MONITORING
PURGING
DISPOSING
SAMPLING
mpds SERVICES, INCORPORATED

#1059

November 7, 1997

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

RE: Unocal Service Station #5325
3220 Lakeshore Avenue
Oakland, California

To whom it may concern:

Per the request of the Tosco Marketing Company Project Manager, Ms. Tina R. Berry, enclosed please find our report (MPDS-UN5325-16) dated October 24, 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 300, Concord, CA 94520
TEL: (510) 602-5120 FAX: (510) 689-1918

MONITORING
PURGING
DISPOSING
SAMPLING
MPDS SERVICES, INCORPORATED

ENVIRONMENTAL
PROTECTION
97 NOV 12 PM 4:21

MPDS-UN5325-16
October 24, 1997

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

Attention: Mr. David De Witt

RE: Quarterly Data Report
Unocal Service Station #5325
3220 Lakeshore Avenue
Oakland, California

Dear Mr. De Witt:

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

RECENT FIELD ACTIVITIES

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

Ground water samples were collected on September 19, 1997. Prior to sampling, the wells were each purged of between 8.5 and 22 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, 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, 3 and 4. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

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. C 55734
Exp. Date December 31, 2000

/aab

Attachments: Tables 1 through 4
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation
Purging/Sampling Data Sheets

cc: Mr. Greg Gurss, GeoStrategies, Inc., Rancho Cordova

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 September 19, 1997)						
U-1*	-0.09**	8.56	19.81	0.02	N/A	0
U-2*	0.31	7.31	19.53	<0.01	N/A	0
U-3	-0.07	11.05	19.80	0	No	10
U-4	1.19	9.96	20.20	0	No	12
U-5	0.20	6.78	20.09	0	No	22
U-6	-0.11	7.25	23.80	0	No	8.5
(Monitored and Sampled on June 30, 1997)						
U-1*	0.07**	8.41	19.80	0.02	N/A	0
U-2*	1.43	6.19	19.53	<0.01	N/A	0
U-3	-0.10	11.08	19.80	0	No	9.5
U-4	1.26	9.89	20.20	0	No	13
U-5	-0.10	7.08	20.08	0	No	20
U-6	-0.21	7.35	23.81	0	No	8
(Monitored and Sampled on March 14, 1997)						
U-1*	-0.15**	9.02	★	0.55	N/A	0 (13.5)
U-2*	0.52**	7.12	★	0.03	N/A	0
U-3	0.11	10.87	19.80	0	No	9
U-4	1.80	9.35	20.21	0	No	15
U-5	-0.01	6.99	20.10	0	No	25
U-6	-0.16	7.30	23.80	0	No	9.5
(Monitored and Sampled on December 9, 1996)						
U-1*	1.60**	6.88	19.82	0.03	N/A	0 (1.5)
U-2	0.86	6.76	19.55	0	No	14.5
U-3	0.86	10.12	19.78	0	No	11
U-4	2.48	8.67	20.22	0	No	22
U-5	1.08	5.90	20.05	0	No	28
U-6	1.26	5.88	23.80	0	No	9.5

Table 1

Summary of Monitoring Data

Well #	Well Casing Elevation (feet)***
U-1	8.46
U-2	7.62
U-3	10.98
U-4	11.15
U-5	6.98
U-6	7.14

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

★ Well depth measurements were not taken.

* Monitored only.

** Ground water elevation corrected due to the presence of free product (correction factor = 0.75).

*** The elevations of the top of the well casings are surveyed relative to City of Oakland benchmark, at the northeasterly corner of Weller and Cheney Avenue (elevation = 9.055 feet, city datum; add 3.00' to U.S.G.S. datum).

(x) Amount of product purged in ounces.

N/A = Not applicable.

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-1	9/19/19	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	6/30/97	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	3/14/97	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	12/9/96	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	9/26/96	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	6/27/96	120,000	540	4,300	2,600	26,000	ND
	3/18/96	27,000	ND	2,300	1,400	11,000	4,900
	12/19/96	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	9/19/95	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	6/21/95	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	3/25/95	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/24/94	50,000	2,500	9,700	2,400	17,000	--
	9/22/94	6,100♦	ND	ND	ND	ND	--
	6/22/94	200	ND	ND	5.9	21	--
	2/16/94	6,800♦♦	ND	ND	ND	ND	--
	11/16/93	690♦	ND	ND	ND	ND	--
	8/8/93	4,900**	79	ND	832	270	--
	5/7/93	8,700	600	240	650	3,300	--
	2/22/93	34,000	1,400	5,500	910	7,300	--
	8/20/92	400*	1.0	ND	ND	0.6	--
	6/11/92	1,000	80	1.4	6.7	41	--
	5/5/92	230	1.2	ND	ND	ND	--
	2/12/92	250	ND	ND	ND	ND	--
	10/9/91	ND	ND	ND	ND	ND	--
	7/3/91	140	21	4.3	0.36	17	--
	4/1/91	160	13	8.6	1.0	15	--
	1/7/91	250	22	16	4.2	17	--
	8/10/90	690	38	75	8.6	130	--
U-2	9/19/19	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	6/30/97	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	3/14/97	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	12/9/96	13,000	5,100	290	980	370	2,700
	9/26/96	5,900	750	ND	ND	ND	18,000
	6/27/96	28,000	3,400	ND	2,800	3,100	3,000
	3/18/96	12,000	2,200	ND	1,200	2,200	22,000
	12/19/95	1,600	140	55	52	270	††
	9/19/95	3,000	610	ND	78	240	†
	6/21/95	16,000	2,100	ND	1,800	1,700	--
	3/25/95	170,000	1,900	21,000	4,800	33,000	--
	12/24/94	32,000	1,500	890	1,300	5,000	--
	9/22/94	8,500♦	29	ND	ND	ND	--
	6/22/94	31,000	2,200	62	1,500	3,500	--
	2/16/94	980♦♦	49	13	2.7	40	--
	11/16/93	510♦	ND	ND	ND	ND	--

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-2	8/8/93	5,600**	420	ND	410	670	--
(Cont.)	5/7/93	17,000	1,800	660	1,700	4,000	--
	2/22/93	3,400	2,400	2,100	1,200	5,800	--
	8/20/92	700	28	6.5	1.3	4.6	--
	6/11/92	620	17	2.1	ND	37	--
	5/5/92	1,600	120	52	6.2	290	--
	2/12/92	410	1.9	ND	0.36	0.4	--
	10/9/91	230	7.1	ND	ND	11	--
	7/3/91	2,100	150	25	3.1	290	--
	4/1/91	1,700	250	89	34	190	--
	1/7/91	1,900	67	5.8	58	69	--
	8/10/90	780	27	46	15	130	--
U-3	9/19/19	ND	ND	ND	ND	ND	ND
	6/30/97	ND	ND	ND	ND	ND	ND
	3/14/97	ND	ND	ND	ND	ND	ND
	12/9/96	ND	ND	ND	ND	ND	29
	9/26/96	ND	ND	ND	ND	ND	ND
	6/27/96	440	49	50	51	140	50
	3/18/96	ND	ND	ND	ND	ND	--
	12/19/95	ND	ND	ND	ND	ND	--
	9/19/95	ND	ND	ND	ND	ND	†
	6/21/95	ND	ND	ND	ND	ND	--
	3/25/95	ND	ND	ND	ND	ND	--
	12/24/94	ND	ND	ND	ND	ND	--
	9/22/94	ND	ND	ND	ND	ND	--
	6/22/94	ND	ND	ND	ND	ND	--
	2/16/94	ND	ND	ND	ND	ND	--
	11/16/93	ND	ND	ND	ND	ND	--
	8/8/93	210	5.0	9.7	0.7	4.1	--
	5/7/93	ND	ND	ND	ND	ND	--
	2/22/93	ND	ND	ND	ND	ND	--
	8/20/92	ND	ND	ND	ND	ND	--
	6/11/92	ND	ND	ND	ND	ND	--
	5/5/92	ND	ND	ND	ND	ND	--
	2/12/92	ND	ND	ND	ND	ND	--
	10/9/91	ND	ND	ND	ND	ND	--
	7/3/91	ND	ND	ND	ND	ND	--
	4/1/91	ND	1.0	2.9	0.53	5.4	--
	1/7/91	ND	ND	ND	ND	1.8	--
	8/10/90	ND	ND	ND	ND	ND	--
U-4	9/19/97	ND	ND	ND	ND	ND	ND
	6/30/97	ND	ND	ND	ND	ND	ND
	3/14/97	ND	ND	ND	ND	ND	ND

Table 2

Summary of Laboratory Analyses
Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-4	12/9/96	ND	ND	ND	ND	ND	33
(Cont.)	9/26/96	ND	ND	ND	ND	ND	ND
	6/27/96	ND	ND	ND	ND	ND	ND
	3/18/96	ND	ND	ND	ND	ND	--
	12/19/95	ND	ND	ND	ND	ND	--
	9/19/95	ND	ND	ND	ND	ND	--
	6/21/95	ND	ND	ND	ND	ND	--
	3/25/95	ND	ND	ND	ND	ND	--
	12/24/94	ND	ND	ND	ND	ND	--
	9/22/94	ND	0.78	1.3	ND	1.4	--
	6/22/94	ND	ND	ND	ND	ND	--
U-5	9/19/97	6,300	160	13	370	1000	480
	6/30/97	4,200	74	51	180	980	270
	3/14/97	ND	ND	ND	ND	ND	14
	12/9/96	1,300	29	46	ND	140	97
	9/26/96	ND	ND	0.57	ND	0.96	ND
	6/27/96	16,000	280	150	1,400	4,600	530
	3/18/96	100	0.67	0.5	0.51	5.4	--
	12/19/95	ND	ND	ND	ND	ND	--
	9/19/95	850	14	7.1	13	66	†
	6/21/95	400	2.3	ND	9.1	3.5	--
	3/25/95	44,000	390	960	1,500	7,600	--
	12/24/94	8,700	560	70	670	430	--
	9/22/94	170	8.4	10	8.5	18	--
	6/22/94	210	7.1	13	4.5	26	--
U-6	9/19/97	ND	ND	ND	ND	ND	1,400
	6/30/97	ND	ND	ND	ND	ND	990
	3/14/97	ND	ND	ND	ND	ND	1,500
	12/9/96	1,200	29	48	6.4	140	58
	9/26/96	ND	ND	ND	ND	ND	1,400
	6/27/96	ND	ND	ND	ND	ND	510
	3/18/96	ND	ND	ND	ND	ND	--
	12/19/95	210	2.5	1.0	2.9	17	--
	9/19/95	ND	ND	ND	ND	ND	†
	6/21/95	ND	ND	ND	ND	ND	--
	3/25/95	47,000	450	1,300	1,700	8,200	--
	12/24/94	6,900	500	59	600	380	--
	9/22/94	130	1.3	0.8	ND	0.73	--
	6/22/94	ND	ND	ND	ND	ND	--

Table 2

Summary of Laboratory Analyses
Water

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

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

* The positive result for gasoline does not appear to have a typical gasoline pattern.

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

† Sequoia Analytical Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater 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.

MTBE = methyl tert butyl ether.

ND = Non-detectable.

-- Indicates analyses 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 November 16, 1993, were provided by GeoStrategies, Inc.

Table 3

Summary of Laboratory Analyses
Water

Well #	Date	Iron (mg/L)	Nitrate as NO3 (mg/L)	Phosphate as PO4 (mg/L)	Redox Potential (mV)
U-3	9/19/97	0.57	19	ND	75
	6/30/97	1.4	21	0.86	190
U-4	9/19/97	0.35	30	ND	45
	6/30/97	0.13	35	0.52	200
U-5	9/19/97	0.22	ND	ND	63
	6/30/97	16	ND	ND	160
U-6	9/19/97	2.9	1.80	ND	ND
	6/30/97	88	0.80	ND	190

mg/L = milligrams per liter.

mV = milli-volts.

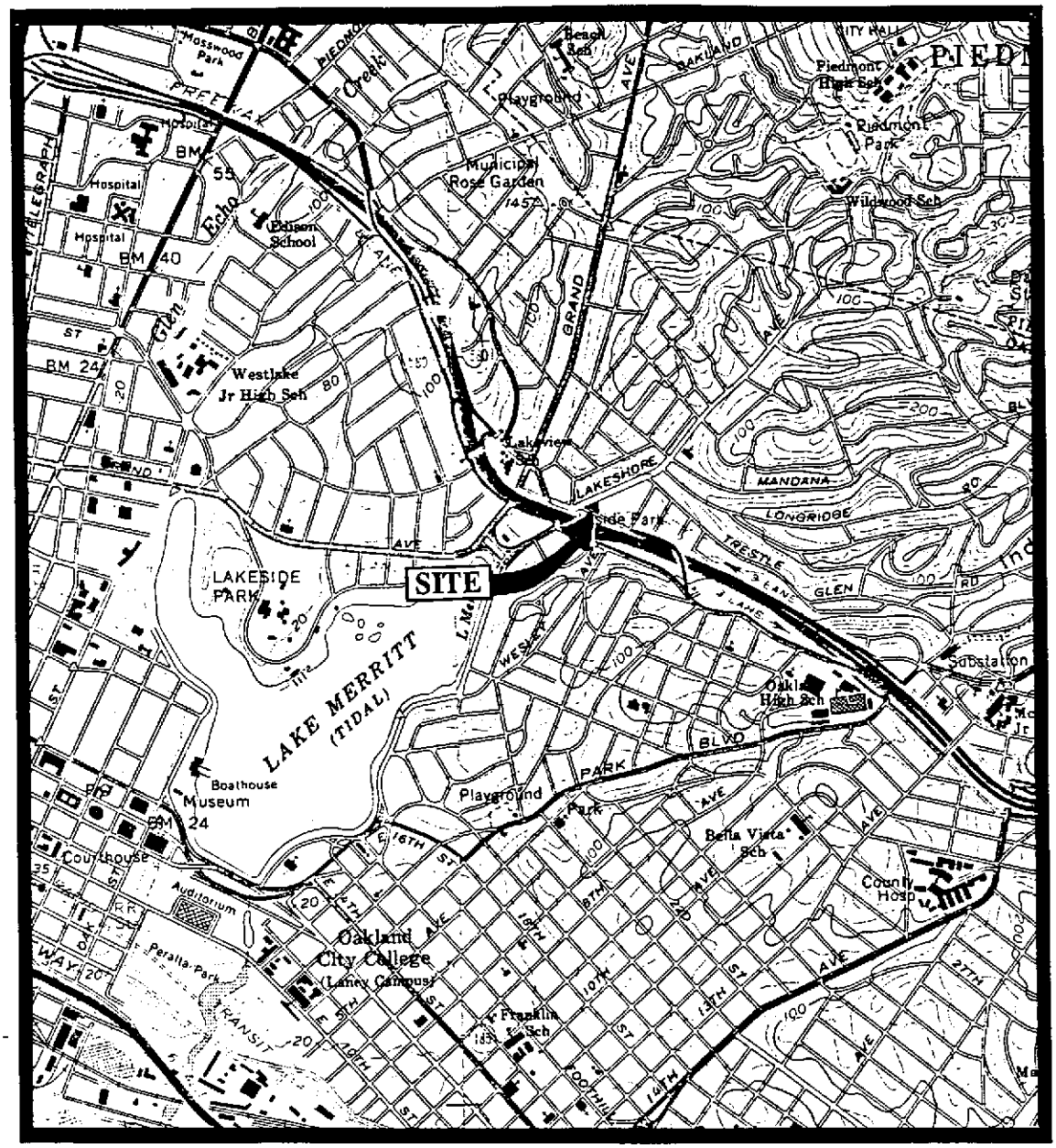
Table 4

Summary of Laboratory Analyses
Water

Well #	Date	Dissolved Oxygen (mg/L)
U-3	9/19/97	4.2
	6/30/97	4.1
U-4	9/19/97	5.1
	6/30/97	5.4
U-5	9/19/97	0.6
	6/30/97	3.4
U-6	9/19/97	0.60
	6/30/97	0.30

mg/L = milligrams per liter.

Note: Dissolved oxygen measurments taken at Sequoia Analytical Laboratory.

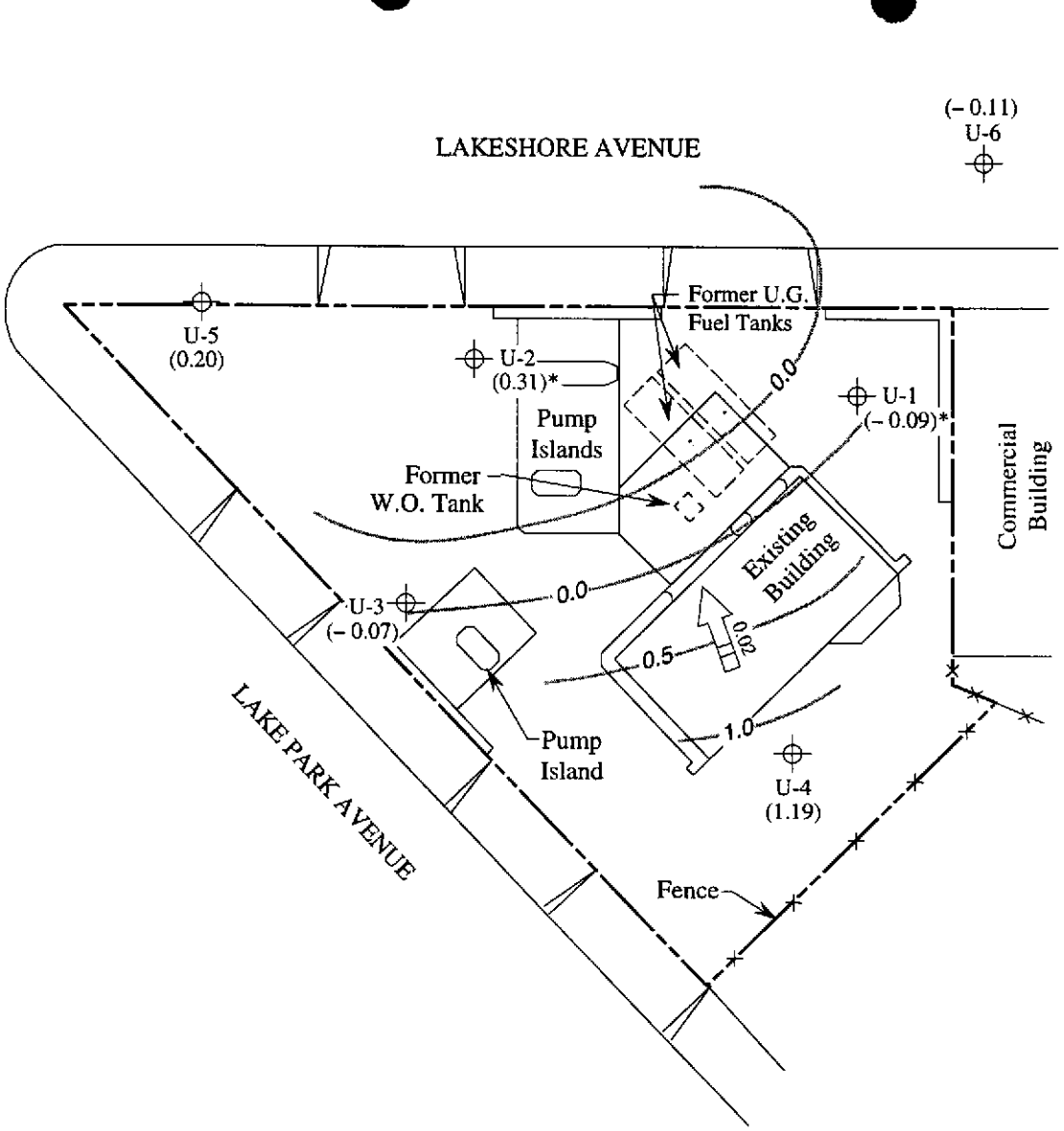


Base modified from 7.5 minute U.S.G.S.
Oakland East and West Quadrangles
(both photorevised 1980)

0 2000 4000

Approx. scale feet

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #5325** **3220 LAKESHORE AVENUE** **OAKLAND, CALIFORNIA**	**LOCATION MAP**



LEGEND

- Monitoring well
- ( ) Ground water elevation relative to Mean Sea Level
- #.## Direction of ground water flow with approximate hydraulic gradient
- Contours of ground water elevation
- * Ground water elevation corrected due to the presence of free product.

0 40 80

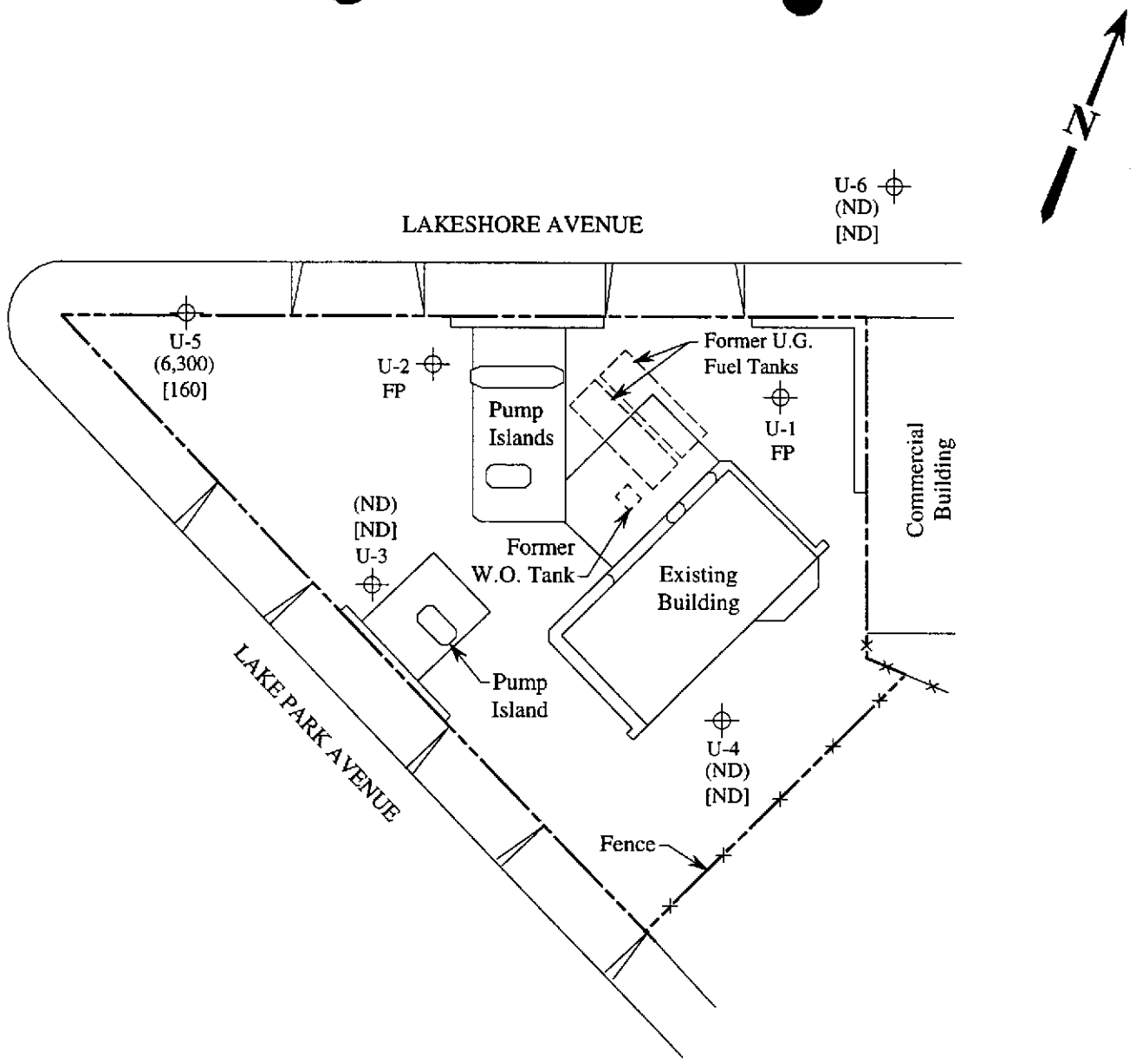
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE SEPTEMBER 19, 1997 MONITORING EVENT

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5325
3220 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

FIGURE
1



LEGEND

⊕ Monitoring well

( ) Concentration of TPH as gasoline in µg/L

[ ] Concentration of benzene in µg/L

ND Non-detectable, FP Free product

0 40 80

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON SEPTEMBER 19, 1997

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5325
3220 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

FIGURE
2

Sequoia Analytical

[redacted] Chesapeake Drive, Redwood City, CA 94063, [redacted] 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 #5325, 3220 Lakeshore Ave., Oakland	Sampled:	Sep 19, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received:	Sep 19, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Oct 9, 1997
Attention: Jarrel Crider	First Sample #:	709-1644		

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
709-1644	U-3	ND	ND	ND	ND	ND
709-1645	U-4	ND	ND	ND	ND	ND
709-1646	U-5	6,300	160	13	370	1,000
709-1647	U-6	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

7091644.MPD <1>

Sequoia Analytical

[redacted] Chesapeake Drive, Redwood City, CA 94063, [redacted] 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 #5325, 3220 Lakeshore Ave., Oakland	Sampled:	Sep 19, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received:	Sep 19, 1997
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Oct 9, 1997
Attention: Jarrel Crider	First Sample #:	709-1644		

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
709-1644	U-3	--	1.0	9/30/97	HP-4	104
709-1645	U-4	--	1.0	9/30/97	HP-4	103
709-1646	U-5	Gasoline	20	9/30/97	HP-4	96
709-1647	U-6	--	1.0	9/30/97	HP-4	106

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 #5325, 3220 Lakeshore Ave., Oakland	Sampled:	Sep 19, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water	Received:	Sep 19, 1997
Concord, CA 94520	Analysis for:	MTBE (Modified EPA 8020)		
Attention: Jarrel Crider	First Sample #:	709-1644	Analyzed:	Sep 30, 1997
			Reported:	Oct 9, 1997

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L
709-1644	U-3	5.0	N.D.
709-1645	U-4	5.0	N.D.
709-1646	U-5	5.0	480
709-1647	U-6	25	1,400

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

7091644.MPD <3>

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 #5325, 3220 Lakeshore Ave., Oakland	Sampled:	Sep 19, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water	Received:	Sep 19, 1997
Concord, CA 94520	Analysis for:	Iron (EPA 200.7)	Digested:	Sep 23, 1997
Attention: Jarrel Crider	First Sample #:	709-1644	Analyzed:	Sep 30, 1997
			Reported:	Oct 9, 1997

LABORATORY ANALYSIS FOR: Iron (EPA 200.7)

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
709-1644	U-3	0.010	0.57
709-1645	U-4	0.010	0.35
709-1646	U-5	0.010	0.22
709-1647	U-6	0.010	2.9

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 #5325, 3220 Lakeshore Ave., Oakland	Sampled:	Sep 19, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water	Received:	Sep 19, 1997
Concord, CA 94520	Analysis for:	Nitrate as NO3 (EPA 300.0)		
Attention: Jarrel Crider	First Sample #:	709-1644	Analyzed:	Sep 20, 1997
			Reported:	Oct 9, 1997

LABORATORY ANALYSIS FOR: Nitrate as NO3 (EPA 300.0)

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
709-1644	U-3	1.0	19
709-1645	U-4	1.0	30
709-1646	U-5	1.0	N.D.
709-1647	U-6	1.0	1.8

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

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #5325, 3220 Lakeshore Ave., Oakland	Sampled: Sep 19, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water	Received: Sep 19, 1997
Concord, CA 94520	Analysis for:	Phosphate as PO4 (EPA 300.0)	
Attention: Jarrel Crider	First Sample #:	709-1644	Analyzed: Sep 20, 1997
			Reported: Oct 9, 1997

LABORATORY ANALYSIS FOR: Phosphate as PO4 (EPA 300.0)

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
709-1644	U-3	5.0	N.D.
709-1645	U-4	5.0	N.D.
709-1646	U-5	5.0	N.D.
709-1647	U-6	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

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MPDS Services	Client Project ID:	Unocal #5325, 3220 Lakeshore Ave., Oakland	Sampled:	Sep 19, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water	Received:	Sep 19, 1997
Concord, CA 94520	Analysis for:	Dissolved Oxygen (EPA 360.1)		
Attention: Jarrel Crider	First Sample #:	709-1644	Analyzed:	Sep 19, 1997
			Reported:	Oct 9, 1997

LABORATORY ANALYSIS FOR: Dissolved Oxygen (EPA 360.1)

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
709-1644	U-3	0.10	4.2
709-1645	U-4	0.10	5.1
709-1646	U-5	0.10	0.60
709-1647	U-6	0.10	0.60

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	Client Project ID:	Unocal #5325, 3220 Lakeshore Ave., Oakland	Sampled:	Sep 19, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript:	Water	Received:	Sep 19, 1997
Concord, CA 94520	Analysis for:	Redox Potential (ASTM DI 49876)		
Attention: Jarrel Crider	First Sample #:	709-1644	Analyzed:	Sep 19, 1997
			Reported:	Oct 9, 1997

LABORATORY ANALYSIS FOR: Redox Potential (ASTM DI 49876)

Sample Number	Sample Description	Detection Limit mV	Sample Result mV
709-1644	U-3	10	75
709-1645	U-4	10	45
709-1646	U-5	10	63
709-1647	U-6	10	N.D.

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

SEQUOIA ANALYTICAL, #1210

Signature on File

Alan B. Kemp
Project Manager

7091644.MPD <8>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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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 #5325, 3220 Lakeshore Ave., Oakland
Matrix: Liquid
QC Sample Group: 7091644-647

Reported: Oct 9, 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#:	7091416	7091416	7091416	7091416
Date Prepared:	9/30/97	9/30/97	9/30/97	9/30/97
Date Analyzed:	9/30/97	9/30/97	9/30/97	9/30/97
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:	85	90	85	92
Matrix Spike Duplicate % Recovery:	85	85	85	90
Relative % Difference:	0.0	5.7	0.0	1.8
LCS Batch#:	4LCS093097	4LCS093097	4LCS093097	4LCS093097
Date Prepared:	9/30/97	9/30/97	9/30/97	9/30/97
Date Analyzed:	9/30/97	9/30/97	9/30/97	9/30/97
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	90	95	90	95
% Recovery Control Limits:	70-130	70-130	70-130	70-130

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

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

Client Project ID: Unocal #5325, 3220 Lakeshore Ave., Oakland
Matrix: Liquid
QC Sample Group: 7091644-647
Reported: Oct 9, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Nitrate as NO3	Phosphate as PO4
Method:	EPA 300.0	EPA 300.0
Analyst:	B. Nguyen	B. Nguyen
MS/MSD Batch#:	7091645	7091645
Date Prepared:	9/20/97	9/20/97
Date Analyzed:	9/20/97	9/20/97
Instrument I.D.#:	INIC-1	INIC-1
Conc. Spiked:	10 mg/L	20 mg/L
Matrix Spike % Recovery:	100	-
Matrix Spike Duplicate % Recovery:	90	-
Relative % Difference:	2.5	2.5
LCS Batch#:	LCS092097B	LCS092097B
Date Prepared:	9/19/97	9/19/97
Date Analyzed:	9/20/97	9/20/97
Instrument I.D.#:	INIC-1	INIC-1
LCS % Recovery:	110	105
% Recovery Control Limits:	80-120	80-120

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.

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

Client Project ID: Unocal #5325, 3220 Lakeshore Ave., Oakland
Matrix: Liquid
QC Sample Group: 7091644-647
Reported: Oct 9, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Iron
Method:	EPA 200.7
Analyst:	J. Kelly
MS/MSD Batch#:	7091725
Date Prepared:	9/23/97
Date Analyzed:	9/30/97
Instrument I.D.#:	MV-4
Conc. Spiked:	1.0 mg/L
Matrix Spike % Recovery:	110
Matrix Spike Duplicate % Recovery:	100
Relative % Difference:	8.7
LCS Batch#:	LCS092397
Date Prepared:	9/23/97
Date Analyzed:	9/30/97
Instrument I.D.#:	MV-4
LCS % Recovery:	100
% Recovery Control Limits:	80-120

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.

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

Client Project ID: Unocal #5325, 3220 Lakeshore Ave., Oakland
Matrix: Liquid

QC Sample Group: 7091644-647

Reported: Oct 9, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Dissolved Oxygen	Redox Potential
Method:	EPA 360.1	ASTM DI49876
Analyst:	B. Nguyen	T. McMahon
Date Analyzed:	9/19/97	9/19/97
Instrument I.D.#:	Manual	Manual
Sample #:	7091647	9709827-02
Sample Concentration:	0.60 mg/L	N.D.
Sample Duplicate Concentration:	0.60 mg/L	N.D.
RPD:	0.0	0.0
RPD Control Limits:	0-30	0-20

SEQUOIA ANALYTICAL, #1271 & #1210

Signature on File

Alan B. Kemp
Project Manager

MPDS

CHAIN OF CUSTODY 9709341

SAMPLER: HAIG KEVORK
WITNESSING AGENCY:

TOSCO S/S # 5325 CITY: OAKLAND
ADDRESS: 3220 LAKESHORE AVE.

ANALYSES REQUESTED

TURN AROUND TIME: REGULAR

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTEX	MTBE 5 PPb	DISSOLVED OXYGEN DO	IRON PHOSPHATE	NITRATE	REDOX POTENTIAL		REMARKS
U-3	9/19/97		✓	✓		2VOA's+3	WELL	✓	✓	✓	✓	✓	✓	✓	7091644	
U-4			✓	✓				✓	✓	✓	✓	✓	✓	✓	7091645	
U-5			✓	✓				✓	✓	✓	✓	✓	✓	✓	7091646	
U-6	↓		✓	✓		↓	↓	✓	✓	✓	✓	✓	✓	L	7091647	

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
(SIGNATURE)		(SIGNATURE)	9/19/97 1400
(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: [signature] TITLE: Analyst DATE: 9/19/97

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 HN03. All other containers are unpreserved.

MPDS Services Inc.
2401 Stanwell Drive
Concord, California 94520

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

PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5325 - Oakland

DATE & TIME SAMPLED 9/19/97 11:55 (A.M.) P.M.

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 9/19/97

WELL NUMBER U-3

WATER LEVEL-**INITIAL** 11.05

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 12.24

CONTAINERS 2 VOA + 3

WELL DEPTH 19.80

PRESERVATIVES ✓

WELL CASING VOLUME 3.24

†CASING DIAMETER 3"

TIME	GALLONS PURGED	TEMPERATURE (°F) C° (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
10:10	3.5	24.3	1.10	7.28
↓	7	24.1	1.13	7.26
10:20	10	23.9 c°	1.14 ms	7.25

† 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: 5325- Oakland

DATE & TIME SAMPLED 9/19/94 12:10 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 9/19/94

WELL NUMBER U-4

WATER LEVEL-**INITIAL** 9.96

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 13.45

CONTAINERS 2 VOA + 3

WELL DEPTH 20.20

PRESERVATIVES ✓

WELL CASING VOLUME 6.66

†CASING DIAMETER 4"

TIME	GALLONS PURGED	TEMPERATURE ~~(°F)~~ C° (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
10:40	6.5	23.4 c°	0.83	7.37
10:50	12 *	23.6 c°	0.84 ms	7.35

† 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

/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: 5325 - Oakland

DATE & TIME SAMPLED 9/19/97 12:30 A.M. (P.M.)

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD BAIL

DATE(S) PURGED 9/19/97

WELL NUMBER U-6

WATER LEVEL-**INITIAL** 7.25

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 8.90

CONTAINERS 2 VOA + 3

WELL DEPTH 23.80

PRESERVATIVES ✓

WELL CASING VOLUME 2.81

†CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (~~°F~~) C° (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
11:10	3	23.3	1.51	7.24
↓	6	23.0	1.47	7.21
11:20	8.5	22.9 c°	1.48 ms	7.19

† 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: 5325 - Oakland

DATE & TIME SAMPLED 9/19/97 12:50 A.M. P.M.

FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP

DATE(S) PURGED 9/19/97

WELL NUMBER U-5

WATER LEVEL-**INITIAL** 6.78

SAMPLING METHOD BAIL

WATER LEVEL-**FINAL** 8.16

CONTAINERS 2 VOA + 3

WELL DEPTH 20.09

PRESERVATIVES ✓

WELL CASING VOLUME 8.65

†CASING DIAMETER 4"

TIME	GALLONS PURGED	TEMPERATURE ~~(°F)~~ C° (± 1°F)	ELECTRICAL CONDUCTIVITY ([µmhos/cm]x100) (± 10% of TOTAL	pH (± 0.2)
11:35	9	23.5	1.64	7.05
↓	18	23.4	1.61	7.00
11:45	22 *	23.2 C°	1.60 ms	6.98

† 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

/P&S