

October 17, 1995

Mr. Scott Seery  
*Senior Hazardous Materials Specialist*  
**ALAMEDA COUNTY HEALTH CARE SERVICES**  
1131 Harbor Bay Parkway  
Second Floor  
Alameda, California 94502

**RE: REPORT TRANSMITTAL**

Dear Mr. Seery:

Enclosed please find the 3rd Quarter Summary Report for the above-referenced site. PSI/GeoResearch refers you to the report for details.

Please feel free to contact PSI/GeoResearch if you have any questions or require any further information.

Sincerely,



Frank R. Poss  
Senior Hydrogeologist

Enclosure

cc: Tina Berry: Unocal CERT

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**QUARTERLY SUMMARY REPORT**  
1995  
3RD QUARTER

UNOCAL SERVICE STATION #5367  
500 Bancroft Avenue  
San Leandro, California  
County: Alameda

(PSI/GeoResearch Project Number: 575-5H013)

**BACKGROUND**

Gasoline impacted ground-water was detected in ground-water monitoring wells at the site and in the site vicinity. The extent of the gasoline impacted ground-water contaminant plume has been defined in all but one direction. Remedial activities at the site have been proposed.

**RECENT QUARTER ACTIVITIES**

A bid package was completed and sent out to prospective contractors for the installation of the remediation system for the site. Additionally, permits were submitted to the BAAQMD and the City of San Leandro Water Control Pollution Plant for air and water discharge permits.

Ground-water monitoring continued at the site in the third quarter. The data did not indicate any significant changes from previous quarterly sampling data. The furthest down-gradient well was not detected for TPH-G and benzene.

**NEXT QUARTER ACTIVITIES**

Installation and start-up of the remediation system on-site.

**CHARACTERIZATION / REMEDIAL STATUS**

Soil contamination delineated? Yes  
Dissolved ground-water delineated? Yes  
Free Product delineated? N/A  
Amount of ground-water contaminant recovered this quarter? N/A

Soil remediation in progress? N/A  
    anticipated start? N/A  
    anticipated completion? N/A

Dissolved product remediation in progress? No  
    anticipated start? Fourth quarter 1995  
    anticipated completion? 12/98

CONSULTANT/CONTRACTOR: PSI/GeoResearch  
3777 Depot Road, Suite #418  
Hayward, California 94545  
(510) 785-1111  
Attn: Frank Poss

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MPDS-UN5367-07  
 August 3, 1995

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 #5367  
 500 Bancroft Avenue  
San Leandro, 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 from wells MW1 through MW9 on June 26, 1995. The newly installed monitoring well MW10 was sampled on July 28, 1995. Prior to sampling on these two dates, the wells were each purged of between 6.5 and 56 gallons of water. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded and are presented in Table 2. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately four casing volumes had been removed from each well, samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials 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 3 and 4. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants.

DISTRIBUTION

A copy of this report should be sent to Mr. Scott Seery of the Alameda County Health Care Services Agency, and to Mr. Mike Bakaldin of the San Leandro Fire Department.

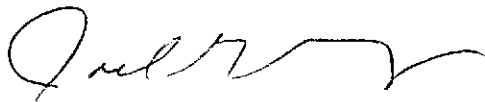
If you have any questions regarding this report, please do not hesitate to call Mr. Nubar Srabian at (510) 602-5120.

Sincerely,

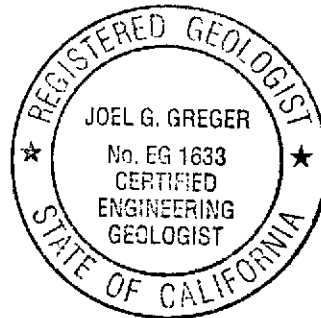
MPDS Services, Inc.



Haig (Gary) Tejrjian  
Senior Staff Geologist



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



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

/bp

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

cc: Mr. Frank Poss, GeoResearch

**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)
<b>(Monitored and Sampled on July 28, 1995)</b>						
MW-1*	30.86	26.97	34.98	0	--	0
MW-2*	30.87	27.26	46.95	0	--	0
MW-3*	30.86	27.06	48.55	0	--	0
MW-4*	30.76	27.53	48.50	0	--	0
MW-5*	30.87	27.63	44.40	0	--	0
MW-6*	30.48	26.48	44.60	0	--	0
MW-7*	30.41	26.84	43.65	0	--	0
MW-8*	30.61	27.10	43.91	0	--	0
MW-9*	30.70	25.77	44.66	0	--	0
MW-10	33.41	25.53	44.20	0	No	13
<b>(Monitored and Sampled on June 26, 1995)</b>						
MW-1	32.14	25.69	35.01	0	No	6.5
MW-2	32.15	25.98	46.97	0	No	56
MW-3	32.14	25.78	48.50	0	No	56
MW-4*	32.03	26.26	48.50	0	--	0
MW-5*	32.15	26.35	44.45	0	--	0
MW-6*	31.76	25.20	44.65	0	--	0
MW-7*	31.70	25.55	43.94	0	--	0
MW-8	32.88	24.83	43.96	0	No	14
MW-9	31.97	24.50	44.75	0	No	14
<b>(Monitored and Sampled on March 27, 1995)</b>						
MW-1	35.06	22.77	35.06	0	No	10
MW-2	35.11	23.02	47.06	0	No	63
MW-3	35.14	22.78	48.60	0	No	68
MW-4	34.85	23.44	48.56	0	No	66
MW-5	35.06	23.44	44.52	0	No	15
MW-6	34.86	22.10	44.68	0	No	16
MW-7	34.82	22.43	44.00	0	No	15
MW-8	34.93	22.78	44.04	0	No	15
MW-9	34.99	21.48	44.98	0	No	16

**TABLE 1 (Continued)**

**SUMMARY OF MONITORING DATA**

<u>Well #</u>	<u>Ground Water Elevation (feet)</u>	<u>Depth to Water (feet)◆</u>	<u>Total Well Depth (feet)◆</u>	<u>Product Thickness (feet)</u>	<u>Sheen</u>	<u>Water Purged (gallons)</u>
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**(Monitored and Sampled on December 19, 1994)**

MW-1	26.86	30.97	35.00	0	No	3
MW-2	26.87	31.26	46.90	0	No	41
MW-3	26.85	31.07	48.58	0	No	46
MW-4*	26.57	31.72	48.45	0	--	0
MW-5*	26.87	31.63	44.43	0	--	0
MW-6*	26.64	30.32	44.62	0	--	0
MW-7*	26.65	30.60	43.88	0	--	0
MW-8	26.76	30.95	44.02	0	No	9
MW-9	26.76	29.71	45.28	0	No	11

**(Monitored and Sampled on September 21, 1994)**

MW-1	24.62	33.21	35.02	0	No	1.2
MW-2	24.61	33.52	47.00	0	No	32
MW-3	24.62	33.30	48.70	0	No	40
MW-4	24.43	33.86	48.50	0	No	40
MW-5	24.60	33.90	44.58	0	No	7.5
MW-6	24.34	32.62	44.70	0	No	8.5
MW-7	24.29	32.96	44.10	0	No	8
MW-8	24.41	33.30	44.05	0	No	7.5

<u>Well #</u>	<u>Well Casing Elevation (feet)**</u>
MW-1	57.83
MW-2	58.13
MW-3	57.92
MW-4	58.29
MW-5	58.50
MW-6	56.96
MW-7	57.25
MW-8	57.71
MW-9	56.47
MW-10	58.94

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TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

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- ◆ 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 have been surveyed relative to Mean Sea Level.
- Sheen determination was not performed.

**TABLE 2**

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

<u>Well #</u>	<u>Gallons per Casing Volume</u>	<u>Time</u>	<u>Gallons Purged</u>	<u>Casing Volumes Purged</u>	<u>Temperature (°F)</u>	<u>Conductivity ([μmhos/cm] x100)</u>	<u>pH</u>
(Measured on June 26, 1995)							
MW-1	1.58	13:50	0	0	76.2	8.82	7.03
			1.5	0.95	70.2	8.17	6.71
			3	1.90	70.3	8.05	6.82
			4.5	2.85	70.2	8.03	6.49
			6.5	4.11	70.0	8.04	6.58
		14:00					
MW-2	13.64	09:00	0	0	67.1	6.33	7.07
			14	1.03	67.2	5.96	7.29
			28	2.05	66.1	6.03	7.12
			42	3.08	65.9	6.07	7.07
			56	4.11	65.5	6.12	7.11
		09:45					
MW-3	14.77	12:30	0	0	71.1	7.30	6.98
			14	0.95	72.3	8.83	7.17
			28	1.90	79.1	8.07	7.11
			42	2.84	79.1	8.11	6.69
			56	3.79	78.7	8.93	6.56
		13:20					
MW-8	3.25	11:30	0	0	71.7	9.07	6.83
			3.5	1.08	71.5	9.01	6.73
			7	2.15	70.0	9.21	6.51
			10.5	3.23	70.9	8.82	6.42
			14	4.31	71.4	8.89	6.38
		11:40					
MW-9	3.44	10:35	0	0	66.9	4.87	7.50
			3.5	1.02	70.3	4.96	7.55
			7	2.03	71.4	5.39	6.35
			10.5	3.05	72.8	5.19	7.36
			14	4.07	71.9	4.79	7.32
		10:50					



**TABLE 2 (Continued)**

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

<u>Well #</u>	<u>Gallons per Casing Volume</u>	<u>Time</u>	<u>Gallons Purged</u>	<u>Casing Volumes Purged</u>	<u>Temperature (°F)</u>	<u>Conductivity ([μmhos/cm] x100)</u>	<u>pH</u>
(Measured on July 28, 1995)							
MW-10	3.17	08:10	0	0	62.3	7.70	6.53
			3	0.95	61.8	7.12	6.37
			6.5	2.05	61.7	7.09	6.47
			9.5	3.00	61.7	7.25	6.38
		08:25	13	4.10	61.6	6.97	6.37

**TABLE 3**

**SUMMARY OF LABORATORY ANALYSES  
 WATER**

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
7/28/95	MW-10	ND	ND	ND	ND	ND
6/26/95	MW-1	130,000	1,000	23,000	5,600	33,000
	MW-2	ND	ND	0.93	0.88	3.4
	MW-3	14,000	300	ND	1,300	3,900
	MW-4	SAMPLED SEMI-ANNUALLY				
	MW-5	SAMPLED SEMI-ANNUALLY				
	MW-6	SAMPLED SEMI-ANNUALLY				
	MW-7	SAMPLED SEMI-ANNUALLY				
	MW-8	11,000	320	ND	680	2,000
	MW-9	ND	ND	ND	ND	3.9
3/27/95	MW-1	88,000	1,500	20,000	4,200	25,000
	MW-2	ND	ND	0.55	1.2	2.5
	MW-3	33,000	410	66	1,600	6,500
	MW-4	ND	ND	0.79	0.51	3.1
	MW-5	ND	ND	0.66	ND	2.9
	MW-6	56	ND	0.65	ND	3.3
	MW-7	ND	ND	0.54	ND	1.9
	MW-8	9,200	240	ND	200	1,400
	MW-9	ND	ND	0.61	ND	2.8
12/19/94	MW-1	200,000	2,400	28,000	6,600	37,000
	MW-2	190	1.9	ND	15	6.8
	MW-3	100,000	1,200	2,900	4,200	23,000
	MW-4	SAMPLED SEMI-ANNUALLY				
	MW-5	SAMPLED SEMI-ANNUALLY				
	MW-6	SAMPLED SEMI-ANNUALLY				
	MW-7	SAMPLED SEMI-ANNUALLY				
	MW-8	6,200	91	ND	230	210
	MW-9	ND	ND	1.6	1.5	8.4
9/21/94	MW-1	110,000	2,500	23,000	4,500	25,000
	MW-2	ND	ND	ND	ND	ND
	MW-3	24,000	890	110	2,200	8,800
	MW-4	ND	ND	0.78	ND	0.81
	MW-5	ND	ND	0.98	ND	1.6
	MW-6	ND	ND	ND	ND	ND
	MW-7	ND	0.50	ND	ND	0.89
	MW-8	6,900	190	ND	460	510
6/23/94	MW-1	150,000	2,500	33,000	6,400	37,000
	MW-2	420	3.9	0.66	23	11
	MW-3	37,000	1,300	670	3,100	14,000
	MW-8	12,000	210	ND	610	860

**TABLE 3 (Continued)**

SUMMARY OF LABORATORY ANALYSES  
 WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
3/18/94	MW-1	99,000	3,800	37,000	6,800	36,000
	MW-2	250	6.4	0.64	28	24
	MW-3	22,000	1,200	430	2,200	9,700
	MW-4	ND	ND	ND	ND	ND
	MW-5	ND	ND	ND	ND	ND
	MW-6	ND	ND	0.93	ND	1.4
	MW-7	ND	ND	ND	ND	ND
	MW-8	6,100	85	ND	260	260
12/13/93	MW-1	140,000	3,600	37,000	7,100	40,000
	MW-2	260	7.7	0.83	17	23
	MW-3	49,000	1,300	360	2,300	9,200
	MW-4	SAMPLED SEMI-ANNUALLY				
	MW-5	SAMPLED SEMI-ANNUALLY				
	MW-6	SAMPLED SEMI-ANNUALLY				
	MW-7	SAMPLED SEMI-ANNUALLY				
	MW-8	6,900	180	ND	240	550
9/03/93	MW-1	160,000	3,900	41,000	6,800	38,000
	MW-2	1,400	31	4.3	99	53
	MW-3	82,000	2,400	3,400	4,200	21,000
	MW-4	86	14	13	1.4	7.1
	MW-5	ND	ND	1.5	ND	7.9
	MW-6	ND	ND	ND	ND	ND
	MW-7	ND	ND	ND	ND	ND
	MW-8	9,800	180	ND	580	700
6/25/93	MW-1	160,000	4,300	36,000	5,800	34,000
	MW-2	4,000	110	ND	320	280
	MW-3	27,000	1,200	980	1,700	6,900
	MW-4	NOT SAMPLED				
	MW-5	WELL WAS INACCESSIBLE				
	MW-6	NOT SAMPLED				
	MW-7	NOT SAMPLED				
	MW-8	8,100	160	ND	580	740
3/03/93	MW-1	330,000	3,800	21,000	4,200	24,000
	MW-2	4,200	62	2.9	97	120
	MW-3	96,000*	1,400	1,900	1,400	8,400
	MW-4	68	0.9	0.6	ND	1.9
	MW-5	ND	ND	ND	ND	ND
	MW-6	ND*	ND	ND	ND	ND
	MW-7	ND	ND	ND	ND	ND
	MW-8	13,000	33	ND	160	290

**TABLE 3 (Continued)**

**SUMMARY OF LABORATORY ANALYSES  
 WATER**

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes
11/18/92	MW-1	WELL WAS DRY				
	MW-2	65	1.2	ND	2.8	1.4
	MW-3	24,000*	430	160	640	2,800
	MW-4	NOT SAMPLED				
	MW-5	NOT SAMPLED				
	MW-6	NOT SAMPLED				
	MW-7	NOT SAMPLED				
	MW-8	1,100	6.1	ND	13	5.6
10/16/92	MW-1	WELL WAS DRY				
	MW-2	--	--	--	--	--
	MW-3	--	--	--	--	--
	MW-4	ND	ND	ND	ND	ND
	MW-5	ND	ND	ND	ND	ND
	MW-6	ND	ND	ND	ND	ND
	MW-7	ND	ND	ND	ND	ND
	MW-8	300	0.96	ND	4.0	3.5
9/30/92	MW-2	820	21	ND	42	25
	MW-3	36,000	730	200	1,000	4,400
6/18/92	MW-1	680,000	9,000	40,000	7,600	44,000
	MW-2	1,200	35	1.6	56	26
	MW-3	180,000	2,200	1,700	2,300	1,100
	MW-4	ND	ND	ND	ND	ND
	MW-5	--	--	--	--	--
	MW-6	ND	ND	ND	ND	ND
	MW-7	--	--	--	--	--
	MW-8	WELL WAS INACCESSIBLE				
3/31/92	MW-1	330,000	8,200	33,000	6,800	36,000
	MW-2	4,200	110	3	190	250
	MW-3	100,000	1,900	1,900	2,300	9,400
	MW-4	ND	ND	ND	ND	ND
	MW-5	ND	ND	ND	ND	1.1
	MW-6	ND	ND	1.3	ND	2.0
	MW-7	ND	ND	ND	ND	0.9
	MW-8	15,000	120	1.0	430	530

**TABLE 3 (Continued)**

**SUMMARY OF LABORATORY ANALYSES  
 WATER**

<u>Date</u>	<u>Well #</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
12/27/91	MW-2	170	3.9	ND	7.3	60
	MW-3	31,000	240	280	400	1,600
	MW-4	ND	ND	ND	ND	ND
	MW-5	ND	ND	ND	ND	ND
	MW-6	ND	ND	ND	ND	ND
	MW-7	ND	ND	ND	ND	ND
	MW-8	1,600	15	2.9	40	49
	9/27/91	MW-1	WELL WAS DRY			
MW-2		110	2.6	ND	5.6	5.1
MW-3		4,000	160	84	180	560
MW-4		ND	ND	ND	ND	ND
MW-5		ND	ND	ND	ND	ND
MW-6		ND	ND	ND	ND	ND
MW-7		ND	ND	ND	ND	ND
MW-8		720	13	4.3	26	26
5/06/91	MW-1	--	--	--	--	--
	MW-2	2,300	150	10	52	110
	MW-3	39,000	1,000	570	930	3,900
	MW-4	--	--	--	--	--
	MW-5	--	--	--	--	--
	MW-6	--	--	--	--	--
	MW-7	ND	ND	ND	ND	ND
	MW-8	14,000	80	ND	250	550
2/07/91	MW-2	510	40	ND	29	44
2/06/91	MW-1	WELL WAS DRY				
	MW-3	13,000	310	150	380	1,200
	MW-4	ND	ND	ND	ND	ND
	MW-5	ND	ND	ND	ND	ND
	MW-6	ND	ND	ND	ND	ND
	MW-7	ND	ND	ND	ND	ND
	MW-8	630	9.6	ND	35	36
	11/30/90	MW-1	WELL WAS DRY			
MW-2		400	41	ND	39	37
MW-3		13,000	390	81	410	1,000
MW-4		ND	ND	ND	ND	1.2
MW-5		ND	ND	0.7	ND	ND
MW-6		ND	ND	ND	ND	ND
MW-7		ND	ND	ND	0.6	1.5
MW-8		570	13	ND	45	36

**TABLE 3 (Continued)**

**SUMMARY OF LABORATORY ANALYSES  
 WATER**

<u>Date</u>	<u>Well #</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl- benzene</u>	<u>Xylenes</u>
8/24/90	MW-1	WELL WAS DRY				
	MW-2	330	17	ND	19	20
	MW-3	19,000	480	160	510	1,500
	MW-4	ND	ND	ND	ND	ND
	MW-5	ND	ND	ND	ND	ND
	MW-6	ND	ND	ND	ND	ND
	MW-7	ND	ND	ND	ND	ND
	MW-8	990	13	ND	48	66
7/19/90	MW-1	WELL WAS DRY				
	MW-2	--	--	--	--	--
	MW-3	--	--	--	--	--
	MW-4	--	--	--	--	--
	MW-5	--	--	--	--	--
	MW-6	ND	ND	ND	ND	ND
	MW-7	--	--	--	--	--
	MW-8	--	--	--	--	--
5/90	MW-2	1,000	39.0	ND	32.0	52.0
	MW-3	19,000	330	170	310	1,500
	MW-4	ND	ND	ND	0.68	1.4
	MW-5	ND	ND	ND	ND	ND
	MW-6	ND	ND	ND	ND	ND
	MW-7	24	ND	ND	0.74	1.7
	MW-8	770	6.5	ND	20	32
	2/16/90	MW-1	WELL WAS DRY			
MW-2		840	50.0	0.5	28.0	44.0
MW-3		22,000	710	4,100	6,900	33,000
MW-4		ND	ND	ND	ND	ND
MW-5		67	0.51	1.6	2.9	7.5
MW-6		ND	ND	ND	ND	ND
MW-7		ND	ND	ND	ND	ND
MW-8		1,900	11	ND	52	55
1/27/89	MW-1	WELL WAS DRY				
	MW-2	510	58.0	8.7	22.6	20.3
	MW-3	39,000	1,570	2,830	1,250	7,070
	MW-4	ND	ND	ND	ND	ND
10/03/88	MW-1	WELL WAS DRY				
	MW-2	1,760	47.8	7.4	20.9	81.6
	MW-3	61,000	1,060	3,380	1,520	8,720
	MW-4	ND	ND	ND	ND	ND

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES  
WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl- benzene</u>	<u>Xylenes</u>
9/07/88	MW-1	WELL WAS DRY				
4/27/88	MW-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
11/19/87	MW-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
11/13/87	MW-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
11/05/87	MW-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
10/06/87	MW-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
9/24/87	MW-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				
9/23/87	MW-1	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				

\* Chromatogram contains early eluting peak.

ND = Non-detectable.

-- Indicates analysis was not performed.

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

Note: Laboratory analyses data prior to December 13, 1993, were provided by RESNA.

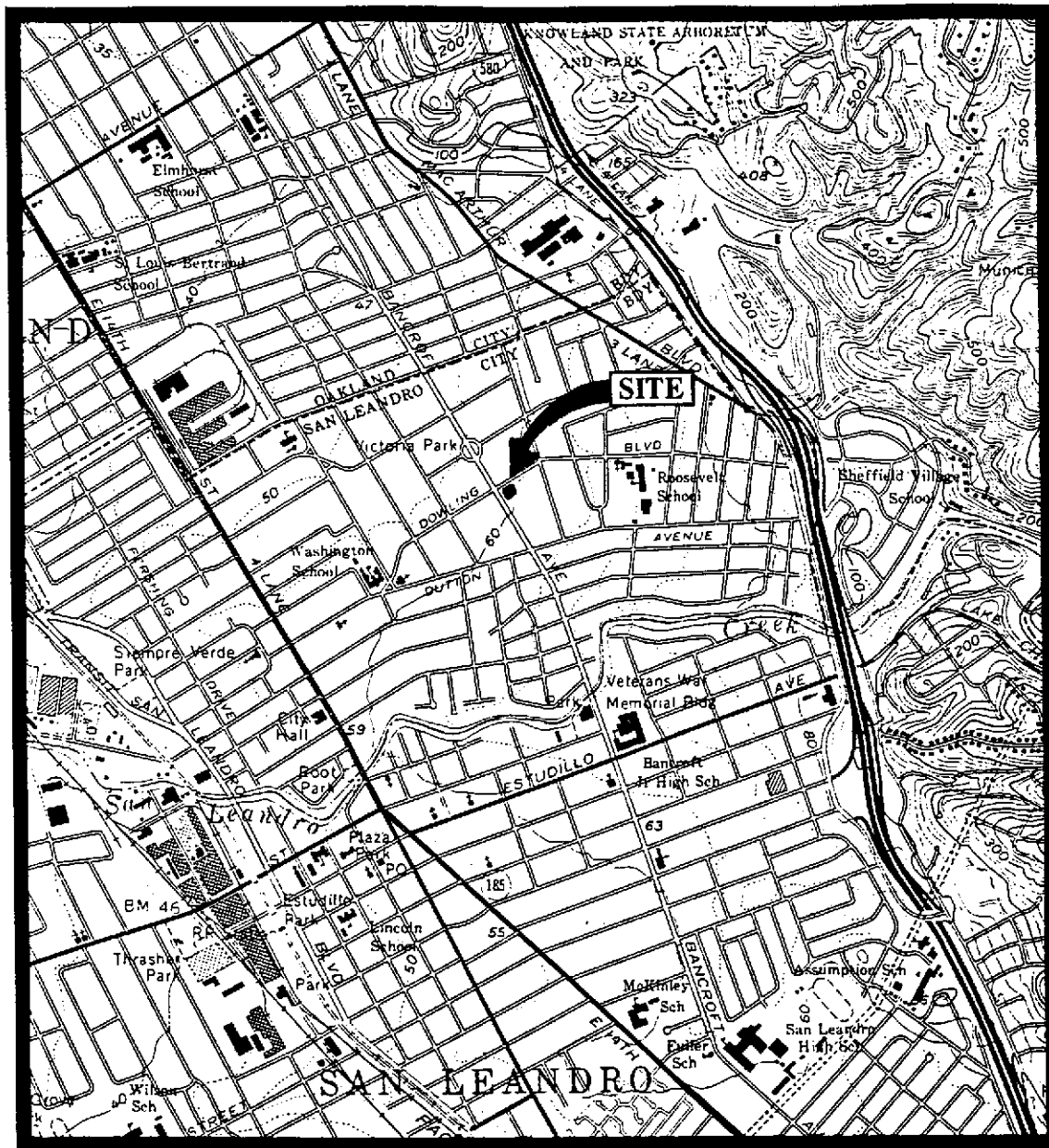
**TABLE 4**

**SUMMARY OF LABORATORY ANALYSES  
WATER**

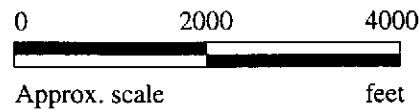
<u>Date</u>	<u>Well #</u>	<u>Dissolved Oxygen (mg/L)</u>	<u>Total Dissolved Solids (mg/L)</u>
6/26/95	MW1	1.60	--
	MW2	4.55	--
	MW3	1.55	--
	MW4	--	--
	MW5	--	--
	MW6	--	--
	MW7	--	--
	MW8	3.86	--
	MW9	4.61	--
3/27/95	MW1	1.5	--
	MW2	1.7	410
	MW3	0.90	450
	MW4	4.90	--
	MW5	5.20	--
	MW6	7.4	--
	MW7	8.4	--
	MW8	2.2	490
	MW9	7.8	--

mg/L = milligrams per liter.





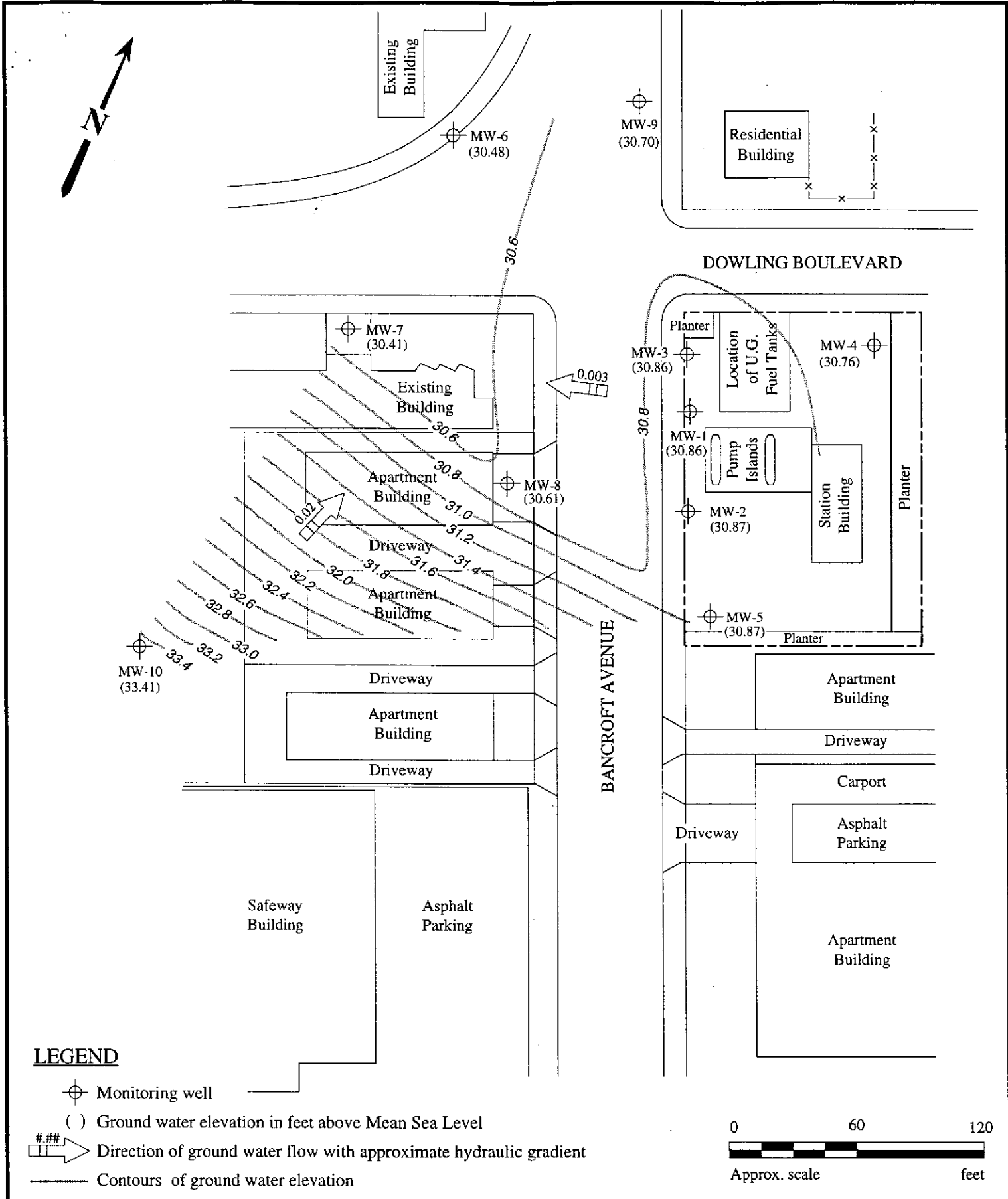
Base modified from 7.5 minute U.S.G.S. San Leandro Quadrangle  
(photorevised 1980)



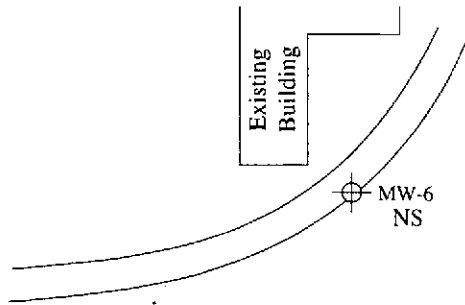
**mpds** SERVICES, INCORPORATED

**UNOCAL SERVICE STATION #5367  
500 BANCROFT AVENUE  
SAN LEANDRO, CALIFORNIA**

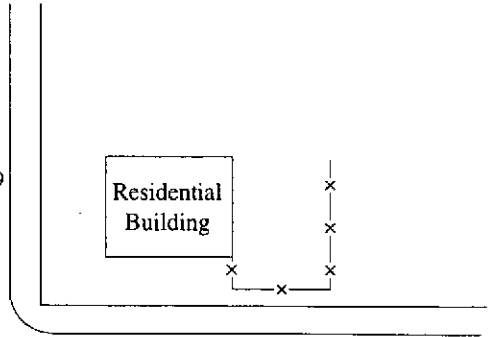
**LOCATION  
MAP**



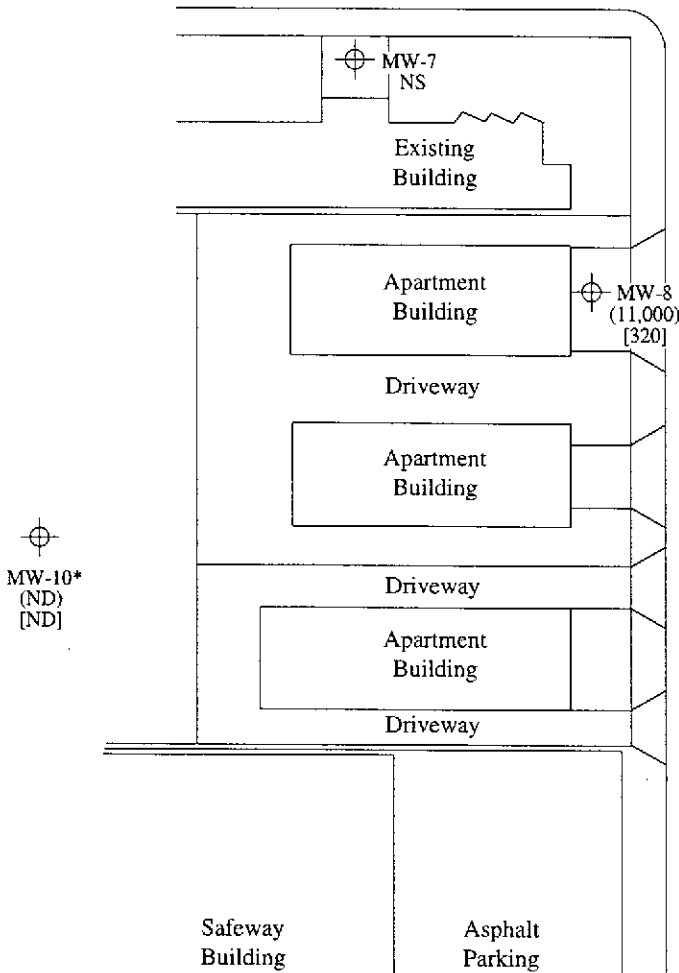
POTENTIOMETRIC SURFACE MAP FOR THE JULY 28, 1995 MONITORING EVENT



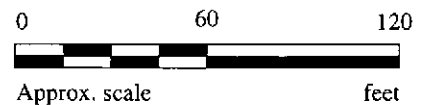
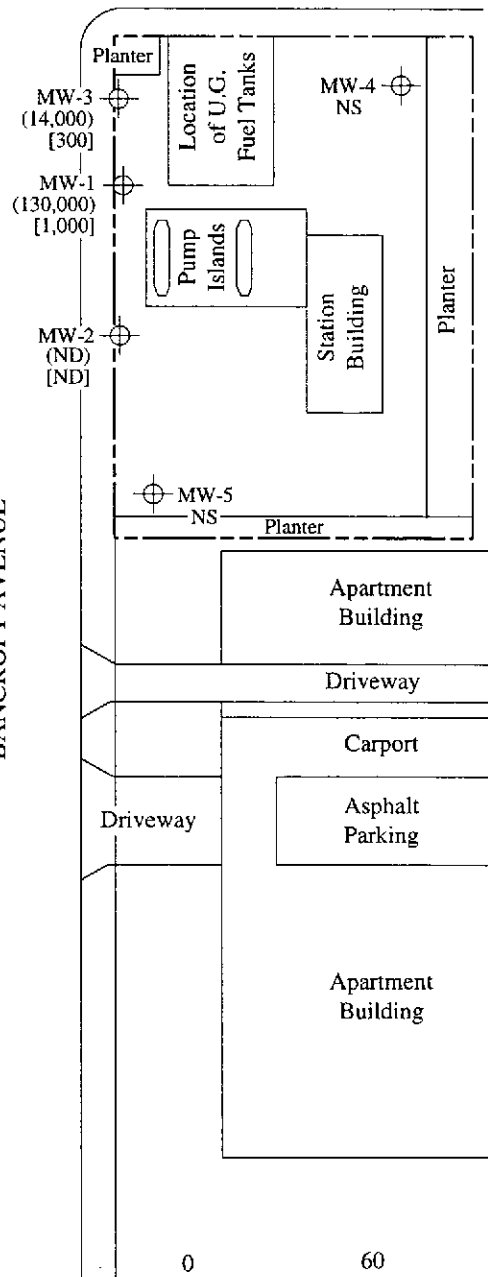
MW-9  
(ND)  
[ND]



DOWLING BOULEVARD



BANCROFT AVENUE



**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
- \* MW-10 was sampled July 28, 1995

**PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JUNE 26, 1995**



**UNOCAL SERVICE STATION #5367  
500 BANCROFT AVENUE  
SAN LEANDRO, CALIFORNIA**

**FIGURE  
2**



MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #5367, 500 Bancroft Ave., San Leandro Matrix Descript: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 506-2189	Sampled: Jun 26, 1995 Received: Jun 26, 1995 Reported: Jul 13, 1995
--	---	---

**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
506-2189	MW 1	130,000	1,000	23,000	5,600	33,000
506-2190	MW 2	ND	ND	0.93	0.88	3.4
506-2191	MW 3	14,000	300	ND	1,300	3,900
506-2192	MW 8	11,000	320	ND	680	2,000
506-2193	MW 9	ND	ND	ND	ND	3.9

<b>Detection Limits:</b>	<b>50</b>	<b>0.50</b>	<b>0.50</b>	<b>0.50</b>	<b>0.50</b>
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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 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #5367, 500 Bancroft Ave., San Leandro Matrix Descript: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 506-2189	Sampled: Jun 26, 1995 Received: Jun 26, 1995 Reported: Jul 13, 1995
--	---	---

**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
506-2189	MW 1	Gasoline	1,000	7/6/95	HP-4	87
506-2190	MW 2	--	1.0	7/3/95	HP-5	97
506-2191	MW 3	Gasoline	200	7/5/95	HP-9	103
506-2192	MW 8	Gasoline	100	7/5/95	HP-9	105
506-2193	MW 9	--	1.0	7/5/95	HP-9	99

**SEQUOIA ANALYTICAL, #1271**

Signature on File

Alan B. Kemp  
Project Manager





MPDS Services  
2401 Stanwell Dr., Ste. 300  
Concord, CA 94520  
Attention: Sarkis Karkarian

Client Project ID: Unocal #5367, 500 Bancroft Ave., San Leandro  
Matrix: Liquid

QC Sample Group: 5062189-93

Reported: Jul 13, 1995

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020
<b>Analyst:</b>	M. Creusere	M. Creusere	M. Creusere	M. Creusere

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
<b>Batch#:</b>	5062165	5062165	5062165	5062165
<b>Date Prepared:</b>	7/3/95	7/3/95	7/3/95	7/3/95
<b>Date Analyzed:</b>	7/3/95	7/3/95	7/3/95	7/3/95
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5
<b>Conc. Spiked:</b>	20 µg/L	20 µg/L	20 µg/L	60 µg/L
<b>Matrix Spike % Recovery:</b>	100	100	100	102
<b>Matrix Spike Duplicate % Recovery:</b>	95	90	90	92
<b>Relative % Difference:</b>	5.1	11	11	10

LCS Batch#:	3LCS070395	3LCS070395	3LCS070395	3LCS070395
<b>Date Prepared:</b>	7/3/95	7/3/95	7/3/95	7/3/95
<b>Date Analyzed:</b>	7/3/95	7/3/95	7/3/95	7/3/95
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5
<b>LCS % Recovery:</b>	100	94	98	101

<b>% Recovery Control Limits:</b>	71-133	72-128	72-130	71-120
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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 Client Project ID: Unocal #5367, 500 Bancroft Ave., San Leandro  
 2401 Stanwell Dr., Ste. 300 Matrix: Liquid  
 Concord, CA 94520  
 Attention: Sarkis Karkarian QC Sample Group: 5062189-93 Reported: Jul 13, 1995

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020
<b>Analyst:</b>	A.Tuzon	A.Tuzon	A.Tuzon	A.Tuzon

<b>MS/MSD Batch#:</b>	5062199	5062199	5062199	5062199
<b>Date Prepared:</b>	7/5/95	7/5/95	7/5/95	7/5/95
<b>Date Analyzed:</b>	7/5/95	7/5/95	7/5/95	7/5/95
<b>Instrument I.D.#:</b>	HP-9	HP-9	HP-9	HP-9
<b>Conc. Spiked:</b>	20 µg/L	20 µg/L	20 µg/L	60 µg/L
<b>Matrix Spike % Recovery:</b>	110	115	115	123
<b>Matrix Spike Duplicate % Recovery:</b>	110	110	110	117
<b>Relative % Difference:</b>	0.0	4.4	4.4	5.0

<b>LCS Batch#:</b>	4LCS070595	4LCS070595	4LCS070595	4LCS070595
<b>Date Prepared:</b>	7/5/95	7/5/95	7/5/95	7/5/95
<b>Date Analyzed:</b>	7/5/95	7/5/95	7/5/95	7/5/95
<b>Instrument I.D.#:</b>	HP-9	HP-9	HP-9	HP-9
<b>LCS % Recovery:</b>	92	97	93	108

<b>% Recovery Control Limits:</b>	71-133	72-128	72-130	71-120
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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: Sarkis Karkarian

Client Project ID: Unocal #5367, 500 Bancroft Ave., San Leandro  
Matrix: Liquid

QC Sample Group: 5062189-93

Reported: Jul 13, 1995

### QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020
<b>Analyst:</b>	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon

<b>MS/MSD Batch#:</b>	5062365	5062365	5062365	5062365
<b>Date Prepared:</b>	7/6/95	7/6/95	7/6/95	7/6/95
<b>Date Analyzed:</b>	7/6/95	7/6/95	7/6/95	7/6/95
<b>Instrument I.D.#:</b>	HP-4	HP-4	HP-4	HP-4
<b>Conc. Spiked:</b>	20 µg/L	20 µg/L	20 µg/L	60 µg/L
<b>Matrix Spike % Recovery:</b>	100	100	105	110
<b>Matrix Spike Duplicate % Recovery:</b>	105	110	110	115
<b>Relative % Difference:</b>	4.9	9.5	4.7	4.4

<b>LCS Batch#:</b>	2LCS070695	2LCS070695	2LCS070695	2LCS070695
<b>Date Prepared:</b>	7/6/95	7/6/95	7/6/95	7/6/95
<b>Date Analyzed:</b>	7/6/95	7/6/95	7/6/95	7/6/95
<b>Instrument I.D.#:</b>	HP-4	HP-4	HP-4	HP-4
<b>LCS % Recovery:</b>	101	105	107	107

<b>% Recovery Control Limits:</b>	71-133	72-128	72-130	71-120
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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

