

March 18, 1996

Mr. Scott Seery Alameda County Health Care Services 1131 Harbor Bay Parkway Alameda, California 94501

RE: Unocal Service Station #3292 15008 E. 14th Street San Leandro, California

Dear Mr. Seery:

Per the request of the Unocal Corporation Project Manager, Mr. Edward C. Ralston, enclosed please find our most recent data report 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) 277-2311.

Sincerely,

MPDS Services, Inc.

Jarrel F. Crider

/jfc

Enclosure

cc: Mr. Edward C. Ralston



MPDS-UN3292-10 March 11, 1996

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

Attention: Mr. Edward C. Ralston

RE: Quarterly Data Report

Unocal Service Station #3292

15008 E. 14th Street San Leandro, California

Dear Mr. Ralston:

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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 Unocal monitoring wells that were monitored and sampled during this quarter are indicated in Table 1. Prior to sampling, the Unocal wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations for the Unocal wells are summarized in Table 1.

A joint monitoring event was conducted with the consultant for the nearby former Mobil site on February 8, 1996. The monitoring data collected from the monitoring wells at the former Mobil site (provided by Alton GeoScience) are summarized in Table 5. The ground water flow direction in the vicinity of Unocal and Mobil sites during the most recent quarter is shown on the attached Figure 1.

Ground water samples were collected from the Unocal wells on February 8, 1996. Unocal monitoring wells MW8 and MW11 were resampled on February 14, 1996. In addition, dissolved oxygen concentrations were also measured and are presented in Table 4. Prior to sampling, the Unocal wells were each purged of between 7 and 10.5 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 and Field blank samples (denoted as ES1 and ES2, 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 collected from the Unocal wells were analyzed at Sequoia Analytical Laboratory and were accompanied by properly

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executed Chain of Custody documentation. The analytical results of the ground water samples collected to date from the Unocal wells 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 from the Unocal wells this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation for the Unocal wells 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.

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

JOEL G. GREGER No. EG 1633 CERTIFIED ENGINEERING

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 through 5

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

	£ 000000000000000000000000000000000000	0.44.00. <u>42.</u> 00.000000000000000000000000000000000	00 <u>000</u> 000000000		000000000000000000000000000000000000000	
G	round Water Elevation	Depth to Water	Total Well Depth	Product Thickness		Water Purged
Well #	(feet)	water (feet)◆	(feet)◆	(feet)	Sheen	(gallons)
***************************************		3000 30 30 30 30 30 30 30 30 30 30 30 30	St.,	State of the state	· · · · · · · · · · · · · · · · · · ·	
	(Moni	tored and San	mpled on Feb	ruary 14, 1	.996)	
MW8★★	27.65	9.24	19.10	0	No	7
MW11★★	27.32	8.18	19.02	0	No	7.5
	(Moni	itored and Sa	mpled on Feb	ruary 8, 1	996)	
MW1	28.63	7.74	18.98	0	No	8
MW2	28.82	7.52	19.12	0	No	8
MW3	29.01	7.41	22.16	0	No	10.5
MW4	28.89	8.15	19.65	0	No	8
MW5	28.58	7.36	22.16	0	No	10.5
MW6	29.01	6.66	20.16	0	No	9.5
MW7	28.96	7.13	21.23	0	No	10
MW8★★	27.91	8.98	19.10	0	No	7
MW9	28.14	8.15	19.11	0	No	7.5
MW10	27.99	8.05	19.91	0	No	8.5
MW11★★	27.74	7.76	19.05	0	No	8
	(Moni	tored and Sam	mpled on Nov	ember 20, 1	.995)	
MW1★	25.18	11.19	19.00	0	No	6
	(Moni	itored and Sa	moled on Nov	ember 2. 1	995)	
			_			
MW1★	25.26	11.11	18.98	0	No	5.5
MW2	25.39	10.95	19.11	0	No	6
MW3	25.42	11.00	22.16	0	No	8
MW4	25.37	11.67	19.65	0	No	5.5
MW5	25.24	10.70	22.18	0	No	8
MW6	25.47	10.20	20.15	0	No	7
MW7	25.54	10.55	21.30	0	No No	7.5
MW8	25.09	11.80	19.10	0	No No	5 5 5
MW9	25.13	11.16	19.12 19.90	0 0	No No	5.5 6.5
MW10	25.01 24.65	11.03		0	No No	6
MW11	24.65	10.85	19.01	U ,	140	Ö

TABLE 1 (Continued)

## SUMMARY OF MONITORING DATA

	Ground Water	Depth to	Total Well	Product		Water
	Elevation	Water	Depth	Thickness		Purged
Well #	<u>(feet)</u>	<u>(feet)◆</u>	<u>(feet)♦</u>	(feet)	<u>Sheen</u>	<u>(qallons)</u>
***************************************	(Mon	itored and S	ampled on A	ugust 2, 199	5)	
MW1	26.37	10.00	18.95	0	No	7
MW2	26.98	9.36	19.10	0	No	7
МWЗ	26.93	9.49	22.15	0	No	9
MW4	26.86	10.18	19.64	0	No	7
MW5	26.71	9.23	22.13	0	No	9
MW6	26.99	8.68	20.15	0	No	8
MW7	27.07	9.02	21.21	0	No	8.5
MW8	26.49	10.40	19.09	0	No	6
MW9	26.54	9.75	19.10	0	No	7
MW10	26.49	9.55	19.88	0	No	7.5
MW11	26.19	9.31	19.00	0	No	7
	(Mc	nitored and	Sampled on	May 10, 1995	)	
MW1	27.86	8.51	18.96	0	No	7.5
MW2	27.96	8.38	19.10	0	No	7.5
MW3	28.04	8.38	22.13	0	No	10
MW4	27.07	9.97	19.62	. 0	No	7
MW5	27.74	8.20	22.13	0	No	10
MW6	28.14	7.53	20.13	0	No	9
MW7	28.21	7.88	21.20	0	No	9.5
MW8	27.54	9.35	19.08	0	No	7
MW9	27.59	8.70	19.08	0	No	7.5
MW10	27.34	8.70	19.88	0	No	8
MW11	27.14	8.36	19.00	0	No	7.5

#### TABLE 1 (Continued)

#### SUMMARY OF MONITORING DATA

Well #	Well Casing Elevation _(feet)*
MW1	36.37
MW2	36.34
MW3	36.42
MW4	37.04
MW5	35.94
MW6	35.67
MW7	36.09
8WM	36.89
MW9	36.29
MW10	36.04
MW11	35.50

- The depth to water level and total well depth measurements were taken from the top of the well casings.
- \* Monitoring well MW1 was resampled on November 20, 1995. The vial containing the ground water sample collected from this well on November 2, 1995, was inadvertently broken by the laboratory.
- \*\* Monitoring wells MW8 and MW11 were resampled on February 14, 1996. The vials containing the ground water samples collected from these wells on February 8, 1996, were inadvertently broken by the laboratory.
- \* The elevations of the top of the well casings are relative to Mean Sea Level (MSL), per a Benchmark located at the northwest corner of East 14th Street and 150th Avenue (elevation = 36.88 feet MSL).

TABLE 2
SUMMARY OF LABORATORY ANALYSES
WATER

_				,		<u> </u>
Well #	<u>Date</u>	TPH as <u>Gasoline</u>	Benzene	Toluene	Ethyl-	Xylenes
METT #	pace	Gasorrie	<u> Delizelle</u>	TOTUGHE	<u>benzene</u>	VATERIER
MW1	5/04/91	31,000	74	20	920	1,500
	9/19/91	26,000	130	16	1,300	1,800
	12/18/91	17,000	160	20	1,400	1,600
	3/17/92	23,000	320	19	1,000	940
	5/19/92	29,000	650	370	1,100	1,200
	8/20/92	18,000	230	22	640	950
	11/10/92	18,000	220	ND	690	830
	2/20/93	19,000	190	ND	880	620
	5/21/93	27,000	150	200	1,200	950
	8/23/93	24,000	160	110	840	810
	11/23/93	18,000	210	63	900	620
	2/24/94	18,000	74	30	940	480
	5/25/94▲	6,400	72	ND	170	67
	8/23/94	24,000	130	57	970	320
	11/23/94	23,000	180	44	970	270
	2/03/95	20,000	77	17	950	390
	5/10/95	16,000	230	27	880	630
	8/02/95	18,000	190	ND	860	590
	11/20/95▼	20,000	180	ND	960	450
	2/08/96	15,000	43	16	940	410
MW2	5/04/91	19,000	6.6	1.4	460	630
	9/19/91	19,000	100	6.8	790	310
	12/18/91	10,000	110	5.1	420	96
	3/17/92	16,000	110	ND	730	220
	5/19/92	17,000	140	87	680	170
	8/20/92	13,000	52	ND	660	70
	11/10/92	11,000	36	7.2	570	45
	2/20/93	1,500	2.9	3.8	9.1	ND
	5/21/93	9,500	37	ND	470	62
	8/23/93	15,000	110	ND	590	64
	11/23/93	11,000	80	10	480	20
	2/24/94♦	11,000	44	ND	580	32
	5/25/94	11,000	50	ND	400	22
	8/23/94	12,000	45	10	360	20
	11/23/94	15,000	61	24	440	ND
	2/03/95	9,700	5.7	ND	250	10
	5/10/95	7,500	56 	4.7	310	33
	8/02/95	8,200	53	22	220	25
	11/02/95	5,000	56	4.5	170	7.7
	2/08/96	7,200	ND	ND	170	ND

TABLE 2 (Continued)

***********************	N					•
Well:	<u> Date</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	Toluene	Ethyl-	٧٠٠١ ـــ -
MCTT	r <u>vare</u>	Gasortile	<u> </u>	Tornene	<u>benzene</u>	Xylenes
MW3	5/04/91	9,100	2.0	ND	55	180
	9/19/91	7,600	ND	13	190	170
	12/18/91	5,900	54	6.4	110	64
	3/17/92	5,800	66	7.5	100	58
	5/19/92	3,400	25	3.6	66	41
	8/20/92	4,500	58	ND	65	35
	11/10/92	3,400	37	ND	85	34
	2/20/93	1,600	12	18	8.9	12
	5/21/93	2,600	42	ND	43	15
	8/23/93	2,900	25	ND	50	18
	11/23/93	2,300	34	ND	24	5.6
	2/24/94	3,400	46	ND	53	11
	5/25/94	1,400	20	ND	ND	ND
	8/23/94	2,900	37	49	14	2.9
	11/23/94	3,200	48	ND	22	ND
	2/03/95	780	13	ND	2.1	ND
	5/10/95	1,300	ND	ND	ND	ND
	8/02/95	1,500	6.3	ND	16	2.1
	11/02/95	1,100	5.2	2.1	7.4	0.50
	2/08/96	450	ND	ND	ND	ND
MW4	5/04/91	6,300	ND	ND	2.8	61
	9/19/91	1,800	0.83	ND	54	46
	12/18/91	2,500	28	2.5	54	22
	3/17/92	1,800	3.7	1.4	90	21
	5/19/92	2,000	20	3.5	42	8.3
	8/20/92	1,000	15	$\mathbf{N}$ D	11	3.0
	11/10/92	690	9.1	ND	16	2.8
	2/20/93	2,400	40	2.1	33	ND
	5/21/93	1,900	31	ND	20	4.5
	8/23/93	1,200	5.0	ND	16	ND
	11/23/93	720	10	ND	8.7	ND
	2/24/94	1,300	8.9	ND	20	ND
	5/25/94	1,700	22	ND	4.5	ND
	8/23/94	690	9.2	1.3	7.1	1.9
	11/23/94	420	5.0	1.1	4.2	1.2
	2/03/95	620	6.4	ND	9.3	ND
	5/10/95	280	2.8	ND	2.7	2.4
	8/02/95	290	3.6	ND	2.8	ND
	11/02/95 2/08/96	42,000	390	210	2,800	6,300
	2/00/30	130	2.1	ND	1.5	0.69

TABLE 2 (Continued)

Well #	<u>Date</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Ethyl- <u>benzene</u>	Xylenes
MW5	5/04/91	69,000	1,400	2,500	3,500	15,000
	9/19/91	57,000	1,600	2,700	5,200	20,000
	12/18/91	31,000	1,600	3,100	4,800	19,000
	3/17/92	81,000	850	1,600	4,800	18,000
	5/19/92	84,000	760	1,500	4,000	17,000
	8/20/92	58,000	660	1,700	4,200	19,000
	11/10/92	57,000	800	1,800	4,400	18,000
	2/20/93	17,000	75	ND	1,000	620
	5/21/93	55,000	ND	160	3,500	12,000
	8/23/93	61,000	340	380	3,600	14,000
	11/23/93	46,000	290	310	4,100	15,000
	2/24/94	57,000	140	400	4,400	16,000
	5/25/94	53,000	ND	ND	4,000	14,000
	8/23/94	61,000	360	380	4,800	17,000
	11/23/94	46,000	230	260	3,900	14,000
	2/03/95	56,000	140	330	3,500	13,000
	5/10/95	27,000	160	170	2,200	5,200
	8/02/95	65,000	260	300	3,500	12,000
	11/02/95	240	0.76	ND	1.1	ND
	2/08/96	54,000	<b>210</b>	150	3,400	12,000
MW6	5/19/92	1,300	2.0	2.1	ND	2.7
	8/20/92	280	8.4	ND	0.51	0.84
	11/10/92	490	7.0	1.2	1.7	ND
	2/20/93	2,400	43	ND	33	2.0
	5/21/93	940	18	1.0	7.1	2.7
	8/23/93	1,000	9.4	2.3	5.0	2.3
	11/23/93	520	ND	1.7	1.9	0.82
	2/24/94♦	810	12	$\mathbf{N}$ D	2.6	0.77
	5/25/94	500	11	ND	ND	0.73
	8/23/94	570	8.8	2.5	3.2	2.6
	11/23/94	460	6.4	1.1	1.9	1.1
	2/03/95	660	4.8	13	1.4	ND
	5/10/95	470	ND	0.65	1.4	0.67
	8/02/95	360	3.2	ND	1.6	ND
	11/02/95	470	ND	0.92	0.89	0.58
	2/08/96	450	4,1	ND	1.1	0.68

TABLE 2 (Continued)

		TPH as	<b>.</b>	m-1	Ethyl-	V-1
Well #	<u>Date</u>	<u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>benzene</u>	<u>Xylenes</u>
MW7	5/19/92	17,000	540	90	1,200	1,900
	8/20/92	13,000	460	54	ND	3,100
	11/10/92	1,800	74	ND	230	350
	2/20/93	1,800	37	4.6	11	7.7
	5/21/93	22,000	330	37	2,100	2,900
	8/23/93	33,000	360	$\mathbf{N} D$	2,500	4,300
	11/23/93	19,000	310	30	2,500	2,300
	2/24/94	16,000	220	19	2,400	3,200
	5/25/94	14,000	200	ND	1,500	1,800
	8/23/94	19,000	210	50	2,000	2,800
	11/23/94	10,000	220	ND	1,000	730
	2/03/95	26,000	170	ND	2,300	3,700
	5/10/95	1,300	13	1.5	170	230
	8/02/95	15,000	200	ND	2,200	2,000
	11/02/95	18,000	190	9.4	2,100	2,200
	2/08/96	19,000	150	ND	2,100	3,000
8WM	5/19/92	5,300	28	3.3	2.6	2.1
	8/20/92	3,500*	67	11	ND	ND
	11/10/92	1,800	20	ND	ND	ND
	2/20/93	2,200	32	ND.	42	5.0
	5/21/93	2,500	44	ND	ND	ND
	8/23/93	280*	49	4.5	ND	$\mathtt{ND}$
	11/23/93	1,800	ND	3.4	ND	ND
	2/24/94	1,200	10	2.3	ND	3.2
	5/25/94	14,000	29	ND	$\mathbf{N}$ D	ND
	8/23/94	3,200	46	18	2.0	7.2
	11/23/94	1,700	34	ND	ND	3.1
	2/03/95	800	6.1	ND	ND	ND
	5/10/95	1,400	15	1.5	0.65	0.84
	8/02/95	690	8.3	1.9	ND	ND
	11/02/95	1,200	<b>N</b> D	1.9	0.56	ND
	2/14/96▼▼	650	9.0	1.2	ND	0.52

TABLE 2 (Continued)

** 2.1 0	B-4-	TPH as	D	Tolu <u>ene</u>	Ethyl- <u>benzene</u>	Xylenes
Well #	<u>Date</u>	<u>Gasoline</u>	<u>Benzene</u>	<u> 1010ene</u>	<u>penzene</u>	VATCHER
MW9	5/19/92	8,100	11	ND	25	5.8
	8/20/92	3,800*	37	ND	ND	$n_{ m D}$
	11/10/92	4,200	ND	ND	21	23
	2/20/93	2,300	47	ND	32	ND
	5/21/93	3,200	32	ND	8.1	ND
	8/23/93	3,000	29	ND	ND	ND
	11/23/93	2,500	23	2.1	ND	ND
	2/24/94	2,900	35	ND	ND	$\mathbf{N}$ D
	5/25/94	ND	ND	ND	ND	ND
	8/23/94	2,800	28	32	ND	ND
	11/23/94	2,000	24	2.2	2.2	2.5
	2/03/95	2,100	26	2.5	ND	ND
	5/10/95	1,700	0.81	2.2	1.0	1.4
	8/02/95	1,900	26	6.6	ND	3.9
	11/02/95	1,600	ND	1.3	ND	ND
	2/08/96	1,900	ND	ND	ND	ND
MW10	8/20/92	15,000	230	ND	1,000	350
	11/10/92	15,000	300	42	3,500	330
	2/20/93	17,000	74	ND	1,000	620
	5/21/93	23,000	250	ND	3,000	240
	8/23/93	20,000	230	13	3,200	140
	11/23/93	18,000	300	10	2,800	110
	2/24/94	15,000	330	19	2,000	83
	5/25/94	14,000	240	ND	230	62
	8/23/94	16,000	250	41	1,800	74
	11/23/94	16,000	260	ND	1,600	49
	2/03/95	17,000	310	ND	1,500	93
	5/10/95	12,000	260	16	1,200	54
	8/02/95	8,900	240	ND	780	40
	11/02/95	9,300	190	ND	470	1.7
	2/08/96	9,700	170	ND	440	ND

## TABLE 2 (Continued)

# SUMMARY OF LABORATORY ANALYSES WATER

		TPH as			Ethyl-	
Well #	<u>Date</u>	<u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>benzene</u>	<u>Xylenes</u>
MW11	8/20/92	4,600*	62	<b>N</b> D	ND	54
	11/10/92	5,800	130	ND	260	42
	2/20/93	18,000	76	ND	1,000	630
	5/21/93	7,100	64	ND	340	120
	8/23/93	5,400	68	ND	230	43
	11/23/93	3,400	105	ND	120	43
	2/24/94	4,600	170	ND	140	36
	5/25/94	1,400	49	ND	26	ND
	8/23/94	7,300	250	13	150	42
	11/23/94	5,800	250	10	120	22
	2/03/95	4,400	110	ND	150	37
	5/10/95	4,200	120	ND	170	38
	8/02/95	4,200	110	ND	110	22
	11/02/95	6,100	150	ND	78	6.8
	2/14/96▼▼	3,100	60 k	ND	98	ND

- The analytical results of the ground water sample for well MW1 was inconsistent with the previous analytical results for this well. Therefore, Sequoia Analytical Laboratory re-analyzed the sample past hold time; therefore the results may be biased low.
- ▼ Monitoring well MW1 was resampled on November 20, 1995. The vial containing the water sample collected from this well on November 2, 1995, was inadvertently broken by the laboratory.
- Monitoring wells MW8 and MW11 were resampled on February 14, 1996. The vials containing the water samples collected from the wells on February 8, 1996, were inadvertently broken by the laboratory.
- \* Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- ♦ All EPA 8010 constituents were non-detectable.

ND = Non-detectable.

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

#### TABLE 2 (Continued)

- <u>Note:</u> 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 is C6 C12.
  - Laboratory analyses data prior to November 23, 1993, were provided by Kaprealian Engineering, Inc.

TABLE 3
SUMMARY OF LABORATORY ANALYSES
WATER

<u>Well #</u>	<u>Date</u>	MTBE
MW1 **	11/02/95 11/20/95 2/08/96	970 ⊛ <b>5,200</b> ∳
MW2	11/02/95 2/08/96	110 ND
MW3	11/02/95 2/08/96	15 ND
MW4	11/02/95 2/08/96	270 ND
MW5	11/02/95 2/08/96	ND 170
MW6	11/02/95 2/08/96	5.5 ND
MW7	11/02/95 2/08/96	72 ND
MW8	11/02/95 2/14/96	6.4 ND
MW9	11/02/95 2/08/96	11 ND
MW10	11/02/95 2/08/96	110 ND
WW11 ***	11/02/95 2/14/96	6,200 <b>4</b> ,000

ND = Non-detectable.

-- Indicates analysis was not performed.

 $\mu$ g/L = micrograms per liter.

MTBE = methyl tert butyl ether.

TABLE 4

SUMMARY OF MONITORING DATA
Dissolved Oxygen (DO) Measurements

<u>Well #</u>	<u>Date</u>	DO Reading, (mg/Li	DO Reading (mg/L)◆◆
MW1	11/02/95 11/20/95 2/08/96	1.8	2.83
MW2	11/02/95 2/08/96	2.3 	2.58 2.80 2.21
мwз	11/02/95 2/08/96	2.2	4.98 2.78
MW4	11/02/95 2/08/96	3.0	7.91 2.66
MW5	11/02/95 2/08/96	3.0	2.30 2.35
MW6	11/02/95 2/08/96	3.8	4.55 3.77
MW7	11/02/95 2/08/96	 	 2.67
MW8	11/02/95 2/08/96	 	3.85
MW9	11/02/95 2/08/96		 3.62
MW10	11/02/95 2/08/96	3.1	3.96 2.88
MW11	11/02/95 2/08/96	2.6	3.55 2.19

Dissolved oxygen measurements taken in the laboratory.

<sup>♦♦</sup> Dissolved oxygen measurements taken in the field.

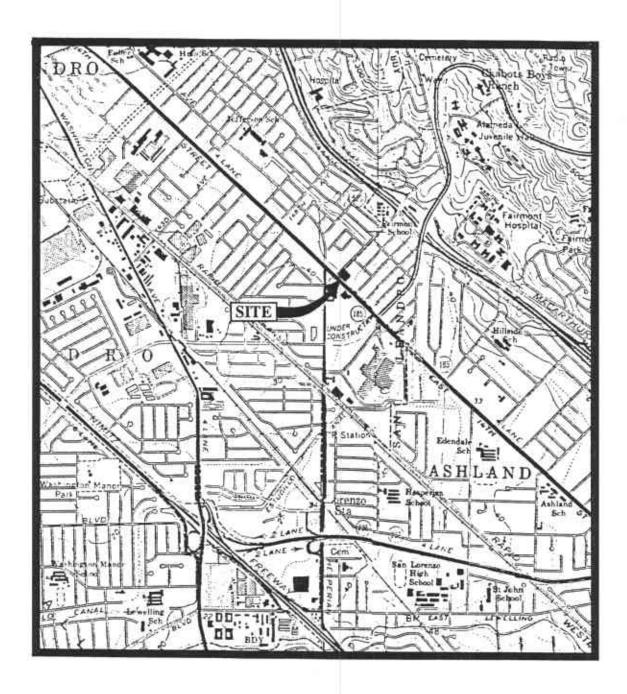
<sup>--</sup> Indicates reading was not taken.

TABLE 5

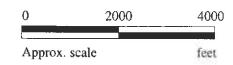
# SUMMARY OF MONITORING DATA FORMER MOBIL SERVICE STATION MONITORING WELLS (Provided by Alton GeoScience)

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Well Casing Elevation <u>(feet)*</u>
	(Monitored on	February 8, 1	996)
MW-1A	29.08	7.55	36.63
MW-2A	28.94	7.68	36.62
MW-3A	28.96	7.97	36.93
MW-4A	29.00	8.18	37.18
MW-5A	29.24	6.67	35.91
MW-6A	29.31	7.79	37.10
MW-7A	28.71	8.68	37.39

- ♦ The depth to water level measurements were taken from the top of the well casings.
- \* The elevations of the top of the well casings have been surveyed relative to Mean Sea Level.



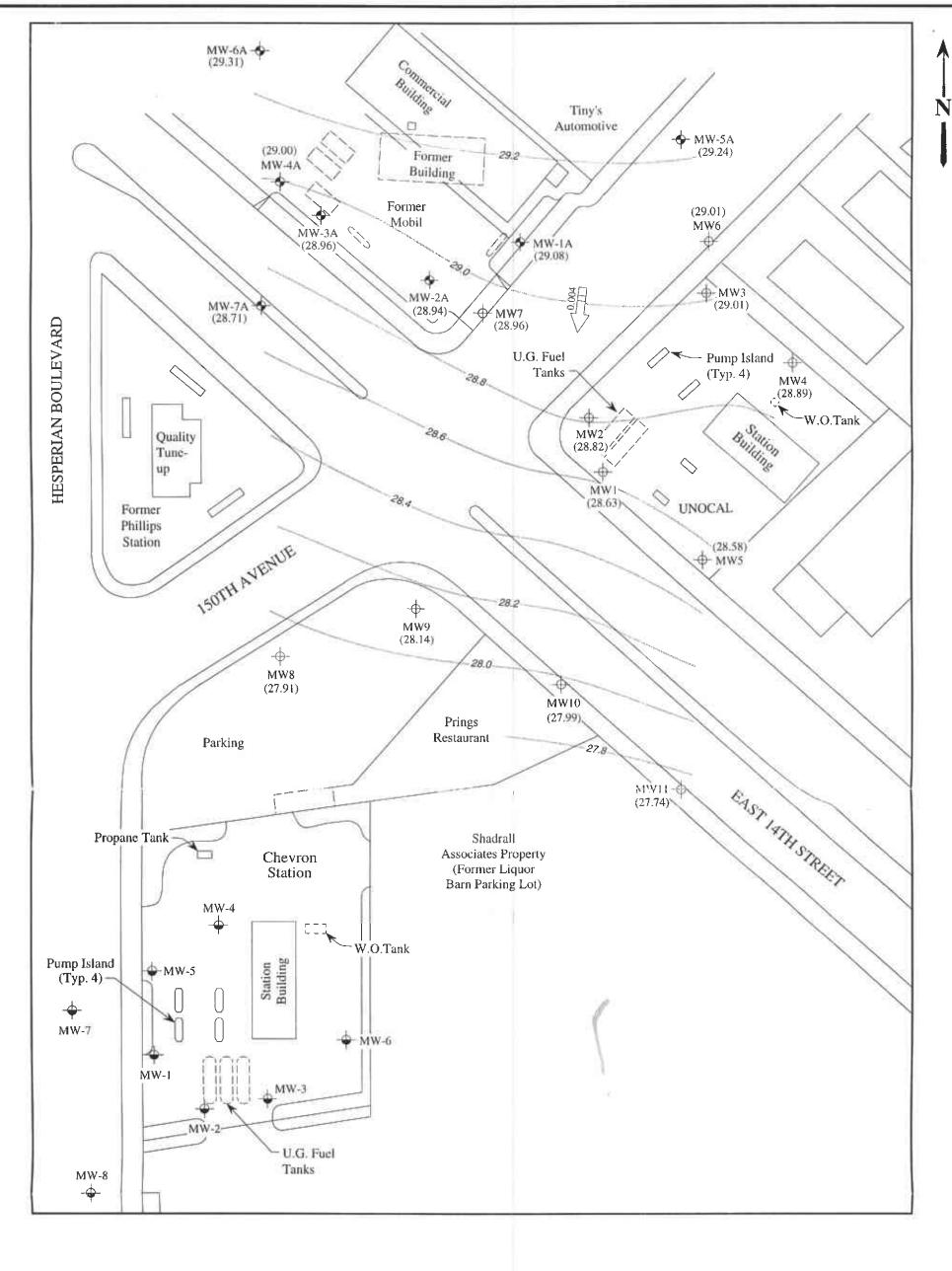
Base modified from 7.5 minute U.S.G.S. Hayward and San Leandor Quadrangles (both photorevised 1980)





UNOCAL SERVICE STATION #3292 15008 E. 14TH STREET SAN LEANDRO, CALIFORNIA

LOCATION MAP



# **LEGEND**

- Monitoring well (Unocal)
- ♦ Monitoring well (Former Mobil)
- Monitoring well (Chevron)
- ( ) 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 FEBRUARY 8, 1996 MONITORING EVENT

UNOCAL SERVICE STATION #3292 15008 E. 14TH STREET SAN LEANDRO, CALIFORNIA

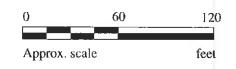
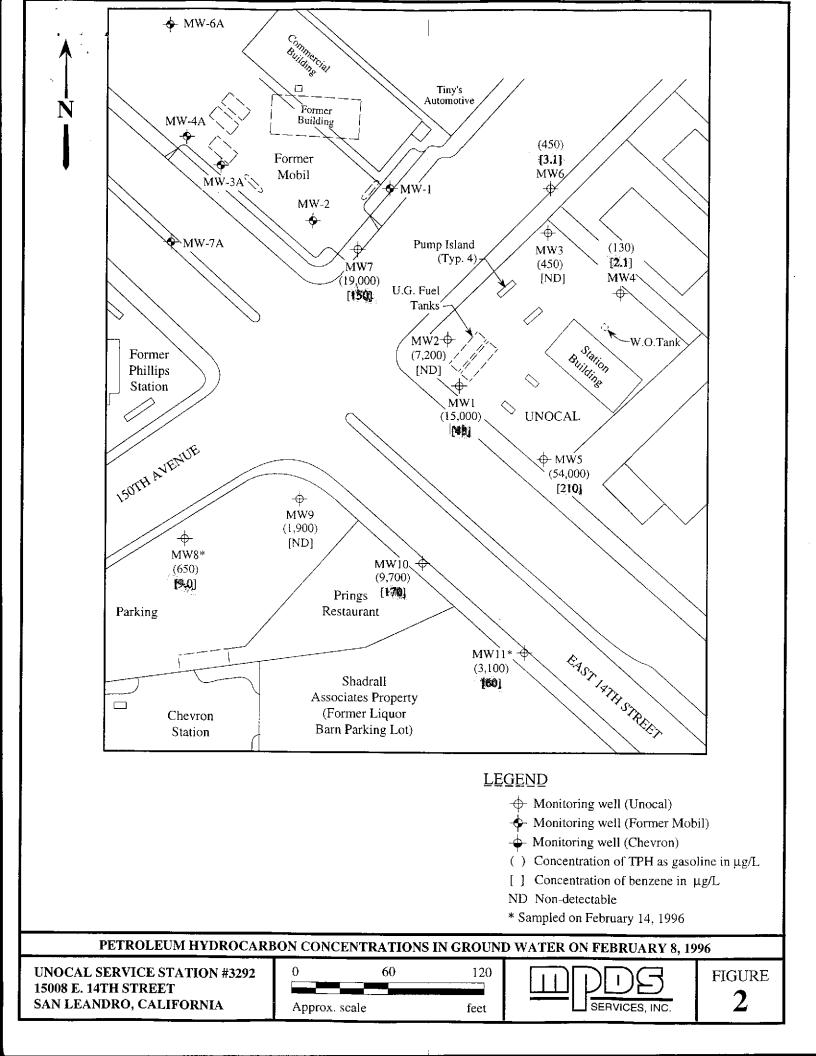




FIGURE 1





Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834

(415) 364-9600 (510) 988-9600 (916) 921-9600 FAX (415) 364-9233 FAX (510) 988-9673 FAX (916) 921-0100

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

Client Project ID: Matrix Descript:

Analysis Method:

First Sample #:

F 14th St..San Leandro Sampled: Unocal #3292,15008 E. 14th St.,San Leandro

Water

EPA 5030/8015 Mod./8020 602-0739

Feb 8, 1996

Received: Feb 8, 1996 Reported: Mar 1, 1996

#### 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
602-0739	MW-1	15,000	43	16	940	410
602-0740	MW-2	7,200	ND	ND	170	ND
602-0741	MW-3	450	ND	ND	ND	ND
602-0742	MW-4	130	2.1	ND	1.5	0.69
602-0743	MW-5	54,000	210	150	3,400	12,000
602-0744	MW-6	450	3.1	ND	1.1	0.68
602-0745	MW-7	19,000	150	ND	2,100	3,000
602-0746	MW-8	650	9.0	1.2	ND	0.52
602-0747	MW-9	1,900	ND	ND	ND	ND
602-0748	MW-10	9,700	170	ND	440	ND

Detection Limits:	50	0.50	0.50	0.50	0.50	

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





Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 (415) 364-9600 (510) 988-9600 (916) 921-9600

FAX (415) 364-9233 FAX (510) 988-9673 FAX (916) 921-0100

MPDS Services

2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Jarrel Crider Client Project ID: Matrix Descript:

Unocal #3292,15008 E. 14th St., San Leandro

Water

EPA 5030/8015 Mod./8020

Sampled: Received: Feb 8, 1996 Feb 8, 1996

Analysis Method: EPA 5030 First Sample #: 602-0739 Reported: Ma

Mar 1, 1996

#### 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
602-0739	MW-1*	Gasoline	20	2/26/96	HP-11	111
602-0740	MW-2*	Gasoline	5.0	2/26/96	HP-11	106
602-0741	MW-3*	Gasoline	4.0	2/26/96	HP-2	87
602-0742	MW-4	Gasoline	1.0	2/22/96	HP-5	85
602-0743	MW-5*	Gasoline	100	2/26/96	HP-11	100
602-0744	MW-6	Gasoline	1.0	2/22/96	HP-5	71
602-0745	MW-7	Gasoline	100	2/22/96	HP-5	84
602-0746	MW-8	Gasoline	1.0	2/22/96	HP-5	71
602-0747	MW-9*	Gasoline	10	2/26/96	HP-11	97
602-0748	MW-10	Gasoline	50	2/22/96	HP-5	87

#### SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp Project Manager Please Note:

\*This sample was originally analyzed on 2/22/96 but was outside upper control limits of quantitation.







Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 (415) 364-9600 (510) 988-9600 (916) 921-9600 FAX (415) 364-9233 FAX (510) 988-9673 FAX (916) 921-0100

MPDS Services 2401 Stanwell Dr., Ste. 300 Client Project ID:

Unocal #3292,15008 E. 14th St.,San Leandro

Sampled:

Feb 8, 1996

Concord, CA 94520
Attention: Jarrel Crider

Matrix Descript: Analysis Method: Water EPA 5030/8015 Mod./8020 Received: Reported: Feb 8, 1996 Mar 1, 1996

First Sample #:

602-0749

ported: Mar 1, 1996

#### TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Purgeable Hydrocarbons µg/L	Benzene μg/L	<b>Toluene</b> μg/L	Ethyl Benzene μg/L	Total Xylenes μg/L
602-0749	MW-11	3,100	60	ND	98	ND
602-0750	ES-1	ND	ND	ND	ND	ND
602-0751	ES-2	ND	ND	ND	ND	ND

Detection Limits:	50	0.50	0.50	0.50	0.50	

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

Page 1 of 2



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834

(415) 364-9600 (510) 988-9600 (916) 921-9600

FAX (415) 364-9233 FAX (510) 988-9673 FAX (916) 921-0100

MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520

Matrix Descript:

Client Project ID: Unocal #3292,15008 E. 14th St.,San Leandro Sampled: Feb 8, 1996 Water

Received:

Feb 8, 1996

Attention: Jarrel Crider

Analysis Method: First Sample #:

EPA 5030/8015 Mod./8020 602-0749

Reported:

Mar 1, 1996

#### 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
602-0749	MW-11	Gasoline	20	2/22/96	HP-5	81
602-0750	ES-1		1.0	2/27/96	HP-5	93
602-0751	E\$-2		1.0	2/27/96	HP-5	88

**SEQUOIA ANALYTICAL, #1271** 

Signature on File

Alan B. Kemp **Project Manager** 





Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 (415) 364-9600 (510) 988-9600 (916) 921-9600 FAX (415) 364-9233 FAX (510) 988-9673 FAX (916) 921-0100

MPDS Services

2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Jarrel Crider Client Project ID: Sample Descript: Analysis for:

First Sample #:

Unocal #3292,15008 E. 14th St.,San Leandro

Water MTBE (Modified EPA 8020)

602-0739

Sampled: Feb 8, 1996 Received: Feb 8, 1996

Analyzed: 2/22 - 26/96 Reported: Mar 1, 1996

#### LABORATORY ANALYSIS FOR:

## MTBE (Modified EPA 8020)

Sample Number	Sample Description	<b>Detection Limit</b> μg/L	Sample Result µg/L
602-0739	MW-1	40	5,200
602-0740	MW-2	40	N.D.
602-0741	MW-3	40	N.D.
602-0742	MW-4	40	N.D.
602-0743	MW-5	40	170
602-0744	MW-6	40	N.D.
602-0745	MW-7	40	N.D.
602-0746	MW-8	40	N.D.
602-0747	MW-9	40	N.D.
602-0748	MW-10	40	N.D.
602-0749	MW-11	40	4,000

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





Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 (415) 364-9600 (510) 988-9600 (916) 921-9600 FAX (415) 364-9233 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 #3292,15008 E. 14th St.,San Leandro

Matrix: Liquid

QC Sample Group: 6020739-751

Reported:

Mar 1, 1996

#### **QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl	Xylenes	
			Benzene		
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	
Analyst:	L. Huang	L. Huang	L. Huang	L. Huang	
MS/MSD					
Batch#:	6021102	6021102	6021102	6021102	
Date Prepared:	2/26/96	2/26/96	2/26/96	2/26/96	
Date Analyzed:	2/26/96	2/26/96	2/26/96	2/26/96	
Instrument I.D.#:	HP-11	HP-11	HP-11	HP-11	
Conc. Spiked:	20 μg/L	20 μg/L	20 μg/L	60 μg/L	
Matrix Spike					
% Recovery:	115	100	110	108	
Matrix Spike Duplicate %					
Recovery:	110	95	100	103	
Relative %					
Difference:	4.4	5.1	9.5	4.7	
***************************************					

5LCS022696	5LCS022696	5LC\$022696	5LCS022696		
2/26/96	2/26/96	2/26/96	2/26/96		
2/26/96	2/26/96	2/26/96	2/26/96		
HP-11	HP-11	HP-11	HP-11		
115	100	110	112		
71-133	72-128	72-130	71-120		
	2/26/96 2/26/96 HP-11	2/26/96 2/26/96 2/26/96 2/26/96 HP-11 HP-11	2/26/96 2/26/96 2/26/96 2/26/96 2/26/96 2/26/96 HP-11 HP-11 HP-11	2/26/96       2/26/96       2/26/96       2/26/96         2/26/96       2/26/96       2/26/96       2/26/96         HP-11       HP-11       HP-11       HP-11         115       100       110       112	2/26/96 2/26/96 2/26/96 2/26/96 2/26/96 2/26/96 2/26/96 HP-11 HP-11 HP-11  115 100 110 112

#### 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.





Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834

(415) 364-9600 (510) 988-9600 (916) 921-9600 FAX (415) 364-9233 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 #3292,15008 E. 14th St.,San Leandro

Matrix:

QC Sample Group: 6020739-751

Reported:

Mar 1, 1996 -

#### QUALITY CONTROL DATA REPORT

Liquid

ANALYTE	Benzene	Toluene	Ethyl	Xylenes	
			Benzene		
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	
Analyst:	S. Chullakorn	S. Chullakorn	S. Chullakorn	S. Chullakorn	
MS/MSD					
Batch#:	6020558	6020558	6020558	6020558	
Date Prepared:	2/22/96	2/22/96	2/22/96	2/22/96	
Date Analyzed:	2/22/96	2/22/96	2/22/96	2/22/96	
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	
Conc. Spiked:	20 μg/L	20 μg/L	$20\mu\mathrm{g/L}$	60 μg/L	
Matrix Spike					
% Recovery:	100	100	100	100	
Matrix Spike Duplicate % Recovery:	90	90	90	90	
Relative %					
Difference:	11	11	11	11	
LCS Batch#:	3LC\$022296	3LCS022296	3LC\$022296	3LCS022296	
Date Prepared:	2/22/96	2/22/96	2/22/96	2/22/96	
Date Analyzed:	2/22/96	2/22/96	2/22/96	2/22/96	

% Recovery Control Limits:	71-133	72-128	72-130	71-120
LCS % Recovery:	105	100	105	103
Date Analyzed: Instrument I.D.#:	2/22/96 HP-5	2/22/96 HP-5	2/22/96 HP-5	2/22/96 HP-5
Date Prepared:	2/22/96	2/22/96	2/22/96	2/22/96

## **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.



Concord, California 94520

### CHAIN OF CUSTODY

9602168

Tel: (510) 602-5100, Fax: (510) 689-1918 ANALYSES REQUESTED UNOCAL 3292 CITY: SAN LEAND PE SAMPLER TURN AROUND TIME: TPH-GAS BTEX RAY MARANGOSIAN ADDRESS: 15008 E.1474 87 الها TPH-DIESEL WITHESSING AGENCY TOG REMARKS SAMPLING LOCATION NO. OF CONT. WATER GRAB DATE SAMPLE ID NO. 6020739 A.B Well X X 6020740 6020741 a 6020742 u 6020743 × 2:30 U 6020744 u 30 6020745 uU 6020746 u 10:12 6020747 n X <u>የ</u>በድበታሪል THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES: DATE/TIME RECEIVED BY: DATE/TIME RELINQUISHED BY: 2/8/96 Tomsul Malier. (SIGNATORE) (SIGNATURE) 2-9 (SIGNATURE) (SIGNATURE) 4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? (SIGNATURE) (SIGNATURE) Tomp Millelio TITLE: avalyt (SIGNATURE)

ote: 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.

DDS SERVICES, INCORPORATED	
2401 Stanwell Drive, Suite 400 Concord, California 94520	

# CHAIN OF CUSTODY

9602168

Tel: (510)	602-5100, Fa	x: (510) 689	-1918									REQUES				<del></del>
RAY MARANGOSIAN WITNESSING AGENCY			UNO	CAL	2/1	Chl	0-		TURN AROUND TIME:							
			UNOCAL S/S # 3292 CITY: STN LETNE  ADDRESS: 15008 E - 14748  WATER GRAB COMP NO. OF CONT. SAMPLING LOCATION					H-GAS EX	TPH- DIRSEL	5	0]	184				REGULAR
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	СОМР	NO. OF CONT.	SAMPLING LOCATION	TB	TP	TOG	8010	() ()				REMARKS
MWII	2/8/96	1190	メ	*		2	ivell	٨				X		6020	749	A.B. BROKEN RESAMPLES
		<del></del> =											-			
		<del></del>										,	`			
		,														
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		DATE/T				ECEIVED BY:	TE/TIME 17:50	l			NG SAMPLES FOR ANALYSES:					
Ray Marayeonia		).8 L.19	56 300	Stony Willahan 2/8				196	1. HAVE	all sampl Amples ri		<del>7</del> Y				
		2/9/91	1807) (SIGNATURE) 2-18(SIGNATURE) 2-18(SIGNATU					1315	3. DID AN	<i>N</i>						
(SIGNATURE)		2-9							4. WERE S			GED7				
(SIGNATURE)									SIGNATU	JRE: ·	DATE: 2/8/98 - 17:50					

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

# 9602168

**ANALYSES REQUESTED** UNOCAL S/S # <u>3 292 CITY: SAN LEANOTE</u> ADDRESS: <u>15008 E. 147487</u> 5 SAMPLER TURN AROUND TIME: RAY MARANGOSIAN TPH-DIESEL WITNESSING AGENCY Tog 8010 REMARKS SAMPLING LOCATION NO. OF CONT. DATE TIME WATER GRAB SAMPLE ID NO. 6020750 6020751 THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES: RECEIVED BY: DATE/TIME RELINQUISHED BY: 1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? (SIGNATURE) 3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? (SIGNATURE) 4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? (SIGNATURE) (SIGNATURE) SIGNATURE: Form McMcL (SIGNATURE) (SIGNATURE)

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



SAMPLER	UNOCAL S/S # 3292 CITY: SAN CETNO							TURN AROUND TIME:									
RAY MARANGOSIAN WITHESSING AGENCY				ADDRESS: 15008 E 14TH B					TPH- DIESEL	Ğ	0]	MTAZ				Resource	
SAMPLE ID NO.	. DATE	TIMÉ	WATER	GRAB	сомр	NO. OF CONT.	SAMPLING LOCATION	TPH-( BTEX	TP	TOG	8010	W				REMARKS	
MWB	2-14-8	13:45	ナ	r		7		×				×	Q	220	>74	6	
MW [1	ч	14.15		~		Ч		¥				۲	60	20	740	<b>\</b>	
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		*										İ					
		,												. <u> </u>			
		<u> </u>														6	
Pay Many 21							TE/TIME 14/96 16.05	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE?									
ISIGNATUREI\ 2-/5			(SIGNATURE)					(350) -15	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED?  3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE?  N1								
(SIGNATURE)		(SIGNATURE)															
(SIGNATURE)			(SIGNATURE)						4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED?								
(SIGNATURE)			ISIGN	IATURI LUU	Moland	5:00 -15 90	SIGNATURE: SIGNATURE: 2/14/96										