

March 14, 1997

Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94502

Attention: Ms. Susan Hugo

RE: Unocal Service Station #3538
411 W. MacArthur Boulevard
Oakland, California

Dear Ms. Hugo:

Per the request of the 76 Products Company Project Professional, Ms. Tina R. Berry, enclosed please find our data report (MPDS-UN3538-12) dated February 18, 1997, for the above referenced site.

Should you have any questions regarding the reporting of data, please feel free to call our office at (510) 602-5120. Any other questions may be directed to the Project Professional at (510) 277-2321.

Sincerely,

MPDS Services, Inc.



Jarrel F. Crider

/jfc

Enclosure

cc: Ms. Tina R. Berry

■ MONITORING
■ PURGING
■ DISPOSING
■ SAMPLING

MPDS

SERVICES, INCORPORATED ENVIRONMENTAL
PROTECTION

97 MAR 17 PM 2:42

MPDS-UN3538-12
February 18, 1997

76 Products Company
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Ms. Tina R. Berry

RE: Semi-Annual Data Report
Unocal Service Station #3538
411 W. MacArthur Boulevard
Oakland, California

Dear Ms. Berry:

This data report presents the results of the most recent 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 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 semi-annual period is shown on the attached Figure 1.

Ground water samples were collected on January 17, 1997. Prior to sampling, the monitoring wells MW2 and MW3 were purged of 7.5 and 5.5 gallons of water, respectively. 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. Field blank and Trip blank samples (denoted as ES1 and ES3, 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 date are summarized in Tables 2 and 3. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected this semi-annual period 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 Ms. Susan Hugo of the Alameda County Health Care Services Agency.

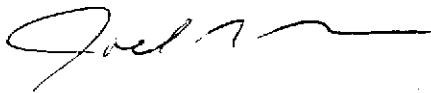
If you have any questions regarding this report, please do not hesitate to call Mr. Joel G. Greger at (510) 602-5120.

Sincerely,

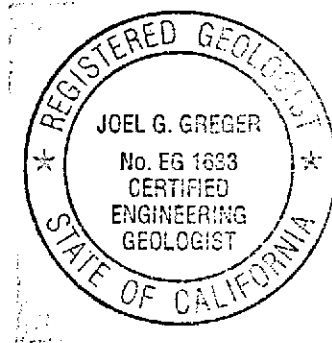
MPDS Services, Inc.



Haig (Gary) Tejirian
Senior Staff Geologist



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



License No. EG 1633
Exp. Date 8/31/98

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

cc: Mr. Mark W. Boyd, 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)
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(Monitored and Sampled on January 17, 1997)

MW1*	55.56	16.54	25.92	0	--	0
MW2	54.30	17.08	27.47	0	No	7.5
MW3	54.63	17.23	25.07	0	No	5.5
MW4*	54.91	16.73	28.71	0	--	0
MW5*	54.48	16.75	30.12	0	--	0
MW6*	56.02	15.42	30.06	0	--	0

(Monitored and Sampled on July 11, 1996)

MW1	54.07	18.03	25.93	0	No	5.5
MW2	53.40	17.98	28.00	0	No	7
MW3	53.67	18.19	25.10	0	No	5
MW4	53.83	17.81	28.72	0	No	7.5
MW5	53.64	17.59	30.13	0	No	9
MW6	57.86	13.58	30.06	0	No	11.5

(Monitored and Sampled on April 15, 1996)

MW1*	54.70	17.40	21.31	0	--	0
MW2	53.77	17.61	27.99	0	No	7.5
MW3	54.08	17.78	25.08	0	No	5
MW4*	54.29	17.35	28.73	0	--	0
MW5*	54.01	17.22	30.14	0	--	0
MW6*	57.44	14.00	30.08	0	--	0

(Monitored and Sampled on January 16, 1996)

MW1*	54.90	17.20	21.33	0	--	0
MW2	54.80	16.58	28.05	0	No	8
MW3	53.91	17.95	25.15	0	No	6
MW4*	55.19	16.45	28.78	0	--	0
MW5*	54.12	17.11	30.18	0	--	0
MW6*	55.06	16.38	30.11	0	--	0

Table 1
Summary of Monitoring Data

Well #	Well Casing Elevation (feet)**
MW1	72.10
MW2	71.38
MW3	71.86
MW4	71.64
MW5	71.23
MW6	71.44

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

* Monitored only.

** The elevations of top of well casings are relative to Mean Seal Level (MSL), per the City of Oakland Benchmark #9NW10 (elevation = 75.50 feet MSL).

-- Sheen determination was not performed.

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylenes	MTBE	
MW1	9/15/89	ND	ND	0.61	ND	ND	--	
	1/23/90	ND	1.5	2.3	ND	4.3	--	
	4/19/90	ND	ND	ND	ND	ND	--	
	7/17/90	ND	ND	ND	ND	ND	--	
	10/16/90	ND	ND	ND	ND	ND	--	
	1/15/91	ND	ND	ND	ND	ND	--	
	4/12/91	ND	ND	ND	ND	ND	--	
	7/15/91	ND	ND	ND	ND	ND	--	
	7/14/92	ND	ND	ND	ND	ND	--	
	7/14/93	ND	2.2	2.1	1.1	6.2	--	
	7/7/94	ND	ND	ND	ND	ND	--	
	10/5/94	SAMPLED ANNUALLY IN JULY						
	7/19/95	ND	ND	ND	ND	ND	--	
	7/11/96	ND	ND	ND	ND	ND	ND	
	MW2	9/15/89	290	ND	12	ND	ND	--
1/23/90		400	73	36	10	40	--	
4/19/90		3,900	550	5.1	91	390	--	
7/17/90		490	76	0.59	11	46	--	
10/16/90		1,400	430	2	48	240	--	
1/15/91		680	170	0.7	19	81	--	
4/12/91		2,200	160	4.3	23	62	--	
7/15/91		2,200	770	12	72	370	--	
10/15/91		140	44	0.56	1.5	12	--	
1/15/92		220	37	0.52	1.1	7	--	
4/14/92		150	6.2	ND	ND	1.4	--	
7/14/92		130	3.7	ND	ND	ND	--	
10/12/92		370	3.4	0.56	ND	11	--	
1/8/93		510†	ND	ND	ND	ND	--	
4/13/93		410††	42	7.7	6.4	28	200	
7/14/93		110†	6.5	ND	ND	1.1	250	
10/14/93		230†	5.3	ND	ND	2.1	--	
1/12/94		300	7.8	3.8	1.8	10	--	
4/9/94		120	10	0.88	1.1	4.9	--	
7/7/94		110†	4.4	ND	ND	ND	--	
10/5/94		720†	20	ND	ND	3.1	--	
1/9/95		ND	ND	ND	ND	ND	--	
4/17/95		93	5.6	0.62	1.7	5.5	--	
7/19/95		77	32	0.58	1.7	4.1	--	
10/26/95		54††	13	ND	ND	0.72	220	
1/16/96†		120	23	ND	ND	0.99	--	
4/15/96		340	21	ND	2.2	3.7	45	
7/11/96		540	34	ND	4.3	12	150	
1/17/97	320	63	2.4	9.4	26	260		

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE	
MW3	9/15/89	32	ND	ND	ND	ND	--	
	1/23/90	450	110	1.2	4.4	11	--	
	4/19/90	3,100	600	27	54	220	--	
	7/17/90	4,000	270	48	130	250	--	
	10/16/90	740	210	1.4	2.5	82	--	
	1/15/91	3,200	460	1.5	120	270	--	
	4/12/91	880	170	1.1	34	110	--	
	7/15/91	9,200	1,300	230	490	1,900	--	
	10/15/91	3,100	390	34	150	390	--	
	1/15/92	3,000	590	14	310	750	--	
	4/14/92	14,000	660	48	560	2,000	--	
	7/14/92	21,000	890	200	1,200	4,300	--	
	10/12/92	3,200	160	10	230	540	--	
	1/8/93	1,100††	48	0.99	0.9	93	--	
	4/13/93	12,000††	290	38	760	2,300	1,400	
	7/14/93	6,300	190	ND	430	1,000	860	
	10/14/93	2,500	52	ND	110	250	--	
	1/12/94	3,800	78	ND	180	390	--	
	4/9/94	1,800	22	ND	140	280	--	
	7/7/94	110†	4.5	ND	ND	ND	--	
	10/5/94	ND	ND	ND	ND	ND	--	
	1/9/95	ND	0.68	ND	ND	ND	--	
	4/17/95	3,700	80	10	270	510	--	
	7/19/95	15,000	330	27	990	2,400	--	
	10/26/95	14,000	420	180	750	1,600	4,800	
	1/16/96‡	920	38	ND	30	57	--	
	4/15/96	9,700	240	ND	570	860	3,200	
	7/11/96	13,000	69	5.5	430	900	740	
1/17/97	4,400	25	ND	270	580	1,600		
MW4	9/15/89	ND	ND	ND	ND	ND	--	
	1/23/90	ND	ND	0.4	ND	ND	--	
	4/19/90	ND	ND	0.48	ND	ND	--	
	7/17/90	ND	ND	ND	ND	ND	--	
	10/16/90	ND	ND	ND	ND	ND	--	
	1/15/91	ND	ND	ND	--	ND	--	
	4/12/91	ND	ND	ND	ND	ND	--	
	7/15/91	ND	ND	ND	ND	ND	--	
	7/14/92	ND	1.3	2.5	ND	1.0	--	
	7/14/93	ND	ND	ND	ND	ND	--	
	7/7/94	ND	ND	ND	ND	ND	--	
	10/5/94	SAMPLED ANNUALLY IN JULY						
	7/19/95	ND	ND	ND	ND	ND	--	
7/11/96	ND	ND	ND	ND	ND	ND		

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylenes	MTBE	
MW5	11/30/92	ND	ND	ND	ND	ND	--	
	1/8/93	ND	ND	ND	ND	ND	--	
	4/13/93	ND	ND	ND	ND	ND	--	
	7/14/93	ND	ND	0.57	ND	ND	--	
	10/14/93	ND	ND	ND	ND	ND	--	
	1/12/94	ND	ND	0.84	ND	1.6	--	
	7/7/94	ND	ND	ND	ND	ND	--	
	10/5/94	SAMPLED ANNUALLY IN JULY						
	7/19/95	ND	ND	ND	ND	ND	--	
	7/11/96	ND	ND	ND	ND	ND	ND	
	MW6	11/30/92	ND	ND	ND	ND	ND	--
1/8/93		ND	ND	ND	ND	ND	--	
4/13/93		ND	ND	ND	ND	ND	--	
7/14/93		ND	0.99	2.4	ND	1.9	--	
10/14/93		ND	ND	0.64	ND	ND	--	
1/12/94		ND	ND	1.2	ND	2.9	--	
7/7/94		ND	ND	ND	ND	ND	--	
10/5/94		SAMPLED ANNUALLY IN JULY						
7/19/95		ND	ND	ND	ND	ND	--	
7/11/96		ND	ND	ND	ND	ND	ND	

‡ 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.

† 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 a non-gasoline mixture.

Table 2
Summary of Laboratory Analyses
Water

ND = Non-detectable.

MTBE = Methyl tert butyl ether.

Results are in micrograms per liter ($\mu\text{g/L}$), unless otherwise indicated.

Note: The detection limit for results reported as ND by Sequoia Analytical Laboratory is equal to the stated detection limit times the dilution factor indicated on the laboratory analytical sheets.

Prior to August 1, 1995, the total purgeable petroleum hydrocarbon (TPH as gasoline) quantification range used by Sequoia Analytical Laboratory was C4 - C12. Since August 1, 1995, the quantification range used by Sequoia Analytical Laboratory was C6 - C12.

Laboratory analyses data prior to January 12, 1994, were provided by Kaprealian Engineering, Inc.

Table 3
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Diesel	Total Oil & Grease (mg/L)	Tetrachloroethene*
MW1	9/15/89	ND	ND	2.7
	1/23/90	ND	1.5	2.1
	4/19/90	ND	ND	2.2
	7/17/90	ND	ND	1.7
	10/16/90	ND	ND	2.0
	1/15/91	ND	ND	2.1
	4/12/91	ND	ND	2.0
	7/15/91	ND	ND	1.8
	7/14/92	--	--	1.4
	7/14/93	--	--	0.95
	7/7/94	--	--	0.83
	7/19/95	--	--	0.52
	7/11/96**	--	--	0.73

* All EPA method 8010 constituents were non-detectable, except for tetrachloroethene as indicated.

** Chloroform was detected at a concentration of 0.96 µg/L.

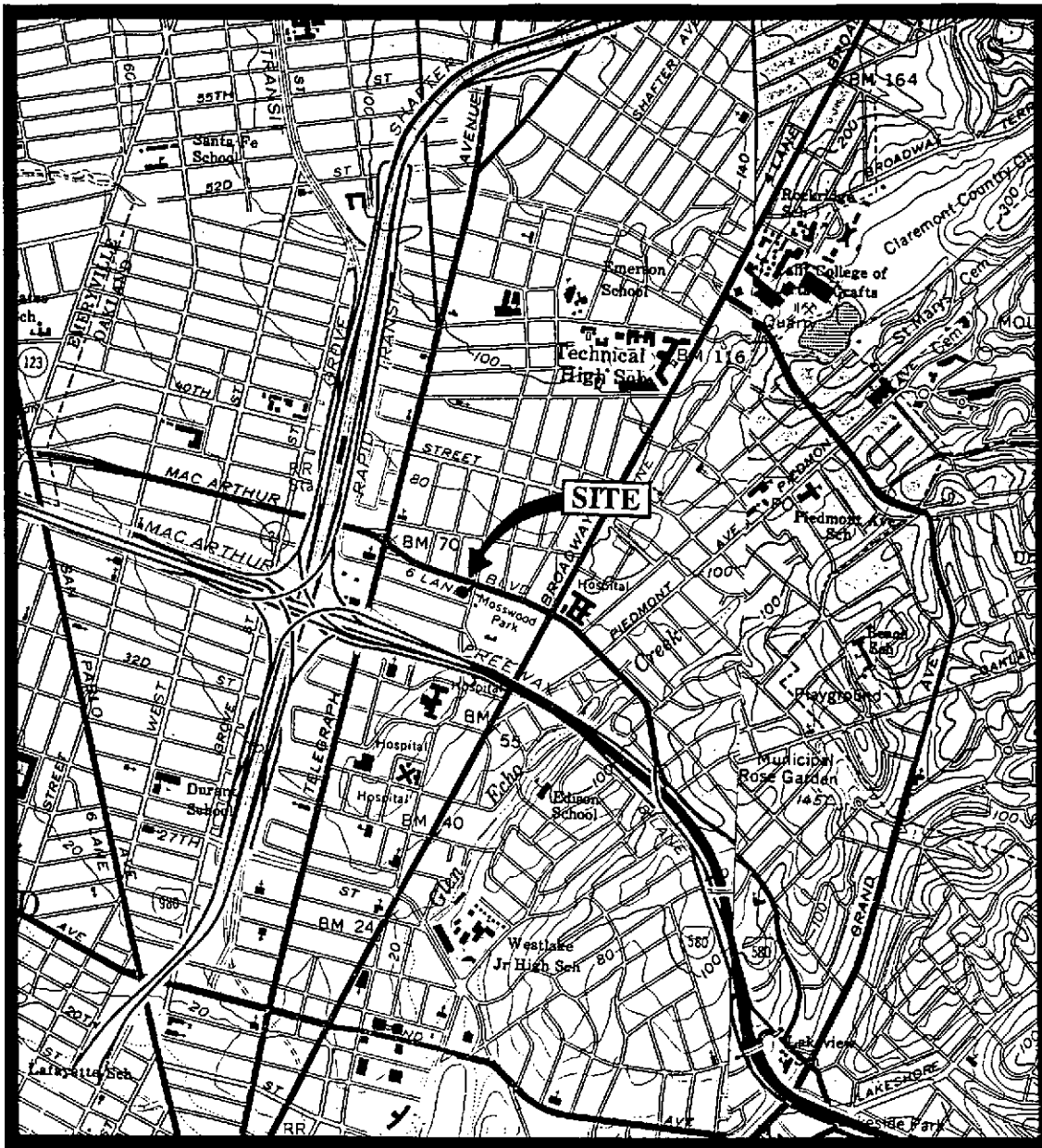
-- Indicates analysis was not performed.

ND = Non-detectable.

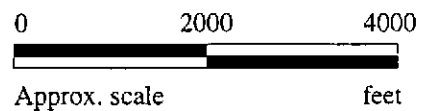
mg/L = milligrams per liter.

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

Note: Laboratory analyses data prior to July 14, 1994 were provided by Kaprealian Engineering, Inc.



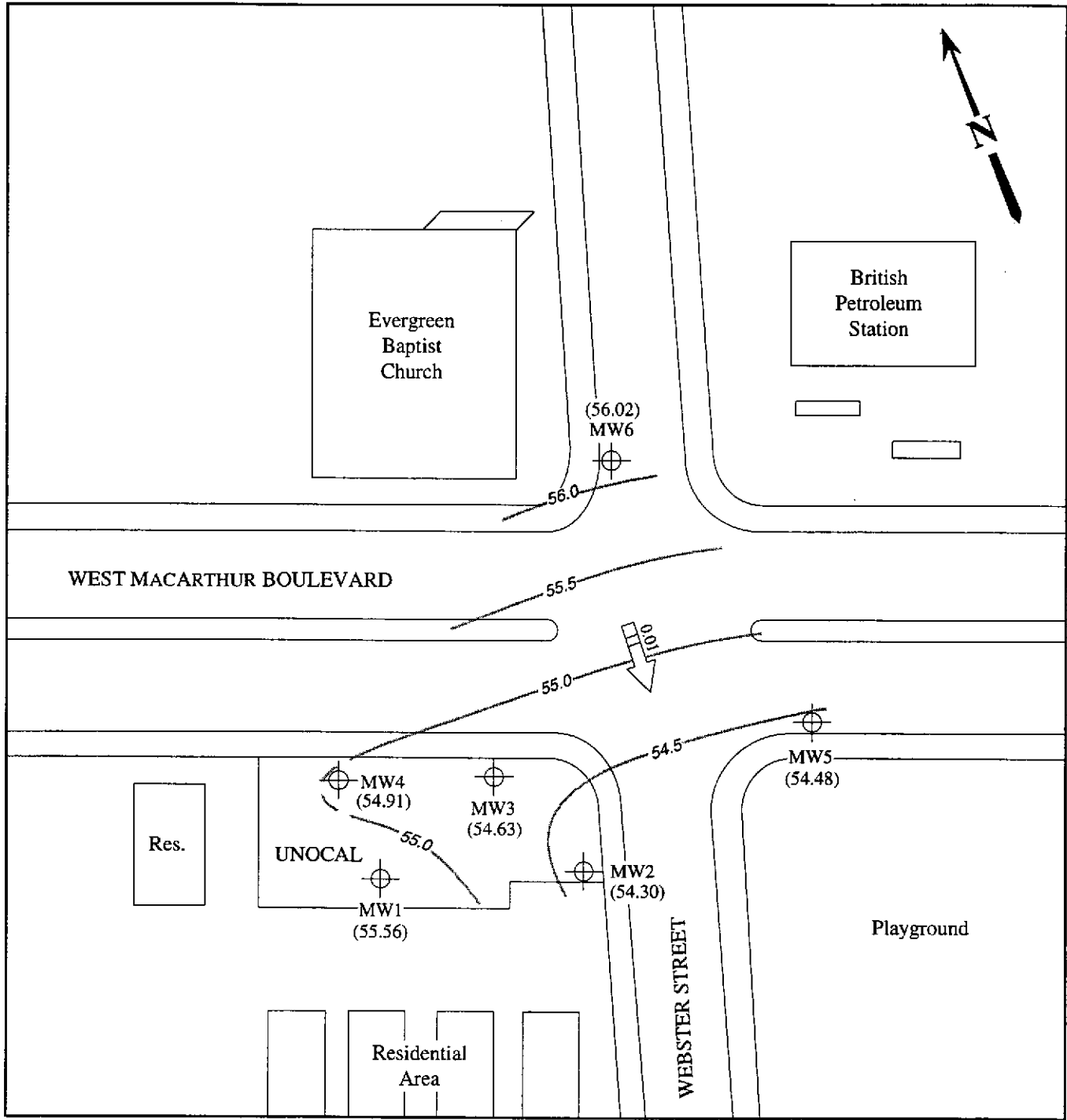
Base modified from 7.5 minute U.S.G.S. Oakland East & West Quadrangles
(both photorevised 1980)







mpds SERVICES, INCORPORATED

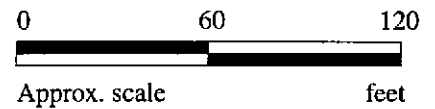
**UNOCAL SERVICE STATION # 3538
411 W. MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

**LOCATION
MAP**



LEGEND

-  Monitoring well
-  () Ground water elevation in feet above Mean Sea Level
-  ### Direction of ground water flow with approximate hydraulic gradient
-  — Contours of ground water elevation

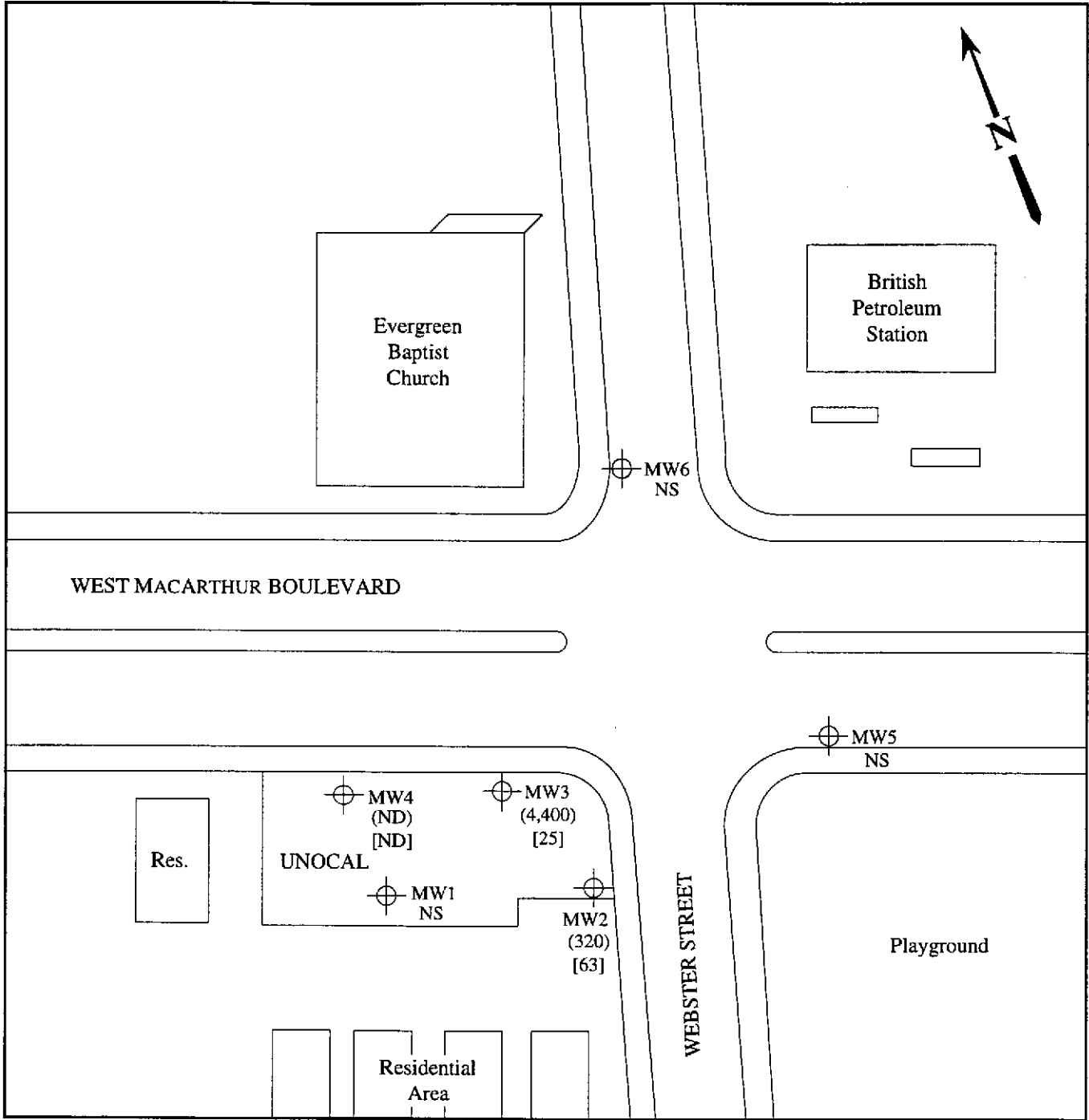


POTENTIOMETRIC SURFACE MAP FOR THE JANUARY 17, 1997 MONITORING EVENT

MPDS SERVICES, INCORPORATED

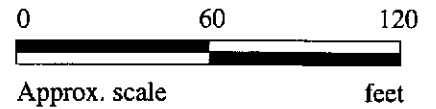
**UNOCAL SERVICE STATION # 3538
411 W. MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

**FIGURE
1**



LEGEND

- ⊕ Monitoring well
- () Concentration of TPH as gasoline in $\mu\text{g/L}$
- [] Concentration of benzene in $\mu\text{g/L}$
- ND Non-detectable, NS Not sampled



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JANUARY 17, 1997



**UNOCAL SERVICE STATION # 3538
411 W. MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

**FIGURE
2**



MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Jarrel Crider	Client Project ID: Unocal #3538, 411 W. MacArthur Blvd. Matrix Descript: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 701-0864	Oakland	Sampled: Jan 17, 1997 Received: Jan 17, 1997 Reported: Jan 31, 1997
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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
701-0864	MW-2	320	63	2.4	9.4	26
701-0865	MW-3	4,400	25	ND	270	580
701-0866	ES-1	ND	ND	ND	ND	ND
701-0867	ES-3	ND	ND	ND	ND	ND

Detection Limits:	50	0.50	0.50	0.50	0.50
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Total Purgeable Petroleum Hydrocarbons are quantitated against a fresh gasoline standard. Analytes reported as ND were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services	Client Project ID: Unocal #3538, 411 W. MacArthur Blvd.	Sampled: Jan 17, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript: Water	Received: Jan 17, 1997
Concord, CA 94520	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Jan 31, 1997
Attention: Jarrel Crider	First Sample #: 701-0864	

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
701-0864	MW-2	Gasoline	1.0	1/20/97	HP-4	95
701-0865	MW-3	Gasoline	20	1/21/97	HP-2	99
701-0866	ES-1	--	1.0	1/21/97	HP-5	110
701-0867	ES-3	--	1.0	1/21/97	HP-5	106

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





Sequoia Analytical

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

MPDS Services	Client Project ID: Unocal #3538, 411 W. MacArthur Blvd.	Sampled: Jan 17, 1997
2401 Stanwell Dr., Ste. 300	Sample Descript: Water	Received: Jan 17, 1997
Concord, CA 94520	Analysis for: MTBE (Modified EPA 8020)	
Attention: Jarrel Crider	First Sample #: 701-0864	Analyzed: Jan 20-21, 97
		Reported: Jan 31, 1997

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L
701-0864	MW-2	5.0	260
701-0865	MW-3	50	1,600

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

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





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

Client Project ID: Unocal #3538, 411 W. MacArthur Blvd. Oakland
Matrix: Liquid

QC Sample Group: 7010864-867

Reported: Jan 31, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill

MS/MSD Batch#:	7010653	7010653	7010653	7010653
Date Prepared:	1/20/97	1/20/97	1/20/97	1/20/97
Date Analyzed:	1/20/97	1/20/97	1/20/97	1/20/97
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	75	85	85	88
Matrix Spike Duplicate % Recovery:	75	85	85	88
Relative % Difference:	0.0	0.0	0.0	0.0

LCS Batch#:	4LCS012097	4LCS012097	4LCS012097	4LCS012097
Date Prepared:	1/20/97	1/20/97	1/20/97	1/20/97
Date Analyzed:	1/20/97	1/20/97	1/20/97	1/20/97
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	75	85	85	87

% Recovery Control Limits:	60-140	60-140	60-140	60-140
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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, #1271

Signature on File

Alan B. Kemp
Project Manager





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

Client Project ID: Unocal #3538, 411 W. MacArthur Blvd. Oakland
Matrix: Liquid

QC Sample Group: 7010864-867

Reported: Jan 31, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill

MS/MSD Batch#:	7010913	7010913	7010913	7010913
Date Prepared:	1/21/97	1/21/97	1/21/97	1/21/97
Date Analyzed:	1/21/97	1/21/97	1/21/97	1/21/97
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:	85	105	100	100
Matrix Spike Duplicate % Recovery:	85	105	95	100
Relative % Difference:	0.0	0.0	5.1	0.0

LCS Batch#:	2LCS012197	2LCS012197	2LCS012197	2LCS012197
Date Prepared:	1/21/97	1/21/97	1/21/97	1/21/97
Date Analyzed:	1/21/97	1/21/97	1/21/97	1/21/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	85	105	105	103

% Recovery Control Limits:	60-140	60-140	60-140	60-140
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SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.





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

Client Project ID: Unocal #3538, 411 W. MacArthur Blvd. Oakland
 Matrix: Liquid

QC Sample Group: 7010864-867

Reported: Jan 31, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	7010866	7010866	7010866	7010866
Date Prepared:	1/21/97	1/21/97	1/21/97	1/21/97
Date Analyzed:	1/21/97	1/21/97	1/21/97	1/21/97
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:	80	80	90	85
Matrix Spike Duplicate % Recovery:	85	85	95	90
Relative % Difference:	6.1	6.1	5.4	5.7

LCS Batch#:	5LCS012197	5LCS012197	5LCS012197	5LCS012197
Date Prepared:	1/21/97	1/21/97	1/21/97	1/21/97
Date Analyzed:	1/21/97	1/21/97	1/21/97	1/21/97
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	80	80	85	83

% Recovery Control Limits:	Benzene	Toluene	Ethyl Benzene	Xylenes
	60-140	60-140	60-140	60-140

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, #1271

Signature on File

Alan B. Kemp
 Project Manager



5702221

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

CHAIN OF CUSTODY

SAMPLER VARTKES TASHDJIAN			UNOCAL S/S # <u>3538</u> CITY: <u>Oakland</u>					ANALYSES REQUESTED							TURN AROUND TIME: <u>Regular</u>				
WITNESSING AGENCY			ADDRESS: <u>41 W. MacArthur Blvd</u>					TPH-GAS BTEX	TPH- DIESEL	TOG	8010								REMARKS
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION												
ES1	11/17/97					1000		X											
ES3	4					4		X											
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:		DATE/TIME	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:														
<i>Vartkes Tashdjian</i> (SIGNATURE)	11/17/97 1:25 PM	<i>[Signature]</i> (SIGNATURE)		11/17/97 1:25	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>YES</u>														
<i>[Signature]</i> (SIGNATURE)	1-17	<i>[Signature]</i> (SIGNATURE)		1-17	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>YES</u>														
<i>[Signature]</i> (SIGNATURE)	1-17	<i>[Signature]</i> (SIGNATURE)		1-17	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <u>ES3 w/ small bubble</u>														
<i>[Signature]</i> (SIGNATURE)		<i>[Signature]</i> (SIGNATURE)			4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <u>YES</u>														
		<i>[Signature]</i> (SIGNATURE)		1-17-97	SIGNATURE:			TITLE:			DATE:								

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 preserved with HCL.