



# GETTLER-RYAN INC.

## TRANSMITTAL

ENVIRONMENTAL  
PROTECTION

00 MAR -7 AM 9:54

March 13, 2000

G-R #:180065

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

CC: Mr. Doug Lee  
Gettler-Ryan Inc.  
6747 Sierra Court, Suite J  
Dublin, California 94568

FROM: Deanna L. Harding  
Project Coordinator  
Gettler-Ryan Inc.  
6747 Sierra Court, Suite J  
Dublin, California 94568

RE: Tosco (Unocal) SS#5043  
449 Hegenberger Road  
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	March 1, 2000	Groundwater Monitoring and Sampling Report First Quarter 2000 - Event of January 20, 2000

### COMMENTS:

This report is being sent to you for your review/comment, prior to being distributed on your behalf. If no comments are received by *March 24, 2000*, this report will be distributed to the following:

### Enclosure

cc: Mr. Barney M. Chan, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Suite 250, Alameda, California 94502

Mr. Frank deFurio, Shuwa Investment Group, 515 S. Flower Street, Suite 1270, Los Angeles, CA 90071

agency/5043dbd.qmt



# GETTLER - RYAN INC.

March 1, 2000  
G-R Job #180065

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

RE: First Quarter 2000 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 November 29, and December 20, 1999, field personnel monitored one well (MW-6). On January 20, 2000, field personnel monitored and sampled six wells (MW-3, MW-6, MW-7, MW-8, MW-9, and MW-10) at the above referenced site.

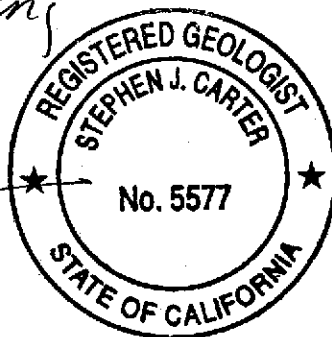
Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were present in one well (MW-6). Static water level data and groundwater elevations are summarized in Table 1. Product Thickness/Removal Data is summarized in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

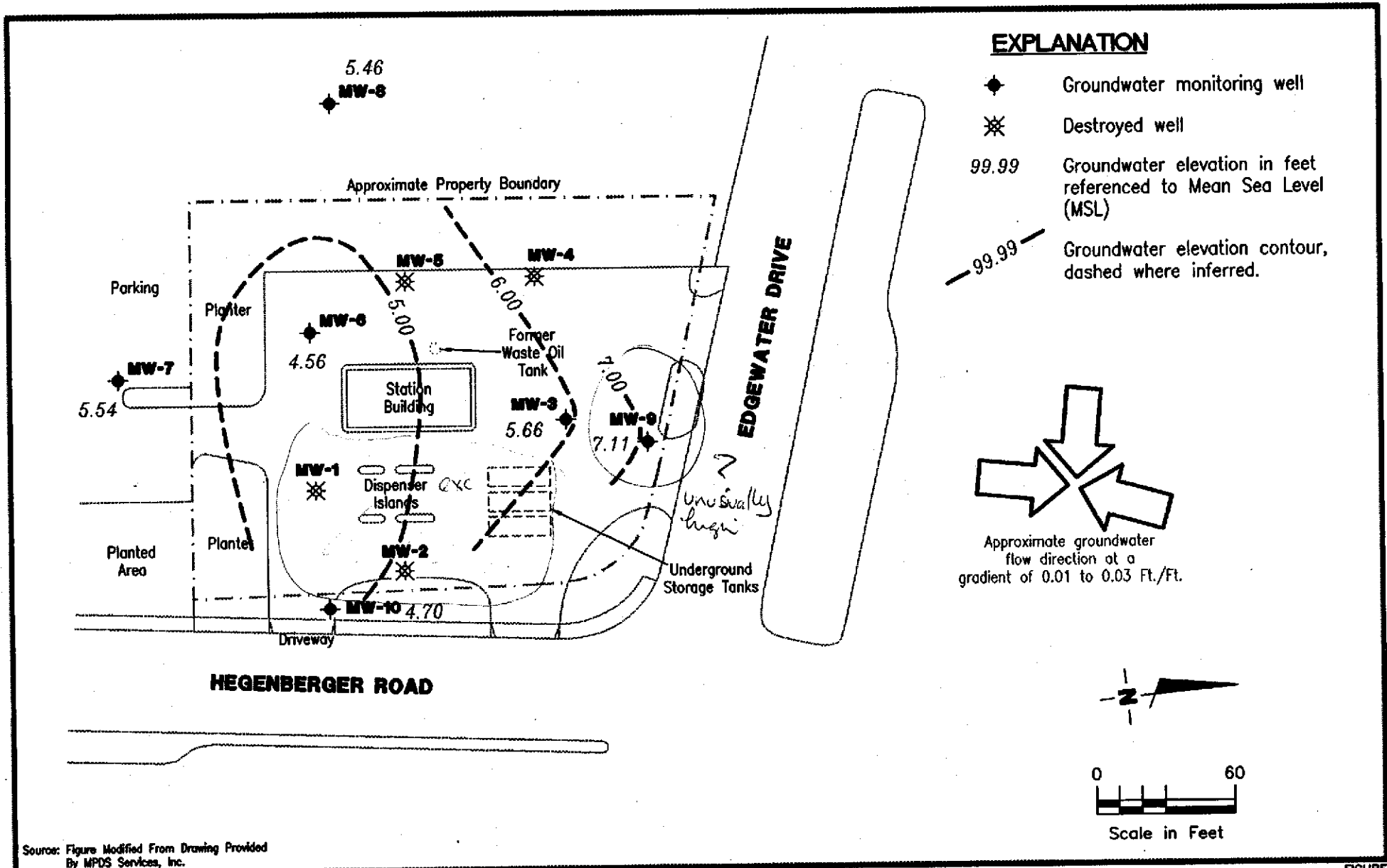
Sincerely,

Deanna L. Harding  
Project Coordinator

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: Product Thickness/Removal Data
- Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical Reports



**Gettler - Ryan Inc.**

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

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

FIGURE

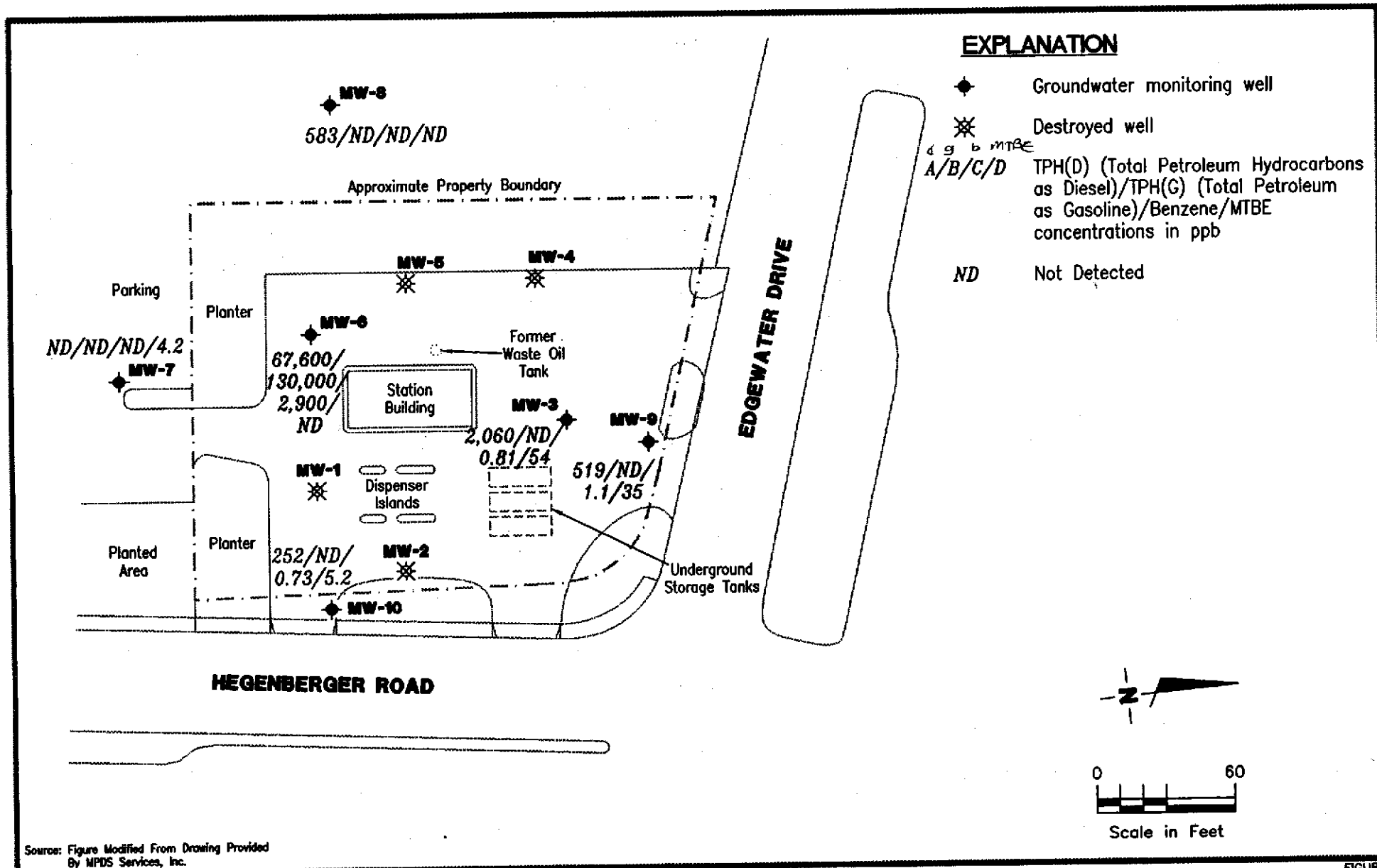
1

JOB NUMBER  
180065

REVIEWED BY

DATE  
January 20, 2000

REVISED DATE



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

FIGURE

**2**



**Gettler - Ryan Inc.**

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

JOB NUMBER  
 180065

REVIEWED BY

DATE  
 January 20, 2000

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	--
7.84*	02/04/93	--	--	--	550 <sup>2</sup>	3,300	320	ND	96	6.1	--
	05/04/93	4.32	3.52	0.00	250 <sup>2</sup>	1,800 <sup>3</sup>	95	ND	ND	ND	--
7.42	08/04/93	4.94	2.90	0.00	100	210 <sup>4</sup>	ND	ND	ND	ND	--
	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	--	--	--	--	--	--	--	--	--	
8.04	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>	--	--	--	--	--	--
	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
	10/21/99	2.49	5.55	0.00	350 <sup>7</sup>	360 <sup>23</sup>	0.77	ND	ND	ND	82
	01/20/00	2.38	5.66	0.00	2,060 <sup>1</sup>	ND	0.81	ND	ND	ND	54

**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-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)		--	--	--	--	--	--	--	--	--	

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5043  
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 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-6	08/31/92	--	--	--	750 <sup>2</sup>	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>2</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**  
 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-6 (cont)	07/15/97	4.63	4.56**	0.42	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	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					--	--
	08/23/99	4.51	4.54**	0.24	--	--	--	--	--	--	--
	09/30/99	4.17	4.83**	0.17	--	--	--	--	--	--	--
	10/21/99	4.27	4.69**	0.12	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	11/29/99	4.18	4.69	<0.01	--	--	--	--	--	--	--
	12/20/99	4.26	4.62**	0.01	--	--	--	--	--	--	--
	01/20/00	4.31	4.56	<0.01	67,600 <sup>1</sup>	130,000 <sup>23</sup>	2,900	8,600	2,000	16,000	ND <sup>9</sup>

**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 8.83	05/27/97	4.50	4.33	0.00	--	68	ND	ND	ND	ND	ND
	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
	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
	10/21/99	3.43	5.40	0.00	ND	ND	ND	ND	ND	ND	ND
	01/20/00	3.29	5.54	0.00	ND	ND	ND	ND	ND	ND	4.2
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
	10/21/99	3.11	5.41	0.00	110 <sup>24</sup>	ND	ND	ND	ND	ND	ND
	01/20/00	3.06	5.46	0.00	583 <sup>1</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

**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-9	01/29/97	1.05	7.24	0.00	54	ND	ND	ND	ND	ND	ND	5.4
(cont)	04/15/97	1.88	6.41	0.00	94 <sup>1</sup>	ND	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	ND
	10/09/97	1.76	6.53	0.00	160 <sup>1</sup>	ND	ND	ND	ND	ND	ND	ND
	01/14/98	1.26	7.03	0.00	110 <sup>7</sup>	ND	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	ND
	07/15/98	1.52	6.77	0.00	200 <sup>12</sup>	ND	ND	ND	ND	ND	ND	ND
	10/16/98	0.81	7.48	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	01/25/99	0.92	7.37	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	04/15/99	0.90	7.39	0.00	ND	75 <sup>18</sup>	21	ND	ND	ND	1.1	680
	07/14/99	1.04	7.25	0.00	140 <sup>21</sup>	ND	1.9	ND	ND	ND	ND	260
	10/21/99	1.23	7.06	0.00	210 <sup>24</sup>	ND	ND	ND	ND	ND	ND	170
	01/20/00	1.18	7.11	0.00	519 <sup>1</sup>	ND	1.1	ND	ND	ND	ND	35
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	ND
	10/28/96	4.09	4.53	0.00	ND	ND	1.1	ND	ND	ND	ND	ND
	01/29/97	2.94	5.68	0.00	ND	210	41	0.67	7.2	4.8	11	11
	04/15/97	4.07	4.55	0.00	ND	110	12	ND	0.77	ND	9.7	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	ND
	10/09/97	4.75	3.87	0.00	ND	190	38	0.92	6.6	7.6	ND	ND
	01/14/98	2.66	5.96	0.00	-- <sup>8</sup>	59	9.5	0.85	1.2	1.7	4.5	4.5
	04/01/98	3.45	5.17	0.00	62 <sup>7</sup>	230	66	1.7	12	17	6.4	6.4
	07/15/98	4.21	4.41	0.00	78 <sup>12</sup>	290	98	45	21	38	21	21
	10/16/98	4.11	4.51	0.00	ND	160 <sup>16</sup>	44	0.96	2.5	10	17	17
	01/25/99	3.26	5.36	0.00	ND	140	27	ND	2.8	6.8	23	23
	04/15/99	3.63	4.99	0.00	ND	120	18	ND	1.8	5.1	14	14
	07/14/99	3.89	4.73	0.00	180 <sup>22</sup>	280	55	3.2	11	31	6.1	6.1
	10/21/99	4.09	4.53	0.00	96 <sup>7</sup>	140 <sup>23</sup>	22	0.59	1.7	7.7	5.3	5.3
	01/20/00	3.92	4.70	0.00	252 <sup>1</sup>	ND	0.73	0.86	ND	ND	5.2	5.2

**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		B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
				Thickness (ft.)	TPH(D) (ppb)						TPH(G) (ppb)
<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
	10/21/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	01/20/00	--	--	--	--	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).
- 1 Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- 2 Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- 3 Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- 4 Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- 5 TOG was ND.
- 6 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.
- 7 Laboratory report indicates unidentified hydrocarbons C9-C24
- 8 Sample bottle broken at Laboratory.
- 9 Detection limit raised. Refer to analytical reports.
- 10 Laboratory report indicates unidentified hydrocarbons > C14 and < C12.
- 11 Laboratory report indicates gasoline and unidentified hydrocarbons > C8.
- 12 Laboratory report indicates unidentified hydrocarbons > C14.
- 13 Laboratory report indicates non diesel mix > C14.
- 14 Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.
- 15 Laboratory report indicates non diesel mix C9-C27.
- 16 Laboratory report indicates unidentified hydrocarbons < C7.
- 17 Laboratory report indicates unidentified hydrocarbons > C10.
- 18 Laboratory report indicates unidentified hydrocarbons C6-C12.
- 19 Laboratory report indicates unidentified hydrocarbons > C9.
- 20 Laboratory report indicates discrete peaks and unidentified hydrocarbons > C20.
- 21 Laboratory report indicates discrete peaks and unidentified hydrocarbons > C16.
- 22 Laboratory report indicates unidentified hydrocarbons < C14 and > C16.
- 23 Laboratory report indicates gasoline C6-C12.
- 24 Laboratory report indicates unidentified hydrocarbons > 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	
05/28/99 <sup>1</sup>	4.38	0.39	0.141 product/1.0 water	

**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	06/29/99 <sup>1</sup>	4.12	0.02	0.054 product/8.0 water
(cont)	07/14/99 <sup>1</sup>	4.20	0.03	0.039 product/2.0 water
	08/23/99 <sup>1</sup>	4.51	0.24	0.094 product/1.0 water
	09/30/99 <sup>1</sup>	4.17	0.17	0.141 product/1.0 water
	10/21/99 <sup>1</sup>	4.27	0.12	0.070 product/1.0 water
	11/29/99 <sup>2</sup>	4.18	< 0.01	0.0078 product/1.0 water
	12/20/99 <sup>2</sup>	4.26	0.01	0.0156 product/1.0 water
	01/20/00 <sup>2</sup>	4.31	< 0.01	0.00

**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.
- <sup>2</sup> No skimmer found 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 NOVEMBER 29, 1999*

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ # \_\_\_\_\_  
 Facility 5043 Job#: 180065  
 Address: 449 Hegenberger Rd. Date: 11-29-99  
 City: Oakland Sampler: Joe

Well ID MW-6 Well Condition: ok  
 Well Diameter 2 in. Hydrocarbon Amount Bailed < 1 ounce FP.  
 Thickness: < 0.01 (feet) (product/water): 19. water (Gallons)  
 Total Depth 12.75 ft.  
 Depth to Water 4.18 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 °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: FP mixed with water was deposited in a dedicated drum on site.  
THERE WAS NO SKIMMER IN WELL.

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

*MONITORING  
EVENT OF DECEMBER 20, 1999*

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/Facility # 5043 Job#: 180065  
 Address: 449 Hegeberger Rd. Date: 12-20-99  
 City: Oakland Sampler: Joe

Well ID MW-6 Well Condition: O.K.  
 Well Diameter 2 in. Hydrocarbon Thickness: 0.01 (feet) Amount Bailed 2 ounces of FP, 19. water (product/water): (Gallons)  
 Total Depth 12.75 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66  
 Depth to Water 4.26 ft. Factor (VF) 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(GI)/btex/mtbe

COMMENTS: No skimmer in well. Product deposited in dedicated drum on site.

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

*MONITORING & SAMPLING  
EVENT OF JANUARY 20, 2000*

FIELD DATA SHEET

Client/  
 Facility # 5043  
 Address: 449 Heegenberger Rd.  
 City: Oakland, CA.

Job#: 180065  
 Date: 1-20-00  
 Sampler: Joe

Well ID: MW-3 Well Condition: ~~Good~~ Entire upper section was loose  
 Well Diameter: 2 in. Hydrocarbon Amount Bailed  
 Thickness: 0 (feet) (product/water): 0 (Gallons)  
 Total Depth: 14.05 ft.  
 Depth to Water: 2.38 ft.

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

11.67 X VF 0.17 = 1.98 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: 9:25 Weather Conditions: rain/showers  
 Sampling Time: 9:50 A.M. Water Color: clear Odor: ~~no~~ 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 °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:35	2	7.10	2.66	64.6			
9:37	4	7.12	2.67	64.4			
9:40	6	7.14	2.70	64.3			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	3 vol	Y	HCC	SEQUOIA	TPH(G)/bTEX/mtbe
	1 Amb.	"		"	TPHD

COMMENTS: Entire upper section of vault was loose. No cap was found. Repley installed new cap & padlock.  
See enclosed picture.

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility # 5043  
Address: 449 Heegenberger Rd.  
City: Oakland, CA.

Job#: 180065  
Date: 1-20-00  
Sampler: Joe

Well ID: MW-6  
Well Diameter: 2 in.  
Total Depth: 12.75 ft.  
Depth to Water: 4.31 ft.

Well Condition: O.K.  
Hydrocarbon Thickness: < 0.01 (feet)  
Amount Bailed (Gallons): 0  

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

8.44 X VF 0.17 = 1.43 X 3 (case volume) = Estimated Purge Volume: 4.5 (gal.)

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

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

Starting Time: 9:25  
Sampling Time: 9:45 A.M.  
Purging Flow Rate: 0.5 gpm.  
Did well de-water? \_\_\_\_\_

Weather Conditions: rain/shower  
Water Color: clear Odor: strong  
Sediment Description: none  
If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 1000$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:35	1	6.88	1.11	64.2			
9:37	2.5	6.85	0.94	65.2			
9:39	4.5	6.86	0.96	65.1			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	3 Vol A	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe
	1 Am B	Y	-	"	TPHD

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

**FIELD DATA SHEET**

Client/ Facility # 5043 Job#: 180065  
 Address: 449 Heegenberger Rd. Date: 1-20-00  
 City: Oakland, CA. Sampler: Joe

Well ID MW-7 Well Condition: o.k.  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: 0 (feet) (product/water): 0 (Gallons)  
 Total Depth 13.15 ft.  
 Depth to Water 3.29 ft.

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

9.86 x VF 0.17 = 1.68 X 3 (case volume) = Estimated Purge Volume: 5 (gal.)

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

Starting Time: 6:54 Weather Conditions: rain/showers  
 Sampling Time: 7:20 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 $\mu\text{mhos/cm} \times 100$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>7:05</u>	<u>1.5</u>	<u>7.71</u>	<u>5.36</u>	<u>65.0</u>			
<u>7:07</u>	<u>3</u>	<u>7.72</u>	<u>5.47</u>	<u>64.9</u>			
<u>7:10</u>	<u>5</u>	<u>7.62</u>	<u>5.51</u>	<u>64.9</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-7</u>	<u>3 vial</u>	<u>Y</u>	<u>HCC</u>	<u>SEQUOIA</u>	<u>TPH(G)/bTEX/mtbe</u>
	<u>1 Anal</u>	<u>"</u>	<u>—</u>	<u>"</u>	<u>TPHD</u>

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



**FIELD DATA SHEET**

Client/ Facility # 5043 Job#: 180065  
 Address: 449 Heegenberger Rd. Date: 1-20-00  
 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 14.80 ft.  
 Depth to Water 3.06 ft.

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

11.74 x VF 0.17 = 2.0 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: 7:32 Weather Conditions: rain/showers  
 Sampling Time: 8:00 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 $\mu\text{mhos/cm} \times 10^3$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>7:42</u>	<u>2</u>	<u>7.40</u>	<u>7.37</u>	<u>65.2</u>			
<u>7:45</u>	<u>4</u>	<u>7.47</u>	<u>7.45</u>	<u>65.1</u>			
<u>7:48</u>	<u>6</u>	<u>7.53</u>	<u>7.48</u>	<u>65.0</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-8</u>	<u>3 vol</u>	<u>Y</u>	<u>HCC</u>	<u>SEQUOIA</u>	<u>TPH(G)/bTEX/rmtbe</u>
	<u>1 AmL</u>	<u>"</u>	<u>—</u>	<u>"</u>	<u>TPHD</u>

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

**FIELD DATA SHEET**

Client/ Facility # 5043 Job#: 180065  
 Address: 449 Hegenberger Rd. Date: 1-20-00  
 City: Oakland, CA. Sampler: Joc

Well ID MW-9 Well Condition: o.k.  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: 0 (feet) (product/water): 0 (Gallons)  
 Total Depth 11.95 ft.  
 Depth to Water 1.18 ft.

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

10.77 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: 8:14 Weather Conditions: rain/showers  
 Sampling Time: 8:36 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 $\mu\text{mhos/cm} \times 10^2$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:22</u>	<u>1.5</u>	<u>7.37</u>	<u>6.50</u>	<u>65.2</u>			
<u>8:25</u>	<u>3</u>	<u>7.30</u>	<u>6.55</u>	<u>65.1</u>			
<u>8:27</u>	<u>5.5</u>	<u>7.22</u>	<u>6.57</u>	<u>64.8</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-9</u>	<u>3 VOL</u>	<u>Y</u>	<u>HCC</u>	<u>SEQUOIA</u>	<u>TPH(GI)/bTEX/mtbe</u>
	<u>1 ANAL</u>	<u>"</u>	<u>—</u>	<u>"</u>	<u>TPHD</u>

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

**FIELD DATA SHEET**

Client/  
 Facility # 5043  
 Address: 449 Hegenberger Rd.  
 City: Oakland, CA.

Job#: 180065  
 Date: 1-20-00  
 Sampler: Joc

Well ID MW-10

Well Condition: o.k.

Well Diameter 2 in.

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

Total Depth 12.80 ft.

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

Depth to Water 3.92 ft.

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

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

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

Starting Time: 8:50

Weather Conditions: rain/showers

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 $\mu\text{mhos/cm} \times 10^2$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>9:00</u>	<u>1.5</u>	<u>7.49</u>	<u>6.12</u>	<u>64.6</u>			
<u>9:03</u>	<u>3</u>	<u>7.54</u>	<u>6.10</u>	<u>64.7</u>			
<u>9:05</u>	<u>4.5</u>	<u>7.56</u>	<u>6.18</u>	<u>64.9</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-10</u>	<u>3 vial</u>	<u>Y</u>	<u>HCC</u>	<u>SEQUOIA</u>	<u>TPH(G)/bTEX/mtbe</u>
	<u>1 ANAL</u>	<u>"</u>	<u>---</u>	<u>"</u>	<u>TPHD</u>

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





# Sequoia Analytical

404 N. Wiget Lane  
Walnut Creek, CA 94598  
(925) 988-9600  
FAX (925) 988-9673

8 February, 2000

Deanna L. Harding  
Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin, CA 94568

RE: Unocal

Enclosed are the results of analyses for samples received by the laboratory on 20-Jan-00 14:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alan B. Kemp  
Laboratory Director





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

**Reported:**  
08-Feb-00 08:17

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	W001460-01	Water	20-Jan-00 00:00	20-Jan-00 14:10
MW-3	W001460-02	Water	20-Jan-00 00:00	20-Jan-00 14:10
MW-3	W001460-02	Water	20-Jan-00 09:50	20-Jan-00 14:10
MW-7	W001460-03	Water	20-Jan-00 00:00	20-Jan-00 14:10
MW-7	W001460-03	Water	20-Jan-00 07:20	20-Jan-00 14:10
MW-8	W001460-04	Water	20-Jan-00 00:00	20-Jan-00 14:10
MW-8	W001460-04	Water	20-Jan-00 08:00	20-Jan-00 14:10
MW-9	W001460-05	Water	20-Jan-00 00:00	20-Jan-00 14:10
MW-9	W001460-05	Water	20-Jan-00 08:36	20-Jan-00 14:10
MW-10	W001460-06	Water	20-Jan-00 00:00	20-Jan-00 14:10
MW-10	W001460-06	Water	20-Jan-00 09:15	20-Jan-00 14:10
MW-6	W001460-07	Water	20-Jan-00 00:00	20-Jan-00 14:10
MW-6	W001460-07	Water	20-Jan-00 09:45	20-Jan-00 14:10





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Reported:  
08-Feb-00 08:17

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT**  
**Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>TB-LB (W001460-01) Water</b> Sampled: 20-Jan-00 00:00 Received: 20-Jan-00 14:10									
Purgeable Hydrocarbons	ND	50	ug/l	1	0A28002	28-Jan-00	28-Jan-00	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		109 %	70-130		"	"	"	"	
<b>MW-3 (W001460-02) Water</b> Sampled: 20-Jan-00 09:50 Received: 20-Jan-00 14:10									
Purgeable Hydrocarbons	ND	50	ug/l	1	0A31003	31-Jan-00	31-Jan-00	EPA	
Benzene	0.81	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	54	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		89.3 %	70-130		"	"	"	"	
<b>MW-7 (W001460-03) Water</b> Sampled: 20-Jan-00 07:20 Received: 20-Jan-00 14:10									
Purgeable Hydrocarbons	ND	50	ug/l	1	0A28002	28-Jan-00	28-Jan-00	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	4.2	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		106 %	70-130		"	"	"	"	

Sequoia Analytical - Walnut Creek

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

  
Alan B. Kemp, Laboratory Director





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Reported:  
08-Feb-00 08:17

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT**  
**Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-8 (W001460-04) Water</b> Sampled: 20-Jan-00 08:00    Received: 20-Jan-00 14:10									
Purgeable Hydrocarbons	ND	50	ug/l	1	0A28002	28-Jan-00	28-Jan-00	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		113 %	70-130		"	"	"	"	
<b>MW-9 (W001460-05) Water</b> Sampled: 20-Jan-00 08:36    Received: 20-Jan-00 14:10									
Purgeable Hydrocarbons	ND	50	ug/l	1	0A28002	28-Jan-00	28-Jan-00	EPA	
Benzene	1.1	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	35	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		107 %	70-130		"	"	"	"	
<b>MW-10 (W001460-06) Water</b> Sampled: 20-Jan-00 09:15    Received: 20-Jan-00 14:10									
Purgeable Hydrocarbons	ND	50	ug/l	1	0A28003	28-Jan-00	28-Jan-00	EPA	
Benzene	0.73	0.50	"	"	"	"	"	8015M/8020	
Toluene	0.86	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	5.2	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		106 %	70-130		"	"	"	"	







Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding


Reported:  
08-Feb-00 08:17

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT  
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (W001460-07) Water    Sampled: 20-Jan-00 09:45    Received: 20-Jan-00 14:10    P-01									
Purgeable Hydrocarbons	130000	100000	ug/l	2000	0A31001	31-Jan-00	31-Jan-00	EPA	
Benzene	2900	1000	"	"	"	"	"	8015M/8020	
Toluene	8600	1000	"	"	"	"	"	"	
Ethylbenzene	2000	1000	"	"	"	"	"	"	
Xylenes (total)	16000	1000	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5000	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		101 %	70-130		"	"	"	"	

Sequoia Analytical - Walnut Creek

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Alan B. Kemp, Laboratory Director





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA. 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Report Revised:  
11-Feb-00 09:51

**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M**  
**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W001460-02) Water Sampled: 20-Jan-00 00:00 Received: 20-Jan-00 14:10									
Diesel (C10-C24)	2060	83	ug/l	1	0020069	03-Feb-00	03-Feb-00	EPA 8015M-SVO	HC-12
Surrogate: o-Terphenyl		91.6 %	50.0-150		"	"	"		
MW-7 (W001460-03) Water Sampled: 20-Jan-00 00:00 Received: 20-Jan-00 14:10									
Diesel (C10-C24)	ND	72	ug/l	1	0020069	03-Feb-00	03-Feb-00	EPA 8015M-SVO	
Surrogate: o-Terphenyl		99.3 %	50.0-150		"	"	"		
MW-8 (W001460-04) Water Sampled: 20-Jan-00 00:00 Received: 20-Jan-00 14:10									
Diesel (C10-C24)	583	72	ug/l	1	0020069	03-Feb-00	03-Feb-00	EPA 8015M-SVO	HC-12
Surrogate: o-Terphenyl		91.6 %	50.0-150		"	"	"		
MW-9 (W001460-05) Water Sampled: 20-Jan-00 00:00 Received: 20-Jan-00 14:10									
Diesel (C10-C24)	519	83	ug/l	1	0020069	03-Feb-00	03-Feb-00	EPA 8015M-SVO	HC-12
Surrogate: o-Terphenyl		88.6 %	50.0-150		"	"	"		
MW-10 (W001460-06) Water Sampled: 20-Jan-00 00:00 Received: 20-Jan-00 14:10									
Diesel (C10-C24)	252	63	ug/l	1	0020069	03-Feb-00	03-Feb-00	EPA 8015M-SVO	HC-12
Surrogate: o-Terphenyl		86.4 %	50.0-150		"	"	"		
MW-6 (W001460-07) Water Sampled: 20-Jan-00 00:00 Received: 20-Jan-00 14:10									
Diesel (C10-C24)	67600	720	ug/l	10	0020069	03-Feb-00	06-Feb-00	EPA 8015M-SVO	HC-12
Surrogate: o-Terphenyl		108 %	50.0-150		"	"	"		





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Reported:  
08-Feb-00 08:17

## Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 0A28002: Prepared 28-Jan-00 Using EPA 5030B [P/T]

#### Blank (0A28002-BLK1)

Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	34.0		"	30.0		113	70-130			

#### LCS (0A28002-BS1)

Benzene	19.7	0.50	ug/l	20.0		98.5	70-130			
Toluene	19.8	0.50	"	20.0		99.0	70-130			
Ethylbenzene	20.4	0.50	"	20.0		102	70-130			
Xylenes (total)	61.3	0.50	"	60.0		102	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	31.0		"	30.0		103	70-130			

#### Matrix Spike (0A28002-MS1)

Source: W001555-06

Benzene	22.0	0.50	ug/l	20.0	ND	110	70-130			
Toluene	21.7	0.50	"	20.0	ND	109	70-130			
Ethylbenzene	21.9	0.50	"	20.0	ND	109	70-130			
Xylenes (total)	67.3	0.50	"	60.0	ND	112	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	31.3		"	30.0		104	70-130			

#### Matrix Spike Dup (0A28002-MSD1)

Source: W001555-06

Benzene	21.3	0.50	ug/l	20.0	ND	106	70-130	3.23	20	
Toluene	21.5	0.50	"	20.0	ND	108	70-130	0.926	20	
Ethylbenzene	21.8	0.50	"	20.0	ND	109	70-130	0.458	20	
Xylenes (total)	64.7	0.50	"	60.0	ND	108	70-130	3.94	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	31.1		"	30.0		104	70-130			

Sequoia Analytical - Walnut Creek

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Alan B. Kemp, Laboratory Director





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Reported:  
08-Feb-00 08:17

## Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0A28003: Prepared 28-Jan-00 Using EPA 5030B [P/T]

### Blank (0A28003-BLK1)

Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	30.3		"	30.0		101	70-130			

### LCS (0A28003-BS1)

Benzene	20.5	0.50	ug/l	20.0		103	70-130			
Toluene	21.0	0.50	"	20.0		105	70-130			
Ethylbenzene	21.0	0.50	"	20.0		105	70-130			
Xylenes (total)	60.8	0.50	"	60.0		101	70-130			
Surrogate: a,a,a-Trifluorotoluene	28.6		"	30.0		95.3	70-130			

### Matrix Spike (0A28003-MS1)

Source: W001555-02

Benzene	20.8	0.50	ug/l	20.0	ND	104	70-130			
Toluene	22.0	0.50	"	20.0	ND	110	70-130			
Ethylbenzene	21.9	0.50	"	20.0	ND	109	70-130			
Xylenes (total)	63.4	0.50	"	60.0	ND	106	70-130			
Surrogate: a,a,a-Trifluorotoluene	29.0		"	30.0		96.7	70-130			

### Matrix Spike Dup (0A28003-MSD1)

Source: W001555-02

Benzene	22.3	0.50	ug/l	20.0	ND	111	70-130	6.96	20	
Toluene	23.1	0.50	"	20.0	ND	116	70-130	4.88	20	
Ethylbenzene	23.4	0.50	"	20.0	ND	117	70-130	6.62	20	
Xylenes (total)	66.6	0.50	"	60.0	ND	111	70-130	4.92	20	
Surrogate: a,a,a-Trifluorotoluene	31.5		"	30.0		105	70-130			

Sequoia Analytical - Walnut Creek

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Alan B. Kemp, Laboratory Director





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Reported:  
08-Feb-00 08:17

## Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0A31001: Prepared 31-Jan-00 Using EPA 5030B [P/T]

### Blank (0A31001-BLK1)

Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	27.6		"	30.0		92.0	70-130			

### LCS (0A31001-BS1)

Benzene	18.4	0.50	ug/l	20.0		92.0	70-130			
Toluene	18.9	0.50	"	20.0		94.5	70-130			
Ethylbenzene	20.6	0.50	"	20.0		103	70-130			
Xylenes (total)	61.5	0.50	"	60.0		103	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	27.9		"	30.0		93.0	70-130			

### Matrix Spike (0A31001-MS1)

Source: W001532-02

Benzene	18.4	0.50	ug/l	20.0	ND	92.0	70-130			
Toluene	19.0	0.50	"	20.0	ND	95.0	70-130			
Ethylbenzene	17.0	0.50	"	20.0	ND	85.0	70-130			
Xylenes (total)	59.8	0.50	"	60.0	ND	99.7	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	27.6		"	30.0		92.0	70-130			


### Matrix Spike Dup (0A31001-MSD1)

Source: W001532-02

Benzene	18.0	0.50	ug/l	20.0	ND	90.0	70-130	2.20	20	
Toluene	18.5	0.50	"	20.0	ND	92.5	70-130	2.67	20	
Ethylbenzene	17.1	0.50	"	20.0	ND	85.5	70-130	0.587	20	
Xylenes (total)	58.6	0.50	"	60.0	ND	97.7	70-130	2.03	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	27.0		"	30.0		90.0	70-130			

Sequoia Analytical - Walnut Creek

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Alan B. Kemp, Laboratory Director



Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Reported:  
08-Feb-00 08:17

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control**  
**Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 0A31003: Prepared 31-Jan-00 Using EPA 5030B [P/T]**

**Blank (0A31003-BLK1)**

Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	30.1		"	30.0		100	70-130			

**LCS (0A31003-BS1)**


Benzene	20.8	0.50	ug/l	20.0		104	70-130			
Toluene	21.1	0.50	"	20.0		106	70-130			
Ethylbenzene	21.3	0.50	"	20.0		106	70-130			
Xylenes (total)	61.4	0.50	"	60.0		102	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	28.6		"	30.0		95.3	70-130			

**LCS Dup (0A31003-BSD1)**

Benzene	20.5	0.50	ug/l	20.0		103	70-130	1.45	20	
Toluene	20.7	0.50	"	20.0		104	70-130	1.91	20	
Ethylbenzene	20.1	0.50	"	20.0		101	70-130	5.80	20	
Xylenes (total)	59.6	0.50	"	60.0		99.3	70-130	2.98	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	27.5		"	30.0		91.7	70-130			

Sequoia Analytical - Walnut Creek

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Alan B. Kemp, Laboratory Director





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Report Revised:  
11-Feb-00 09:51

**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M - Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 0020069: Prepared 03-Feb-00 Using EPA 3510B</b>										
<b>Blank (0020069-BLK1)</b>										
Diesel (C10-C24)	ND	50	ug/l							
Surrogate: o-Terphenyl	0.0974		"	0.100		97.4	50.0-150			
<b>LCS (0020069-BS1)</b>										
Diesel (C10-C24)	971	50	ug/l	1000		97.1	50.0-150			
Surrogate: o-Terphenyl	0.0949		"	0.100		94.9	50.0-150			
<b>LCS Dup (0020069-BSD1)</b>										
Diesel (C10-C24)	975	50	ug/l	1000		97.5	50.0-150	0.411	20.0	
Surrogate: o-Terphenyl	0.0922		"	0.100		92.2	50.0-150			

Sequoia Analytical - Walnut Creek

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Alan B. Kemp, Laboratory Director





Gettler Ryan, Inc. - Dublin  
6747 Sierra Court Suite J  
Dublin CA, 94568

Project: Unocal  
Project Number: Unocal # 5043  
Project Manager: Deanna L. Harding

Reported:  
08-Feb-00 08:17

### Notes and Definitions

- HC-12 Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
- P-01 Chromatogram Pattern: Gasoline C6-C12
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

