



# GETTLER - RYAN INC.

## TRANSMITTAL

99 AUG 23 PM 3:25

August 5, 1999

G-R #:180075

415/813-1515

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

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

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

RE: Tosco (Unocal) SS #7376  
4191 First Street  
Pleasanton, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	August 3, 1999	Groundwater Monitoring and Sampling Report Second Quarter 1999 - June 7, 1999

### 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 **August 19, 1999**, this report will be distributed to the following:

Enclosure

cc: Mr. Scott Seery  
Alameda County Health Care Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

agency/7376dbd.qmt



# GETTLER-RYAN INC.

August 3, 1999  
G-R Job #180075

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

RE: Second Quarter 1999 Groundwater Monitoring & Sampling Report  
Tosco (Unocal) Service Station #7376  
4191 First Street  
Pleasanton, California


Dear Mr. De Witt:


This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On June 7, 1999, field personnel monitored and sampled eight wells (MW-1, MW-2B and MW-3 through MW-8) 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-5). 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 Tables 1 and 3, 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 Carter  
Senior Geologist, R.G. No. 5577

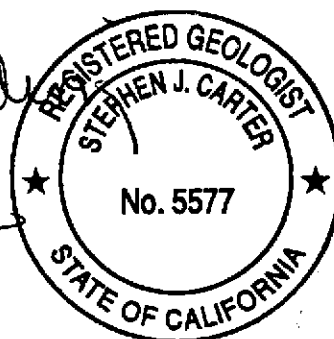
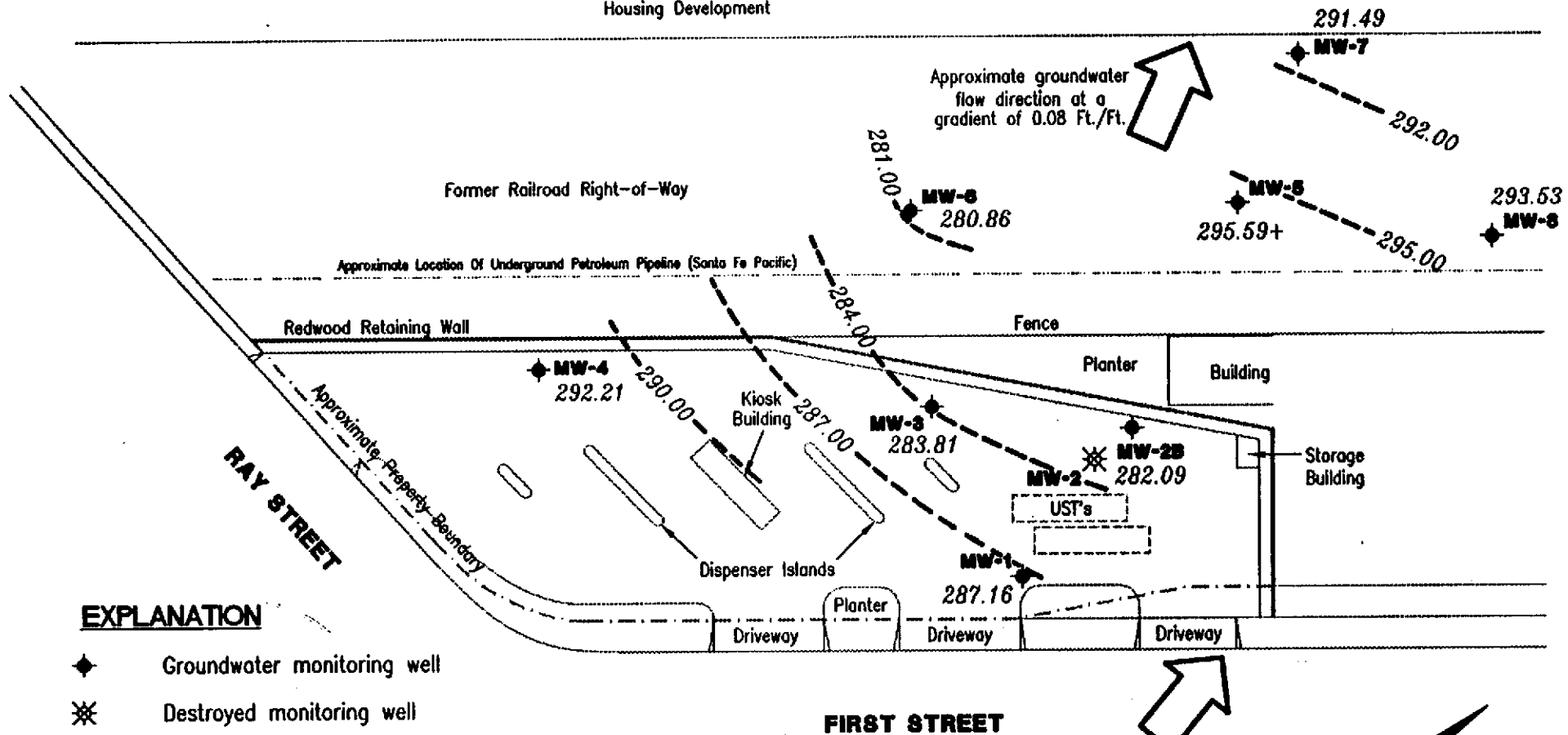


Figure 1: Potentiometric Map -March 23, 1999  
Figure 2: Concentration Map - March 15, 1999  
Table 1: Groundwater Monitoring Data and Analytical Results  
Table 2: Product Thickness/Removal Data  
Table 3: Groundwater Analytical Results - Oxygenate Compounds  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical Reports

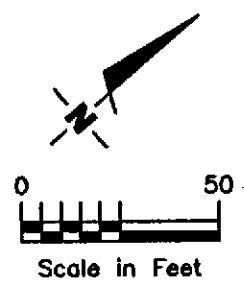
7376.qml

Housing Development



**EXPLANATION**

- ◆ Groundwater monitoring well
- ✱ Destroyed monitoring well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 - Groundwater elevation contour, dashed where inferred.
- + Groundwater elevation corrected for the presence of free-phase hydrocarbons



**Gettler - Ryan Inc.**

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Dublin, CA 94568

POTENTIOMETRIC MAP  
Tosco (Unocal) Service Station No. 7376  
4191 First Street  
Pleasanton, California

FIGURE

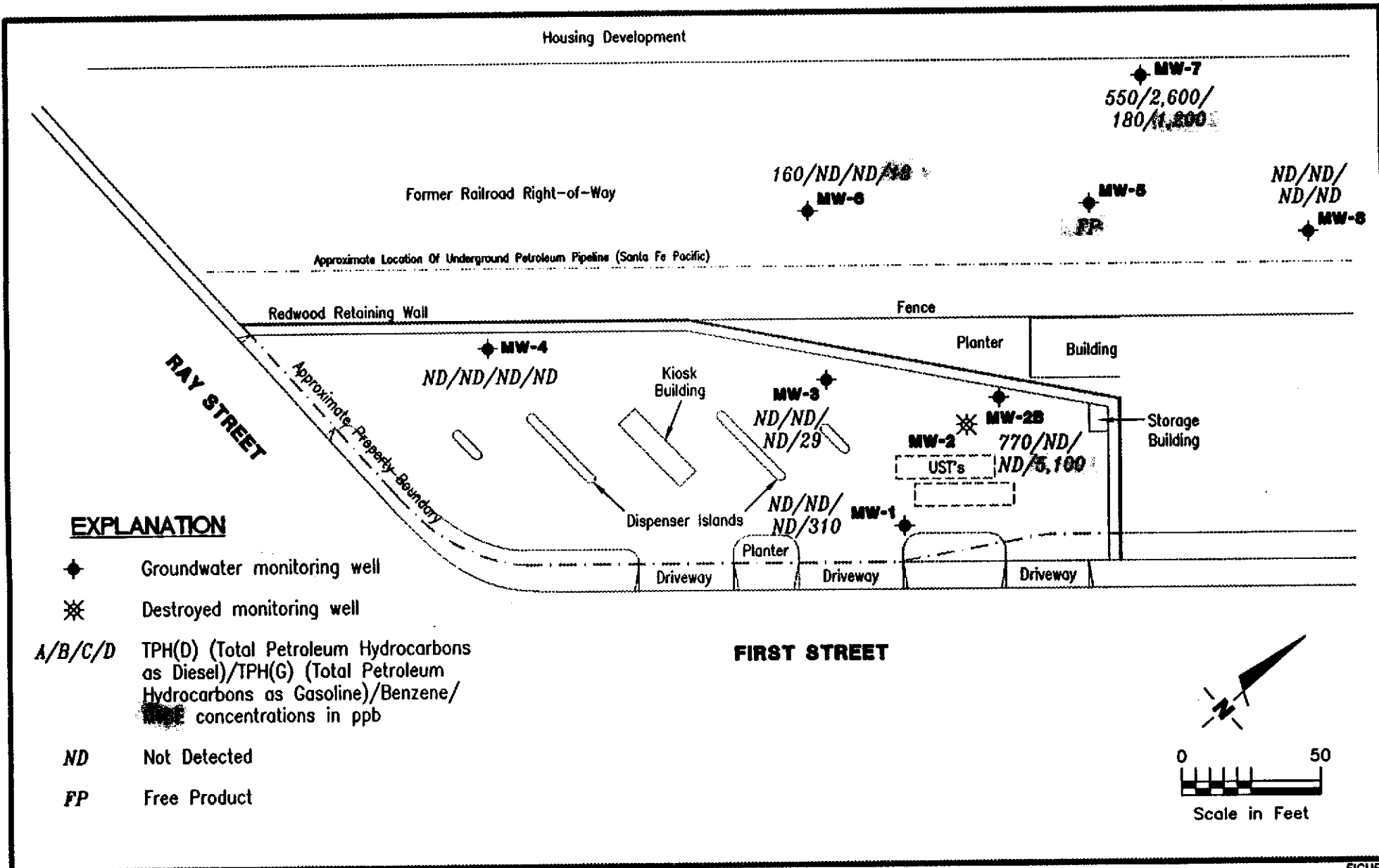
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REVIEWED BY

DATE  
June 7, 1999

REVISED DATE

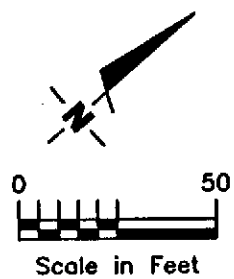


**EXPLANATION**

- ◆ Groundwater monitoring well
- ✱ Destroyed monitoring well

A/B/C/D TPH(D) (Total Petroleum Hydrocarbons as Diesel)/TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/Benzene/  
 concentrations in ppb

- ND Not Detected
- FP Free Product



**Gettler - Ryan Inc.**

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 Dublin, CA 94568

CONCENTRATION MAP  
 Tosco (Unocal) Service Station No. 7376  
 4191 First Street  
 Pleasanton, California

FIGURE  
**2**

JOB NUMBER  
 180075

REVIEWED BY

DATE  
 June 7, 1999

REVISED DATE

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, 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	12/08/87 <sup>1</sup>	--	--	--	2,100 <sup>2</sup>	50 <sup>3</sup>	58	8	ND	10	--
366.99	12/07/94	81.04	285.95	0.00	--	ND	ND	ND	ND	ND	--
	03/01/95	80.09	286.90	0.00	120	ND	ND	1.1	ND	1.3	--
	06/01/95	77.53	289.46	0.00	54 <sup>5</sup>	130	1.0	2.9	0.79	4.5	--
	09/06/95	79.00	287.99	0.00	690	ND	ND	ND	ND	ND	-- <sup>6</sup>
	12/12/95	77.55	289.44	0.00	190 <sup>5</sup>	ND	ND	ND	ND	ND	--
	03/01/96	75.09	291.90	0.00	56	ND	ND	ND	ND	ND	370
	06/15/96	75.07	291.92	0.00	ND	ND	ND	ND	ND	ND	270
	09/18/96	79.90	287.09	0.00	130 <sup>5</sup>	ND	ND	ND	ND	ND	590
	12/21/96	78.96	288.03	0.00	ND	ND	ND	ND	ND	ND	150
	03/07/97	71.49	295.50	0.00	ND	ND	ND	ND	ND	ND	220
	06/27/97	80.05	286.94	0.00	ND	ND	ND	ND	ND	ND	17
	09/29/97	80.04	286.95	0.00	ND	ND	ND	ND	ND	ND	24
	12/15/97	80.07	286.92	0.00	ND	ND	ND	ND	ND	ND	25
	03/16/98	71.00	295.99	0.00	ND	ND	ND	0.52	ND	0.71	190
366.98	06/26/98	79.29	287.69	0.00	ND	59 <sup>13</sup>	0.90	ND	ND	ND	570
	08/18/98	79.93	287.05	0.00	--	--	--	--	--	--	--
	09/22/98	79.99	286.99	0.00	240 <sup>20</sup>	ND	ND	ND	ND	ND	170
	12/15/98	80.02	286.96	0.00	ND	ND	ND	ND	ND	ND	63
	12/23/98	80.02	286.96	0.00	--	--	--	--	--	--	--
	03/15/99	78.95	288.03	0.00	67 <sup>24</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	520
	03/23/99	78.69	288.29	0.00	--	--	--	--	--	--	--
	06/07/99	79.82	287.16	0.00	ND	ND	ND	ND	ND	ND	310
MW-2	12/08/87				620 <sup>2</sup>	1,800 <sup>3</sup>	910	800	260	1,200	--
	12/07/94	DAMAGED	--	--	--	--	--	--	--	--	--
	02/07/95	DESTROYED	--	--	--	--	--	--	--	--	--
MW-2B											
365.05	03/01/95	80.80	284.25	0.00	320	ND	ND	ND	ND	ND	--
	06/01/95	75.69	289.36	0.00	280	350	19	5.8	ND	7.7	--
	09/06/95	77.54	287.51	0.00	ND	ND	90	ND	ND	ND	-- <sup>6</sup>
	12/12/95	75.96	289.09	0.00	850 <sup>4</sup>	1,200	630	ND	15	57	-- <sup>7</sup>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, 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-2B	03/01/96	73.27	291.78	0.00	870 <sup>4</sup>	1,000	620	ND	ND	5.3	4,300
(cont)	06/15/96	73.21	291.84	0.00	420	910	350	ND	ND	ND	3,700
	09/18/96	81.08	283.97	0.00	600	1,200	95	ND	ND	ND	5,200
	12/21/96	77.35	287.70	0.00	470	330 <sup>8</sup>	57	ND	ND	ND	2,900
	03/07/97	69.67	295.38	Sheen	870 <sup>4</sup>	190	28	0.64	ND	1.5	4,300
	06/27/97	82.40	282.65	0.00	680 <sup>4</sup>	98	3.4	1.0	0.53	ND	3,100
	09/29/97	82.72	282.33	0.00	430	ND	ND	ND	ND	ND	3,000
	12/15/97	82.57	282.48	0.00	490	54 <sup>9</sup>	ND	ND	ND	ND	4,100
	03/16/98	69.13	295.92	Sheen	4,000 <sup>10</sup>	ND <sup>11</sup>	17	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	4,400
365.05	06/26/98	77.78	287.27	0.00	790 <sup>14</sup>	ND	ND	ND	ND	ND	4,000
	08/18/98	83.99	281.06	0.00	--	--	--	--	--	--	--
	09/22/98	83.89	281.16	0.00	930 <sup>20</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	21	4,600
	12/15/98	82.84	282.21	0.00	600	ND	ND	ND	ND	ND	5,100
	12/23/98	82.55	282.50	0.00	--	--	--	--	--	--	--
	03/15/99	77.31	287.74	0.00	390 <sup>25</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	4,300/4,800 <sup>27</sup>
	03/23/99	77.06	287.99	0.00	--	--	--	--	--	--	--
	06/07/99	82.96	282.09	0.00	770 <sup>25</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	5,100
MW-3	12/08/87	--	--	--	2,300 <sup>2</sup>	24,000 <sup>3</sup>	2,600	1,300	160	660	--
367.01	12/07/94	85.54	281.47	0.00	--	ND	ND	ND	ND	ND	--
	03/01/95	83.20	283.81	0.00	140 <sup>4</sup>	ND	ND	1.1	ND	1.1	--
	06/01/95	77.60	289.41	0.00	140 <sup>5</sup>	62	7.8	0.90	ND	1.6	--
	09/06/95	79.28	287.73	0.00	880 <sup>5</sup>	4,100	380	490	130	710	-- <sup>6</sup>
	12/12/95	77.73	289.28	0.00	3,100 <sup>4</sup>	19,000	600	380	2,100	5,300	-- <sup>7</sup>
	03/01/96	75.18	291.83	0.00	1,500 <sup>5</sup>	3,400	950	3.2	1,900	290	59
	06/15/96	75.13	291.88	0.00	400 <sup>4</sup>	780	190	8.8	3.8	4.0	630
	09/18/96	82.84	284.17	0.00	170	2,800	340	12	11	110	2,500
	12/21/96	79.29	287.72	0.00	64 <sup>4</sup>	51	1.3	ND	ND	0.53	20
	03/07/97	71.58	295.43	0.00	570 <sup>4</sup>	1,400	53	14	29	68	220
	06/27/97	83.27	283.74	0.00	ND	ND	ND	ND	ND	ND	27
	09/29/97	83.33	283.68	0.00	ND	ND	ND	ND	ND	ND	11
	12/15/97	83.35	283.66	0.00	ND	ND	ND	ND	ND	ND	19
	03/16/98	71.07	295.94	0.00	670 <sup>10</sup>	130 <sup>12</sup>	6.5	1.9	1.5	1.6	210
367.03	06/26/98	79.65	287.38	0.00	63 <sup>13</sup>	400 <sup>15</sup>	15	ND <sup>11</sup>	ND <sup>11</sup>	1.9	490

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, 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-3	08/18/98	83.29	283.74	0.00	--	--	--	--	--	--	--	--
(cont)	09/22/98	83.33	283.70	0.00	95 <sup>20</sup>	ND	ND	ND	ND	ND	ND	24
	12/15/98	83.29	283.74	0.00	ND	ND	ND	ND	ND	ND	ND	18
	12/23/98	83.28	283.75	0.00	--	--	--	--	--	--	--	--
	03/15/99	79.19	287.84	0.00	3,500 <sup>26</sup>	26,000	3,100	270	2,200	3,100	1,300	1,300
	03/23/99	78.92	288.11	0.00	--	--	--	--	--	--	--	--
	06/07/99	83.22	283.81	0.00	ND	ND	ND	ND	0.63	ND	ND	29
<b>MW-4</b>												
369.03	09/18/96	73.67	295.36	0.00	200	160	14	ND	ND	1.6	ND	ND
	12/21/96	77.69	291.34	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	03/07/97	68.04	300.99	0.00	ND	ND	1.9	0.99	ND	1.5	ND	ND
	06/27/97	79.06	289.97	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	09/29/97	85.83	283.20	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	12/15/97	87.26	281.77	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	03/16/98	75.09	293.94	0.00	ND	ND	ND	0.69	ND	0.82	ND	ND
368.81	06/26/98	73.81	295.00	0.00	630 <sup>16</sup>	100 <sup>13</sup>	62	ND	ND	ND	ND	ND
	08/18/98	78.75	290.06	0.00	--	--	--	--	--	--	--	--
	09/22/98	83.95	284.86	0.00	74 <sup>20</sup>	ND	ND	ND	ND	ND	ND	2.8
	12/15/98	85.41	283.40	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	12/23/98	84.95	283.86	0.00	--	--	--	--	--	--	--	--
	03/15/99	78.47	290.34	0.00	ND	ND	ND	ND	ND	ND	ND	ND
	03/23/99	77.37	291.44	0.00	--	--	--	--	--	--	--	--
	06/07/99	76.60	292.21	0.00	ND	ND	ND	ND	ND	ND	ND	ND
<b>MW-5</b>												
363.23	09/18/96	64.20	299.03	0.00	4,700 <sup>5</sup>	36,000	6,700	410	730	6,500	4,100	4,100
	12/21/96	61.77	301.46	Sheen	4,700 <sup>4</sup>	25,000	3,200	300	780	3,600	2,600	2,600
	03/07/97	56.30	306.93	Sheen	2,100 <sup>4</sup>	14,000	1,300	120	410	1,200	1,700	1,700
	06/27/97	68.88	295.03**	0.90	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--	
	09/29/97	69.47	294.02**	0.35	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--	

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #7376  
4191 First Street  
Pleasanton, 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-5	12/15/97	64.92	298.53**	0.30	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
(cont)	03/16/98	49.63	313.67**	0.09	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
363.21	06/26/98	64.13	299.08	Sheen	230,000 <sup>17</sup>	490 <sup>18</sup>	6.3	2.8	4.2	5.1	10	
	08/18/98	70.40	292.81**	0.005	--	--	--	--	--	--	--	
	09/22/98	69.10	294.16**	0.06	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	12/15/98	68.84	294.50**	0.17	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--	--
	12/23/98	68.42	295.18**	0.50	--	--	--	--	--	--	--	
	03/15/99	63.81	299.59**	0.25	--	--	--	--	--	--	--	
	03/23/99	63.59	299.72**	0.13	--	--	--	--	--	--	--	
	06/07/99	68.25	295.59**	0.82	4,700,000 <sup>26</sup>	210,000	6,700	3,700	5,000	20,000	11,000/4,000 <sup>27</sup>	
<b>MW-6</b>												
363.12	09/18/96	79.07	284.05	0.00	ND	160	5.4	ND	ND	ND	ND	
	12/21/96	75.40	287.72	0.00	ND	300 <sup>8</sup>	96	1.3	ND	1.7	21	
	03/07/97	67.61	295.51	0.00	190 <sup>4</sup>	1,800 <sup>8</sup>	920	18	ND	31	290	
	06/27/97	80.45	282.67	0.00	73 <sup>5</sup>	ND	0.73	ND	ND	38	38	
	09/29/97	86.02	277.10	0.00	ND	62 <sup>9</sup>	ND	ND	ND	ND	43	
	12/15/97	84.03	279.09	0.00	ND	78 <sup>9</sup>	ND	ND	ND	ND	39	
	03/16/98	67.15	295.97	0.00	100 <sup>10</sup>	210 <sup>12</sup>	36	2.5	ND	3.0	64	
363.13	06/26/98	75.71	287.42	0.00	180 <sup>14</sup>	530	300	8.3	2.8	8.7	81	
	08/18/98	74.86	288.27	0.00	--	--	--	--	--	--	--	
	09/22/98	UNABLE TO LOCATE		--	--	--	--	--	--	--	--	
	12/15/98	UNABLE TO LOCATE		--	--	--	--	--	--	--	--	
	12/23/98	80.80	282.33	0.00	--	120 <sup>23</sup>	1.1	ND	ND	0.78	25	
	01/23/99	80.68	282.45	0.00	ND	--	--	--	--	--	--	
	03/15/99	75.29	287.84	0.00	71 <sup>24</sup>	62 <sup>22</sup>	1.4	ND	ND	ND	23	
	03/23/99	75.03	288.10	0.00	--	--	--	--	--	--	--	
	06/07/99	82.27	280.86	0.00	160 <sup>28</sup>	ND	ND	ND	ND	ND	18	
<b>MW-7</b>												
355.97	06/26/98	--	--	--	--	--	--	--	--	--	--	
	08/18/98	68.75	287.22	0.00	1,400 <sup>20</sup>	4,000	1,900	48	160	ND <sup>11</sup>	1,700	
	09/22/98	66.35	289.62	0.00	780 <sup>20</sup>	3,200	1,100	ND	22	ND	1,500	



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product		TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
				Thickness (ft.)								
MW-7	12/15/98	65.03	290.94	0.00		350 <sup>21</sup>	1,900 <sup>22</sup>	180	2.7	2.9	3.8	1,400
(cont)	12/23/98	64.82	291.15	0.00		--	--	--	--	--	--	--
	03/15/99	60.44	295.53	0.00		460 <sup>26</sup>	2,700	1,100	ND <sup>11</sup>	30	16	1,400/970 <sup>27</sup>
	03/23/99	60.43	295.54	0.00		--	--	--	--	--	--	--
	06/07/99	64.48	291.49	0.00		550 <sup>25</sup>	2,600 <sup>29</sup>	180	21	ND	13	1,200
<b>MW-8</b>												
362.37	06/26/98	63.00	299.37	0.00		80 <sup>19</sup>	ND	6.0	ND	ND	ND	150
	08/18/98	73.38	288.99	0.00		--	--	--	--	--	--	--
	09/22/98	70.89	291.48	0.00		120 <sup>20</sup>	ND	ND	ND	ND	ND	9.5
	12/15/98	70.29	292.08	0.00		ND	ND	ND	ND	ND	ND	3.0
	12/23/98	70.03	292.34	0.00		--	--	--	--	--	--	--
	03/15/99	UNABLE TO LOCATE		--		--	--	--	--	--	--	--
361.83	03/23/99	64.86	296.97	0.00		60 <sup>24</sup>	ND	ND	0.77	ND	0.96	190
	06/07/99	68.30	293.53	0.00		ND	ND	ND	ND	ND	ND	ND
<b>Trip Blank</b>												
TB-LB	03/16/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	06/26/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	08/18/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	09/22/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	12/15/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	12/23/98	--	--	--		--	ND	ND	ND	ND	ND	ND
	03/15/99	--	--	--		--	ND	ND	ND	ND	ND	ND
	03/23/99	--	--	--		--	ND	ND	ND	ND	ND	ND
	06/07/99	--	--	--		--	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

**EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to March 16, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing	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	
msl = Relative to mean sea level	MTBE = Methyl tertiary butyl ether	
TPH(G) = Total Petroleum Hydrocarbons as Gasoline		

\* TOC elevations have been surveyed relative to mean sea level (msl) per City of Pleasanton Benchmark V1, a brass disk on the north curb of Ray Street, approximately 200 feet northwest of the centerline of First Street (Elevation = 367.17 feet msl). On March 22, 1999, MW-8 was re-surveyed, the Benchmark was a cut "+" on a concrete transformer pad on the north side of the property to the northwest (Elevation = 353.92 feet, msl).

\*\* Groundwater elevation corrected for the presence of free product; correction factor = [(TOC-DTW) + (Product Thickness x 0.75)].

- 1 1,2-Dichloroethene (1,2-DCE) was detected at a concentration of 18 ppb.
- 2 Reported as Total Extractable Hydrocarbons (TEH).
- 3 Reported as Total Petroleum Hydrocarbons (TPH).
- 4 Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- 5 Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- 6 Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.
- 7 Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 ppb in the sample collected from this well.
- 8 Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- 9 Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- 10 Laboratory report indicates diesel and unidentified hydrocarbons > C16.
- 11 Detection limit raised. Refer to analytical results.
- 12 Laboratory report indicates gasoline and unidentified hydrocarbons < C7.
- 13 Laboratory report indicates discrete peaks.
- 14 Laboratory report indicates diesel and unidentified hydrocarbons > C20.
- 15 Laboratory report indicates discrete peaks and unidentified hydrocarbons < C7.
- 16 Laboratory report indicates diesel and unidentified hydrocarbons < C15.
- 17 Laboratory report indicates diesel and unidentified hydrocarbons < C15 and > C20.
- 18 Laboratory report indicates gasoline and unidentified hydrocarbons > C8.
- 19 Laboratory report indicates unidentified hydrocarbons > C16.
- 20 Laboratory report indicates unidentified hydrocarbons C9-C24.
- 21 Laboratory report indicates diesel and unidentified hydrocarbons < C12.
- 22 Laboratory report indicates unidentified hydrocarbons C6-C12.
- 23 Laboratory report indicates unidentified hydrocarbons C6-C9.

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #7376  
4191 First Street  
Pleasanton, California

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- 24 Laboratory report indicates unidentified hydrocarbons > C14.
- 25 Laboratory report indicates unidentified hydrocarbons > C10.
- 26 Laboratory report indicates unidentified hydrocarbons > C9.
- 27 MTBE by EPA Method 8260.
- 28 Laboratory report indicates unidentified hydrocarbons > C15.
- 29 Laboratory report indicates gasoline and unidentified hydrocarbons > C6.

**Table 2**  
**Product Thickness/Removal Data**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

Well ID	Date	DTW (ft.)	Product Thickness (ft.)	Amount Bailed (Product + Water) gallons
MW-5	03/07/97	56.30	Sheen	--
	06/27/97	68.88	0.90	--
	09/29/97	69.47	0.35	--
	12/15/97	64.92	0.30	--
	03/16/98	49.63	0.09	0.25
	06/26/98	63.00	Sheen	--
	08/18/98	70.40	0.005	--
	09/22/98	69.10	0.06	--
	12/15/98	68.84	0.17	--
	12/23/98	68.42	0.50	--
	03/15/99	63.81	0.25	0.13
	03/23/99	63.59	0.13	0.00
	06/07/99	68.25	0.82	10.66

**EXPLANATIONS:**

Product thickness/removal data prior to March 16, 1998, were compiled from reports prepared by MPDS Services, Inc.

DTW = Depth to water

(ft.) = Feet

-- = Not Measured/Not Available

**Table 3**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

Well ID	Date	Ethanol (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)
MW-2B	03/15/99	ND	3,800	4,800	13	ND	ND
MW-5	06/07/99	ND <sup>2</sup>	ND <sup>2</sup>	4,000 <sup>1</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>
MW-7	03/15/99	ND	610	970	4.3	ND	ND

**EXPLANATIONS:**

TBA = Tertiary Butyl Alcohol  
 MTBE = Methyl Tertiary Butyl Ether  
 DIPE = Di-isopropyl Ether  
 ETBE = Ethyl Tertiary Butyl Ether  
 TAME = Tertiary Amyl Methyl Ether  
 ppb = Parts per billion  
 -- = Not Analyzed  
 ND = Not Detected

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

<sup>1</sup> Laboratory results indicate sample contains high concentration of Hexane.

<sup>2</sup> Detection limit raised. Refer to analytical results.

## STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

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

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

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

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

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

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

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility # 7376  
 Address: 4191 First st.  
 City: Pleasanton

Job#: 180075  
 Date: 6/7/99  
 Sampler: Vertlo

Well ID MW-1  
 Well Diameter 2 in.  
 Total Depth 86.43 ft.  
 Depth to Water 79.82 ft.

Well Condition: OK  
 Hydrocarbon Thickness: ∅ (feet)  
 Amount Bailed (product/water): ∅ (Gallons)

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

6.61 X VF 0.17 = 1.12 X 3 (case volume) = Estimated Purge Volume: 3.37 (gal.)

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

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

Starting Time: 12:03  
 Sampling Time: 12:25  
 Purging Flow Rate: 1 gpm.  
 Did well de-water? no

Weather Conditions: clear  
 Water Color: clear Odor: no  
 Sediment Description: \_\_\_\_\_  
 If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>12:04</u>	<u>1</u>	<u>7.67</u>	<u>5.81</u>	<u>69.9</u>	_____	_____	_____
<u>12:05</u>	<u>2</u>	<u>7.52</u>	<u>5.75</u>	<u>69.7</u>	_____	_____	_____
<u>12:07</u>	<u>3.5</u>	<u>7.45</u>	<u>7.71</u>	<u>69.8</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
<u>MW-1</u>	<u>1 Amber</u>	<u>"</u>	<u>NONE</u>	<u>"</u>	<u>TPH-D</u>
_____	_____	_____	_____	_____	_____

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility # 7376  
 Address: 4191 First St.  
 City: Pleasanton

Job#: 180075  
 Date: 6/7/99  
 Sampler: Verteks

Well ID MW-2B  
 Well Diameter 2 in.  
 Total Depth 85.25 ft.  
 Depth to Water 82.96 ft.

Well Condition: ok  
 Hydrocarbon Thickness: ∅ (feet)  
 Amount Bailed (product/water): ∅ (Gallons)  

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

2.29 x VF 0.17 = 0.39 x 3 (case volume) = Estimated Purge Volume: 1.17 (gal.)

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

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

Starting Time: 1:08  
 Sampling Time: 1:25  
 Purging Flow Rate: \_\_\_\_\_ gpm.  
 Did well de-water? no

Weather Conditions: clear  
 Water Color: clear Odor: water  
 Sediment Description: \_\_\_\_\_  
 If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>1:11</u>	<u>0.5</u>		<u>6.57</u>	<u>68.2</u>			
<u>1:15</u>	<u>1</u>		<u>6.57</u>	<u>68.6</u>			
<u>1:19</u>	<u>1.5</u>		<u>6.48</u>	<u>68.9</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2B</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbs</u>
<u>MW-2B</u>	<u>1 Amber</u>	<u>"</u>	<u>NONE</u>	<u>"</u>	<u>TPH-D</u>

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



**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Facility # Tosco 7376 Job#: 180075  
 Address: 4191 First st. Date: 6/7/99  
 City: Pleasanton Sampler: Verttes

Well ID MW-3 Well Condition: OK  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: ∅ (feet) (product/water): ∅ (Gallons)  
 Total Depth 94.11 ft.  
 Depth to Water 83.22 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: 5.55 (gal.)

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

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

Starting Time: 1:46 Weather Conditions: clear  
 Sampling Time: 2:14 Water Color: clear Odor: no  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? no If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>1:48</u>	<u>2</u>	<u>7.61</u>	<u>5.50</u>	<u>70.1</u>	_____	_____	_____
<u>1:50</u>	<u>4</u>	<u>7.44</u>	<u>5.44</u>	<u>69.4</u>	_____	_____	_____
<u>1:53</u>	<u>6</u>	<u>7.39</u>	<u>5.42</u>	<u>69.3</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
<u>MW-3</u>	<u>1 Amber</u>	<u>"</u>	<u>NONE</u>	<u>"</u>	<u>TPH-D</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Facility # Tosco 7376  
 Address: 4191 First st.  
 City: Pleasanton

Job#: 180075  
 Date: 6/7/99  
 Sampler: Vetter

Well ID MW-4  
 Well Diameter 2 in.  
 Total Depth 93.01 ft.  
 Depth to Water 76.60 ft.

Well Condition: OK  
 Hydrocarbon Thickness: φ (feet) Amount Bailed (Gallons)  
 (product/water): φ  

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

16.41 x VF 0.17 = 2.79 X 3 (case volume) = Estimated Purge Volume: 8.37 (gal.)

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

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

Starting Time: 10:30  
 Sampling Time: 11:05  
 Purging Flow Rate: 1 gpm.  
 Did well de-water? no

Weather Conditions: clear  
 Water Color: clear Odor: no  
 Sediment Description: \_\_\_\_\_  
 If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}/100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:41</u>	<u>3</u>	<u>7.66</u>	<u>5.08</u>	<u>68.0</u>			
<u>10:44</u>	<u>6</u>	<u>7.47</u>	<u>4.97</u>	<u>68.5</u>			
<u>10:47</u>	<u>2.5</u>	<u>7.45</u>	<u>4.92</u>	<u>68.7</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESEV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
<u>MW-4</u>	<u>1 Amber</u>	<u>"</u>	<u>NONE</u>	<u>"</u>	<u>TPH-D</u>

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility # 7376  
 Address: 4191 First st.  
 City: Pleasanton

Job#: 180075  
 Date: 6/7/99  
 Sampler: Vertek

Well ID MW-5  
 Well Diameter 2 in.  
 Total Depth 72.52 ft.  
 Depth to Water 68.25 ft.

Well Condition: OK  
 Hydrocarbon\* Thickness: 0.82 (feet) Amount Bailed estimated (product/water): 12 gal (Gallons)  

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

1.27 x VF 0.17 = 0.72 x 3 (case volume) = Estimated Purge Volume: 2.17 (gal.)

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

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

Starting Time: 3:38  
 Sampling Time: 4:10  
 Purging Flow Rate: \_\_\_\_\_ gpm.  
 Did well de-water? no

Weather Conditions: clear  
 Water Color: clear Odor: Y  
 Sediment Description: \_\_\_\_\_  
 If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>3:45</u>	<u>1</u>	<u>7.04</u>	<u>413</u>	<u>68.9</u>	_____	_____	_____
<u>3:53</u>	<u>2</u>	<u>6.91</u>	<u>3.98</u>	<u>69.2</u>	_____	_____	_____
<u>4:00</u>	<u>2.5</u>	<u>6.83</u>	<u>3.92</u>	<u>69.5</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESEV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
<u>MW-5</u>	<u>1 Amber</u>	<u>"</u>	<u>NONE</u>	<u>"</u>	<u>TPH-D</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: \* sticky dark brown.

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility # 7376 Job#: 180075  
 Address: 4191 First st. Date: 6/7/99  
 City: Pleasanton Sampler: vatkes

Well ID MW-6 Well Condition: OK  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: Ø (feet) (product/water): Ø (Gallons)  
 Total Depth 86.85 ft.  
 Depth to Water 82.27 ft.

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

4.58 x VF 0.17 = 0.77 x 3 (case volume) = Estimated Purge Volume: 2.33 (gal.)

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

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

Starting Time: 12:35 Weather Conditions: clear  
 Sampling Time: 12:56 Water Color: brn Odor: no  
 Purging Flow Rate: \_\_\_\_\_ gpm. Sediment Description: Silt  
 Did well de-water? no If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>12:40</u>	<u>1</u>	<u>7.60</u>	<u>5.57</u>	<u>68.2</u>			
<u>12:46</u>	<u>2</u>	<u>7.48</u>	<u>5.52</u>	<u>68.6</u>			
<u>12:53</u>	<u>2.5</u>	<u>7.42</u>	<u>5.48</u>	<u>68.8</u>			
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
<u>MW-6</u>	<u>1 Amber</u>	<u>"</u>	<u>NONE</u>	<u>"</u>	<u>TPH-D</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Facility # Tosco 7376 Job#: 180075  
 Address: 4191 First St. Date: 6/7/99  
 City: Pleasanton Sampler: Vetter

Well ID MW-7 Well Condition: OK  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: Ø (feet) (product/water): Ø (Gallons)  
 Total Depth 76.90 ft.  
 Depth to Water 64.48 ft.

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

12.42 x VF 0.17 = 2.11 x 3 (case volume) = Estimated Purge Volume: 6.33 (gal.)

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

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

Starting Time: 2:41 Weather Conditions: clear  
 Sampling Time: 3:05 Water Color: brown Odor: mild  
 Purging Flow Rate: 1 gpm. Sediment Description: silt  
 Did well de-water? no If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>2:43</u>	<u>2</u>	<u>7.53</u>	<u>5.57</u>	<u>70.4</u>			
<u>2:45</u>	<u>4</u>	<u>7.36</u>	<u>5.47</u>	<u>69.8</u>			
<u>2:48</u>	<u>6.5</u>	<u>7.31</u>	<u>5.42</u>	<u>69.9</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-7</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtba</u>
<u>MW-7</u>	<u>1 Amber</u>	<u>"</u>	<u>NONE</u>	<u>"</u>	<u>TPH-D</u>

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Facility # Tosco 7376 Job#: 180075  
 Address: 4191 First St. Date: 6/7/99  
 City: Pleasanton Sampler: Vetter

Well ID MW-8 Well Condition: OK  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: φ (feet) (product/water): φ (Gallons)  
 Total Depth 86.40 ft.  
 Depth to Water 68.30 ft.

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

18.10 X VF 0.17 = 3.08 X 3 (case volume) = Estimated Purge Volume: 9.23 (gal.)

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

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

Starting Time: 11:20 Weather Conditions: clear  
 Sampling Time: 11:45 Water Color: \_\_\_\_\_ Odor: no  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? no If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:23</u>	<u>2</u>	<u>7.63</u>	<u>6.68</u>	<u>69.8</u>	_____	_____	_____
<u>11:26</u>	<u>6</u>	<u>7.46</u>	<u>6.57</u>	<u>69.4</u>	_____	_____	_____
<u>11:29</u>	<u>9.5</u>	<u>7.41</u>	<u>6.52</u>	<u>69.1</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-8</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
<u>MW-8</u>	<u>1 Amber</u>	<u>"</u>	<u>NONE</u>	<u>"</u>	<u>TPH-D</u>
_____	_____	_____	_____	_____	_____

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





# Sequoia Analytical

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

Client Project ID: Tosco SS#7376, Pleasanton  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015 Mod./8020  
First Sample #: 906-0796

Sampled: Jun 7, 1999  
Received: Jun 7, 1999  
Reported: Jun 24, 1999

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-0796 TB-LB	Sample I.D. 906-0797 MW-1	Sample I.D. 906-0798 MW-2B	Sample I.D. 906-0799 MW-3	Sample I.D. 906-0800 MW-4	Sample I.D. 906-0801 MW-5
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.	N.D.	210,000
Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	6,700
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	3,700
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	0.63	N.D.	5,000
Total Xylenes	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	20,000
MTBE	2.5	N.D.	310	5,100	29	N.D.	11,000
Chromatogram Pattern:		--	--	--	--	--	Gasoline

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	5.0	1.0	1.0	2,000
Date Analyzed:	6/16/99	6/15/99	6/15/99	6/15/99	6/15/99	6/15/99
Instrument Identification:	HP-2	HP-4	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	104	108	91	94	86	90

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

SEQUOIA ANALYTICAL, #1271

*Julianne Fegley*  
Julianne Fegley  
Project Manager





# Sequoia Analytical

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

Client Project ID: Tosco SS#7376, Pleasanton  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015 Mod./8020  
First Sample #: 906-0802

Sampled: Jun 7, 1999  
Received: Jun 7, 1999  
Reported: Jun 24, 1999

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-0802 MW-6	Sample I.D. 906-0803 MW-7	Sample I.D. 906-0804 MW-8
Purgeable Hydrocarbons	50	N.D.	2,600	N.D.
Benzene	0.50	N.D.	180	N.D.
Toluene	0.50	N.D.	21	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.
Total Xylenes	0.50	N.D.	13	N.D.
MTBE	2.5	18	1,200	N.D.

Chromatogram Pattern: .. Gasoline & Unidentified Hydrocarbons <C6

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Analyzed:	6/15/99	6/16/99	6/15/99
Instrument Identification:	HP-4	HP-5	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	98	90	91

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley  
Project Manager



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

Client Project ID: Tosco SS#7376, Pleasanton  
Sample Matrix: Water  
Analysis Method: EPA 3510/8015 Mod.  
First Sample #: 906-0797

Sampled: Jun 7, 1999  
Received: Jun 7, 1999  
Reported: Jun 24, 1999

## TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 906-0797 MW-1	Sample I.D. 906-0798 MW-2B	Sample I.D. 906-0799 MW-3	Sample I.D. 906-0800 MW-4	Sample I.D. 906-0801 MW-5	Sample I.D. 906-0802 MW-6
Extractable Hydrocarbons	50	N.D.	770	N.D.	N.D.	4,700,000	160
Chromatogram Pattern:		--	Unidentified Hydrocarbons >C10	--	--	Unidentified Hydrocarbons >C9	Unidentified Hydrocarbons >C15

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	2,000	1.0
Date Extracted:	6/14/99	6/14/99	6/14/99	6/14/99	6/14/99	6/14/99
Date Analyzed:	6/15/99	6/15/99	6/15/99	6/15/99	6/16/99	6/15/99
Instrument Identification:	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A

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

SEQUOIA ANALYTICAL, #1271

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

Client Project ID: Tosco SS#7376, Pleasanton  
Sample Matrix: Water  
Analysis Method: EPA 3510/8015 Mod.  
First Sample #: 906-0803

Sampled: Jun 7, 1999  
Received: Jun 7, 1999  
Reported: Jun 24, 1999

## TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 906-0803 MW-7	Sample I.D. 906-0804 MW-8
Extractable Hydrocarbons	50	550	N.D.
Chromatogram Pattern:		Unidentified Hydrocarbons >C10	--

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Extracted:	6/14/99	6/14/99
Date Analyzed:	6/15/99	6/15/99
Instrument Identification:	HP-3A	HP-3A

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

SEQUOIA ANALYTICAL, #1271

*Julianne Fegley*  
Julianne Fegley  
Project Manager



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

Client Project ID: Tosco SS#7376, Pleasanton  
Sample Descript: Water, MW-5  
Analysis Method: EPA 8260  
Lab Number: 906-0801

Sampled: Jun 7, 1999  
Received: Jun 7, 1999  
Analyzed: Jun 21, 1999  
Reported: Jun 24, 1999

## OXYGENATED COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Ethanol.....	25,000	N.D.
t-Butanol.....	5,000	N.D.
<b>Methyl t-Butyl Ether (MTBE).....</b>	<b>100</b>	<b>4000*</b>
Di-Isopropyl Ether (DIPE).....	100	N.D.
Ethyl t-Butyl Ether (ETBE).....	100	N.D.
t-Amyl Methyl Ether (TAME).....	100	N.D.

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150.....	87
1,2-Dichloroethane-d4.....	50 150.....	80

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Please Note:

\* Sample contains high concentration of Hexane.

*Julianne Fegley*  
Julianne Fegley  
Project Manager



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

Client Project ID: Tosco SS#7376, Pleasanton  
Matrix: Liquid

QC Sample Group: 9060796-804

Reported: Jun 24, 1999

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	9060860	9060860	9060860	9060860
Date Prepared:	6/15/99	6/15/99	6/15/99	6/15/99
Date Analyzed:	6/15/99	6/15/99	6/15/99	6/15/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	100	85	85	100
Matrix Spike Duplicate % Recovery:	105	90	90	103
Relative % Difference:	4.9	5.7	5.7	3.3

LCS Batch#:	4LCS061599	4LCS061599	4LCS061599	4LCS061599
Date Prepared:	6/15/99	6/15/99	6/15/99	6/15/99
Date Analyzed:	6/15/99	6/15/99	6/15/99	6/15/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	105	90	90	105

% Recovery Control Limits:	70-130	70-130	70-130	70-130
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**Please Note:**

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley  
Project Manager

9060796.GET <6>



# Sequoia Analytical

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

Client Project ID: Tosco SS#7376, Pleasanton  
Matrix: Liquid

QC Sample Group: 9060796-804

Reported: Jun 24, 1999

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	9060783	9060783	9060783	9060783
Date Prepared:	6/16/99	6/16/99	6/16/99	6/16/99
Date Analyzed:	6/16/99	6/16/99	6/16/99	6/16/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	85	75	85	85
Matrix Spike Duplicate % Recovery:	95	85	85	95
Relative % Difference:	11	13	0.0	11

LCS Batch#:	2LCS061699	2LCS061699	2LCS061699	2LCS061699
Date Prepared:	6/16/99	6/16/99	6/16/99	6/16/99
Date Analyzed:	6/16/99	6/16/99	6/16/99	6/16/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	100	90	90	102

% Recovery Control Limits:	70-130	70-130	70-130	70-130
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**Please Note:**

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SEQUOIA ANALYTICAL, #1271

*Julianne Fegley*  
Julianne Fegley  
Project Manager



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Gettler-Ryan - Dublin  
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Attention: Deanna Harding

Client Project ID: Tosco SS#7376, Pleasanton  
Matrix: Liquid

QC Sample Group: 9060796-804

Reported: Jun 24, 1999

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel	MTBE
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M.	EPA 8260
<b>Analyst:</b>	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	K. Grubb	N. Nelson

MS/MSD Batch#:	9060876	9060876	9060876	9060876	BLK061499	9060856
<b>Date Prepared:</b>	6/16/99	6/16/99	6/16/99	6/16/99	6/14/99	6/18/99
<b>Date Analyzed:</b>	6/16/99	6/16/99	6/16/99	6/16/99	6/15/99	6/18/99
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	HP-3B	GC/MS-2
<b>Conc. Spiked:</b>	20 µg/L	20 µg/L	20 µg/L	60 µg/L	500 µg/L	50 µg/L
<b>Matrix Spike % Recovery:</b>	95	95	95	98	80	92
<b>Matrix Spike Duplicate % Recovery:</b>	95	95	95	97	88	98
<b>Relative % Difference:</b>	0.0	0.0	0.0	1.7	9.5	6.3

LCS Batch#:	5LCS061699	5LCS061699	5LCS061699	5LCS061699	LCS061499	LCS062199
<b>Date Prepared:</b>	6/16/99	6/16/99	6/16/99	6/16/99	6/14/99	6/21/99
<b>Date Analyzed:</b>	6/16/99	6/16/99	6/16/99	6/16/99	6/15/99	6/21/99
<b>Instrument I.D.#:</b>	HP-5	HP-5	HP-5	HP-5	HP-3B	GC/MS-2
<b>LCS % Recovery:</b>	100	100	95	98	78	110

% Recovery Control Limits:	70-130	70-130	70-130	70-130	60-140	70-130
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**Please Note:**

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley  
Project Manager