



GETTLER-RYAN INC.

March 26, 1999
G-R Job #180066

Mr. David B. De Witt
Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

RE: Semi-Annual 1999 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #0752
800 Harrison Street
Oakland, California

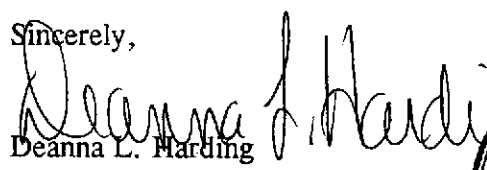
Dear Mr. De Witt:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On January 14, 1999, field personnel monitored eight wells (MW-1 through MW-8) and sampled seven wells (MW-1 through MW-6 and MW-8) at the above referenced site. One well (MW-7) was inaccessible.

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the wells. Static water level data and groundwater elevations are summarized in Table 1. Dissolved oxygen concentrations are summarized in Table 4. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are summarized in Tables 1, 2 and 3. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,


Deanna L. Harding
Project Coordinator

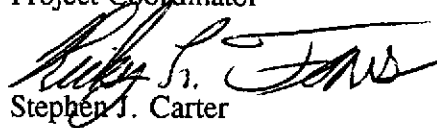
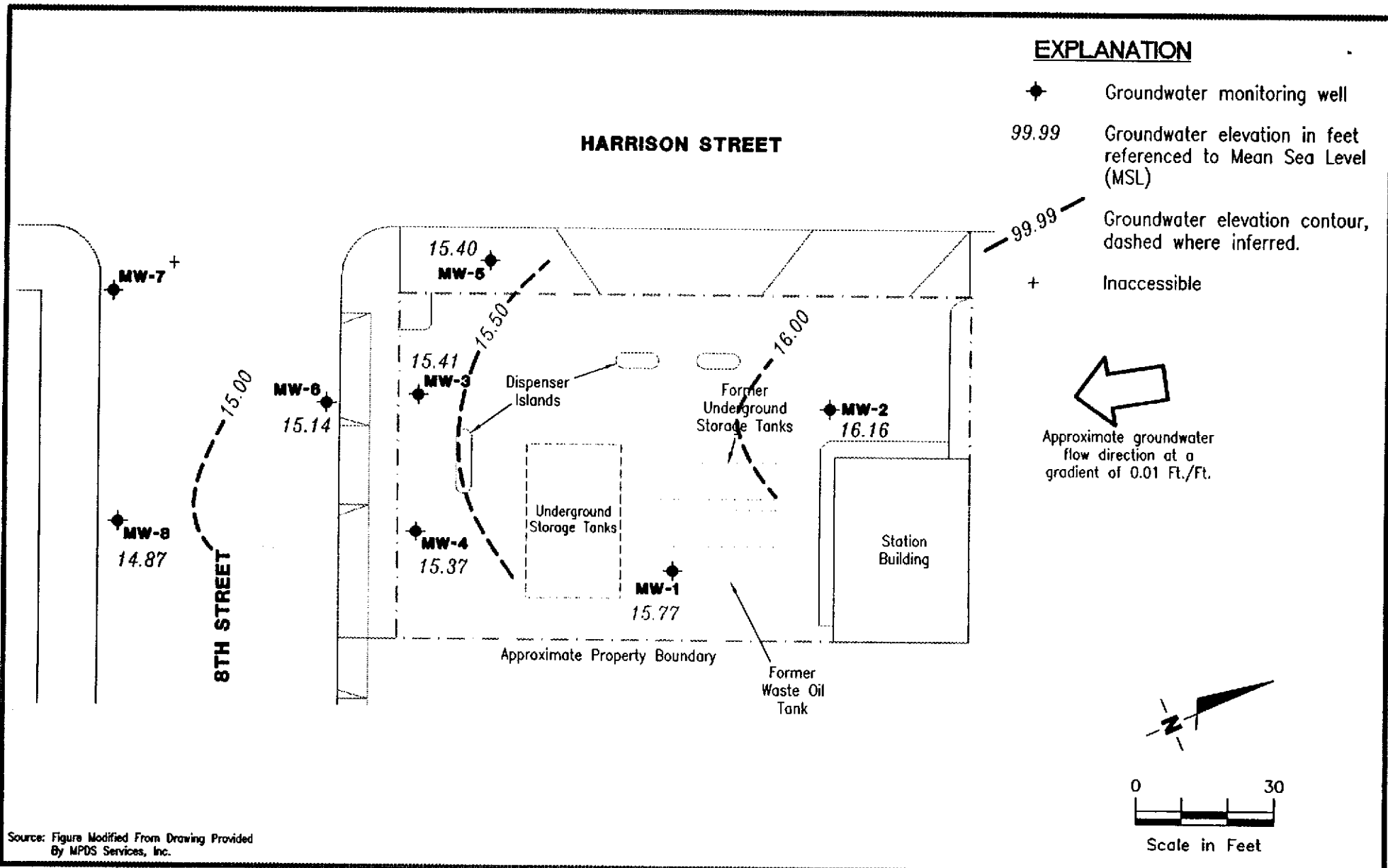

Stephen J. Carter
Senior Geologist, R.G. No. 5577



Figure 1: Potentiometric Map
Figure 2: Concentration Map
Table 1: Groundwater Monitoring Data and Analytical Results
Table 2: Groundwater Analytical Results
Table 3: Groundwater Analytical Results
Table 4: Dissolved Oxygen Concentrations
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets



Gettler - Ryan Inc.

6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

POTENTIOMETRIC MAP
 Tosco (Unocal) Service Station No. 0752
 800 Harrison Street
 Oakland, California

FIGURE

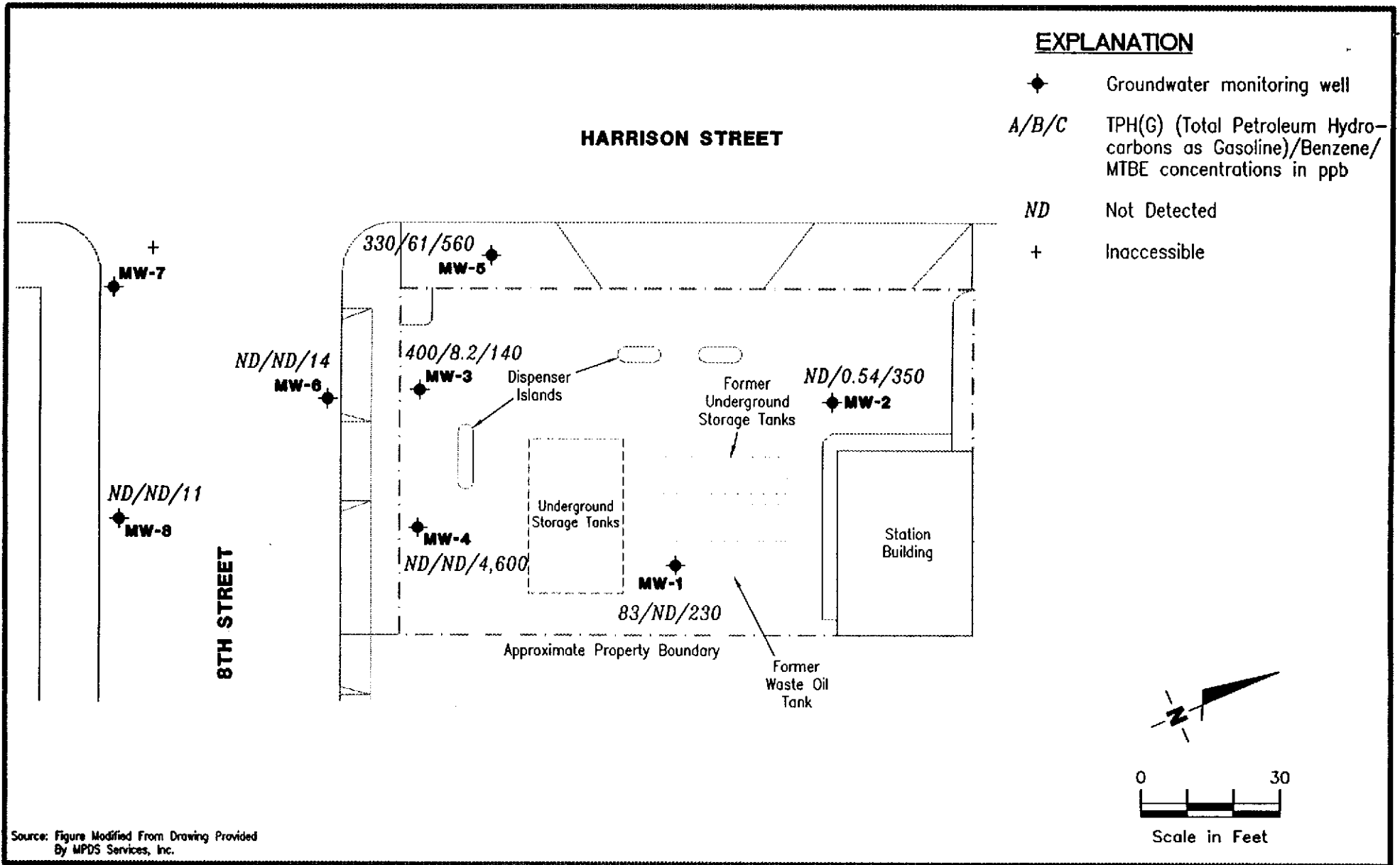
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JOB NUMBER
180066

REVIEWED BY

DATE
January 14, 1999

REVISED DATE



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6747 Sierra CL, Suite J (925) 551-7555
Dublin, CA 94568

CONCENTRATION MAP
Tosco (Unocal) Service Station No. 0752
800 Harrison Street
Oakland, California

FIGURE

2

JOB NUMBER
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REVIEWED BY

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REVISED DATE

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #0752
 800 Harrison Street
 Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-1	06/05/91	--	--	ND	47	ND	ND	ND	ND	--	7.8	2.9	1.3
	09/30/91	--	--	ND	ND	ND	ND	ND	ND	--	--	--	--
	12/30/91	--	--	ND	ND	ND	ND	ND	ND	--	6.4	2.1	0.9
	04/02/92	--	--	94	ND	ND	ND	ND	ND	--	7.1	2.6	1.4
	06/30/92	--	--	120	ND	ND	ND	ND	ND	--	9.5	2.2	1.3
	09/15/92	--	--	ND	76	1.0	ND	ND	ND	--	12	2.2	1.3
34.94	12/21/92	21.17	13.77	ND	95	0.69	ND	ND	1.0	--	12	1.4	0.83
	04/28/93 ¹	--	--	470 ²	920	3.1	2.3	1.2	9.7	--	12	0.89	0.85
34.69	07/23/93	20.13	14.81	ND	ND	0.5	0.66	ND	ND	--	16	1.3	0.91
	10/05/93	20.30	14.39	57 ³	92 ⁵	1.5	ND	ND	0.72	--	13	1.3	0.66
	01/03/94 ⁶	20.52	14.17	ND	ND	ND	ND	ND	ND	--	18	1.4	0.93
	04/02/94	20.16	14.53	ND	ND	ND	ND	ND	ND	--	15	1.1	0.68
	07/05/94	19.27	15.42	--	250	4.8	13	1.2	7.3	--	--	--	--
	10/06/94	20.87	13.82	--	540	1.4	ND	0.66	11	--	--	--	--
	01/02/95	19.67	15.02	--	140	ND	ND	ND	ND	--	--	--	--
	04/03/95	17.61	17.08	--	580	3.6	0.75	ND	4.0	--	--	--	--
	07/14/95	18.58	16.11	--	260	2.1	ND	ND	1.2	--	--	--	--
	10/10/95	19.60	15.09	--	220	2.0	ND	25	5.6	29	--	--	--
	01/03/96	19.69	15.00	--	190	2.4	ND	0.71	1.2	--	--	--	--
	04/10/96	17.65	17.04	--	540	8.9	1.7	1.5	7.4	50	--	--	--
	07/09/96	18.52	16.17	--	490	3.0	1.4	1.3	2.5	150	--	--	--
	01/24/97	17.72	16.97	--	760	27	0.89	5.2	10	510	--	--	--
	07/23/97	19.42	15.27	--	ND	ND	ND	ND	ND	550	--	--	--
	NP	01/26/98	17.46	17.23	--	1,800 ⁸	ND ⁹	ND ⁹	ND ⁹	ND ⁹	4,800	--	--
NP	07/03/98	18.61	16.08	--	ND ⁹	ND ⁹	ND ⁹	ND ⁹	ND ⁹	1,800	--	--	--
	01/14/99	18.92	15.77	--	83 ¹⁰	ND	ND	ND	ND	230	--	--	--
MW-2	06/05/91	--	--	--	49	ND	ND	ND	ND	--	--	--	--
	09/30/91	--	--	--	130	18	0.53	14	9.6	--	--	--	--
	12/30/91	--	--	--	91	16	0.89	11	1.9	--	--	--	--
	04/02/92	--	--	--	88	12	0.32	6.3	7.2	--	--	--	--
	06/30/92	--	--	--	76	9.3	0.76	4.8	6.9	--	--	--	--
	09/15/92	--	--	--	1,300	91	5.7	80	110	--	--	--	--
	34.97	12/21/92	20.85	14.12	--	960	97	3.2	74	96	--	--	--

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #0752
800 Harrison Street
Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-2	04/28/93	--	--	--	1,300	76	1.9	130	87	--	--	--	--
(cont)	07/23/93	19.81	15.16	--	66	1.8	ND	2.5	2.0	--	--	--	--
34.72	10/05/93	19.95	14.77	--	120	12	ND	2.1	12	--	--	--	--
	01/03/94	20.21	14.51	--	260	25	ND	5.5	26	--	--	--	--
	04/02/94	19.88	14.84	--	ND	0.65	ND	ND	0.99	--	--	--	--
	07/05/94	19.07	15.65	--	160	16	ND	0.73	10	--	--	--	--
	10/06/94	20.55	14.17	--	170	15	ND	1.4	11	--	--	--	--
	01/02/95	19.25	15.47	--	190	27	ND	0.95	11	--	--	--	--
	04/03/95	17.49	17.23	--	2,400	65	6.6	19	63	--	--	--	--
	07/14/95	18.30	16.42	--	750	270	ND	ND	13	--	--	--	--
	10/10/95	19.25	15.47	--	50	1.6	ND	ND	ND	200	--	--	--
	01/03/96	19.40	15.32	--	ND	ND	ND	ND	ND	--	--	--	--
	04/10/96	17.35	17.37	--	300	42	ND	2.4	9.0	620	--	--	--
	07/09/96	18.22	16.50	--	760	230	ND	1.3	2.4	1,500	--	--	--
	01/24/97	17.59	17.13	--	2,900	400	350	190	720	1,300	--	--	--
	07/23/97	19.13	15.59	--	ND	ND	ND	ND	ND	65	--	--	--
NP	01/26/98	17.12	17.60	--	ND	ND	ND	ND	0.58	13	--	--	--
NP	07/03/98	18.20	16.52	--	140	26	ND	0.95	5.0	330	--	--	--
	01/14/99	18.56	16.16	--	ND	0.54	ND	ND	ND	350	--	--	--
MW-3	06/05/91	--	--	--	5,800	1,200	40	140	97	--	--	--	--
	09/30/91	--	--	--	6,800	1,400	130	290	240	--	--	--	--
	12/30/91	--	--	--	7,200	2,100	690	410	550	--	--	--	--
	04/02/92	--	--	--	8,000	1,400	200	300	310	--	--	--	--
	06/30/92	--	--	--	8,900	1,900	210	430	550	--	--	--	--
	09/15/92	--	--	--	10,000	1,900	330	400	580	--	--	--	--
33.39	12/21/92	20.02	13.37	--	8,500	1,500	150	310	330	--	--	--	--
	04/28/93	--	--	--	2,600	220	7.6	41	27	--	--	--	--
	07/23/93	19.00	14.39	--	4,400	660	26	160	82	--	--	--	--
33.14	10/05/93	19.20	13.94	--	9,200	720	88	140	140	--	--	--	--
	01/03/94	19.40	13.74	--	4,900	830	100	170	150	--	--	--	--
	04/02/94	19.01	14.13	--	6,000	800	30	140	110	--	--	--	--
	07/05/94	18.14	15.00	--	25,000 ⁵	ND	ND	ND	ND	--	--	--	--
	10/06/94	19.73	13.41	--	49,000 ⁴	1,300	200	280	300	--	--	--	--

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Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-3	01/02/95	18.36	14.78	--	480	1.6	ND	1.4	ND	--	--	--	--
(cont)	04/03/95	16.38	16.76	--	8,100 ⁵	65	ND	ND	ND	--	--	--	--
	07/14/95	17.49	15.65	--	ND	1,300	ND	ND	ND	--	--	--	--
	10/10/95	18.50	14.64	--	3,100	1,400	36	50	53	190,000	--	--	--
	01/03/96 ⁷	18.54	14.60	--	ND	2,300	110	150	140	--	--	--	--
	04/10/96	16.40	16.74	--	940	38	33	39	47	69,000	--	--	--
	07/09/96	17.43	15.71	--	ND	2,000	ND	150	160	140,000	--	--	--
	01/24/97	16.57	16.57	--	540	8.0	ND	11	9.9	45	--	--	--
	07/23/97	18.38	14.76	--	7,400	1,900	180	140	340	45,000	--	--	--
NP	01/26/98	16.22	16.92	--	250	2.2	1.9	0.87	1.9	4.0	--	--	--
NP	07/03/98	17.46	15.68	--	230	1.8	2.5	1.5	3.4	6.3	--	--	--
	01/14/99	17.73	15.41	--	400 ¹⁰	8.2	2.7	0.90	5.9	140	--	--	--
MW-4	10/19/92	--	--	--	480	0.51	2.1	2.8	6.8	--	--	--	--
33.12	12/21/92	19.73	13.39	--	220 ⁴	ND	ND	0.97	0.74	--	--	--	--
	04/28/93	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	07/23/93	18.72	14.40	--	85 ⁴	ND	ND	ND	ND	--	--	--	--
32.71	10/05/93	18.74	13.97	--	130 ⁵	ND	ND	ND	ND	--	--	--	--
	01/03/94	18.93	13.78	--	210	ND	ND	0.76	1.6	240	9.0	1.0	ND
	04/02/94	18.53	14.18	--	89	ND	ND	ND	ND	--	--	--	--
	07/05/94	17.67	15.04	--	190 ⁵	ND	ND	ND	ND	--	--	--	--
	10/06/94	19.25	13.46	--	170	0.85	ND	ND	0.74	--	--	--	--
	01/02/95	17.75	14.96	--	ND	ND	ND	ND	ND	--	--	--	--
	04/03/95	15.87	16.84	--	98 ⁵	ND	ND	ND	ND	--	--	--	--
	07/14/95	17.01	15.70	--	ND	ND	ND	ND	ND	--	--	--	--
	10/10/95	18.03	14.68	--	ND	ND	ND	ND	ND	120	--	--	--
	01/03/96 ⁷	18.05	14.66	--	ND	ND	ND	ND	ND	--	--	--	--
	04/10/96	16.00	16.71	--	ND	ND	ND	ND	ND	240	--	--	--
	07/09/96	16.96	15.75	--	ND	ND	ND	ND	ND	480	--	--	--
	01/24/97	16.04	16.67	--	ND	ND	ND	ND	ND	270	--	--	--
	07/23/97	17.87	14.84	--	ND	ND	ND	ND	ND	460	--	--	--
NP	01/26/98	16.05	16.66	--	ND	ND	ND	ND	ND	17	--	--	--
NP	07/03/98	16.95	15.76	--	ND	ND	ND	ND	ND	3.8	--	--	--
	01/14/99	17.34	15.37	--	ND	ND	ND	ND	ND	4,600	--	--	--

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MW-5 33.25	10/19/92	--	--	--	2,700	61	5.0	100	61	--	--	--	--
	12/21/92	19.75	13.50	--	1,700	51	4.7	83	34	--	--	--	--
32.95	04/28/93	--	--	--	6,700	200	190	250	430	--	--	--	--
	07/23/93	18.74	14.51	--	2,000	122	8.0	68	47	--	--	--	--
	10/05/93	18.83	14.12	--	1,700	70	6.2	54	40	--	--	--	--
	01/03/94	19.05	13.90	--	1,500	44	ND	42	46	--	--	--	--
	04/02/94	18.68	14.27	--	1,800	46	5.1	38	35	--	--	--	--
	07/05/94	17.90	15.05	--	2,200	97	8.4	37	36	--	--	--	--
	10/06/94	19.37	13.58	--	1,600	79	5.7	28	22	--	--	--	--
	01/02/95	17.92	15.03	--	1,700	50	8.6	30	28	--	--	--	--
	04/03/95	16.15	16.80	--	5,400 ⁵	190	240	170	420	--	--	--	--
	07/14/95	17.18	15.77	--	3,800	210	100	130	190	--	--	--	--
	10/10/95	18.15	14.80	--	1,300	92	14	15	39	1,100	--	--	--
	01/03/96 ⁷	18.20	14.75	--	630	53	4.4	8.3	13	--	--	--	--
	04/10/96	16.05	16.90	--	500	25	18	7.0	20	640	--	--	--
	07/09/96	17.11	15.84	--	1,000	44	20	10	34	150	--	--	--
	01/24/97	16.36	16.59	--	4,000	190	400	160	430	600	--	--	--
07/23/97	18.08	14.87	--	1,700	200	23	18	45	2,500	--	--	--	
NP	01/26/98	16.27	16.68	--	ND	ND	ND	ND	ND	--	--	--	
NP	07/03/98	17.27	15.68	--	ND	ND	ND	ND	ND	--	--	--	
	01/14/99	17.55	15.40	--	330	61	4.1	2.2	2.9	560	--	--	
MW-6 32.42	10/19/92	--	--	--	3,900	420	12	60	28	--	--	--	--
	12/21/92	19.17	13.25	--	2,300	370	11	39	15	--	--	--	--
32.16	04/28/93	--	--	--	1,200	54	1.5	11	5.3	--	--	--	--
	07/23/93	18.17	14.25	--	580	19	0.99	3.4	2.7	--	--	--	--
	10/05/93	18.35	13.81	--	1,400	34	ND	5.3	7.3	--	--	--	--
	01/03/94	18.54	13.62	--	1,400	57	ND	8.5	11	--	--	--	--
	04/02/94	18.15	14.01	--	5,300 ⁴	ND	ND	ND	ND	--	--	--	--
	07/05/94	17.25	14.91	--	ND	ND	ND	ND	ND	--	--	--	--
	10/06/94	18.85	13.31	--	11,000 ⁵	ND	ND	ND	ND	--	--	--	--
	01/02/95	17.51	14.65	--	550	18	0.92	2.0	1.8	--	--	--	--
	04/03/95	15.48	16.68	--	6,600 ⁵	ND	ND	ND	ND	--	--	--	--
	07/14/95	16.63	15.53	--	ND	ND	ND	ND	ND	--	--	--	--

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Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-6	10/10/95	17.68	14.48	--	ND	81	ND	ND	ND	75,000	--	--	--
(cont)	01/03/96 ⁷	17.66	14.50	--	70	9.9	0.58	ND	0.81	--	--	--	--
	04/10/96	15.56	16.60	--	300	25	4.7	0.94	2.7	53,000	--	--	--
	07/09/96	16.59	15.57	--	1,800	410	ND	12	ND	76,000	--	--	--
	01/24/97	15.69	16.47	--	ND	0.80	ND	ND	ND	390	--	--	--
	07/23/97	17.53	14.63	--	5,700	1,100	240	240	700	16,000	--	--	--
NP	01/26/98	15.44	16.72	--	ND	ND	ND	ND	ND	ND	--	--	--
NP	07/03/98	16.58	15.58	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	17.02	15.14	--	ND	ND	ND	ND	ND	14	--	--	--
MW-7													
32.49	04/28/93	--	--	--	110	2.8	1.3	1.4	1.7	--	--	--	--
	07/23/93	18.60	13.89	--	790	23	3.3	28	5.4	--	--	--	--
32.20	10/05/93	18.76	13.44	--	360	10	1.2	0.91	0.99	--	--	--	--
	01/03/94	18.91	13.29	--	ND	0.93	ND	0.75	1.9	--	--	--	--
	04/02/94	18.50	13.70	--	360	2.0	ND	ND	0.8	--	--	--	--
	07/05/94	17.52	14.68	--	ND	ND	ND	ND	ND	--	--	--	--
	10/06/94	19.25	12.95	--	340	5.6	0.85	ND	1.2	--	--	--	--
	01/02/95	17.67	14.53	--	ND	ND	ND	ND	ND	--	--	--	--
	04/03/95	15.81	16.39	--	570	24	ND	3.4	5.8	--	--	--	--
	07/14/95	17.05	15.15	--	ND	14	ND	ND	ND	--	--	--	--
	10/10/95	18.08	14.12	--	740	170	ND	ND	ND	13,000	--	--	--
	01/03/96 ⁷	18.02	14.18	--	360	16	1.3	2.7	1.4	--	--	--	--
	04/10/96	15.81	16.39	--	120	4.1	1.5	ND	0.88	3,200	--	--	--
	07/09/96	16.99	15.21	--	ND	ND	ND	ND	ND	3,400	--	--	--
	01/24/97	16.08	16.12	--	ND	16	ND	ND	ND	6,600	--	--	--
	07/23/97	17.99	14.21	--	ND	1.5	ND	ND	0.62	10,000	--	--	--
NP	01/26/98	15.56	16.64	--	ND	ND	ND	ND	0.56	ND	--	--	--
NP	07/03/98	17.04	15.16	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	INACCESSIBLE (PARKED CAR)			--	--	--	--	--	--	--	--	--

Table 1
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Tosco (Unocal) Service Station #0752
800 Harrison Street
Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-8													
32.33	04/28/93	--	--	--	450	18	1.8	1.8	1.4	--	--	--	--
	07/23/93	18.45	13.88	--	260	5.1	ND	0.6	ND	--	--	--	--
32.00	10/05/93	18.57	13.43	--	120 ⁵	1.7	ND	ND	ND	--	--	--	--
	01/03/94 ¹	18.73	13.27	--	ND	ND	ND	ND	ND	51	1.5	1.2	ND
	04/02/94	18.30	13.70	--	150	1.2	ND	ND	ND	--	--	--	--
	07/05/94	17.41	14.59	--	730	17	ND	1.6	ND	--	--	--	--
	10/06/94	18.98	13.02	--	140 ⁵	ND	ND	ND	ND	--	--	--	--
	01/02/95	17.58	14.42	--	440	18	0.72	2.0	1.8	--	--	--	--
	04/03/95	15.54	16.46	--	960	11	ND	ND	ND	--	--	--	--
	07/14/95	16.81	15.19	--	280	4.2	2.6	1.1	3.3	--	--	--	--
	10/10/95	17.85	14.15	--	110	1.3	0.62	0.67	ND	170	--	--	--
	01/03/96 ⁷	17.82	14.18	--	63	ND	0.51	ND	1.8	--	--	--	--
	04/10/96	15.70	16.30	--	ND	1.1	0.61	ND	ND	60	--	--	--
	07/09/96	16.78	15.22	--	72	1.0	ND	ND	ND	140	--	--	--
	01/24/97	15.79	16.21	--	ND	ND	ND	ND	ND	76	--	--	--
	07/23/97	17.69	14.31	--	ND	ND	ND	ND	ND	270	--	--	--
NP	01/26/98	15.50	16.50	--	ND	ND	ND	ND	0.76	2.9	--	--	--
NP	07/03/98	16.80	15.20	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	17.13	14.87	--	ND	ND	ND	ND	ND	11	--	--	--
Trip Blank													
TB-LB	01/26/98	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	07/03/98	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #0752
 800 Harrison Street
 Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to January 26, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing elevation	B = Benzene	PCE = Tetrachloroethene
DTW = Depth to Water	T = Toluene	TCE = Trichloroethene
(ft.) = Feet	E = Ethylbenzene	ppb = Parts per billion
GWE = Groundwater Elevation	X = Xylenes	ND = Not Detected
msl = Relative to mean sea level	MTBE = Methyl tertiary butyl ether	-- = Not Measured/Not Analyzed
TPH(D) = Total Petroleum Hydrocarbons as Diesel		NP = No Purge
TPH(G) = Total Petroleum Hydrocarbons as Gasoline		

* TOC elevations are relative to mean sea level (msl), per the City of Oakland benchmark disk stamped "25/A" at the northeast corner of 7th and Harrison (Elevation = 28.81 feet msl). Prior to October 5, 1993, the DTW measurements were taken from the top of well covers.

** All EPA Method 8010 constituents were ND, except as indicated above.

¹ 1,2-dichloroethane (1,2-DCA) was detected in MW-8 at a concentration of 4.0 ppb on 01/03/94, and 1.1 ppb in MW-1 on 04/28/93.

² Laboratory report indicates the hydrocarbons detected did not appear to be diesel.

³ Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

⁴ Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

⁵ Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.

⁶ A fuel fingerprint analysis was conducted on this sample. Laboratory report indicates total extractable petroleum hydrocarbons in this sample were not detected in high enough concentrations to compare with known standards and approximate their makeup.

⁷ Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 ppb in the sample collected from this well.

⁸ Laboratory report indicates gasoline and unidentified hydrocarbons C6-C8.

⁹ Detection limit raised. Refer to analytical results.

¹⁰ Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.

Table 2
Groundwater Analytical Results
 Tosco (Unocal) Service Station #0752
 800 Harrison Street
 Oakland, California

Well ID	Date	TOG (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Nickel (ppm)	Zinc (ppm)
MW-1	06/05/91	ND	ND	0.0083	0.011	0.063	0.023
	09/30/91	ND	ND	0.019	ND	ND	0.11
	12/30/91	ND	ND	0.0078	0.0057	ND	0.046
	04/02/92	ND	ND	0.015	0.016	ND	0.02
	06/30/92	ND	ND	0.079	0.009	0.1	0.087

EXPLANATIONS:

Groundwater analytical results were compiled from reports prepared by MPDS Services, Inc.

TOG = Total Oil and Grease

ppm = Parts per million

ND = Not Detected

Table 3
Groundwater Analytical Results
 Tosco (Unocal) Service Station #0752
 800 Harrison Street
 Oakland, California

Well ID	Date	BOD (ppm)	Bicarbonate Alkalinity (ppm)	Calcium (ppm)	Iron (ppm)	Manganese (ppm)	Nitrate (ppm)	Sulfate (ppm)	Heterotrophic Plate Count (CFU/mL)
MW-1	04/10/96	--	160	21	15	2.6	--	--	--
MW-2	01/03/96	2.2	130	27	77	3.0	0.22	97	> 5,700
	04/10/96	--	460	58	60	7.0	--	--	--
MW-3	01/03/96	4.3	430	43	61	5.4	0.23	16	350
	04/10/96	--	360	40	60	3.7	--	--	--
MW-4	01/03/96	ND	120	20	61	3.3	10	44	1,000
	04/10/96	--	160	25	43	2.0	--	--	--
MW-5	01/03/96	3.4	240	31	80	3.3	ND	17	> 5,700
	04/10/96	--	240	22	18	2.4	--	--	--
MW-6	04/10/96	--	240	35	61	3.7	--	--	--
MW-7	04/10/96	--	210	44	120	4.8	--	--	--
MW-8	01/03/96	ND	310	37	62	3.3	0.57	20	> 5,700
	04/10/96	--	380	37	63	3.6	--	--	--

EXPLANATIONS:

Groundwater analytical results were compiled from reports prepared by MPDS Services, Inc.

BOD = Biochemical Oxygen Demand

-- = Not Analyzed

ppm = Parts per million

ND = Not Detected

CFU/mL = Colony Forming Units per milliliter

Table 4
Dissolved Oxygen Concentrations
Tosco (Unocal) Service Station #0752
800 Harrison Street
Oakland, California

Well ID	Date	Before Purging (mg/L)	After Purging (mg/L)
MW-1	04/10/96	--	3.04
	07/09/96	--	3.13
	01/24/97	--	2.56
	07/23/97	2.26	2.81
	01/26/98	3.97	--
	07/03/98	3.58	--
MW-2	01/03/96		1.80
	04/10/96	--	5.88
	07/09/96	--	0.71
	01/24/97	--	2.37
	07/23/97	1.40	0.97
	01/26/98	4.12	--
	07/03/98	3.99	--
MW-3	01/03/96		1.50
	04/10/96	--	4.63
	07/09/96	--	1.04
	01/24/97	--	1.46
	07/23/97	3.84	1.37
	01/26/98	1.84	--
	07/03/98	2.16	--
MW-4	01/03/96		1.20
	04/10/96	--	5.23
	07/09/96	--	4.91
	01/24/97	--	3.04
	07/23/97	9.28	3.68
	01/26/98	3.36	--
	07/03/98	4.07	--
MW-5	01/03/96		2.80
	04/10/96	--	3.73
	07/09/96	--	3.25
	01/24/97	--	1.47
	07/23/97	7.96	4.56
	01/26/98	5.30	--
	07/03/98	4.73	--
MW-6	04/10/96		4.50
	07/09/96	--	3.62
	01/24/97	--	6.21
	07/23/97	10.90	3.31
	01/26/98	2.55	--
	07/03/98	3.11	--

Table 4
Dissolved Oxygen Concentrations
 Tosco (Unocal) Service Station #0752
 800 Harrison Street
 Oakland, California

Well ID	Date	Before Purging (mg/L)	After Purging (mg/L)
MW-7	04/10/96	--	5.10
	07/09/96	--	2.34
	01/24/97	--	1.91
	07/23/97	3.25	2.83
	01/26/98	3.44	--
	07/03/98	3.83	--
MW-8	01/03/96	--	1.30
	04/10/96	--	4.80
	07/09/96	--	1.32
	01/24/97	--	2.09
	07/23/97	4.08	3.27
	01/26/98	4.71	--
	07/03/98	5.16	--

EXPLANATIONS:

Dissolved oxygen concentrations prior to January 26, 1998, were compiled from reports prepared by MPDS Services, Inc.

mg/L = milligrams per liter
 -- = Not Measured

Note: Measurements were taken using a LaMotte DO4000 dissolved oxygen meter.

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexi-dip interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Tosco Marketing Company, the purge water and decontamination water generated during sampling activities is transported to Tosco - San Francisco Area Refinery, located in Rodeo, California.

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility # 0752 Job#: 18006C
Address: 800 Harrison St. Date: 1-14-99
City: Oakland Sampler: Joc

Well ID MW-1 Well Condition: O.K.
Well Diameter 2 in. Hydrocarbon Amount Bailed
Thickness: 0 (feet) (product/water): 0 (Gallons)
Total Depth 33.56 ft.
Depth to Water 18.92 ft.

Volume	2" = 0.17	3" = 0.38	4" = 0.66
Factor (VF)	6" = 1.50	12" = 5.80	

14.64 X VF 0.17 = 2.49 X 3 (case volume) = Estimated Purge Volume: 8 (gal.)

Purge Equipment: Disposable Bailer
Bailer
Stack
Suction
Grundfos
Other: _____

Sampling Equipment: Disposable Bailer
Bailer
Pressure Bailer
Grab Sample
Other: _____

Starting Time: 11:00 Weather Conditions: clear
Sampling Time: 11:30 A.M. Water Color: clear Odor: none
Purging Flow Rate: 1 gpm. Sediment Description: none
Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm $^{\circ}$ F	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:10</u>	<u>3</u>	<u>7.96</u>	<u>5.13</u>	<u>71.8</u>			
<u>11:12</u>	<u>5</u>	<u>7.37</u>	<u>5.14</u>	<u>69.6</u>			
<u>11:15</u>	<u>8</u>	<u>7.41</u>	<u>5.20</u>	<u>70.2</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>3VoA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btax/mtbe</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/Facility #0752 Job#: 18006C
 Address: 800 Harrison St. Date: 1-14-99
 City: Oakland Sampler: Joe

Well ID MW-2 Well Condition: O.K.
 Well Diameter 2 in. Hydrocarbon Amount Bailed
 Thickness: 0 (feet) (product/water): 0 (Gallons)
 Total Depth 30.40 ft.
 Depth to Water 18.56 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

11.84 x VF 0.17 = 2.01 x 3 (case volume) = Estimated Purge Volume: 6.5 (gal.)

Purge Equipment: Disposable Bailer
 Bailer
 Stack
Suction
 Grundfos
 Other: _____

Sampling Equipment: Disposable Bailer
 Bailer
 Pressure Bailer
 Grab Sample
 Other: _____

Starting Time: 11:42 Weather Conditions: clear
 Sampling Time: 11:05 P.M. Water Color: clear Odor: none
 Purging Flow Rate: 1 gpm. Sediment Description: none
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^3$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:50</u>	<u>2</u>	<u>8.02</u>	<u>3.66</u>	<u>69.8</u>			
<u>11:52</u>	<u>4</u>	<u>7.30</u>	<u>3.72</u>	<u>71.2</u>			
<u>11:54</u>	<u>6.5</u>	<u>7.38</u>	<u>3.78</u>	<u>71.6</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>3veA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility #0752
Address: 800 Harrison st.
City: Oakland

Job#: 18006C
Date: 1-14-99
Sampler: Joe

Well ID MW-3

Well Condition: O.K.

Well Diameter 2 in.

Hydrocarbon Thickness: 0 (feet) Amount Bailed (product/water): 0 (Gallons)

Total Depth 30.53 ft.

Depth to Water 17.73 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

12.8 x VF 0.17 = 2.18 x 3 (case volume) = Estimated Purge Volume: 7 (gal.)

Purge Equipment: Disposable Bailer
Bailer
Stack
Suction
Grundfos
Other: _____

Sampling Equipment: Disposable Bailer
Bailer
Pressure Bailer
Grab Sample
Other: _____

Starting Time: 10:30

Weather Conditions: clear

Sampling Time: 10:46 AM

Water Color: clear Odor: yes

Purging Flow Rate: 1 gpm.

Sediment Description: none

Did well de-water? _____

If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity ¹⁰⁰⁰ μ mhos/cm K	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:35</u>	<u>2.5</u>	<u>7.04</u>	<u>1.85</u>	<u>71.2</u>	_____	_____	_____
<u>10:37</u>	<u>5</u>	<u>6.96</u>	<u>1.80</u>	<u>71.5</u>	_____	_____	_____
<u>10:39</u>	<u>7</u>	<u>6.94</u>	<u>1.77</u>	<u>71.7</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>3voA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility #0752
Address: 800 Harrison St.
City: Oakland

Job#: 18006C
Date: 1-14-99
Sampler: Joe

Well ID MW-4

Well Condition: O.K.

Well Diameter 2 in.

Hydrocarbon Thickness: 0 (feet) Amount Bailed (product/water): 0 (Gallons)

Total Depth 32.30 ft.

Depth to Water 17.34 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

14.96 x VF 0.17 = 2.54 x 3 (case volume) = Estimated Purge Volume: 8 (gal.)

Purge Equipment: Disposable Bailer
Bailer
Stack
Suction
Grundfos
Other: _____

Sampling Equipment: Disposable Bailer
Bailer
Pressure Bailer
Grab Sample
Other: _____

Starting Time: 9:50

Weather Conditions: clear

Sampling Time: 10:14 A.M.

Water Color: clear Odor: none

Purging Flow Rate: 1 gpm.

Sediment Description: none

Did well de-water? _____

If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^3$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:00</u>	<u>3</u>	<u>7.16</u>	<u>4.36</u>	<u>73.0</u>			
<u>10:03</u>	<u>5</u>	<u>7.26</u>	<u>4.30</u>	<u>71.2</u>			
<u>10:05</u>	<u>8</u>	<u>7.30</u>	<u>4.30</u>	<u>72.0</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>30A</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/Facility # 0752 Job#: 18006C
 Address: 800 Harrison St. Date: 1-14-99
 City: Oakland Sampler: Joe

Well ID MW-5 Well Condition: O.K.

Well Diameter 2 in. Hydrocarbon Thickness: 0 (feet) Amount Bailed (product/water): 0 (Gallons)

Total Depth 31.71 ft.

Depth to Water 17.55 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

14.16 X VF 0.17 = 2.41 X 3 (case volume) = Estimated Purge Volume: 8 (gal.)

Purge Equipment: Disposable Bailer
 Bailer
 Stack
Suction
 Grundfos
 Other: _____

Sampling Equipment: Disposable Bailer
 Bailer
 Pressure Bailer
 Grab Sample
 Other: _____

Starting Time: 9:15 Weather Conditions: clear
 Sampling Time: 9:35 A.M. Water Color: clear Odor: none
 Purging Flow Rate: 1 gpm. Sediment Description: none
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^2$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>9:22</u>	<u>3</u>	<u>7.72</u>	<u>7.04</u>	<u>71.2</u>			
<u>9:24</u>	<u>5</u>	<u>7.51</u>	<u>6.55</u>	<u>70.3</u>			
<u>9:26</u>	<u>8</u>	<u>7.54</u>	<u>6.56</u>	<u>70.8</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>3VcA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility #0752
Address: 800 Harrison St.
City: Oakland

Job#: 18006C
Date: 1-14-99
Sampler: Joe

Well ID MW-6

Well Condition: O.K.

Well Diameter 2 in.

Hydrocarbon Thickness: 0 (feet) Amount Bailed (product/water): 0 (Gallons)

Total Depth 30.92 ft.

Depth to Water 17.02 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

13.9 X VF 0.17 = 2.36 X 3 (case volume) = Estimated Purge Volume: 7.5 (gal.)

Purge Equipment: Disposable Bailer
Bailer
Stack
Suction
Grundfos
Other: _____

Sampling Equipment: Disposable Bailer
Bailer
Pressure Bailer
Grab Sample
Other: _____

Starting Time: 8:38
Sampling Time: 8:58 AM
Purging Flow Rate: 1 gpm.
Did well de-water? _____

Weather Conditions: clear
Water Color: clear Odor: none
Sediment Description: none
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^3$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:45</u>	<u>2.5</u>	<u>7.38</u>	<u>5.55</u>	<u>72.0</u>			
<u>8:47</u>	<u>5</u>	<u>7.41</u>	<u>5.51</u>	<u>71.4</u>			
<u>8:49</u>	<u>7.5</u>	<u>7.39</u>	<u>5.46</u>	<u>73.7</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>30A</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility #0752
Address: 800 Harrison St.
City: Oakland

Job#: 18006C
Date: 1-14-99
Sampler: Joe

Well ID MW-7

Well Condition: O.K.

Well Diameter 2 in.

Hydrocarbon Thickness: 0 (feet) Amount Bailed (product/water): 0 (Gallons)

Total Depth _____ ft.

Depth to Water _____ ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

_____ X VF 0.17 = _____ X 3 (case volume) = Estimated Purge Volume: _____ (gal.)

Purge Equipment: Disposable Bailer
Bailer
Stack
Suction
Grundfos
Other: _____

Sampling Equipment: Disposable Bailer
Bailer
Pressure Bailer
Grab Sample
Other: _____

Starting Time: _____

Weather Conditions: clear

Sampling Time: _____

Water Color: clear Odor: _____

Purging Flow Rate: _____ gpm.

Sediment Description: none

Did well de-water? _____

If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}^{\circ}\text{C}$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-7</u>	<u>3VCA</u>	<u>Y</u>	<u>ICE</u>	<u>SEQUOIA</u>	<u>TPH/HQI/btex/mtbe</u>

COMMENTS: Well was ^{illegally} parked-over all day. Only well whose ORP wasn't removed. Unable to monitor or sample.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility: #0752 Job#: 18006C
 Address: 800 Harrison St. Date: 1-14-99
 City: Oakland Sampler: Joe

Well ID: MW-8 Well Condition: O.K.

Well Diameter: 2 in.

Hydrocarbon Thickness: 0 (feet) Amount Bailed: 0 (Gallons)

Total Depth: 27.88 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

Depth to Water: 17.13 ft.

10.75 x VF 0.17 = 1.83 x 3 (case volume) = Estimated Purge Volume: 5.5 (gal.)

Purge Equipment: Disposable Bailer
 Bailer
 Stack
~~Suction~~
 Grundfos
 Other: _____

Sampling Equipment: Disposable Bailer
 Bailer
 Pressure Bailer
 Grab Sample
 Other: _____

Starting Time: 7:55 Weather Conditions: clear
 Sampling Time: 8:25 A.M. Water Color: clear Odor: none
 Purging Flow Rate: 0.5 gpm. Sediment Description: none
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity ¹⁰⁰ $\mu\text{mhos/cm } ^\circ\text{K}$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:12</u>	<u>1.5</u>	<u>7.40</u>	<u>6.36</u>	<u>66.1</u>	_____	_____	_____
<u>8:15</u>	<u>3</u>	<u>7.50</u>	<u>6.27</u>	<u>65.8</u>	_____	_____	_____
<u>8:18</u>	<u>5.5</u>	<u>7.53</u>	<u>6.24</u>	<u>65.4</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-8</u>	<u>3YA</u>	<u>Y</u>	<u>H.C.L.</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btax/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal #0752, Oakland
Sample Matrix: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 901-0887

Sampled: Jan 14, 1999
Received: Jan 14, 1999
Reported: Jan 28, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 901-0887 TB-LB	Sample I.D. 901-0888 MW-1	Sample I.D. 901-0889 MW-2	Sample I.D. 901-0890 MW-3	Sample I.D. 901-0891 MW-4	Sample I.D. 901-0892 MW-5
Purgeable Hydrocarbons	50	N.D.	83	N.D.	400	N.D.	330
Benzene	0.50	N.D.	N.D.	0.54	8.2	N.D.	61
Toluene	0.50	N.D.	N.D.	N.D.	2.7	N.D.	4.1
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	0.90	N.D.	2.2
Total Xylenes	0.50	N.D.	N.D.	N.D.	5.9	N.D.	2.9
MTBE	2.5	N.D.	230	350	140	4,600	560
Chromatogram Pattern:		--	Gasoline & Unidentified Hydrocarbons C6 - C12	--	Gasoline & Unidentified Hydrocarbons C6 - C12	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	1/23/99	1/23/99	1/23/99	1/25/99	1/23/99	1/23/99
Instrument Identification:	HP-5	HP-5	HP-5	HP-2	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	90	93	104	117	92	90

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager



Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Deanna Harding	Client Project ID: Unocal #0752, Oakland Sample Matrix: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 901-0893	Sampled: Jan 14, 1999 Received: Jan 14, 1999 Reported: Jan 28, 1999
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TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 901-0893 MW-6	Sample I.D. 901-0894 MW-8
Purgeable Hydrocarbons	50	N.D.	N.D.
Benzene	0.50	N.D.	N.D.
Toluene	0.50	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.
MTBE	2.5	14	11
Chromatogram Pattern:		--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	1/23/99	1/23/99
Instrument Identification:	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	111	94

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal #0752, Oakland
Matrix: Liquid

QC Sample Group: 9010887-894

Reported: Jan 28, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	9010892	9010892	9010892	9010892
Date Prepared:	1/23/99	1/23/99	1/23/99	1/23/99
Date Analyzed:	1/23/99	1/23/99	1/23/99	1/23/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	110	110	104	107
Matrix Spike Duplicate % Recovery:	85	105	94	103
Relative % Difference:	26	4.7	10	3.3

LCS Batch#:	5LCS012399	5LCS012399	5LCS012399	5LCS012399
Date Prepared:	1/23/99	1/23/99	1/23/99	1/23/99
Date Analyzed:	1/23/99	1/23/99	1/23/99	1/23/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	100	100	100	107

% Recovery Control Limits:	Benzene	Toluene	Ethyl Benzene	Xylenes
	70-130	70-130	70-130	70-130

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
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Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal #0752, Oakland
Matrix: Liquid

QC Sample Group: 9010887-894

Reported: Jan 28, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	9010894	9010894	9010894	9010894
Date Prepared:	1/25/99	1/25/99	1/25/99	1/25/99
Date Analyzed:	1/25/99	1/25/99	1/25/99	1/25/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	100	90	95	98
Matrix Spike Duplicate % Recovery:	105	95	95	108
Relative % Difference:	4.9	5.4	0.0	9.7

LCS Batch#:	2LCS012599	2LCS012599	2LCS012599	2LCS012599
Date Prepared:	1/25/99	1/25/99	1/25/99	1/25/99
Date Analyzed:	1/25/99	1/25/99	1/25/99	1/25/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	100	95	95	105

% Recovery Control Limits:	70-130	70-130	70-130	70-130
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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.

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