MPDS

SERVICES, INCORPORATED

MPDS-UN0746-02
March 23, 1994

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

① should well be installed in street / median strip?
② CAP due!

Attention: Mr. Edward C. Ralston

RE: Quarterly Data Report
Unocal Service Station #0746
3943 Broadway
Oakland, California

Dear Mr. Ralston:

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. Skimmers were present in wells MW3 and MW5. The monitoring data and the ground water elevations are summarized in Table 1. The ground water flow directions during the most recent quarter are shown on the attached Figures 1, 2, and 3.

Send Field notes!

Ground water samples were collected on February 16, 1994. Prior to sampling, the wells were each purged of between 3.5 and 9 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.

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 Figures 4 and 5. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: (510) 602-5120 Fax: (510) 689-1918

DISTRIBUTION

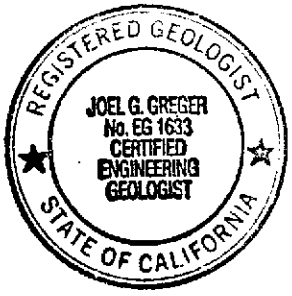
A copy of this report should be sent to the Alameda County Health Care Services.

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 & 2
Location Map
Figures 1 through 5
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)♦	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)	Total Well Depth (feet)♦
(Monitored and Sampled on February 16, 1994)							
MW1	73.08	7.46	0	No	9	0	19.56
MW2	72.41	8.91	0	No	8	0	19.78
MW3	72.54	8.87	0	Yes	9	0	22.03
MW4	72.08	9.21	0	No	8	0	19.97
MW5*	72.45**	8.95	0.02	N/A	0	0	19.76
MW6	72.81	7.13	0	No	9	0	19.54
MW7	73.28	8.36	0	No	8	0	19.95
MW8	71.55	9.86	0	No	8	0	21.20
MW9	71.32	9.21	0	No	9	0	21.90
MW10	69.18	12.43	0	No	7	0	21.68
MW11	65.42	12.76	0	No	5	0	19.08
MW12	66.85	12.76	0	No	3.5	0	17.55
RW1*	72.81	7.82	0	--	0	0	16.04
(Monitored on February 2, 1994)							
MW3	73.22	8.19	0	--	50	0	32.04
MW5	73.22	8.16	<0.01	--	50	<1	19.76
RW1	72.47	8.16	0	--	0	0	16.07
(Monitored on January 21, 1994)							
MW1	72.50	8.04	0	--	0	0	19.58
MW2	71.93	9.39	0	--	0	0	19.80
MW3	71.42	9.99	0	--	50	0	21.97
MW4	71.79	9.50	0	--	0	0	19.98
MW5	71.34	10.04	0	--	50	0	19.71
MW6	71.80	8.14	0	--	0	0	19.55
MW7	72.87	8.77	0	--	0	0	19.96
MW8	70.24	11.17	0	--	0	0	21.22
MW9	69.81	10.72	0	--	0	0	21.90
MW10	68.21	13.40	0	--	0	0	21.68
MW11	64.48	13.70	0	--	0	0	19.10
MW12	66.02	13.59	0	--	0	0	17.56
RW1	71.41	9.22	0	--	30	0	16.02

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)	Total Well Depth (feet)◆
			(Monitored on January 7, 1994)				
MW3	71.67	9.74	<0.01	N/A	50	<1	21.98
MW5	71.56	9.82	<0.01	N/A	50	2	19.71
RW1	71.65	8.98	0	--	50	0	16.01
			(Monitored on December 22, 1993)				
MW1	72.88	7.66	0	--	0	0	NM
MW2	72.13	9.19	0	--	0	0	NM
MW3*	72.14**	9.28	0.01	--	50	<1	NM
MW4	72.02	9.27	0	--	0	0	NM
MW5*	72.02**	9.38	0.02	--	50	<1	NM
MW6	72.59	7.35	0	--	0	0	NM
MW7	73.07	8.57	0	--	0	0	NM
MW8	71.07	10.34	0	--	0	0	NM
MW9	70.75	9.78	0	--	0	0	NM
MW10	68.59	13.02	0	--	0	0	NM
MW11	63.34	14.84	0	--	0	0	NM
MW12	65.15	14.46	0	--	0	0	NM
RW1	72.11	8.52	0	--	0	0	NM
			(Monitored on December 10, 1993)				
MW3	72.30	9.11	0	--	50	0	22.04
MW5	72.05**	9.34	0.01	--	50	0	19.78
MW8	70.53	10.10	0	--	0	0	21.23

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)	Total Well Depth (feet)♦
(Monitored and Sampled on November 30, 1993)							
MW1*	72.89	7.65	0	--	0	0	19.59
MW2	72.14	9.18	0	No	8	0	19.81
MW3*	71.77**	9.66	0.02	N/A	0	1	22.05
MW4	71.89	9.40	0	No	8	0	20.00
MW5*	71.76	9.62	<0.01	N/A	0	1	19.79
MW6*	72.54	7.40	0	--	0	0	19.57
MW7*	72.99	8.65	0	--	0	0	19.98
MW8	70.99	10.42	0	No	8	0	21.24
MW9	70.66	9.87	0	No	9	0	21.92
MW10	WELL WAS INACCESSIBLE						
MW11	65.14	13.04	0	No	4	0	19.11
MW12	66.33	13.28	0	No	3	0	17.58
(Monitored and Sampled on August 25, 1993)							
MW1	72.54	8.00	0	No	8	0	
MW2	71.79	9.53	0	No	7	0	
MW3*	71.76**	9.67	0.03	N/A	0	1	
MW4	71.84	9.45	0	No	7.5	0	
MW5*	71.59**	9.81	0.02	N/A	0	7	
MW6	72.28	7.66	0	No	8.5	0	
MW7	72.83	8.81	0	No	7.5	0	
MW8	70.46	10.95	0	No	7	0	
MW9	70.09	10.44	0	No	8	0	
MW10	68.83	12.78	0	No	6.5	0	
MW11	64.08	14.10	0	No	3.5	0	
MW12	66.00	13.61	0	No	3	0	
RW1*	71.56	9.07	0	N/A	0	0	

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thick-ness (feet)	Sheen	Water Purged (gallons)	Product Purged (ounces)	Total Well Depth (feet)◆
(Monitored and Sampled on May 25, 1993)							
MW1	73.20	7.87	0	No	9	0	
MW2	72.58	9.04	0	No	8	0	
MW3*	72.58**	9.45	0.03	N/A	0	0	
MW4	72.73	8.75	0	No	8	0	
MW5*	72.06**	9.63	0.13	N/A	0	0	
MW6	72.99	7.48	0	No	9	0	
MW7	73.40	8.43	0	No	7	0	
MW8	71.59	10.12	0	No	8	0	
MW9	69.63	11.50	0	No	8	0	
MW10	69.88	12.02	0	No	7	0	
MW11	63.29	15.14	0	No	3	0	
MW12	66.21	13.68	0	No	3	0	
RW1	72.62	8.58	0	Yes	0	0	

Well #	Well Cover Elevation (feet)▲	Well Casing Elevation (feet)▲▲
MW1	81.07	80.54
MW2	81.62	81.32
MW3	82.01	81.41
MW4	81.48	81.29
MW5	81.59	81.38
MW6	80.47	79.94
MW7	81.83	81.64
MW8	81.71	81.41
MW9	81.13	80.53
MW10	81.90	81.61
MW11	78.43	78.18
MW12	79.89	79.61
RW1	81.20	80.63

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

◆ The depth to water level and total well depth measurements were taken from the top of the well casings. Prior to August 25, 1993, the depth to water level and total well depth measurements were taken from the top of the well covers.

* 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 covers have been surveyed relative to Mean Sea Level (MSL), per the City of Oakland Benchmark BM#1336 (elevation = 82.28 MSL), as of June 7, 1993.

▲▲ Relative to MSL.

N/A = Not Applicable.

NM = Not Measured.

-- Sheen determination was not performed.

Note: Monitoring data prior to August 25, 1993, were provided by Kaprealian Engineering, Inc.

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
2/16/94	MW1	ND	0.84	ND	ND	0.59
	MW2	3,200◆	ND	ND	ND	ND
	MW3	57,000	910	2,500	2,100	9,000
	MW4	190	11	0.98	21	6.6
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	0.70
	MW8	990	4.9	1.8	2.4	4.5
	MW9	250	5.1	1.3	4.4	1.5
	MW10	ND	ND	ND	ND	ND
	MW11	ND	ND	ND	ND	ND
	MW12	ND	ND	ND	ND	ND
11/30/93	MW1	SAMPLED SEMI-ANNUALLY				
	MW2	480◆	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW4	200	28	ND	17	8.1
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	SAMPLED SEMI-ANNUALLY				
	MW7	SAMPLED SEMI-ANNUALLY				
	MW8	3,500	18	ND	ND	ND
	MW9	200	5.6	ND	2.9	2.7
	MW10	WELL WAS INACCESSIBLE				
	MW11	ND	ND	ND	ND	ND
	MW12	ND	ND	ND	ND	ND
8/25/93	MW1	ND	ND	ND	ND	ND
	MW2	190◆	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW4	640	100	1.1	100	22
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	ND
	MW8	1,800	11	17	8.9	29
	MW9	220	10	ND	6.8	1.4
	MW10	ND	ND	ND	ND	ND
	MW11	ND	ND	ND	ND	ND
	MW12	ND	ND	ND	ND	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
5/25/93	MW1	260	27	4.9	2.6	54
	MW2*	1,300♦	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW4	74	10	ND	4.6	1.8
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	ND
	MW8	1,200	5.4	ND	9.0	21
	MW9	160	6.1	ND	7.4	1.1
	MW10	ND	ND	ND	ND	ND
	MW11	ND	ND	0.75	ND	1.0
	MW12	ND	ND	ND	ND	ND
2/24/93	MW1	1,100	280	4.9	120	140
	MW2	11,000♦	ND	ND	ND	ND
	MW3	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW4	140	12	0.64	9.4	3.7
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	ND
	MW8	WELL WAS INACCESSIBLE				
	MW9	WELL WAS INACCESSIBLE				
	MW10	ND	ND	ND	ND	ND
	MW11	ND	ND	ND	ND	ND
	MW12	ND	ND	ND	ND	ND
11/20/92	MW1	ND	0.75	ND	ND	ND
	MW2	510♦	ND	ND	ND	ND
	MW3	1,100,000♦♦	1,800	6,400	3,000	15,000
	MW4	ND	6.2	ND	1.2	0.52
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	ND
	MW8	WELL WAS INACCESSIBLE				
	MW9	WELL WAS INACCESSIBLE				
	MW10	ND	ND	ND	ND	ND
	MW11	ND	ND	ND	ND	ND
	MW12	ND	ND	ND	ND	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
8/26/92	MW1	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	20,000	690	1,900	1,300	5,700
	MW4	120	86	0.52	0.57	1.6
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	0.73	ND
	MW8	1,800	12	8.0	4.0	13
	MW9	250	13	ND	8.6	3.8
	MW10	ND	ND	ND	ND	ND
	MW11	ND	ND	ND	ND	ND
	MW12	ND	ND	ND	ND	ND
5/23/92	MW1	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	25,000	300	130	880	4,900
	MW4	ND	ND	ND	ND	ND
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	ND
	MW8	2,100	8.6	1.6	1.7	28
	MW9	460	18	0.66	1.4	3.2
	MW10	ND	ND	ND	ND	ND
	MW11	ND	ND	ND	ND	ND
2/06/92	MW1	ND	ND	ND	ND	ND
	MW2	ND	0.36	0.66	ND	0.62
	MW3	24,000	600	1,800	1,200	5,800
	MW4	5,700	2,200	140	57	980
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	ND
	MW8	2,600	4.1	7.0	31	93
	MW9	660	41	1.0	33	15
	MW10	ND	ND	ND	ND	ND
	MW11	ND	ND	ND	ND	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
11/19/91	MW1	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	22,000	250	440	660	3,000
	MW4	55	9.2	4.5	1.4	6.7
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	32	ND	ND	ND	ND
	MW8	1,600	8.1	1.8	19	52
	MW9	360	17	0.45	15	11
8/28/91	MW1	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	16,000	650	2,200	1,100	5,400
	MW4	2,000	1,500	20	120	300
	MW5	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	ND
	MW8	1,800	3.2	1.9	19	74
	MW9	450	17	0.9	13	14
5/28/91	MW1	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	24,000	570	1,100	810	4,200
	MW4	38	ND	ND	ND	1.9
	MW5	24,000	2,300	3,400	1,300	6,000
	MW6	ND	ND	ND	ND	0.42
	MW7	39	ND	ND	ND	0.73
	MW8	4,800	4.2	1.3	5.1	170
	MW9	590	6.0	0.43	6.8	1.4
2/25/91	MW1	ND	ND	ND	ND	ND
	MW2	ND	0.68	0.42	ND	0.86
	MW3	37,000	730	2,900	1,300	7,300
	MW4	22,000	600	1,300	780	2,800
	MW5	25,000	950	1,300	900	3,500
	MW6	ND	0.37	0.40	0.35	1.5
	MW7	70	ND	ND	ND	0.52
	MW8	5,300	17	6.1	53	300
	MW9	390	13	1.1	2.8	14

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
11/07/90	MW1	45	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	42,000	1,400	5,000	1,800	7,500
	MW4	180	1.5	0.37	6.3	26
	MW5	20,000	640	1,100	670	3,000
	MW6	ND	ND	ND	ND	ND
	MW7	ND	ND	ND	ND	ND
	MW8	4,700	28	38	86	7,200
	MW9	480	7.8	1.2	13	47
8/16/90	MW1	ND	ND	ND	ND	ND
	MW2	ND	ND	6.7	ND	ND
	MW3	6,800	600	660	760	160
	MW4	3,600	480	17	230	260
	MW5	16,000	1,400	1,900	2,800	660
2/15/90	MW1	170	7.9	ND	2.2	2.8
	MW2	ND	ND	ND	ND	ND
	MW3	20,000	1,700	2,100	750	3,100
	MW4	150	8.0	8.0	10	45
	MW5	24,000	1,500	1,700	260	3,600
11/01/89	MW1	ND	ND	ND	ND	0.30
	MW2	200	ND	ND	3.0	1.2
	MW3	13,000	57	48	1.7	120

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

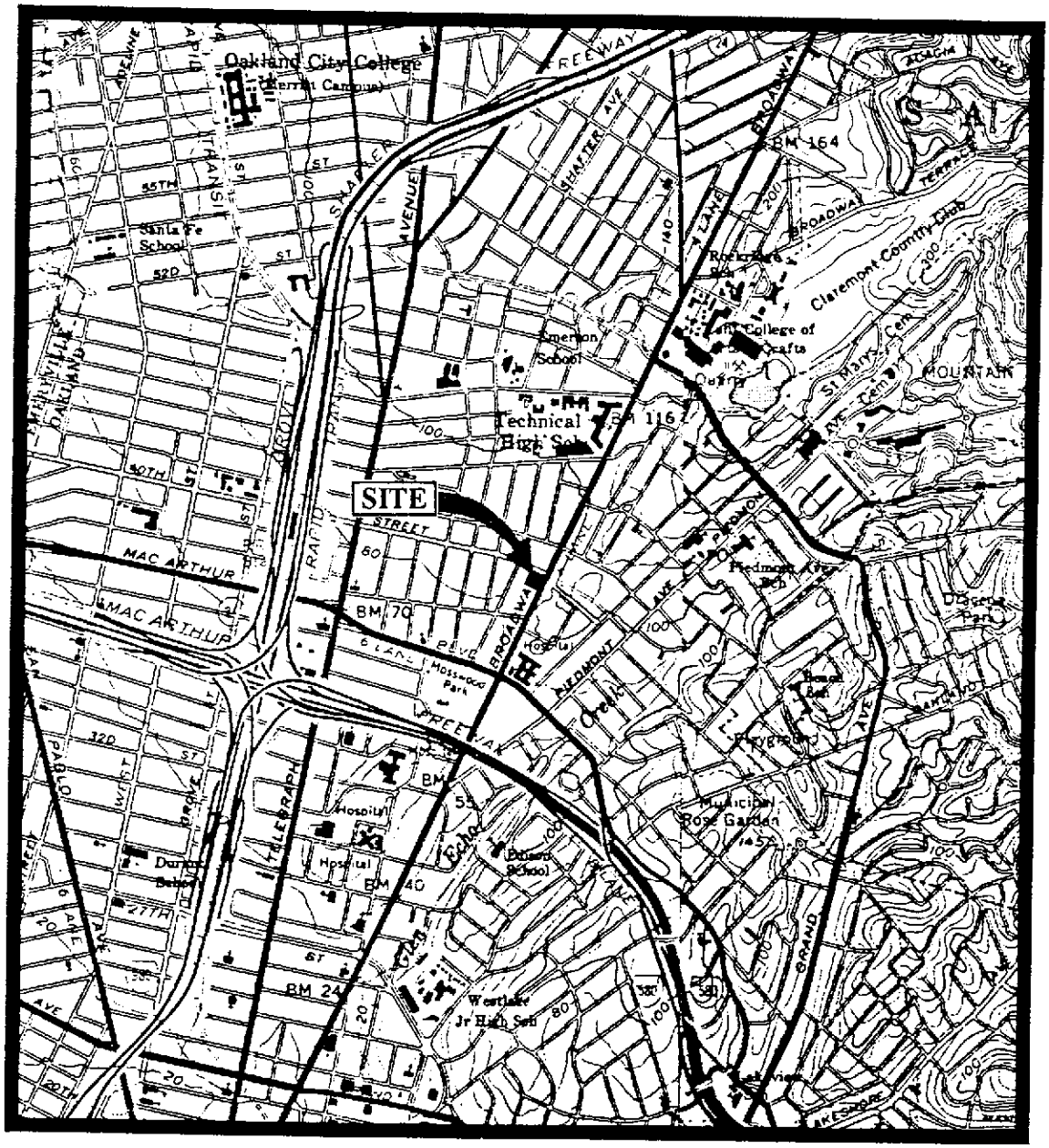
♦♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be gasoline and non-gasoline mixture.

* MTBE was detected at 2,700 µg/L.

ND = Non-detectable.

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

Note: Laboratory analyses data prior to November 30, 1993, were provided by Kaprealian Engineering, Inc.

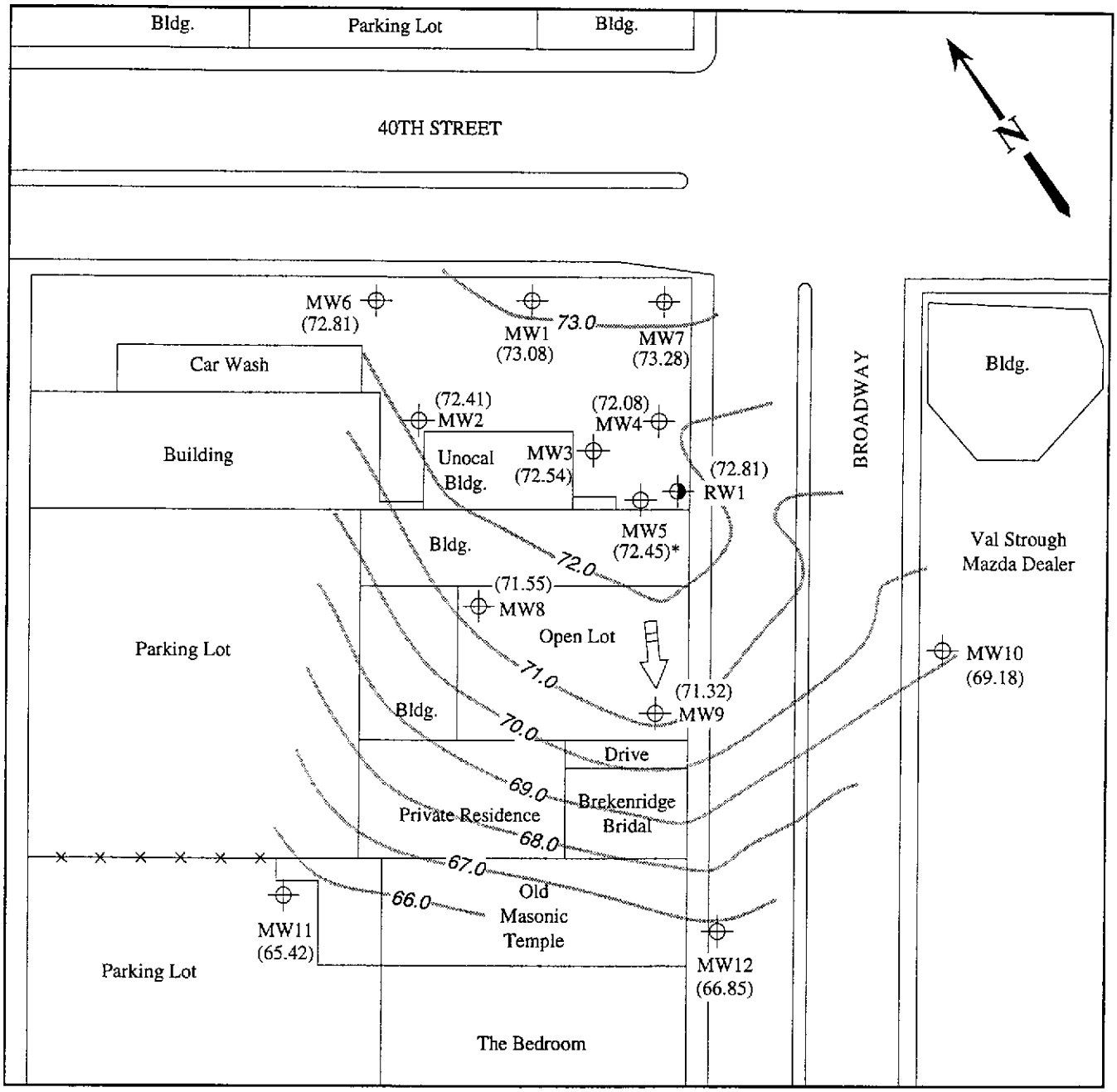


Base modified from 7.5 minute U.S.G.S. Oakland East and West Quadrangles (both photorevised 1980)

0 2000 4000

Approx. scale feet

M P D S SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #0746** **3943 BROADWAY** **OAKLAND, CA**	**LOCATION MAP**



LEGEND

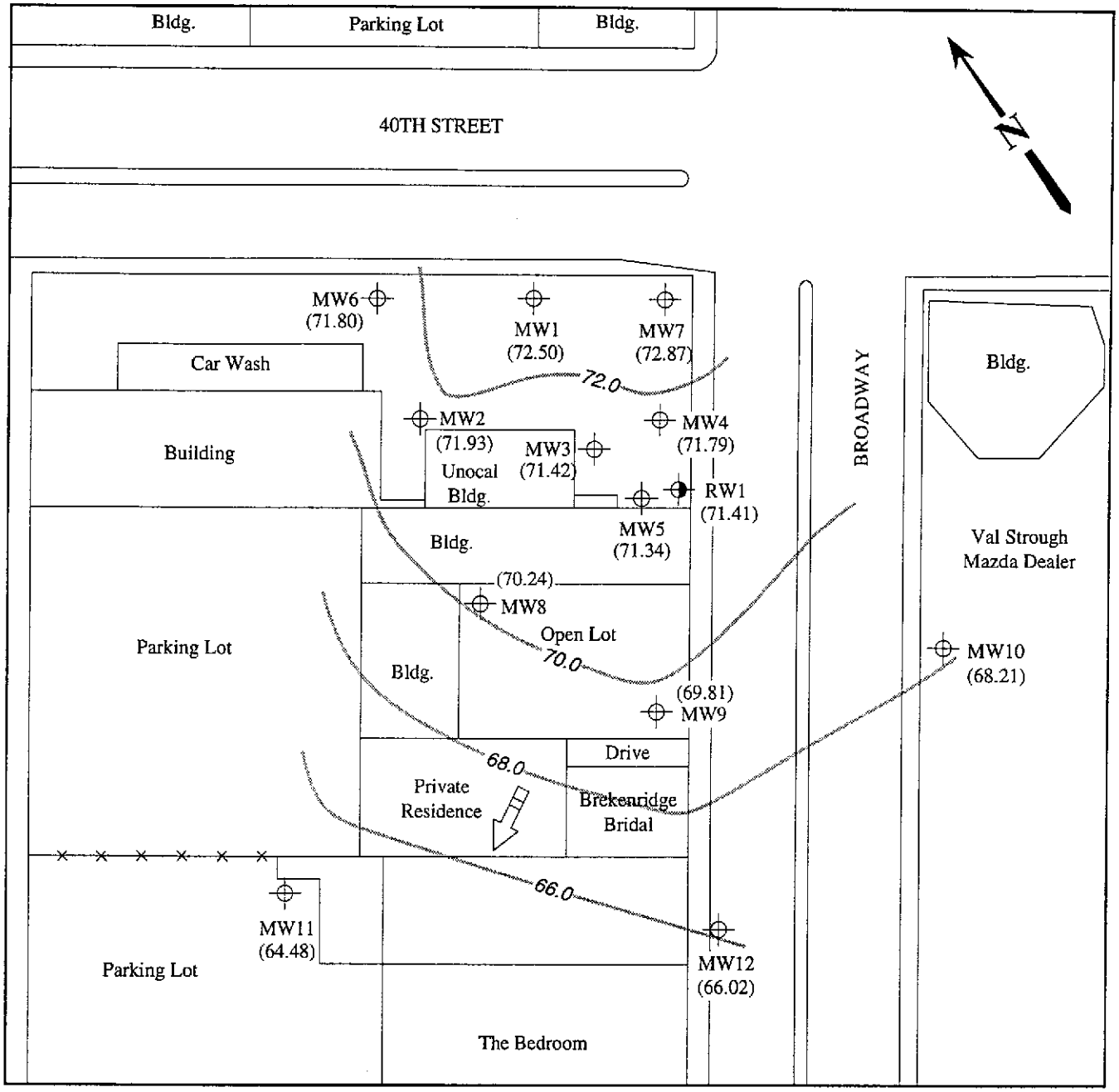
- Monitoring well
- 6-inch diameter recovery well
- ( ) Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow
- Contours of ground water elevation
- * Ground water elevation corrected due to the presence of free product

0 60 120

Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE FEBRUARY 16, 1994 MONITORING EVENT

M P D S SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #0746** **3943 BROADWAY** **OAKLAND, CALIFORNIA**	FIGURE **1**



LEGEND

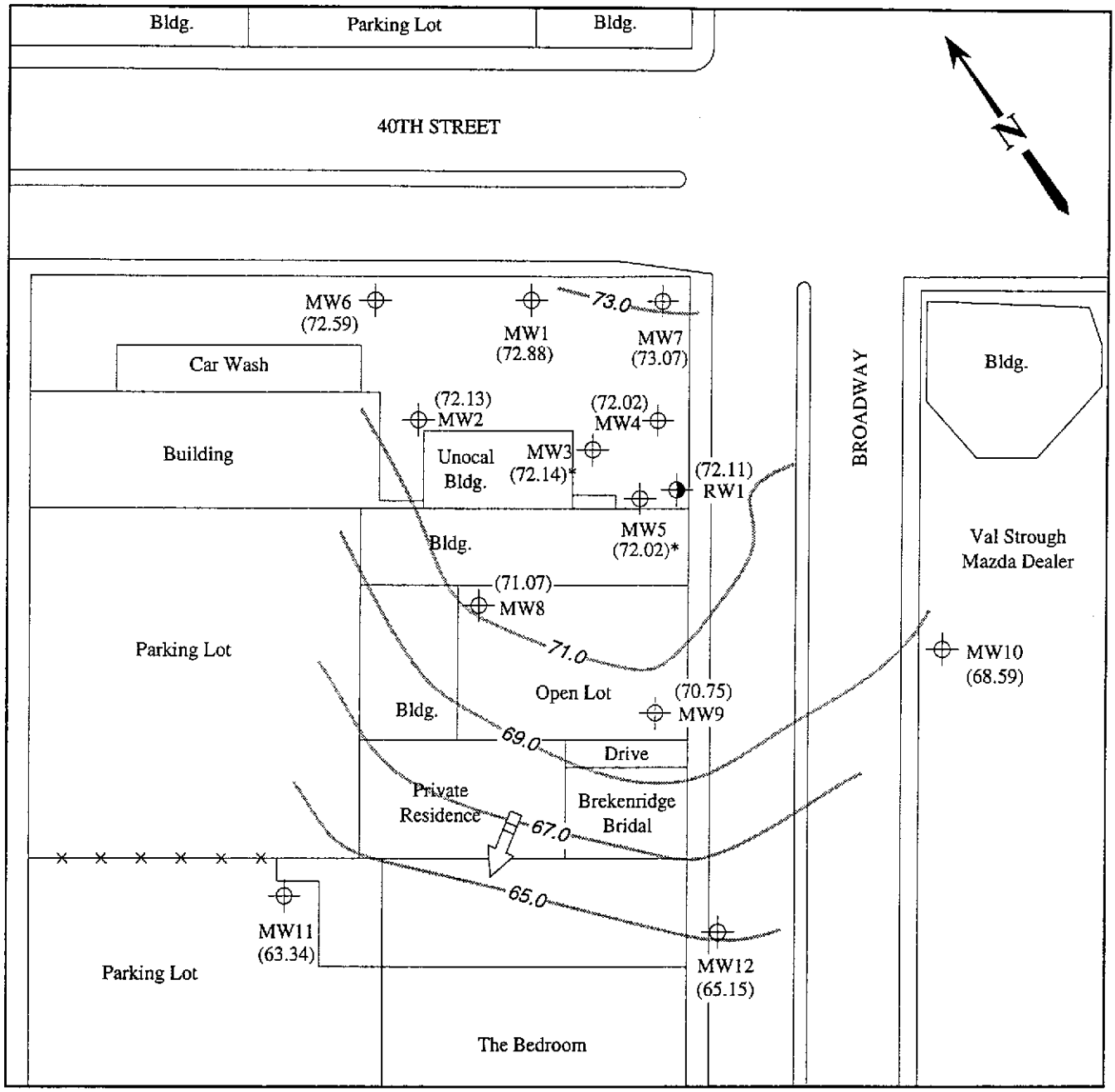
- Monitoring well
- 6-inch diameter recovery well
- ( ) Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow
- Contours of ground water elevation

0 60 120

Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE JANUARY 21, 1994 MONITORING EVENT

MPDS SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #0746** **3943 BROADWAY** **OAKLAND, CALIFORNIA**	FIGURE **2**



LEGEND

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

* Ground water elevation corrected due to the presence of free product

0 60 120

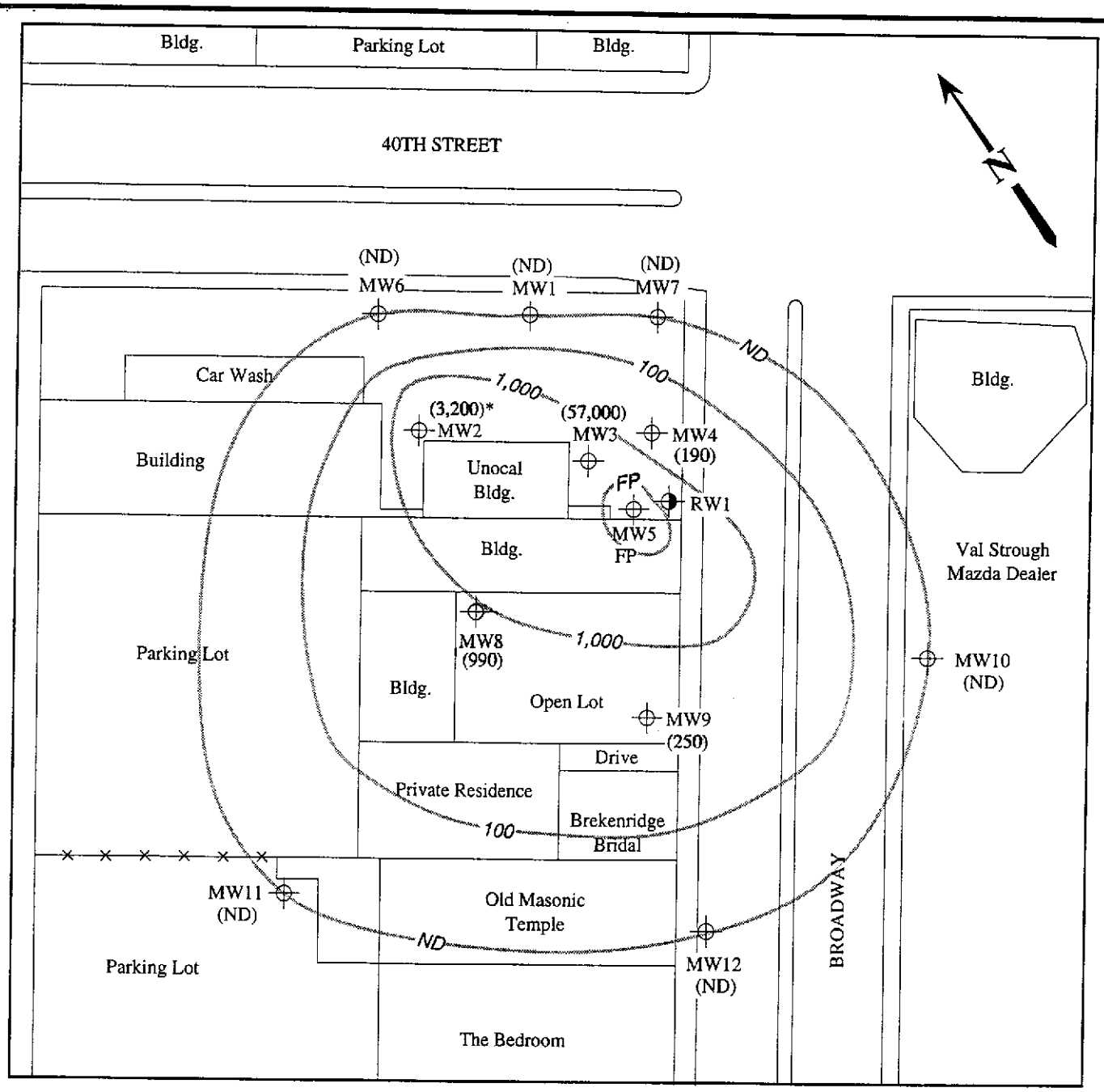
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR THE DECEMBER 22, 1993 MONITORING EVENT

MPDS
SERVICES, INCORPORATED

UNOCAL SERVICE STATION #0746
3943 BROADWAY
OAKLAND, CALIFORNIA

FIGURE
3



LEGEND

- Monitoring well
- 6-inch diameter recovery well
- ( ) Concentration of TPH as gasoline in µg/L
- Approximate iso-concentration contours of TPH as gasoline contamination in ground water in µg/L

ND = Non-detectable, FP = Free product

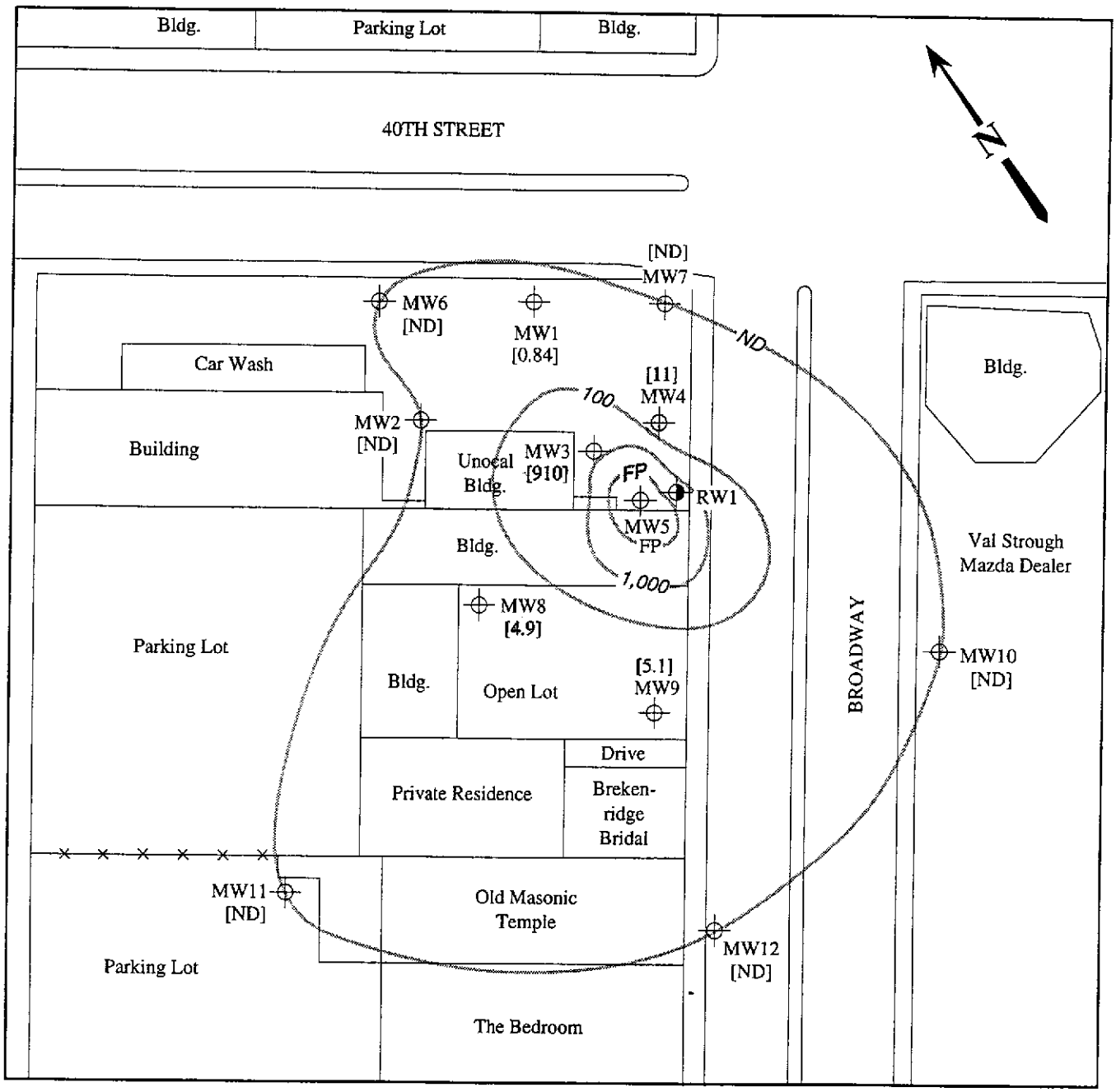
* The lab reported that the hydrocarbons detected do not appear to be gasoline.

0 60 120

Approx. scale feet

CONCENTRATIONS OF TPH AS GASOLINE IN GROUND WATER ON FEBRUARY 16, 1994

M P D S SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #0746** **3943 BROADWAY** **OAKLAND, CALIFORNIA**	FIGURE **4**



LEGEND

- Monitoring well
- 6-inch diameter recovery well
- [ ] Concentration of benzene in µg/L
- Approximate iso-concentration contours of benzene contamination in ground water in µg/L

ND = Non-detectable, FP = Free product

0 60 120

Approx. scale feet

CONCENTRATIONS OF BENZENE IN GROUND WATER ON FEBRUARY 16, 1994

M P D S
SERVICES, INCORPORATED

UNOCAL SERVICE STATION #0746
3943 BROADWAY
OAKLAND, CALIFORNIA

FIGURE
5

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

MPDS Services, Inc.	Client Project ID:	Unocal 0746, 3943 Broadway, Oakland	Sampled: Feb 16, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received: Feb 16, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Mar 4, 1994
Attention: Avo Avedissian	First Sample #:	402-1202	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

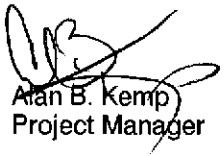
Analyte	Reporting Limit µg/L	Sample I.D. 402-1202 MW 1	Sample I.D. 402-1203 MW 2*	Sample I.D. 402-1204 MW 3	Sample I.D. 402-1205 MW 4	Sample I.D. 402-1206 MW 6	Sample I.D. 402-1207 MW 7
Purgeable Hydrocarbons	50	N.D.	3,200	57,000	190	N.D.	N.D.
Benzene	0.5	0.84	N.D.	910	11	N.D.	N.D.
Toluene	0.5	N.D.	N.D.	2,500	0.98	N.D.	N.D.
Ethyl Benzene	0.5	N.D.	N.D.	2,100	21	N.D.	N.D.
Total Xylenes	0.5	0.59	N.D.	9,000	6.6	N.D.	0.70
Chromatogram Pattern:		--	Discrete Peak	Gasoline	Gasoline	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	25	100	1.0	1.0	1.0
Date Analyzed:	2/25/94	2/28/94	2/28/94	2/25/94	2/28/94	2/28/94
Instrument Identification:	ML #2	HP-2	HP-4	ML #2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	117	93	85	117	101	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



Alan B. Kemp
Project Manager

Please Note:
*This sample does not appear to contain gasoline. Discrete peak refers to an unidentified peak in the MTBE Range.

SEQUOIA ANALYTICAL

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MPDS Services, Inc.	Client Project ID:	Unocal 0746, 3943 Broadway, Oakland	Sampled:	Feb 16, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received:	Feb 16, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Mar 4, 1994
Attention: Avo Avedissian	First Sample #:	402-1208		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 402-1208 MW 8	Sample I.D. 402-1209 MW 9	Sample I.D. 402-1210 MW 10	Sample I.D. 402-1211 MW 11	Sample I.D. 402-1212 MW 12	Sample I.D. Method Blank
Purgeable Hydrocarbons	50	990	250	N.D.	N.D.	N.D.	
Benzene	0.5	4.9	5.1	N.D.	N.D.	N.D.	
Toluene	0.5	1.8	1.3	N.D.	N.D.	N.D.	
Ethyl Benzene	0.5	2.4	4.4	N.D.	N.D.	N.D.	
Total Xylenes	0.5	4.5	1.5	N.D.	N.D.	N.D.	
Chromatogram Pattern:		Gasoline	Gasoline	--	--	--	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	2/25/94	2/25/94	2/25/94	2/25/94	2/25/94	2/25/94
Instrument Identification:	ML #2	ML #2	ML #2	ML #2	ML #2	ML #2
Surrogate Recovery, %: (QC Limits = 70-130%)	110	87	103	105	107	110

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

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

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

Client Project ID: Unocal 0746, 3943 Broadway, Oakland
Matrix: Liquid
QC Sample Group: 4021202-1212

Reported: Mar 4, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M.N.	M.N.	M.N.	M.N.
MS/MSD Batch#:	4021053	4021053	4021053	4021053
Date Prepared:	2/25/94	2/25/94	2/25/94	2/25/94
Date Analyzed:	2/25/94	2/25/94	2/25/94	2/25/94
Instrument I.D.#:	ML #2	ML #2	ML #2	ML #2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	90	90	95	90
Matrix Spike Duplicate % Recovery:	100	100	103	100
Relative % Difference:	11	11	8.1	11
LCS Batch#:	LCS022594	LCS022594	LCS022594	LCS022594
Date Prepared:	2/25/94	2/25/94	2/25/94	2/25/94
Date Analyzed:	2/25/94	2/25/94	2/25/94	2/25/94
Instrument I.D.#:	ML #2	ML #2	ML #2	ML #2
LCS % Recovery:	85	85	90	89
% Recovery Control Limits:	71-133	72-128	72-130	71-120

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

Alan B. Kemp
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
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MPDS Services, Inc.	Client Project ID:	Unocal 0746, 3943 Broadway, Oakland
2401 Stanwell Dr., Ste. 400	Matrix:	Liquid
Concord, CA 94520		
Attention: Avo Avedissian	QC Sample Group:	4021202-1212

Reported: Mar 4, 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#:	4021206	4021206	4021206	4021206
Date Prepared:	2/28/94	2/28/94	2/28/94	2/28/94
Date Analyzed:	2/28/94	2/28/94	2/28/94	2/28/94
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:	100	100	100	98
Matrix Spike Duplicate % Recovery:	100	100	100	98
Relative % Difference:	0.0	0.0	0.0	0.0
LCS Batch#:	2LCS022894	2LCS022894	2LCS022894	2LCS022894
Date Prepared:	2/28/94	2/28/94	2/28/94	2/28/94
Date Analyzed:	2/28/94	2/28/94	2/28/94	2/28/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	99	98	98	99
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

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

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

MPDS Services, Inc.	Client Project ID:	Unocal 0746, 3943 Broadway, Oakland
2401 Stanwell Dr., Ste. 400	Matrix:	Liquid
Concord, CA 94520		
Attention: Avo Avedissian	QC Sample Group: 4021202-1212	Reported: Mar 4, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J.F.	J.F.	J.F.	J.F.
MS/MSD Batch#:	4021048	4021048	4021048	4021048
Date Prepared:	2/28/94	2/28/94	2/28/94	2/28/94
Date Analyzed:	2/28/94	2/28/94	2/28/94	2/28/94
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	107
Matrix Spike Duplicate % Recovery:	110	105	100	105
Relative % Difference:	0.0	0.0	4.9	1.9
LCS Batch#:	1LCS022894	1LCS022894	1LCS022894	1LCS022894
Date Prepared:	2/28/94	2/28/94	2/28/94	2/28/94
Date Analyzed:	2/28/94	2/28/94	2/28/94	2/28/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	88	92	94	96
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

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 # 0746 CITY: OAKLAND
ADDRESS: 3943 BROADWAY
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	2-16		X	X		2 VOA	Well	X						4021202	A-B
MW2	"		X	X		"	"	X						1203	
MW3	"		X	X		"	"	X						1204	
MW4	"		X	X		"	"	X						1205	
MW6	"		X	X		"	"	X						1206	
MW7	"		X	X		"	"	X						1207	
MW8	"		X	X		"	"	X						1208	
MW9	"		X	X		"	"	X						1209	
MW10	"		X	X		"	"	X						1210	
MW11	"		X	X		"	"	X						1211	
MW12	"		X	X		"	"	X						1212	

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
RAY MARANGOSIAN	2-16-94	2-16-94 18:15
(SIGNATURE)	2/17/94 1615	(SIGNATURE)
(SIGNATURE)	2/17 1230	(SIGNATURE) Melissa Crewsen
(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: TITLE: Analyst DATE: 2-16-94

Consider:

1) SBs between pump island & MW-3 to see if soil contamination continues to contribute to GW contam.
2) Analyze for MTBE in MW 12 and 9
3) What type of tanks in place now. Could they leak now? Have they leaked?

Tank excavation adequate.

Highest hits at MW3, 5, 8

Soil hits mostly at 10-12' depth in S+S wall
1,100 ppm TPH-G, 16 ppm benzene at 11' at MW-3

370/1.8 at 11.5' at MW-5