



# GETTLER - RYAN INC.

August 31, 1999  
G-R Job #180065

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

RE: Third Quarter 1999 Groundwater Monitoring & Sampling Report  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

Dear Mr. De Witt:

This report documents the monthly site visits and the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On May 28, and June 29, 1999, field personnel monitored one well (MW-6). On July 14, 1999, field personnel monitored six wells (MW-3, MW-6, MW-7, MW-8, MW-9, and MW-10) and sampled five wells (MW-3, MW-7, MW-8, MW-9 and MW-10) at the above referenced site.

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were present in one well (MW-6). Static water level data and groundwater elevations are summarized in Table 1. Product Thickness/Removal Data is summarized in Table 2. 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 Table 1, and 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

Douglas J. Lee  
Senior Geologist, R.G. No. 6882

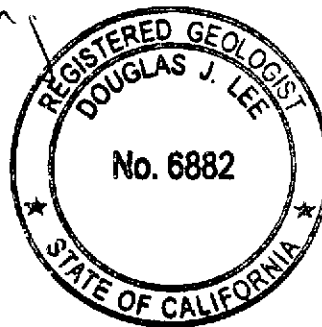
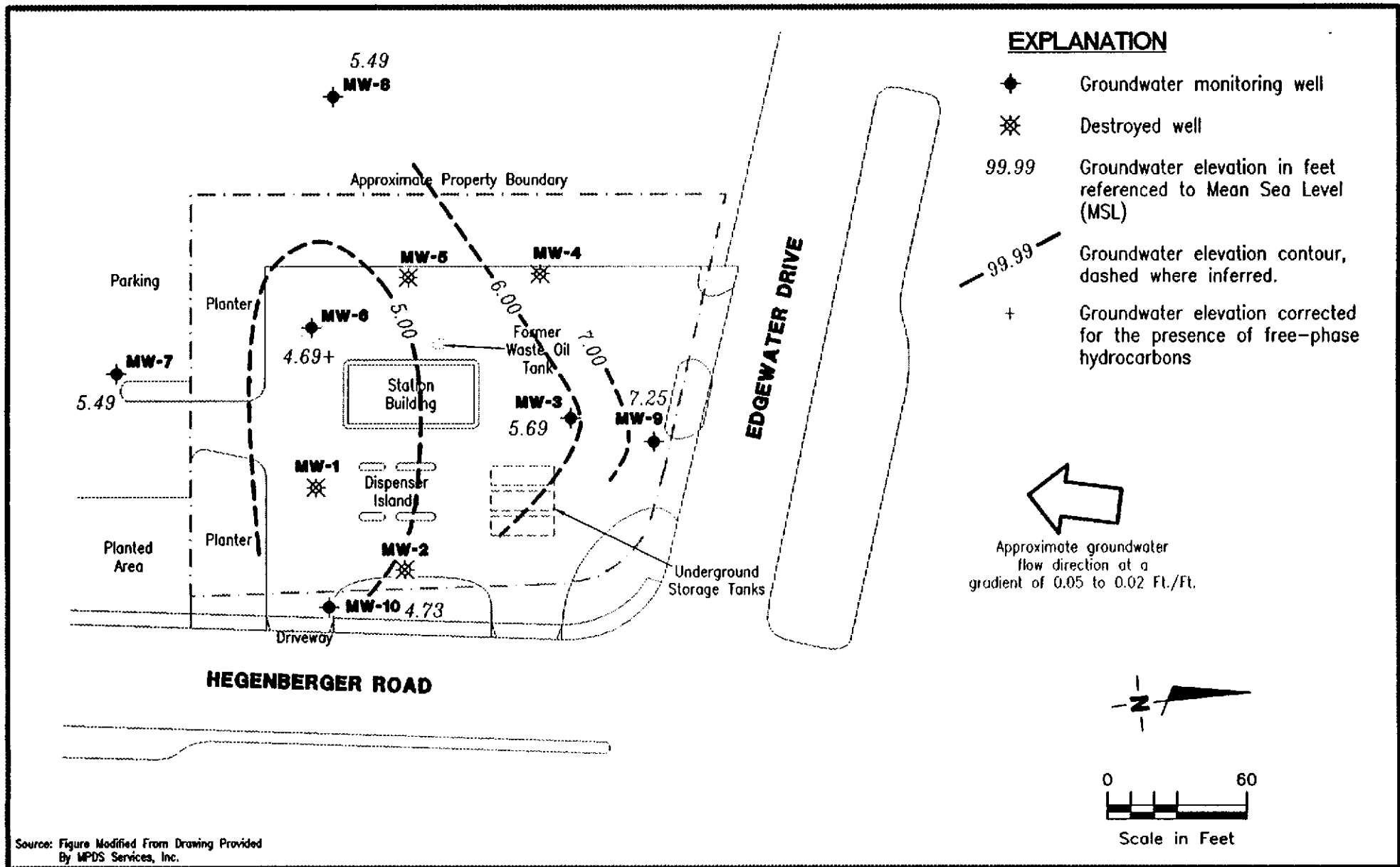


Figure 1: Potentiometric Map  
Figure 2: Concentration Map  
Table 1: Groundwater Monitoring Data and Analytical Results  
Table 2: Product Thickness/Removal Data  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical Reports

5043.qml



**Gettler - Ryan Inc.**

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Dublin, CA 94568

POTENTIOMETRIC MAP  
Tosco (Unocal) Service Station No. 5043  
449 Hegenberger Road  
Oakland, California

FIGURE

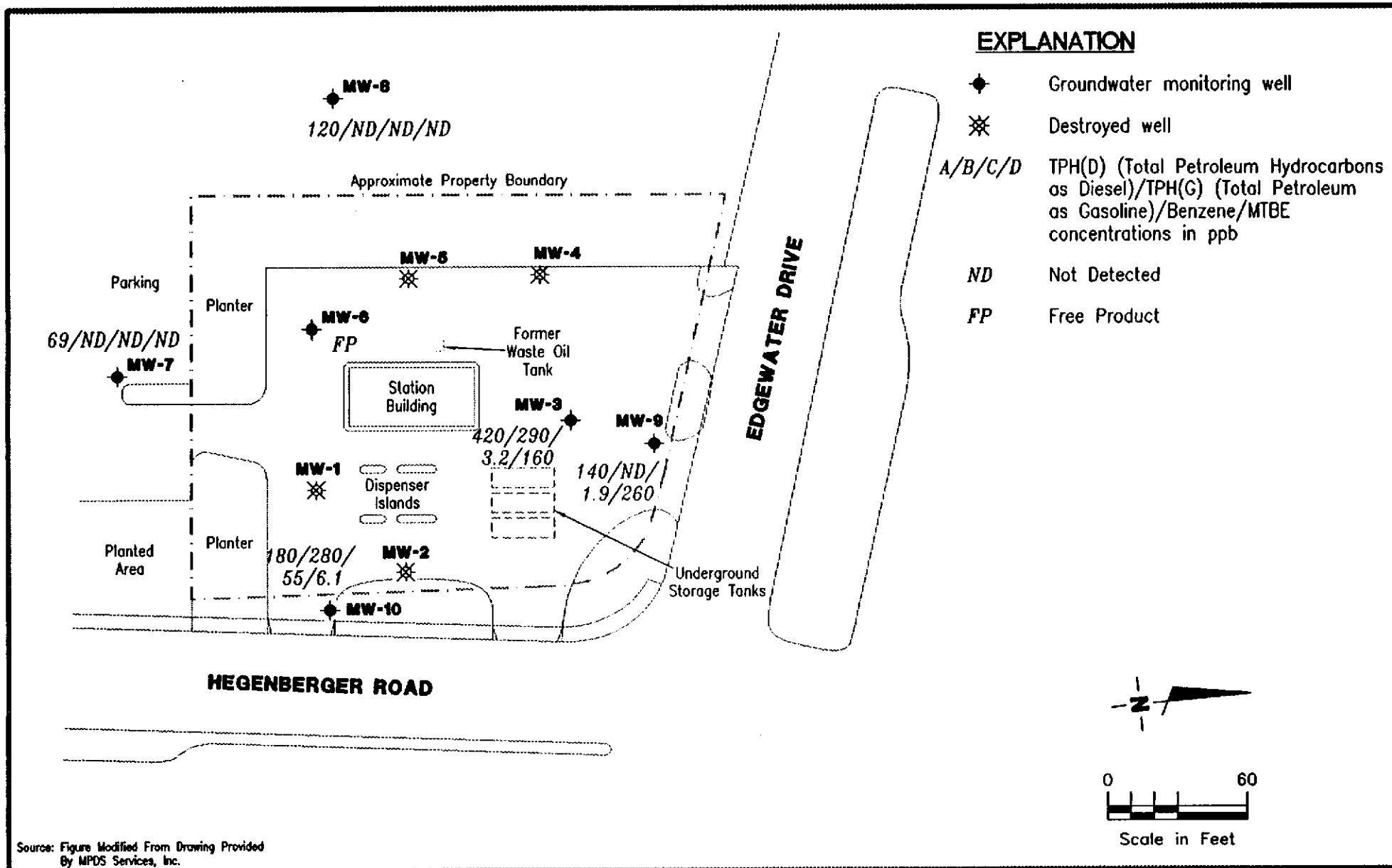
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JOB NUMBER  
180065

REVIEWED BY

DATE  
July 14, 1999

REVISED DATE



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**CONCENTRATION MAP**  
Tosco (Unocal) Service Station No. 5043  
449 Hegenberger Road  
Oakland, California

FIGURE

**2**

JOB NUMBER  
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REVIEWED BY

DATE  
July 14, 1999

REVISED DATE

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product							
				Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1	02/18/92	--	--	--	13,000	150,000	17,000	26,000	5,200	26,000	--
	05/20/92	--	--	--	--	--	--	--	--	--	--
	08/31/92	--	--	--	8,900 <sup>1</sup>	64,000	13,000	12,000	2,500	22,000	--
	11/30/92	--	--	--	--	--	--	--	--	--	--
	02/04/93	--	--	--	--	--	--	--	--	--	--
8.96*	05/04/93	2.13	5.73**	0.10	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	08/04/93	2.92	4.88**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
7.38	11/03/93	3.04	4.74	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	02/07/94	2.55	4.85**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	05/19/94	2.23	5.16**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	06/25/94	2.49	4.90**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	07/27/94	3.10	4.28	0.00	--	--	--	--	--	--	--
	08/15/94	2.85	4.61**	0.11	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	11/14/94	2.97	4.50**	0.12	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	02/21/95	1.53	5.87**	0.02	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	05/18/95	DESTROYED (3/95)		--	--	--	--	--	--	--	--
MW-2	02/18/92	--	--	--	4,300	29,000	1,000	5,300	260	7,900	--
	05/20/92	--	--	--	4,300 <sup>1</sup>	24,000	2,200	7,600	630	11,000	--
	08/31/92	--	--	--	1,600 <sup>1</sup>	9,000	1,800	640	140	2,000	--
	11/30/92	--	--	--	5,700 <sup>1</sup>	29,000	2,000	3,400	1,200	6,900	--
	02/04/93	--	--	--	6,100 <sup>1</sup>	18,000	1,600	3,000	ND	6,900	--
8.96*	05/04/93	2.48	6.48	0.00	7,100 <sup>1</sup>	63,000	3,200	17,000	470	17,000	--
	08/04/93	3.20	5.76	0.00	1,800 <sup>2</sup>	45,000	2,100	6,600	1,400	12,000	--
8.58	11/03/93	3.37	5.21	0.00	2,600 <sup>2</sup>	72,000	3,700	16,000	3,700	20,000	--
	02/07/94	2.40	6.18	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	05/19/94	2.13	6.45	0.00	3,000 <sup>2</sup>	42,000	2,500	1,300	2,300	13,000	--
	06/25/94	2.65	5.93	0.00	--	--	--	--	--	--	--
	07/27/94	3.44	5.14	0.00	--	--	--	--	--	--	--
	08/15/94	3.25	5.33	0.00	2,800 <sup>2</sup>	35,000	2,400	850	1,700	15,000	--
	11/14/94	2.13	6.45	0.00	10,000 <sup>1</sup>	43,000	2,200	6,500	1,800	14,000	--
	02/21/95	1.65	6.93	0.00	2,000 <sup>2</sup>	44,000	2,200	3,200	1,300	1,500	--
	05/18/95	DESTROYED (3/95)		--	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (mst)	Product Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-3	02/18/92	--	--	--	ND	230	4.8	22	1.8	33	--
	05/20/92	INACCESSIBLE	--	--	--	--	--	--	--	--	--
	08/31/92	--	--	--	92 <sup>2</sup>	210 <sup>4</sup>	1	ND	ND	ND	--
	11/30/92	--	--	--	94	790 <sup>4</sup>	ND	ND	ND	ND	--
	02/04/93	--	--	--	550 <sup>2</sup>	3,300	320	ND	96	6.1	--
7.84*	05/04/93	4.32	3.52	0.00	250 <sup>2</sup>	1,800 <sup>3</sup>	95	ND	ND	ND	--
	08/04/93	4.94	2.90	0.00	100	210 <sup>4</sup>	ND	ND	ND	ND	--
7.42	11/03/93	4.53	2.89	0.00	160	640 <sup>4</sup>	ND	ND	ND	ND	--
	02/07/94	2.40	5.02	0.00	620 <sup>2</sup>	2,700	110	ND	17	ND	--
	05/19/94	3.60	3.82	0.00	480 <sup>2</sup>	1,800	83	ND	6.2	9.1	--
	06/25/94	4.58	2.84	0.00	--	--	--	--	--	--	--
	07/27/94	4.58	2.84	0.00	--	--	--	--	--	--	--
	08/15/94	4.65	2.77	0.00	110 <sup>2</sup>	130	1.1	0.54	ND	0.97	--
	11/14/94	3.18	4.24	0.00	150 <sup>2</sup>	1,600 <sup>4</sup>	ND	ND	ND	ND	--
	02/21/95	1.81	5.61	0.00	850 <sup>2</sup>	3,800	350	ND	130	22	--
	05/18/95	4.56	2.86	0.00	150 <sup>1</sup>	1,300 <sup>3</sup>	42	ND	ND	ND	--
	08/17/95	INACCESSIBLE	--	--	--	--	--	--	--	--	--
	07/26/96	INACCESSIBLE	--	--	--	--	--	--	--	--	--
	10/28/96 <sup>6</sup>	INACCESSIBLE	--	--	--	--	--	--	--	--	--
	01/29/97	INACCESSIBLE	--	--	--	--	--	--	--	--	--
	04/15/97	INACCESSIBLE	--	--	--	--	--	--	--	--	--
	05/27/97	3.45	4.59	0.00	--	670	6.5	ND	ND	ND	250
	06/01/97	3.50	4.54	0.00	610 <sup>2</sup>	--	--	--	--	--	--
8.04	07/15/97	3.71	4.33	0.00	240 <sup>2</sup>	240	ND	ND	ND	ND	490
	10/09/97	3.70	4.34	0.00	500 <sup>2</sup>	270	1.1	ND	2.4	1.4	910
	01/14/98	2.16	5.88	0.00	340 <sup>7</sup>	310	ND	ND	0.62	0.65	140
	04/01/98	2.20	5.84	0.00	320 <sup>7</sup>	370	5.7	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	93
	07/15/98	3.38	4.66	0.00	510 <sup>10</sup>	460 <sup>11</sup>	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	230
	10/16/98	2.30	5.74	0.00	67 <sup>13</sup>	330 <sup>14</sup>	4.7	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	60
	01/25/99	2.42	5.62	0.00	120 <sup>7</sup>	420 <sup>14</sup>	1.5	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	180
	04/15/99	2.16	5.88	0.00	170 <sup>17</sup>	290	0.54	ND	ND	ND	160
	07/14/99	2.35	5.69	0.00	420 <sup>19</sup>	290	3.2	ND	ND	ND	160

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Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product		TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
				Thickness (ft.)									
MW-4	08/31/92	--	--	--		90 <sup>2</sup>	240 <sup>4</sup>	ND	ND	ND	0.54	--	
	11/30/92	--	--	--		61	420 <sup>4</sup>	ND	ND	ND	ND	--	
	02/04/93	--	--	--		ND	ND	ND	ND	ND	ND	--	
9.00*	05/04/93	4.09	4.91	0.00		ND	110 <sup>3</sup>	0.95	ND	ND	ND	--	
	08/04/93	5.01	3.99	0.00		81	250 <sup>4</sup>	ND	3.5	ND	4.1	--	
8.41	11/03/93	4.23	4.18	0.00		68	130 <sup>4</sup>	ND	ND	ND	ND	--	
	02/07/94	3.35	5.06	0.00		ND	56 <sup>4</sup>	ND	ND	ND	ND	--	
	05/19/94	3.92	4.49	0.00		90 <sup>2</sup>	140 <sup>4</sup>	ND	ND	ND	ND	--	
	06/25/94	4.35	4.06	0.00		--	--	--	--	--	--	--	
	07/27/94	4.28	4.13	0.00		--	--	--	--	--	--	--	
	08/15/94	4.27	4.14	0.00		72 <sup>2</sup>	59 <sup>4</sup>	ND	0.6	ND	ND	--	
	11/14/94	4.05	4.36	0.00		ND	130 <sup>4</sup>	ND	ND	ND	ND	--	
	02/21/95	DESTROYED (1/95)		--	--	--	--	--	--	--	--	--	--
	MW-5	08/31/92	--	--	--		690 <sup>1</sup>	78	0.89	ND	ND	13	--
		11/30/92 <sup>5</sup>	--	--	--		470 <sup>2</sup>	930	70	290	0.79	14	--
02/04/93 <sup>5</sup>		--	--	--		5,500 <sup>2</sup>	5,700	38	ND	620	170	--	
05/04/93 <sup>5</sup>		4.37	4.90	0.00		4,600 <sup>1</sup>	7,400	41	ND	1,000	35	--	
08/04/93 <sup>5</sup>		5.81	3.46	0.00		970 <sup>2</sup>	1,500	130	1	460	11	--	
8.95		11/03/93	5.68	3.27	0.00		2,100 <sup>2</sup>	13,000	350	ND	3,500	530	--
		02/07/94	5.11	3.84	0.00		830 <sup>2</sup>	2,000	87	ND	370	110	--
		05/19/94	5.09	3.86	0.00		600 <sup>2</sup>	260	44	ND	32	4.1	--
		06/25/94	4.55	4.40	0.00		--	--	--	--	--	--	--
		07/27/94	5.72	3.23	0.00		--	--	--	--	--	--	--
		08/15/94	5.68	3.27	0.00		860 <sup>2</sup>	1,600	110	ND	340	72	--
		11/14/94	5.63	3.32	0.00		290 <sup>1</sup>	250	40	ND	ND	5	--
02/21/95		DESTROYED (1/95)		--	--	--	--	--	--	--	--	--	--

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Well ID/ TOC*	Date	DTW (ft.)	GWE (mst)	Product									
				Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)		
MW-6	08/31/92	--	--	--	750 <sup>2</sup>	ND	ND	ND	ND	ND	ND	--	
	11/30/92	--	--	--	1,400 <sup>1</sup>	9,200	550	ND	740	1,600	--	--	
	02/04/93	--	--	--	890 <sup>2</sup>	3,600	340	ND	290	550	--	--	
9.12*	05/04/93	3.72	5.40	0.00	1,800 <sup>1</sup>	4,900	360	18	450	430	--	--	
	08/04/93	5.15	3.97	0.00	1,100 <sup>2</sup>	3,400	390	ND	440	190	--	--	
8.87	11/03/93	5.25	3.62	0.00	390 <sup>2</sup>	1,400	320	ND	200	7.7	--	--	
	02/07/94	4.55	4.32	0.00	970 <sup>2</sup>	4,900	650	ND	250	35	--	--	
	05/19/94	4.62	4.25	0.00	1,400 <sup>2</sup>	3,600	300	1.7	210	41	--	--	
	08/15/94	5.08	3.79	0.00	790 <sup>2</sup>	1,300	130	6.7	54	57	--	--	
	11/14/94	5.30	3.57	0.00	800 <sup>2</sup>	730	50	ND	ND	39	--	--	
	02/21/95	5.37	3.50	0.00	730 <sup>1</sup>	2,000	250	4.6	25	30	--	--	
	05/18/95	INACCESSIBLE	--	--	--	--	--	--	--	--	--	--	
	08/17/95	INACCESSIBLE	--	--	--	--	--	--	--	--	--	--	
	07/26/96	6.40	5.03**	3.33	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT							--	--
	10/28/96	4.10	4.93**	0.21	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT							--	--
	11/13/96	4.02	5.04**	0.25	--	--	--	--	--	--	--	--	
	11/25/96	4.01	5.44**	0.75	--	--	--	--	--	--	--	--	
	12/04/96	3.65	5.61**	0.50	--	--	--	--	--	--	--	--	
	12/19/96	4.80	5.76**	2.20	--	--	--	--	--	--	--	--	
	01/08/97	4.84	5.38**	1.75	--	--	--	--	--	--	--	--	
	01/14/97	4.51	5.25**	1.15	--	--	--	--	--	--	--	--	
	01/27/97	4.00	6.22**	1.75	--	--	--	--	--	--	--	--	
01/29/97	3.24	5.87**	0.31	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT							--	--	
02/11/97	4.65	5.14**	1.20	--	--	--	--	--	--	--	--		
02/24/97	4.81	4.91**	1.10	--	--	--	--	--	--	--	--		
03/10/97	4.60	5.00**	0.95	--	--	--	--	--	--	--	--		
03/17/97	4.50	5.06**	0.89	--	--	--	--	--	--	--	--		
03/31/97	4.65	4.99**	1.00	--	--	--	--	--	--	--	--		
04/15/97	4.90	4.76**	1.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT							--	--	
04/28/97	4.78	4.11**	0.03	--	--	--	--	--	--	--	--		
05/15/97	4.60	4.46**	0.25	--	--	--	--	--	--	--	--		
05/27/97	4.50	4.56**	0.25	--	--	--	--	--	--	--	--		
06/09/97	4.60	4.42**	0.20	--	--	--	--	--	--	--	--		
06/24/97	4.50	4.56**	0.25	--	--	--	--	--	--	--	--		
07/09/97	4.80	4.53**	0.60	--	--	--	--	--	--	--	--		

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
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Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-6	07/15/97	4.63	4.56**	0.42	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
(cont)	07/21/97	4.75	4.31**	0.25	--	--	--	--	--	--	--	
	08/06/97	4.50	4.45**	0.10	--	--	--	--	--	--	--	
	08/20/97	4.55	4.40**	0.10	--	--	--	--	--	--	--	
	09/02/97	4.75	4.16**	0.05	--	--	--	--	--	--	--	
	10/09/97	4.84	4.06**	0.04	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	01/14/98	3.90	5.69**	0.94	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	02/12/98	3.35	6.01**	0.64	--	--	--	--	--	--	--	
	03/03/98	4.51	4.38**	0.02	--	--	--	--	--	--	--	
	04/01/98	3.67	6.43**	1.60	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	05/26/98	4.11	5.15**	0.50	--	--	--	--	--	--	--	
	06/15/98	5.03	4.07**	0.30	--	--	--	--	--	--	--	
	07/15/98	4.56	4.35**	0.05	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	08/21/98	4.77	4.12**	0.02	--	--	--	--	--	--	--	
	09/30/98	5.08	3.81**	0.03	--	--	--	--	--	--	--	
	10/16/98	4.31	6.41**	2.40	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	11/06/98	3.98	5.02**	0.17	--	--	--	--	--	--	--	
	11/25/98	3.92	5.03**	0.10	--	--	--	--	--	--	--	
	12/28/98	3.90	5.12**	0.20	--	--	--	--	--	--	--	
	01/25/99	4.18	5.15**	0.60	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	02/22/99	4.07	4.97**	0.22	--	--	--	--	--	--	--	
	03/22/99	4.32	4.67**	0.15	--	--	--	--	--	--	--	
	04/15/99	4.23	5.37**	0.95	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	05/28/99	4.38	4.79**	0.39	--	--	--	--	--	--	--	
	06/29/99	4.12	4.77**	0.02	--	--	--	--	--	--	--	
	07/14/99	4.20	4.69**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
MW-7	05/27/97	4.50	4.33	0.00	--	68	ND	ND	ND	ND	ND	
8.83	06/01/97	4.54	4.29	0.00	69 <sup>2</sup>	--	--	--	--	--	--	
	07/15/97	4.70	4.13	0.00	ND	ND	ND	ND	ND	ND	ND	
	10/09/97	4.30	4.53	0.00	190 <sup>1</sup>	ND	ND	ND	ND	ND	ND	
	01/14/98	2.88	5.95	0.00	65 <sup>7</sup>	ND	ND	ND	ND	ND	36	
	04/01/98	3.13	5.70	0.00	ND	ND	ND	ND	ND	ND	ND	
	07/15/98	4.45	4.38	0.00	74 <sup>12</sup>	ND	ND	ND	ND	ND	ND	



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-7 (cont)	10/16/98	3.45	5.38	0.00	ND	ND	ND	ND	ND	ND	ND
	01/25/99	3.22	5.61	0.00	ND	ND	ND	ND	ND	ND	ND
	04/15/99	3.11	5.72	0.00	ND	ND	ND	ND	ND	ND	ND
	07/14/99	3.34	5.49	0.00	69 <sup>20</sup>	ND	ND	ND	ND	ND	ND
MW-8 8.52	05/27/97	3.42	5.10	0.00	--	310	0.88	0.67	15	70	ND
	06/01/97	3.46	5.06	0.00	320 <sup>2</sup>	--	--	--	--	--	--
	07/15/97	3.49	5.03	0.00	ND	ND	ND	ND	2.7	3.8	ND
	10/09/97	3.73	4.79	0.00	390 <sup>1</sup>	590	1.4	ND	32	4.1	ND
	01/14/98	1.92	6.60	0.00	230 <sup>7</sup>	ND	ND	ND	ND	ND	ND
	04/01/98	2.38	6.14	0.00	510 <sup>7</sup>	ND	ND	ND	ND	ND	4.7
	07/15/98	3.53	4.99	0.00	140 <sup>12</sup>	ND	ND	ND	0.56	1.1	ND
	10/16/98	3.04	5.48	0.00	170 <sup>15</sup>	ND	ND	ND	ND	ND	ND
	01/25/99	2.92	5.60	0.00	ND <sup>9</sup>	ND	ND	ND	ND	ND	ND
	04/15/99	2.40	6.12	0.00	91 <sup>12</sup>	ND	ND	ND	ND	ND	ND
	07/14/99	3.03	5.49	0.00	120 <sup>21</sup>	ND	ND	ND	ND	ND	ND
MW-9 8.29	02/21/95	1.98	6.31	0.00	71 <sup>2</sup>	70 <sup>4</sup>	ND	ND	ND	ND	--
	05/18/95	3.47	4.82	0.00	ND	52	ND	1.1	ND	1.9	--
	08/17/95	1.49	6.80	0.00	ND	ND	ND	ND	ND	ND	--
	07/26/96	0.28	8.01	0.00	98	ND	ND	ND	ND	ND	ND
	10/28/96	1.15	7.14	0.00	99 <sup>1</sup>	ND	ND	ND	ND	ND	7.6
	01/29/97	1.05	7.24	0.00	54	ND	ND	ND	ND	ND	5.4
	04/15/97	1.88	6.41	0.00	94 <sup>1</sup>	ND	ND	ND	ND	ND	5.4
	05/27/97	1.05	7.24	0.00	--	--	--	--	--	--	--
	07/15/97	1.90	6.39	0.00	ND	ND	ND	ND	ND	ND	ND
	10/09/97	1.76	6.53	0.00	160 <sup>1</sup>	ND	ND	ND	ND	ND	ND
	01/14/98	1.26	7.03	0.00	110 <sup>7</sup>	ND	ND	ND	ND	ND	3.0
	04/01/98	0.85	7.44	0.00	110 <sup>7</sup>	ND	ND	ND	ND	ND	ND
	07/15/98	1.52	6.77	0.00	200 <sup>12</sup>	ND	ND	ND	ND	ND	ND
	10/16/98	0.81	7.48	0.00	ND	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #5043  
449 Hegenberger Road  
Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product		TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
				Thickness (ft.)								
MW-9	01/25/99	0.92	7.37	0.00		ND	ND	ND	ND	ND	ND	ND
(cont)	04/15/99	0.90	7.39	0.00		ND	75 <sup>18</sup>	21	ND	ND	1.1	680
	07/14/99	1.04	7.25	0.00		140 <sup>21</sup>	ND	1.9	ND	ND	ND	260
MW-10	02/21/95	4.69	3.93	0.00		270 <sup>2</sup>	1,500	250	26	9.1	160	--
8.62	05/18/95	4.92	3.70	0.00		75 <sup>1</sup>	810	520	ND	18	23	--
	08/17/95	4.05	4.57	0.00		ND	67	25	ND	2.4	ND	--
	07/26/96	4.08	4.54	0.00		ND	ND	3.7	ND	ND	ND	ND
	10/28/96	4.09	4.53	0.00		ND	ND	1.1	ND	ND	ND	ND
	01/29/97	2.94	5.68	0.00		ND	210	41	0.67	7.2	4.8	11
	04/15/97	4.07	4.55	0.00		ND	110	12	ND	0.77	ND	9.7
	05/27/97	4.40	4.22	0.00		--	--	--	--	--	--	--
	07/15/97	4.19	4.43	0.00		ND	ND	2.1	ND	0.67	0.73	ND
	10/09/97	4.75	3.87	0.00		ND	190	38	0.92	6.6	7.6	ND
	01/14/98	2.66	5.96	0.00		-- <sup>8</sup>	59	9.5	0.85	1.2	1.7	4.5
	04/01/98	3.45	5.17	0.00		62 <sup>7</sup>	230	66	1.7	12	17	6.4
	07/15/98	4.21	4.41	0.00		78 <sup>12</sup>	290	98	45	21	38	21
	10/16/98	4.11	4.51	0.00		ND	160 <sup>16</sup>	44	0.96	2.5	10	17
	01/25/99	3.26	5.36	0.00		ND	140	27	ND	2.8	6.8	23
	04/15/99	3.63	4.99	0.00		ND	120	18	ND	1.8	5.1	14
	07/14/99	3.89	4.73	0.00		180 <sup>22</sup>	280	55	3.2	11	31	6.1
<b>Trip Blank</b>												
TB-LB	01/14/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	04/01/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	07/15/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	10/16/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	01/25/99	--	--	--		--	ND	ND	ND	ND	ND	ND
	04/15/99	--	--	--		--	ND	ND	ND	ND	ND	ND
	07/14/99	--	--	--		--	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

**EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing elevation	B = Benzene	ppb = Parts per billion
DTW = Depth to Water	T = Toluene	ND = Not Detected
(ft.) = Feet	E = Ethylbenzene	-- = Not Measured/Not Analyzed
GWE = Groundwater Elevation	X = Xylenes	TOG = Total Oil and Grease
msl = Relative to mean sea level	MTBE = Methyl tertiary butyl ether	
TPH(G) = Total Petroleum Hydrocarbons as Gasoline		

- \* TOC elevations are relative to msl, per the City of Oakland Benchmark #3880 (Elevation = 20.37 feet msl).
- \*\* Groundwater elevation corrected for the presence of free product  $\{(TOC-DTW) + (Product\ Thickness \times 0.77)\}$ .
- ♦ Elevations were based on the top of the well covers, and were surveyed relative to msl, per the City of Oakland Benchmark #3880 (Elevation = 20.37 feet).
- <sup>1</sup> Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- <sup>2</sup> Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- <sup>3</sup> Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- <sup>4</sup> Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- <sup>5</sup> TOG was ND.
- <sup>6</sup> The well was obstructed with debris at 0.55 feet. A water sample was collected but was not analyzed as it was considered not representative of groundwater in this well.
- <sup>7</sup> Laboratory report indicates unidentified hydrocarbons C9-C24
- <sup>8</sup> Sample bottle broken at Laboratory.
- <sup>9</sup> Detection limit raised. Refer to analytical reports.
- <sup>10</sup> Laboratory report indicates unidentified hydrocarbons >C14 and <C12.
- <sup>11</sup> Laboratory report indicates gasoline and unidentified hydrocarbons >C8.
- <sup>12</sup> Laboratory report indicates unidentified hydrocarbons >C14.
- <sup>13</sup> Laboratory report indicates non diesel mix >C14.
- <sup>14</sup> Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.
- <sup>15</sup> Laboratory report indicates non diesel mix C9-C27.
- <sup>16</sup> Laboratory report indicates unidentified hydrocarbons <C7.
- <sup>17</sup> Laboratory report indicates unidentified hydrocarbons >C10.
- <sup>18</sup> Laboratory report indicates unidentified hydrocarbons C6-C12.
- <sup>19</sup> Laboratory report indicates unidentified hydrocarbons >C9.
- <sup>20</sup> Laboratory report indicates discrete peaks and unidentified hydrocarbons >C20.
- <sup>21</sup> Laboratory report indicates discrete peaks and unidentified hydrocarbons >C16.
- <sup>22</sup> Laboratory report indicates unidentified hydrocarbons <C14 and >C16.

**Table 2**  
**Product Thickness/Removal Data**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

Well ID	Date	DTW (ft.)	Product Thickness (ft.)	Amount Bailed (Product + Water) (gallons)
MW-6	07/26/96	6.40	3.33	2.10
	10/28/96	4.10	0.21	0.14
	11/13/96	4.02	0.25	0.09
	11/25/96	4.01	0.75	0.47
	12/04/96	3.65	0.50	0.43
	12/19/96	4.80	2.20	1.02
	01/08/97	4.84	1.75	0.59
	01/14/97	4.51	1.15	0.66
	01/27/97	4.00	1.75	0.78
	01/29/97	3.24	0.31	0.25
	02/11/97	4.65	1.20	0.62
	02/24/97	4.81	1.10	0.50
	03/10/97	4.60	0.95	0.47
	03/17/97	4.50	0.89	0.35
	03/31/97	4.65	1.00	0.50
	04/15/97	4.90	1.03	0.51
	04/28/97	4.78	0.03	0.20
	05/15/97	4.60	0.25	0.20
	05/27/97	4.50	0.25	0.00
	06/09/97	4.60	0.20	0.23
	06/24/97	4.50	0.25	0.25
	07/09/97	4.80	0.60	0.25
	07/15/97	4.63	0.42	0.20
	07/21/97	4.75	0.25	0.27
	08/06/97	4.50	0.10	0.16
	08/20/97	4.55	0.10	0.20
	09/02/97	4.75	0.05	0.12
	10/09/97	4.84	0.04	0.12
	01/14/98 <sup>1</sup>	3.90	0.94	1.50
	02/12/98 <sup>1</sup>	3.35	0.64	0.32
	03/03/98 <sup>1</sup>	4.51	0.02	2.00
	04/01/98 <sup>1</sup>	3.67	1.60	0.50
	05/26/98 <sup>1</sup>	4.11	0.50	0.08
	06/15/98 <sup>1</sup>	5.03	0.30	0.060
	07/15/98 <sup>1</sup>	4.56	0.05	0.10
	08/21/98 <sup>1</sup>	4.77	0.02	0.040
	09/30/98 <sup>1</sup>	5.08	0.03	0.027
	10/16/98 <sup>1</sup>	4.32	2.40	0.98
	11/06/98 <sup>1</sup>	3.98	0.17	0.16
	11/25/98 <sup>1</sup>	3.92	0.10	0.12
	12/28/98 <sup>1</sup>	3.90	0.20	0.14
	01/25/99 <sup>1</sup>	4.18	0.60	0.27
	02/22/99 <sup>1</sup>	4.07	0.22	0.078 product/3.0 water
	03/22/99 <sup>1</sup>	4.32	0.15	0.039 product/5.0 water
	04/15/99 <sup>1</sup>	4.23	0.95	1.0 product

**Table 2**  
**Product Thickness/Removal Data**  
 Tosco (Unocal) Service Station #5043  
 449 Hegenberger Road  
 Oakland, California

Well ID	Date	DTW (ft.)	Product Thickness (ft.)	Amount Bailed (Product + Water) (gallons)
MW-6	05/28/99 <sup>1</sup>	4.38	0.39	0.141 product/1.0 water
(cont)	06/29/99 <sup>1</sup>	4.12	0.02	0.054 product/8.0 water
	07/14/99 <sup>1</sup>	4.20	0.03	0.039 product/2.0 water

**EXPLANATIONS:**

Product Thickness/Removal Data prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

DTW = Depth to Water

(ft.) = Feet

<sup>1</sup> Skimmer present in well.

## 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, temperature, pH and electrical conductivity are measured. If purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. The measurements are taken 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.

*TOSCO (UNOCAL) SS#5043  
OAKLAND, CA*

*MONITORING  
EVENT OF MAY 28, 1999*

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/Facility: TOSCO 76 # 5043 Job#: 180065  
 Address: 449 HEGENBERGER RD. Date: 5/28/99  
 City: OAKLAND, CA Sampler: HAIG KEVORK

Well ID: MW-6 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Thickness: 0.39 (feet) Amount Bailed: 18.02 Product  
 Total Depth: 12.75 ft. (product/water): 1 gal. water (Gallons)  
 Depth to Water: 4.38 ft.

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

\_\_\_\_\_ X VF \_\_\_\_\_ = \_\_\_\_\_ X 3 (case volume) = Estimated Purge Volume: \_\_\_\_\_ (gal.)

Purge Equipment: Disposable Bailer  
 Bailer  
 Stack  
 Suction  
 Grundfos  
 Other: \_\_\_\_\_

Sampling Equipment: N/A  
 Disposable Bailer  
 Bailer  
 Pressure Bailer  
 Grab Sample  
 Other: \_\_\_\_\_

BAIL PRODUCT

Starting Time: \_\_\_\_\_ Weather Conditions: \_\_\_\_\_  
 Sampling Time: \_\_\_\_\_ Water Color: \_\_\_\_\_ Odor: \_\_\_\_\_  
 Purging Flow Rate: \_\_\_\_\_ gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu$ mhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)

N/A

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
		Y		SEQUOIA	

COMMENTS: ~180Z PRODUCT REMOVED FROM SKIMMER AND WELL MW-6. ~1 gal. water bailed.



*TOSCO (UNOCAL) SS#5043  
OAKLAND, CA*

*MONITORING  
EVENT OF JUNE 29, 1999*

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility #5043

Job#: 180065

Address: 449 Hegenberger

Date: 6-29-99

City: Oakland

Sampler: SoC

Well ID mw-6

Well Condition: O.K.

Well Diameter 2 in.

Hydrocarbon Thickness: 7 (feet) Amount Bailed 5 ounces in skimmer  
2 ounces in well  
7 ounces FP / 89. water (Gallons)

Total Depth 12.75 ft.

Depth to Water 4.12 ft.

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

\_\_\_\_\_ X VF \_\_\_\_\_ = \_\_\_\_\_ 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: \_\_\_\_\_

Sampling Time: \_\_\_\_\_

Water Color: \_\_\_\_\_ Odor: \_\_\_\_\_

Purging Flow Rate: \_\_\_\_\_ gpm.

Sediment Description: \_\_\_\_\_

Did well de-water? \_\_\_\_\_

If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

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

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
_____	_____	Y	_____	SEQUOIA	TPH(G)/btex/mtbe
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: Approximately 5 ounces in skimmer & 2 ounces of FP removed from well. In the process 89. of water purged from well

*TOSCO (UNOCAL) SS#5043  
OAKLAND, CA*

*MONITORING & SAMPLING  
EVENT OF JULY 14, 1999*

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility: #5043 Job#: 180065  
 Address: 449 Heegenberger Rd. Date: 7-14-99  
 City: Oakland CA. Sampler: Joc

Well ID: MW-3 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Thickness: 6 (feet) Amount Bailed (product/water): 0 (Gallons)  
 Total Depth: 14.07 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66  
 Depth to Water: 2.35 ft. Factor (VF) 6" = 1.50 12" = 5.80

11.72 x VF 0.17 = 1.99 x 3 (case volume) = Estimated Purge Volume: 6 (gal.)

Purge Equipment: Disposable Bailer  
 Bailer  
 Stack  
~~Suction~~  
 Grundfos  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
 Bailer  
 Pressure Bailer  
 Grab Sample  
 Other: \_\_\_\_\_

Starting Time: 10:45 Weather Conditions: clear/hot  
 Sampling Time: 11:12 A.M. Water Color: clear Odor: yes  
 Purging Flow Rate: 0.5 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 $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:55</u>	<u>2</u>	<u>7.38</u>	<u>2.96</u>	<u>66.7</u>	_____	_____	_____
<u>10:58</u>	<u>4</u>	<u>7.14</u>	<u>3.05</u>	<u>66.5</u>	_____	_____	_____
<u>11:02</u>	<u>6</u>	<u>7.27</u>	<u>3.12</u>	<u>66.8</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>30A</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
	<u>1 Amb</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>TPHD</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/Facility # 5043 Job#: 180065  
 Address: 449 Hegenberger Rd. Date: 7-14-99  
 City: Oakland CA. Sampler: Jor

Well ID MW-6  
 Well Diameter 2 in.  
 Total Depth 12.75 ft.  
 Depth to Water 4.20 ft.

Well Condition: o.k  
 Hydrocarbon Thickness: 0.03' (feet)  
 Amount Bailed (product/water): 5 ounces FP (Gallons)  
 Volume Factor (VF):  
 2" = 0.17      3" = 0.38      4" = 0.66  
 6" = 1.50      12" = 5.80

*4 ounces in skimmer  
1 ounce in well / 2  
5 ounces FP*

\_\_\_\_\_ 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 $\mu\text{mhos/cm}$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
_____	_____	/	_____	/	_____	_____	_____
_____	_____	/	_____	/	_____	_____	_____
_____	_____	/	_____	/	_____	_____	_____
_____	_____	/	_____	/	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>300A</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/bTEX/mtba</u>

COMMENTS: Approximately 4 ounces in skimmer and 1 (one) ounce of FP removed from well. A total of 5 ounces removed from well.

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/Facility # 5043 Job#: 180065  
 Address: 449 Heegenberger Rd. Date: 7-14-99  
 City: Oakland CA. Sampler: Joc

Well ID mw-7 Well Condition: o.k  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: 6 (feet) (product/water): 0 (Gallons)  
 Total Depth 13.15 ft.  
 Depth to Water 3.34 ft.

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

9.81 x VF 0.17 = 1.67 x 3 (case volume) = Estimated Purge Volume: 5 (gal.)

Purge Equipment: Disposable Bailer  
 Bailer  
 Stack  
~~Section~~  
 Grundfos  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
 Bailer  
 Pressure Bailer  
 Grab Sample  
 Other: \_\_\_\_\_

Starting Time: 8:08 Weather Conditions: clear/hot  
 Sampling Time: 8:35 A.M. Water Color: clear Odor: no. 12  
 Purging Flow Rate: 0.5 gpm. Sediment Description: no. 12  
 Did well de-water? \_\_\_\_\_ If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:15</u>	<u>1.5</u>	<u>7.68</u>	<u>7.12</u>	<u>67.2</u>			
<u>8:17</u>	<u>3</u>	<u>7.60</u>	<u>7.19</u>	<u>67.5</u>			
<u>8:21</u>	<u>5</u>	<u>7.41</u>	<u>7.22</u>	<u>67.6</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>mw-7</u>	<u>3 vca</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
	<u>1 Amb</u>	<u>"</u>	<u>—</u>	<u>"</u>	<u>TRHP</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility # 5043 Job#: 180065  
Address: 449 Hegeberger Rd. Date: 7-14-99  
City: Oakland CA. Sampler: Joc

Well ID mw-8 Well Condition: o.k  
Well Diameter 2 in. Hydrocarbon Amount Bailed  
Thickness: 6 (feet) (product/water): 0 (Gallons)  
Total Depth 14.82 ft.  
Depth to Water 3.03 ft.

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

11.79 x VF 0.17 = 2.00 x 3 (case volume) = Estimated Purge Volume: 6 (gal.)

Purge Equipment: Disposable Bailer  
Bailer  
Stack  
~~Suction~~  
Grundfos  
Other: \_\_\_\_\_  
Sampling Equipment: Disposable Bailer  
Bailer  
Pressure Bailer  
Grab Sample  
Other: \_\_\_\_\_

Starting Time: 8:45 Weather Conditions: clear/hot  
Sampling Time: 9:15 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 $\mu\text{mhos/cm}$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:55</u>	<u>2</u>	<u>7.71</u>	<u>7.12</u>	<u>66.9</u>			
<u>9:09</u>	<u>4</u>	<u>7.21</u>	<u>7.36</u>	<u>66.7</u>			
<u>9:02</u>	<u>6</u>	<u>7.33</u>	<u>7.40</u>	<u>66.8</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>mw-8</u>	<u>3 vca</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btax/mtbe</u>
	<u>1 AmL</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>TPH/D</u>

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/Facility # 5043 Job#: 180065  
 Address: 449 Heegenberger Rd. Date: 7-14-99  
 City: Oakland CA. Sampler: Joc

Well ID mw-9 Well Condition: o.k  
 Well Diameter 2 in. Hydrocarbon Thickness: 6 (feet) Amount Bailed (Gallons)  
 Total Depth 11.98 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66  
 Depth to Water 1.04 ft. Factor (VF) 6" = 1.50 12" = 5.80

10.94 x VF 0.17 = 1.86 x 3 (case volume) = Estimated Purge Volume: 6 (gal.)

Purge Equipment: Disposable Bailer  
 Bailer  
 Stack  
~~Stack~~  
 Grundfos  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
 Bailer  
 Pressure Bailer  
 Grab Sample  
 Other: \_\_\_\_\_

Starting Time: 9:30 Weather Conditions: clear/hot  
 Sampling Time: 10:15 AM 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 $\mu\text{mhos/cm} \times 10^2$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>9:37</u>	<u>2</u>	<u>7.55</u>	<u>6.88</u>	<u>67.0</u>			
<u>9:40</u>	<u>4</u>	<u>7.42</u>	<u>6.98</u>	<u>66.5</u>			
<u>9:43</u>	<u>6</u>	<u>7.36</u>	<u>7.07</u>	<u>66.6</u>			
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>mw-9</u>	<u>3 vials</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
	<u>1 Amb</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>TPHD</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/Facility # 5043 Job#: 180065  
 Address: 449 Heegenberger Rd. Date: 7-14-99  
 City: Oakland CA. Sampler: Joc

Well ID MW-10 Well Condition: o.k  
 Well Diameter 2 in. Hydrocarbon Thickness: 6 (feet) Amount Bailed (product/water): 0 (Gallons)  
 Total Depth 12.80 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66  
 Depth to Water 3.89 ft. Factor (VF) 6" = 1.50 12" = 5.80

8.91 x VF 0.17 = 1.51 x 3 (case volume) = Estimated Purge Volume: 4.5 (gal.)

Purge Equipment: Disposable Bailer Sampling Equipment: Disposable Bailer  
 Bailer  
 Stack  
~~Suction~~  
 Grundfos  
 Other: \_\_\_\_\_  
 Bailer  
 Pressure Bailer  
 Grab Sample  
 Other: \_\_\_\_\_

Starting Time: 10:05 Weather Conditions: clear  
 Sampling Time: 10:35 AM 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 $\mu\text{mhos/cm}$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:12</u>	<u>1.5</u>	<u>7.38</u>	<u>4.96</u>	<u>67.2</u>			
<u>10:15</u>	<u>3</u>	<u>7.47</u>	<u>5.02</u>	<u>67.0</u>			
<u>10:17</u>	<u>4.5</u>	<u>7.31</u>	<u>4.90</u>	<u>66.9</u>			
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-10</u>	<u>3 vials</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
	<u>1 Amc</u>	<u>"</u>	<u>-</u>	<u>R</u>	<u>TPHD</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Tosco Marketing Company  
2240 Civic Center Pl., Ste. 408  
San Ramon, California 94583

Facility Number UNOCAL SS# 5043  
 Facility Address 449 Hegenberger Road, Oakland, CA  
180065.85  
 Consultant Project Number \_\_\_\_\_  
 Consultant Name Gettler-Ryan Inc. (G-R Inc.)  
 Address 6747 Sierra Court, Suite I, Dublin, CA 94568  
 Project Contact (Name) Deanna L. Harding  
 (Phone) 510-551-7555 (Fax Number) 510-551-7888

Contact (Name) MR. DAVID DEWITT  
 (Phone) 925-277-2384  
 Laboratory Name Sequoia Analytical  
 Laboratory Release Number \_\_\_\_\_  
 Sample Collected by (Name) JOE ASEMIAN  
 Collection Date 7-14-99  
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Leak (Yes or No)	Analytes To Be Performed											Remarks	
								TPH Gas + BTEX w/MIB (8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)					
TB-LB		1	W	G	-	HCL	Y	✓												9071016
MW-3		3	/	/	11:12 A.M.	/	/	✓	✓											9071017
MW-7		"	/	/	2:35 P.M.	/	/	✓	✓											9071018
MW-8		"	/	/	4:15 P.M.	/	/	✓	✓											9071019
MW-9		"	/	/	10:15 A.M.	/	/	✓	✓											9071020
MW-10		"	/	/	10:35 A.M.	/	/	✓	✓											9071021

DO NOT BILL  
TB-LB ANALYSIS

Relinquished By (Signature) <u>[Signature]</u>	Organization G-R Inc.	Date/Time 7-14-99	Received By (Signature) <u>[Signature]</u>	Organization SEQUOIA	Date/Time 7-14-99	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <u>[Signature]</u>	Organization CBC	Date/Time 7-15	Received By (Signature) <u>[Signature]</u>	Organization CBC	Date/Time 7-15 12:00	
Relinquished By (Signature) <u>[Signature]</u>	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time 7/15/99 16:00	



Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Deanna Harding	Client Project ID: Unocal SS#5043, Oakland Sample Matrix: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 907-1016	Sampled: Jul 14, 1999 Received: Jul 14, 1999 Reported: Jul 30, 1999
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## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 907-1016 TB-LB	Sample I.D. 907-1017 MW-3	Sample I.D. 907-1018 MW-7	Sample I.D. 907-1019 MW-8	Sample I.D. 907-1020 MW-9	Sample I.D. 907-1021 MW-10
Purgeable Hydrocarbons	50	N.D.	290	N.D.	N.D.	N.D.	280
Benzene	0.50	N.D.	3.2	N.D.	N.D.	1.9	55
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	3.2
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	11
Total Xylenes	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	31
MTBE	2.5	N.D.	160	N.D.	N.D.	260	6.1
Chromatogram Pattern:		--	Gasoline	--	--	--	Gasoline

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	7/20/99	7/20/99	7/20/99	7/20/99	7/20/99	7/20/99
Instrument Identification:	HP-4	HP-4	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	88	77	91	87	97	92

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*  
Julianne Fegley  
Project Manager





Gettler-Ryan - Dublin	Client Project ID: Unocal SS#5043, Oakland	Sampled: Jul 14, 1999
6747 Sierra Court, Suite J	Sample Matrix: Water	Received: Jul 14, 1999
Dublin, CA 94568	Analysis Method: EPA 3510/8015 Mod.	Reported: Jul 30, 1999
Attention: Deanna Harding	First Sample #: 907-1017	

**TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS**

Analyte	Reporting Limit µg/L	Sample I.D. 907-1017 MW-3	Sample I.D. 907-1018 MW-7	Sample I.D. 907-1019 MW-8	Sample I.D. 907-1020 MW-9	Sample I.D. 907-1021 MW-10
Extractable Hydrocarbons	50	420	69	120	140	180
Chromatogram Pattern:		Unidentified Hydrocarbons >C9	Discrete Peaks & Unidentified Hydrocarbons >C20	Discrete Peaks & Unidentified Hydrocarbons >C16	Discrete Peaks & Unidentified Hydrocarbons >C16	Unidentified Hydrocarbons <C14 & >C16

**Quality Control Data**

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0
Date Extracted:	7/19/99	7/19/99	7/19/99	7/19/99	7/19/99
Date Analyzed:	7/20/99	7/19/99	7/19/99	7/20/99	7/19/99
Instrument Identification:	HP-3B	HP-3B	HP-3B	HP-3A	HP-3A

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

SEQUOIA ANALYTICAL, #1271

*Julianne Fegley*  
Julianne Fegley  
Project Manager





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

Client Project ID: Unocal SS#5043, Oakland  
Matrix: Liquid

QC Sample Group: 9071016-021

Reported: Jul 30, 1999

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 M.
<b>Analyst:</b>	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	N. VanSlambrook

<b>MS/MSD Batch#:</b>	9071137	9071137	9071137	9071137	BLK071999
<b>Date Prepared:</b>	7/20/99	7/20/99	7/20/99	7/20/99	7/19/99
<b>Date Analyzed:</b>	7/20/99	7/20/99	7/20/99	7/20/99	7/19/99
<b>Instrument I.D.#:</b>	HP-4	HP-4	HP-4	HP-4	HP-3A
<b>Conc. Spiked:</b>	20 µg/L	20 µg/L	20 µg/L	60 µg/L	500 µg/L
<b>Matrix Spike % Recovery:</b>	110	95	100	108	84
<b>Matrix Spike Duplicate % Recovery:</b>	115	95	100	108	90
<b>Relative % Difference:</b>	4.4	0.0	0.0	0.0	6.9

<b>LCS Batch#:</b>	4LCS072099	4LCS072099	4LCS072099	4LCS072099	LCS071999
<b>Date Prepared:</b>	7/20/99	7/20/99	7/20/99	7/20/99	7/19/99
<b>Date Analyzed:</b>	7/20/99	7/20/99	7/20/99	7/20/99	7/19/99
<b>Instrument I.D.#:</b>	HP-4	HP-4	HP-4	HP-4	HP-3A
<b>LCS % Recovery:</b>	115	100	105	117	68

<b>% Recovery Control Limits:</b>	70-130	70-130	70-130	70-130	60-140
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**Please Note:**

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

SEQUOIA ANALYTICAL, #1271

*Julianne Fegley*  
Julianne Fegley  
Project Manager

