MONITORING
PURGING
DISPOSING
SAMPLING
MPDS SERVICES, INCORPORATED

February 6, 1995

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

RE: Unocal Service Station #7004
15599 Hesperian Boulevard
San Leandro, California

Per the request of the Unocal Corporation Project Manager, Mr. Adadu Yemane, enclosed please find our report (MPDS-UN7004-05) dated February 2, 1995 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) 277-2383.

Sincerely,

MPDS Services, Inc.

Jarrel F. Crider

Jarrel F. Crider

/jfc

Enclosure

cc: Mr. Adadu Yemane

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

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS SERVICES, INCORPORATED

MPDS-UN7004-05
February 2, 1995

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Mr. Adadu Yemane

RE: Quarterly Data Report
Unocal Service Station #7004
15599 Hesperian Boulevard
San Leandro, California

Dear Mr. Yemane:

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 is shown on the attached Figure 1.

Ground water samples were collected on January 5, 1995. Prior to sampling, the wells were each purged of between 7 and 8.5 gallons of water. Samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. MPDS 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 date are summarized in Table 2. 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.

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

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, and to Mr. Michael Bakaldin of the City of 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.

Sarkis A. Karkarian
Staff Engineer

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

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

/bp

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

cc: Mr. Timothy R. Ross, Kaprealian Engineering, Inc.

TABLE 1

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Total Well Depth (feet)♦	Product Thickness (feet)	Sheen	Water Purged (gallons)
(Monitored and Sampled on January 5, 1995)						
MW1	21.71	14.68	24.20	0	No	7
MW2	21.77	15.30	24.38	0	No	7
MW3	21.67	15.12	24.70	0	No	7
MW4	21.61	13.83	25.64	0	No	8.5
MW5	21.61	15.20	26.12	0	No	8
MW6	21.71	15.42	25.60	0	No	7.5
(Monitored and Sampled on October 6, 1994)						
MW1*	19.68	16.71	24.20	0	--	0
MW2*	20.75	16.32	24.38	0	--	0
MW3	20.56	16.23	24.68	0	No	6
MW4*	20.44	15.00	25.63	0	--	0
MW5	20.39	16.42	26.10	0	No	7
MW6*	20.55	16.58	25.60	0	--	0
(Monitored and Sampled on July 8, 1994)						
MW1	21.73	14.66	24.20	0	No	7
MW2	21.79	15.28	24.37	0	No	7
MW3	21.59	15.20	24.68	0	No	7
MW4	21.48	13.96	25.64	0	No	8
MW5	21.43	15.38	26.10	0	No	8
MW6	21.58	15.55	25.60	0	No	7
(Monitored and Sampled on April 6, 1994)						
MW1*	22.20	14.19	24.17	0	--	0
MW2*	22.24	14.83	24.36	0	--	0
MW3	22.07	14.72	24.67	0	No	7
MW4*	22.00	13.44	25.61	0	--	0
MW5	21.91	14.90	26.09	0	No	8
MW6*	22.06	15.07	25.58	0	--	0

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Well Casing Elevation (feet)**
MW1	36.39
MW2	37.07
MW3	36.79
MW4	35.44
MW5	36.81
MW6	37.13

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

* Monitored only.

** The elevations of the top of the well casings are relative to Mean Sea Level (MSL), based on the City of San Leandro Benchmark (elevation = 36.04 feet MSL).

-- Sheen determination was not performed.

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
1/05/95	MW1	ND	ND	ND	ND	ND	--
	MW2	310*	ND	ND	ND	ND	--
	MW3	20,000	2,100	ND	3,200	3,800	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	85	ND	ND	ND	ND	--
	MW6	ND	ND	ND	ND	ND	--
10/06/94	MW1	SAMPLED SEMI-ANNUALLY					
	MW2	SAMPLED SEMI-ANNUALLY					
	MW3	20,000	2,100	26	3,000	900	--
	MW4	SAMPLED SEMI-ANNUALLY					
	MW5	350	1.3	ND	ND	ND	--
	MW6	SAMPLED SEMI-ANNUALLY					
7/08/94	MW1	ND	ND	ND	ND	ND	--
	MW2	140*	ND	ND	ND	ND	--
	MW3	18,000	2,200	25	2,500	860	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	200	ND	ND	ND	ND	--
	MW6	ND	ND	ND	ND	ND	--
4/06/94	MW1	SAMPLED SEMI-ANNUALLY					
	MW2	SAMPLED SEMI-ANNUALLY					
	MW3	24,000	3,100	ND	3,300	820	--
	MW4	SAMPLED SEMI-ANNUALLY					
	MW5	260	1.4	ND	0.88	ND	--
	MW6	SAMPLED SEMI-ANNUALLY					
1/11/94	MW1	ND	ND	ND	ND	ND	--
	MW2	120*	ND	ND	ND	ND	--
	MW3	19,000	3,300	31	3,300	890	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	160	ND	0.79	0.54	ND	--
	MW6	ND	ND	ND	ND	ND	--
10/06/93	MW3	24,000	4,100	ND	3,600	2,000	ND
	MW5	150	1.1	ND	3.1	0.85	57

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
7/22/93	MW1	ND	ND	ND	ND	ND	77
	MW2	62*	ND	ND	ND	ND	42
	MW3	16,000	4,500	17	3,600	1,900	440
	MW4	ND	ND	ND	ND	ND	54
	MW5	59**	ND	ND	2.6	ND	42
	MW6	ND	ND	ND	ND	ND	ND
4/20/93	MW1	--	--	--	--	--	56
&	MW2	--	--	--	--	--	80
4/23/93	MW3	18,000	3,700	11	2,300	1,300	410
	MW4	--	--	--	--	--	65
	MW5	99*	ND	ND	ND	ND	120
	MW6	--	--	--	--	--	ND
1/21/93	MW1	ND	ND	ND	ND	ND	42
	MW2	ND	ND	ND	ND	ND	17
	MW3	12,000	2,800	11	1,600	590	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	100*	ND	ND	ND	ND	160
	MW6	ND	ND	ND	ND	ND	--
10/28/92	MW1	SAMPLED SEMI-ANNUALLY					
	MW2	SAMPLED SEMI-ANNUALLY					
	MW3	15,000	4,400	15	2,400	800	--
	MW4	SAMPLED SEMI-ANNUALLY					
	MW5	ND	ND	ND	ND	ND	45
	MW6	SAMPLED SEMI-ANNUALLY					
7/09/92	MW1	70*	ND	ND	ND	ND	130
	MW2	ND	ND	ND	ND	ND	49
	MW3	13,000	3,200	12	1,900	1,100	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	ND	ND	ND	ND	ND	71
	MW6	ND	ND	ND	ND	ND	--
4/14/92	MW1	76*	ND	ND	ND	ND	--
	MW2	45*	ND	ND	ND	ND	--
	MW3	16,000	3,400	19	1,400	1,300	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	86*	ND	ND	ND	ND	--
	MW6	ND	ND	ND	ND	ND	--

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
1/14/92	MW1	ND	ND	ND	ND	ND	--
	MW2	ND	ND	ND	ND	ND	--
	MW3	13,000	6,600	19	2,600	1,800	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	60*	ND	ND	ND	ND	--
	MW6	ND	ND	ND	ND	ND	--
10/14/91	MW1	ND	ND	ND	ND	ND	--
	MW2	ND	ND	ND	ND	ND	--
	MW3	25,000	6,300	78	2,000	1,400	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	140	0.72	ND	1.3	0.89	--
	MW6	ND	ND	ND	ND	ND	--
7/23/91	MW1	ND	ND	ND	ND	ND	--
	MW2	ND	ND	ND	ND	ND	--
	MW3	17,000	5,500	26	1,800	2,800	--
	MW4	ND	ND	ND	ND	ND	--
	MW5	260	1.2	0.39	10	0.71	--
	MW6	ND	ND	ND	ND	ND	--
5/04/91	MW1	ND	ND	ND	ND	ND	--
	MW2	ND	ND	ND	ND	ND	--
	MW3	34,000	6,100	32	1,200	6,100	--

MTBE = Methyl tert butyl ether.

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

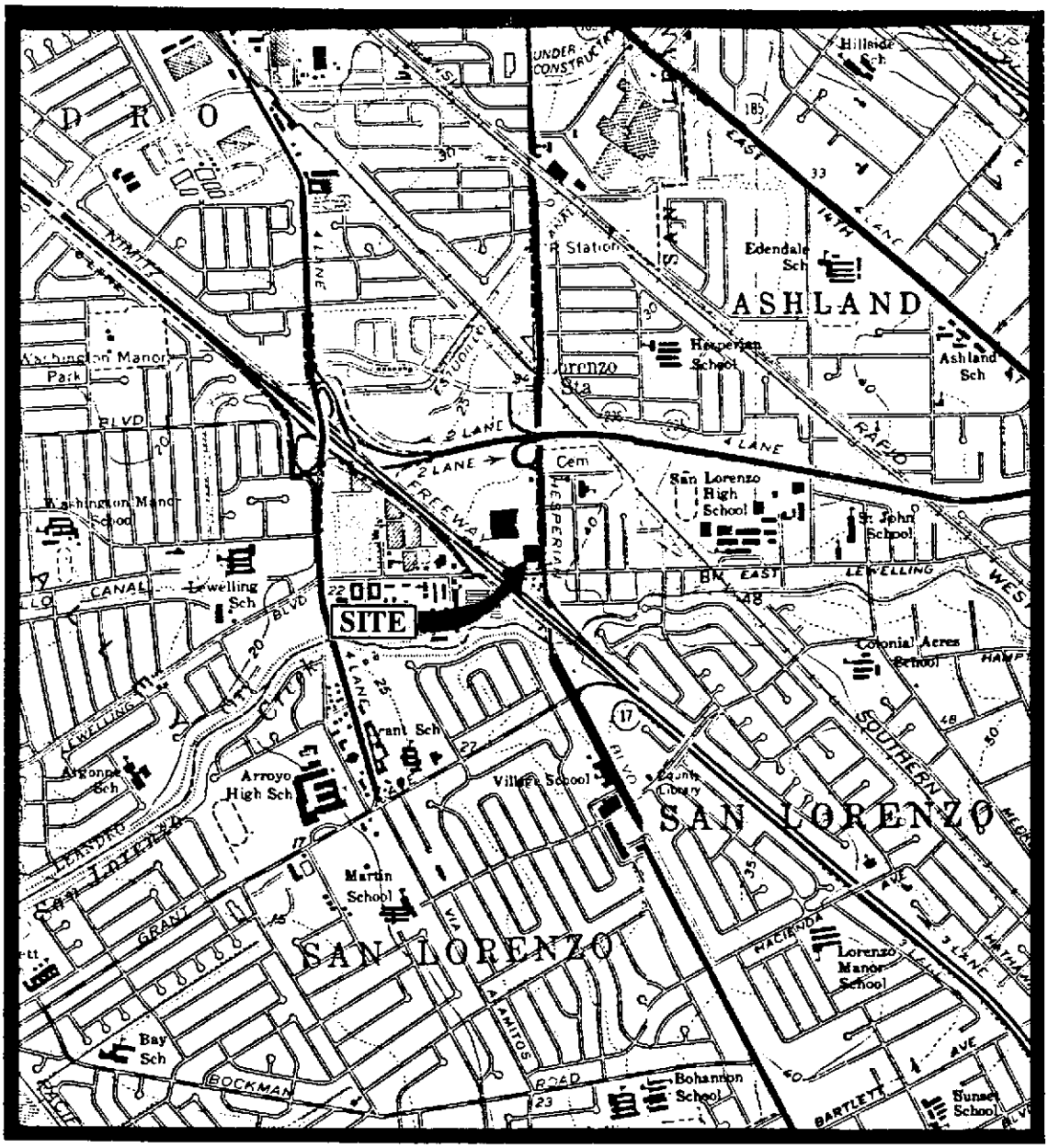
** Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

ND = Non-detectable.

-- Indicates analysis was not performed.

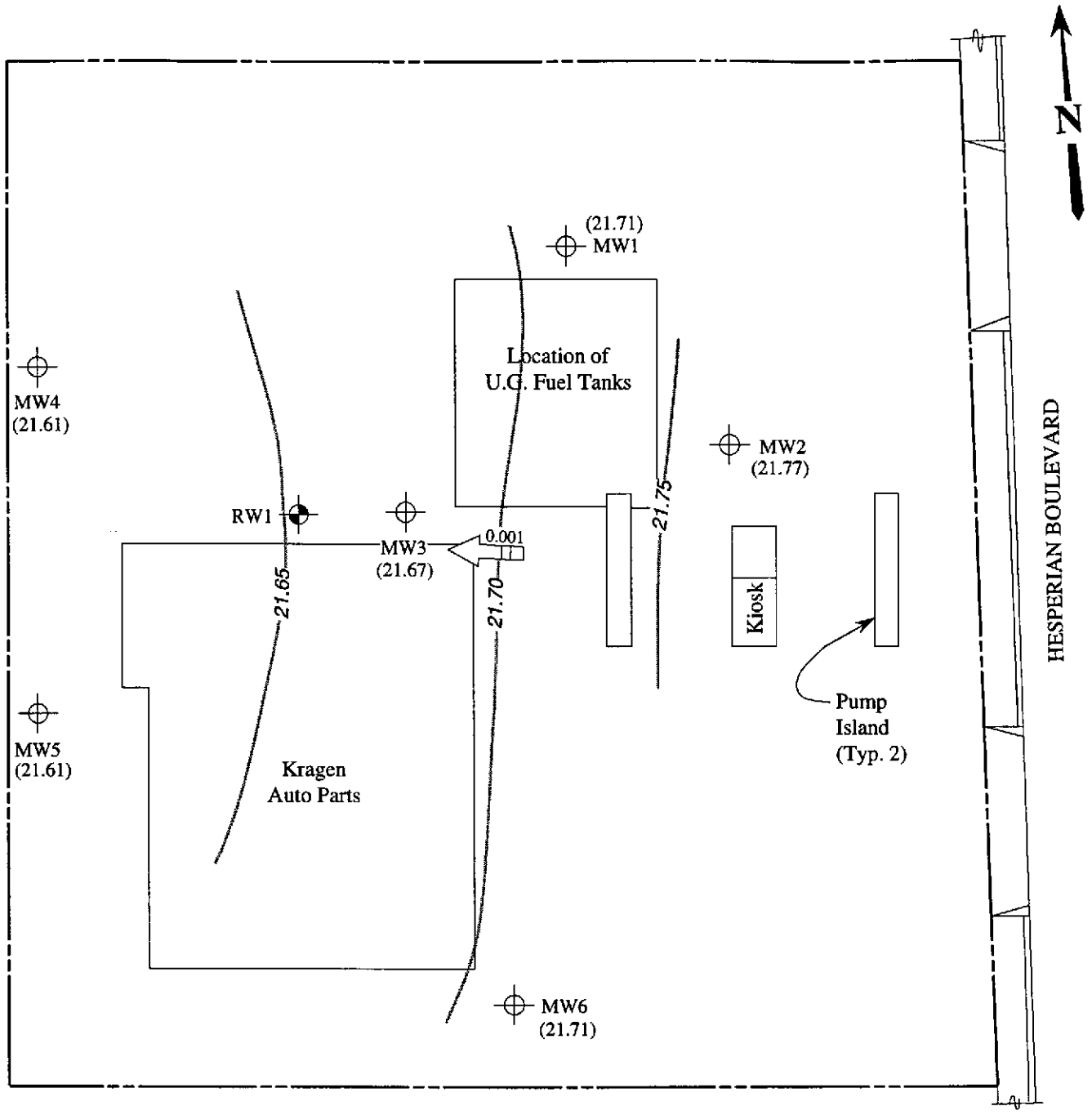
Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: Laboratory analyses data prior to January 11, 1994, were provided by Kaprealian Engineering, Inc.



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

mpds SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #7004** **15599 HESPERIAN BOULEVARD** **SAN LEANDRO, CA**	**LOCATION MAP**



LEGEND

- Monitoring well
- Aquifer testing 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

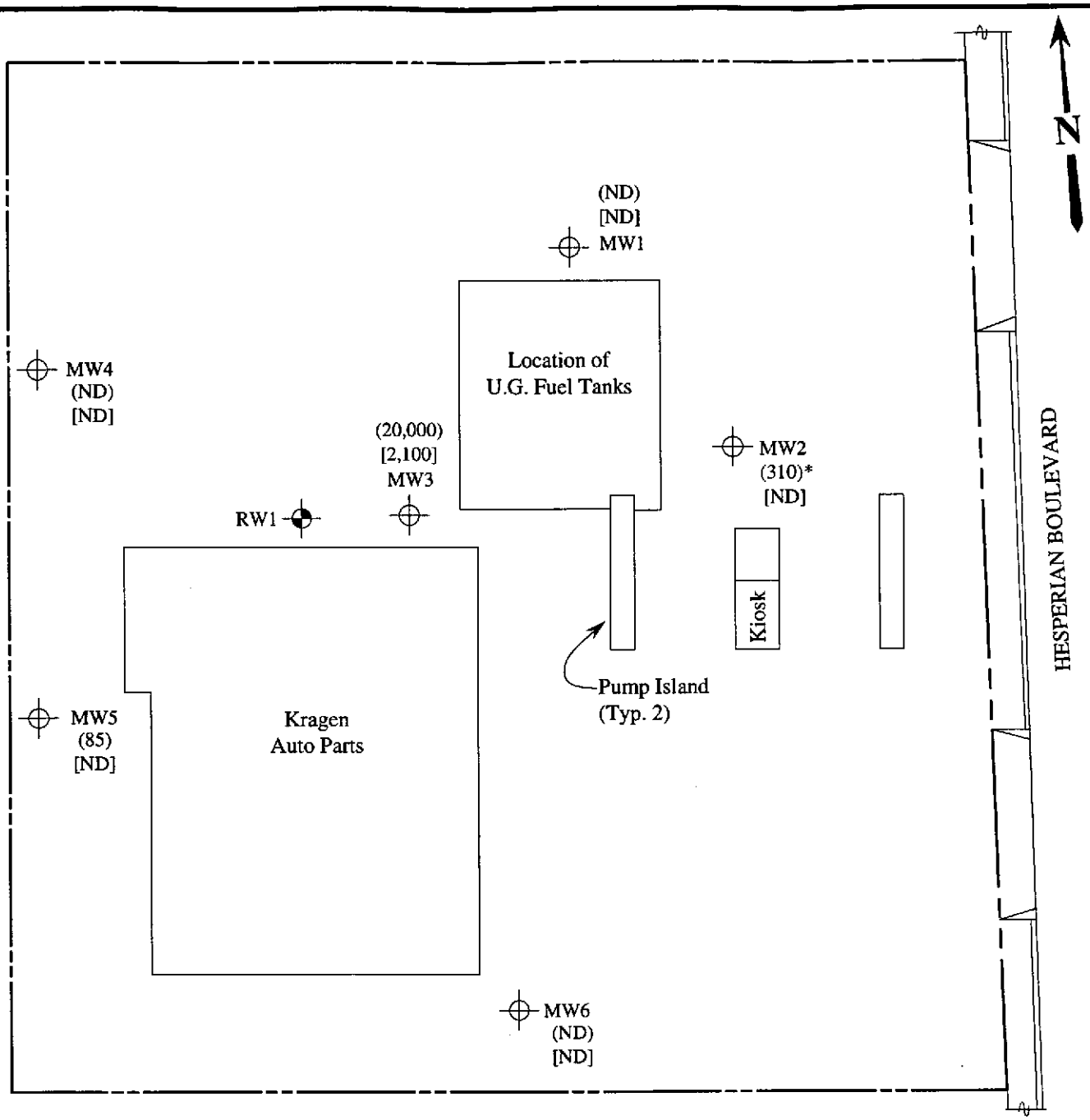
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE JANUARY 5, 1995 MONITORING EVENT

MPDS SERVICES, INCORPORATED

UNOCAL SERVICE STATION #7004
15599 HESPERIAN BOULEVARD
SAN LEANDRO, CALIFORNIA

FIGURE
1



LEGEND

- Monitoring well
- Aquifer testing well
- ( ) Concentration of TPH as gasoline in µg/L
- [ ] Concentration of benzene in µg/L

NS = Not sampled

0 30 60

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JANUARY 5, 1995

mpds SERVICES, INCORPORATED

UNOCAL SERVICE STATION #7004
15599 HESPERIAN BOULEVARD
SAN LEANDRO, CALIFORNIA

FIGURE
2

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #7004, San Leandro	Sampled:	Jan 5, 1995
2401 Stanwell Dr., Ste. 400	Matrix Descript:	Water	Received:	Jan 5, 1995
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Jan 20, 1995
Attention: Avo Avedissian	First Sample #:	501-0231		

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
501-0231	MW-1	ND	ND	ND	ND	ND
501-0232	MW-2	310*	ND	ND	ND	ND
501-0233	MW-3	20,000	2,100	ND	3,200	3,800
501-0234	MW-4	ND	ND	ND	ND	ND
501-0235	MW-5	85	ND	ND	ND	ND
501-0236	MW-6	ND	ND	ND	ND	ND

* Hydrocarbons detected did not appear to be gasoline.

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, #2000

Signature on File

Alan B. Kemp
Project Manager

5010231.MPD <1>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services	Client Project ID:	Unocal #7004, San Leandro	Sampled:	Jan 5, 1995
2401 Stanwell Dr., Ste. 400	Matrix Descript:	Water	Received:	Jan 5, 1995
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Jan 20, 1995
Attention: Avo Avedissian	First Sample #:	501-0231		

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%)
501-0231	MW-1	--	1.0	1/10/95	HP-1	84
501-0232	MW-2	Discrete Peak*	10	1/11/95	HP-1	86
501-0233	MW-3	Gasoline	100	1/11/95	HP-1	81
501-0234	MW-4	--	1.0	1/10/95	HP-1	89
501-0235	MW-5	Gasoline	1.0	1/10/95	HP-1	86
501-0236	MW-6	--	1.0	1/10/95	HP-1	89

SEQUOIA ANALYTICAL, #2000

Signature on File

Alan B. Kemp
Project Manager

Please Note:
* "Discrete Peak" refers to an unidentified peak in the MTBE range.

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #7004, San Leandro
Matrix: Liquid
QC Sample Group: 5010231-36

Reported: Jan 20, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	N. Zahedi	N. Zahedi	N. Zahedi	N. Zahedi
MS/MSD Batch#:	5010083	5010083	5010083	5010083
Date Prepared:	1/10/95	1/10/95	1/10/95	1/10/95
Date Analyzed:	1/10/95	1/10/95	1/10/95	1/10/95
Instrument I.D.#:	HP-1	HP-1	HP-1	HP-1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	98	100	100	106
Matrix Spike Duplicate % Recovery:	93	95	95	100
Relative % Difference:	5.2	5.1	5.1	5.8
LCS Batch#:	LCS011095	LCS011095	LCS011095	LCS011095
Date Prepared:	1/10/95	1/10/95	1/10/95	1/10/95
Date Analyzed:	1/10/95	1/10/95	1/10/95	1/10/95
Instrument I.D.#:	HP-1	HP-1	HP-1	HP-1
LCS % Recovery:	102	103	103	108
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #2000

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
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #7004, San Leandro
Matrix: Liquid
QC Sample Group: 5010231-36

Reported: Jan 20, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	N. Zahedi	N. Zahedi	N. Zahedi	N. Zahedi
MS/MSD Batch#:	5010091	5010091	5010091	5010091
Date Prepared:	1/11/95	1/11/95	1/11/95	1/11/95
Date Analyzed:	1/11/95	1/11/95	1/11/95	1/11/95
Instrument I.D.#:	HP-1	HP-1	HP-1	HP-1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	82	82	82	86
Matrix Spike Duplicate % Recovery:	80	80	80	84
Relative % Difference:	1.2	2.5	2.5	2.4
LCS Batch#:	LCS011195	LCS011195	LCS011195	LCS011195
Date Prepared:	1/11/95	1/11/95	1/11/95	1/11/95
Date Analyzed:	1/11/95	1/11/95	1/11/95	1/11/95
Instrument I.D.#:	HP-1	HP-1	HP-1	HP-1
LCS % Recovery:	89	90	89	93
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #2000

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: RAY MARANGOSIAN
WITNESSING AGENCY:
UNOCAL S/S # 7014 CITY: SAN LEANDRO
ADDRESS:

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
MW1	1-5-95	12:00	X	X		2	Well	X						5010231	A,B
MW2	"	12:40	X	X		4	"	X						5010232	
MW3	"	13:50	X	X		4	"	X						5010233	
MW4	"	10:20	X	X		4	"	X						5010234	
MW5	"	13:15	X	X		4	"	X						5010235	
MW6	"	11:15	X	X		4	"	X						5010236	
															13°C

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:
(SIGNATURE) Ray Marangosian	1-5-95 1540	(SIGNATURE)	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? Yes
(SIGNATURE)	1/6/95 10:00 AM	(SIGNATURE)	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? Yes
(SIGNATURE)	1-6 1:20	(SIGNATURE) 1/6/95	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? NO
(SIGNATURE)		(SIGNATURE)	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? Yes
(SIGNATURE)		(SIGNATURE)	SIGNATURE: TITLE: Analyst DATE: 1-5-95