49 FEET					
MW7*	505.10	13.73	23.65	0	--	0
(Monitored and Sampled on October 16, 1996)						
MW1*	506.14	14.50	27.89	0	--	0
MW2	505.70	14.12	25.65	0	No	6
MW3*	506.56	13.10	25.38	0	--	0
MW4	506.63	12.98	25.43	0	No	7
MW5*	506.12	14.15	23.58	0	--	0
MW6*	505.03	13.72	23.41	0	--	0
MW7*	505.25	13.58	23.65	0	--	0
(Monitored and Sampled on July 16, 1996)						
MW1*	506.07	14.57	27.89	0	No	0
MW2	505.82	14.00	25.64	0	No	9
MW3*	506.42	13.24	25.41	0	No	0
MW4*	506.70	12.91	25.46	0	No	0
MW5*	506.00	14.27	23.58	0	No	0
MW6*	WELL WAS OBSTRUCTED BY ROOTS					
MW7*	505.61	13.22	23.65	0	No	0

Table 1

Summary of Monitoring Data

Well #	Well Casing Elevation (feet)**
MW1	520.64
MW2	519.82
MW3	519.66
MW4	519.61
MW5	520.27
MW6	518.75
MW7	518.83

♦ The depth to water level and total well depth measurements were taken from the top of the well casings.

* Monitored only.

** The elevations of the top of the well casings are relative to Mean Sea Level (MSL), per the City of Livermore Benchmark No. C-18-5 (elevation = 551.77 feet MSL).

-- Sheen determination was not performed.

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW1	11/18/89	ND	ND	ND	ND	ND	--
	3/8/90	ND	ND	ND	ND	ND	--
	6/5/90	ND	ND	ND	ND	ND	--
	9/7/90	ND	ND	1.2	ND	ND	--
	12/24/90	ND	ND	ND	ND	0.40	--
	4/10/91	ND	ND	ND	ND	ND	--
	7/10/91	ND	ND	ND	ND	ND	--
	4/21/94	ND	ND	ND	ND	ND	--
	7/21/94	SAMPLED ANNUALLY					
	4/17/95	ND	ND	ND	ND	ND	--
	4/17/96	ND	ND	ND	ND	ND	ND
	4/8/97	SAMPLING DISCONTINUED					
MW2	11/18/89	53,000	540	500	130	22,000	--
	3/8/90	26,000	230	410	1,300	2,100	--
	6/5/90	31,000	250	460	950	9,200	--
	9/7/90	ND	ND	1.5	ND	ND	--
	12/24/90	32,000	440	340	460	13,000	--
	4/10/91	22,000	170	190	490	6,200	--
	7/10/91	14,000	70	160	570	5,400	--
	10/14/91	11,000	79	130	660	4,700	--
	1/14/92	5,600	36	120	450	2,600	--
	4/6/92	760	6.3	2.1	ND	130	--
	7/7/92	44,000	160	1,100	1,000	17,000	--
	10/16/92	290	2.3	ND	5.1	15	--
	1/14/93	19,000	75	430	900	8,400	--
	4/22/93	49,000	150	1,000	3,000	18,000	--
	7/20/93	25,000	68	94	1,000	6,200	--
	10/20/93	12,000	27	10	100	3,000	--
	1/20/94	20,000	ND	ND	270	3,300	--
	4/21/94	27,000	85	65	880	5,300	--
	7/21/94	31,000	58	29	940	6,200	--
	10/19/94	4,100	16	3.5	8.6	1,100	--
	1/18/95	5,100	6.8	7.3	100	1,500	--
	4/17/95	320	1.3	0.67	6.6	74	--
	7/18/95	12,000	25	24	550	3,700	--
	10/17/95	77,000	60	58	760	8,300	220
	1/17/96	7,000	15	ND	150	1,600	370
	4/17/96	19,000	ND	ND	600	4,900	6,100
	7/16/96	23,000	16	22	900	4,500	410
	10/16/96	14,000	28	31	1,600	6,900	9,600
	1/13/97	4,300	12	5.0	28	890	1,300
	4/8/97	4,700	ND	6.5	170	830	290

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW3	11/18/89	ND	0.35	ND	ND	ND	--
	3/8/90	ND	ND	ND	ND	ND	--
	6/5/90	ND	ND	ND	ND	ND	--
	9/7/90	1,100	11	ND	6.6	16	--
	12/24/90	ND	ND	ND	ND	ND	--
	4/10/91	ND	ND	ND	ND	ND	--
	7/10/91	ND	ND	ND	ND	ND	--
	10/14/91	ND	ND	ND	ND	ND	--
	1/14/92	ND	ND	ND	ND	ND	--
	4/6/92	ND	ND	ND	ND	ND	--
	7/7/92	ND	ND	ND	ND	ND	--
	10/16/92	ND	ND	ND	ND	ND	--
	1/14/93	ND	ND	ND	ND	ND	--
	4/22/93	ND	ND	ND	ND	ND	--
	7/20/93	ND	ND	ND	ND	ND	--
	10/20/93	ND	ND	ND	ND	ND	--
	1/20/94	SAMPLED ANNUALLY					
	4/21/94	ND	ND	ND	ND	ND	--
	7/21/94	SAMPLED SEMI-ANNUALLY					
	10/19/94	ND	ND	0.61	ND	0.51	--
	4/17/95	ND	ND	ND	ND	ND	--
	10/17/95	ND	ND	ND	ND	ND	ND
	1/17/96	SAMPLED ANNUALLY*					
	4/17/96	ND	ND	ND	ND	ND	ND
	4/8/97	SAMPLING DISCONTINUED					
MW4	11/18/89	990	9.8	10	7.1	4.7	--
	3/8/90	1,200	18	8.4	37	28	--
	6/5/90	1,400	1.2	4.7	24	12	--
	9/7/90	15,000	100	140	210	4,600	--
	12/24/90	1,400	ND	8.7	15	10	--
	4/10/91	950	0.84	4.3	9.6	5.0	--
	7/10/91	830	8.4	19	7.7	7.2	--
	10/14/91	880	3.8	2.2	8.6	5.8	--
	1/14/92	1,500	4.2	7.1	18	9.2	--
	4/6/92	660	1.3	3.8	2.9	4.1	--
	7/7/92	340	ND	2.2	2.4	2.4	--
	10/16/92	300	2.1	ND	4.8	13	--
	1/14/93	920	ND	6.3	12	3.9	--
	4/22/93	1,100	8.8	1.0	7.2	6.0	--
	7/20/93	NOT SAMPLED - SAMPLING ACCESS DENIED					
	10/20/93	640	ND	2.5	2.3	1.9	--

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW4	1/20/94	1,200	ND	2.6	4.7	7.4	--
(Cont.)	4/21/94	380	0.83	1.2	1.2	1.7	--
	7/21/94	320	0.51	1.4	1.0	1.6	--
	10/19/94	750	ND	3.6	4.2	3.4	--
	1/18/95	790	1.5	3.3	1.2	2.6	--
	4/17/95	570	2.8	ND	3.3	3.9	--
	7/18/95	340	1.0	1.9	2.8	2.7	--
	10/17/95	260	1.1	0.57	0.69	1.6	2.0
	1/17/96	SAMPLED SEMI-ANNUALLY					
	4/17/96	720	3.0	2.6	6.1	6.9	ND
	10/16/96	1,100	6.6	23	24	85	15
	1/13/97	SAMPLED SEMI-ANNUALLY					
	4/8/97	470	1.2	1.9	1.2	6.9	ND
MW5	4/10/91	630	35	14	47	30	--
	7/10/91	220	5.1	8.7	9.1	9.7	--
	10/14/91	660	55	4.4	50	66	--
	1/14/92	99	1.0	1.2	ND	0.32	1.2
	4/6/92	240†	ND	ND	0.35	ND	--
	7/7/92	76	0.48	1.1	0.32	1.3	1.5
	10/16/92	180	7.8	1.1	17	6.4	2.0
	1/14/93	91	ND	0.53	1.2	11	--
	4/22/93	94	1.2	ND	ND	1.3	0.82
	7/20/93	89	1.1	0.51	ND	1.8	2.2
	10/20/93	110	0.8	ND	ND	ND	--
	1/20/94	ND	ND	ND	ND	ND	--
	4/21/94	ND	ND	ND	ND	ND	--
	7/21/94	ND	ND	ND	ND	ND	--
	10/19/94	ND	ND	0.71	ND	0.57	--
	1/18/95	ND	ND	ND	ND	ND	--
	4/17/95	ND	ND	ND	ND	ND	--
	7/18/95	ND	ND	ND	ND	1.1	--
	10/17/95	ND	ND	ND	ND	ND	ND
	1/17/96	SAMPLED ANNUALLY*					
	4/17/96	ND	ND	ND	ND	ND	ND
	4/8/97	SAMPLING DISCONTINUED					
MW6	4/10/91	ND	ND	ND	ND	ND	--
	7/10/91	ND	ND	ND	ND	ND	--
	10/14/91	ND	ND	ND	ND	ND	--
	1/14/92	ND	ND	ND	ND	ND	--
	4/6/92	ND	ND	ND	ND	ND	--
	7/7/92	ND	ND	ND	ND	ND	--
	10/16/92	WELL WAS OBSTRUCTED					

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
MW6	1/14/93	WELL WAS OBSTRUCTED					
(Cont.)	4/22/93	WELL WAS OBSTRUCTED					
	7/20/93	WELL WAS OBSTRUCTED					
	10/20/93	ND	ND	ND	ND	ND	--
	1/20/94	ND	ND	ND	ND	ND	--
	4/21/94	ND	ND	ND	ND	ND	--
	7/21/94	ND	ND	ND	ND	ND	--
	10/19/94	WELL WAS OBSTRUCTED BY ROOTS					
	1/18/95	WELL WAS OBSTRUCTED BY ROOTS					
	4/17/95	ND	ND	ND	ND	ND	--
	7/18/95	ND	ND	ND	ND	ND	--
	10/17/95	ND	ND	ND	ND	ND	2.2
	1/17/96	SAMPLED ANNUALLY*					
	4/17/96	ND	ND	ND	ND	ND	ND
	4/8/97	WELL WAS OBSTRUCTED					
MW7	4/10/91	ND	ND	ND	ND	ND	--
	7/10/91	ND	ND	ND	ND	ND	--
	10/14/91	ND	ND	ND	ND	ND	--
	1/14/92	ND	ND	ND	ND	ND	--
	4/06/92	ND	ND	ND	ND	ND	--
	7/7/92	ND	ND	ND	ND	ND	--
	10/16/92	ND	ND	ND	ND	ND	--
	1/14/93	ND	ND	ND	ND	ND	--
	4/22/93	ND	ND	ND	ND	ND	--
	7/20/93	ND	ND	ND	ND	ND	--
	10/20/93	ND	ND	ND	ND	ND	--
	1/20/94	ND	ND	ND	ND	ND	--
	4/21/94	ND	ND	ND	ND	ND	--
	7/21/94	ND	ND	ND	ND	ND	--
	10/19/94	ND	ND	0.87	ND	0.61	--
	1/18/95	ND	ND	ND	ND	ND	--
	4/17/95	ND	ND	ND	ND	ND	--
	7/18/95	ND	ND	ND	ND	ND	--
	10/17/95	ND	ND	ND	ND	ND	3.5
	1/17/96	SAMPLED ANNUALLY*					
	4/17/96	ND	ND	ND	ND	ND	ND
	4/8/97	SAMPLING DISCONTINUED					

* Annual sampling beginning April, 1996.

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

ND = Non-detectable.

Table 2

Summary of Laboratory Analyses
Water

-- Indicates analysis was not performed.

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

Note: The detection limit for results reported as ND by Sequoia Analytical Laboratory is equal to the stated detection limit times the dilution factor indicated on the laboratory analytical sheets.

Prior to August 1, 1995, the total purgeable petroleum hydrocarbon (TPH as gasoline) quantification range used by Sequoia Analytical Laboratory was C4 - C12. Since August 1, 1995, the quantification range used by Sequoia Analytical Laboratory is C6 - C12.

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

Table 3

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Diesel (µg/L)	Total Oil & Grease (mg/L)	Trichloroethene (µg/L)	Chloroform (µg/L)
MW1	11/18/89	--	3.1	0.55	ND
	3/8/90	--	4.7	ND	ND
	6/5/90	--	ND	ND	ND
	9/7/90	--	ND	ND	ND
	12/24/90	--	ND	ND	ND
	4/10/91	--	ND	ND	ND
	7/10/91	--	ND	ND	ND
	4/21/94	--	ND	ND	ND
	4/17/95	ND	ND	ND	0.69
	4/17/96	100	ND	ND	ND

All EPA method 8010 constituents were non-detectable, except as indicated above.

mg/L = milligrams per liter.

µg/L = micrograms per liter.

ND = Non-detectable.

-- Indicates analysis was not performed.

Table 4

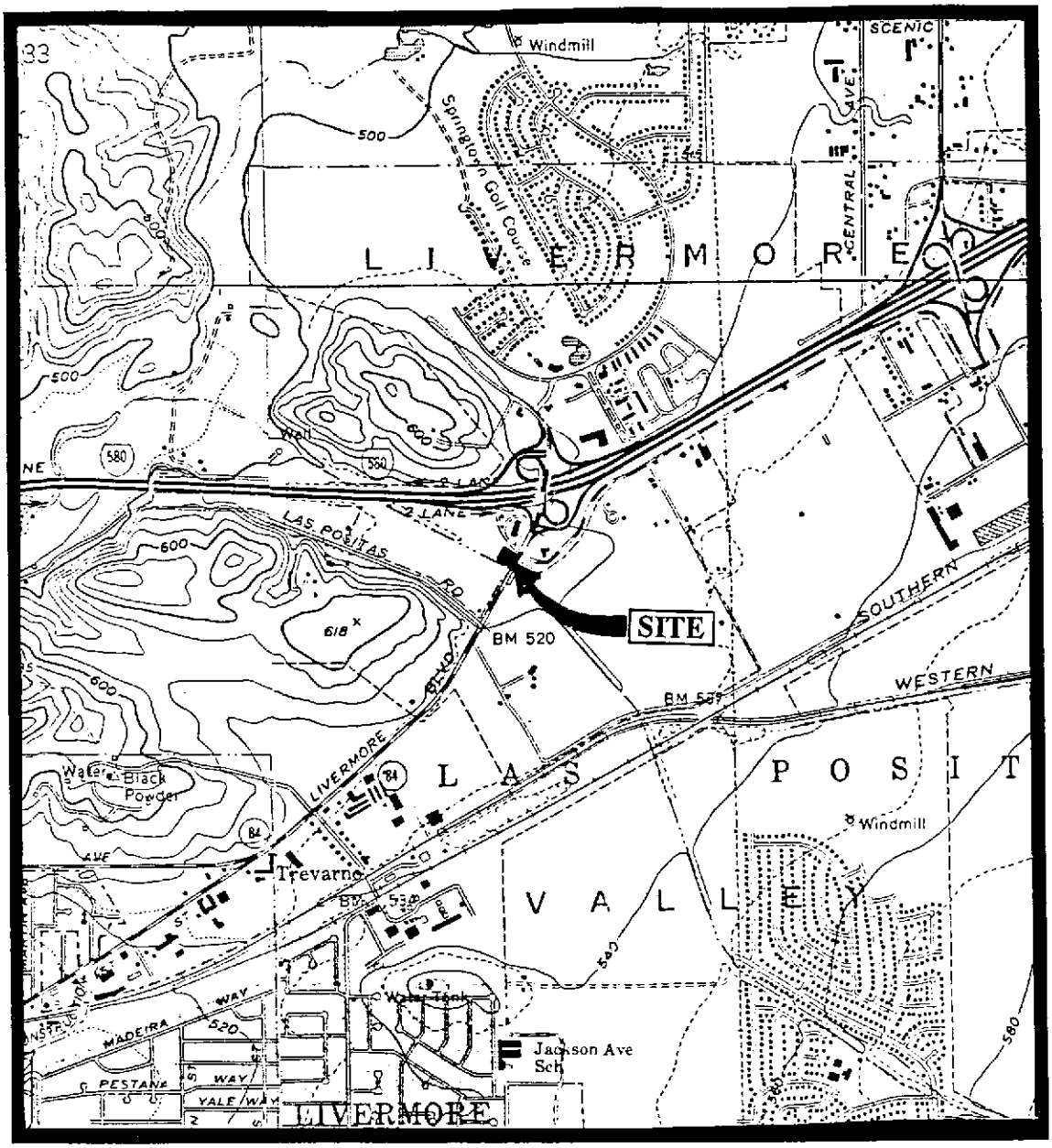
Summary of Monitoring Data

Well	Date	Dissolved Oxygen Concentrations Before Purging (mg/L)	After Purging (mg/L)
MW1	7/16/96	4.24	4.28
MW2	7/18/95	--	4.22
	10/17/95	--	3.96
	1/17/96	--	5.25
	4/17/96	--	2.59
	7/16/96	4.46	4.35
	10/16/96	3.87	2.92
	1/13/97	4.76	--
	4/8/97	3.76	3.42
MW3	7/16/96	4.19	4.20
MW4	7/16/96	4.25	4.30
	1/13/97	4.97	--
MW5	7/16/96	4.18	4.21
MW6	7/16/96	WELL WAS OBSTRUCTED BY ROOTS	
MW7	7/16/96	4.20	4.19

mg/L = milligrams per liter

-- Indicates measurement was not taken.

Note: Measurements were taken using a LaMotte DO4000 dissolved oxygen meter.

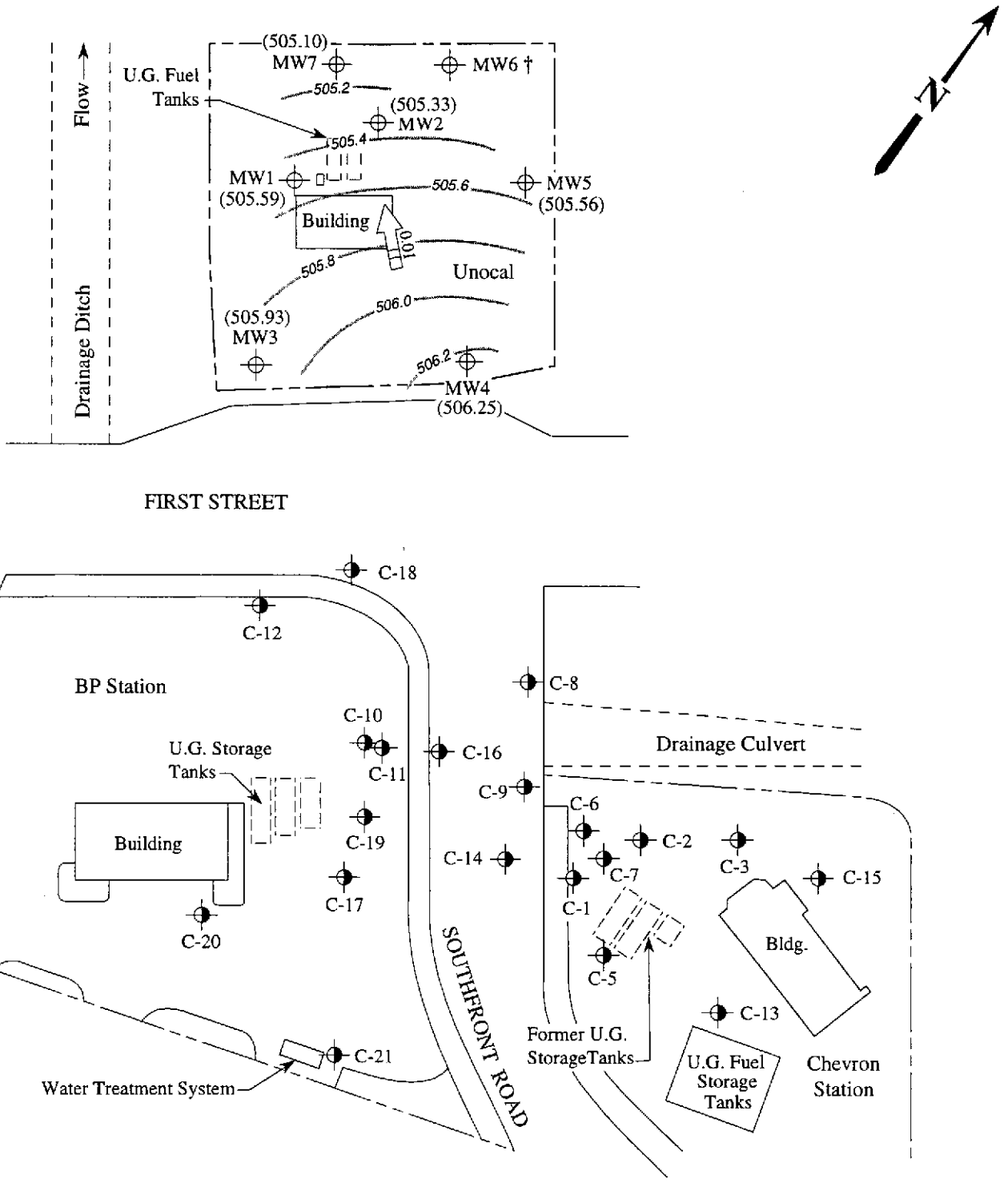


Base modified from 7.5 minute U.S.G.S. Livermore and Altamont Quadrangles (photorevised 1980 and 1981, respectively)

0 2000 4000

Approx. scale feet

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION # 6034** **4700 FIRST STREET** **LIVERMORE, CALIFORNIA**	**LOCATION MAP**



LEGEND

- Monitoring well (Unocal)
- Monitoring well (Chevron)
- ( ) Ground water elevation in feet above Mean Sea Level
- #.## Direction of ground water flow with approximate hydraulic gradient
- Contours of ground water elevation
- † Well was obstructed at 13.49 feet.

0 80 160

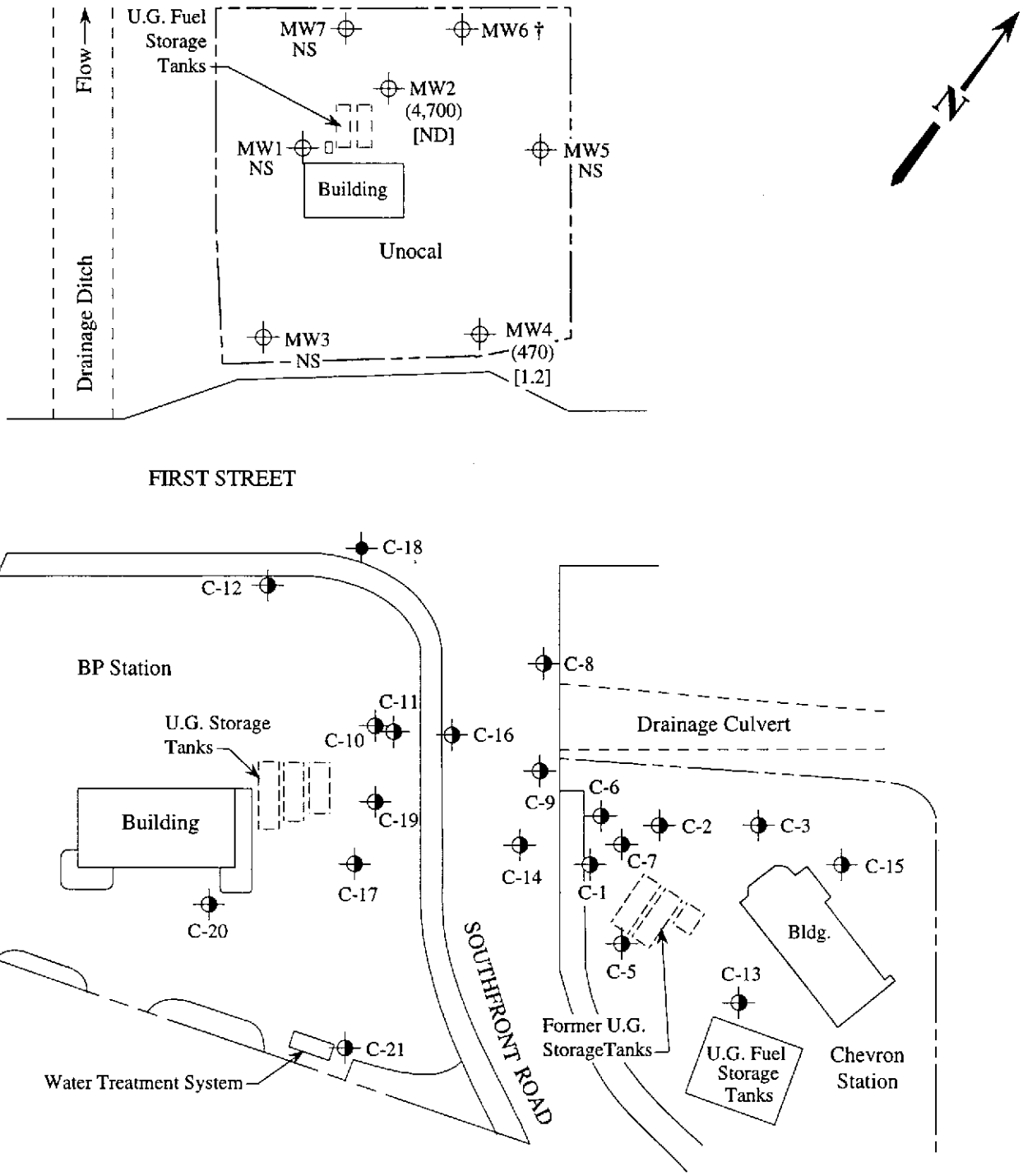
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE APRIL 8, 1997 MONITORING EVENT

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION # 6034
4700 FIRST STREET
LIVERMORE, CALIFORNIA

FIGURE
1



LEGEND

- Monitoring well (Unocal)
- Monitoring well (Chevron, existing)
- Monitoring well (Chevron, abandoned)
- ( ) Concentration of TPH as gasoline in µg/L
- [ ] Concentration of benzene in µg/L
- NS Not sampled
- † Well was obstructed at 13.49 feet.

0 80 160

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON APRIL 8, 1997

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #6034, 4700 1st St. Livermore	Sampled:	Apr 8, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received:	Apr 8, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Apr 21, 1997
Attention: Jarrel Crider	First Sample #:	704-0567		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Purgeable Hydrocarbons µg/L	Benzene µg/L	Toluene µg/L	Ethyl Benzene µg/L	Total Xylenes µg/L	MTBE µg/L
704-0567	MW-2	4,700	ND	6.5	170	830	290
704-0568	MW-4	470	1.2	1.9	1.2	6.9	N.D.

Detection Limits:	50	0.50	0.50	0.50	0.50	5.0

Total Purgeable Petroleum Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as ND were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

7040567.MPD <1>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #6034, 4700 1st St. Livermore	Sampled:	Apr 8, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received:	Apr 8, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Apr 21, 1997
Attention: Jarrel Crider	First Sample #:	704-0567		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Chromatogram Pattern	DL Mult. Factor	Date Analyzed	Instrument ID	Surrogate Recovery, % QC Limits: 70-130
704-0567	MW-2	--	1.0	4/14/97	HP-5	93
704-0568	MW-4	--	1.0	4/14/97	HP-5	94

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

7040567.MPD <2>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #6034, 4700 1st St. Livermore
Matrix: Liquid
QC Sample Group: 7040567-568
Reported: Apr 21, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Newcomb		D. Newcomb	D. Newcomb
MS/MSD Batch#:	7040520	7040520	7040520	7040520
Date Prepared:	4/14/97	4/14/97	4/14/97	4/14/97
Date Analyzed:	4/14/97	4/14/97	4/14/97	4/14/97
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:	75	90	100	98
Matrix Spike Duplicate % Recovery:	75	90	100	95
Relative % Difference:	0.0	0.0	0.0	0.0
LCS Batch#:	5LCS041497	5LCS041497	5LCS041497	5LCS041497
Date Prepared:	4/14/97	4/14/97	4/14/97	4/14/97
Date Analyzed:	4/14/97	4/14/97	4/14/97	4/14/97
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	80	95	100	100
% Recovery Control Limits:	60-140	60-140	60-140	60-140

SEQUOIA ANALYTICAL, #1271

Signature on File

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, INCORPORATED
2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: (510) 602-5100, Fax: (510) 689-1918

CHAIN OF CUSTODY

7040570

SAMPLER: STEVE BALIAN
WITNESSING AGENCY:

UNOCAL S/S # 6034 CITY: LIVERMORE
ADDRESS: 4700 FIRST STREET

ANALYSES REQUESTED

TURN AROUND TIME: REGULAR

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-GAS BTEX	TPH-DIESEL	TOG	8010	MTBE				REMARKS
MW-2	4-8-97	11:50	X	X		2	WELL	X				X	7040567		A-B	MTBE 5.PPB
MW-4	"	11:00	X	X		2	"	X				X	7040568		↓	

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
STEVE BALIAN (SIGNATURE)	14:10 4-8-97	(SIGNATURE)	4/8/97 1410
(SIGNATURE)		(SIGNATURE)	
(SIGNATURE)		(SIGNATURE)	
(SIGNATURE)		(SIGNATURE)	

THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:

1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON 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

SIGNATURE: TITLE: Analyst DATE: 4/8/97

Note: All water containers to be sampled for TPHG/BTEX, 8010 & 8240 are preserved with HCL. All water containers to be sampled for Lead or Metals are preserved with HNO3. All other containers are unpreserved.