→ Consider reducing +/or eliminating sampling in U-2, U-4, U-5, U-8

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS SERVICES, INCORPORATED

May 27, 1997

Ms. Amy Leech
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, CA 94501

RE: Unocal Service Station #5760
376 Lewelling Boulevard
San Lorenzo, California

Dear Ms. Leech:

Per the request of the Tosco Marketing Company Project Manager, Ms. Tina R. Berry, enclosed please find our data report (MPDS-UN5760-12) dated April 28, 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

PACIFIC
ENVIRONMENTAL
GROUP, INC.

ENVIRONMENTAL
PROTECTION
97 JUL 25 PM 2:26

July 18, 1997
Project 311-058.1A

Mr. Richard Hiett
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Re: Unocal Station 5760
Quarterly Summary Report
Second Quarter 1997

Dear Mr. Hiett:

As directed by Ms. Tina Berry of Tosco Marketing Company, Pacific Environmental Group, Inc. is forwarding the quarterly summary report for the following location:

Service Station	Location
5760	376 Lewelling Boulevard, San Lorenzo

If you have questions or comments, please do not hesitate to contact our office at (408) 441-7500.

Sincerely,

Pacific Environmental Group, Inc.

Joseph Muzzio
Project Geologist

Enclosure

cc: Ms. Tina Berry, Tosco Marketing Company
Ms. Amy Leech, Alameda County Environmental Health Care Services

2025 Gateway Place, Suite 440, San Jose, California 95110 (408) 441-7500 FAX (408) 441-7539

Quarterly Summary Report
Second Quarter 1997

Unocal Service Station 5760
376 Lewelling Boulevard
San Lorenzo, California

City/County ID #: None
County: Alameda

BACKGROUND

The underground storage tanks were removed and replaced in November 1987. Currently, there are nine monitoring wells on site. Groundwater monitoring and sampling of wells began in February 1988. A remedial action plan was submitted during the third quarter 1994. Groundwater extraction and soil vapor extraction systems were installed in August and September 1995.

In February 1996, modifications to the present sampling and monitoring activities were presented in a letter to Unocal and Alameda County, recommending a reduction to semiannual groundwater sampling for some of the monitoring wells. Because the mass removal versus time trend for the remediation system indicated a diminishing incremental benefit from continued operation, the remediation system was shut down February 1997.

RECENT QUARTER ACTIVITIES

No activities were performed.

NEXT QUARTER ACTIVITIES

Semiannual groundwater monitoring and sampling will be performed.

CHARACTERIZATION/REMEDIAL STATUS

Soil contamination delineated? Yes.
Dissolved groundwater delineated? Yes.
Free product delineated? Yes.
Amount of groundwater contaminant recovered to date? Approximately 115 pounds.
Soil remediation in progress? No.
Start? October 1995.
Completion date? February 1997.
Dissolved/free product remediation in progress? No.
Start? October 1995.

Completion? February 1997.

CONSULTANT: Pacific Environmental Group, Inc.

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS SERVICES, INCORPORATED

MPDS-UN5760-12
April 28, 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 #5760
376 Lewelling Boulevard
San Lorenzo, 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 wells U-6 and U-9. 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 semi-annual period is shown on the attached Figure 1.

Ground water samples were collected on March 27, 1997. Prior to sampling, the two wells were each purged of between 7 and 15 gallons of water. In addition, dissolved oxygen concentrations were measured and are presented in Table 3. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded on the purging/sampling data sheets which are attached to this report. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately three casing volumes had been removed from each well, 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. MPDS Services, Inc. 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 Table 2. 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 collected this semi-annual period are 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 Ms. Amy Leech of 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

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

License No. C55734
Exp. Date December 31, 2000

Attachments: Tables 1, 2 & 3
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation
Purging /Sampling Data Sheets

cc: Mr. Joe Muzzio, Pacific Environmental Group, 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 March 27, 1997)						
U-1	24.91	15.29	23.18	0	No	9
U-2	24.81	16.45	29.90	0	No	15
U-3	24.49	14.77	24.82	0	No	12
U-4	24.59	15.66	27.87	0	No	13.5
U-5	24.46	14.85	28.50	0	No	7
U-6	24.20	13.48	28.28	0	No	7.5
U-7	24.03	13.08	34.88	0	No	11.5
U-8	24.39	14.18	29.84	0	No	8
U-9	23.95	13.36	28.20	0	No	7.5
(Monitored and Sampled on September 24, 1996)						
U-1	WELL WAS INACCESSIBLE FOR MONITORING AND PURGING - CONNECTED TO REMEDIATION SYSTEM					
U-2*	23.36	17.90	29.91	0	--	0
U-3	WELL WAS INACCESSIBLE FOR MONITORING AND PURGING- CONNECTED TO REMEDIATION SYSTEM					
U-4*	23.06	17.19	27.88	0	--	0
U-5*	22.76	16.55	28.45	0	--	0
U-6	22.62	15.06	28.28	0	No	9
U-7*	22.52	14.59	34.93	0	--	0
U-8*	22.82	15.75	29.84	0	--	0
U-9	22.39	14.92	28.20	0	No	9
(Monitored and Sampled on March 20, 1996)						
U-1★	WELL WAS INACCESSIBLE FOR MONITORING AND PURGING - CONNECTED TO REMEDIATION SYSTEM					
U-2*	26.24	15.02	29.90	0	--	0
U-3★	WELL WAS INACCESSIBLE FOR MONITORING AND PURGING- CONNECTED TO REMEDIATION SYSTEM					
U-4*	25.32	14.93	27.86	0	--	0
U-5*	25.24	14.07	28.40	0	--	0
U-6	25.27	12.41	28.27	0	No	11
U-7*	25.15	11.96	34.97	0	--	0
U-8*	25.32	13.25	29.82	0	--	0
U-9	25.04	12.27	28.20	0	No	11

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 December 14, 1995)						
U-1	WELL WAS INACCESSIBLE - CONNECTED TO REMEDIATION SYSTEM					
U-2	23.08	18.18	29.92	0	No	17.5
U-3	WELL WAS INACCESSIBLE - CONNECTED TO REMEDIATION SYSTEM					
U-4	22.82	17.43	27.88	0	No	15.5
U-5	22.75	16.56	28.56	0	No	8.5
U-6	22.79	14.89	28.30	0	No	9.5
U-7	22.72	14.39	34.85	0	No	14
U-8	22.90	15.67	29.85	0	No	10
U-9	22.64	14.67	28.20	0	No	9.5

Well #	Well Casing Elevation (feet)**
U-1	40.20
U-2	41.26
U-3	39.26
U-4	40.25
U-5	39.31
U-6	37.68
U-7	37.11
U-8	38.57
U-9	37.31

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

* Monitored only.

** The elevation of the top of the well casing are relative to Mean Sea Level.

★ Well was sampled on March 22, 1996.

-- Sheen determination was not performed.

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-1	3/27/97	1,300	8.0	ND	ND	400	ND
	9/24/96	NOT SAMPLED - WELL CONNECTED TO REMEDIATION SYSTEM WHICH WAS NOT RUNNING					
	3/22/96	13,000	200	590	640	4,000	790
	12/14/95	NOT SAMPLED - WELL CONNECTED TO REMEDIATION SYSTEM WHICH WAS NOT RUNNING					
	9/12/95	43,000	910	2,700	1,700	9,600	1,400
	6/13/95	53,000	1,400	5,000	2,500	14,000	2,800
	3/9/95	49,000	860	3,200	1,900	10,000	1,500
	12/5/94	1,300	55	20	16	330	--
	9/7/94	41,000	1,600	6,200	3,100	16,000	--
	6/9/94	59,000	5,200	1,300	5,200	15,000	--
	3/9/94	45,000	930	4,100	2,000	11,000	--
	12/2/93	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	9/9/93	67,000	2,900	18,000	6,200	32,000	--
	6/4/93	35,000	1,300	5,700	900	9,200	--
	2/12/93	70,000	2,200	8,400	3,100	18,000	--
	11/20/92	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	8/6/92	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	4/7/92	NOT SAMPLED - PRODUCT SKIMMER INSTALLED IN WELL					
	3/5/92	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	12/4/91	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	9/19/91	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	6/3/91	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	3/4/91	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	12/5/90	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	8/24/90	27,000	1,200	1,800	1,400	5,500	--
	6/5/90	46,000	2,300	5,500	2,500	11,000	--
	3/20/90	36,000	2,100	5,500	1,900	9,300	--
	2/9/88	93,000	3,600	11,000	†	20,000	--
U-2	3/27/97	ND	ND	ND	ND	ND	ND
	9/24/96	SAMPLED ANNUALLY					
	3/20/96	SAMPLED ANNUALLY					
	12/14/95	ND	ND	ND	ND	ND	ND
	9/12/95	ND	ND	ND	ND	ND	ND
	6/13/95	ND	ND	ND	ND	ND	ND
	3/9/95	ND	ND	ND	ND	ND	ND
	12/5/94	ND	ND	ND	ND	ND	--
	9/7/94	ND	ND	0.63	ND	0.61	--
	6/9/94	ND	ND	ND	ND	ND	--
	4/13/94	ND	ND	ND	ND	ND	--
	3/9/94	62	1.1	5.4	1.1	9.7	--
	12/2/93	ND	ND	ND	ND	ND	--

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-2	9/9/93	ND	ND	ND	ND	ND	--
(Cont.)	6/4/93	ND	ND	ND	ND	ND	--
	2/12/93	ND	ND	ND	ND	ND	--
	11/20/92	ND	ND	ND	ND	ND	--
	8/6/92	ND	ND	ND	ND	ND	--
	4/7/92	ND	ND	ND	ND	ND	--
	3/5/92	ND	ND	0.36	ND	ND	--
	12/4/91	ND	ND	ND	ND	ND	--
	9/19/91	ND	ND	ND	ND	ND	--
	6/3/91	ND	ND	ND	ND	ND	--
	3/4/91	ND	ND	0.9	ND	2.6	--
	12/5/90	ND	ND	ND	ND	ND	--
	8/23/90	ND	ND	ND	ND	ND	--
U-3	3/27/97	110	ND	ND	ND	0.62	9.6
	9/24/96	NOT SAMPLED - WELL CONNECTED TO REMEDIATION SYSTEM WHICH WAS NOT RUNNING					
	3/22/96	15,000	150	490	480	3,100	400
	12/14/95	NOT SAMPLED - WELL CONNECTED TO REMEDIATION SYSTEM WHICH WAS NOT RUNNING					
	9/12/95	69,000	1,700	820	4,000	19,000	29,000
	6/13/95	64,000	1,700	1,500	3,800	18,000	900
	3/9/95	100,000	2,300	3,300	4,800	21,000	54,000
	12/5/94	140,000	3,100	5,100	4,900	21,000	--
	9/7/94	100,000	2,400	4,900	4,200	21,000	--
	6/9/94	120,000*	3,300	6,100	5,200	26,000	--
	3/9/94	120,000	4,500	8,300	5,600	28,000	--
	12/2/93	110,000	3,200	7,700	5,600	26,000	--
	9/9/93	110,000	2,800	10,000	6,500	31,000	--
	6/4/93	92,000	2,900	8,700	4,300	20,000	--
	2/12/93	80,000	3,700	9,400	3,700	18,000	--
	11/20/92	50,000	3,200	4,700	1,900	10,000	--
	8/6/92	140,000	5,100	13,000	5,000	23,000	--
	4/7/92	97,000	6,100	16,000	5,400	28,000	--
	3/5/92	160,000	5,300	15,000	5,400	26,000	--
	12/4/91	75,000	2,500	6,100	1,900	11,000	--
	9/19/91	61,000	3,300	9,700	2,800	15,000	--
	6/3/91	130,000	5,800	19,000	4,600	24,000	--
	3/4/91	84,000	1,400	10,000	2,900	17,000	--
	1/18/91	51,000	1,700	3,100	1,500	7,500	--
	12/5/90	69,000	1,900	3,500	1,600	9,800	--
	8/23/90	110,000	4,400	13,000	2,800	17,000	--

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-4	3/27/97	ND	ND	ND	ND	ND	ND
	9/24/96	SAMPLED ANNUALLY					
	3/20/96	SAMPLED ANNUALLY					
	12/14/95	ND	ND	ND	ND	ND	1.3
	9/12/95	ND	ND	ND	ND	ND	ND
	6/13/95	ND	ND	ND	ND	ND	2.7
	3/9/95	ND	ND	ND	ND	ND	ND
	12/5/94	ND	ND	ND	ND	ND	--
	9/7/94	ND	ND	1.1	ND	1.0	--
	6/9/94	ND	ND	ND	ND	ND	--
	4/13/94	ND	ND	ND	ND	ND	--
	3/9/94	ND	1.4	4.7	1.1	8.1	--
	12/2/93	ND	ND	ND	ND	2.6	--
	9/9/93	ND	ND	ND	ND	ND	--
	6/4/93	ND	ND	ND	ND	ND	--
	2/12/93	ND	ND	ND	ND	ND	--
	11/20/92	ND	ND	2.5	ND	ND	--
	8/6/92	ND	ND	ND	ND	ND	--
	4/7/92	ND	ND	ND	ND	ND	--
	3/5/92	ND	ND	ND	ND	ND	--
	12/4/91	ND	ND	ND	ND	ND	--
	9/19/91	ND	ND	ND	ND	ND	--
	6/3/91	ND	ND	ND	ND	ND	--
	3/4/91	ND	ND	ND	ND	ND	--
	1/18/91	ND	ND	ND	ND	ND	--
	12/5/90	ND	ND	ND	ND	ND	--
	8/23/90	ND	ND	1.0	ND	1.8	--
U-5	3/27/97	ND	ND	ND	ND	ND	ND
	9/24/96	SAMPLED ANNUALLY					
	3/20/96	SAMPLED ANNUALLY					
	12/14/95	ND	ND	ND	ND	ND	ND
	9/12/95	ND	ND	ND	ND	ND	ND
	6/13/95	ND	ND	ND	ND	ND	0.87
	3/9/95	ND	ND	ND	ND	ND	ND
	12/5/94	ND	ND	ND	ND	ND	--
	9/7/94	ND	ND	0.73	ND	0.84	--
	6/9/94	ND	ND	ND	ND	ND	--
	4/13/94	ND	ND	ND	ND	ND	--
	3/9/94	71	1.7	6.3	1.5	10	--
	12/2/93	ND	ND	ND	ND	ND	--
	9/9/93	ND	ND	ND	ND	ND	--

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-5	6/4/93	ND	ND	ND	ND	ND	--
(Cont.)	2/12/93	ND	ND	ND	ND	ND	--
	11/20/92	ND	ND	ND	ND	ND	--
	8/6/92	ND	ND	ND	ND	ND	--
	4/7/92	ND	ND	ND	ND	ND	--
U-6	3/27/97	ND	ND	ND	ND	ND	150
	9/24/96	ND	ND	ND	ND	ND	750
	3/20/96	52	1.1	0.98	ND	0.75	1,200
	12/14/95	760	ND	ND	7.0	8.4	1,100
	9/12/95	ND	ND	ND	ND	ND	6,600
	6/13/95	1,300	ND	ND	20	46	5,400
	3/9/95	2,500	29	ND	70	120	320
	12/5/94	450**	ND	ND	ND	ND	--
	9/7/94	1,600*	ND	ND	ND	ND	--
	6/9/94	2,600*	16	ND	29	ND	--
	3/9/94	2,200	11	8.2	24	16	--
	12/2/93	2,100	12	1.6	21	1.1	--
	9/9/93	6,300♦♦	29	ND	120	34	--
	6/4/93	13,000	100	38	450	320	--
	2/12/93	2,600	27	ND	120	51	--
	11/20/92	WELL WAS INACCESSIBLE					
	8/6/92	9,200	160	ND	360	150	--
	4/7/92	6,600	90	ND	820	1,200	--
U-7	3/27/97	ND	ND	ND	ND	ND	ND
	9/24/96	SAMPLED ANNUALLY					
	3/20/96	SAMPLED ANNUALLY					
	12/14/95	ND	ND	ND	ND	ND	1.4
	9/12/95	ND	ND	ND	ND	ND	ND
	6/13/95	ND	ND	ND	ND	ND	3.5
	3/9/95	ND	ND	ND	ND	ND	ND
	12/5/94	ND	ND	ND	ND	ND	--
	9/7/94	ND	ND	ND	ND	ND	--
	6/9/94	ND	ND	ND	ND	ND	--
	4/13/94	ND	ND	ND	ND	ND	--
	3/9/94	ND	1.4	4.4	0.96	7.5	--
	12/2/93	ND	ND	ND	ND	ND	--
	9/9/93	ND	ND	ND	ND	ND	--
	6/4/93	ND	ND	ND	ND	ND	--
	2/12/93	ND	ND	ND	ND	ND	--
	11/20/92	ND	ND	ND	ND	ND	--
	8/6/92	ND	ND	ND	ND	ND	--
	4/7/92	ND	ND	ND	ND	ND	--

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-8	3/27/97	ND	ND	ND	ND	ND	ND
	9/24/96	SAMPLED ANNUALLY					
	3/20/96	SAMPLED ANNUALLY					
	12/14/95	ND	ND	ND	ND	ND	ND
	9/12/95	ND	ND	ND	ND	ND	ND
	6/13/95	ND	ND	ND	ND	ND	ND
	3/9/95	ND	ND	ND	ND	ND	ND
	12/5/94	ND	ND	ND	ND	ND	--
	9/7/94	ND	ND	ND	ND	ND	--
	6/9/94	ND	ND	ND	ND	ND	--
	4/13/94	ND	ND	0.78	ND	0.98	--
	3/9/94	ND	1.2	3.7	0.79	6.1	--
	12/2/93	ND	ND	ND	ND	ND	--
	9/9/93	ND	ND	ND	ND	ND	--
	6/4/93	ND	ND	ND	ND	ND	--
	2/12/93	ND	ND	ND	ND	ND	--
	8/6/92	ND	ND	ND	ND	ND	--
	4/7/92	ND	ND	ND	ND	ND	--
U-9	3/27/97	ND	ND	ND	ND	ND	42
	9/24/96	ND	ND	ND	ND	ND	ND
	3/20/96	ND	ND	ND	ND	ND	480
	12/14/95	ND	ND	ND	ND	ND	4,400
	9/12/95	ND	ND	ND	ND	ND	1,600
	6/13/95	ND	ND	ND	ND	ND	1,200
	3/9/95	2,500**	ND	ND	ND	ND	5,800
	12/5/94	3,700**	ND	ND	ND	ND	--
	9/7/94	2,700**	ND	ND	ND	ND	--
	6/9/94	2,900**	ND	ND	ND	ND	--
	4/13/94	ND	ND	ND	ND	ND	--
	3/9/94	5,700*	ND	ND	ND	ND	--
	12/2/93	ND	ND	ND	ND	ND	--
	9/9/93	1,200♦	ND	ND	ND	ND	--
	6/4/93	2,100♦	ND	ND	ND	ND	--

Table 2

Summary of Laboratory Analyses
Water

---

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

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

† Ethylbenzene and xylenes were combined prior to March 1990.

♦ The concentration reported as gasoline is primarily due to the presence of a discrete hydrocarbon peak not indicative of standard gasoline.

♦♦ The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.

MTBE = methyl tert butyl ether.

ND = Non-detectable.

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 December 2, 1993, were provided by GeoStrategies, Inc.

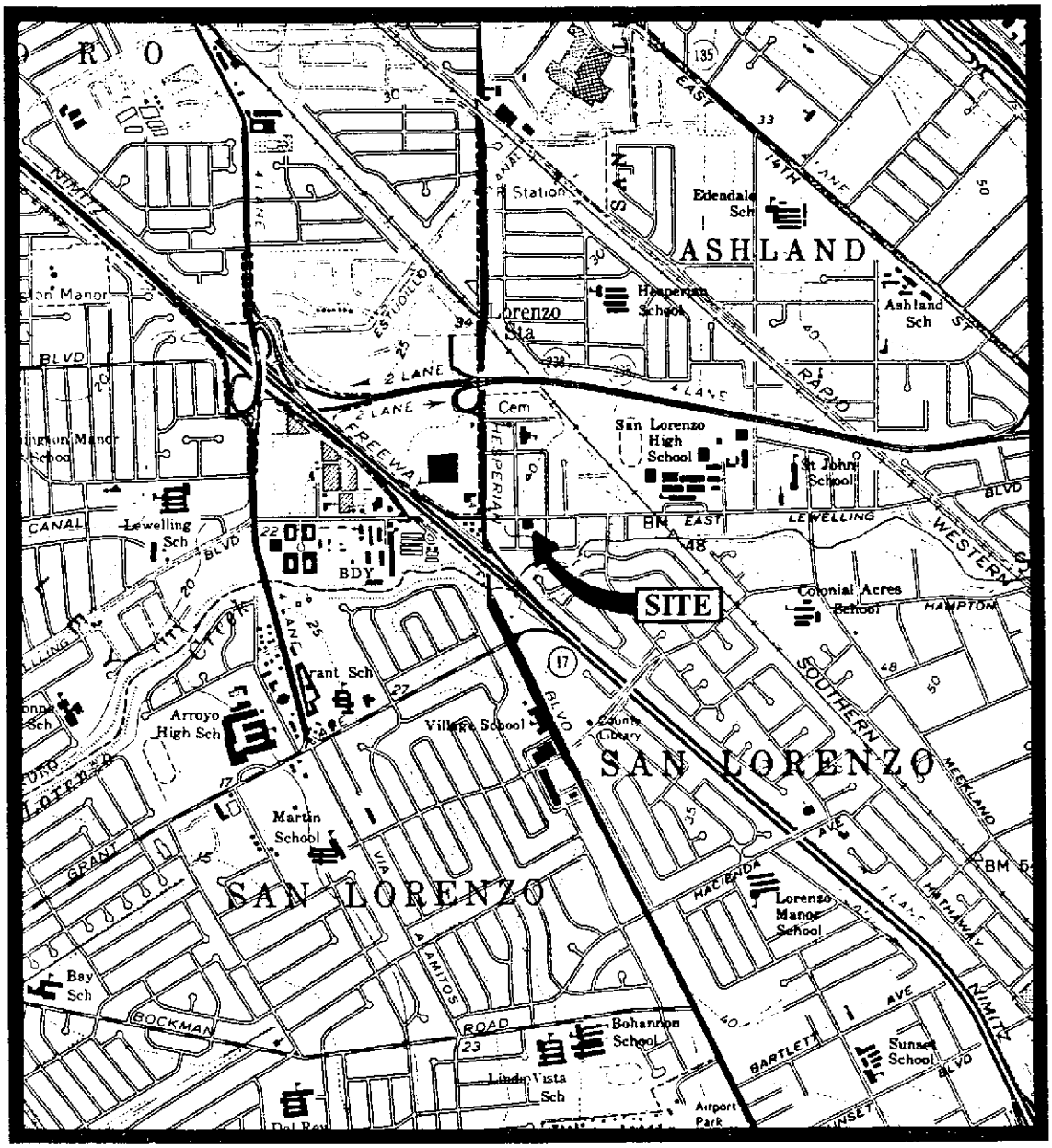
Table 3

Summary of Monitoring Data
Dissolved Oxygen Concentration (DO) Measurements

Date	Well #	DO (mg/L)	
		Before Purging	**After Purging**
3/27/97	U-1	2.41	2.35
3/27/97	U-2	4.36	4.49
3/27/97	U-3	3.18	3.32
3/27/97	U-4	3.32	3.26
3/27/97	U-5	3.74	3.77
3/27/97	U-6	4.43	4.36
9/20/96	U-6	3.73	3.81
3/20/96	U-6	3.85	3.89
3/27/97	U-7	3.29	3.38
3/27/97	U-8	3.04	3.11
3/27/97	U-9	3.65	3.57
9/20/96	U-9	3.85	3.98
3/20/96	U-9	4.02	4.00

mg/L = milligrams per liter

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

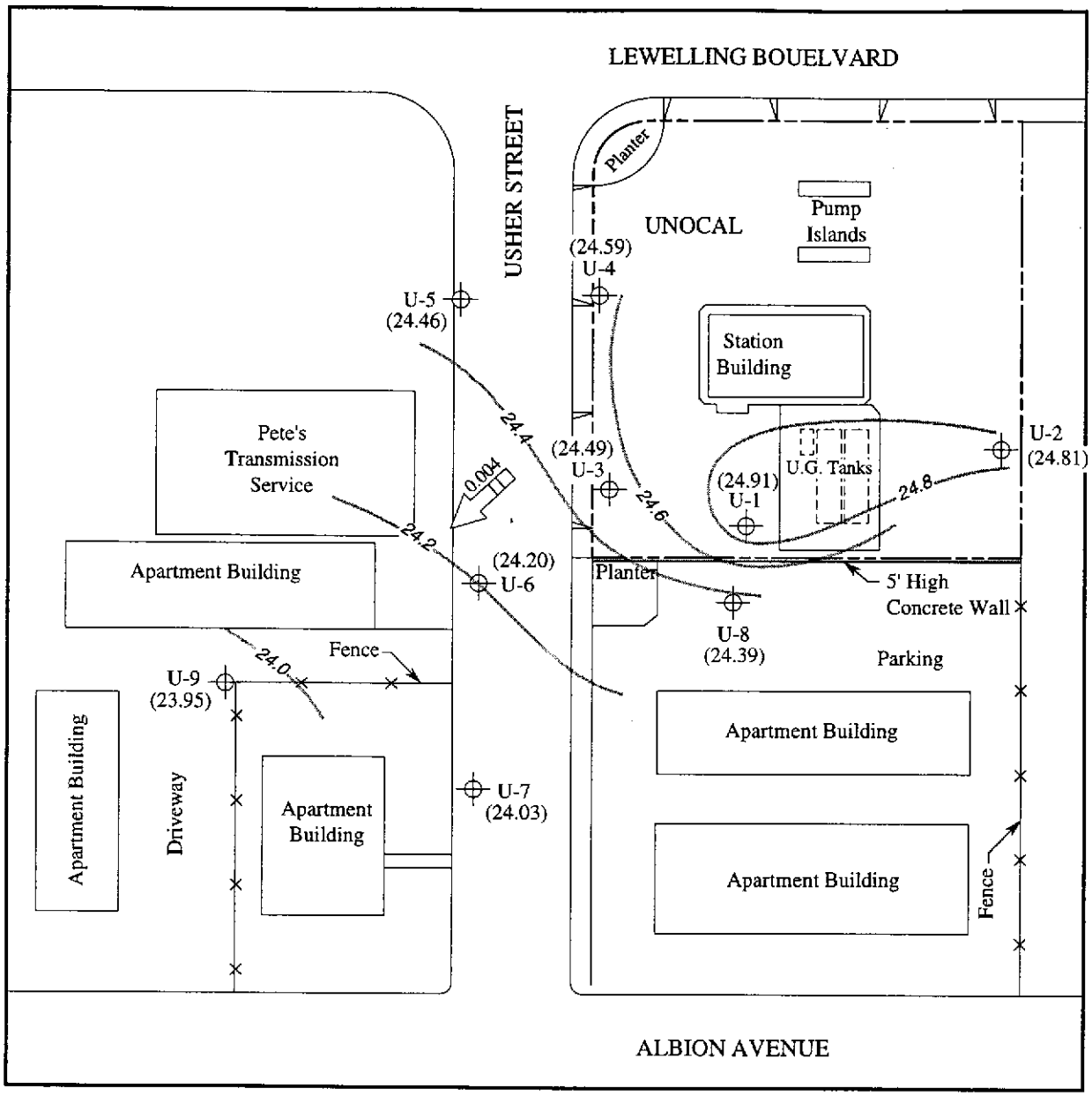


Base modified from 7.5 minute U.S.G.S.
Hayward and San Leandro Quadrangles
(both photorevised 1980)

0 2000 4000

Approx. scale feet

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #5760** **376 LEWELLING BOULEVARD** **SAN LORENZO, CALIFORNIA**	**LOCATION MAP**



LEGEND

- Monitoring well
- ( ) Ground water elevation in feet above Mean Sea Level
- #.## Direction of ground water flow with approximate hydraulic gradient
- Contours of ground water elevation

0 60 120

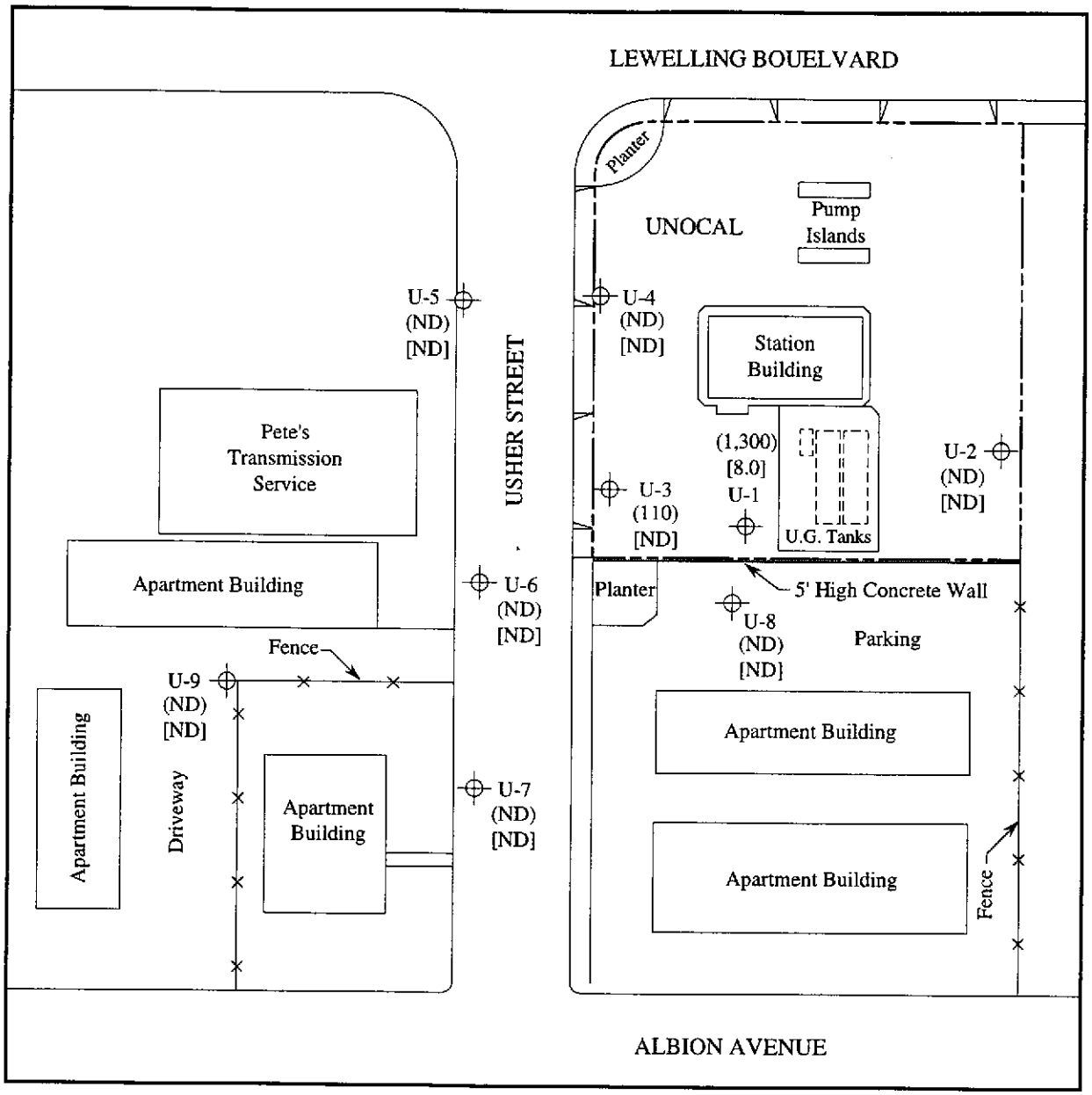
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE MARCH 27, 1997 MONITORING EVENT

MPDS SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5760
376 LEWELLING BOULEVARD
SAN LORENZO, CALIFORNIA

FIGURE
1



LEGEND

- Monitoring well
- ( ) Concentration of TPH as gasoline in µg/L
- [ ] Concentration of benzene in µg/L
- ND Non-detectable

0 60 120

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON MARCH 27, 1997

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5760
376 LEWELLING BOULEVARD
SAN LORENZO, 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 #5760, 376 Lewelling Bl. San Lorenzo	Sampled: Mar 27, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received: Mar 28, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Apr 11, 1997
Attention: Jarrel Crider	First Sample #:	703-2163	

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
703-2163	U-1	1,300	8.0	ND	ND	400
703-2164	U-2	ND	ND	ND	ND	ND
703-2165	U-3	110	ND	ND	ND	0.62
703-2166	U-4	ND	ND	ND	ND	ND
703-2167	U-5	ND	ND	ND	ND	ND
703-2168	U-6	ND	ND	ND	ND	ND
703-2169	U-7	ND	ND	ND	ND	ND
703-2170	U-8	ND	ND	ND	ND	ND
703-2171	U-9	ND	ND	ND	ND	ND
Detection Limits:		**50**	**0.50**	**0.50**	**0.50**	**0.50**

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

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 #5760, 376 Lewelling Bl. San Lorenzo	Sampled:	Mar 27, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received:	Mar 28, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Apr 11, 1997
Attention: Jarrel Crider	First Sample #:	703-2163		

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
703-2163	U-1	Gasoline	10	4/4/97	HP-2	84
703-2164	U-2	--	1.0	4/4/97	HP-2	87
703-2165	U-3	Gasoline	1.0	4/4/97	HP-2	97
703-2166	U-4	--	1.0	4/4/97	HP-2	87
703-2167	U-5	--	1.0	4/4/97	HP-2	89
703-2168	U-6	--	1.0	4/4/97	HP-2	89
703-2169	U-7	--	1.0	4/4/97	HP-2	89
703-2170	U-8	--	1.0	4/4/97	HP-2	88
703-2171	U-9	--	1.0	4/4/97	HP-2	90

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

7032163.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	Client Project ID:	Unocal #5760, 376 Lewelling Bl. San Lorenzo	Sampled: Mar 27, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water	Received: Mar 28, 1997
Concord, CA 94520	Analysis for:	MTBE (Modified EPA 8020)	
Attention: Jarrel Crider	First Sample #:	703-2163	Analyzed: Apr 4, 1997
			Reported: Apr 11, 1997

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L
703-2163	U-1	25	N.D.
703-2164	U-2	5.0	N.D.
703-2165	U-3	5.0	9.6
703-2166	U-4	5.0	N.D.
703-2167	U-5	5.0	N.D.
703-2168	U-6	5.0	150
703-2169	U-7	5.0	N.D.
703-2170	U-8	5.0	N.D.
703-2171	U-9	5.0	42

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

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

Sequoia Analytical

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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 #5760, 376 Lewelling Bl. San Lorenzo
Matrix: Liquid
QC Sample Group: 7032163-171
Reported: Apr 11, 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	D. Newcomb
MS/MSD Batch#:	7032148	7032148	7032148	7032148
Date Prepared:	4/4/97	4/4/97	4/4/97	4/4/97
Date Analyzed:	4/4/97	4/4/97	4/4/97	4/4/97
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:	85	100	95	95
Matrix Spike Duplicate % Recovery:	85	100	90	93
Relative % Difference:	0.0	0.0	5.4	1.8
LCS Batch#:	2LCS040497	2LCS040497	2LCS040497	2LCS040497
Date Prepared:	4/4/97	4/4/97	4/4/97	4/4/97
Date Analyzed:	4/4/97	4/4/97	4/4/97	4/4/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	90	105	100	98
% 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.

M P D S Services, Inc.

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

CHAIN OF CUSTODY

SAMPLER: HAIG KEVORK
WITNESSING AGENCY:

UNOCAL S/S # 5760 CITY: SAN LORENZO
ADDRESS: 376 LEWELLING BLVD.

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTEX	MTBE 5PPb						TURN AROUND TIME: REGULAR / REMARKS
U-1	3/27/97		✓	✓		2 VOAs	monitoring well	✓	✓	✓	7032163	A-B				
U-2			✓	✓				✓	✓	✓	7032164					
U-3			✓	✓				✓	✓	✓	7032165					
U-4			✓	✓				✓	✓	✓	7032166					
U-5			✓	✓				✓	✓	✓	7032167					
U-6			✓	✓				✓	✓	✓	7032168					
U-7			✓	✓				✓	✓	✓	7032169					
U-8			✓	✓				✓	✓	✓	7032170					
U-9			✓	✓				✓	✓	✓	7032171					

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)
Haig Kevork	3/28/97 1450	
(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: 3/28/97

MPDS Services Inc.
2401 Stanwell Drive
Concord, California 94520

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

PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5760 - San Lorenzo

DATE & TIME SAMPLED 3/27/97 4:50 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/27/97

WELL NUMBER U-1

WATER LEVEL-**INITIAL** 15.29

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 15.31

CONTAINERS 2 VOA's

WELL DEPTH 23.18

PRESERVATIVES HCl

WELL CASING VOLUME 2.92

†CASING DIAMETER 3"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
4:25	0	73.1	936	7.35
↓	3	72.7	882	7.33
↓	6	72.6	868	7.32
4:35	9	72.3	845 µs	7.31

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87

/P&S

MPDS Services Inc.
2401 Stanwell Drive
Concord, California 94520

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Fax: (510) 689-1918

PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5760-San Lorenzo

DATE & TIME SAMPLED 3/27/97 11:25 (A.M.) P.M.

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/27/97

WELL NUMBER U-2

WATER LEVEL-**INITIAL** 16.45

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 16.45

CONTAINERS 2 VOA's

WELL DEPTH 29.90

PRESERVATIVES HCl

WELL CASING VOLUME 4.98

†CASING DIAMETER 3"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
11:00	0	74.0	0.89	6.97
↓	5	73.8	0.84	6.91
↓	10	73.5	0.84	6.93
11:10	15	73.4	0.83	6.93

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87

/P&S

MPDS Services Inc.
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PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5760 - San Lorenzo

DATE & TIME SAMPLED: 3/24/94 12:45 A.M. (P.M.)

FIELD TECHNICIAN: HAIG KEVORK

PURGE METHOD: PUMP

DATE(S) PURGED: 3/24/94

WELL NUMBER: U-5

WATER LEVEL-**INITIAL**: 14.85

SAMPLING METHOD: BAIL

WATER LEVEL-**FINAL**: 14.86

CONTAINERS: 2 VOA's

WELL DEPTH: 28.50

PRESERVATIVES: HCl

WELL CASING VOLUME: 2.32

†CASING DIAMETER: 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
12:20	0	76.3	0.86	7.31
↓	2.5	75.7	0.93	7.19
↓	5	75.4	0.92	7.16
12:30	7	75.2	0.92	7.12

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87

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PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5760 - San Lorenzo

DATE & TIME SAMPLED 3/24/94 3:30 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/24/94

WELL NUMBER H-6

WATER LEVEL-**INITIAL** 13.48

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 13.50

CONTAINERS 2 VOA's

WELL DEPTH 28.28

PRESERVATIVES HCl

WELL CASING VOLUME 2.52

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([μmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
3:05	0	75.8	724	7.54
↓	2.5	75.7	681	7.49
↓	5	75.5	658	7.45
3:15	7.5	75.5	639 μs	7.42

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87

/P&S

MPDS Services Inc.
2401 Stanwell Drive
Concord, California 94520

Tel: (510) 602-5120
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PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5760-San Lorenzo

DATE & TIME SAMPLED: 3/24/97 1:25 A.M. (P.M.)

FIELD TECHNICIAN: HAIG KEVORK

PURGE METHOD: PUMP

DATE(S) PURGED: 3/24/97

WELL NUMBER: U-7

WATER LEVEL-INITIAL: 13.08

SAMPLING METHOD: BAIL

WATER LEVEL-FINAL: 13.10

CONTAINERS: 2 VOAs

WELL DEPTH: 34.88

PRESERVATIVES: HCl

WELL CASING VOLUME: 3.71

†CASING DIAMETER: 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([μmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
1:00	0	75.3	528	7.46
↓	3.5	75.1	511	7.43
↓	7.5	74.9	493	7.40
1:10	11.5	74.8	474	7.39

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87

/P&S

MPDS Services Inc.
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Concord, California 94520

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

PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5760 - San Lorenzo

DATE & TIME SAMPLED: 3/24/97 2:10 A.M. / P.M.

FIELD TECHNICIAN: HAIG KEVORK

PURGE METHOD: PUMP

DATE(S) PURGED: 3/24/97

WELL NUMBER: U-8

WATER LEVEL-INITIAL: 14.18

SAMPLING METHOD: BAIL

WATER LEVEL-FINAL: 14.19

CONTAINERS: 2 VOA's

WELL DEPTH: 29.84

PRESERVATIVES: HCl

WELL CASING VOLUME: 2.66

†CASING DIAMETER: 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
1:40	0	76.2	447	7.30
↓	3	74.9	416	7.27
↓	6	74.6	403	7.26
1:50	8	74.4	389	7.23

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87

/P&S

MPDS Services Inc.
2401 Stanwell Drive
Concord, California 94520

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

PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5760-San Lorenzo

DATE & TIME SAMPLED: 3/27/97 2:50 A.M. (P.M.)

FIELD TECHNICIAN: HAIG KEVORK

PURGE METHOD: PUMP

DATE(S) PURGED: 3/27/97

WELL NUMBER: U-9

WATER LEVEL-**INITIAL**: 13.36

SAMPLING METHOD: BAIL

WATER LEVEL-**FINAL**: 13.38

CONTAINERS: 2 VOA'S

WELL DEPTH: 28.20

PRESERVATIVES: HCl

WELL CASING VOLUME: 2.52

†CASING DIAMETER: 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
2:25	0	74.6	1.34	6.92
↓	2.5	74.4	1.22	6.90
↓	5	74.2	1.19	6.88
2:35	7.5	74.1	1.16 ms	6.85

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87

/P&S