MONITORING
PURGING
DISPOSING
SAMPLING

mpds SERVICES, INCORPORATED

MPDS-UN5325-09
January 23, 1996

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
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. 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 are shown on the attached Figure 1.

Ground water samples were collected on December 19, 1995. Prior to sampling, the wells were each purged of between 9 and 34 gallons of water. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded and are presented in Table 2. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately four 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. Trip blank, Equipment blank and Field blank samples (denoted as ES-1, ES-2 and ES-3 respectively) were also collected for quality assurance and control. MPDS Services, Inc. transported the purged ground water to the Unocal 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

2401 Stanwell Drive, Suite 300, Concord, CA 94520
TEL: (510) 602-5120 FAX: (510) 689-1918

date are summarized in Table 3. 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

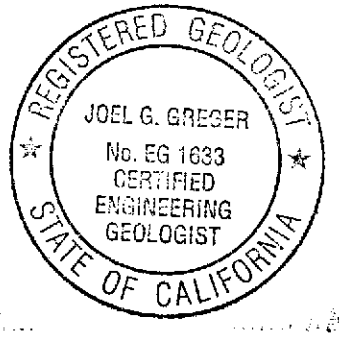
A copy of this report should be sent to the Alameda County Health Care Services Agency.

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



Joel G. Greger, C.E.G.
Senior Engineering Geologist

License No. EG 1633
Exp. Date 8/31/96

/bp

Attachments: Tables 1, 2 & 3
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

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 December 19, 1995)						
U-1	-0.50▲	8.98	19.80	0.03	N/A	0(<1)
U-2	0.32	7.30	19.61	0	No	9
U-3	-0.47	11.45	19.85	0	No	12.5
U-4	1.17	9.98	20.20	0	No	20
U-5	-0.19	7.17	20.15	0	No	34
U-6	-0.61	7.75	23.85	0	No	11
(Monitored and Sampled on September 19, 1995)						
U-1	-0.53▲	9.29	19.81	0.40	N/A	0 (24)
U-2	-0.08	7.70	19.51	0	No	10
U-3	-0.57	11.55	19.85	0	No	12
U-4	0.98	10.17	20.20	0	No	18
U-5	-0.01	6.99	20.15	0	No	35
U-6	-0.56	7.70	23.86	0	No	11
(Monitored and Sampled on June 21, 1995)						
U-1	-0.69▲	9.30	19.80	0.20	N/A	0 (32)
U-2	0.64	6.98	19.50	0	No	10
U-3	-0.39	11.37	19.81	0	No	10
U-4	1.61	9.54	20.16	0	No	18
U-5	-0.13	7.11	20.04	0	No	34
U-6	-0.46	7.60	23.76	0	No	11
(Monitored and Sampled on March 25, 1995)						
U-1	1.02▲	7.72	19.87	0.37	N/A	1 (10)
U-2	0.61	7.01	19.55	0	No	19
U-3	0.02	10.96	19.80	0	No	8.5
U-4	1.64	9.51	20.25	0	No	18
U-5	0.63	6.35	20.08	0	No	36
U-6	0.85	6.29	23.80	0	No	12

TABLE 1 (Continued)

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.

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

(x) Amount of product purged in ounces.

* 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', city datum; add 3.00' to U.S.G.S. datum).

N/A = Not applicable.

TABLE 2

RECORD OF THE TEMPERATURE, CONDUCTIVITY, AND pH VALUES
IN THE MONITORING WELLS DURING PURGING AND PRIOR TO SAMPLING

(Measured on December 19, 1995)

Well #	Gallons per Casing Volume	Time	Gallons Purged	Casing Volumes Purged	Temperature (°F)	Conductivity ([µmhos/cm] x1000)	pH
U-2	4.55	12:55	0	0	67.8	4.15	6.91
			4.5	0.99	68.6	1.49	6.58
			7.5	1.65	67.7	2.53	6.38
		13:30	9	1.98	68.1	4.45	6.66
			WELL DEWATERED				
U-3	3.10	11:25	0	0	65.7	10.80	7.90
			3	0.97	65.9	10.65	7.80
			6	1.94	66.8	10.99	7.60
			9	2.90	66.4	10.67	7.63
		11:50	12.5	4.03	67.1	10.95	7.67
U-4	6.64	10:30	0	0	61.8	16.04	7.36
			6.5	0.98	65.6	10.46	7.26
			13	1.96	67.8	10.50	7.19
			18	2.71	68.0	10.79	7.24
			19	2.86	67.3	11.98	7.31
		11:00	20	3.01	68.1	10.95	7.59
			WELL DEWATERED				
U-5	8.46	12:15	0	0	63.3	2.60	7.18
			8.5	1.00	64.8	2.91	6.72
			17	2.01	66.3	2.88	6.56
			25.5	3.01	64.4	3.66	6.56
		12:30	34	4.02	65.2	3.94	6.66
U-6	2.74	09:30	0	0	54.8	2.67	7.16
			3	1.09	60.1	2.17	6.76
			6	2.19	61.8	2.23	6.36
			9	3.28	63.1	2.60	6.63
		09:40	11	4.01	63.5	2.82	6.69

non-potable

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER ppb.

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
12/19/95	U-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
9/19/95	U-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
6/21/95	U-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
3/25/95	U-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
12/24/94	U-1	50,000	2,500	9,700	2,400	17,000
9/22/94	U-1	6,100♦	ND	ND	ND	ND
6/22/94	U-1	200	ND	ND	5.9	21
2/16/94	U-1	6,800♦♦	ND	ND	ND	ND
11/16/93	U-1	690♦	ND	ND	ND	ND
8/08/93	U-1	4,900**	79	ND	832	270
5/07/93	U-1	8,700	600	240	650	3,300
2/22/93	U-1	34,000	1,400	5,500	910	7,300
8/20/92	U-1	400*	1	ND	ND	0.6
6/11/92	U-1	1,000	80	1.4	6.7	41
5/05/92	U-1	230	1.2	ND	ND	ND
2/12/92	U-1	250	ND	ND	ND	ND
10/09/91	U-1	ND	ND	ND	ND	ND
7/03/91	U-1	140	21	4.3	0.36	17
4/01/91	U-1	160	13	8.6	1.0	15
1/07/91	U-1	250	22	16	4.2	17
8/10/90	U-1	690	38	75	8.6	130
12/19/95	U-2▼▼	1,600	140	55	52	270
9/19/95	U-2▼	3,000	610	ND	78	240
6/21/95	U-2	16,000	2,100	ND	1,800	1,700
3/25/95	U-2	170,000	1,900	21,000	4,800	33,000
12/24/94	U-2	32,000	1,500	890	1,300	5,000
9/22/94	U-2	8,500♦	29	ND	ND	ND
6/22/94	U-2	31,000	2,200	62	1,500	3,500
2/16/94	U-2	980♦♦	49	13	2.7	40
11/16/93	U-2	510♦	ND	ND	ND	ND
8/08/93	U-2	5,600**	420	ND	410	670
5/07/93	U-2	17,000	1,800	660	1,700	4,000
2/22/93	U-2	3,400	2,400	2,100	1,200	5,800
8/20/92	U-2	700	28	6.5	1.3	4.6
6/11/92	U-2	620	17	2.1	ND	37
5/05/92	U-2	1,600	120	52	6.2	290
2/12/92	U-2	410	1.9	ND	0.36	0.40
10/09/91	U-2	230	7.1	ND	ND	11

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
7/03/91	U-2	2,100	150	25	3.1	290
4/01/91	U-2	1,700	250	89	34	190
1/07/91	U-2	1,900	67	5.8	58	69
8/10/90	U-2	780	27	46	15	130
12/19/95	U-3	ND	ND	ND	ND	ND
9/19/95	U-3▼	ND	ND	ND	ND	ND
6/21/95	U-3	ND	ND	ND	ND	ND
3/25/95	U-3	ND	ND	ND	ND	ND
12/24/94	U-3	ND	ND	ND	ND	ND
9/22/94	U-3	ND	ND	ND	ND	ND
6/22/94	U-3	ND	ND	ND	ND	ND
2/16/94	U-3	ND	ND	ND	ND	ND
11/16/93	U-3	ND	ND	ND	ND	ND
8/08/93	U-3	210	5.0	9.7	0.7	4.1
5/07/93	U-3	ND	ND	ND	ND	ND
2/22/93	U-3	ND	ND	ND	ND	ND
8/20/92	U-3	ND	ND	ND	ND	ND
6/11/92	U-3	ND	ND	ND	ND	ND
5/05/92	U-3	ND	ND	ND	ND	ND
2/12/92	U-3	ND	ND	ND	ND	ND
10/09/91	U-3	ND	ND	ND	ND	ND
7/03/91	U-3	ND	ND	ND	ND	ND
4/01/91	U-3	ND	1.0	2.9	0.53	5.4
1/07/91	U-3	ND	ND	ND	ND	1.8
8/10/90	U-3	ND	ND	ND	ND	ND
12/19/95	U-4	ND	ND	ND	ND	ND
9/19/95	U-4	ND	ND	ND	ND	ND
6/21/95	U-4	ND	ND	ND	ND	ND
3/25/95	U-4	ND	ND	ND	ND	ND
12/24/94	U-4	ND	ND	ND	ND	ND
9/22/94	U-4	ND	0.78	1.3	ND	1.4
6/22/94	U-4	ND	ND	ND	ND	ND

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
12/19/95	U-5	ND	ND	ND	ND	ND
9/19/95	U-5▼	850	14	7.1	13	66
6/21/95	U-5	400	2.3	ND	9.1	3.5
3/25/95	U-5	44,000	390	960	1,500	7,600
12/24/94	U-5	8,700	560	70	670	430
9/22/94	U-5	170	8.4	10	8.5	18
6/22/94	U-5	210	7.1	13	4.5	26
12/19/95	U-6▼▼	210	2.5	1.0	2.9	17
9/19/95	U-6▼	ND	ND	ND	ND	ND
6/21/95	U-6	ND	ND	ND	ND	ND
3/25/95	U-6	47,000	450	1,300	1,700	8,200
12/24/94	U-6	6,900	500	59	600	380
9/22/94	U-6	130	1.3	0.80	ND	0.73
6/22/94	U-6	ND	ND	ND	ND	ND

♦ 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.

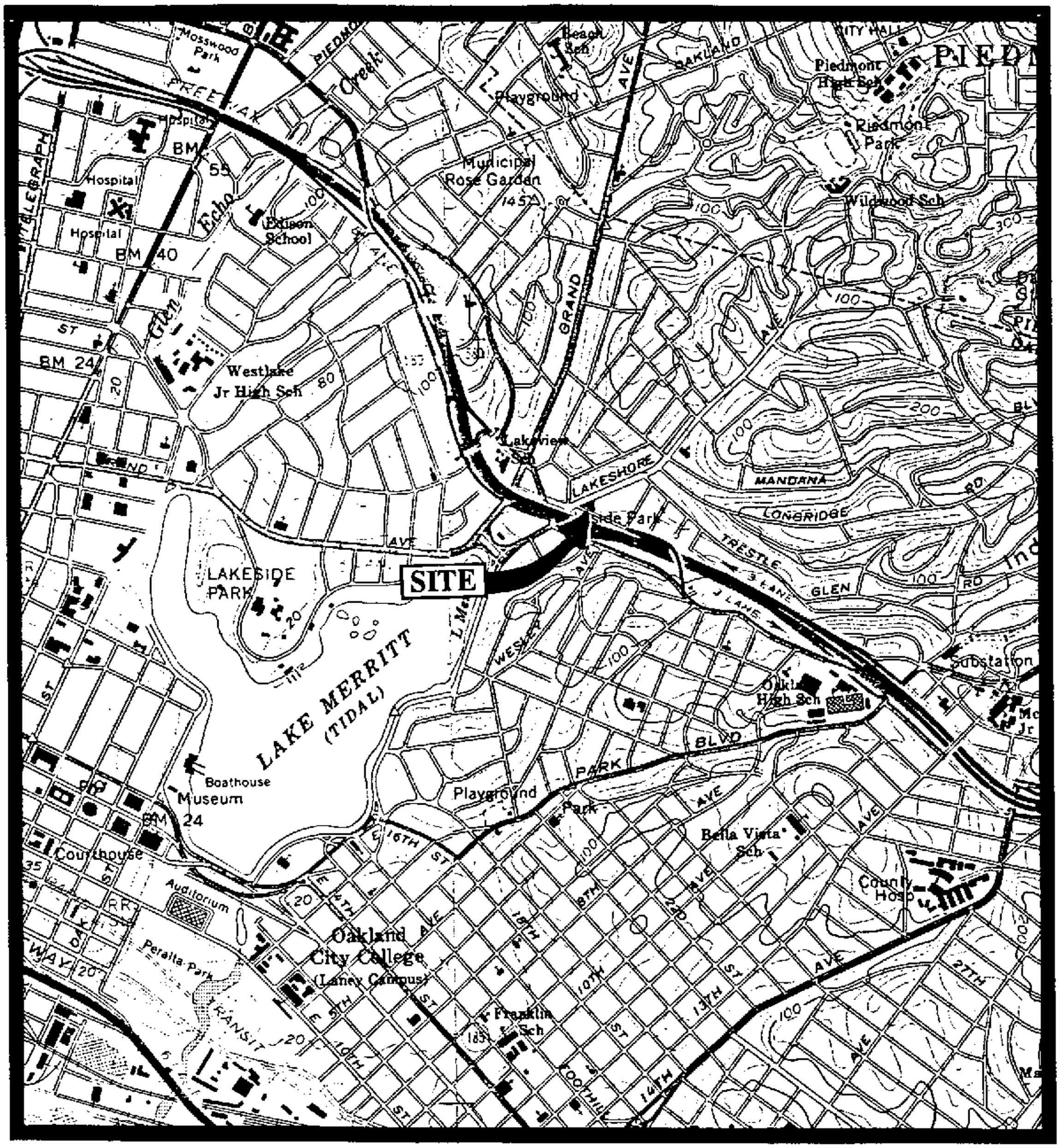
▼ Sequoia Analytical Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.

▼▼ 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.

ND = Non-detectable.

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

Note: Laboratory analyses data prior to November 16, 1993, were provided by GeoStrategies, Inc.

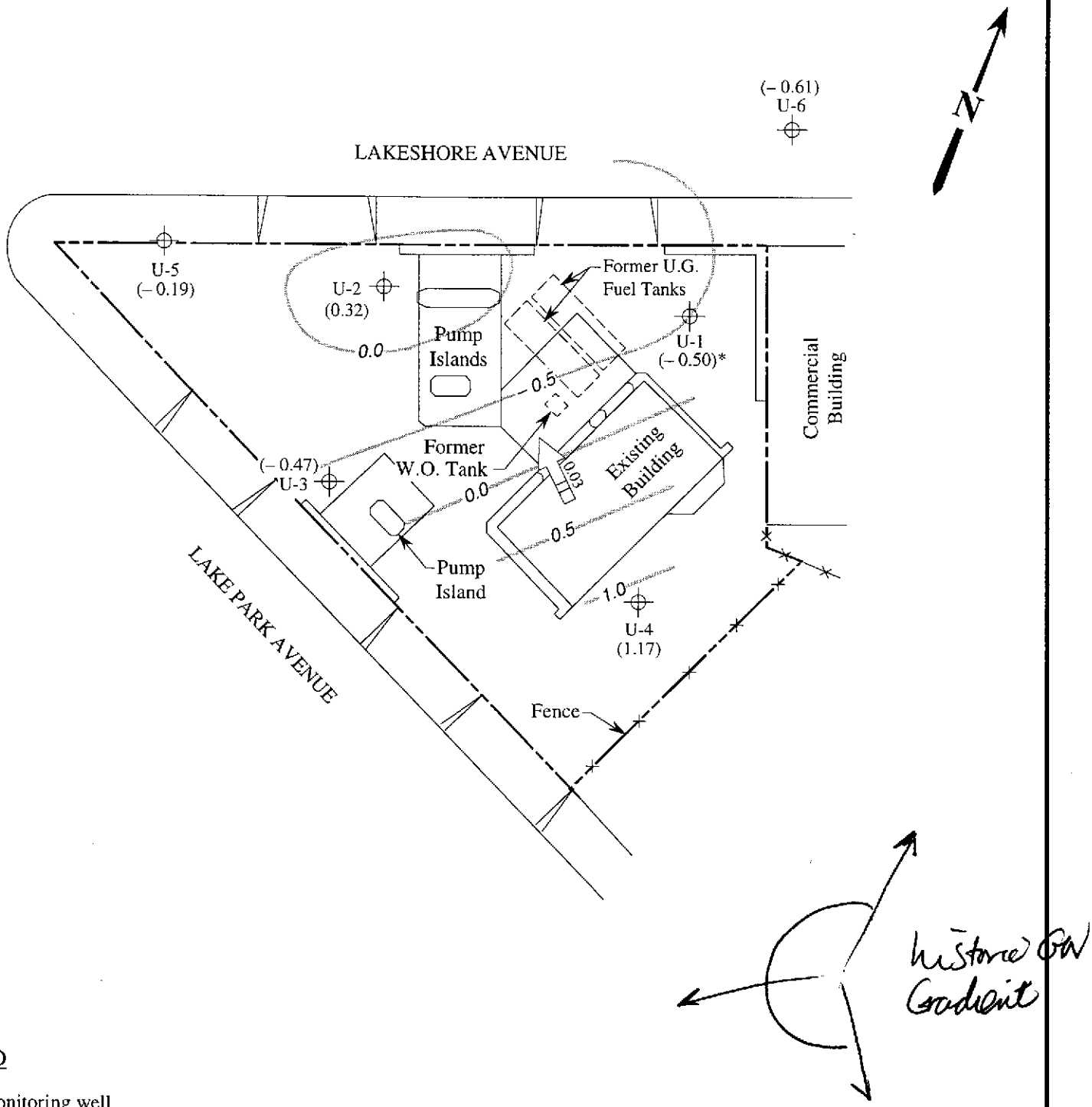


Base modified from 7.5 minute U.S.G.S.
Oakland East and West Quadrangles
(both photorevised 1980)

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

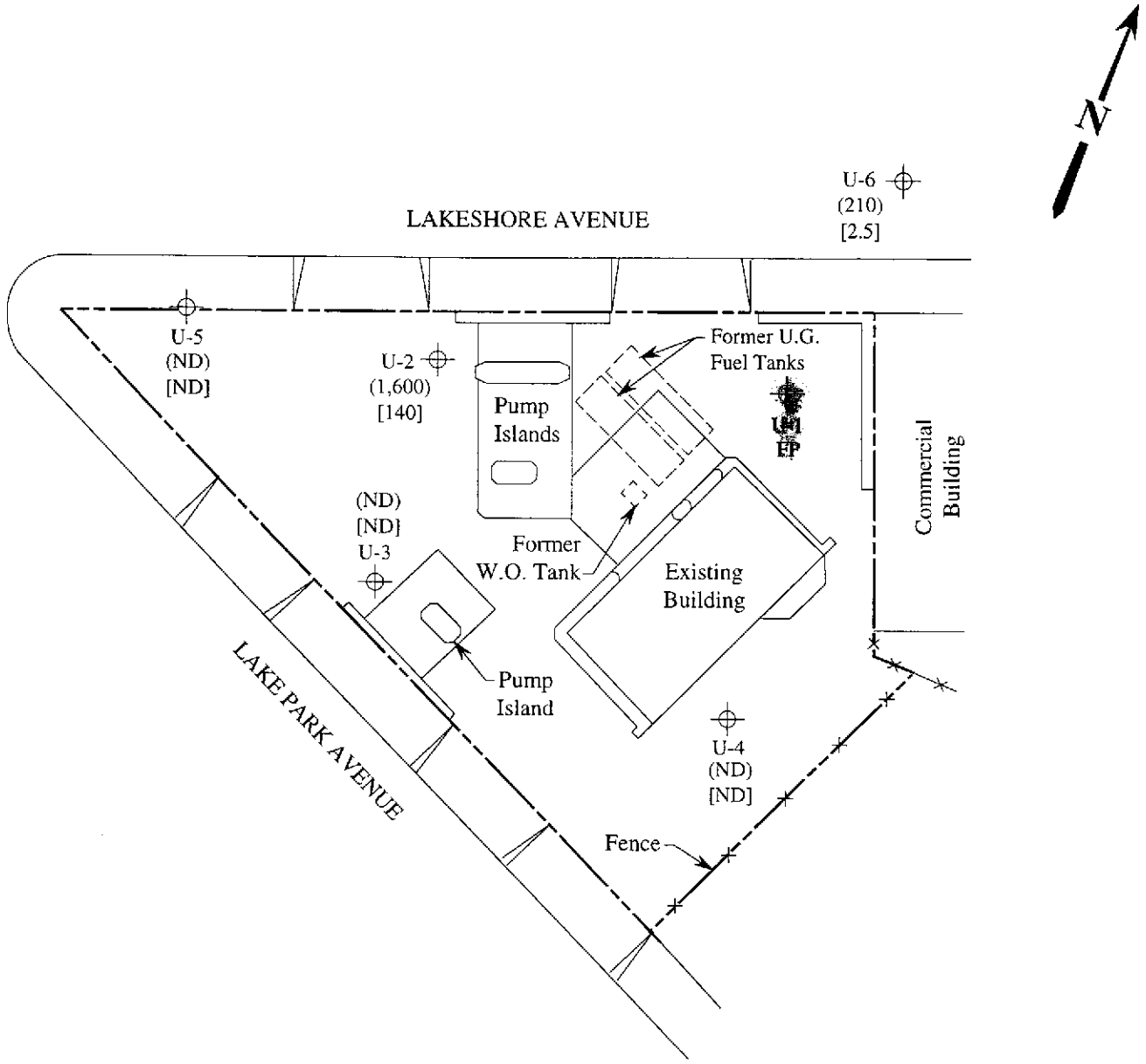
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE DECEMBER 19, 1995 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 DECEMBER 19, 1995

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #5325
3220 LAKESHORE AVENUE
OAKLAND, 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 #5325, 3220 Lake Shore Ave.		Sampled: Dec 19, 1995
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Oakland	Received: Dec 19, 1995
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020		Reported: Jan 11, 1996
Attention: Jarrel Crider	First Sample #:	512-2239		

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
512-2239	U2	1,600	140	55	52	270
512-2240	U3	ND	ND	ND	ND	ND
512-2241	U4	ND	ND	ND	ND	ND
512-2242	U5	ND	ND	ND	ND	ND
512-2243	U6	210	2.5	1.0	2.9	17
512-2244	ES1	ND	ND	ND	ND	ND
512-2245	ES2	ND	ND	ND	ND	ND
512-2246	ES3	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, #1210

Signature on File

Alan B. Kemp
Project Manager

5122239.MPD <1>

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	Client Project ID:	Unocal #5325, 3220 Lake Shore Ave. Oakland	Sampled:	Dec 19, 1995
2401 Stanwell Dr., Ste. 300	Matrix Descript:	Water	Received:	Dec 19, 1995
Concord, CA 94520	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Jan 11, 1996
Attention: Jarrel Crider	First Sample #:	512-2239		

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
512-2239	U2	Gasoline	5.0	1/2/96	GCHP-18	92
512-2240	U3	--	1.0	1/3/96	GCHP-07	81
512-2241	U4	--	1.0	1/2/96	GCHP-07	106
512-2242	U5	--	1.0	1/2/96	GCHP-22	105
512-2243	U6	Gasoline	1.0	1/2/96	GCHP-22	110
512-2244	ES1	--	1.0	1/2/96	GCHP-22	108
512-2245	ES2	--	1.0	1/2/96	GCHP-22	101
512-2246	ES3	--	1.0	1/2/96	GCHP-22	101

SEQUOIA ANALYTICAL, #1210

Signature on File

Alan B. Kemp
Project Manager

5122239.MPD <2>

Sequoia Analytical

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

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

Client Project ID: Unocal #5325, 3220 Lake Shore Ave., Oakland
Matrix: Liquid
QC Sample Group: 5122239-246

Reported: Jan 11, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD Batch#:	9512K30-02B	9512K30-02B	9512K30-02B	9512K30-02B
Date Prepared:	1/3/96	1/3/96	1/3/96	1/3/96
Date Analyzed:	1/3/96	1/3/96	1/3/96	1/3/96
Instrument I.D.#:	GCHP-07	GCHP-07	GCHP-07	GCHP-07
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	98	96	97	97
Matrix Spike Duplicate % Recovery:	99	99	98	100
Relative % Difference:	1.0	3.1	1.0	3.4
LCS Batch#:	BLK010296	BLK010296	BLK010296	BLK010296
Date Prepared:	1/3/96	1/3/96	1/3/96	1/3/96
Date Analyzed:	1/3/96	1/3/96	1/3/96	1/3/96
Instrument I.D.#:	GCHP-07	GCHP-07	GCHP-07	GCHP-07
LCS % Recovery:	78	77	76	77
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1210

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 Lake Shore Ave., Oakland
Matrix: Liquid
QC Sample Group: 5122239-246
Reported: Jan 11, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD Batch#:	9512J57-05D	9512J57-05D	9512J57-05D	9512J57-05D
Date Prepared:	1/2/96	1/2/96	1/2/96	1/2/96
Date Analyzed:	1/2/96	1/2/96	1/2/96	1/2/96
Instrument I.D.#:	GCHP-18	GCHP-18	GCHP-18	GCHP-18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	100	100	100	103
Matrix Spike Duplicate % Recovery:	100	100	100	103
Relative % Difference:	0.0	0.0	0.0	0.0
LCS Batch#:	BLK010296	BLK010296	BLK010296	BLK010296
Date Prepared:	1/2/96	1/2/96	1/2/96	1/2/96
Date Analyzed:	1/2/96	1/2/96	1/2/96	1/2/96
Instrument I.D.#:	GCHP-18	GCHP-18	GCHP-18	GCHP-18
LCS % Recovery:	100	100	100	100
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1210

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

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

Client Project ID: Unocal #5325, 3220 Lake Shore Ave., Oakland
Matrix: Liquid
QC Sample Group: 5122239-246
Reported: Jan 11, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD Batch#:	9512I87-8A	9512I87-8A	9512I87-8A	9512I87-8A
Date Prepared:	1/2/96	1/2/96	1/2/96	1/2/96
Date Analyzed:	1/2/96	1/2/96	1/2/96	1/2/96
Instrument I.D.#:	GCHP-22	GCHP-22	GCHP-22	GCHP-22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	110	110	100	113
Matrix Spike Duplicate % Recovery:	110	110	100	107
Relative % Difference:	0.0	0.0	0.0	6.1
LCS Batch#:	BLK010296	BLK010296	BLK010296	BLK010296
Date Prepared:	1/2/96	1/2/96	1/2/96	1/2/96
Date Analyzed:	1/2/96	1/2/96	1/2/96	1/2/96
Instrument I.D.#:	GCHP-22	GCHP-22	GCHP-22	GCHP-22
LCS % Recovery:	110	110	110	110
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1210

Signature on File

Alan B. Kemp
Project Manager

Please Note:
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Attention: Jarrel Crider

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

QC Sample Group: 5122239-246

Reported: Jan 11, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD Batch#:	9512J57-05E	9512J57-05E	9512J57-05E	9512J57-05E
Date Prepared:	1/2/96	1/2/96	1/2/96	1/2/96
Date Analyzed:	1/2/96	1/2/96	1/2/96	1/2/96
Instrument I.D.#:	GCHP-07	GCHP-07	GCHP-07	GCHP-07
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	96	94	90	90
Matrix Spike Duplicate % Recovery:	96	95	91	93
Relative % Difference:	0.0	1.1	1.1	3.6
LCS Batch#:	BLK010296	BLK010296	BLK010296	BLK010296
Date Prepared:	1/2/96	1/2/96	1/2/96	1/2/96
Date Analyzed:	1/2/96	1/2/96	1/2/96	1/2/96
Instrument I.D.#:	GCHP-07	GCHP-07	GCHP-07	GCHP-07
LCS % Recovery:	88	85	82	83
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1210

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

Date: 1/12/96

Sequoia Analytical has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 µg/L in the following site(s):

Client Project I.D. - **Unocal #5325- Oakland**

Sequoia Work Order # - **9512455**

Sample Number:	Sample Description:
5122239	U2
5122243	U6

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

9512455

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

CHAIN OF CUSTODY

SAMPLER: RAY MARANGOSIAN

WITNESSING AGENCY:

UNOCAL 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-GAS BTEX	TPH-DIESEL	TOG	8010					REMARKS
U2	12.19.95	13:50	X	X		2	well	X		5122239		A,B				
U3	"	12:00	X	X		"	"	X		5122240						
U4	"	11:10	X	X		"	"	X		5122241						
U5	"	12.40	X	X		"	"	X		5122242						
U6	"	9:50	X	X		"	"	X		5122243						

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
Ray Marangosian	12.19.95		12/19/95 1645
(SIGNATURE)	12/20/95 1330	(SIGNATURE)	12-20
(SIGNATURE)	12-20	(SIGNATURE)	12/20 1445
(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: DATE: 12/19/95

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

mpds SERVICES, INCORPORATED
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Concord, California 94520
Tel: (510) 602-5100, Fax: (510) 689-1918

CHAIN OF CUSTODY

9512455

SAMPLER: RAY MARANGOSIAN

WITNESSING AGENCY:

UNOCAL S/S # 5325 CITY: OAKLAND

ADDRESS: 3220 Lakeshore Ave

TURN AROUND TIME: REGULAR

SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	ANALYSES REQUESTED: TPH-GAS BTEX	TPH-DIESEL	TOG	8010				REMARKS
ES1	12.19.95		x	x		1		X			5122241				
ES2	4		x	x		1		X			5122245				
ES3	4		x	x		1		X			5122246				

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
Ray Marangosian	12-19-95 16:45		12/19/95 16:45
(SIGNATURE)	12/20/95	(SIGNATURE)	12-20
(SIGNATURE)	12-20	(SIGNATURE)	12/20 1445
(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: DATE: 12/19/95

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.