

July 8, 1997

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 Tosco Marketing Company Project Professional, Ms. Tina R. Berry, enclosed please find our report (MPDS-UN3292-15) dated June 9, 1997, for the above referenced site.

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

Sincerely,

MPDS Services, Inc.

Jarrel F. Crider

/jfc

Enclosure

cc: Ms. Tina R. Berry



MPDS-UN3292-15 June 9, 1997

Tosco Marketing Company Environmental Compliance Department 2000 Crow Canyon Place, Suite 400 San Ramon, California 94583

Attention: Ms. Tina R. Berry

RE: Quarterly Data Report

Unocal Service Station #3292

15008 E. 14th Street 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 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 consultants for the nearby former Mobil and Chevron sites on May 7, 1997. The monitoring data collected from the former Mobil and Chevron sites are summarized in Tables 4 and 5, respectively. The ground water flow direction in the vicinity of the Unocal, Mobil and Chevron sites during the most recent quarter is shown on the attached Figure 1.

Ground water samples were collected from the Unocal wells on May 7, 1997. Prior to sampling, the Unocal wells were each purged of between 6 and 8 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 Tosco 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 executed Chain of Custody documentation. The analytical results of the ground water samples collected to date from the Unocal wells are summarized in Table 2. The dissolved oxygen concentration measurements recorded at the Unocal site to date are summarized in Table 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

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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. Nubar Srabian at (510) 602-5120.

Sincerely,

MPDS Services, Inc.

Haig (Gary) Tejirian

Senior Staff Geologist

Hagop Kevork, P.E. Senior Staff Engineer

License No. C55734

Exp. Date: December 31, 2000

Attachments: Tables 1 through 5

Location Map Figures 1 & 2

Laboratory Analyses

Chain of Custody documentation

cc: Mr. Sarkis A. Soghomonian, Kaprealian Engineering, Inc.

Table 1
Summary of Monitoring Data

	Ground Water Elevation	Depth to Water	Total Well Depth	Product Thickness		Water Purged
Well#	(feet)	(feet)+	(fect)∗	(feet)	Sheen	(gallons)
		(Monitored	and Sampled on	May 7, 1997)		
MW1	27.13	9.24	18.98	0	Yes	6
MW2	27.20	9.14	19.12	0	No	6
MW3	27.25	9.17	22.15	0	No	7.5
MW4	27.19	9.85	19.65	0	No	6
MW5	26.96	8.98	22.15	0	No	7.5
MW6	27.35	8.32	20.17	0	No	8
MW7	27.62	8.47	21,25	0	No	7.5
MW8	26.77	10.12	19.10	0	No	6
MW9	26.84	9.45	19.05	0	No	6
MW10	26.76	9.28	19.96	0	No	6
MW11	26.43	9.07	19.05	0	No	6
MW2‡	25.86	9.58	20.85	0	No	6
MW3‡	26.46	9.35	20.65	0	No	6
	(Monitored on l	February 10, 1	i997 and Sample	d on February 10	and 11, 1997)	
MW1	28.45	7.92	18.98	0	No	6
MW2	28.59	7.75	19.11	0	No	6
MW3	28.71	7.71	22.16	0	No	7.5
MW4	28.59	8.45	19.65	0	No	6
MW5	28.31	7.63	22.12	0	No	7.5
MW6	28.79	6.88	20.13	0	No	7
MW7	28.87	7.22	21.20	0	No	7
MW8	28.05	8.84	19.06	0	No	5.5
MW9	28.14	8.15	19.07	Ō	No	5.5
MW10	27.94	8.10	19.88	0	No	6
MW11	27.62	7.88	18.97	0	No	6
MW2‡	26.81	8.63	20.00	0	No	6
MW3‡	27.65	8.16	20.20	0 -	No	6

Table 1
Summary of Monitoring Data

	Ground Water	Depth to	Total Well	Product		Water
	Elevation	Water	Depth	Thickness		Purged
Well #	(feet)	(feet)+	(feet)•	(feet)	Sheen	(gallons)
	•	(Monitored and	l Sampled on No	vember 7, 1996)	·	
MW1	25.63	10.74	18.95	0	No	4.5
MW2	25.65	10.69	19.10	0	No	4.5
MW3	25.46	10.96	22.15	0	No	6
MW4	25.46	11.58	19.65	0	No	4.5
MW5	25.29	10.65	22.08	0	No	6
MW6	25.55	10.12	20.10	0	No	5.5
MW7	25.33	10.76	21.11	0	No	5.5
MW8	25.18	11.71	19.01	0	No	4 .
MW9	25.19	11.10	19.00	0	No	4
MW10	25.12	10.92	19.83	0	No	5
MW11	24.92	10.58	18.92	0	No	4.5
MW2‡	24.46	10.98	20.90	0	No	5
MW3‡	24.93	10.88	20.70	0	No	5
		(Monitored a	nd Sampled on A	August 9, 1996)		
MW1	26,65	9.72	19.00	0	No	6.5
MW2	26.80	9.54	19.12	0	No	6.5
MW3	26.89	9.53	22.16	0	No	9
MW4	26.80	10.24	19.64	0	No	6.5
MW5	26.57	9.37	22.16	0	No	9
MW6	26.95	8.72	20.15	0	No	8
MW7	27.02	9.07	21,25	0	No	8.5
MW8	26.42	10.47	19.10	0	No	6
MW9	26.45	9.84	19.11	0	No	6.5
MW10	26.28	9.76	19.91	0	No	7
MW11	26.04	9.46	19.00	0	No	6.5
MW2‡	25.46	9.98	19.99	0	No	7
MW3‡	26.08	9.73	20.20	0 .	No	7.5

Table 1
Summary of Monitoring Data

	Well Casing
	Elevation
Well#	(feet)*
MW1	36.37
MW2	36.34
MW3	36.42
MW4	37.04
MW5	35.94
MW6	35.67
MW7	36.09
MW8	36.89
MW9	36.29
MW10	36.04
MW11	35.50
MW2‡	35.44**
MW3‡	35.81**

- ♦ The depth to water level and total well depth measurements were taken from the top of the well casings.
- * 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).
- ** The elevations of the top of the well casings are relative to Mean Sea Level (MSL), per Chevron monitoring well MW-6 used as a benchmark (elevation = 36.92 feet MSL).
- ‡ Wells located on Shadrall Property.

Table 2
Summary of Laboratory Analyses
Water

			W	ater			
		TPH as			Ethyl-		
Well#	Date	Gasoline	Benzene	Toluene	Benzene	Xylenes	MTBE
MW1	5/4/91	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	
	2/3/95	20,000	77	17	950	390	
	5/10/95	16,000	230	27	880	630	
	8/2/95	18,000	190	ND	860	590	
	11/20/95†	20,000	180	ND	960	450	970
	2/8/96	15,000	43	16	940	410	5,200
	5/8/96	16,000	37	16	930	410	1,600
	8/9/96	2,300	25	ND	77	39	1,200
	11/7/96	38,000	140	ND	1,900	5,600	ND
	2/11/97	7,300	91	ND	170	68	1,700
	5/7/97	11,000	120	ND	470	110	1,200
MW2	5/4/91	19,000	6.6	1.4	460	630	44-84
	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	
	2/3/95	9,700	5.7	ND	250	10	
	5/10/95	7,500	56	4.7	310	33	
	8/2/95	8,200	53	22	220	25	
	11/2/95	5,000	56	4.5	170	7.7	110
•	2/8/96	7,200	ND	ND	170	ND	ND

Table 2
Summary of Laboratory Analyses
Water

Well#	Date	TPH as Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylenes	мтве
MW2	5/8/96	8,400	5.6	9.0	170	10	130
(Cont.)	8/9/96	3,100	24	ND	80	ND	64
	11/7/96	36,000	140	ND	1,900	5,600	ND
	2/11/97	4,600	27	ND	53	ND	ND
	5/7/97	5,300	61	ND	78	20	180
MW3	5/4/91	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	
	2/3/95	780	13	ND	2.1	ND	
	5/10/95	1,300	ND	ND	ND	ND	
	8/2/95	1,500	6.3	ND	16	2.1	
	11/2/95	1,100	5.2	2.1	7.4	0.5	15
	2/8/96	450	ND	ND	ND	ND	ND
	5/8/96	590	ND	11	10	ND	ND
	8/9/96	ND	ND	ND	ND	ND	ND
	11/7/96	140	1.2	ND	ND	ND	5.6
	2/10/97	89	1.8	ND	ND	ND	ND
	5/7/97	52**	ND	ND	ND	5.1	5.1
MW4	5/4/91	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	ND	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	

Table 2
Summary of Laboratory Analyses
Water

Well#	Date	TPH as Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylenes	MTBE
MW4	11/23/94	420	5.0	1.1	4.2	1.2	
(Cont.)	2/3/95	620	6.4	ND	9.3	ND	
(00,101)	5/10/95	280	2.8	ND	2.7	2.4	
	8/2/95	290	3.6	ND	2.8	ND	
	11/2/95	42,000	390	210	2,800	6,300	270
	2/8/96	130	2,1	ND	1.5	0.69	ND
	5/8/96		NACCESSIBLE		1.2	0.07	712
	8/9/96	ND	ND	ND	ND	ND	ND
	11/7/96	ND	ND	ND	ND	ND	ND
	2/10/97	ND	ND	ND	ND	ND	ND
	5/7/97	ND	ND	ND	ND	ND	ND
MW5	5/4/91	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	
	2/3/95	56,000	140	330	3,500	13,000	
	5/10/95	27,000	160	170	2,200	5,200	
	8/2/95	65,000	260	300	3,500	12,000	
	11/2/95	240	0.76	ND	1.1	ND	ND
	2/8/ 9 6	54,000	210	150	3,400	12,000	170
	5/8/96	52,000	170	200	3,600	11,000	170
	8/9/96	25,000	54	16	1,700	4,700	ND
	11/7/96	2,100	42	ND	9.3	ND	2,300
	2/10/97	15,000	46	29	1,400	4,100	ND
	5/7/97	38,000	120	ND	2,000	5,100	380
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	ND	2.6	0.77	

Table 2
Summary of Laboratory Analyses
Water

Well#	Date	TPH as Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylenes	мтве
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
MW6	5/25/94	500	11	ND	ND	0.73	
(Cont.)	8/23/94	570	8.8	2.5	3.2	2.6	
	11/23/94	460	6.4	1.1	1.9	1.1	
	2/3/95	660	4.8	13	1.4	ND	
	5/10/95	470	ND	0.65	1.4	0.67	
	8/2/95	360	3.2	ND	1.6	ND	 E E
	11/2/95	470	ND	0.92	0.89	0.58	5.5
	2/8/96	450	3.1	ND	1.1	0.68	ND ND
	5/8/96	ND	ND	ND	ND	ND	ND ND
	8/9/96	ND	ND	ND	ND	ND	ND
	11/7/96	ND	ND	ND	ND	ND	ND
	2/10/97	ND	ND	ND	ND	ND	ND
	5/7/9 7	ND	ND	1. 1	ND	ND	ND
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	ND	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	
	2/3/95	26,000	170	ND	2,300	3,700	
	5/10/95	1,300	13	1.5	170	230	
	8/2/95	15,000	200	ND	2,200	2,000	
	11/2/95	18,000	190	9.4	2,100	2,200	72
	2/8/96	19,000	150	ND	2,100	3,000	ND
	5/8/96	13,000	130	18	1,900	1,600	85
	8/9/96	11,000	67	ND	1,700	1,800	ND
	11/7/96	32,000	160	ND	3,300	8,400	570
	2/11/97	7,100	55	ND	ND	620	ND
	5/7/97	6,000	74	ND	560	330	250
MW8	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	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	ND	ND	
	8/23/94	3,200	46	18	2.0	7.2	

Table 2Summary of Laboratory Analyses
Water

	Water						
Well#	Date	TPH as Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylenes	мтве
MW8	11/23/94	1,700	34	ND	ND	3.1	
(Cont.)	2/3/95	800	6.1	ND	ND	ND	
(,	5/10/95	1,400	15	1.5	0.65	0.84	
	8/2/95	690	8.3	1.9	ND	ND	
	11/2/95	1,200	ND	1.9	0.56	ND	6.4
	2/14/96††	650	9.0	1.2	ND	0.52	ND
	5/8/96	1,200	0.7	35	2.2	3.0	ND
	8/9/96	350	ND	12	0.81	0.95	ND
	11/7/96	1,000	23	ND	ND	ND	ND
	2/10/97	630	13	ND	ND	8.1	ND
	5/7/97	1200*	26	3.4	ND	20	20
MW9	5/19/92	8,100	11	ND	25	5.8	
	8/20/92	3,800*	37	ND	ND	ND	
	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	ND	
	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	
	2/3/95	2,100	26	2.5	ND	ND	
	5/10/95	1,700	0.81	2.2	1.0	1.4	
	8/2/95	1,900	26	6.6	ND	3.9	
	11/2/95	1,600	ND	1.3	ND	ND	11
	2/8/96	1,900	ND	ND	ND	ND	ND
	5/8/96	1,700	1.9	22	1.7	2.7	ND
	8/9/96	200	ND	4.5	ND	0.58	ND
	11/7/96	920	24	ND	ND	ND	ND
	2/11/97	580	14	2.4	ND	ND	16
	5/7/97	810	11	3.9	1.7	9.9	13
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	
	2/3/95	17,000	310	ND	1,500	93	
	5/10/95	12,000	260	16	1,200	54	

Table 2
Summary of Laboratory Analyses
Water

			VV (ater			
		TPH as			Ethyl-		
Well#	Date	Gasoline	Benzene	Toluene	Benzene	Xylenes	MTBE
MW10	8/2/95	8,900	240	ND	780	40	
(Cont.)	11/2/95	9,300	190	ND	470	1.7	110
(Cont.)	2/8/96	9,700	170	ND	440	ND	ND
	5/8/96	7,100	100	ND	240	ND	43
	8/9/96	4,400	59	7.5	110	6.5	7 3
	11/7/96	6,300	65	ND	110	ND	130
	2/10/97	6,800	91	ND	100	ND	210
	5/7/97	4,800	76	ND ND	50	ND	160
	3/1/9/	4,000	70	ND	30	ND	100
MW11	8/20/92	4,600*	62	ND	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	
	2/3/95	4,400	110	ND	150	37	
	5/10/95	4,200	120	ND	170	38	
	8/2/95	4,200	110	ND	110	22	
	11/2/95	6,100	150	ND	78	6.8	6,200
	2/14/96††	3,100	60	ND	98	ND	4,000
	5/8/96	3,500	120	ND	160	ND	6,400
	8/9/96	1,100	42	ND	15	ND	4,300
	11/7/96	2,900	57	ND	13	ND	3,400
	2/10/97	600	9.5	ND	ND	ND	3,100
	5/7/97	1,900	45	ND	31	ND	2,400
MW2‡	5/8/96	540	0.68	21	1.0	1.7	ND
141 44 7 4	8/9/96	170	ND	7.8	ND	ND	ND
	11/7/96	430	8.9	1.5	ND ND	ND ND	10
	2/11/97	230**	4.6	1.0		ND ND	10
	5/7/97	ND			ND ND		
	311171	ND	ND	ND	ND	ND	14
MW3‡	5/8/96	4,700	7.9	36	13	4.0	42
	8/9/96	2,000	ND	14	7.6	ND	ND
	11/7/96	1,800	29	ND	ND	ND	40
	2/11/97	3,500	70	14	ND	ND	150
	5/7/97	3,100	48	ND	ND	ND	110

[‡] Wells located on Shadrall Property.

[§] The analytical results of the ground water sample for well MW1 was inconsistent with the previous analytical results for this well. Sequoia Analytical Laboratory re-analyzed the sample past hold time; therefore the results may be biased low.

Table 2 Summary of Laboratory Analyses Water

- † 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.
- ** Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.
- All EPA 8010 constituents were non-detectable.

MTBE = methyl tert butyl ether.

ND = Non-detectable.

Indicates analysis was not performed.

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

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

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

Laboratory analyses data prior to November 23, 1993, were provided by Kaprealian Engineering, Inc.

Table 3
Summary of Monitoring Data
Dissolved Oxygen (DO) Concentration Measurements

		Dis	solved Oxygen Re	
717. H 4	TO.	, # t	Refore Purging	
Well#	Date	(mg/L)∗	(mg/L)++	(mg/L)••
MW1	11/2/95	1.80	2.83	
	2/8/96		2.58	
	5/8/96			1.92
	8/9/96		2.14	
	11/7/96		2.11	2.18
	2/11/97			2.05
1.631/2	11/2/05	2 20	2.00	
MW2	11/2/95	2.30	2.80	
	2/8/96		2.21	
	5/8/96			3.89
	8/9/96		3.36	
	11/7/96		1.96	1.98
	2/11/97			2.12
MW3	11/2/95	2.20	4.98	
	2/8/96		2.78	
	5/8/96			3.73
	8/9/96		3.29	
	11/7/96		3.15	3.98
	2/10/97			3.59
MW4	11/2/95	3.00	7.91	
	2/8/96		2.66	
	5/8/96		2.00	
	8/9/96		2.92	
	11/7/96		4.32	4.38
	2/10/97			3.87
				5.07
MW5	11/2/95	3.00	2.30	
	2/8/96		2.35	
	5/8/96			1.29
	8/9/96		2.19	
	11/7/96		1.84	1.82
	2/10/97			2.07
MW6	11/2/95	3.80	4.55	***
3: 2	2/8/96		3.77	
	5/8/96		2.77	3.40
	8/9/96		3.53	J. 70
	11/7/96		3.99	4.06
	2/10/97			3.85
	0, , ,			المالية والمها

Table 3
Summary of Monitoring Data
Dissolved Oxygen (DO) Concentration Measurements

		Dis	solved Oxygen R	eading
			Before Purging	
Well#	Date	(mg/L)+	(mg/L) • •	

MW7	11/2/95			
	2/8/96		2.67	
	5/8/96			2.20
	8/9/96		2.37	
	11/7/96		2.22	2.28
	2/11/97			2.33
MW8	11/2/95			
	2/8/96		3.85	
	5/8/96			2.09
	8/9/96		2.56	
	11/7/96		1.67	1.84
	2/10/97			2.10
MW9	11/2/95			
	2/8/96		3.62	
	5/8/96			2.20
	8/9/96		2.51	
	11/7/96		2.06	2.02
	2/10/97			1.96
MW10	11/2/95	3.10	3.96	
	2/8/96		2.88	
	5/8/96			2,71
	8/9/96		2.63	
	11/7/96		1.81	1.84
	2/10/97			2.03
MW11	11/2/95	2.60	3.55	
	2/8/96		2,19	
	5/8/96			2.06
	8/9/96		2.11	
	11/7/96		2.35	2.36
	2/10/97			2.18
MW2‡	11/7/96		2.85	2.80
	2/11/97			2.73
MW3‡	11/7/96		2.41	2.40
	2/11/97			2.55

Table 3 Summary of Monitoring Data

Dissolved Oxygen (DO) Concentration Measurements

- Dissolved oxygen concentrations measured in the laboratory.
- Dissolved oxygen concentrations measured in the field using a LaMotte DO4000 dissolved oxygen meter.
- ‡ Wells located on Shadrall Property.
- -- Indicates measurement was not taken.

Table 4
Summary of Monitoring Data
Former Mobil Service Station Monitoring Wells
(Provided by Alton GeoScience)

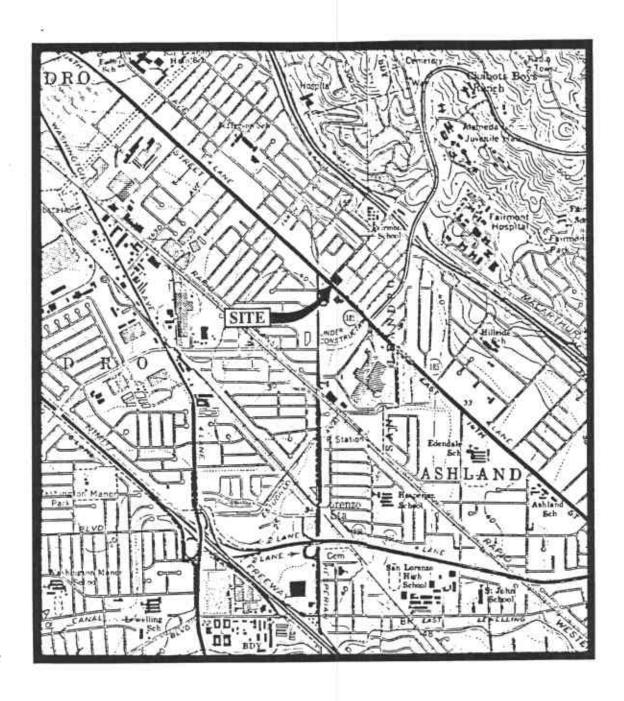
	Ground Water Elevation	Depth to Water	Well Casing Elevation
Well#	(feet)	(feer)∗	(feet)*
	(Monitored on	May 7, 1997)	
MW-1A	27.48	9,15	36,63
MW-2A	27.39	9.23	36.62
MW-3A	27.48	9.45	36.93
MW-4A	27.54	9.64	37.18
MW-5A	27.49	8.42	35.91
MW-6A	27.79	9.31	37.10
MW-7A	27.34	10.05	37.39

- 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.

Table 5
Summary of Monitoring Data
Chevron Service Station Monitoring Wells
(Provided by Blaine Tech Services, Inc.)

	Ground Water	Depth to	Well Casing
Well #	Elevation (feet)	Water (feet)*	Elevation (feet)*
	(Monitored on	May 7, 1997)	
MW-1	26.53	9.24	35.77
MW-2	26.95	8.05	35.00
MW-3	26.80	9.37	36.17
MW-4	27.07	8.98	36.05
MW-5	26.79	8.86	35.65
MW-6	26.44	10.48	36.92
MW-7	26.50	9.21	35.71
MW-8	26.54	8.74	35.28
MW-A	NA	9.54	NA

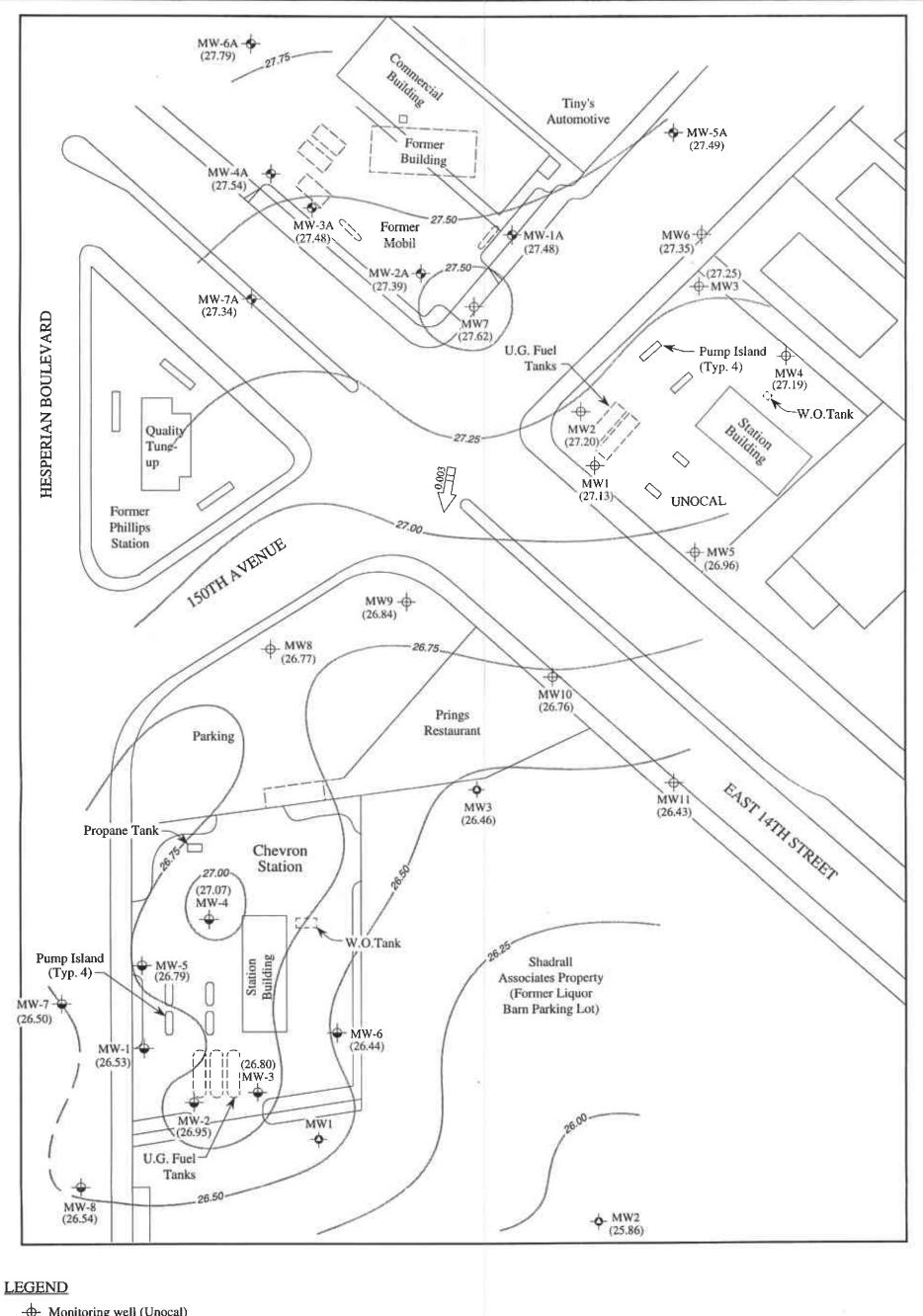
- ♦ The depth to water level measurements were taken from the top of the well casings.
- * The elevations of the top of the well casings have been surveyed relative to Mean Sea Level.



Base modified from 7.5 minute U.S.G.S. Hayward and San Leandor Quadrangles (both photorevised 1980) O 2000 4000
Approx. scale feet



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



- Monitoring well (Unocal)
- Monitoring well (Shadrall Property)
- 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 MAY 7, 1997 MONITORING EVENT

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

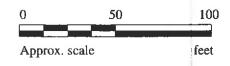
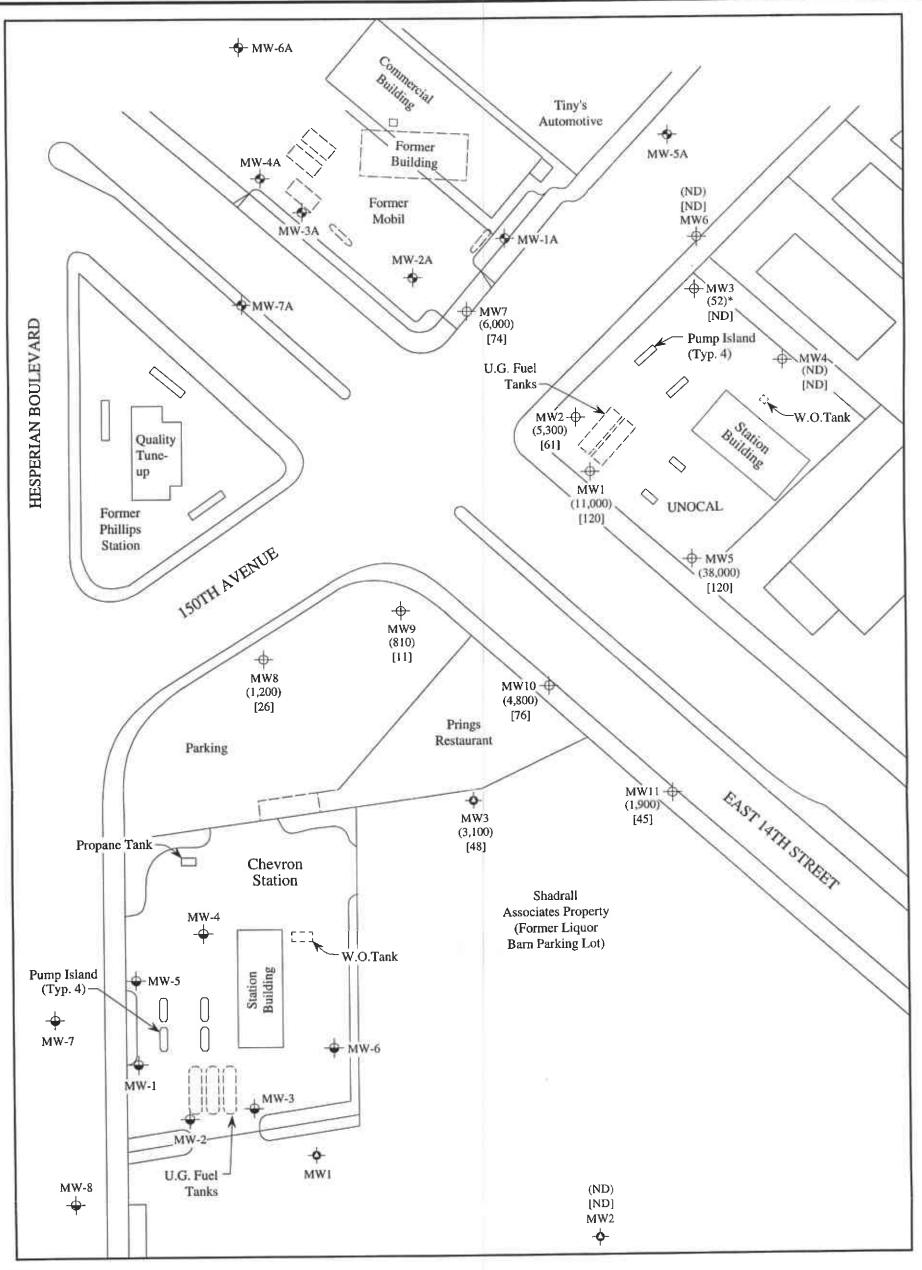




FIGURE 1

N

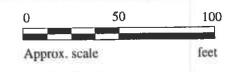


LEGEND

- → Monitoring well (Unocal)
- Monitoring well (Shadrall Property)
- Monitoring well (Former Mobil)
- Monitoring well (Chevron)
- () Concentration of TPH as gasoline in μg/L
- [] Concentration of benzene in µg/L
- ND Non-detectable
 - * The lab reported that the hydrocarbons detected did not appear to be gasoline.

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON MAY 7, 1997

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





N



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

Client Project ID:

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

Sampled: Received:

May 7, 1997 May 8, 1997

Attention: Jarrel Crider

Matrix Descript: Analysis Method: First Sample #:

EPA 5030/8015/8020

015/8020 R

Reported: May 29, 1997

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

705-0637

Water

Sample Number	Sample Description	Purgeable Hydrocarbons μg/L	Benzene μg/L	Toluene μg/L	Ethyl Benzene μg/L	Total Xylenes μg/L
705-0637	MW 1	11,000	120	ND	470	110
705-0638	MW 2	5,300	61	ND	78	20
705-0639	MW 3	52*	ND	ND	ND	5.1
705-0640	MW 4	ND	ND	ND	ND	ND
705-0641	MW 5	38,000	120	ND	2,000	5,100
705-0642	MW 6	ND	ND	1.1	ND	ND
705-0643	MW 7	6,000	74	ND	560	330
705-0644	MW 8	1,200^	26	3.4	ND	20
705-0645	MW 9	810	11	3.9	1.7	9.9
705-0646	MW 10	4,800	76	ND	50	ND

^{*} Hydrocarbons detected did not appear to be gasoline.

[^] Hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

Detection Limits:	50	0.50	0.50	0.50	0.50	·
Detection Limits.	30	0.50	0.50	0.00	0.00	

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

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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:

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

Water

Matrix Descript: Analysis Method: EPA 5030/8015/8020 First Sample #:

705-0637

May 7, 1997

Received: May 8, 1997 Reported: May 29, 1997

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
705-0637	MW 1	Gasoline	100	5-14-97	HP-4	100
705-0638	MW 2	Gasoline	40	5-14-97	HP-4	94
705-0639	MW 3	Unidentified Hydrocarbons	1.0	5-14-97	HP-4	105
705-0640	MW 4	< C7* 	1.0	5-14-97	HP-4	103
705-0641	MW 5	Gasoline	100	5-14-97	HP-4	91
705-0642	MW 6		1.0	5-14-97	HP-4	102
705-0643	MW 7	Gasoline	100	5-14-97	HP-4	100
705-0644	MW 8	Gasoline & Unidentified Hydrocarbons < C7^	5.0	5-14-97	HP-4	104
705-0645	9 WM	Gasoline	2.0	5-14-97	HP-4	101
705-0646	MW 10	Gasoline	40	5-14-97	HP-4	100

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Alan B. Kemp Project Manager Please Note:



[&]quot;Unidentified Hydrocarbons < C7" refers to unidentified peaks in the EPA 8010 range.



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(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:

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

Sampled:

May 7, 1997 May 8, 1997

Concord, CA 94520 Attention: Jarrel Crider Matrix Descript: Analysis Method:

EPA 5030/8015/8020

Received: Reported:

May 29, 1997

First Sample #: 705-0647

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Water

Sample Number	Sample Description	Purgeable Hydrocarbons μg/L	Benzene μg/L	Toluene μg/L	Ethyl Benzene μg/L	Total Xylenes μg/L
705-0647	MW 11	1,900	45	ND	31	ND
705-0648	MW 25H	ND	ND	ND	ND	ND
705-0649	MW 35H	3,100	48	ND .	ND	ND

[^] Hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

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

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Alan B. Kemp Project Manager

Page 1 of 2

^{*} Hydrocarbons detected did not appear to be gasoline.



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(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:

14th St., San Leandro Sampled: May 7, 199 Tosco #3292, 15008 E. 14th St., San Leandro

Received:

May 7, 1997 May 8, 1997

Concord, CA 94520 Attention: Jarrel Crider

Matrix Descript: Analysis Method: First Sample #:

EPA 5030/8015/8020

Reported:

May 29, 1997

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Water

705-0647

Sample Number	Sample Description	Chromatogram Pattern	DL Mult. Factor	Date Analyzed	Instrument ID	Surrogate Recovery, % QC Limits: 70-130
705-0647	MW 11	Gasoline	10	5-14-97	HP-4	95
705-0648	MW 25H		1.0	5-14-97	HP-4	103
705-0649	MW 35H	Gasoline	20	5-14-97	HP-4	103

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

Client Project ID: Sample Descript: Analysis for:

Tosco #3292, 15008 E. 14th St., San Leandro Water

Water MTBE (Modified EPA 8020)

First Sample #: 705-0637

Sampled: May 7, 1997 Received: May 8, 1997

Analyzed: May 14, 1997 Reported: May 29, 1997

LABORATORY ANALYSIS FOR:

MTBE (Modified EPA 8020)

Sample Number	Sample Description	$\begin{array}{c} \textbf{Detection Limit} \\ \mu \text{g/L} \end{array}$	Sample Result μg/L					
705-0637	MW 1	250	1,200					
705-0638	MW 2	100	180					
705-0639	MW 3	5.0	5.1					
705-0640	MW 4	5.0	N.D.					
705-0641	MW 5	250	380					
705-0642	MW 6	5.0	N.D.					
705-0643	MW 7	250	250					
705-0644	MW 8	13	20					
705-0645	e WM	5.0	13					
705-0646	MW 10	100	160					
705-0647	MW 11	250	2,400					

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

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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 Client Project ID: Sample Descript: Tosco #3292, 15008 E. 14th St., San Leandro Water

Sampled: May 7, 1997

Concord, CA 94520 Attention: Jarrel Crider Analysis for: MTBE (Modified EPA 8020)

Received: May 8, 1997

First Sample #:

705-0648

Analyzed: May 14, 1997 Reported: May 29, 1997

LABORATORY ANALYSIS FOR:

MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit μg/L	Sample Result $\mu \mathrm{g}/\mathrm{L}$
705-0648	MW 25H	5.0	14
705-0649	MW 35H	50	110

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

SEQUOIA ANALYTICAL, #1271

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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:

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

Matrix: Liquid

QC Sample Group: 7050637-649 ,

Reported:

May 29, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl	Xylenes	
			Benzene		
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill	
MS/MSD					
Batch#:	7050640	7050640	7050640	7050640	
Date Prepared:	5/14/97	5/14/97	5/14/97	5/14/97	
Date Analyzed:	5/14/97	5/14/97	5/14/97	5/14/97	
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	
Conc. Spiked:	20 μg/L	20 μg/L	20 μg/L	60 μg/L	
Matrix Spike					
% Recovery:	90	90	85	90	
Matrix Spike Duplicate %					
Recovery:	90	90	90	92	
Relative %					
Difference:	0.0	0.0	5.7	1.8	

LCS Batch#:	4LCS051497	4LCS051497	4LCS051497	4LCS051497
Date Prepared:	5/14/97	5/14/97	5/14/97	5/14/97
Date Analyzed:	5/14/97	5/14/97	5/14/97	5/14/97
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS %				
Recovery:	85	85	80	85
% Recovery				
Control Limits:	70-130	70-130	70-130	70-130

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.

CHAIN OF CUSTODY

SAMPLER			TOSC S/S	:0 # <i>33</i>	93	CITY: Say L	eard	3		AN	ALYSES REQ	UEST	ED			TURN AROUND TIME:
WITHESSING AGENCY	en steps	<u> </u>				08 E. 140	<u>& S1.</u>	9 #	Brxc	MTBE						REMARKS
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	СОМР	NO. OF CONT.	SAMPLING LOCATION	F	ගු	な						REMARKS
μωι	5-7-97					2		/			70	50	637	A-:	B	MBE
MWZ	(,					2		6			70	050	638			5666
M03	77			1		2					7()50	639			
мыч	C,					2				1	70)50	640			
นพร	7,7			-		2					70	050	641			
MWG	١٤		/			2		_			70)50	642			
FWM	(,			-		· 2		_		\	70	050	643			
8WM	1.5					2	!				70)50	644			
ಗಳಿಗ	(•					2				_	70)50	645			
4010	10	:				2					70	050	646	1		
RELINQUIS	HED 8Y:	DATE/1	IME		R	ÉCEIVED BY:		ATE/TIME	ļ.	•	MUST BE COMPI LES RECEIVED F					EPTING SAMPLES FOR ANALYSES:
106	Der	S-8	14:25		$\Delta \Delta$	4/ML		425			EMAIN REFRIGE					¥
(SIGNATURE)	·			 	A (URE											(N)
(SIGNATUR€)					ATURE			3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE?								
(SIGNATURE)				(SIG N	ATURE)			_	\)\[\	N APPROPRIATI	E CONT	AINERS A	AND PRO	PERLY PA	CKAGED?
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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

SAMPLER			TOSCO S/S # 3292 CITY: Sey Leoudy							AN		TURN AROUND TIME:				
WITNESSING AGENCY			ADDRESS: 15008 E. 14 th J.					J-HAL	BINE	MYBE	:					REMARKS
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	СОМР	NO. OF CONT.	SAMPLING LOCATION	1	\Diamond	3						REMARKS
uwil	5-2-97		/			7		/				7050	647	A-B		MBE
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RELINQUISHED BY: DATE/T		D291/1 5				TE/TIME	THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTOR TO THE PROPERTY OF THE LABORATORY ACCEPTOR THE LABORATOR TH									
(SIGNATURE)		5-8 1	14:25 SIGNATURES 14				25		AMPLES RE		-					
(SIGNATURE)			(SIGNATURE)						3. DID AN	Y SAMPLE	PACE?					
(SIGNATURE)			(SIGNATURE)						4. WERE S	AMPLES II	RLY PACKA	AGED?				
(SIGNATURE)			(SIGNATURE)						SIGNATURE PM TITLE: DATE: 58/87							

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.