



# GETTLER-RYAN INC.

R0231

## TRANSMITTAL

July 9, 2001  
G-R #180066

TO: Mr. David B. De Witt  
Tosco Marketing Company  
2000 Crow Canyon Place, Suite 400  
San Ramon, California 94586

CC: Mr. David Vossler  
Gettler-Ryan Inc.  
Petaluma, California

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

RE: **Tosco (Unocal) Service Station #0752**  
**800 Harrison Street**  
**Oakland, California**

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	June 29, 2001	Groundwater Monitoring and Sampling Report Second Quarter - Event of May 23, 2001

### 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 **July 23, 2001**, this report will be distributed to the following:

cc: Ms. Jennifer Eberle, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Alameda, CA 94502

Enclosure

trans/0752-DBD



# GETTLER - RYAN INC.

June 29, 2001  
G-R Job #180066

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

**RE: Second Quarter Event of May 23, 2001**  
Groundwater Monitoring & Sampling Report  
Tosco (Unocal) Service Station #0752  
800 Harrison Street  
Oakland, California

Dear Mr. De Witt:

This report documents the most recent groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the wells. Static water level data and groundwater elevations are summarized in Table 1. Dissolved Oxygen Concentrations are summarized in Table 5. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are summarized in Tables 1, 2, 3 and 4. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

Deanna L. Harding  
Project Coordinator

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

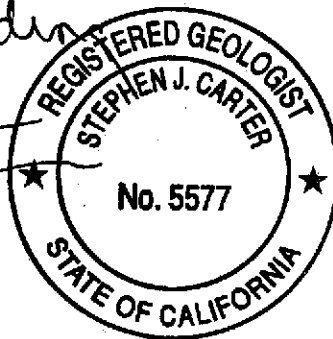
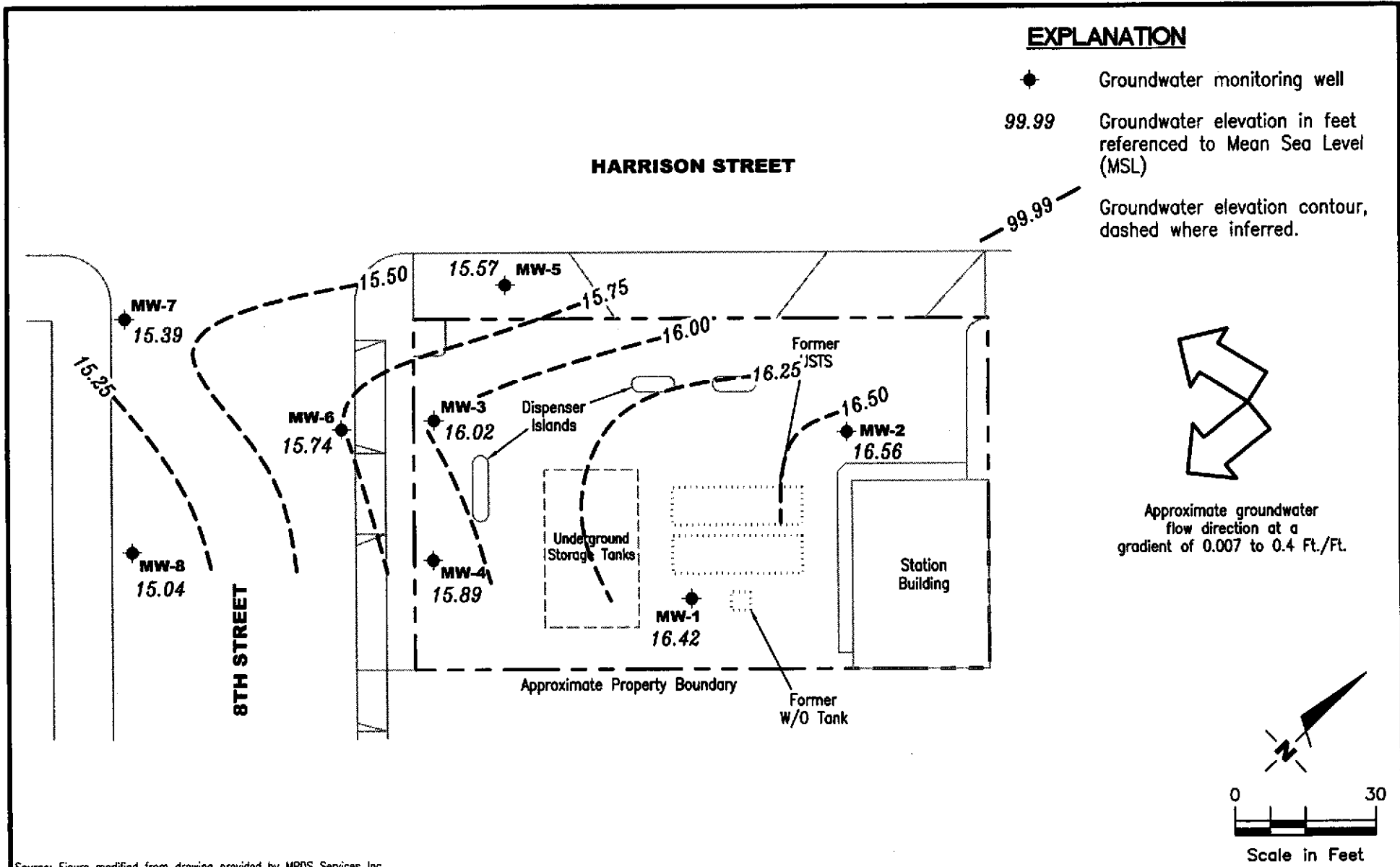


Figure 1: Potentiometric Map  
Figure 2: Concentration Map  
Table 1: Groundwater Monitoring Data and Analytical Results  
Table 2: Groundwater Analytical Results - Oxygenate Compounds  
Table 3: Groundwater Analytical Results  
Table 4: Groundwater Analytical Results  
Table 5: Dissolved Oxygen Concentrations  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
0752.qml Chain of Custody Document and Laboratory Analytical Reports



Source: Figure modified from drawing provided by MPDS Services Inc..

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

**POTENTIOMETRIC MAP**  
 Tosco (Unocal) Service Station #0752  
 800 Harrison Street  
 Oakland, California

FIGURE

1

PROJECT NUMBER  
 180066

REVIEWED BY

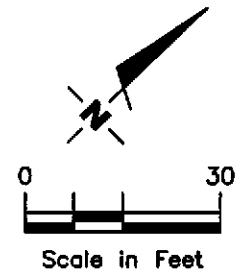
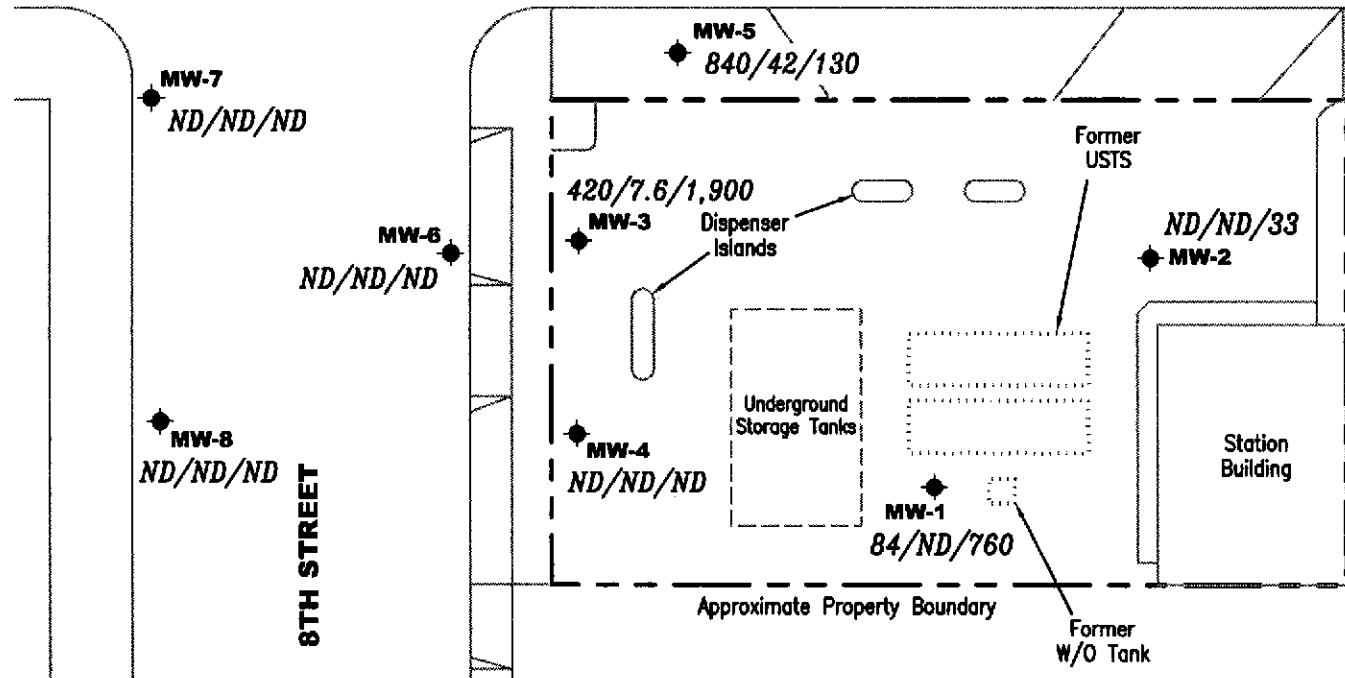
DATE  
 May 23, 2001

REVISED DATE

**HARRISON STREET**

**EXPLANATION**

- ◆ Groundwater monitoring well
- A/B/C TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/ Benzene/MTBE concentrations in ppb
- ND Not Detected



Source: Figure modified from drawing provided by MPDS Services Inc..

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

**CONCENTRATION MAP**  
 Tosco (Unocal) Service Station #0752  
 800 Harrison Street  
 Oakland, California

FIGURE  
**2**

PROJECT NUMBER  
 180066

REVIEWED BY

DATE  
 May 23, 2001

REVISED DATE

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

WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-1	06/05/91	--	--	ND	47	ND	ND	ND	ND	--	7.8	2.9	1.3
	09/30/91	--	--	ND	ND	ND	ND	ND	ND	--	--	--	--
	12/30/91	--	--	ND	ND	ND	ND	ND	ND	--	6.4	2.1	0.9
	04/02/92	--	--	94	ND	ND	ND	ND	ND	--	7.1	2.6	1.4
	06/30/92	--	--	120	ND	ND	ND	ND	ND	--	9.5	2.2	1.3
	09/15/92	--	--	ND	76	1.0	ND	ND	ND	--	12	2.2	1.3
34.94	12/21/92	21.17	13.77	ND	95	0.69	ND	ND	1.0	--	12	1.4	0.83
	04/28/93 <sup>1</sup>	--	--	470 <sup>2</sup>	920	3.1	2.3	1.2	9.7	--	12	0.89	0.85
	07/23/93	20.13	14.81	ND	ND	0.5	0.66	ND	ND	--	16	1.3	0.91
34.69	10/05/93	20.30	14.39	57 <sup>3</sup>	92 <sup>5</sup>	1.5	ND	ND	0.72	--	13	1.3	0.66
	01/03/94 <sup>6</sup>	20.52	14.17	ND	ND	ND	ND	ND	ND	--	18	1.4	0.93
	04/02/94	20.16	14.53	ND	ND	ND	ND	ND	ND	--	15	1.1	0.68
	07/05/94	19.27	15.42	--	250	4.8	13	1.2	7.3	--	--	--	--
	10/06/94	20.87	13.82	--	540	1.4	ND	0.66	11	--	--	--	--
	01/02/95	19.67	15.02	--	140	ND	ND	ND	ND	--	--	--	--
	04/03/95	17.61	17.08	--	580	3.6	0.75	ND	4.0	--	--	--	--
	07/14/95	18.58	16.11	--	260	2.1	ND	ND	1.2	--	--	--	--
	10/10/95	19.60	15.09	--	220	2.0	ND	25	5.6	29	--	--	--
	01/03/96	19.69	15.00	--	190	2.4	ND	0.71	1.2	--	--	--	--
	04/10/96	17.65	17.04	--	540	8.9	1.7	1.5	7.4	50	--	--	--
	07/09/96	18.52	16.17	--	490	3.0	1.4	1.3	2.5	150	--	--	--
	01/24/97	17.72	16.97	--	760	27	0.89	5.2	10	510	--	--	--
	07/23/97	19.42	15.27	--	ND	ND	ND	ND	ND	550	--	--	--
NP	01/26/98	17.46	17.23	--	1,800 <sup>8</sup>	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	4,800	--	--	--
NP	07/03/98	18.61	16.08	--	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	ND <sup>9</sup>	1,800	--	--	--
	01/14/99	18.92	15.77	--	83 <sup>10</sup>	ND	ND	ND	ND	230	--	--	--
	07/15/99	17.84	16.85	--	110	ND	ND	ND	1.0	290	--	--	--
	01/07/00	19.13	15.56	--	ND	ND	ND	ND	ND	260	--	--	--
	07/19/00	20.27	14.42	--	ND	ND	ND	ND	ND	648	--	--	--
	01/02/01	20.04	14.65	--	ND	ND	ND	ND	ND	119	--	--	--
	05/23/01	18.27	16.42	--	84 <sup>12</sup>	ND	ND	ND	ND	760	--	--	--

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

WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-2	06/05/91	--	--	--	49	ND	ND	ND	ND	--	--	--	--
	09/30/91	--	--	--	130	18	0.53	14	9.6	--	--	--	--
	12/30/91	--	--	--	91	16	0.89	11	1.9	--	--	--	--
	04/02/92	--	--	--	88	12	0.32	6.3	7.2	--	--	--	--
	06/30/92	--	--	--	76	9.3	0.76	4.8	6.9	--	--	--	--
	09/15/92	--	--	--	1,300	91	5.7	80	110	--	--	--	--
34.97	12/21/92	20.85	14.12	--	960	97	3.2	74	96	--	--	--	--
	04/28/93	--	--	--	1,300	76	1.9	130	87	--	--	--	--
	07/23/93	19.81	15.16	--	66	1.8	ND	2.5	2.0	--	--	--	--
34.72	10/05/93	19.95	14.77	--	120	12	ND	2.1	12	--	--	--	--
	01/03/94	20.21	14.51	--	260	25	ND	5.5	26	--	--	--	--
	04/02/94	19.88	14.84	--	ND	0.65	ND	ND	0.99	--	--	--	--
	07/05/94	19.07	15.65	--	160	16	ND	0.73	10	--	--	--	--
	10/06/94	20.55	14.17	--	170	15	ND	1.4	11	--	--	--	--
	01/02/95	19.25	15.47	--	190	27	ND	0.95	11	--	--	--	--
	04/03/95	17.49	17.23	--	2,400	65	6.6	19	63	--	--	--	--
	07/14/95	18.30	16.42	--	750	270	ND	ND	13	--	--	--	--
	10/10/95	19.25	15.47	--	50	1.6	ND	ND	ND	200	--	--	--
	01/03/96	19.40	15.32	--	ND	ND	ND	ND	ND	--	--	--	--
	04/10/96	17.35	17.37	--	300	42	ND	2.4	9.0	620	--	--	--
	07/09/96	18.22	16.50	--	760	230	ND	1.3	2.4	1,500	--	--	--
	01/24/97	17.59	17.13	--	2,900	400	350	190	720	1,300	--	--	--
	07/23/97	19.13	15.59	--	ND	ND	ND	ND	ND	65	--	--	--
NP	01/26/98	17.12	17.60	--	ND	ND	ND	ND	0.58	13	--	--	--
NP	07/03/98	18.20	16.52	--	140	26	ND	0.95	5.0	330	--	--	--
	01/14/99	18.56	16.16	--	ND	0.54	ND	ND	ND	350	--	--	--
	07/15/99	17.39	17.33	--	ND	0.88	ND	ND	ND	39	--	--	--
	01/07/00	18.78	15.94	--	ND	ND	ND	ND	ND	24	--	--	--
	07/19/00	19.68	15.04	--	ND	1.45	ND	ND	ND	117	--	--	--
	01/02/01	19.73	14.99	--	ND	ND	ND	ND	ND	11.4	--	--	--
	05/23/01	18.16	16.56	--	ND	ND	ND	ND	ND	33	--	--	--

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WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-3	06/05/91	--	--	--	5,800	1,200	40	140	97	--	--	--	--
	09/30/91	--	--	--	6,800	1,400	130	290	240	--	--	--	--
	12/30/91	--	--	--	7,200	2,100	690	410	550	--	--	--	--
	04/02/92	--	--	--	8,000	1,400	200	300	310	--	--	--	--
	06/30/92	--	--	--	8,900	1,900	210	430	550	--	--	--	--
	09/15/92	--	--	--	10,000	1,900	330	400	580	--	--	--	--
33.39	12/21/92	20.02	13.37	--	8,500	1,500	150	310	330	--	--	--	--
	04/28/93	--	--	--	2,600	220	7.6	41	27	--	--	--	--
	07/23/93	19.00	14.39	--	4,400	660	26	160	82	--	--	--	--
33.14	10/05/93	19.20	13.94	--	9,200	720	88	140	140	--	--	--	--
	01/03/94	19.40	13.74	--	4,900	830	100	170	150	--	--	--	--
	04/02/94	19.01	14.13	--	6,000	800	30	140	110	--	--	--	--
	07/05/94	18.14	15.00	--	25,000 <sup>5</sup>	ND	ND	ND	ND	--	--	--	--
	10/06/94	19.73	13.41	--	49,000 <sup>4</sup>	1,300	200	280	300	--	--	--	--
	01/02/95	18.36	14.78	--	480	1.6	ND	1.4	ND	--	--	--	--
	04/03/95	16.38	16.76	--	8,100 <sup>5</sup>	65	ND	ND	ND	--	--	--	--
	07/14/95	17.49	15.65	--	ND	1,300	ND	ND	ND	--	--	--	--
	10/10/95	18.50	14.64	--	3,100	1,400	36	50	53	190,000	--	--	--
	01/03/96 <sup>7</sup>	18.54	14.60	--	ND	2,300	110	150	140	--	--	--	--
	04/10/96	16.40	16.74	--	940	38	33	39	47	69,000	--	--	--
	07/09/96	17.43	15.71	--	ND	2,000	ND	150	160	140,000	--	--	--
	01/24/97	16.57	16.57	--	540	8.0	ND	11	9.9	45	--	--	--
	07/23/97	18.38	14.76	--	7,400	1,900	180	140	340	45,000	--	--	--
NP	01/26/98	16.22	16.92	--	250	2.2	1.9	0.87	1.9	4.0	--	--	--
NP	07/03/98	17.46	15.68	--	230	1.8	2.5	1.5	3.4	6.3	--	--	--
	01/14/99	17.73	15.41	--	400 <sup>10</sup>	8.2	2.7	0.90	5.9	140	--	--	--
	07/15/99	16.58	16.56	--	290 <sup>10</sup>	3.3	3.6	1.7	2.5	13	--	--	--
	01/07/00	17.84	15.30	--	ND <sup>9</sup>	890	91	100	480	20,000	--	--	--
	07/19/00	18.92	14.22	--	354 <sup>12</sup>	3.87	2.61	0.646	ND	13.7	--	--	--
	01/02/01	19.07	14.07	--	464 <sup>12</sup>	ND	3.69	3.91	ND	21.1	--	--	--
	05/23/01	17.12	16.02	--	420 <sup>11</sup>	7.6	3.1	3.0	5.1	1,900	--	--	--

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

WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-4	10/19/92	--	--	--	480	0.51	2.1	2.8	6.8	--	--	--	--
33.12	12/21/92	19.73	13.39	--	220 <sup>4</sup>	ND	ND	0.97	0.74	--	--	--	--
	04/28/93	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	07/23/93	18.72	14.40	--	85 <sup>4</sup>	ND	ND	ND	ND	--	--	--	--
32.71	10/05/93	18.74	13.97	--	130 <sup>5</sup>	ND	ND	ND	ND	--	--	--	--
	01/03/94	18.93	13.78	--	210	ND	ND	0.76	1.6	240	9.0	1.0	ND
	04/02/94	18.53	14.18	--	89	ND	ND	ND	ND	--	--	--	--
	07/05/94	17.67	15.04	--	190 <sup>5</sup>	ND	ND	ND	ND	--	--	--	--
	10/06/94	19.25	13.46	--	170	0.85	ND	ND	0.74	--	--	--	--
	01/02/95	17.75	14.96	--	ND	ND	ND	ND	ND	--	--	--	--
	04/03/95	15.87	16.84	--	98 <sup>5</sup>	ND	ND	ND	ND	--	--	--	--
	07/14/95	17.01	15.70	--	ND	ND	ND	ND	ND	--	--	--	--
	10/10/95	18.03	14.68	--	ND	ND	ND	ND	ND	120	--	--	--
	01/03/96 <sup>7</sup>	18.05	14.66	--	ND	ND	ND	ND	ND	--	--	--	--
	04/10/96	16.00	16.71	--	ND	ND	ND	ND	ND	240	--	--	--
	07/09/96	16.96	15.75	--	ND	ND	ND	ND	ND	480	--	--	--
	01/24/97	16.04	16.67	--	ND	ND	ND	ND	ND	270	--	--	--
	07/23/97	17.87	14.84	--	ND	ND	ND	ND	ND	460	--	--	--
NP	01/26/98	16.05	16.66	--	ND	ND	ND	ND	ND	17	--	--	--
NP	07/03/98	16.95	15.76	--	ND	ND	ND	ND	ND	3.8	--	--	--
	01/14/99	17.34	15.37	--	ND	ND	ND	ND	ND	4,600	--	--	--
	07/15/99	16.36	16.35	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/07/00	17.81	14.90	--	ND	ND	ND	ND	ND	450	--	--	--
	07/19/00	18.94	13.77	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/02/01	18.85	13.86	--	ND	ND	ND	ND	ND	ND	--	--	--
	05/23/01	16.82	15.89	--	ND	ND	ND	ND	ND	ND	--	--	--
MW-5	10/19/92	--	--	--	2,700	61	5.0	100	61	--	--	--	--
33.25	12/21/92	19.75	13.50	--	1,700	51	4.7	83	34	--	--	--	--
	04/28/93	--	--	--	6,700	200	190	250	430	--	--	--	--
	07/23/93	18.74	14.51	--	2,000	122	8.0	68	47	--	--	--	--
32.95	10/05/93	18.83	14.12	--	1,700	70	6.2	54	40	--	--	--	--



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

WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-5	01/03/94	19.05	13.90	--	1,500	44	ND	42	46	--	--	--	--
(cont)	04/02/94	18.68	14.27	--	1,800	46	5.1	38	35	--	--	--	--
	07/05/94	17.90	15.05	--	2,200	97	8.4	37	36	--	--	--	--
	10/06/94	19.37	13.58	--	1,600	79	5.7	28	22	--	--	--	--
	01/02/95	17.92	15.03	--	1,700	50	8.6	30	28	--	--	--	--
	04/03/95	16.15	16.80	--	5,400 <sup>5</sup>	190	240	170	420	--	--	--	--
	07/14/95	17.18	15.77	--	3,800	210	100	130	190	--	--	--	--
	10/10/95	18.15	14.80	--	1,300	92	14	15	39	1,100	--	--	--
	01/03/96 <sup>7</sup>	18.20	14.75	--	630	53	4.4	8.3	13	--	--	--	--
	04/10/96	16.05	16.90	--	500	25	18	7.0	20	640	--	--	--
	07/09/96	17.11	15.84	--	1,000	44	20	10	34	150	--	--	--
	01/24/97	16.36	16.59	--	4,000	190	400	160	430	600	--	--	--
	07/23/97	18.08	14.87	--	1,700	200	23	18	45	2,500	--	--	--
NP	01/26/98	16.27	16.68	--	ND	ND	ND	ND	ND	ND	--	--	--
NP	07/03/98	17.27	15.68	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	17.55	15.40	--	330	61	4.1	2.2	2.9	560	--	--	--
	07/15/99	16.41	16.54	--	1,100	170	ND <sup>9</sup>	ND <sup>9</sup>	27	660	--	--	--
	01/07/00	17.85	15.10	--	1,000 <sup>11</sup>	180	6.3	ND <sup>9</sup>	14	430	--	--	--
	07/19/00	18.87	14.08	--	2,980 <sup>11</sup>	289	57.3	65.3	43.4	976	--	--	--
	10/03/00	18.47	14.48	--	--	--	--	--	--	--/553 <sup>13</sup>	--	--	--
	01/02/01	19.01	13.94	--	1,150 <sup>11</sup>	87.2	17.8	7.97	9.32	368	--	--	--
	05/23/01	17.38	15.57	--	840 <sup>11</sup>	42	10	13	7.1	130	--	--	--
MW-6	10/19/92	--	--	--	3,900	420	12	60	28	--	--	--	--
32.42	12/21/92	19.17	13.25	--	2,300	370	11	39	15	--	--	--	--
	04/28/93	--	--	--	1,200	54	1.5	11	5.3	--	--	--	--
	07/23/93	18.17	14.25	--	580	19	0.99	3.4	2.7	--	--	--	--
32.16	10/05/93	18.35	13.81	--	1,400	34	ND	5.3	7.3	--	--	--	--
	01/03/94	18.54	13.62	--	1,400	57	ND	8.5	11	--	--	--	--
	04/02/94	18.15	14.01	--	5,300 <sup>4</sup>	ND	ND	ND	ND	--	--	--	--
	07/05/94	17.25	14.91	--	ND	ND	ND	ND	ND	--	--	--	--
	10/06/94	18.85	13.31	--	11,000 <sup>5</sup>	ND	ND	ND	ND	--	--	--	--

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

WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-6	01/02/95	17.51	14.65	--	550	18	0.92	2.0	1.8	--	--	--	--
(cont)	04/03/95	15.48	16.68	--	6,600 <sup>5</sup>	ND	ND	ND	ND	--	--	--	--
	07/14/95	16.63	15.53	--	ND	ND	ND	ND	ND	--	--	--	--
	10/10/95	17.68	14.48	--	ND	81	ND	ND	ND	75,000	--	--	--
	01/03/96 <sup>7</sup>	17.66	14.50	--	70	9.9	0.58	ND	0.81	--	--	--	--
	04/10/96	15.56	16.60	--	300	25	4.7	0.94	2.7	53,000	--	--	--
	07/09/96	16.59	15.57	--	1,800	410	ND	12	ND	76,000	--	--	--
	01/24/97	15.69	16.47	--	ND	0.80	ND	ND	ND	390	--	--	--
	07/23/97	17.53	14.63	--	5,700	1,100	240	240	700	16,000	--	--	--
NP	01/26/98	15.44	16.72	--	ND	ND	ND	ND	ND	ND	--	--	--
NP	07/03/98	16.58	15.58	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	17.02	15.14	--	ND	ND	ND	ND	ND	14	--	--	--
	07/15/99	15.95	16.21	--	ND	ND	ND	ND	ND	2.8	--	--	--
	01/07/00	16.96	15.20	--	78 <sup>11</sup>	24	ND	0.66	17	280	--	--	--
	07/19/00	18.04	14.12	--	ND	ND	1.32	ND	0.974	ND	--	--	--
	01/02/01	18.10	14.06	--	ND	ND	ND	ND	ND	ND	--	--	--
	05/23/01	16.42	15.74	--	ND	ND	ND	ND	ND	ND	--	--	--
<b>MW-7</b>													
32.49	04/28/93	--	--	--	110	2.8	1.3	1.4	1.7	--	--	--	--
	07/23/93	18.60	13.89	--	790	23	3.3	28	5.4	--	--	--	--
32.20	10/05/93	18.76	13.44	--	360	10	1.2	0.91	0.99	--	--	--	--
	01/03/94	18.91	13.29	--	ND	0.93	ND	0.75	1.9	--	--	--	--
	04/02/94	18.50	13.70	--	360	2.0	ND	ND	0.8	--	--	--	--
	07/05/94	17.52	14.68	--	ND	ND	ND	ND	ND	--	--	--	--
	10/06/94	19.25	12.95	--	340	5.6	0.85	ND	1.2	--	--	--	--
	01/02/95	17.67	14.53	--	ND	ND	ND	ND	ND	--	--	--	--
	04/03/95	15.81	16.39	--	570	24	ND	3.4	5.8	--	--	--	--
	07/14/95	17.05	15.15	--	ND	14	ND	ND	ND	--	--	--	--
	10/10/95	18.08	14.12	--	740	170	ND	ND	ND	13,000	--	--	--
	01/03/96 <sup>7</sup>	18.02	14.18	--	360	16	1.3	2.7	1.4	--	--	--	--
	04/10/96	15.81	16.39	--	120	4.1	1.5	ND	0.88	3,200	--	--	--

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

WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-7	07/09/96	16.99	15.21	--	ND	ND	ND	ND	ND	3,400	--	--	--
(cont)	01/24/97	16.08	16.12	--	ND	16	ND	ND	ND	6,600	--	--	--
	07/23/97	17.99	14.21	--	ND	1.5	ND	ND	0.62	10,000	--	--	--
NP	01/26/98	15.56	16.64	--	ND	ND	ND	ND	0.56	ND	--	--	--
NP	07/03/98	17.04	15.16	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	INACCESSIBLE (PARKED CAR)		--	--	--	--	--	--	--	--	--	--
	07/15/99	15.72	16.48	--	ND	ND	ND	ND	ND	290	--	--	--
	01/07/00	16.80	15.40	--	ND	7.7	ND	ND	4.4	98	--	--	--
	07/19/00	17.88	14.32	--	ND	ND	1.27	ND	0.979	ND	--	--	--
	01/02/01	17.97	14.23	--	ND	ND	ND	ND	ND	ND	--	--	--
	05/23/01	16.81	15.39	--	ND	ND	ND	ND	ND	ND	--	--	--
<b>MW-8</b>													
32.33	04/28/93	--	--	--	450	18	1.8	1.8	1.4	--	--	--	--
	07/23/93	18.45	13.88	--	260	5.1	ND	0.6	ND	--	--	--	--
32.00	10/05/93	18.57	13.43	--	120 <sup>5</sup>	1.7	ND	ND	ND	--	--	--	--
	01/03/94 <sup>1</sup>	18.73	13.27	--	ND	ND	ND	ND	ND	51	1.5	1.2	ND
	04/02/94	18.30	13.70	--	150	1.2	ND	ND	ND	--	--	--	--
	07/05/94	17.41	14.59	--	730	17	ND	1.6	ND	--	--	--	--
	10/06/94	18.98	13.02	--	140 <sup>5</sup>	ND	ND	ND	ND	--	--	--	--
	01/02/95	17.58	14.42	--	440	18	0.72	2.0	1.8	--	--	--	--
	04/03/95	15.54	16.46	--	960	11	ND	ND	ND	--	--	--	--
	07/14/95	16.81	15.19	--	280	4.2	2.6	1.1	3.3	--	--	--	--
	10/10/95	17.85	14.15	--	110	1.3	0.62	0.67	ND	170	--	--	--
	01/03/96 <sup>7</sup>	17.82	14.18	--	63	ND	0.51	ND	1.8	--	--	--	--
	04/10/96	15.70	16.30	--	ND	1.1	0.61	ND	ND	60	--	--	--
	07/09/96	16.78	15.22	--	72	1.0	ND	ND	ND	140	--	--	--
	01/24/97	15.79	16.21	--	ND	ND	ND	ND	ND	76	--	--	--
	07/23/97	17.69	14.31	--	ND	ND	ND	ND	ND	270	--	--	--
NP	01/26/98	15.50	16.50	--	ND	ND	ND	ND	0.76	2.9	--	--	--
NP	07/03/98	16.80	15.20	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	17.13	14.87	--	ND	ND	ND	ND	ND	11	--	--	--

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

WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro- form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-8	07/15/99	15.85	16.15	--	ND	ND	ND	ND	ND	ND	--	--	--
(cont)	01/07/00	16.94	15.06	--	ND	ND	ND	ND	ND	11	--	--	--
	07/19/00	18.06	13.94	--	ND	ND	2.99	0.521	ND	ND	--	--	--
	01/02/01	18.12	13.88	--	ND	ND	ND	ND	ND	ND	--	--	--
	05/23/01	16.96	15.04	--	ND	ND	ND	ND	ND	ND	--	--	--
<b>Trip Blank</b>													
TB-LB	01/26/98	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	07/03/98	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	07/15/99	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/07/00	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	07/19/00	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/02/01	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	05/23/01	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--

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

**EXPLANATIONS:**

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

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

- \* TOC elevations are relative to mean sea level (msl), per the City of Oakland benchmark disk stamped "25/A" at the northeast corner of 7th and Harrison (Elevation = 28.81 feet msl). Prior to October 5, 1993, the DTW measurements were taken from the top of well covers.
- \*\* All EPA Method 8010 constituents were ND, except as indicated above.
- <sup>1</sup> 1,2-dichloroethane (1,2-DCA) was detected in MW-8 at a concentration of 4.0 ppb on 01/03/94, and 1.1 ppb in MW-1 on 04/28/93.
- <sup>2</sup> Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- <sup>3</sup> Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- <sup>4</sup> Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- <sup>5</sup> Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- <sup>6</sup> A fuel fingerprint analysis was conducted on this sample. Laboratory report indicates total extractable petroleum hydrocarbons in this sample were not detected in high enough concentrations to compare with known standards and approximate their makeup.
- <sup>7</sup> Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 ppb in the sample collected from this well.
- <sup>8</sup> Laboratory report indicates gasoline and unidentified hydrocarbons C6-C8.
- <sup>9</sup> Detection limit raised. Refer to analytical reports.
- <sup>10</sup> Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.
- <sup>11</sup> Laboratory report indicates gasoline C6-C12.
- <sup>12</sup> Laboratory report indicates unidentified hydrocarbons C6-C12.
- <sup>13</sup> MTBE by EPA Method 8260.

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

WELL ID	DATE	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-5	10/03/00	ND <sup>1</sup>	553	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>

**EXPLANATIONS:**

TBA = Tertiary butyl alcohol  
 MTBE = Methyl tertiary butyl ether  
 DIPE = Di-isopropyl ether  
 ETBE = Ethyl tertiary butyl ether  
 TAME = Tertiary amyl methyl ether  
 1,2-DCA = 1,2-Dichloroethane  
 EDB = 1,2-Dibromoethane  
 (ppb) = Parts per billion  
 ND = Not Detected

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

<sup>1</sup> Detection limit raised. Refer to analytical reports.

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

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

**EXPLANATIONS:**

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

TOG = Total Oil and Grease

(ppm) = Parts per million

ND = Not Detected

**Table 4**  
**Groundwater Analytical Results**  
 Tosco (Unocal) Service Station #0752  
 800 Harrison Street  
 Oakland, California

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

**EXPLANATIONS:**

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

BOD = Biochemical Oxygen Demand  
 (ppm) = Parts per million  
 (CFU/mL) = Colony Forming Units per milliliter

-- = Not Analyzed  
 ND = Not Detected



## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/  
Facility # 0752 Job#: 180066  
Address: 800 Harrison St. Date: 5-23-01  
City: Oakland, CA. Sampler: Joe

Well ID MW-6 Well Condition: O.K.  
Well Diameter 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)  
Total Depth 30.88 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66  
Depth to Water 16.42 ft. Factor (VF) 6" = 1.50 12" = 5.80

14.46 x VF 0.17 = 2.46 x 3 (case volume) = Estimated Purge Volume: 7.5 (gal.)

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

Starting Time: 12:45 Weather Conditions: Hot  
Sampling Time: 1:15 P.M. (13:15) Water Color: clear Odor: none  
Purging Flow Rate: 1 gpm Sediment Description: \_\_\_\_\_  
Did well de-water? \_\_\_\_\_ If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity (µmhos/cm) <sup>100</sup>	Temperature (°F)	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>1:00</u>	<u>2.5</u>	<u>7.60</u>	<u>8.90</u>	<u>74.1</u>	_____	_____	_____
<u>1:02</u>	<u>5</u>	<u>7.50</u>	<u>9.05</u>	<u>74.2</u>	_____	_____	_____
<u>1:04</u>	<u>7.5</u>	<u>7.40</u>	<u>9.07</u>	<u>73.7</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>3VOL</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility # 0752 Job#: 180066  
 Address: 800 Harrison St. Date: 5-23-01  
 City: Oakland, CA. Sampler: Joe

Well ID MW-7  
 Well Diameter 2 in  
 Total Depth 31.46 ft  
 Depth to Water 16.81 ft

Well Condition: O.K.  
 Hydrocarbon Thickness: 0 in Amount Bailed (product/water): 0 (gal.)  

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

$14.65 \times VF_{0.17} = 2.49 \times 3 \text{ (case volume)} = \text{Estimated Purge Volume: } 7.5 \text{ (gal.)}$

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

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

Starting Time: 11:00  
 Sampling Time: 11:30 A.M. (11:30)  
 Purging Flow Rate: 1 gpm  
 Did well de-water? \_\_\_\_\_

Weather Conditions: Hot  
 Water Color: clear Odor: none  
 Sediment Description: \_\_\_\_\_  
 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>11:15</u>	<u>2.5</u>	<u>7.51</u>	<u>12.30</u>	<u>72.9</u>	_____	_____	_____
<u>11:17</u>	<u>5</u>	<u>7.55</u>	<u>12.50</u>	<u>73.1</u>	_____	_____	_____
<u>11:19</u>	<u>7.5</u>	<u>7.58</u>	<u>12.47</u>	<u>73.6</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-7</u>	<u>3Y04</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility # 0752 Job#: 180066  
 Address: 800 Harrison St. Date: 5-23-01  
 City: Oakland, CA. Sampler: Joe

Well ID MW-8 Well Condition: O.K.  
 Well Diameter 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 gal.  
 Total Depth 27.85 ft.  
 Depth to Water 16.96 ft.

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

10.89 x VF 0.17 = 1.85 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: 12:00 Weather Conditions: Hot  
 Sampling Time: 12:30 p.m. (12:30) Water Color: Clear Odor: None  
 Purging Flow Rate: \_\_\_\_\_ lpm Sediment Description: \_\_\_\_\_  
 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>12:10</u>	<u>2</u>	<u>8.05</u>	<u>11.96</u>	<u>75.0</u>	_____	_____	_____
<u>12:12</u>	<u>4</u>	<u>7.57</u>	<u>11.90</u>	<u>74.8</u>	_____	_____	_____
<u>12:13</u>	<u>6</u>	<u>7.52</u>	<u>11.89</u>	<u>74.4</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-8</u>	<u>3YOA</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHC, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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



Tosco Marketing Company  
3200 Cole Canyon Pl., Ste. 400  
San Ramon, California 94583

Facility Number UNOCAL SS #0752  
 Facility Address 800 HARRISON STREET, OAKLAND CA  
180066.85  
 Consultant Project Number  
 Consultant Name Gettler-Ryan Inc. (G-R Inc.)  
 Address 6747 Sierra Court, Suite J, Dublin, CA 94568  
 Project Contact (Name) Deanna L. Harding  
 (Phone) 925-551-7555 (Fax Number) 925-551-7888

Contact (Name) MR. DAVID DEWITT  
 (Phone) (925) 277-2384  
 Laboratory Name Sequoia Analytical  
 Laboratory Release Number \_\_\_\_\_  
 Samples Collected by (Name) JOE ASEMIAN  
 Collection Date 5-23-01  
 Signature [Signature]

405192

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analytes To Be Performed										Remarks					
								TPH Gas + STEK w/MTBE (8016)	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	01	VOA	W	G	-	HCL	Y	✓															
MW-1	02	VOA			15:02			✓															
MW-2	03	"			14:30			✓															
MW-3	04	"			15:35			✓															
MW-4	05	"			15:58			✓															
MW-5	06	"			16:08			✓															
MW-6	07	"			13:15			✓															
MW-7	08	"			11:30			✓															
MW-8	09	"			12:30			✓															

DO NOT BILL  
TB-LB ANALYSIS

Relinquished By (Signature) <u>[Signature]</u>	Organization G-R Inc.	Date/Time 5-23-01	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time 5/23/01	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	



Sequoia  
Analytical

1551 Industrial Road  
San Carlos, CA 94070-4111  
(650) 232-9600  
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June 07 , 2001

Deanna Harding  
Gettler-Ryan/Geostrategies(1)  
6747 Sierra Court, Suite J  
Dublin, CA 94568  
RE: Tosco(1) / L105182

RECEIVED

JUN 12 2001

GETTLER-RYAN INC.  
GENERAL CONTRACTORS

Enclosed are the results of analyses for samples received by the laboratory on 05/23/01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

*Latonya K. Pelt*

Latonya Pelt  
Project Manager

CA ELAP Certificate Number 2360

Gettler-Ryan/Geostrategies(1)  
6747 Sierra Court, Suite J  
Dublin CA, 94568

Project: Tosco(1)  
Project Number: Unocal SS#0752  
Project Manager: Deanna Harding

Reported:  
06/07/01 14:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L105182-01	Water	05/23/01 00:00	05/23/01 18:00
MW-1	L105182-02	Water	05/23/01 15:03	05/23/01 18:00
MW-2	L105182-03	Water	05/23/01 14:30	05/23/01 18:00
MW-3	L105182-04	Water	05/23/01 15:35	05/23/01 18:00
MW-4	L105182-05	Water	05/23/01 13:58	05/23/01 18:00
MW-5	L105182-06	Water	05/23/01 16:08	05/23/01 18:00
MW-6	L105182-07	Water	05/23/01 13:15	05/23/01 18:00
MW-7	L105182-08	Water	05/23/01 11:30	05/23/01 18:00
MW-8	L105182-09	Water	05/23/01 12:30	05/23/01 18:00

Gettler-Ryan/Geostrategies(1)  
 6747 Sierra Court, Suite J  
 Dublin CA, 94568

Project: Tosco(1)  
 Project Number: Unocal SS#0752  
 Project Manager: Deanna Harding

Reported:  
 06/07/01 14:08

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>TB-LB (L105182-01) Water</b> Sampled: 05/23/01 00:00 Received: 05/23/01 18:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1060016	06/04/01	06/04/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		104 %		70-130	"	"	"	"	
<b>MW-1 (L105182-02) Water</b> Sampled: 05/23/01 15:03 Received: 05/23/01 18:00									
Purgeable Hydrocarbons as Gasoline	84	50	ug/l	1	1060016	06/04/01	06/04/01	DHS LUFT	P-03
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	760	50	"	10	"	"	"	"	M-04
<i>Surrogate: a,a,a-Trifluorotoluene</i>		107 %		70-130	"	"	"	"	
<b>MW-2 (L105182-03) Water</b> Sampled: 05/23/01 14:30 Received: 05/23/01 18:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1060019	06/05/01	06/06/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	33	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		100 %		70-130	"	"	"	"	

Gettler-Ryan/Geostrategies(1)  
6747 Sierra Court, Suite J  
Dublin CA, 94568

Project: Tosco(1)  
Project Number: Unocal SS#0752  
Project Manager: Deanna Harding

Reported:  
06/07/01 14:08

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (L105182-04) Water Sampled: 05/23/01 15:35 Received: 05/23/01 18:00</b>									
Purgeable Hydrocarbons as Gasoline	420	120	ug/l	2.5	1060026	06/06/01	06/06/01	DHS LUFT	P-01
Benzene	7.6	1.2	"	"	"	"	"	"	
Toluene	3.1	1.2	"	"	"	"	"	"	
Ethylbenzene	3.0	1.2	"	"	"	"	"	"	
Xylenes (total)	5.1	1.2	"	"	"	"	"	"	
Methyl tert-butyl ether	1900	100	"	20	"	"	06/04/01	"	M-04
Surrogate: a,a,a-Trifluorotoluene		96.4 %		70-130	"	"	06/06/01	"	
<b>MW-4 (L105182-05) Water Sampled: 05/23/01 13:58 Received: 05/23/01 18:00</b>									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1060016	06/04/01	06/04/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		107 %		70-130	"	"	"	"	
<b>MW-5 (L105182-06) Water Sampled: 05/23/01 16:08 Received: 05/23/01 18:00</b>									
Purgeable Hydrocarbons as Gasoline	840	100	ug/l	2	1060026	06/06/01	06/06/01	DHS LUFT	P-01
Benzene	42	1.0	"	"	"	"	"	"	
Toluene	10	1.0	"	"	"	"	"	"	
Ethylbenzene	13	1.0	"	"	"	"	"	"	
Xylenes (total)	7.1	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	130	10	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.6 %		70-130	"	"	"	"	



Gettler-Ryan/Geostrategies(1)  
 6747 Sierra Court, Suite J  
 Dublin CA, 94568

Project: Tosco(1)  
 Project Number: Unocal SS#0752  
 Project Manager: Deanna Harding

Reported:  
 06/07/01 14:08

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-6 (L105182-07) Water Sampled: 05/23/01 13:15 Received: 05/23/01 18:00</b>									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1060016	06/04/01	06/04/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		110 %	70-130		"	"	"	"	
<b>MW-7 (L105182-08) Water Sampled: 05/23/01 11:30 Received: 05/23/01 18:00</b>									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1060016	06/04/01	06/04/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		111 %	70-130		"	"	"	"	
<b>MW-8 (L105182-09) Water Sampled: 05/23/01 12:30 Received: 05/23/01 18:00</b>									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1060016	06/04/01	06/04/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		107 %	70-130		"	"	"	"	

Gettler-Ryan/Geostrategies(1)  
6747 Sierra Court, Suite J  
Dublin CA, 94568

Project: Tosco(1)  
Project Number: Unocal SS#0752  
Project Manager: Deanna Harding

Reported:  
06/07/01 14:08

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1060016 - EPA 5030B (P/T)**

**Blank (1060016-BLK1)**

Prepared & Analyzed: 06/04/01

Purgeable Hydrocarbons as Gasoline	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	5.0	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.97		"	10.0		99.7	70-130			

**LCS (1060016-BS1)**

Prepared & Analyzed: 06/04/01

Benzene	9.47	0.50	ug/l	10.0		94.7	70-130			
Toluene	9.17	0.50	"	10.0		91.7	70-130			
Ethylbenzene	9.16	0.50	"	10.0		91.6	70-130			
Xylenes (total)	28.3	0.50	"	30.0		94.3	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.5		"	10.0		105	70-130			

**LCS (1060016-BS2)**

Prepared & Analyzed: 06/04/01

Purgeable Hydrocarbons as Gasoline	263	50	ug/l	250		105	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.4		"	10.0		104	70-130			

**Matrix Spike (1060016-MS1)**

Source: L105182-05

Prepared: 06/04/01 Analyzed: 06/05/01

Benzene	9.85	0.50	ug/l	10.0	ND	98.5	60-140			
Toluene	9.44	0.50	"	10.0	ND	94.4	60-140			
Ethylbenzene	9.55	0.50	"	10.0	ND	95.5	60-140			
Xylenes (total)	28.3	0.50	"	30.0	ND	94.3	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	11.4		"	10.0		114	70-130			

**Matrix Spike Dup (1060016-MSD1)**

Source: L105182-05

Prepared: 06/04/01 Analyzed: 06/05/01

Benzene	9.87	0.50	ug/l	10.0	ND	98.7	60-140	0.203	25	
Toluene	9.52	0.50	"	10.0	ND	95.2	60-140	0.844	25	
Ethylbenzene	9.76	0.50	"	10.0	ND	97.6	60-140	2.18	25	
Xylenes (total)	28.6	0.50	"	30.0	ND	95.3	60-140	1.05	25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.5		"	10.0		105	70-130			

Sequoia Analytical - San Carlos

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.

Gettler-Ryan/Geostrategies(1)  
 6747 Sierra Court, Suite J  
 Dublin CA, 94568

Project: Tosco(1)  
 Project Number: Unocal SS#0752  
 Project Manager: Deanna Harding

Reported:  
 06/07/01 14:08

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1060019 - EPA 5030B (P/T)**

**Blank (1060019-BLK1)**

Prepared & Analyzed: 06/05/01

Purgeable Hydrocarbons as Gasoline	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	5.0	"							
Surrogate: a,a,a-Trifluorotoluene	8.82		"	10.0		88.2	70-130			

**LCS (1060019-BS1)**

Prepared & Analyzed: 06/05/01

Benzene	8.31	0.50	ug/l	10.0		83.1	70-130			
Toluene	7.97	0.50	"	10.0		79.7	70-130			
Ethylbenzene	7.92	0.50	"	10.0		79.2	70-130			
Xylenes (total)	24.1	0.50	"	30.0		80.3	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.2		"	10.0		102	70-130			

**LCS (1060019-BS2)**

Prepared & Analyzed: 06/05/01

Purgeable Hydrocarbons as Gasoline	249	50	ug/l	250		99.6	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.1		"	10.0		101	70-130			

**Matrix Spike (1060019-MS1)**

Source: L105190-07

Prepared: 06/05/01

Analyzed: 06/06/01

Purgeable Hydrocarbons as Gasoline	275	50	ug/l	250	ND	110	60-140			
Surrogate: a,a,a-Trifluorotoluene	10.8		"	10.0		108	70-130			

**Matrix Spike Dup (1060019-MSD1)**

Source: L105190-07

Prepared: 06/05/01

Analyzed: 06/06/01

Purgeable Hydrocarbons as Gasoline	270	50	ug/l	250	ND	108	60-140	1.83	25	
Surrogate: a,a,a-Trifluorotoluene	11.0		"	10.0		110	70-130			

Gettler-Ryan/Geostrategies(1)  
6747 Sierra Court, Suite J  
Dublin CA, 94568

Project: Tosco(1)  
Project Number: Unocal SS#0752  
Project Manager: Deanna Harding

Reported:  
06/07/01 14:08

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1060026 - EPA 5030B (P/T)**

**Blank (1060026-BLK1)**

Prepared & Analyzed: 06/06/01

Purgeable Hydrocarbons as Gasoline	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	5.0	"							
Surrogate: a,a,a-Trifluorotoluene	9.54		"	10.0		95.4	70-130			

**LCS (1060026-BS1)**

Prepared & Analyzed: 06/06/01

Benzene	8.42	0.50	ug/l	10.0		84.2	70-130			
Toluene	8.28	0.50	"	10.0		82.8	70-130			
Ethylbenzene	8.61	0.50	"	10.0		86.1	70-130			
Xylenes (total)	25.4	0.50	"	30.0		84.7	70-130			
Surrogate: a,a,a-Trifluorotoluene	9.09		"	10.0		90.9	70-130			

**LCS (1060026-BS2)**

Prepared & Analyzed: 06/06/01

Purgeable Hydrocarbons as Gasoline	198	50	ug/l	250		79.2	70-130			
Surrogate: a,a,a-Trifluorotoluene	8.69		"	10.0		86.9	70-130			

**Matrix Spike (1060026-MS1)**

Source: L105195-08

Prepared & Analyzed: 06/06/01

Benzene	9.19	0.50	ug/l	10.0	ND	91.9	60-140			
Toluene	9.00	0.50	"	10.0	ND	90.0	60-140			
Ethylbenzene	9.34	0.50	"	10.0	ND	93.4	60-140			
Xylenes (total)	27.5	0.50	"	30.0	ND	91.7	60-140			
Surrogate: a,a,a-Trifluorotoluene	9.13		"	10.0		91.3	70-130			

**Matrix Spike Dup (1060026-MSD1)**

Source: L105195-08

Prepared: 06/06/01 Analyzed: 06/07/01

Benzene	8.44	0.50	ug/l	10.0	ND	84.4	60-140	8.51	25	
Toluene	8.25	0.50	"	10.0	ND	82.5	60-140	8.70	25	
Ethylbenzene	8.67	0.50	"	10.0	ND	86.7	60-140	7.44	25	
Xylenes (total)	25.2	0.50	"	30.0	ND	84.0	60-140	8.73	25	
Surrogate: a,a,a-Trifluorotoluene	8.96		"	10.0		89.6	70-130			

Sequoia Analytical - San Carlos

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Gettler-Ryan/Geostrategies(1)  
6747 Sierra Court, Suite J  
Dublin CA, 94568

Project: Tosco(1)  
Project Number: Unocal SS#0752  
Project Manager: Deanna Harding

Reported:  
06/07/01 14:08

#### Notes and Definitions

M-04 MTBE was reported from second analysis.  
P-01 Chromatogram Pattern: Gasoline C6-C12  
P-03 Chromatogram Pattern: Unidentified Hydrocarbons 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