MONITORING PURGING DISPOSING SAMPLING

mpds SERVICES, INCORPORATED

Date: June 6, 1994

Transmittal Page

TO: Ms. Jennifer Eberle
Alameda County Health Care Services Agency
(510) 669-4757

FROM: Deanna L. Harding

Number of Pages (Including Cover): 26

SUBJECT: UNOCAL SERVICE STATION #0752, 800 HARRISON ST., OAKLAND

At the request of Ms. Tina Berry of Unocal Corporation, and Robert Kezerian of Kaprealian Engineering, Inc., following is the last Quarterly Data Report (MPDS-UN0752-02) dated May 5, 1994, for the above referenced site.

A hard copy is being mailed to you today.

Should any problems occur in receiving, please call the number listed below.

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

M P D S
SERVICES, INCORPORATED

MPDS-UN0752-02
May 5, 1994

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

Attention: Ms. Tina R. Berry

RE: Quarterly Data Report
Unocal Service Station #0752
800 Harrison Street
Oakland, California

Dear Ms. Berry:

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 April 2, 1994. Prior to sampling, the wells were each purged of between 6.5 and 10 gallons of water. 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 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 Tables 2, 3, and 4. The concentrations of Total Petroleum Hydrocarbons (TPH) as

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gasoline, TPH as diesel, 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.

DISTRIBUTION

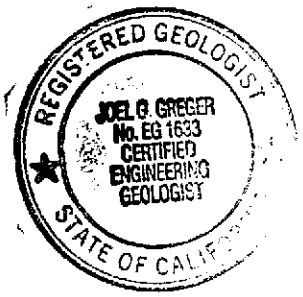
A copy of this report should be sent to Ms. Jennifer Eberle of the Alameda County Health Care Services Agency, and to the Regional Water Quality Control Board, San Francisco Bay Region.

If you have any questions regarding this report, please do not hesitate to call at (510) 602-5120.

Sincerely,

MPDS Services, Inc.

Talin Kaloustian
Staff Engineer



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

License No. EG 1633
Exp. Date 6/30/94

/dlh

Attachments: Tables 1 through 4
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Robert H. Kezerian, Kaprealian Engineering, Inc.

TABLE 1

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)◆
(Monitored and Sampled on April 2, 1994)						
MW1	14.53	20.16	0	No	9.5	33.63
MW2	14.84	19.88	0	No	7.5	30.53
MW3	14.13	19.01	0	No	8.5	30.97
MW4	14.18	18.53	0	No	10	32.51
MW5	14.27	18.68	0	No	9	31.57
MW6	14.01	18.15	0	No	9	31.21
MW7	13.70	18.50	0	No	9	31.45
MW8	13.70	18.30	0	No	6.5	27.32
(Monitored and Sampled on January 3, 1994)						
MW1	14.17	20.52	0	No	9.5	33.85
MW2	14.51	20.21	0	No	7.5	31.00
MW3	13.74	19.40	0	No	8.5	31.35
MW4	13.78	18.93	0	No	9.5	32.58
MW5	13.90	19.05	0	No	9	31.95
MW6	13.62	18.54	0	No	9	31.58
MW7	13.29	18.91	0	No	9.5	32.23
MW8	13.27	18.73	0	No	7	28.74
(Monitored and Sampled on October 5, 1993)						
MW1	14.39	20.30	0	No	10	
MW2	14.77	19.95	0	No	8	
MW3	13.94	19.20	0	No	10	
MW4	13.97	18.74	0	No	10	
MW5	14.12	18.83	0	No	10	
MW6	13.81	18.35	0	No	10	
MW7	13.44	18.76	0	No	10	
MW8	13.43	18.57	0	No	8	

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)◆
(Monitored and Sampled on July 23, 1993)						
MW1	14.81	20.13	0	No	10	
MW2	15.16	19.81	0	No	8	
MW3	14.39	19.00	0	No	9	
MW4	14.40	18.72	0	No	10	
MW5	14.51	18.74	0	No	10	
MW6	14.25	18.17	0	No	10	
MW7	13.89	18.60	0	No	10	
MW8	13.88	18.45	0	No	8	

Well #	Well Cover Elevation (feet)*	Well Casing Elevation (feet)**
MW1	34.94	34.69
MW2	34.97	34.72
MW3	33.39	33.14
MW4	33.12	32.71
MW5	33.25	32.95
MW6	32.42	32.16
MW7	32.49	32.20
MW8	32.33	32.00

◆ The depth to water level and total well depth measurements were taken from the top of the well casings. Prior to October 5, 1993, the depth to water level and total well depth measurements were taken from the top of the well covers.

* The elevations of the top of the well covers have been surveyed relative to Mean Sea Level (MSL), per the City of Oakland benchmark disk stamped "25/A" at the northeast corner of 7th and Harrison (elevation = 28.81 MSL).

** Relative to MSL.

Note: Monitoring data prior to January 3, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
4/02/94	MW1	ND	ND	ND	ND	ND	ND
	MW2	--	ND	0.65	ND	ND	0.99
	MW3	--	6,000	800	30	140	110
	MW4	--	89	ND	ND	ND	ND
	MW5	--	1,800	46	5.1	38	35
	MW6	--	5,300*	ND	ND	ND	ND
	MW7	--	360	2.0	ND	ND	0.80
	MW8	--	150	1.2	ND	ND	ND
1/03/94	MW1	ND	ND	ND	ND	ND	ND
	MW2	--	260	25	ND	5.5	26
	MW3	--	4,900	830	100	170	150
	MW4	--	210	ND	ND	0.76	1.6
	MW5	--	1,500	44	ND	42	46
	MW6	--	1,400	57	ND	8.5	11
	MW7	--	ND	0.93	ND	0.75	1.9
	MW8	--	ND	ND	ND	ND	ND
10/05/93	MW1	57♦	92**	1.5	ND	ND	0.72
	MW2	--	120	12	ND	2.1	12
	MW3	--	9,200	720	88	140	140
	MW4	--	130**	ND	ND	ND	ND
	MW5	--	1,700	70	6.2	54	40
	MW6	--	1,400	34	ND	5.3	7.3
	MW7	--	360	10	1.2	0.91	0.99
	MW8	--	120**	1.7	ND	ND	ND
7/23/93	MW1	ND	ND	0.50	0.66	ND	ND
	MW2	--	66	1.8	ND	2.5	2.0
	MW3	--	4,400	660	26	160	82
	MW4	--	85*	ND	ND	ND	ND
	MW5	--	2,000	122	8.0	68	47
	MW6	--	580	19	0.99	3.4	2.7
	MW7	--	790	23	3.3	28	5.4
	MW8	--	260	5.1	ND	0.60	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
4/28/93	MW1	470♦♦	920	3.1	2.3	1.2	9.7
	MW2	--	1,300	76	1.9	130	87
	MW3	--	2,600	220	7.6	41	27
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	6,700	200	190	250	430
	MW6	--	1,200	54	1.5	11	5.3
	MW7	--	110	2.8	1.3	1.4	1.7
	MW8	--	450	18	1.8	1.8	1.4
12/21/92	MW1	ND	95	0.69	ND	ND	1.0
	MW2	--	960	97	3.2	74	96
	MW3	--	8,500	1,500	150	310	330
	MW4	--	220*	ND	ND	0.97	0.74
	MW5	--	1,700	51	4.7	83	34
	MW6	--	2,300	370	11	39	15
10/19/92	MW4	--	480	0.51	2.1	2.8	6.8
	MW5	--	2,700	61	5.0	100	61
	MW6	--	3,900	420	12	60	28
9/15/92	MW1	ND	76	1.0	ND	ND	ND
	MW2	--	1,300	91	5.7	80	110
	MW3	--	10,000	1,900	330	400	580
6/30/92	MW1	120	ND	ND	ND	ND	ND
	MW2	--	76	9.3	0.76	4.8	6.9
	MW3	--	8,900	1,900	210	430	550
4/02/92	MW1	94	ND	ND	ND	ND	ND
	MW2	--	88	12	0.32	6.3	7.2
	MW3	--	8,000	1,400	200	300	310
12/30/91	MW1	ND	ND	ND	ND	ND	ND
	MW2	--	91	16	0.89	11	1.9
	MW3	--	7,200	2,100	690	410	550

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
9/30/91	MW1	ND	ND	ND	ND	ND	ND
	MW2	--	130	18	0.53	14	9.6
	MW3	--	6,800	1,400	130	290	240
6/05/91	MW1	ND	47	ND	ND	ND	ND
	MW2	--	49	ND	ND	ND	ND
	MW3	--	5,800	1,200	40	140	97

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

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

* 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 appeared to be a 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 3, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	Chloroform	Tetrachloroethene	Trichloroethene
4/02/94	MW1	15	1.1	0.68
1/03/94	MW1*	16	1.4	0.93
	MW4**	9.0	1.0	ND
	MW8♦	1.5	1.2	ND
10/05/93	MW1	13	1.3	0.66
7/23/93	MW1	16	1.3	0.91
4/28/93	MW1♦♦	12	0.89	0.85
12/21/92	MW1	12	1.4	0.83
9/15/92	MW1	12	2.2	1.3
6/30/92	MW1	9.5	2.2	1.3
4/02/92	MW1	7.1	2.6	1.4
12/30/91	MW1	6.4	2.1	0.9
9/30/91	MW1	--	--	--
6/04/91	MW1	7.8	2.9	1.3

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

* A fuel fingerprint analysis was conducted on this sample. Sequoia Analytical Laboratory reported that total extractable petroleum hydrocarbons in this sample were not detected in high enough concentrations to compare with known standards and approximate their make-up.

** MTBE was detected at a concentration of 240 µg/L.

♦ 1,2-Dichloroethane was detected at a concentration of 4.0 µg/L, and MTBE was detected at a concentration of 51 µg/L.

♦♦ 1,2-Dichloroethane was detected at a concentration of 1.1 µg/L.

ND = Non-detectable.

-- Indicates analysis was not performed.

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

Note: - All EPA method 8010 constituents were non-detectable, except for the above compounds.

- Laboratory analyses data prior to January 3, 1994, were provided by Kaprealian Engineering, Inc.

TABLE 4

SUMMARY OF LABORATORY ANALYSES
WATER

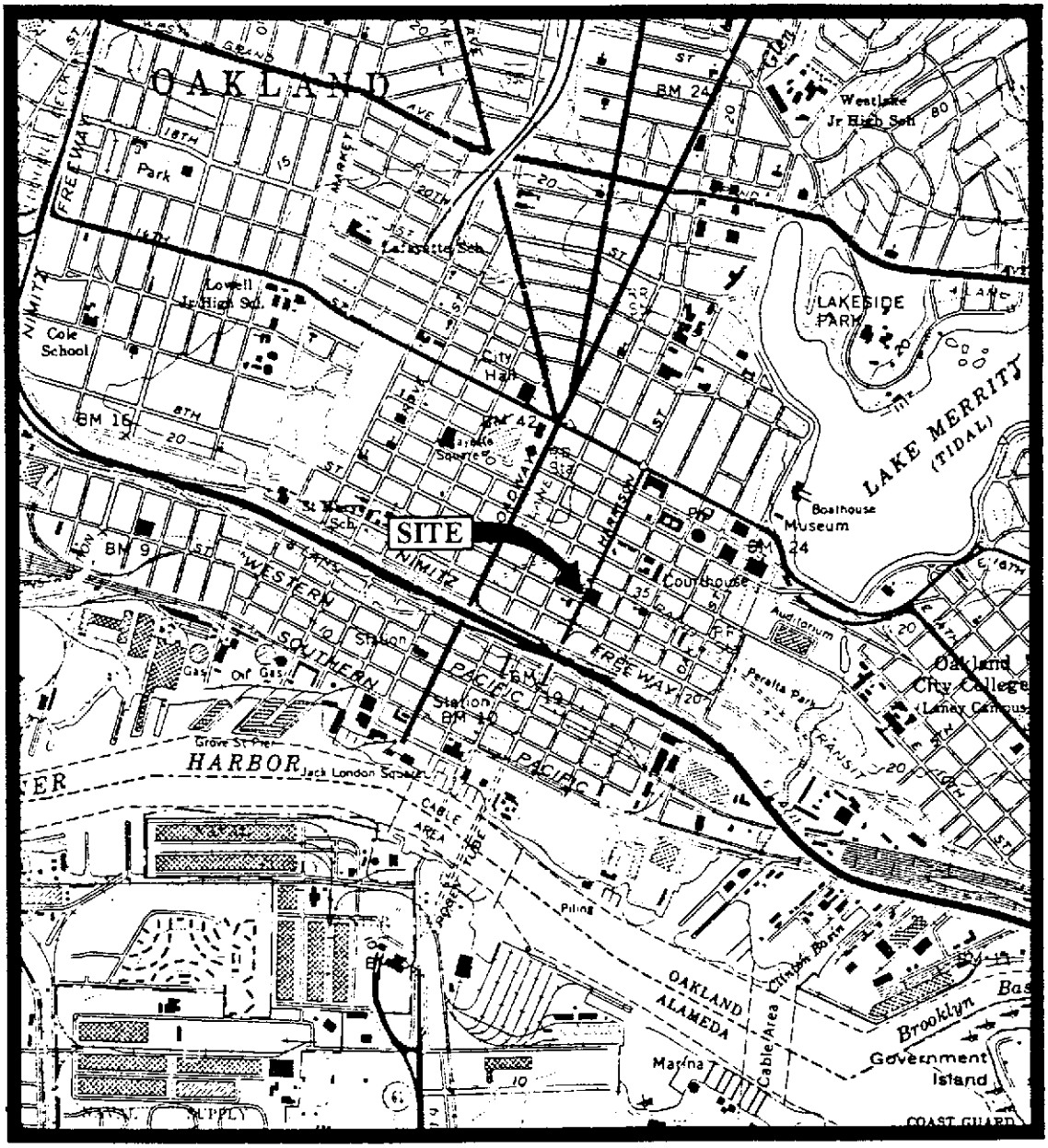
Date	Well #	TOG	Cadmium	Chromium	Lead	Nickel	Zinc
4/02/92	MW1	ND	ND	0.015	0.016	ND	0.020
12/30/91	MW1	ND	ND	0.0078	0.0057	ND	0.046
9/30/91	MW1	ND	ND	0.019	ND	ND	0.11
6/05/91	MW1	ND	ND	0.0083	0.011	0.063	0.023

TOG = Total Oil & Grease.

ND = Non-detectable.

Results are in milligrams per liter (mg/L), unless otherwise indicated.

Note: Laboratory analyses data were provided by Kaprealian Engineering, Inc.



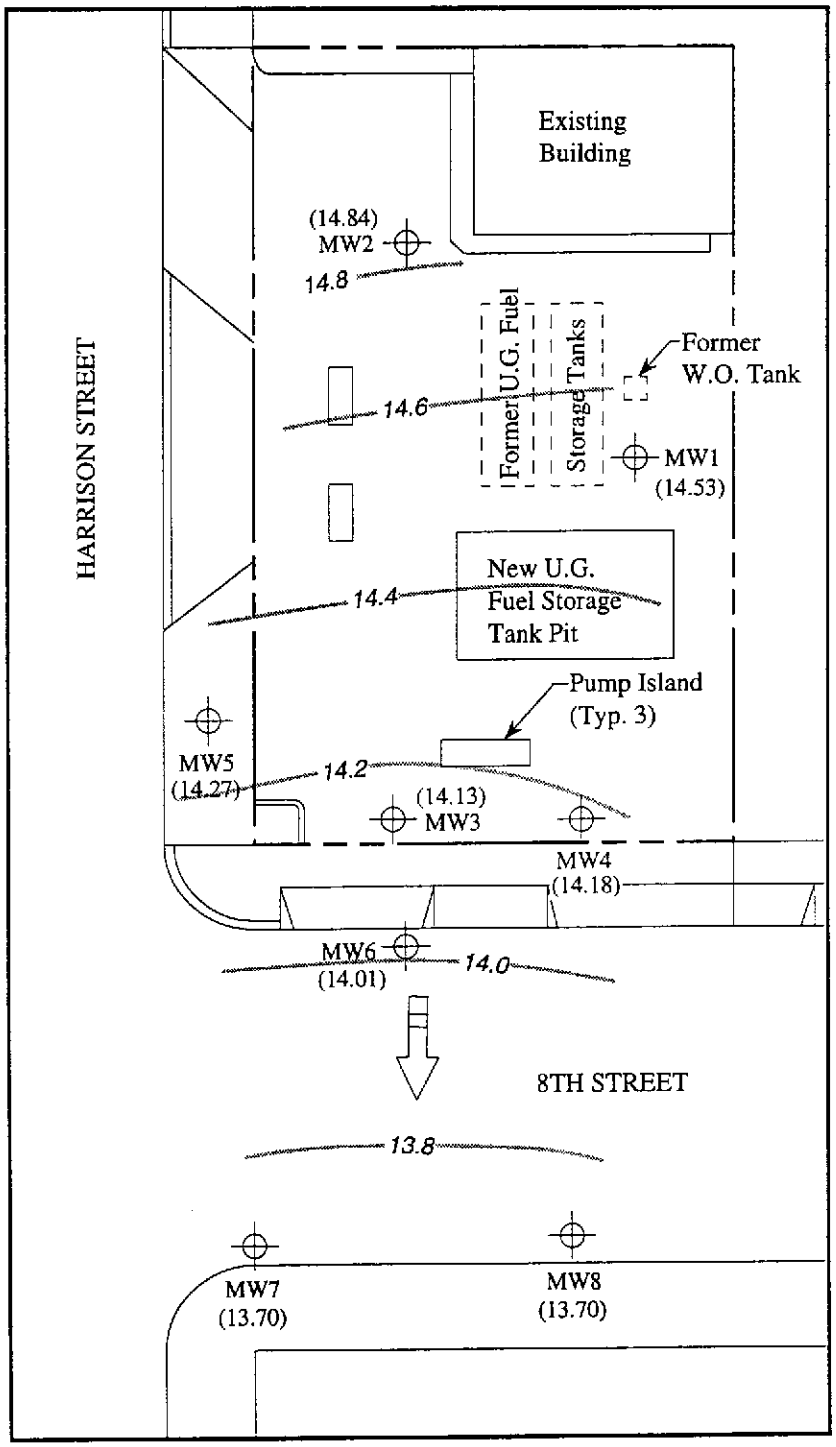
N

0 2000 4000

Approx. scale feet

Base modified from 7.5 minute U.S.G.S. Oakland West Quadrangle
(photorevised 1980)

M P D S SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #0752** **800 HARRISON STREET** **OAKLAND, CALIFORNIA**	**LOCATION MAP**



N

LEGEND

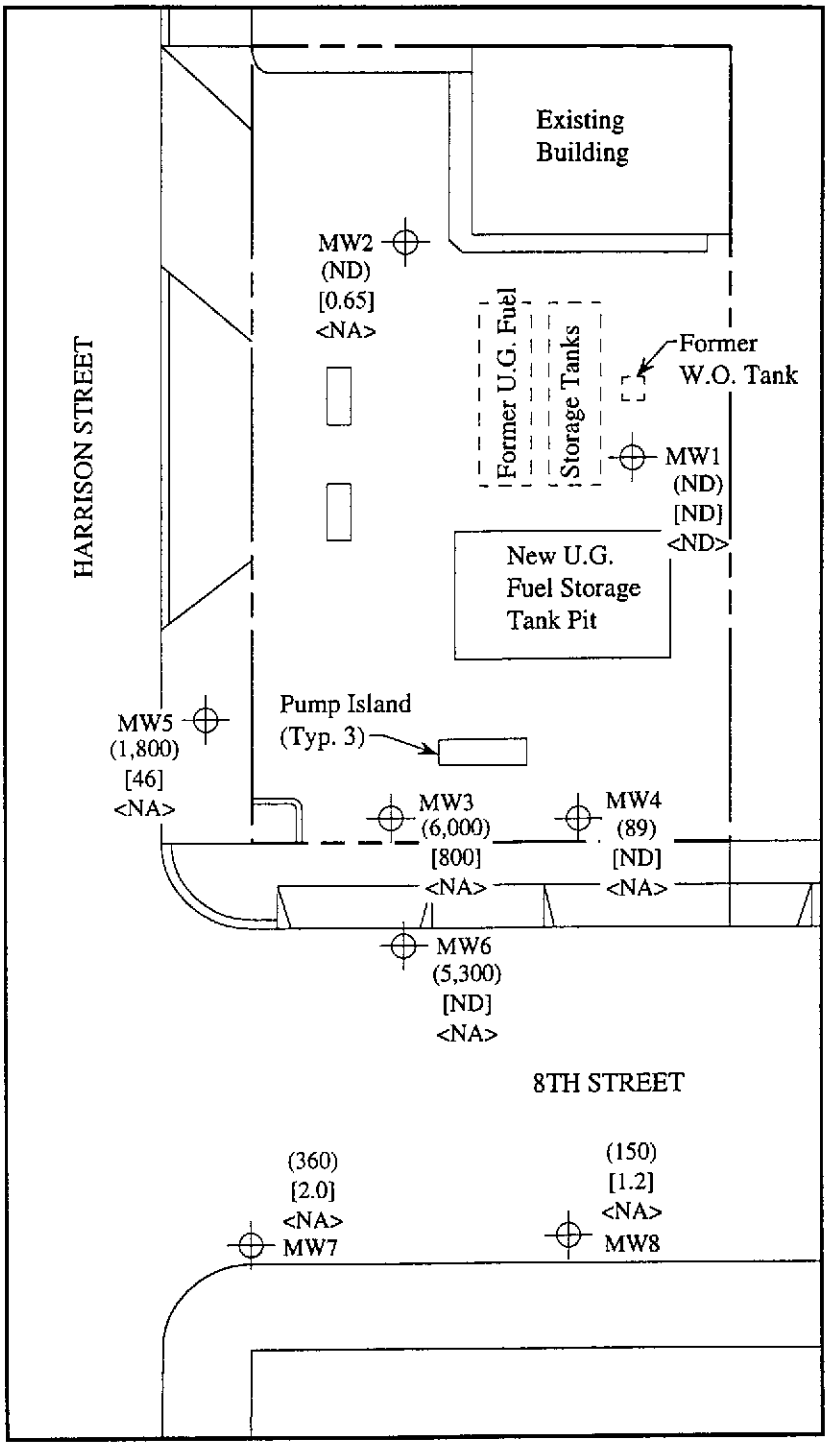
- Monitoring well
- ( ) Ground water elevation in feet above Mean Sea Level
- Contours of ground water elevation
- Direction of ground water flow

0 30 60

Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE APRIL 2, 1994 MONITORING EVENT

MPDS SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #0752** **800 HARRISON STREET** **OAKLAND, CALIFORNIA**	FIGURE **1**



LEGEND

⊕ Monitoring well

( ) Concentration of TPH as gasoline in µg/L

[ ] Concentration of benzene in µg/L

< > Concentration of TPH as diesel in µg/L

ND = Non-detectable, NA = Not analyzed

0 30 60

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON APRIL 2, 1994

MPDS SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #0752** **800 HARRISON STREET** **OAKLAND, 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 #0752, 800 Harrison St, Oakland	Sampled: Apr 2, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: Apr 4, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Apr 18, 1994
Attention: Avo Avedessian	First Sample #:	404-0046	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 404-0046 MW-1	Sample I.D. 404-0047 MW-2	Sample I.D. 404-0048 MW-3	Sample I.D. 404-0049 MW-4	Sample I.D. 404-0050 MW-5	Sample I.D. 404-0051 MW-6*
Purgeable Hydrocarbons	50	N.D.	N.D.	6,000	89	1,800	5,300
Benzene	0.5	N.D.	0.65	800	N.D.	46	N.D.
Toluene	0.5	N.D.	N.D.	30	N.D.	5.1	N.D.
Ethyl Benzene	0.5	N.D.	N.D.	140	N.D.	38	N.D.
Total Xylenes	0.5	N.D.	0.99	110	N.D.	35	N.D.
Chromatogram Pattern:		--	--	Gasoline	Gasoline	Gasoline	Gasoline & Discrete Peak

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	20	1.0	4.0	50
Date Analyzed:	4/8/94	4/12/94	4/8/94	4/8/94	4/12/94	4/13/94
Instrument Identification:	HP-5	HP-2	HP-5	HP-5	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	105	99	104	109	136	104

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

Please Note:
*This sample appears to contain gasoline and a non-gasoline mixture.
Discrete Peak refers to an unidentified peak in the MTBE Range.

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 #0752, 800 Harrison St, Oakland	Sampled: Apr 2, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: Apr 4, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Apr 18, 1994
Attention: Avo Avedessian	First Sample #:	404-0052	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 404-0052 MW-7	Sample I.D. 404-0053 MW-8	Sample I.D. Matrix Blank
Purgeable Hydrocarbons	50	360	150	
Benzene	0.5	2.0	1.2	
Toluene	0.5	N.D.	N.D.	
Ethyl Benzene	0.5	N.D.	N.D.	
Total Xylenes	0.5	0.80	N.D.	
Chromatogram Pattern:		Gasoline	Gasoline	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Analyzed:	4/8/94	4/8/94	4/8/94
Instrument Identification:	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	134	107	105

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

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 #0752, 800 Harrison St, Oakland	Sampled: Apr 2, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: Apr 4, 1994
Concord, CA 94520	Analysis Method:	EPA 3510/3520/8015	Reported: Apr 18, 1994
Attention: Avo Avedessian	First Sample #:	404-0046	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 404-0046 MW-1	Sample I.D. Matrix Blank
Extractable Hydrocarbons	50	N.D.	
Chromatogram Pattern:		--	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Extracted:	4/6/94	4/6/94
Date Analyzed:	4/7/94	4/6/94
Instrument Identification:	HP-3A	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

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 #0752, 800 Harrison St, Oakland	Sampled:	Apr 2, 1994
2401 Stanwell Dr., Ste. 400	Sample Descript:	Water, MW-1	Received:	Apr 4, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8010	Analyzed:	Apr 8, 1994
Attention: Avo Avedessian	Lab Number:	404-0046	Reported:	Apr 18, 1994

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**	**15**
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**	**1.1**
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**0.68**
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

Alan B. Kemp
Project Manager

Sequoia Analytical

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

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

Client Project ID: Unocal #0752, 800 Harrison St, Oakland
Matrix: Liquid
QC Sample Group: 4040046-53
Reported: Apr 18, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	J.F., A.T.	J.F., A.T.	J.F., A.T.	J.F., A.T.	K. Wimer
MS/MSD Batch#:	4040055	4040055	4040055	4040055	BLK040594
Date Prepared:	4/8/94	4/8/94	4/8/94	4/8/94	4/5/94
Date Analyzed:	4/8/94	4/8/94	4/8/94	4/8/94	4/7/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	105	100	100	97	80
Matrix Spike Duplicate % Recovery:	105	105	105	105	77
Relative % Difference:	0.0	4.9	4.9	7.9	3.8
LCS Batch#:	1LCS040894	1LCS040894	1LCS040894	1LCS040894	BLK040694
Date Prepared:	4/8/94	4/8/94	4/8/94	4/8/94	4/6/94
Date Analyzed:	4/8/94	4/8/94	4/8/94	4/8/94	4/7/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
LCS % Recovery:	100	100	100	101	74
% Recovery Control Limits:	71-133	72-128	72-130	71-120	38-122

SEQUOIA ANALYTICAL, #1271

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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Matrix: Liquid
QC Sample Group: 4040046-53
Reported: Apr 18, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J.F., A.T.	J.F., A.T.	J.F., A.T.	J.F., A.T.
MS/MSD Batch#:	4040096	4040096	4040096	4040096
Date Prepared:	4/8/94	4/8/94	4/8/94	4/8/94
Date Analyzed:	4/8/94	4/8/94	4/8/94	4/8/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	125	115	110	112
Matrix Spike Duplicate % Recovery:	125	105	100	102
Relative % Difference:	0.0	9.1	9.5	9.3
LCS Batch#:	3LCS040894	3LCS040894	3LCS040894	3LCS040894
Date Prepared:	4/8/94	4/8/94	4/8/94	4/8/94
Date Analyzed:	4/8/94	4/8/94	4/8/94	4/8/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	107	104	100	106
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1271

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Matrix: Liquid
QC Sample Group: 4040046-53
Reported: Apr 18, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J.F., A.T.	J.F., A.T.	J.F., A.T.	J.F., A.T.
MS/MSD Batch#:	4031493	4031493	4031493	4031493
Date Prepared:	4/12/94	4/12/94	4/12/94	4/12/94
Date Analyzed:	4/12/94	4/12/94	4/12/94	4/12/94
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:	100	100	100	102
Matrix Spike Duplicate % Recovery:	100	95	95	98
Relative % Difference:	0.0	5.1	5.1	2.0
LCS Batch#:	1LCS041294	1LCS041294	1LCS041294	1LCS041294
Date Prepared:	4/12/94	4/12/94	4/12/94	4/12/94
Date Analyzed:	4/12/94	4/12/94	4/12/94	4/12/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	102	101	101	102
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
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Client Project ID: Unocal #0752, 800 Harrison St, Oakland
Matrix: Liquid
QC Sample Group: 4040046-53

Reported: Apr 18, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J.F., A.T.	J.F., A.T.	J.F., A.T.	J.F., A.T.
MS/MSD Batch#:	4040134	4040134	4040134	4040134
Date Prepared:	4/13/94	4/13/94	4/13/94	4/13/94
Date Analyzed:	4/13/94	4/13/94	4/13/94	4/13/94
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:	110	105	105	105
Matrix Spike Duplicate % Recovery:	105	105	105	105
Relative % Difference:	4.7	0.0	0.0	0.0
LCS Batch#:	1LCS041394	1LCS041394	1LCS041394	1LCS041394
Date Prepared:	4/13/94	4/13/94	4/13/94	4/13/94
Date Analyzed:	4/13/94	4/13/94	4/13/94	4/13/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	100	99	99	101
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1271

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2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #0752, 800 Harrison St, Oakland
Matrix: Liquid
QC Sample Group: 404-0046

Reported: Apr 18, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	K.N.	K.N.	K.N.
MS/MSD Batch#:	4040046	4040046	4040046
Date Prepared:	4/8/94	4/8/94	4/8/94
Date Analyzed:	4/8/94	4/8/94	4/8/94
Instrument I.D.#:	HP-5890/1	HP-5890/1	HP-5890/1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L
Matrix Spike % Recovery:	89	113	106
Matrix Spike Duplicate % Recovery:	91	127	108
Relative % Difference:	2.2	12	1.9
LCS Batch#:	LCS040894	LCS040894	LCS040894
Date Prepared:	4/8/94	4/8/94	4/8/94
Date Analyzed:	4/8/94	4/8/94	4/8/94
Instrument I.D.#:	HP-5890/1	HP-5890/1	HP-5890/1
LCS % Recovery:	88	114	100
% Recovery Control Limits:	28-167	35-146	38-150

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager

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Client Project ID: Unocal #0752, 800 Harrison St, Oakland

QC Sample Group: 404-0046

Reported: Apr 18, 1994

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8010	EPA 8010
Analyst:	K.Nill	K.Nill
Reporting Units:	µg/L	µg/L
Date Analyzed:	Apr 8, 1994	Apr 8, 1994
Sample #:	404-0046	Matrix Blank
Surrogate #1 % Recovery:	125	121
Surrogate #2 % Recovery:	103	107

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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Concord, CA 94520
Attention: Avo Avedessian

Client Project ID: Unocal #0752, 800 Harrison St, Oakland

QC Sample Group: 404-0046

Reported: Apr 18, 1994

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8015 Mod.	EPA 8015 Mod.
Analyst:	K.W.	K.W.
Reporting Units:	µg/L	µg/L
Date Analyzed:	Apr 7, 1994	Apr 7, 1994
Sample #:	404-0046	Matrix Blank
Surrogate % Recovery:	58	87

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

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: NICHOLAS PERROW
WITNESSING AGENCY:
UNOCAL S/S # 0752 CITY: OAKLAND
ADDRESS: 800 HARRISON ST.

ANALYSES REQUESTED: TPH-GAS BTEX; TPH-DIESEL; TOG; 8010

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
MW-1	4/2/94	8:25AM	✓	✓		4 VOA's 1 AMBER	WELL	✓	✓		✓	4040046A
MW-2	"	10:30AM	✓	✓		2 VOA's	"	✓				0047A
MW-3	"	12:05PM	✓	✓		"	"	✓				0048
MW-4	"	9:30AM	✓	✓		"	"	✓				0049
MW-5	"	11:00AM	✓	✓		"	"	✓				0050
MW-6	"	11:30AM	✓	✓		"	"	✓				0051
MW-7	"	10:10AM	✓	✓		"	"	✓				0052
MW-8	"	9:00AM	✓	✓		"	"	✓				0053
												4.0°C

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
(SIGNATURE)	4/4/94 9:15AM	Melissa Crenshaw
(SIGNATURE)		(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? YES
2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? YES
3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? NO
4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? YES

SIGNATURE: Melissa Crenshaw TITLE: Sample Control DATE: 4/4/94