MONITORING
PURGING
DISPOSING
SAMPLING
mpds SERVICES, INCORPORATED

MPDS-UN5430-
April 10, 1997

Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Ms. Tina R. Berry

FILE # 5430 SS ✓ BP ____
RPT ____ QM ✓ TRANSMITTAL ____
1____ 2____ 3____ 4____ 5____ 6____

RE: Semi-Annual Data Report
Unocal Service Station #5430
1935 Washington Avenue
San Leandro, 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. 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 8, 1997. Prior to sampling, the wells were each purged of between 5 and 7.5 gallons of water. 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 Tables 2 and 3. The concentrations of Total Petroleum *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 Mr. Scott Seery of the Alameda County Environmental Health Care Services, and Mr. Michael Bakaldin of the San Leandro Fire Department.

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, 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 8, 1997)						
U-1	30.06	26.03	39.63	0	No	5
U-2	30.65	24.64	39.30	0	No	7.5
U-3	30.58	24.65	38.55	0	No	7
U-4	30.60	24.79	39.08	0	No	7.5
U-5	30.69	23.49	38.59	0	No	7.5
U-6	30.11	25.25	40.02	0	No	7.5
U-7	30.72	24.33	37.78	0	No	7
(Monitored and Sampled on September 6, 1996)						
U-1	25.84	30.25	39.62	0	No	4.5
U-2	26.11	29.18	39.28	0	No	7
U-3	26.17	29.06	38.54	0	No	6.5
U-4	26.07	29.32	39.08	0	No	7
U-5	26.12	28.06	38.56	0	No	7.5
U-6	25.95	29.41	40.02	0	No	7.5
U-7	26.30	28.75	37.77	0	No	6.5
(Monitored and Sampled on June 4, 1996)						
U-1	28.66	27.43	39.62	0	No	8.5
U-2	29.26	26.03	39.35	0	No	9.5
U-3	29.23	26.00	38.54	0	No	9.5
U-4	29.20	26.19	39.08	0	No	9
U-5	29.27	24.91	38.58	0	No	9.5
U-6	28.84	26.52	40.03	0	No	9.5
U-7	29.38	25.67	37.75	0	No	8.5
(Monitored and Sampled on March 6, 1996)						
U-1	29.56	26.53	39.63	0	No	6
U-2	30.12	25.17	39.30	0	No	10
U-3	29.98	25.25	38.57	0	No	9.5
U-4	30.09	25.30	39.10	0	No	9.5
U-5	30.15	24.03	38.65	0	No	10
U-6	29.65	25.71	40.02	0	No	10
U-7	29.95	25.10	37.82	0	No	9

Table 1

Summary of Monitoring Data

Well #	Well Casing Elevation (feet)*
U-1	56.09
U-2	55.29
U-3	55.23
U-4	55.39
U-5	54.18
U-6	55.36
U-7	55.05

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

* The elevation of the top of the well casings were surveyed March 1995, based on benchmark provided by City of San Leandro, City Engineers Office, Datum 1929, USGS adjusted.

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-1	8/13/93†	50*	310	0.84	ND	2.6	1.0	--
	12/16/93†	130**	ND	ND	ND	ND	ND	--
	3/25/94†	57**	58	0.63	0.79	ND	0.65	--
	6/19/94†	61**	51	ND	1.4	ND	2.7	--
	9/15/94†	83**	ND	0.50	0.85	ND	0.77	--
	12/6/94†	ND	ND	ND	ND	ND	ND	--
	3/14/95	71**	380	20	ND	ND	10	--
	6/20/95	170**	500	50	ND	ND	4.4	--
	9/18/95	72	57	1.2	0.75	0.57	2.2	§
	12/14/95	ND	ND	0.72	1.4	1.2	3.6	--
	3/6/96	ND	96	4.5	ND	ND	3.7	ND
	6/4/96	170**	410	48	ND	3.4	7.9	ND
	9/6/96	ND	ND	ND	ND	ND	ND	ND
	3/8/97	--	ND	ND	ND	ND	ND	ND
U-2	8/13/93	--	1,400	ND	ND	ND	ND	--
	12/16/93	--	330	1.7	ND	11	8.5	--
	3/25/94	--	130	0.70	0.78	0.65	0.64	--
	6/19/94	--	180♦	ND	ND	ND	0.86	--
	9/15/94	--	1,000♦♦	44	ND	ND	ND	--
	12/6/94	--	250	19	ND	ND	ND	--
	3/14/95	--	89	ND	ND	ND	1.2	--
	6/20/95	--	ND	ND	0.58	ND	1.7	--
	9/18/95	--	ND	ND	ND	ND	0.85	§
	12/14/95	--	ND	ND	0.89	ND	2.0	§§
	3/6/96	--	ND	ND	ND	ND	ND	80
	6/4/96	--	ND	ND	ND	ND	ND	110
	9/6/96	--	ND	ND	ND	ND	ND	ND
	3/8/97	--	ND	ND	ND	ND	ND	42
U-3	8/13/93	--	23,000	1,000	ND	1,700	1,600	--
	12/16/93	--	15,000	570	ND	940	670	--
	3/25/94	--	18,000	560	40	1,000	770	--
	6/19/94	--	17,000	580	ND	1,300	90	--
	9/15/94	--	12,000	370	ND	970	610	--
	12/6/94	--	17,000	390	ND	990	560	--
	3/14/95	--	13,000	860	120	1,300	1,700	--
	6/20/95	--	9,800	590	ND	800	1,000	--
	9/18/95	--	9,800	600	ND	1,000	760	§
	12/14/95	--	10,000	520	ND	920	630	§§
	3/6/96	--	19,000	1,400	ND	1,800	3,000	73
	6/4/96	--	8,800	510	ND	600	830	ND
	9/6/96	--	15,000	360	20	540	450	ND
	3/8/97	--	3,500	310	ND	230	630	ND

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-4	3/14/95	--	490	3.2	2.1	0.79	1.2	--
	6/20/95	--	ND	ND	ND	ND	1.5	--
	9/18/95	--	ND	ND	ND	ND	ND	§
	12/14/95	--	ND	ND	0.59	ND	0.79	§§
	3/6/96	--	ND	ND	ND	ND	0.62	50
	6/4/96	--	ND	ND	ND	ND	ND	290
	9/6/96	--	ND	ND	ND	ND	ND	ND
	3/8/97	--	ND	ND	ND	ND	ND	ND
U-5	3/14/95	--	ND	ND	ND	ND	1.2	--
	6/20/95	--	ND	ND	ND	ND	1.6	--
	9/18/95	--	ND	ND	ND	ND	0.66	--
	12/14/95	--	ND	ND	ND	ND	ND	--
	3/6/96	--	ND	ND	ND	ND	ND	ND
	6/4/96	--	ND	ND	ND	ND	ND	ND
	9/6/96	--	ND	ND	ND	ND	ND	ND
	3/8/97	--	ND	ND	ND	ND	ND	ND
U-6	3/14/95	--	14,000	170	36	790	1,500	--
	6/20/95	--	8,500	170	11	950	1,300	--
	9/18/95	--	9,500	260	ND	1,400	1,800	§
	12/14/95	--	15,000	240	ND	1,400	1,700	§§
	3/6/96	--	2,400	54	ND	170	250	ND
	6/4/96	--	4,600	83	ND	400	520	46
	9/6/96	--	12,000	180	6.4	690	600	95
	3/8/97	--	2,000	180	ND	96	290	ND
U-7	3/14/95	--	ND	ND	ND	ND	ND	--
	6/20/95	--	ND	ND	ND	ND	ND	--
	9/18/95	--	ND	ND	ND	ND	ND	--
	12/14/95	--	ND	ND	ND	ND	0.88	--
	3/6/96	--	ND	ND	ND	ND	ND	ND
	6/4/96	--	ND	ND	ND	ND	ND	ND
	9/6/96	--	ND	ND	ND	ND	ND	ND
	3/8/97	--	ND	ND	ND	ND	ND	ND

§ Sequoia Analytical Laboratory has potentially identified the presence of MTBE at reportable levels in the ground water sample collected from this well.

§§ Sequoia Analytical Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 µg/L in the sample collected from this well.

† Total Oil and Grease was non-detectable.

Table 2
Summary of Laboratory Analyses
Water

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

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

- * Not a typical diesel pattern; lower boiling hydrocarbons in the boiling range of stoddard calculated as diesel.

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

MTBE = Methyl tert butyl ether.

ND = Non-detectable.

-- 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 quantificiation range used by Sequoia Analytical Laboratory is C6 - C12.

Laboratory analyses data prior to December 16, 1993, were provided by Pacific Environmental Group, Inc.

Table 3

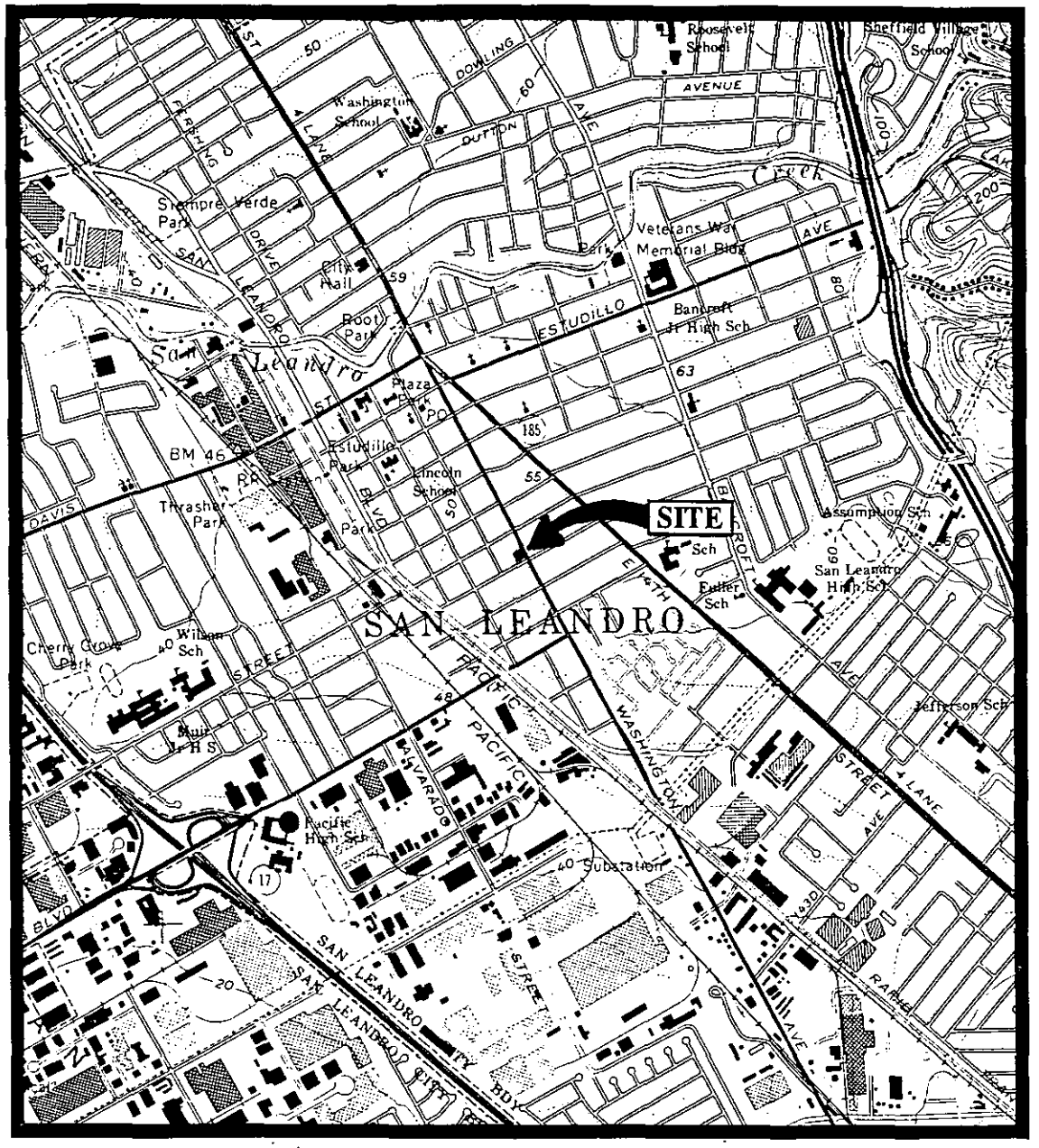
Summary of Laboratory Analyses
Water

Well #	Date	1,2-Dichlorobenzene	1,2-Dichloroethane
U-1	6/19/94	ND	7.4
	9/15/94	ND	9.5
	12/6/94	ND	5.8
	12/14/95	ND	3.8
	3/8/97	ND	43
U-2	3/25/94	ND	11
	3/25/94	ND	ND
	6/19/94	ND	0.54
	9/15/94	ND	0.66
	12/6/94	ND	ND
	12/14/95	ND	ND
U-3	3/25/94	ND	480
	6/19/94	ND	410
	9/15/94	ND	420
	12/6/94	ND	430
	12/14/95	ND	240
	3/8/97	ND	100
U-4	3/14/95	ND	ND
	12/14/95	ND	ND
U-5	3/14/95	ND	ND
	12/14/95	ND	ND
U-6	3/14/95	ND	210
	12/14/95	ND	370
U-7	3/14/95	ND	ND
	12/14/95	ND	ND
	3/8/97	ND	ND

ND = Non-detectable.

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

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



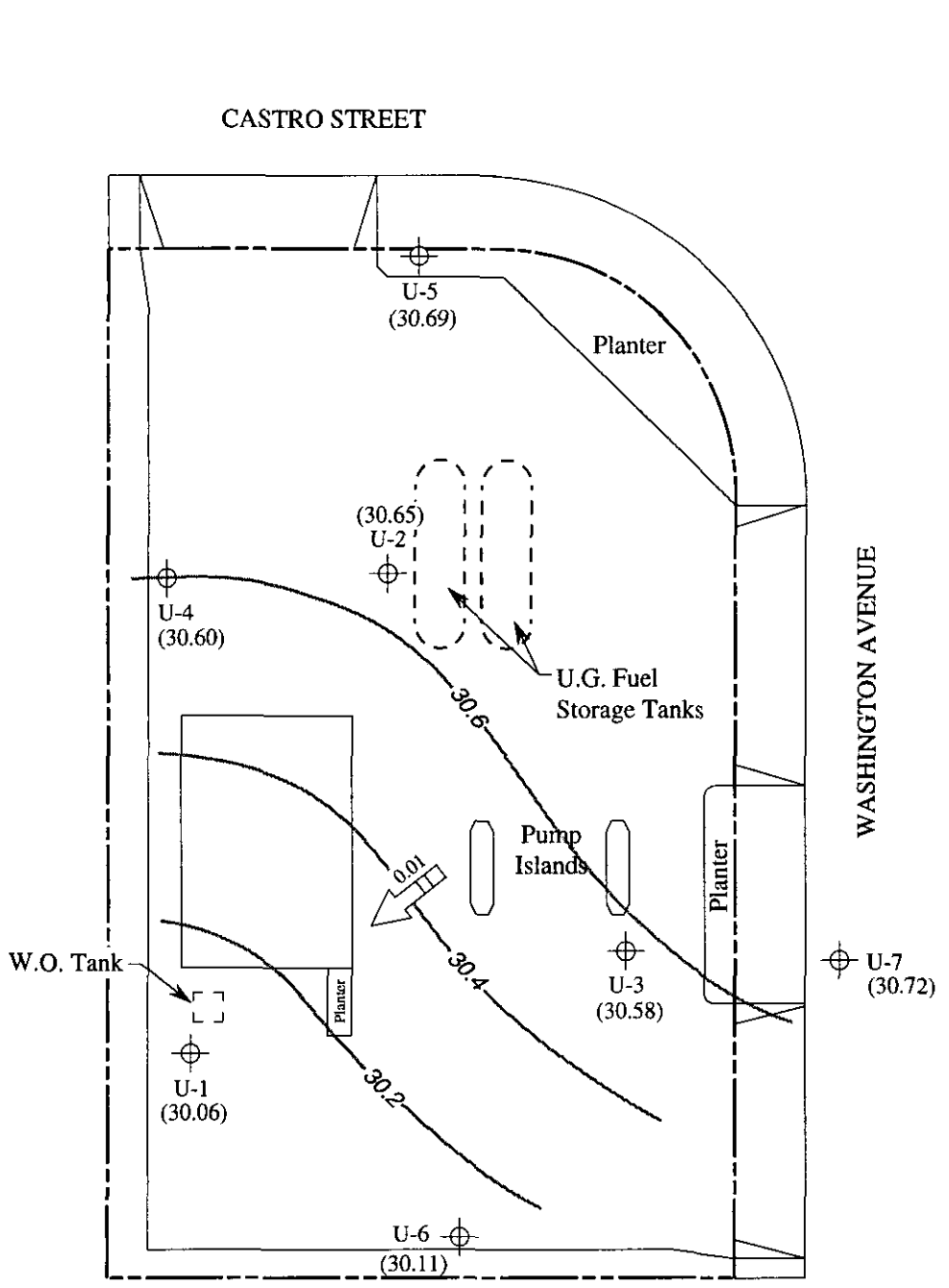
N

Base modified from 7.5 minute U.S.G.S. San Leandro Quadrangle
(*photorevised 1980*)

0 2000 4000

Approx. scale feet

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #5430** **1935 WASHINGTON AVENUE** **SAN LEANDRO, CALIFORNIA**	**LOCATION MAP**



LEGEND

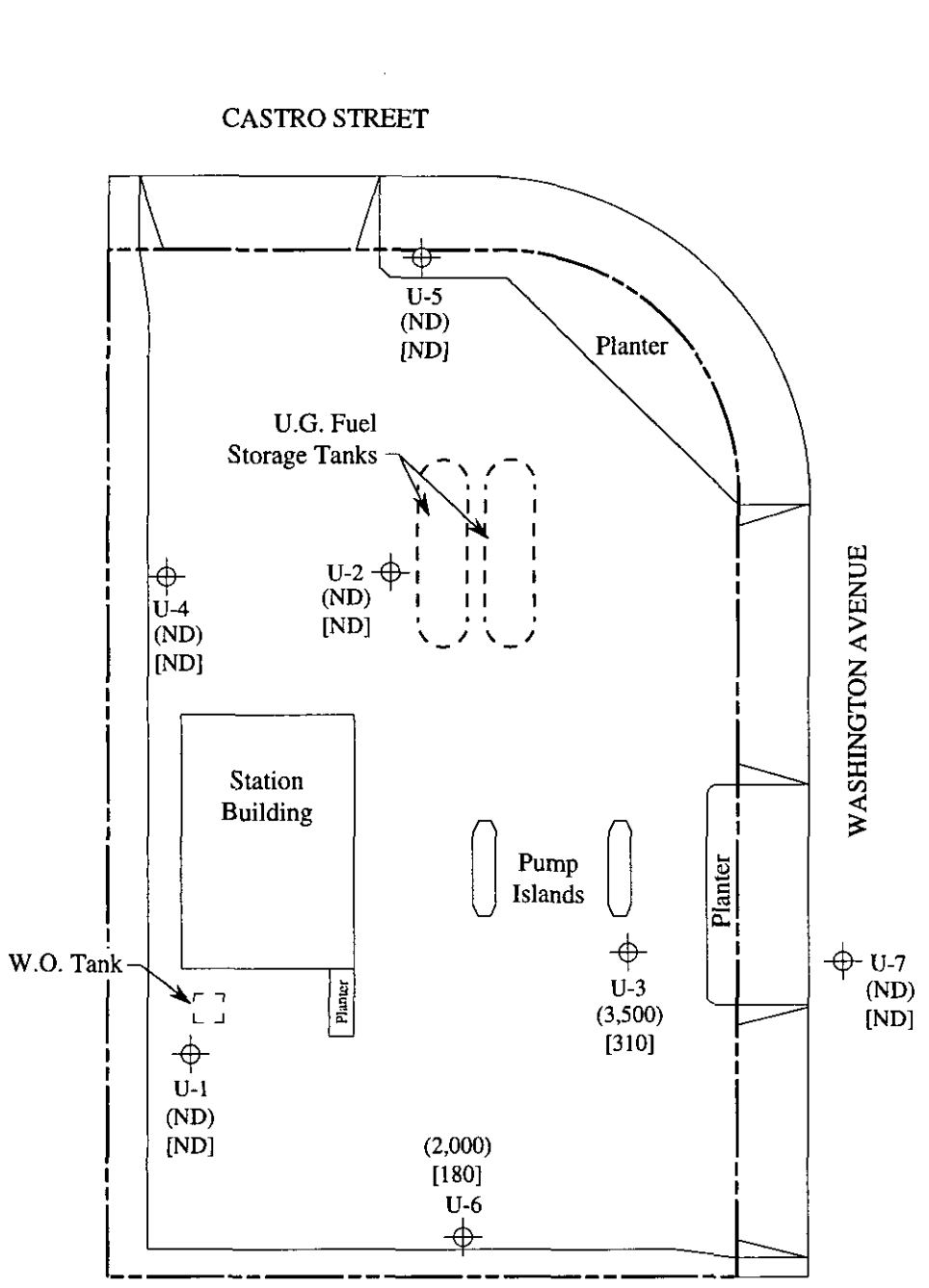
- Monitoring well
- ( ) Ground water elevation in feet above Mean Sea Level
- #.## Direction of ground water flow with approximate hydraulic gradient
- Contours of ground water elevation

0 30 60

Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE MARCH 8, 1997 MONITORING EVENT

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #5430** **1935 WASHINGTON AVENUE** **SAN LEANDRO, CALIFORNIA**	FIGURE **1**



LEGEND

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

0 30 60

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON MARCH 8, 1997

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #5430** **1935 WASHINGTON AVENUE** **SAN LEANDRO, 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 #5430, 1935 Washington Ave. San Leandro	Sampled: Mar 8, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received: Mar 10, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Mar 24, 1997
Attention: Jarrel Crider	First Sample #:	703-0955	

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
703-0955	U-1	ND	ND	ND	ND	ND
703-0956	U-2	ND	ND	ND	ND	ND
703-0957	U-3	3,500	310	ND	230	630
703-0958	U-4	ND	ND	ND	ND	ND
703-0959	U-5	ND	ND	ND	ND	ND
703-0960	U-6	2,000	180	ND	96	290
703-0961	U-7	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 #5430, 1935 Washington Ave. San Leandro	Sampled: Mar 8, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received: Mar 10, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Mar 24, 1997
Attention: Jarrel Crider	First Sample #:	703-0955	

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
703-0955	U-1	--	1.0	3/17/97	HP-9	89
703-0956	U-2	--	1.0	3/17/97	HP-9	90
703-0957	U-3	Gasoline	10	3/17/97	HP-2	98
703-0958	U-4	--	1.0	3/17/97	HP-9	87
703-0959	U-5	--	1.0	3/17/97	HP-9	86
703-0960	U-6	Gasoline	10	3/17/97	HP-2	95
703-0961	U-7	--	1.0	3/17/97	HP-9	85

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 #5430, 1935 Washington Ave.	Sampled:	Mar 8, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water San Leandro	Received:	Mar 10, 1997
Concord, CA 94520	Analysis for:	MTBE (Modified EPA 8020)		
Attention: Jarrel Crider	First Sample #:	703-0955	Analyzed:	Mar 17, 1997
			Reported:	Mar 24, 1997

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L
703-0955	U-1	5.0	N.D.
703-0956	U-2	5.0	42
703-0957	U-3	25	N.D.
703-0958	U-4	5.0	N.D.
703-0959	U-5	5.0	N.D.
703-0960	U-6	25	N.D.
703-0961	U-7	5.0	N.D.

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

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 #5430, 1935 Washington Ave. San Leandro	Sampled:	Mar 8, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water, U-1	Received:	Mar 10, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed:	Mar 18, 1997
Attention: Jarrel Crider	Lab Number:	703-0955	Reported:	Mar 24, 1997

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	2.5	N.D.
Bromoform	2.5	N.D.
Bromomethane	5.0	N.D.
Carbon tetrachloride	2.5	N.D.
Chlorobenzene	2.5	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	2.5	N.D.
Chloromethane	5.0	N.D.
Dibromochloromethane	2.5	N.D.
1,3-Dichlorobenzene	2.5	N.D.
1,4-Dichlorobenzene	2.5	N.D.
1,2-Dichlorobenzene	2.5	N.D.
1,1-Dichloroethane	2.5	N.D.
1,2-Dichloroethane	**2.5**	**43**
1,1-Dichloroethene	2.5	N.D.
cis-1,2-Dichloroethene	2.5	N.D.
trans-1,2-Dichloroethene	2.5	N.D.
1,2-Dichloropropane	2.5	N.D.
cis-1,3-Dichloropropene	2.5	N.D.
trans-1,3-Dichloropropene	2.5	N.D.
Methylene chloride	25	N.D.
1,1,2,2-Tetrachloroethane	2.5	N.D.
Tetrachloroethene	2.5	N.D.
1,1,1-Trichloroethane	2.5	N.D.
1,1,2-Trichloroethane	2.5	N.D.
Trichloroethene	2.5	N.D.
Trichlorofluoromethane	2.5	N.D.
Vinyl chloride	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 9406 (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 #5430, 1935 Washington Ave. San Leandro	Sampled:	Mar 8, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water, U-3	Received:	Mar 10, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed:	Mar 18, 1997
Attention: Jarrel Crider	Lab Number:	703-0957	Reported:	Mar 24, 1997

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	2.5	N.D.
Bromoform	2.5	N.D.
Bromomethane	5.0	N.D.
Carbon tetrachloride	2.5	N.D.
Chlorobenzene	2.5	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	2.5	N.D.
Chloromethane	5.0	N.D.
Dibromochloromethane	2.5	N.D.
1,3-Dichlorobenzene	2.5	N.D.
1,4-Dichlorobenzene	2.5	N.D.
1,2-Dichlorobenzene	2.5	N.D.
1,1-Dichloroethane	2.5	N.D.
1,2-Dichloroethane	**2.5**	**100**
1,1-Dichloroethene	2.5	N.D.
cis-1,2-Dichloroethene	2.5	N.D.
trans-1,2-Dichloroethene	2.5	N.D.
1,2-Dichloropropane	2.5	N.D.
cis-1,3-Dichloropropene	2.5	N.D.
trans-1,3-Dichloropropene	2.5	N.D.
Methylene chloride	25	N.D.
1,1,2,2-Tetrachloroethane	2.5	N.D.
Tetrachloroethene	2.5	N.D.
1,1,1-Trichloroethane	2.5	N.D.
1,1,2-Trichloroethane	2.5	N.D.
Trichloroethene	2.5	N.D.
Trichlorofluoromethane	2.5	N.D.
Vinyl chloride	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 940[illegible], (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 #5430, 1935 Washington Ave. San Leandro	Sampled:	Mar 8, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water, U-7	Received:	Mar 10, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed:	Mar 18, 1997
Attention: Jarrel Crider	Lab Number:	703-0961	Reported:	Mar 24, 1997

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, #1271

Signature on File

Alan B. Kemp
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 9400 (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 #5430, 1935 Washington Ave. San Leandro
Matrix: Liquid
QC Sample Group: 7030955-961
Reported: Mar 24, 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#:	7030912	7030912	7030912	7030912
Date Prepared:	3/17/97	3/17/97	3/17/97	3/17/97
Date Analyzed:	3/17/97	3/17/97	3/17/97	3/17/97
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	110	105	105
Matrix Spike Duplicate % Recovery:	85	110	110	105
Relative % Difference:	0.0	0.0	4.7	0.0
LCS Batch#:	2LCS031797	2LCS031797	2LCS031797	2LCS031797
Date Prepared:	3/17/97	3/17/97	3/17/97	3/17/97
Date Analyzed:	3/17/97	3/17/97	3/17/97	3/17/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	85	110	105	103
% 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.

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 9406 (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 #5430, 1935 Washington Ave. San Leandro
Matrix: Liquid
QC Sample Group: 7030955-961
Reported: Mar 24, 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#:	7030935	7030935	7030935	7030935
Date Prepared:	3/17/97	3/17/97	3/17/97	3/17/97
Date Analyzed:	3/17/97	3/17/97	3/17/97	3/17/97
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	120	80	123
Matrix Spike Duplicate % Recovery:	105	115	85	122
Relative % Difference:	0.0	4.3	6.1	1.4
LCS Batch#:	9LCS031797	9LCS031797	9LCS031797	9LCS031797
Date Prepared:	3/17/97	3/17/97	3/17/97	3/17/97
Date Analyzed:	3/17/97	3/17/97	3/17/97	3/17/97
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	105	115	80	118
% 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.

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 9400 (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 #5430, 1935 Washington Ave. San Leandro
Matrix: Liquid
QC Sample Group: 7030955-961
Reported: Mar 24, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	P. Horton	P. Horton	P. Horton
MS/MSD Batch#:	7030961	7030961	7030961
Date Prepared:	3/18/97	3/18/97	3/18/97
Date Analyzed:	3/18/97	3/18/97	3/18/97
Instrument I.D.#:	HP-6	HP-6	HP-6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L
Matrix Spike % Recovery:	115	113	99
Matrix Spike Duplicate % Recovery:	108	107	99
Relative % Difference:	6.3	5.5	0.0
LCS Batch#:	LCS031897	LCS031897	LCS031897
Date Prepared:	3/18/97	3/18/97	3/18/97
Date Analyzed:	3/18/97	3/18/97	3/18/97
Instrument I.D.#:	HP-6	HP-6	HP-6
LCS % Recovery:	105	106	99
% Recovery Control Limits:	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
9703261

SAMPLER: HAIG KEVORK
WITNESSING AGENCY:

UNOCAL S/S # 5430 CITY: SAN LEANDRO
ADDRESS: 1935 WASHINGTON AVE

TURN AROUND TIME: REGULAR

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTEX	MTBE 5PPb	EPA 8010				REMARKS
								ANALYSES REQUESTED							
U-1	3/8/97		✓	✓		4 VOA's	monitoring well	✓	✓	✓	✓		7030955	A-D	
U-2			✓	✓		3 VOA's		✓	✓	✓			7030956	A-C	
U-3			✓	✓		4 VOA's		✓	✓	✓	✓		7030957	A-D	
U-4			✓	✓		3 VOA's		✓	✓	✓			7030958	A-C	
U-5			✓	✓		2 VOA's		✓	✓	✓			7030959	A-B	
U-6			✓	✓		2 VOA's		✓	✓	✓			7030960	A-B	
U-7			✓	✓		4 VOA's		✓	✓	✓	✓		7030961	A-D	

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
(SIGNATURE)	3/10/97 0830	(SIGNATURE)
(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: 3/10/97

MPDS Services Inc.
2401 Stanwell Drive
Concord, California 94520

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

PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5430 - San Leandro

DATE & TIME SAMPLED 3/8/97 12:15 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/8/97

WELL NUMBER * U-1

WATER LEVEL-**INITIAL** 26.03

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 29.41

CONTAINERS 4 VOA'S

WELL DEPTH 39.63

PRESERVATIVES HCl

WELL CASING VOLUME 2.31

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
11:20	0	68.7	687	6.92
↓	2.5	68.5	652	6.89
11:28	5	68.3	629	6.87
	Dewatered			

† 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

* DEWATERED DURING PURGING

/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: 5430-San Leandro

DATE & TIME SAMPLED 3/8/97 12:05 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/8/97

WELL NUMBER U-2

WATER LEVEL-**INITIAL** 24.64

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 27.02

CONTAINERS 3 VOA's

WELL DEPTH 39.30

PRESERVATIVES HCl

WELL CASING VOLUME 2.49

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
11:45	0	70.4	638	6.93
	2.5	69.5	607	6.89
↓	5	68.9	590	6.89
11:55	7.5	68.6	573	6.91

† 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: 5430-San Leandro

DATE & TIME SAMPLED 3/8/97 3:40 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/8/97

WELL NUMBER U-3

WATER LEVEL-**INITIAL** 24.65

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 24.86

CONTAINERS 4 VOA's

WELL DEPTH 38.55

PRESERVATIVES HCl

WELL CASING VOLUME 2.36

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
3:15	0	68.2	491	6.83
	2.5	68.8	465	6.71
↓	5	69.1	446	6.64
3:25	7	69.0	430	6.58

† 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: 5430 - San Leandro

DATE & TIME SAMPLED 3/8/97 12:55 A.M (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/8/97

WELL NUMBER U-4

WATER LEVEL-**INITIAL** 24.79

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 24.93

CONTAINERS 3 VOA's

WELL DEPTH 39.08

PRESERVATIVES HCl

WELL CASING VOLUME 2.43

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
12:30	0	67.3	821	6.81
	2.5	67.1	793	6.77
↓	5	66.8	780	6.75
12:40	7.5	66.7	786	6.72

† 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: 5430-San Leandro

DATE & TIME SAMPLED 3/8/97 1:35 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/8/97

WELL NUMBER U-5

WATER LEVEL-**INITIAL** 23.49

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 23.75

CONTAINERS 2 VOA's

WELL DEPTH 38.59

PRESERVATIVES HCl

WELL CASING VOLUME 2.57

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
1:10	0	66.8	787	7.22
↓	2.5	66.6	752	7.19
↓	5	66.3	735	7.18
1:20	7.5	66.1	718	7.16

† 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: 5430-San Leandro

DATE & TIME SAMPLED 3/8/97 2:55 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/8/97

WELL NUMBER U-6

WATER LEVEL-**INITIAL** 25.25

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 26.59

CONTAINERS 2 VOA's

WELL DEPTH 40.02

PRESERVATIVES HCl

WELL CASING VOLUME 2.51

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
2:30	0	66.2	987	6.87
↓	2.5	65.9	962	6.84
↓	5	65.7	948	6.83
2:40	7.5	65.5	929	6.81

† 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: 5430-San Leandro

DATE & TIME SAMPLED 3/8/97 2:10 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 3/8/97

WELL NUMBER U-7

WATER LEVEL-**INITIAL** 24.33

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 25.04

CONTAINERS 4 VOA'S

WELL DEPTH 37.78

PRESERVATIVES HCl

WELL CASING VOLUME 2.29

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
1:50	2.5	66.7	908	7.16
↓	5	66.2	865	7.13
1:58	7	65.9	843	7.09

† 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

Please review and return form BY FAX within 15 days of this report to:
MPDS Services, Inc., (510) 689-1918.

REPORT: MPDS-UN5430-13

DATE SENT: APRIL 14, 1997 **RETURN BY:** APRIL 29, 1997

UNOCAL SS #	ADDRESS	CITY
#5430	1935 WASHINGTON AVENUE	SAN LEANDRO

☑ **No change to current monitoring/sampling frequency or analyses.**

☐ **Change in monitoring schedule. Specify change:** _____

_____

_____

_____

_____

☐ **Change in sampling schedule. Specify change:** _____

_____

_____

_____

_____

☐ **Change in analyses requested. Specify change:** _____

_____

_____

_____

_____

☐ **Comments:** _____

_____

☑ **I authorize release of this report to the proper agencies and individuals.**

☐ **Please hold this report until further notice.**

Tosco Marketing Co. Project Professional: Ms. Tina R. Berry

Signature: T. Berry **Date:** 4/18/97

\change1.frm