

MONITORING
PURGING
DISPOSING
SAMPLING

MPDS

SERVICES, INCORPORATED

ST 10 3693
ENVIRONMENTAL
PROTECTION
SECTION 16 PM 1-19
BC

ENCLOS

November 14, 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

Dear Ms. Chapman:

Per the request of the Unocal Corporation Project Manager, Ms. Tina R. Berry, enclosed please find our report (MPDS-UN3135-07) dated August 18, 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

Revised

MPDS-UN3135-07
August 18, 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 August 1, 1995. Prior to sampling, the wells were each purged of between 10 and 13 gallons of water. Samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. MPDS Services, Inc. transported the purged ground water to the Unocal Refinery located in Rodeo, California, for treatment and discharge to San Pablo Bay under NPDES permit.

ANALYTICAL RESULTS

The ground water samples were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The analytical results of the ground water samples collected to date are summarized in 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

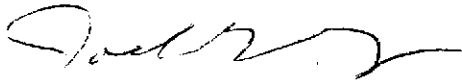
A copy of this report should be sent to Ms. Cynthia Chapman of the Alameda County Health Care Services Agency.

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.

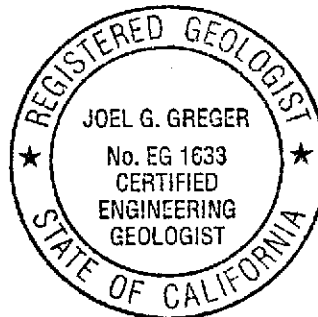

Sarkis Karkarian
Staff Engineer



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

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

/jfc



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 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

(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

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>
(Monitored and Sampled on November 7, 1994)						
MW1	-3.27	8.26	22.74	0	No	10
MW2	-2.47	6.04	22.44	0	No	11.5
MW3	-2.93	6.05	21.64	0	No	11
MW4	-3.71	8.64	25.24	0	No	11.5
MW5*	-3.29	7.56	26.05	0	--	0
MW6	-2.75	6.78	25.81	0	No	13
MW7*	-3.44	7.86	19.75	0	--	0
MW8*	-2.13	6.56	23.12	0	--	0
MW9*	-1.84	6.44	23.14	0	--	0
MW10	-3.39	6.08	23.14	0	No	12

<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**

<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>
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
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

TABLE 2 (Continued)

**SUMMARY OF LABORATORY ANALYSES
 WATER**

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
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
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

TABLE 2 (Continued)

**SUMMARY OF LABORATORY ANALYSES
 WATER**

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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
	11/03/92	MW1	400◆	1,100	28	ND	80
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

TABLE 2 (Continued)

**SUMMARY OF LABORATORY ANALYSES
 WATER**

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
8/03/92	MW1	220♦	980	22	0.69	77	82
	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	15
	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	16
	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	160
	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	80
	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
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)

TABLE 2 (Continued)

**SUMMARY OF LABORATORY ANALYSES
 WATER**

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
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

* 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.

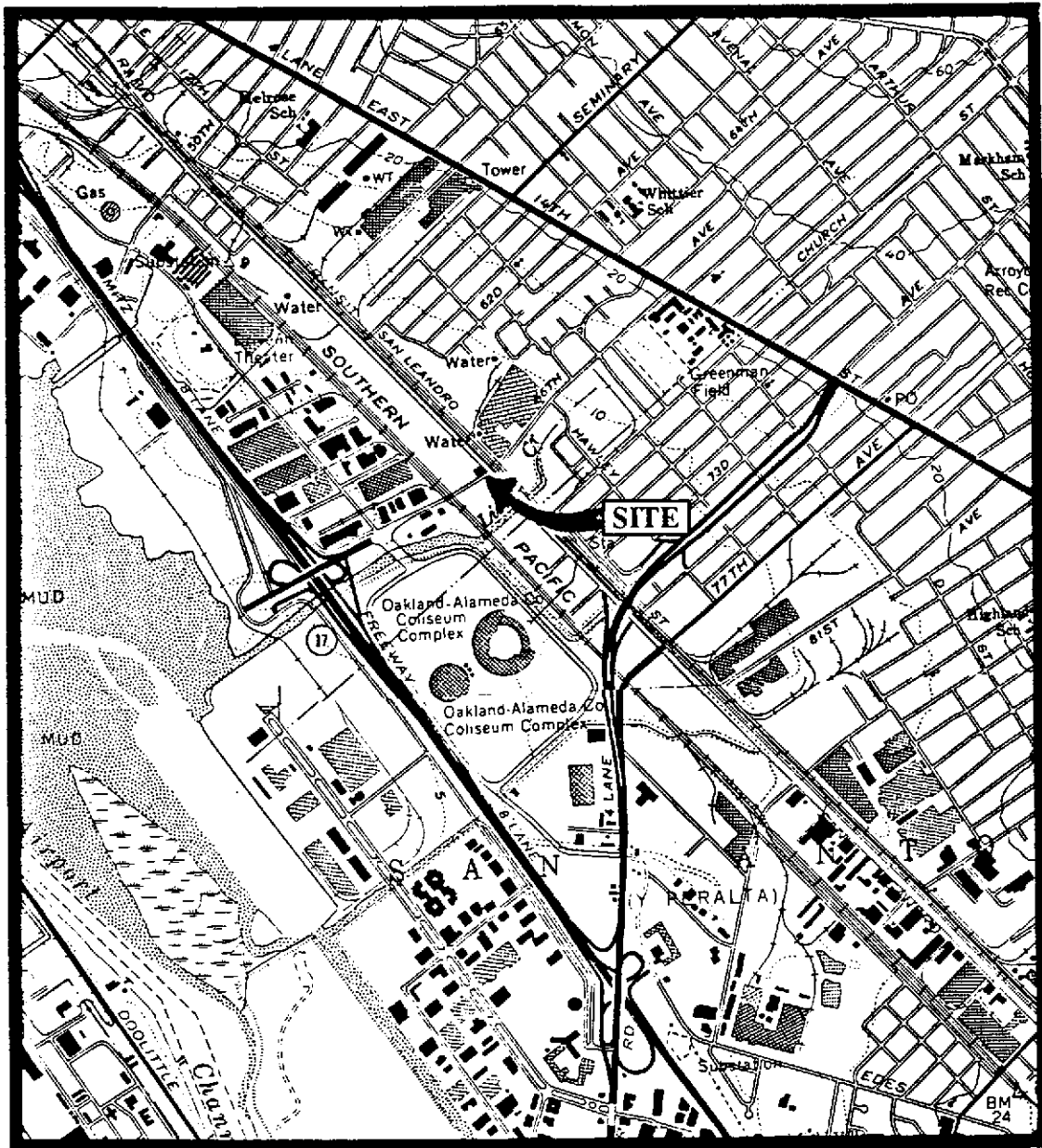
▲▲ TOG was detected at a concentration of 78 µg/L (Nov. 91)
 TOG was detected at a concentration of 16 µg/L (Aug. 90)

ND = Non-detectable.

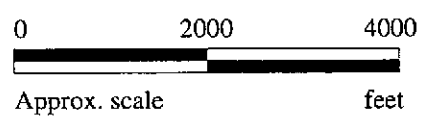
-- Indicates analysis was not performed.

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

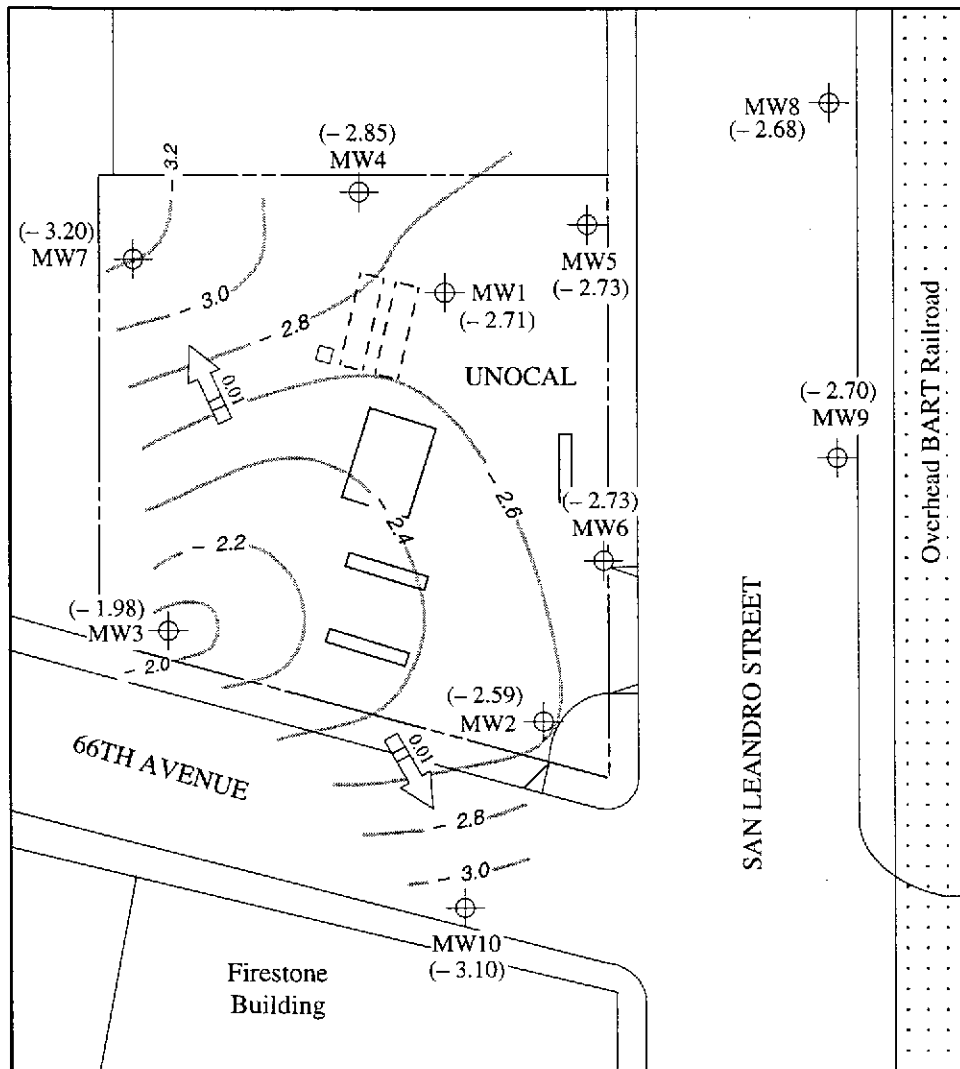
Note: Laboratory analyses data prior to February 10, 1994, were provided by Kaprealian Engineering, Inc.



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

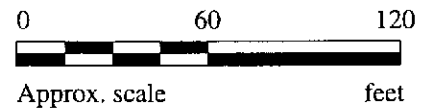


	UNOCAL SERVICE STATION #3135 845 - 66TH AVENUE OAKLAND, CALIFORNIA	LOCATION MAP
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LEGEND

- ⊕ 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

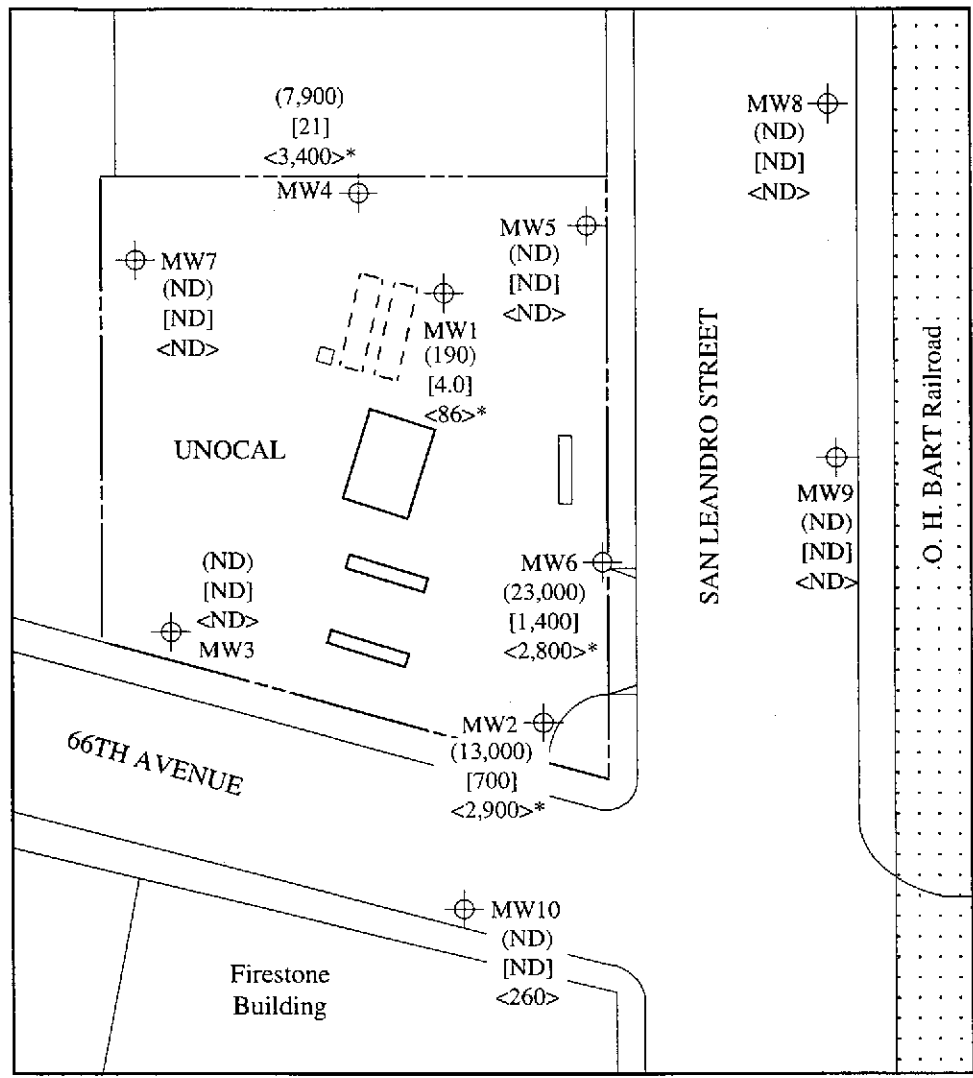
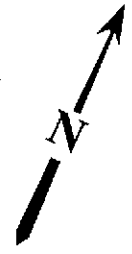


POTENTIOMETRIC SURFACE MAP FOR THE AUGUST 1, 1995 MONITORING EVENT

mpds SERVICES, INCORPORATED

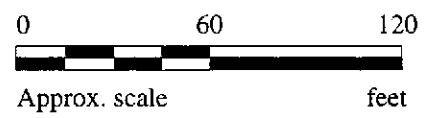
**UNOCAL SERVICE STATION #3135
845 - 66TH AVENUE
OAKLAND, CALIFORNIA**

**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



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

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON AUGUST 1, 1995



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

**FIGURE
2**



MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #3135, 845 - 66th Ave., Oakland Matrix Descript: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 508-0109	Sampled: Aug 1, 1995 Received: Aug 1, 1995 Reported: Aug 15, 1995
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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
508-0109	MW-1	190	4.0	ND	3.7	2.4
508-0110	MW-2	13,000	700	140	1,400	5,500
508-0111	MW-3	ND	ND	ND	ND	ND
508-0112	MW-4	7,900	21	ND	210	860
508-0113	MW-5	ND	ND	ND	ND	ND
508-0114	MW-6	23,000	1,400	510	940	7,300
508-0115	MW-7	ND	ND	ND	ND	ND
508-0116	MW-8	ND	ND	ND	ND	ND
508-0117	MW-9	ND	ND	ND	ND	ND
508-0118	MW-10	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 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Sarkis Karkarian	Client Project ID: Unocal #3135, 845 - 66th Ave., Oakland Matrix Descript: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 508-0109	Sampled: Aug 1, 1995 Received: Aug 1, 1995 Reported: Aug 15, 1995
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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
508-0109	MW-1	Gasoline	2.0	8/10/95	HP-2	111
508-0110	MW-2	Gasoline	100	8/10/95	HP-2	113
508-0111	MW-3	--	1.0	8/10/95	HP-9	104
508-0112	MW-4	Gasoline	20	8/10/95	HP-2	125
508-0113	MW-5	--	1.0	8/10/95	HP-9	109
508-0114	MW-6	Gasoline	200	8/10/95	HP-2	102
508-0115	MW-7	--	1.0	8/10/95	HP-2	103
508-0116	MW-8	--	1.0	8/10/95	HP-5	94
508-0117	MW-9	--	1.0	8/10/95	HP-5	89
508-0118	MW-10	--	2.0	8/10/95	HP-5	96

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 #3135, 845 - 66th Ave., Oakland
Sample Matrix: Water
Analysis Method: EPA 3510/8015 Mod.
First Sample #: 508-0109

Sampled: Aug 1, 1995
Received: Aug 1, 1995
Reported: Aug 15, 1995

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 508-0109 MW-1*	Sample I.D. 508-0110 MW-2*	Sample I.D. 508-0111 MW-3	Sample I.D. 508-0112 MW-4*	Sample I.D. 508-0113 MW-5	Sample I.D. 508-0114 MW-6*
Extractable Hydrocarbons	50	86	2900	N.D.	3400	N.D.	2800
Chromatogram Pattern:		Unidentified Hydrocarbons <C15	Unidentified Hydrocarbons <C15	--	Unidentified Hydrocarbons <C15	--	Unidentified Hydrocarbons <C15

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	8/7/95	8/7/95	8/7/95	8/7/95	8/7/95	8/7/95
Date Analyzed:	8/7/95	8/7/95	8/7/95	8/7/95	8/7/95	8/7/95
Instrument Identification:	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A

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

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Project Manager

Please Note:

* This sample does not appear to contain diesel. "Unidentified Hydrocarbons <C15" are probably gasoline.





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

Client Project ID: Unocal #3135, 845 - 66th Ave., Oakland
Sample Matrix: Water
Analysis Method: EPA 3510/8015 Mod.
First Sample #: 508-0115

Sampled: Aug 1, 1995
Received: Aug 1, 1995
Reported: Aug 15, 1995

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 508-0115 MW-7	Sample I.D. 508-0116 MW-8	Sample I.D. 508-0117 MW-9	Sample I.D. 508-0118 MW-10
Extractable Hydrocarbons	50	N.D.	N.D.	N.D.	260
Chromatogram Pattern:		--	--	--	Diesel

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Extracted:	8/7/95	8/7/95	8/7/95	8/7/95
Date Analyzed:	8/7/95	8/7/95	8/7/95	8/7/95
Instrument Identification:	HP-3A	HP-3A	HP-3A	HP-3A

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





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

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

QC Sample Group: 5080109-18

Reported: Aug 15, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
QC Batch#:	GC081095 802002A	GC081095 802002A	GC081095 802002A	GC081095 802002A	SP080795 8015EXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Prep. Method:	-	-	-	-	EPA 3510
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill	J. Dinsay
MS/MSD #:	5080271	5080271	5080271	5080271	BLK080795
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/10/95	8/10/95	8/10/95	8/10/95	8/7/95
Analyzed Date:	8/10/95	8/10/95	8/10/95	8/10/95	8/7/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GCHP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Result:	19	21	24	72	200
MS % Recovery:	95	105	120	120	67
Dup. Result:	20	22	24	73	200
MSD % Recov.:	100	110	120	122	67
RPD:	5.1	4.7	0.0	1.4	0.0
RPD Limit:	0-20	0-20	0-20	0-20	0-20

LCS #:	1LCS081095	1LCS081095	1LCS081095	1LCS081095	BLK080795
Prepared Date:	8/10/95	8/10/95	8/10/95	8/10/95	8/7/95
Analyzed Date:	8/10/95	8/10/95	8/10/95	8/10/95	8/7/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GCHP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
LCS Result:	18	20	21	65	200
LCS % Recov.:	89	98	107	108	67

MS/MSD LCS 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.
** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

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 #3135, 845 - 66th Ave., Oakland
Matrix: Liquid

QC Sample Group: 5080109-18

Reported: Aug 15, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081095 802009A	GC081095 802009A	GC081095 802009A	GC081095 802009A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	-	-	-	-
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD #:	5080113	5080113	5080113	5080113
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/10/95	8/10/95	8/10/95	8/10/95
Analyzed Date:	8/10/95	8/10/95	8/10/95	8/10/95
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
Result:	20	23	25	80
MS % Recovery:	100	115	125	133
Dup. Result:	20	23	25	80
MSD % Recov.:	100	115	125	133
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	4LCS081095	4LCS081095	4LCS081095	4LCS081095
Prepared Date:	8/10/95	8/10/95	8/10/95	8/10/95
Analyzed Date:	8/10/95	8/10/95	8/10/95	8/10/95
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
LCS Result:	17	19	20	66
LCS % Recov.:	84	96	102	111

MS/MSD LCS 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.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

SEQUOIA ANALYTICAL, #1271

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Alan B. Kemp
Project Manager





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

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

QC Sample Group: 5080109-18

Reported: Aug 15, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081095 802005B	GC081095 802005B	GC081095 802005B	GC081095 802005B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	-	-	-	-
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD #:	5080432	5080432	5080432	5080432
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/10/95	8/10/95	8/10/95	8/10/95
Analyzed Date:	8/10/95	8/10/95	8/10/95	8/10/95
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
Result:	16	18	19	60
MS % Recovery:	80	90	95	100
Dup. Result:	16	18	19	60
MSD % Recov.:	80	90	95	100
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	3LCS081095	3LCS081095	3LCS081095	3LCS081095
Prepared Date:	8/10/95	8/10/95	8/10/95	8/10/95
Analyzed Date:	8/10/95	8/10/95	8/10/95	8/10/95
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
LCS Result:	16	19	20	62
LCS % Recov.:	82	93	99	103

MS/MSD LCS 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.

** MS= Matrix Spike, MSD= MS Duplicate, RPD=Relative % Difference

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