

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS

SERVICES, INCORPORATED

510-602-5120
11/29/95

FILES

December 29, 1995

Ms. Cynthia Chapman
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94501

RE: Unocal Service Station #3135
845 - 66th Avenue
Oakland, California

94621

Dear Ms. Chapman:

Per the request of the Unocal Corporation Project Manager, Ms. Tina R. Berry, enclosed please find our report (MPDS-UN3135-08) dated December 8, 1995 for the above referenced site.

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

Sincerely,

MPDS Services, Inc.



Jarrel F. Crider

/jfc

Enclosure

cc: Ms. Tina R. Berry

ENVIRONMENTAL
REGISTRATION
03/01/95-2 PM 3:15

MPDS-UN3135-08
December 8, 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 #3135
845 - 66th Avenue
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 November 1, 1995. Prior to sampling, the wells were each purged of between 9.5 and 12.5 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. Trip blank, Equipment blank and Field blank samples (denoted as ES1, ES2 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 Table 2. The concentrations of Total Petroleum Hydrocarbons (TPH) as 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.

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. Cynthia Chapman of the Alameda County Health Care Services Agency.

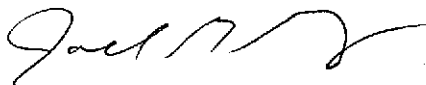
If you have any questions regarding this report, please do not hesitate to call Mr. Nubar Srabian at (510) 602-5120.

Sincerely,

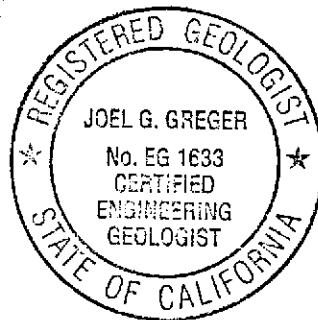
MPDS Services, Inc.



Haig (Gary) Tejirian
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 & 2
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)◆	Total Well Depth (feet)◆	Product Thickness (feet)	Sheen	Water Purged (gallons)
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(Monitored and Sampled on November 1, 1995)

MW1	-4.09	9.08	22.75	0	No	9.5
MW2	-3.73	7.30	22.30	0	No	10.5
MW3	-3.53	6.65	21.71	0	No	11
MW4	-4.23	9.16	25.13	0	No	11
MW5*	-4.13	8.40	26.11	0	--	0
MW6	-4.07	8.10	25.85	0	No	12.5
MW7*	-4.16	8.58	19.91	0	--	0
MW8*	-4.55	8.98	23.60	0	--	0
MW9*	-4.06	8.66	23.15	0	--	0
MW10	-4.26	6.95	23.15	0	No	11.5

(Monitored and Sampled on August 1, 1995)

MW1	-2.71	7.70	22.71	0	No	11
MW2	-2.59	6.16	22.55	0	No	12
MW3	-1.98	5.10	21.70	0	No	12
MW4	-2.85	7.78	25.21	0	No	12
MW5	-2.73	7.00	26.12	0	No	13
MW6	-2.73	6.76	24.80	0	No	13
MW7	-3.20	7.62	19.88	0	No	10
MW8	-2.68	7.11	23.11	0	No	11
MW9	-2.70	7.30	23.10	0	No	11
MW10	-3.10	5.79	23.11	0	No	12

(Monitored and Sampled on May 2, 1995)

MW1	-1.58	6.57	22.71	0	No	11
MW2	-1.46	5.03	22.55	0	No	12
MW3	-0.99	4.11	21.67	0	No	12
MW4	-0.81	5.74	25.08	0	No	13.5
MW5*	-1.58	5.85	26.11	0	--	0
MW6	-1.55	5.58	25.80	0	No	14
MW7*	-1.31	5.73	19.86	0	--	0
MW8*	-1.30	5.73	23.10	0	--	0
MW9*	-1.26	5.86	23.08	0	--	0
MW10	-2.11	4.80	23.10	0	No	12.5

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 February 1, 1995)

MW1	-1.05	6.04	22.75	0	No	11.5
MW2	-0.97	4.54	22.60	0	No	12.5
MW3	-0.72	3.84	21.64	0	No	12.5
MW4	-0.80	5.73	25.26	0	No	13.5
MW5	-0.97	5.24	26.06	0	No	15
MW6	-0.95	4.98	25.82	0	No	14.5
MW7	-1.01	5.43	19.74	0	No	10
MW8	-0.59	5.02	23.13	0	No	12.5
MW9	-0.58	5.18	23.10	0	No	12.5
MW10	-1.57	4.26	23.14	0	No	13

<u>Well #</u>	<u>Well Casing Elevation (feet)**</u>
MW1	4.99
MW2	3.57
MW3	3.12
MW4	4.93
MW5	4.27
MW6	4.03
MW7	4.42
MW8	4.43
MW9	4.60
MW10	2.69

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

* Monitored only.

** The elevations of the top of the well casings are relative to Mean Sea Level (MSL), per the City of Oakland Benchmark No. 3881 (elevation = 4.72 feet MSL).

-- Sheen determination was not performed.

TABLE 2

**SUMMARY OF LABORATORY ANALYSES
 WATER**

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
11/01/95★	MW1	190♦♦	160	2.5	ND	0.82	0.57
	MW2	4,100♦	18,000	490	110	1,300	4,600
	MW3	200♦	ND	ND	ND	ND	ND
	MW4	3,300♦	4,900	12	ND	190	710
	MW5	SAMPLED	SEMI-ANNUALLY				
	MW6	4,300♦	24,000	1,100	200	1,900	6,000
	MW7	SAMPLED	SEMI-ANNUALLY				
	MW8	SAMPLED	SEMI-ANNUALLY				
	MW9	SAMPLED	SEMI-ANNUALLY				
	MW10	280	ND	ND	ND	ND	ND
8/01/95	MW1	86♦	190	4.0	ND	3.7	2.4
	MW2	2,900♦	13,000	700	140	1,400	5,500
	MW3	ND	ND	ND	ND	ND	ND
	MW4	3,400♦	7,900	21	ND	210	860
	MW5	ND	ND	ND	ND	ND	ND
	MW6	2,800♦	23,000	1,400	510	940	7,300
	MW7	ND	ND	ND	ND	ND	ND
	MW8	ND	ND	ND	ND	ND	ND
	MW9	ND	ND	ND	ND	ND	ND
	MW10	260	ND	ND	ND	ND	ND
5/02/95	MW1	120♦	460	14	ND	14	13
	MW2	2,300♦♦	5,600	150	ND	150	180
	MW3	56	360*	ND	ND	ND	ND
	MW4	2,500♦	5,400	36	ND	130	710
	MW5	SAMPLED	SEMI-ANNUALLY				
	MW6	3,600♦♦	59,000	4,700	4,400	4,000	18,000
	MW7	SAMPLED	SEMI-ANNUALLY				
	MW8	SAMPLED	SEMI-ANNUALLY				
	MW9	SAMPLED	SEMI-ANNUALLY				
	MW10	99	840*	ND	ND	ND	9.5
2/01/95	MW1	ND	120	1.7	ND	ND	ND
	MW2	1,800♦	9,300	300	210	630	2,600
	MW3	ND	100*	ND	ND	ND	ND
	MW4	ND	ND	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND	ND
	MW6	2,700♦♦	55,000	7,700	9,100	4,500	20,000
	MW7	ND	ND	ND	ND	ND	ND
	MW8	ND	ND	ND	ND	ND	ND
	MW9	65♦	ND	ND	ND	ND	ND
	MW10	72♦	560*	ND	ND	ND	ND

TABLE 2 (Continued)

**SUMMARY OF LABORATORY ANALYSES
 WATER**

<u>Date</u>	<u>Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
11/07/94	MW1	270♦	890	16	ND	31	21
	MW2	3,100♦♦	49,000	1,700	2,000	3,000	10,000
	MW3	ND	94*	ND	ND	ND	ND
	MW4	2,200♦	20,000	84	17	1,500	3,000
	MW5	SAMPLED SEMI-ANNUALLY					
	MW6	770♦	23,000	3,800	970	1,400	4,700
	MW7	SAMPLED SEMI-ANNUALLY					
	MW8	SAMPLED SEMI-ANNUALLY					
	MW9	SAMPLED SEMI-ANNUALLY					
	MW10	120♦♦	1,100*	ND	ND	ND	ND
8/02/94	MW1	130♦♦	700	13	0.62	2.0	3.6
	MW2	8,500♦	32,000	2,400	2,200	2,900	12,000
	MW3	76	150*	ND	ND	ND	ND
	MW4	2,500♦♦	17,000	38	ND	1,800	4,300
	MW5	ND	ND	ND	ND	ND	ND
	MW6	2,400♦♦	28,000	2,200	940	1,600	7,500
	MW7	ND	ND	ND	ND	ND	0.63
	MW8	ND	ND	ND	ND	ND	ND
	MW9	ND	ND	ND	ND	ND	ND
	MW10	110	95*	ND	ND	ND	ND
5/05/94	MW1	ND	96*	ND	ND	ND	ND
	MW2	3,100♦♦	36,000	3,200	670	2,700	9,600
	MW3	66	62*	ND	ND	ND	ND
	MW4	2,000♦♦	6,900	17	ND	480	1,300
	MW5	SAMPLED SEMI-ANNUALLY					
	MW6	630♦♦	2,600	430	99	24	420
	MW7	SAMPLED SEMI-ANNUALLY					
	MW8	SAMPLED SEMI-ANNUALLY					
	MW9	SAMPLED SEMI-ANNUALLY					
	MW10	55	1,000*	ND	ND	ND	ND
2/10/94	MW1	ND	170*	0.90	2.3	ND	ND
	MW2	2,000♦♦	12,000	1,000	17	880	940
	MW3	50♦♦	ND	ND	ND	ND	0.84
	MW4	170♦	830	3.5	1.4	36	80
	MW5	ND	ND	ND	ND	ND	0.59
	MW6	ND	ND	3.5	ND	1.5	ND
	MW7	ND	ND	ND	ND	ND	ND
	MW8	ND	ND	ND	ND	ND	ND
	MW9	ND	ND	ND	ND	ND	ND
	MW10	71	1,480*	ND	ND	ND	ND

TABLE 2 (Continued)

**SUMMARY OF LABORATORY ANALYSES
 WATER**

<u>Date</u>	<u>Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
11/11/93	MW1	160♦♦	930	7.3	ND	25	19
	MW2	7,000♦♦	36,000	4,800	970	3,000	8,100
	MW3	51	ND	ND	ND	ND	ND
	MW4	4,000♦	16,000	110	12	1,800	3,800
	MW5	ND	ND	ND	ND	ND	ND
	MW6	650♦♦	3,000	470	ND	220	270
	MW7	66	ND	ND	ND	ND	ND
	MW8	ND	ND	ND	ND	ND	ND
	MW9	ND	ND	ND	ND	ND	ND
	MW10	88♦♦	1,600*	ND	ND	ND	ND
8/13/93	MW1	170♦♦	860	3.5	ND	17	20
	MW2	2,800♦♦	44,000	5,100	600	2,900	8,500
	MW3	ND	ND	ND	ND	ND	ND
	MW4	2,000♦♦	19,000	ND	ND	1,600	4,100
	MW5	ND	ND	ND	ND	ND	ND
	MW6	440♦♦	2,300	330	ND	95	40
	MW7	ND	ND	ND	ND	ND	ND
	MW8	ND	ND	ND	ND	ND	ND
	MW9	ND	ND	ND	ND	ND	ND
	MW10	97♦♦	1,500**	ND	ND	41	21
5/17/93	MW1	490♦♦	960**	39	ND	57	60
	MW2	5,500♦♦	46,000	4,400	510	2,900	9,900
	MW3	53	ND	ND	ND	ND	ND
	MW4	3,100♦	2,500	ND	ND	170	410
	MW5	ND	ND	ND	ND	ND	ND
	MW6	1,400♦	4,900	890	46	210	530
	MW7	ND	ND	ND	ND	ND	ND
	MW8	ND	ND	ND	ND	ND	ND
	MW9	ND	ND	ND	ND	ND	ND
	MW10	ND	1,200*	ND	ND	ND	ND
2/03/93	MW1	ND	94**	ND	ND	1.4	1.6
	MW2▲	3,900♦	9,300	780	68	830	1,200
	MW3	ND	ND	ND	ND	ND	ND
	MW4	720♦♦	370	2.6	ND	1.2	53
	MW5	ND	ND	ND	ND	ND	ND
	MW6▲	ND	ND	1.2	ND	ND	ND
	MW8	ND	ND	ND	ND	ND	ND
	MW9	ND	ND	ND	ND	ND	ND
	MW10	ND	1,200*	ND	ND	ND	ND

TABLE 2 (Continued)
 SUMMARY OF LABORATORY ANALYSES
 WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
11/03/92	MW1	400♦	1,100	28	ND	80	78
	MW2▲	9,600♦	40,000	5,600	130	3,000	6,100
	MW3	52♦	ND	ND	ND	ND	ND
	MW4	8,300♦	36,000	69	ND	3,000	7,400
	MW5	ND	ND	ND	ND	ND	ND
	MW6	220♦	920	45	0.76	12	110
	MW8	ND	ND	ND	ND	ND	ND
	MW9	ND	ND	ND	ND	ND	ND
	MW10	160♦	740	11	2.1	32	56
	8/03/92	MW1	220♦	980	22	0.69	77
MW2▲		3,300♦♦	37,000	4,500	480	3,300	9,700
MW3		58	ND	ND	ND	ND	ND
MW4		2,400♦	24,000	61	ND	2,100	5,400
MW5		ND	ND	ND	ND	ND	ND
MW6▲		170♦	1,100	180	1.1	62	78
5/05/92		MW1	120	310	5.7	ND	7.1
	MW2▲	4,600	26,000	2,300	110	2,700	6,900
	MW3	56	ND	ND	ND	0.43	1.8
	MW4	3,200	15,000	82	12	2,000	5,600
	MW5	72	ND	ND	ND	0.42	1.4
	MW6▲	47	ND	ND	ND	ND	1.3
	2/07/92	MW1	ND	220	2.1	ND	10
MW2▲		2,300	11,000	1,400	30	1,900	1,400
MW3		ND	ND	ND	ND	ND	ND
MW4		2,300	8,100	24	4.9	1,800	3,200
MW5		ND	ND	ND	ND	0.36	0.94
MW6▲		ND	180	22	0.68	22	20
11/05/91		MW1	260	4,900	80	ND	150
	MW2▲▲	3,900	110,000	4,200	200	3,400	8,600
	MW3	ND	31	ND	ND	ND	0.65
	MW4	7,700	140,000	320	ND	4,800	13,000
	MW5	ND	ND	ND	ND	ND	ND
	MW6▲	300	7,100	200	ND	190	580
	8/05/91	MW1	200	1,200	95	6.2	230
MW2▲		4,200	33,000	2,900	190	3,400	7,900
MW3		63	ND	ND	ND	ND	ND
MW4		6,200	37,000	310	70	3,600	9,700
MW5		ND	ND	ND	ND	ND	ND
MW6▲		130	860	130	11	92	150

TABLE 2 (Continued)

**SUMMARY OF LABORATORY ANALYSES
 WATER**

<u>Date</u>	<u>Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
2/21/91	MW1	690	26,000	280	39	1,200	1,900
	MW2▲	7,000	3,400	160	61	200	490
	MW3	--	ND	ND	ND	ND	0.64
	MW4	4,100	33,000	210	21	3,800	12,000
	MW5	--	56	ND	ND	ND	4.7
	MW6▲	160	750	77	14	23	140
	MWD	--	740	74	12	33	140
Duplicate (MW6)							
11/26/90	MW1	--	2,900	160	2.3	330	320
	MW2▲	3,800	15,000	1,600	450	1,100	2,100
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	49,000	360	36	3,800	11,000
	MW5	--	ND	ND	ND	ND	ND
	MW6▲	320	4,800	1,000	200	340	650
	MW7	--	4,000	800	120	250	440
Duplicate (MW6)							
8/28/90	MW1	--	1,700	140	1.4	180	150
	MW2▲	3,100	27,000	2,600	1,300	1,900	3,000
	MW3	--	ND	ND	ND	ND	0.70
	MW4	--	62,000	810	72	4,400	4,600
	MW5	--	ND	ND	ND	ND	1.2
	MW6▲▲	1,000	12,000	1,700	1,400	230	2,100
	MW7	--	2,600	180	3.0	810	270
Duplicate (MW1)							
5/11/90	MW1	--	22,000	590	42	1,200	3,600
	MW2	--	65,000	3,300	3,300	4,100	12,000
	MW3	--	ND	ND	ND	ND	ND

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

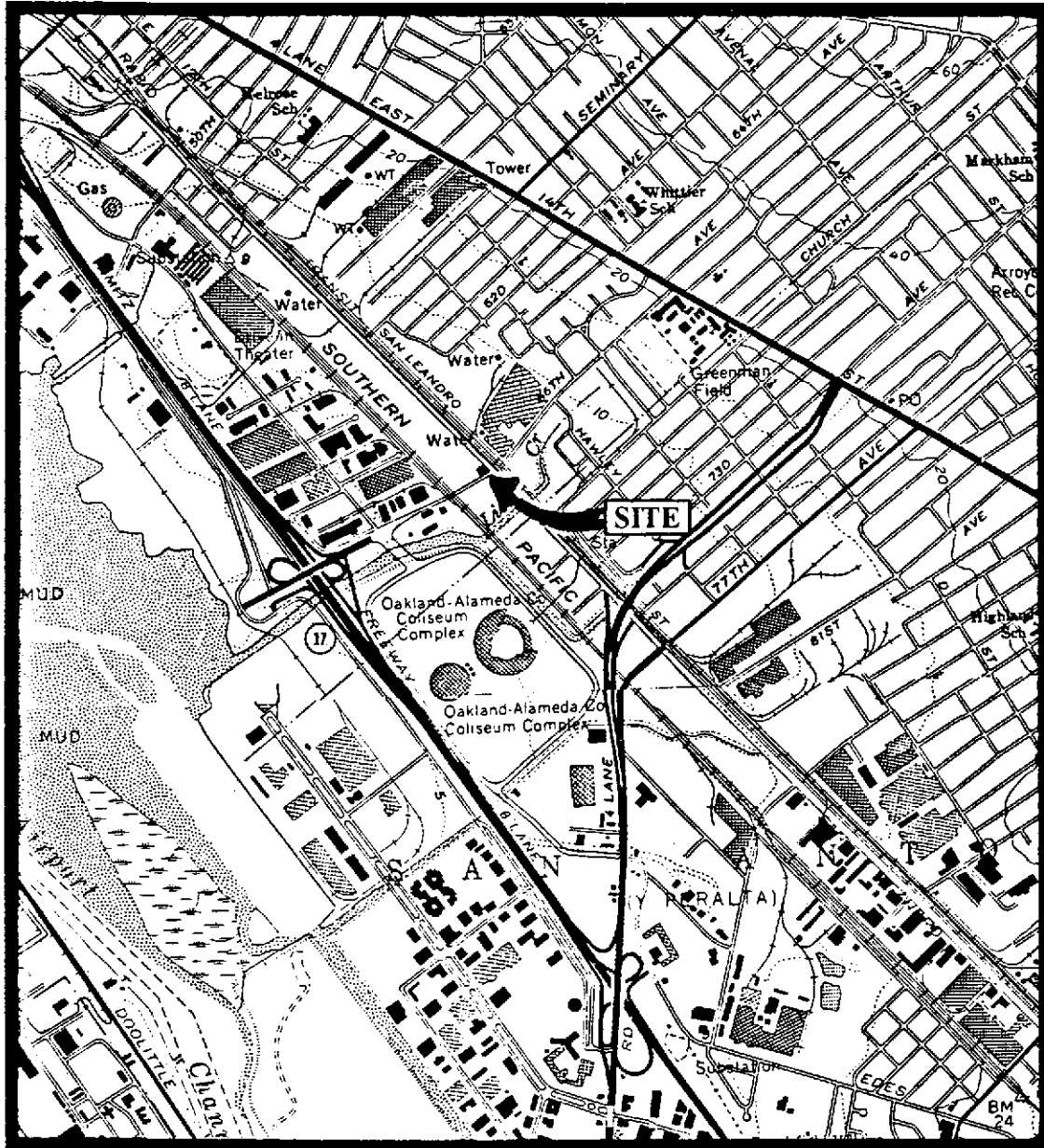
- ★ MTBE was detected in the samples collected during November 1995, at concentrations of 280 µg/L in MW1, 190 µg/L in MW2, 200 µg/L in MW3, 210 µg/L in MW4, 170 µg/L in MW6, and 830 µg/L in MW10.
- * Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.
- ** Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- ◆ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.
- ◆◆ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- ▲ Total Oil and Grease (TOG) was non-detectable.
- ▲▲ TOG was detected at a concentration of 78 µg/L (Nov. 91)
TOG was detected at a concentration of 16 µg/L (Aug. 90)

ND = Non-detectable.

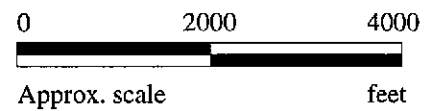
-- Indicates analysis was not performed.

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

Note: Laboratory analyses data prior to February 10, 1994, were provided by Kaprealian Engineering, Inc.



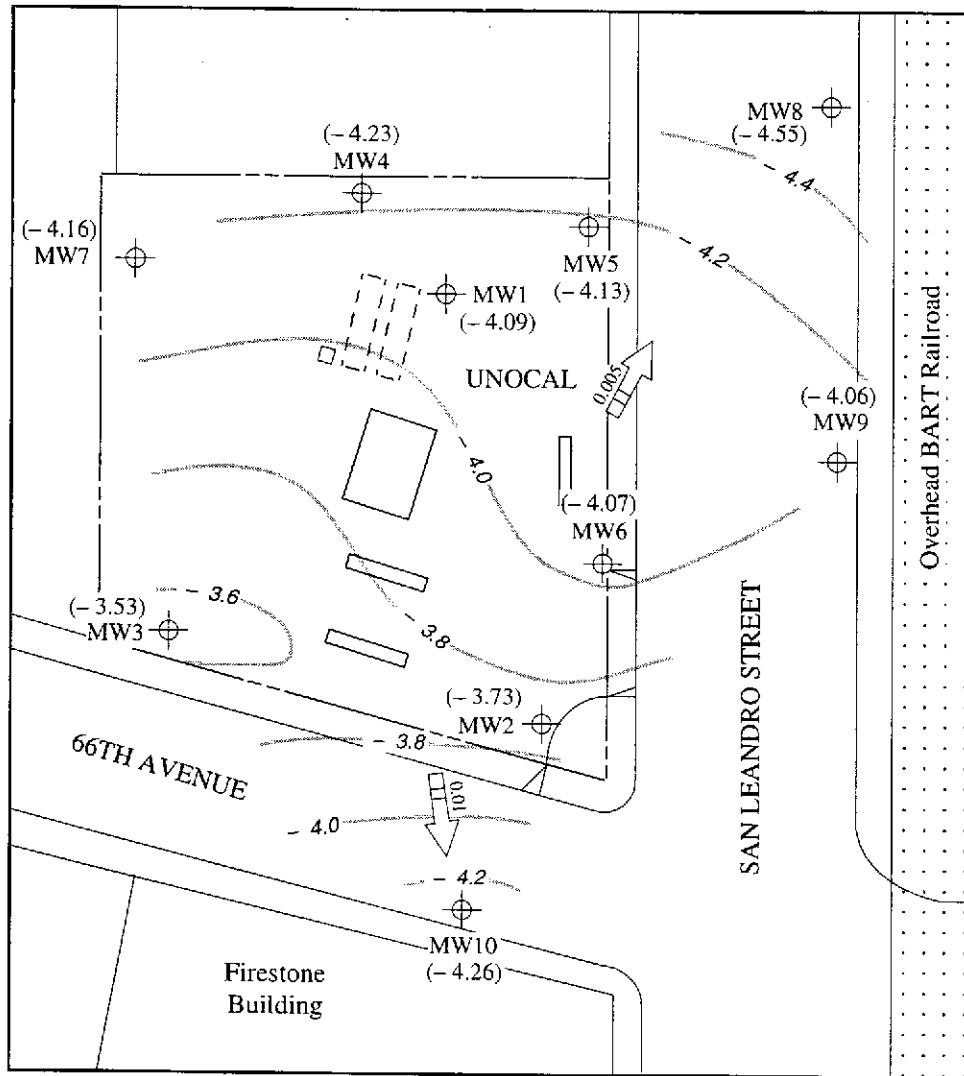
Base modified from 7.5 minute U.S.G.S.
 Oakland East and San Leandro Quadrangles
 (both photorevised 1980)



MPDS SERVICES, INCORPORATED

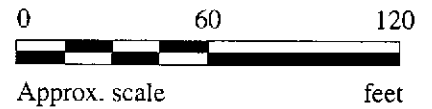
UNOCAL SERVICE STATION #3135
845 - 66TH AVENUE
OAKLAND, CALIFORNIA

LOCATION
MAP



LEGEND

- ⊕ Monitoring well
- () Ground water elevation in feet relative to Mean Sea Level
- ### → Direction of ground water flow with approximate hydraulic gradient
- Contours of ground water elevation

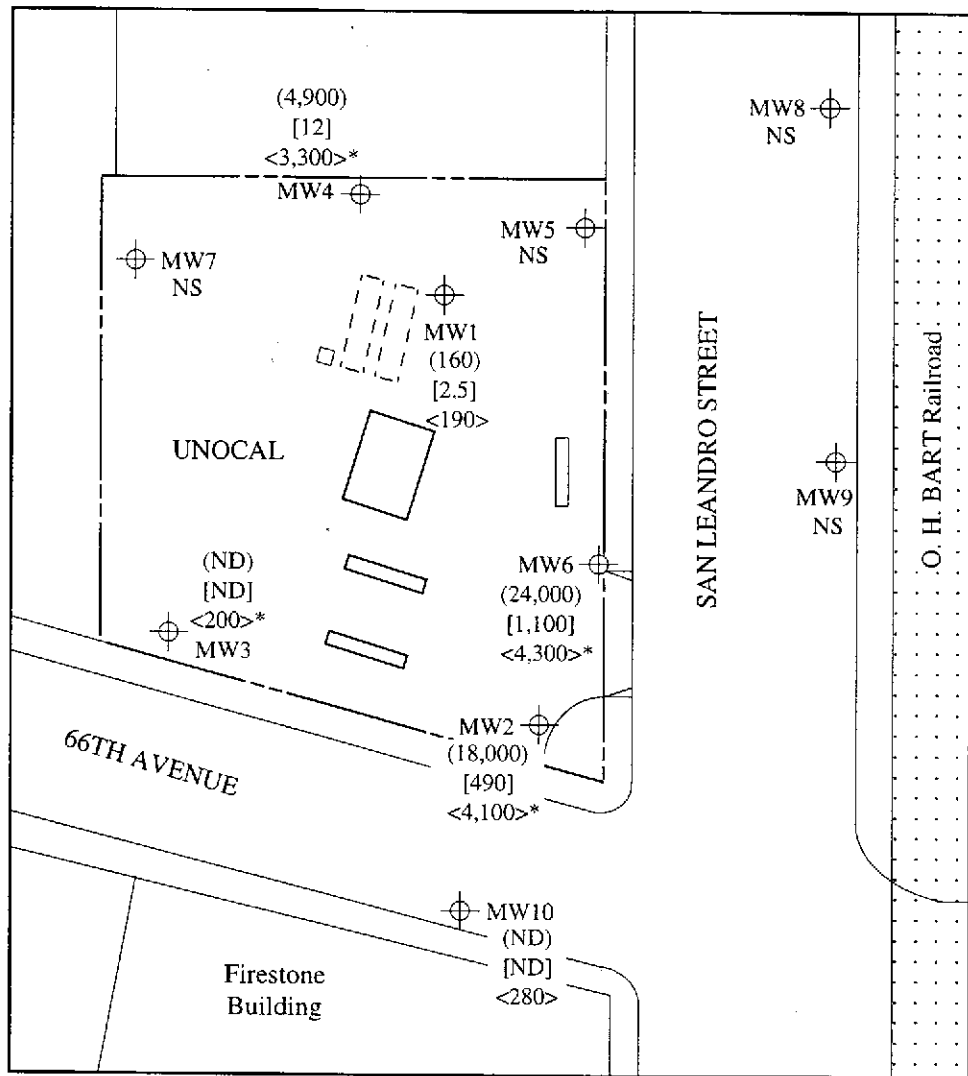


POTENTIOMETRIC SURFACE MAP FOR THE NOVEMBER 1, 1995 MONITORING EVENT



**UNOCAL SERVICE STATION #3135
845 - 66TH AVENUE
OAKLAND, CALIFORNIA**

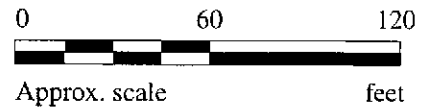
**FIGURE
1**



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, NS Not sampled

* The lab reported that the hydrocarbons detected did not appear to be diesel.



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON NOVEMBER 1, 1995



**UNOCAL SERVICE STATION #3135
845 - 66TH AVENUE
OAKLAND, CALIFORNIA**

**FIGURE
2**



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

Client Project ID: Unocal #3135, 845 66th Ave., Oakland
Matrix Descript: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 511-0165

Sampled: Nov 1, 1995
Received: Nov 1, 1995
Reported: Nov 17, 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	MTBE µg/L
511-0165	MW 1	160	2.5	ND	0.82	0.57	280
511-0166	MW 2	18,000	490	110	1,300	4,600	190
511-0167	MW 3	ND	ND	ND	ND	ND	200
511-0168	MW 4	4,900	12	ND	190	710	210
511-0169	MW 6	24,000	1,100	200	1,900	6,000	170
511-0170	MW 10	ND	ND	ND	ND	ND	830
511-0171	ES 1	ND	ND	ND	ND	ND	--
511-0172	ES 2	ND	ND	0.79	ND	ND	--
511-0173	ES 3	ND	ND	0.72	ND	ND	--

Detection Limits:	50	0.50	0.50	0.50	0.50	0.60
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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: Jarrel Crider

Client Project ID: Unocal #3135, 845 66th Ave., Oakland
Matrix Descript: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 511-0165

Sampled: Nov 1, 1995
Received: Nov 1, 1995
Reported: Nov 17, 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
511-0165	MW 1	Gasoline	1.0	11/14/95	HP-5	76
511-0166	MW 2	Gasoline	50	11/14/95	HP-4	87
511-0167	MW 3	--	1.0	11/14/95	HP-5	88
511-0168	MW 4	Gasoline	20	11/14/95	HP-4	82
511-0169	MW 6	Gasoline	50	11/14/95	HP-5	81
511-0170	MW 10	--	4.0	11/15/95	HP-5	82
511-0171	ES 1	--	1.0	11/14/95	HP-9	91
511-0172	ES 2	--	1.0	11/14/95	HP-9	93
511-0173	ES 3	--	1.0	11/14/95	HP-9	93

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





Sequoia Analytical

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FAX (510) 988-9673
FAX (916) 921-0100

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

Client Project ID: Unocal #3135, 845 66th Ave., Oakland
Sample Matrix: Water
Analysis Method: EPA 3510/8015 Mod.
First Sample #: 511-0165

Sampled: Nov 1, 1995
Received: Nov 1, 1995
Reported: Nov 17, 1995

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 511-0165 MW 1 [^]	Sample I.D. 511-0166 MW 2*	Sample I.D. 511-0167 MW 3*	Sample I.D. 511-0168 MW 4*	Sample I.D. 511-0169 MW 6*	Sample I.D. 511-0170 MW 10*
Extractable Hydrocarbons	50	190	4100	200	3300	4300	280
Chromatogram Pattern:		Diesel & Unidentified Hydrocarbons <C15; >C16	Unidentified Hydrocarbons <C15; >C16	Unidentified Hydrocarbons >C16	Unidentified Hydrocarbons <C15; >C16	Unidentified Hydrocarbons <C15; >C16	Unidentified Hydrocarbons >C16

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	11/6/95	11/6/95	11/6/95	11/6/95	11/6/95	11/6/95
Date Analyzed:	11/7/95	11/7/95	11/7/95	11/7/95	11/7/95	11/7/95
Instrument Identification:	HP-3A	HP-3B	HP-3B	HP-3B	HP-3B	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

Signature on File

Alan B. Kemp
Project Manager

Please Note:

*This sample does not appear to contain diesel. Unidentified hydrocarbons <C15 are probably gasoline; >C16 refers to unidentified peaks in the total oil & grease range.
^This sample appears to contain diesel and non-diesel mixtures. Unidentified hydrocarbons <C15 are probably gasoline; >C16 refers to unidentified peaks in the total oil & grease range.

5110165.MPD <3>





MPDS Services Client Project ID: Unocal #3135, 845 66th Ave., Oakland
 2401 Stanwell Dr., Ste. 300 Matrix: Liquid
 Concord, CA 94520
 Attention: Jarrel Crider QC Sample Group: 5110165-173 Reported: Nov 20, 1995

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#:	5110182	5110182	5110182	5110182
Date Prepared:	11/14/95	11/14/95	11/14/95	11/14/95
Date Analyzed:	11/14/95	11/14/95	11/14/95	11/14/95
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	102
Matrix Spike Duplicate % Recovery:	95	100	100	102
Relative % Difference:	5.1	0.0	0.0	0.0

LCS Batch#:	Benzene	Toluene	Ethyl Benzene	Xylenes
Date Prepared:	11/14/95	11/14/95	11/14/95	11/14/95
Date Analyzed:	11/14/95	11/14/95	11/14/95	11/14/95
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	96	101	102	103

% Recovery Control Limits:	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: Jarrel Crider

Client Project ID: Unocal #3135, 845 66th Ave., Oakland
Matrix: Liquid

QC Sample Group: 5110165-173

Reported: Nov 20, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	5110140	5110140	5110140	5110140
Date Prepared:	11/14/95	11/14/95	11/14/95	11/14/95
Date Analyzed:	11/14/95	11/14/95	11/14/95	11/14/95
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:	90	90	90	97
Matrix Spike Duplicate % Recovery:	95	90	95	95
Relative % Difference:	5.4	0.0	5.4	1.7

LCS Batch#:	3LCS111495	3LCS111495	3LCS111495	3LCS111495
Date Prepared:	11/14/95	11/14/95	11/14/95	11/14/95
Date Analyzed:	11/14/95	11/14/95	11/14/95	11/14/95
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	89	88	90	91

% Recovery Control Limits:	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: Jarrel Crider

Client Project ID: Unocal #3135, 845 66th Ave., Oakland
Matrix: Liquid

QC Sample Group: 5110165-173

Reported: Nov 20, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere

MS/MSD Batch#:	5110178	5110178	5110178	5110178
Date Prepared:	11/14/95	11/14/95	11/14/95	11/14/95
Date Analyzed:	11/14/95	11/14/95	11/14/95	11/14/95
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	100	100	100	112
Matrix Spike Duplicate % Recovery:	90	95	90	105
Relative % Difference:	11	5.1	11	6.2

LCS Batch#:	4LCS111495	4LCS111495	4LCS111495	4LCS111495
Date Prepared:	11/14/95	11/14/95	11/14/95	11/14/95
Date Analyzed:	11/14/95	11/14/95	11/14/95	11/14/95
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	92	96	98	108

% Recovery Control Limits:	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: Jarrel Crider

Client Project ID: Unocal #3135, 845 66th Ave., Oakland
 Matrix: Liquid

QC Sample Group: 5110165-173

Reported: Nov 20, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere	J. Dinsay

MS/MSD Batch#:	5111019	5111019	5111019	5111019	BLK110695
Date Prepared:	11/15/95	11/15/95	11/15/95	11/15/95	11/6/95
Date Analyzed:	11/15/95	11/15/95	11/15/95	11/15/95	11/7/95
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GCHP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	95	95	95	95	87
Matrix Spike Duplicate % Recovery:	95	95	95	95	103
Relative % Difference:	0.0	0.0	0.0	0.0	20

LCS Batch#:	3LCS111595	3LCS111595	3LCS111595	3LCS111595	LCS110695
Date Prepared:	11/15/95	11/15/95	11/15/95	11/15/95	11/6/95
Date Analyzed:	11/15/95	11/15/95	11/15/95	11/15/95	11/7/95
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GCHP-3A
LCS % Recovery:	92	91	90	91	97

% Recovery Control Limits:	71-133	72-128	72-130	71-120	38-122
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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



CHAIN OF CUSTODY

9511044

SAMPLER			UNOCAL					ANALYSES REQUESTED						TURN AROUND TIME:		
RAY MARANGOSIAN			S/S # <u>3135</u> CITY: <u>OAKLAND</u>					TPH-GAS BTEX	TPH- DIESEL	TOG	8010	MTBE				REGULAR
WITNESSING AGENCY			ADDRESS: <u>845 66TH AVE</u>													
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION									
MW1	11.1.95	11:50	X	X		3	Well	X	X			X		5110165	AC	
MW2	"	13:10	X	X		4	"	X	X			X		5110166	↓	
MW3	"	9:20	X	X		4	"	X	X			X		5110167		
MW4	"	11:30	X	X		4	"	X	X			X		5110168		
MW6	"	12:20	X	X		4	"	X	X			X		5110169		
MW10	"	10:15	X	X		4	"	X	X			X		5110170		

RELINQUISHED BY: <i>Ray Marangosian</i>	DATE/TIME 11.1.95 14:45	RECEIVED BY: <i>Tony Medala</i>	DATE/TIME 11.1.95	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES: 1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>YES</u> 2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>YES</u> 3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <u>NO</u> 4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <u>YES</u> SIGNATURE: <i>Tony Medala</i> TITLE: <i>analyst</i> DATE: <i>11/1/95</i>
(SIGNATURE) <i>[Signature]</i>	11/2/95 1000	(SIGNATURE) <i>[Signature]</i>	1230 11-2	
(SIGNATURE) <i>[Signature]</i>	11-2	(SIGNATURE) <i>[Signature]</i>	11/2 1500	
(SIGNATURE)		(SIGNATURE)		
(SIGNATURE)		(SIGNATURE)		

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 HN03. All other containers are unpreserved.

CHAIN OF CUSTODY

9511044

SAMPLER			UNOCAL					ANALYSES REQUESTED								TURN AROUND TIME:		
RAY MARANGOSIAN			S/S # <u>3135</u> CITY: <u>OAKLAND</u>					TPH-GAS	BTEX	TPH-DIESEL	TOG	8010						REMARKS
WITNESSING AGENCY			ADDRESS: <u>845 GGth Ave</u>															
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION											
ES1	11.1.95		X	X		1		X				5110171						
ES2	4		X	X		1		X				5110172						
ES3	4		X	X		1		X				5110173						
RELINQUISHED BY:		DATE/TIME	RECEIVED BY:				DATE/TIME	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:										
Ray Marangosian		11.1.95	Tony McMaher				11/1/95	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <u>YES</u>										
(SIGNATURE)		14:45	(SIGNATURE)				12:30	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <u>YES</u>										
(SIGNATURE)		11/2/95	(SIGNATURE)				11-2	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <u>NO</u>										
(SIGNATURE)		1000	(SIGNATURE)				11/2	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <u>YES</u>										
(SIGNATURE)		15-2	(SIGNATURE)				1500	SIGNATURE: <u>Tony McMaher</u> TITLE: <u>Analyst</u> DATE: <u>11-1-95</u>										
(SIGNATURE)			(SIGNATURE)															

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 unpreserved.