

20229 #  
BARNEY



# GETTLER-RYAN INC.

## TRANSMITTAL

October 29, 2002  
G-R #180061

TO: Mr. David B. De Witt  
Phillips 66 Company  
2000 Crow Canyon Place, Suite 400  
San Ramon, California 94583

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

**Alameda County**  
NOV 14 2002  
**Environmental Health**  
RE: **Tosco (Unocal) Service Station**  
**#5325**  
**3220 Lakeshore Avenue**  
**Oakland, California 94610**

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	October 10, 2002	Groundwater Monitoring and Sampling Report Third Quarter - Event of September 3, 2002

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 **November 8, 2002**, this report will be distributed to the following:

cc: Alameda County Health Care Services, 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

Enclosure

trans/5325-DBD



# GETTLER-RYAN INC.

October 10, 2002  
G-R Job #180061

Mr. David B. De Witt  
Phillips 66 Company  
2000 Crow Canyon Place, Suite 400  
San Ramon, California 94583

**RE: Third Quarter Event of September 3, 2002**  
Groundwater Monitoring & Sampling Report  
Tosco (Unocal) Service Station #5325  
3220 Lakeshore Avenue  
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 any wells. Static water level data and groundwater elevations are summarized in Table 1. Field Measurements are summarized in Table 3. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells and submitted to a state certified laboratory for analyses. The field data sheets for this event are attached. Analytical results are presented in the table(s) listed below. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical report are also attached.

Sincerely,

*Deanna L. Harding*

- FOR -

Deanna L. Harding  
Project Coordinator

*Douglas J. Lee*

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

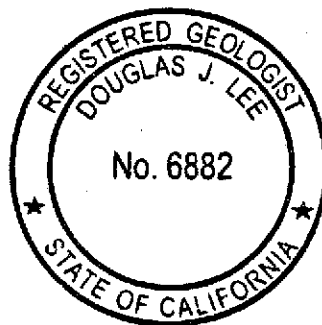
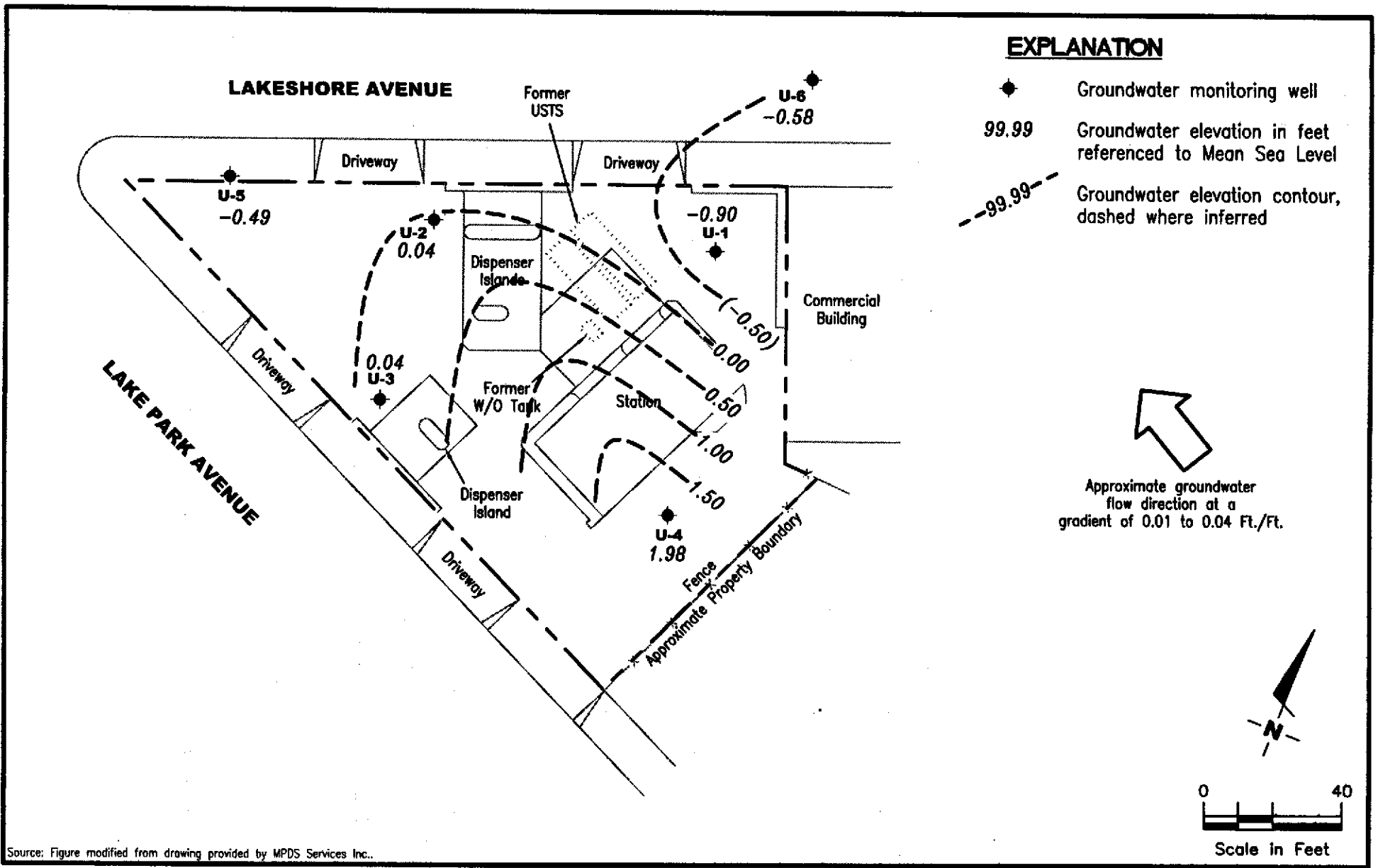


Figure 1: Potentiometric Map  
Figure 2: Concentration Map  
Table 1: Groundwater Monitoring Data and Analytical Results  
Table 2: Groundwater Analytical Results - Oxygenate Compounds  
Table 3: Field Measurements and Groundwater Analytical Results  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical Reports

5325.qml



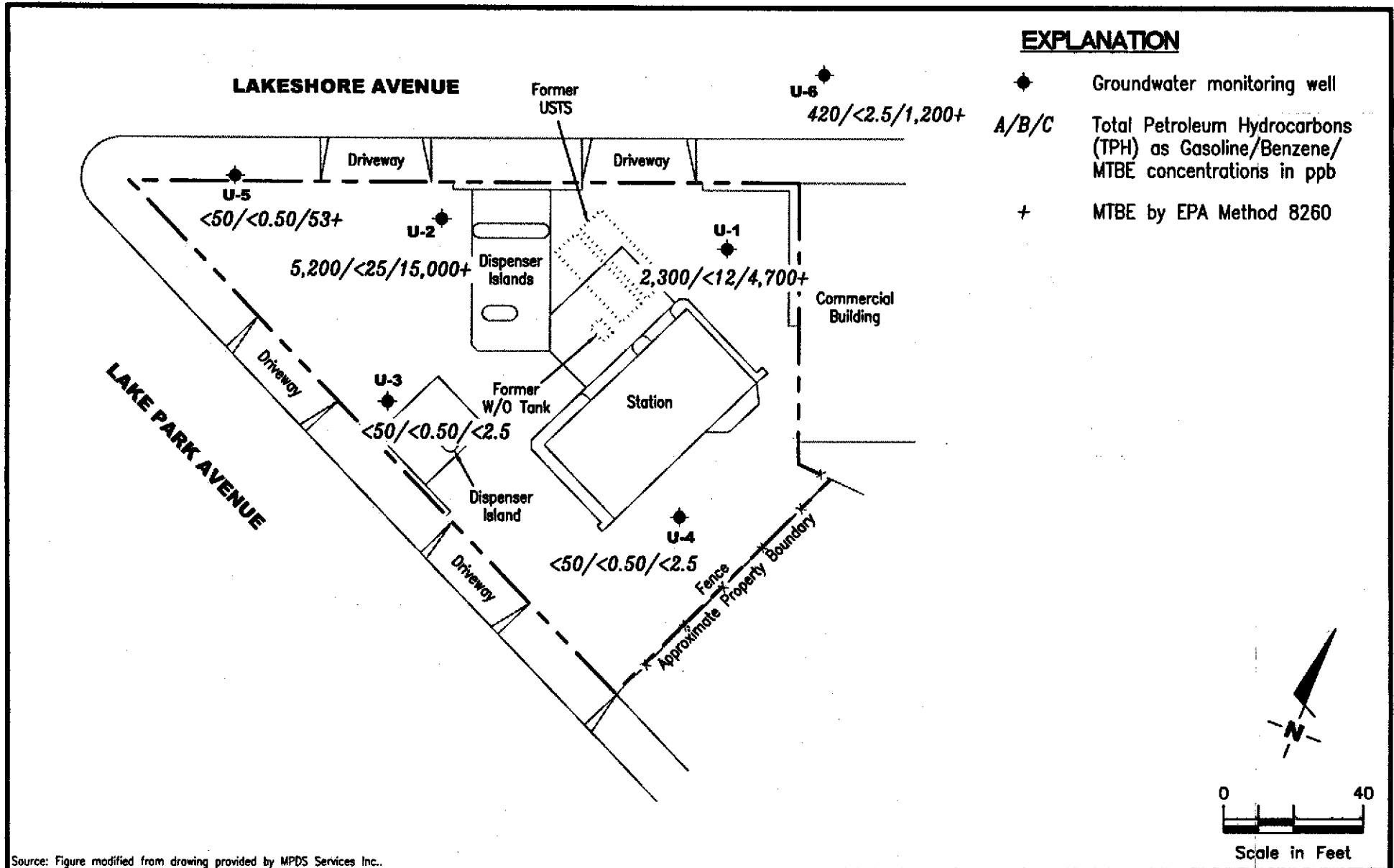
Source: Figure modified from drawing provided by MPDS Services Inc..

**GETTLER - RYAN INC.**  
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**POTENTIOMERIC MAP**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

FIGURE  
**1**

PROJECT NUMBER 180061	REVIEWED BY	DATE September 3, 2002	REVISED DATE
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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 #5325  
 3220 Lakeshore Avenue  
 Oakland, California

FIGURE  
**2**

PROJECT NUMBER 180061	REVIEWED BY	DATE September 3, 2002	REVISED DATE
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**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.L. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-1	08/10/90	--	5.0-20.0	--	--	690	38	75	8.6	130	--
	01/07/91	--		--	--	250	22	16	4.2	17	--
	04/01/91	--		--	--	160	13	8.6	1.0	15	--
	07/03/91	--		--	--	140	21	4.3	0.36	17	--
	10/09/91	--		--	--	ND	ND	ND	ND	ND	--
	02/12/92	--		--	--	250	ND	ND	ND	ND	--
	05/05/92	--		--	--	230	1.2	ND	ND	ND	--
	06/11/92	--		--	--	1,000	80	1.4	6.7	41	--
	08/20/92	--		--	--	400 <sup>1</sup>	1.0	ND	ND	0.6	--
	02/22/93	--		--	--	34,000	1,400	5,500	910	7,300	--
	05/07/93	--		--	--	8,700	600	240	650	3,300	--
	08/08/93	--		--	--	4,900 <sup>2</sup>	79	ND	832	270	--
5.32	11/16/93	8.61		-3.29	0.00	690 <sup>3</sup>	ND	ND	ND	ND	--
	02/16/94	8.54		-3.22	0.00	6,800 <sup>4</sup>	ND	ND	ND	ND	--
8.46	06/22/94	8.39		0.07	0.00	200	ND	ND	5.9	21	--
	09/22/94	8.66		-0.20	0.00	6,100 <sup>5</sup>	ND	ND	ND	ND	--
	12/24/94	8.04		0.42	0.00	50,000	2,500	9,700	2,400	17,000	--
	03/25/95	7.72		1.02**	0.37	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	06/21/95	9.30		-0.69**	0.20	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	09/19/95	9.29		-0.53**	0.40	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/19/95	8.98		-0.50**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	03/18/96	8.25		0.21	0.00	27,000	ND	2,300	1,400	11,000	4,900
	06/27/96	7.92		0.54	<0.01	120,000	540	4,300	2,600	26,000	ND
	09/26/96	9.10		-0.62**	0.02	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/09/96	6.88		1.60**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	03/14/97	9.02		-0.15**	0.55	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	06/30/97	8.41		0.07**	0.02	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	09/19/97	8.56		-0.08**	0.02	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/12/97	8.58		-0.11**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	03/03/98 <sup>17</sup>	8.23		0.26**	0.04	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	06/15/98 <sup>17</sup>	8.37		0.09	Shcen	52,000	ND <sup>7</sup>	900	1,800	13,000	ND <sup>7</sup>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTRE (ppb)
U-1	09/30/98 <sup>17</sup>	8.94	5.0-20.0	-0.48	Sheen	1,000,000 <sup>8</sup>	ND <sup>7</sup>	2,600	13,000	83,000	4,800
(cont)	12/28/98 <sup>17</sup>	8.57		-0.11	<0.01	1,100,000 <sup>9</sup>	ND <sup>7</sup>	1,600	8,600	71,000	5,700
	03/22/99 <sup>17</sup>	8.18		0.28	Sheen	130,000	470	1,100	2,000	28,000	5,700
	06/09/99	9.37		-0.91	0.00	40,000	230	640	590	13,000	3,500/2,100 <sup>10</sup>
	09/08/99 <sup>17</sup>	9.53		-1.07	0.00	55,000 <sup>11</sup>	217	202	745	14,300	6,800/6,600 <sup>10</sup>
	12/07/99 <sup>17</sup>	9.67		-1.21	0.00	41,200 <sup>13</sup>	89.3	ND <sup>7</sup>	385	6,930	15,800/14,700 <sup>12</sup>
	03/13/00 <sup>17</sup>	8.44		0.02	0.00	48,000 <sup>11</sup>	490	610	2,400	10,000	22,000/23,000 <sup>10</sup>
	06/21/00 <sup>17</sup>	9.45		-0.99	0.00	37,000 <sup>11</sup>	200	ND <sup>7</sup>	1,200	7,200	15,000/20,000 <sup>10</sup>
	09/27/00 <sup>17</sup>	9.29		-0.83	0.00	15,000 <sup>11</sup>	92	ND <sup>7</sup>	540	2,800	74,000/83,000 <sup>15</sup>
	12/12/00 <sup>17</sup>	9.37		-0.91	0.00	50,000 <sup>16</sup>	ND <sup>7</sup>	ND <sup>7</sup>	250	1,900	12,000/15,000 <sup>12</sup>
	03/07/01 <sup>17</sup>	8.45		0.01	0.00	6,220 <sup>13</sup>	29.8	10.4	96.3	638	11,200/11,800 <sup>10</sup>
	06/06/01 <sup>17</sup>	9.29		-0.83	0.00	5,200 <sup>12</sup>	17	ND <sup>7</sup>	69	420	6,500/8,700 <sup>12</sup>
	09/24/01 <sup>17</sup>	9.39		-0.93	0.00	4,300 <sup>18</sup>	36	<25	65	590	4,400/4,400 <sup>10</sup>
	12/10/01 <sup>20</sup>	9.17		-0.71	0.00	11,000 <sup>18</sup>	220	<100	380	1,500	5,100/5,100 <sup>10</sup>
	03/11/02 <sup>20</sup>	9.44		-0.98	0.00	5,500 <sup>12</sup>	28	<20	360	690	6,400/6,300 <sup>10</sup>
	06/04/02 <sup>20</sup>	8.32		0.14	0.00	4,600 <sup>18</sup>	31	<10	240	180	6,500
	09/03/02 <sup>20</sup>	9.36		-0.90	0.00	2,300 <sup>21</sup>	<12	<12	<12	68	3,500/4,700 <sup>10</sup>
U-2	08/10/90	--	5.0-20.0	--	--	780	27	46	15	130	--
	01/07/91	--		--	--	1,900	67	5.8	58	69	--
	04/01/91	--		--	--	1,700	250	89	34	190	--
	07/03/91	--		--	--	2,100	150	25	3.1	290	--
	10/09/91	--		--	--	230	7.1	ND	ND	11	--
	02/12/92	--		--	--	410	1.9	ND	0.36	0.4	--
	05/05/92	--		--	--	1,600	120	52	6.2	290	--
	06/11/92	--		--	--	620	17	2.1	ND	37	--
	08/20/92	--		--	--	700	28	6.5	1.3	4.6	--
	02/22/93	--		--	--	3,400	2,400	2,100	1,200	5,800	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (pph)	R (pph)	T (pph)	E (pph)	X (pph)	MTBE (pph)
U-2	05/07/93	--	5.0-20.0	--	--	17,000	1,800	660	1,700	4,000	--
(cont)	08/08/93	--		--	--	5,600 <sup>2</sup>	420	ND	410	670	--
4.53	11/16/93	8.17		-3.64	0.00	510 <sup>1</sup>	ND	ND	ND	ND	--
	02/16/94	7.73		-3.20	0.00	980 <sup>4</sup>	49	13	2.7	40	--
7.62	06/22/94	7.60		0.02	0.00	31,000	2,200	62	1,500	3,500	--
	09/22/94	7.93		-0.31	0.00	8,500 <sup>1</sup>	29	ND	ND	ND	--
	12/24/94	7.27		0.35	0.00	32,000	1,500	890	1,300	5,000	--
	03/25/95	7.01		0.61	0.00	170,000	1,900	21,000	4,800	33,000	--
	06/21/95	6.98		0.64	0.00	16,000	2,100	ND	1,800	1,700	--
	09/19/95	7.70		-0.08	0.00	3,000	610	ND	78	240	-- <sup>5</sup>
	12/19/95	7.30		0.32	0.00	1,600	140	55	52	270	-- <sup>6</sup>
	03/18/96	6.45		1.17	0.00	12,000	2,200	ND	1,200	2,200	22,000
	06/27/96	7.41		0.21	0.00	28,000	3,400	ND	2,800	3,100	3,000
	09/26/96	7.90		-0.28	0.00	5,900	750	ND	ND	ND	18,000
	12/09/96	6.76		0.86	0.00	13,000	5,100	290	980	370	2,700
	03/14/97	7.12		0.52**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	06/30/97	6.19		1.43	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	09/19/97	7.31		0.31	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/12/97	6.75		0.88**	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	03/03/98	6.36		1.26	Sheen	80,000	3,000	1,100	820	16,000	16,000
	06/15/98	6.51		1.11	Sheen	48,000	1,800	330	470	7,900	20,000
	09/30/98	7.17		0.45	Sheen	60,000	1,300	ND <sup>7</sup>	500	9,700	19,000
	12/28/98	7.06		0.56	0.00	63,000	590	160	320	5,600	16,000
	03/22/99	6.82		0.80	0.00	28,000	1,100	ND <sup>7</sup>	360	2,900	25,000
	06/09/99	7.51		0.11	0.00	21,000	110	190	310	2,600	7,900/7,800 <sup>10</sup>
	09/08/99	8.16		-0.54	0.00	23,300 <sup>11</sup>	477	138	286	4,110	16,400/15,300 <sup>10</sup>
	12/07/99	8.31		-0.69	0.00	4,840 <sup>13</sup>	17.2	ND <sup>7</sup>	ND <sup>7</sup>	157	14,900/15,600 <sup>12</sup>
	03/13/00	6.69		0.93	0.00	11,000 <sup>11</sup>	380	160	ND <sup>7</sup>	2,100	22,000/26,000 <sup>10</sup>
	06/21/00	7.67		-0.05	0.00	9,100 <sup>11</sup>	22	ND <sup>7</sup>	ND <sup>7</sup>	800	16,000/22,000 <sup>10</sup>
	09/27/00	7.44		0.18	0.00	2,900 <sup>11</sup>	43	ND <sup>7</sup>	ND <sup>7</sup>	39	20,000/26,000 <sup>15</sup>
	12/12/00	7.51		0.11	0.00	3,600 <sup>11</sup>	17	ND <sup>7</sup>	ND <sup>7</sup>	87	8,000/7,800 <sup>12</sup>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. hgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	R (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-2	03/07/01	7.15	5.0-20.0	0.47	0.00	1,670 <sup>13</sup>	51.0	ND <sup>7</sup>	7.20	19.5	5,930/7,000 <sup>10</sup>
(cont)	06/06/01	7.57		0.05	0.00	1,100 <sup>11</sup>	14	ND <sup>7</sup>	9.3	35	9,200/10,000 <sup>12</sup>
	09/24/01	7.63		-0.01	0.00	1,000 <sup>18</sup>	25	<2.5	12	100	9,800/11,000 <sup>10</sup>
	12/10/01	6.78		0.84	0.00	83	14	0.55	3.4	6.8	2,500/2,500 <sup>10</sup>
	03/11/02	7.12		0.50	0.00	<1,000	28	<10	40	31	11,000/11,000 <sup>10</sup>
	06/04/02	7.18		0.44	0.00	7,700 <sup>18</sup>	32	<25	33	48	14,000
	09/03/02	7.58		0.04	0.00	5,200 <sup>21</sup>	<25	<25	<25	<25	11,000/15,000 <sup>10</sup>
U-3	08/10/90	--	5.0-20.0	--	--	ND	ND	ND	ND	ND	--
	01/07/91	--		--	--	ND	ND	ND	ND	1.8	--
	04/01/91	--		--	--	ND	1.0	2.9	0.53	5.4	--
	07/03/91	--		--	--	ND	ND	ND	ND	ND	--
	10/09/91	--		--	--	ND	ND	ND	ND	ND	--
	02/12/92	--		--	--	ND	ND	ND	ND	ND	--
	05/05/92	--		--	--	ND	ND	ND	ND	ND	--
	06/11/92	--		--	--	ND	ND	ND	ND	ND	--
	08/20/92	--		--	--	ND	ND	ND	ND	ND	--
	02/22/93	--		--	--	ND	ND	ND	ND	ND	--
	05/07/93	--		--	--	ND	ND	ND	ND	ND	--
	08/08/93	--		--	--	210	5.0	9.7	0.7	4.1	--
7.86	11/16/93	11.82		-3.96	0.00	ND	ND	ND	ND	ND	--
	02/16/94	11.62		-3.76	0.00	ND	ND	ND	ND	ND	--
10.98	06/22/94	11.64		-0.66	0.00	ND	ND	ND	ND	ND	--
	09/22/94	11.76		-0.78	0.00	ND	ND	ND	ND	ND	--
	12/24/94	11.28		-0.30	0.00	ND	ND	ND	ND	ND	--
	03/25/95	10.96		0.02	0.00	ND	ND	ND	ND	ND	--
	06/21/95	11.37		-0.39	0.00	ND	ND	ND	ND	ND	--
	09/19/95	11.55		-0.57	0.00	ND	ND	ND	ND	ND	-- <sup>5</sup>
	12/19/95	11.45		-0.47	0.00	ND	ND	ND	ND	ND	--
	03/18/96	11.10		-0.12	0.00	ND	ND	ND	ND	ND	--
	06/27/96	11.16		-0.18	0.00	440	49	50	51	140	50



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tnscn (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. hgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTRF (ppb)
U-3	09/26/96	11.55	5.0-20.0	-0.57	0.00	ND	ND	ND	ND	ND	ND
(cont)	12/09/96	10.12		0.86	0.00	ND	ND	ND	ND	ND	20
	03/14/97	10.87		0.11	0.00	ND	ND	ND	ND	ND	ND
	06/30/97	11.08		-0.10	0.00	ND	ND	ND	ND	ND	ND
	09/19/97	11.05		-0.07	0.00	ND	ND	ND	ND	ND	ND
	12/12/97	10.58		0.40	0.00	ND	ND	ND	ND	ND	ND
	03/03/98	9.84		1.14	0.00	ND	ND	ND	ND	ND	ND
	06/15/98	10.56		0.42	0.00	ND	ND	ND	ND	ND	ND
	09/30/98	11.12		-0.14	0.00	ND	ND	ND	ND	ND	ND
	12/28/98	10.96		0.02	0.00	ND	ND	ND	ND	ND	ND
	03/22/99	9.46		1.52	0.00	ND	ND	ND	ND	ND	ND
	06/09/99	11.01		-0.03	0.00	ND	ND	ND	ND	ND	ND
	09/08/99	11.31		-0.33	0.00	ND	ND	ND	ND	ND	ND
	12/07/99	11.26		-0.28	0.00	ND	ND	ND	ND	ND	ND
	03/13/00	8.28		2.70	0.00	ND	ND	ND	ND	ND	ND
	06/21/00	11.12		-0.14	0.00	ND	ND	ND	ND	ND	ND
	09/27/00	11.07		-0.09	0.00	ND	ND	ND	ND	ND	ND
	12/12/00	10.94		0.04	0.00	ND	ND	ND	ND	ND	ND
	03/07/01	8.32		2.66	0.00	ND	ND	ND	ND	ND	ND
	06/06/01	10.94		0.04	0.00	ND	ND	ND	ND	ND	ND
	09/24/01	11.03		-0.05	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	12/10/01	8.16		2.82	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	03/11/02	7.82		3.16	0.00	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	06/04/02	10.58		0.40	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	09/03/02	10.94		0.04	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
U-4											
11.15	06/22/94	10.16	5.0-20.0	0.99	0.00	ND	ND	ND	ND	ND	--
	09/22/94	10.79		0.36	0.00	ND	0.78	1.3	ND	1.4	--
	12/24/94	9.81		1.34	0.00	ND	ND	ND	ND	ND	--
	03/25/95	9.51		1.64	0.00	ND	ND	ND	ND	ND	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. hgs)	GWE (ft.)	Product		R (ppb)	T (ppb)	E (ppb)	X (ppb)	MTRF (ppb)
					Thickness (ft.)	TPH-G (ppb)					
U-4	06/21/95	9.54	5.0-20.0	1.61	0.00	ND	ND	ND	ND	ND	--
(cont)	09/19/95	10.17		0.98	0.00	ND	ND	ND	ND	ND	--
	12/19/95	9.98		1.17	0.00	ND	ND	ND	ND	ND	--
	03/18/96	9.66		1.49	0.00	ND	ND	ND	ND	ND	--
	06/27/96	9.74		1.41	0.00	ND	ND	ND	ND	ND	ND
	09/26/96	10.14		1.01	0.00	ND	ND	ND	ND	ND	ND
	12/09/96	8.67		2.48	0.00	ND	ND	ND	ND	ND	33
	03/14/97	9.35		1.80	0.00	ND	ND	ND	ND	ND	ND
	06/30/97	9.89		1.26	0.00	ND	ND	ND	ND	ND	ND
	09/19/97	9.96		1.19	0.00	ND	ND	ND	ND	ND	ND
	12/12/97	8.56		2.59	0.00	ND	ND	ND	ND	ND	ND
	03/03/98	7.85		3.30	0.00	ND	ND	ND	ND	ND	ND
	06/15/98	9.08		2.07	0.00	ND	ND	ND	ND	ND	ND
	09/30/98	9.75		1.40	0.00	ND	ND	ND	ND	ND	ND
	12/28/98	9.59		1.56	0.00	ND	ND	ND	ND	ND	ND
	03/22/99	8.34		2.81	0.00	ND	ND	ND	ND	ND	ND
	06/09/99	9.39		1.76	0.00	ND	ND	ND	ND	ND	ND
	09/08/99	9.90		1.25	0.00	ND	ND	ND	ND	ND	ND
	12/07/99	10.05		1.10	0.00	ND	ND	ND	ND	ND	ND
	03/13/00	7.24		3.91	0.00	ND	ND	ND	ND	ND	ND
	06/21/00	9.48		1.67	0.00	ND	ND	ND	ND	ND	ND
	09/27/00	9.42		1.73	0.00	ND	ND	ND	ND	ND	ND
	12/12/00	9.50		1.65	0.00	ND	ND	ND	ND	ND	ND
	03/07/01	6.88		4.27	0.00	ND	ND	ND	ND	ND	ND
	06/06/01	9.18		1.97	0.00	ND	ND	ND	ND	ND	ND
	09/24/01	9.21		1.94	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	12/10/01	7.32		3.83	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	03/11/02	6.92		4.23	0.00	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	06/04/02	7.58		3.57	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	09/03/02	9.17		1.98	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	R (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-5											
6.98	06/22/94	6.83	5.0-20.0	0.15	0.00	210	7.1	13	4.5	26	--
	09/22/94	6.90		0.08	0.00	170	8.4	10	8.5	18	--
	12/24/94	6.43		0.55	0.00	8,700	560	70	670	430	--
	03/25/95	6.35		0.63	0.00	44,000	390	960	1,500	7,600	--
	06/21/95	7.11		-0.13	0.00	400	2.3	ND	9.1	3.5	--
	09/19/95	6.99		-0.01	0.00	850	14	7.1	13	66	--
	12/19/95	7.17		-0.19	0.00	ND	ND	ND	ND	ND	--
	03/18/96	6.65		0.33	0.00	100	0.67	0.5	0.51	5.4	--
	06/27/96	6.49		0.49	0.00	16,000	280	150	1,400	4,600	530
	09/26/96	7.13		-0.15	0.00	ND	ND	0.57	ND	0.96	ND
	12/09/96	5.90		1.08	0.00	1,300	29	46	ND	140	97
	03/14/97	6.99		-0.01	0.00	ND	ND	ND	ND	ND	14
	06/30/97	7.08		-0.10	0.00	4,200	74	51	180	980	270
	09/19/97	6.78		0.20	0.00	6,300	160	13	370	1000	480
	12/12/97	6.94		0.04	0.00	60	1.3	ND	1.6	2.1	47
	03/03/98	6.50		0.48	0.00	1,700	29	ND <sup>7</sup>	150	190	330
	06/15/98	6.85		0.13	0.00	1,500	32	ND <sup>7</sup>	91	83	330
	09/30/98	7.31		-0.33	0.00	1,700	44	ND <sup>7</sup>	39	150	60
	12/28/98	7.25		-0.27	0.00	1,400	59	ND <sup>7</sup>	13	27	150
	03/22/99	6.86		0.12	0.00	780	8.9	ND	0.76	4.5	350
	06/09/99	7.28		-0.30	0.00	1,000	ND <sup>7</sup>	ND <sup>7</sup>	10	35	280/350 <sup>10</sup>
	09/08/99	7.52		-0.54	0.00	2,620 <sup>11</sup>	26.2	ND <sup>7</sup>	32.2	157	280/239 <sup>12</sup>
	12/07/99	7.67		-0.69	0.00	949 <sup>11</sup>	9.26	ND <sup>7</sup>	11.2	22.7	235/301 <sup>12</sup>
	03/13/00	6.73		0.25	0.00	880 <sup>14</sup>	12	1.0	5.6	8.7	46/37 <sup>10</sup>
	06/21/00	7.39		-0.41	0.00	700 <sup>11</sup>	4.0	ND	0.99	4.0	120/140 <sup>10</sup>
	09/27/00	7.45		-0.47	0.00	400 <sup>11</sup>	1.9	ND	ND	1.5	160/250 <sup>15</sup>
	12/12/00	7.68		-0.70	0.00	770 <sup>11</sup>	3.2	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	27/13 <sup>12</sup>
	03/07/01	6.83		0.15	0.00	623 <sup>13</sup>	5.15	ND	ND	0.669	35.7/43.4 <sup>10</sup>
	06/06/01	7.42		-0.44	0.00	110 <sup>13</sup>	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. hgs)	GWE (ft.)	Product							
					Thickness (ft.)	TPH-G (pph)	B (pph)	T (pph)	E (pph)	X (pph)	MTRF (pph)	
U-5 (cont)	09/24/01	7.50	5.0-20.0	-0.52	0.00	270 <sup>10</sup>	<0.50	<0.50	<0.50	<0.50	40/42 <sup>10</sup>	
	12/10/01	6.65		0.33	0.00	420 <sup>18</sup>	1.3	0.60	0.66	<0.50	<2.5	
	03/11/02	7.00		-0.02	0.00	260 <sup>13</sup>	<0.50	<0.50	<0.50	<0.50	42/47 <sup>10</sup>	
	06/04/02	6.71		0.27	0.00	170 <sup>10</sup>	<0.50	0.77	0.87	0.69	29	
	09/03/02	7.47		-0.49	0.00	<50	<0.50	<0.50	<0.50	<0.50	37/53 <sup>10</sup>	
U-6 7.14	06/22/94	7.14	5.0-24.0	0.00	0.00	ND	ND	ND	ND	ND	--	
	09/22/94	7.34		-0.20	0.00	130	1.3	0.8	ND	0.73	--	
	12/24/94	6.67		0.47	0.00	6,900	500	59	600	380	--	
	03/25/95	6.29		0.85	0.00	47,000	450	1,300	1,700	8,200	--	
	06/21/95	7.60		-0.46	0.00	ND	ND	ND	ND	ND	--	
	09/19/95	7.70		-0.56	0.00	ND	ND	ND	ND	ND	--	
	12/19/95	7.75		-0.61	0.00	210	2.5	1.0	2.9	17	--	
	03/18/96	6.86		0.28	0.00	ND	ND	ND	ND	ND	--	
	06/27/96	6.52		0.62	0.00	ND	ND	ND	ND	ND	510	
	09/26/96	7.62		-0.48	0.00	ND	ND	ND	ND	ND	1,400	
	12/09/96	5.88		1.26	0.00	1,200	29	48	6.4	140	58	
	03/14/97	7.30		-0.16	0.00	ND	ND	ND	ND	ND	1,500	
	06/30/97	7.35		-0.21	0.00	ND	ND	ND	ND	ND	990	
	09/19/97	7.25		-0.11	0.00	ND	ND	ND	ND	ND	1,400	
	12/12/97	7.29		-0.15	0.00	ND	ND	ND	ND	ND	680	
	03/03/98	7.00		0.14	0.00	ND	ND	ND	ND	ND	1,600	
	06/15/98	7.18		-0.04	0.00	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	1,000
	09/30/98	7.90		-0.76	0.00	ND	ND	ND	ND	ND	ND	1,200
	12/28/98	7.79		-0.65	0.00	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	730
	03/22/99	7.47		-0.33	0.00	ND	ND	ND	ND	ND	ND	1,800
06/09/99	7.73	-0.59	0.00	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	1,000/850 <sup>10</sup>		
09/08/99	7.95	-0.81	0.00	ND	ND	ND	ND	ND	ND	851/1,040 <sup>10</sup>		
12/07/99	8.10	-0.96	0.00	ND	ND	ND	ND	ND	ND	1,140/1,150 <sup>12</sup>		
03/13/00	6.95	0.19	0.00	ND	ND	ND	ND	ND	ND	560/670 <sup>10</sup>		

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.L. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-6	06/21/00	7.84	5.0-24.0	-0.70	0.00	ND	ND	ND	ND	ND	400/590 <sup>10</sup>
(cont)	09/27/00	7.68		-0.54	0.00	ND	ND	ND	ND	ND	2,500/2,800 <sup>15</sup>
	12/12/00	7.74		-0.60	0.00	ND	ND	ND	ND	ND	590/580 <sup>12</sup>
	03/07/01	7.27		-0.13	0.00	ND	ND	ND	ND	ND	310/321 <sup>12</sup>
	06/06/01	7.80		-0.66	0.00	ND	ND	ND	ND	ND	250/330 <sup>12</sup>
	09/24/01	7.82		-0.68	0.00	<50	<0.50	<0.50	<0.50	<0.50	530/660 <sup>10</sup>
	12/10/01	7.15		-0.01	0.00	<50	<0.50	<0.50	<0.50	<0.50	220/220 <sup>10</sup>
	03/11/02	7.32		-0.18	0.00	<50	<0.50	<0.50	<0.50	<0.50	720/760 <sup>10</sup>
	06/04/02	7.18		-0.04	0.00	250 <sup>10</sup>	<1.0	<1.0	<1.0	<1.0	470
	09/03/02	7.72		-0.58	0.00	420 <sup>21</sup>	<2.5	<2.5	<2.5	4.7	860/1,200 <sup>10</sup>
<b>Trip Blank</b>											
TB-LB	03/03/98	--	--	--	--	ND	ND	ND	ND	ND	ND
	06/15/98	--	--	--	--	ND	ND	ND	ND	ND	ND
	09/30/98	--	--	--	--	ND	ND	1.7	ND	2.2	ND
	12/28/98	--	--	--	--	ND	ND	0.71	ND	0.72	9.5
	03/22/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	06/09/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	09/08/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	12/07/99	--	--	--	--	ND	ND	0.762	ND	ND	ND
	03/13/00	--	--	--	--	ND	ND	ND	ND	ND	ND
	06/21/00	--	--	--	--	ND	ND	ND	ND	ND	ND
	09/27/00	--	--	--	--	ND	ND	ND	ND	ND	ND
	12/12/00	--	--	--	--	ND	ND	ND	ND	ND	ND
	03/07/01	--	--	--	--	ND	ND	ND	ND	ND	ND
	06/06/01	--	--	--	--	ND	ND	ND	ND	ND	ND
	09/24/01	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.L. (ft. hgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
TR-LB	12/10/01	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
(cont)	03/11/02	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
QA	06/04/02	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	09/03/02	--	--	--	--	<50	<0.50	0.83	<0.50	0.50	<2.5

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

**EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to March 3, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing

(ft.) = Feet

DTW = Depth to Water

S.I. = Screen Interval

(ft. bgs) = Feet Below Ground Surface

GWE = Groundwater Elevation

TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

MTBE = Methyl tertiary butyl ether

(ppb) = Parts per billion

ND = Not Detected

-- = Not Measured/Not Analyzed

QA = Quality Assurance

\* TOC elevations are surveyed relative to City of Oakland Benchmark, at the northeasterly corner of Weller and Cheney Avenue

(Elevation = 9,055 feet, city datum; add 3.00' to U.S.G.S. datum). Prior to November 16, 1993, the DTW measurements were taken from the well cover.

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

<sup>1</sup> The positive result for gasoline does not appear to have a typical gasoline pattern.

<sup>2</sup> The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.

<sup>3</sup> Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.

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

<sup>5</sup> Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.

<sup>6</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>7</sup> Detection limit raised. Refer to analytical reports.

<sup>8</sup> Laboratory report indicates unidentified hydrocarbons C6-C12.

<sup>9</sup> Laboratory report indicates gasoline and unidentified hydrocarbons >C8.

<sup>10</sup> MTBE by EPA Method 8260.

<sup>11</sup> Laboratory report indicates gasoline C6-C12.

<sup>12</sup> MTBE by EPA Method 8260 analyzed past the recommended holding time.

<sup>13</sup> Laboratory report indicates weathered gasoline C6-C12.

<sup>14</sup> Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons <C6.

<sup>15</sup> Laboratory report indicates sample was originally analyzed within holding time. Re-analysis for confirmation or dilution was performed past the recommended holding time.

<sup>16</sup> Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons >C10.

<sup>17</sup> Skimmer present in well.

<sup>18</sup> Laboratory report indicates gasoline C6-C10.

<sup>19</sup> Laboratory report indicates unidentified hydrocarbons C6-C10.

<sup>20</sup> Skimmer not present in well.

<sup>21</sup> Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TRA (ppb)	MTRE (ppb)	D1PE (ppb)	ETRE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDR (ppb)
U-1	09/27/00 <sup>1</sup>	--	ND <sup>2</sup>	83,000	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>
	12/12/00	--	--	15,000 <sup>1</sup>	--	--	--	--	--
	03/07/01	ND <sup>2</sup>	ND <sup>2</sup>	11,800	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>
	06/06/01 <sup>3</sup>	ND <sup>2</sup>	ND <sup>2</sup>	8,700	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>
	09/24/01	<400,000	<20,000	4,400	<1,000	<1,000	<1,000	<1,000	<1,000
	12/10/01	<8,000	<4,000	5,100	<100	<100	<100	<100	<100
	03/11/02	<25,000	<5,000	6,300	<100	<100	<100	<100	<100
	06/04/02 <sup>4</sup>	--	--	--	--	--	--	--	--
	09/03/02	<50,000	<10,000	4,700	<200	<200	<200	<200	<200
U-2	09/27/00	--	--	26,000 <sup>1</sup>	--	--	--	--	--
	12/12/00	--	--	7,800 <sup>1</sup>	--	--	--	--	--
	03/07/01	ND <sup>2</sup>	ND <sup>2</sup>	7,900	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>
	06/06/01 <sup>3</sup>	ND <sup>2</sup>	ND <sup>2</sup>	10,000	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>
	09/24/01	<400,000	<20,000	11,000	<1,000	<1,000	<1,000	<1,000	<1,000
	12/10/01	<4,000	<2,000	2,500	<50	<50	<50	<50	<50
	03/11/02	<50,000	<10,000	11,000	<200	<200	<200	<200	<200
	06/04/02 <sup>4</sup>	--	--	--	--	--	--	--	--
	09/03/02	<250,000	<50,000	15,000	<1,000	<1,000	<1,000	<1,000	<1,000
U-5	09/27/00	--	--	250 <sup>1</sup>	--	--	--	--	--
	12/12/00	--	--	13 <sup>1</sup>	--	--	--	--	--
	03/07/01	ND	ND	43.4	ND	ND	ND	ND	ND
	09/24/01	<4,000	<200	42	<10	<10	<10	<10	<10
	03/11/02	<500	<100	47	<2.0	<2.0	<2.0	<2.0	<2.0
	06/04/02 <sup>4</sup>	--	--	--	--	--	--	--	--
	09/03/02	<500	<100	53	<2.0	<2.0	<2.0	<2.0	<2.0



**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
U-6	09/27/00	--	--	2,800 <sup>1</sup>	--	--	--	--	--
	12/12/00	--	--	580 <sup>1</sup>	--	--	--	--	--
	03/07/01 <sup>3</sup>	ND <sup>2</sup>	ND <sup>2</sup>	321	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>
	06/06/01 <sup>3</sup>	ND <sup>2</sup>	ND <sup>2</sup>	330	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>	ND <sup>2</sup>
	09/24/01	<40,000	<2,000	660	<100	<100	<100	<100	<100
	12/10/01	<400	<200	220	<5.0	<5.0	<5.0	<5.0	<5.0
	03/11/02	<2,000	<400	760	<8.0	<8.0	<8.0	<8.0	<8.0
	06/04/02 <sup>4</sup>	--	--	--	--	--	--	--	--
	09/03/02	<10,000	<2,000	1,200	<40	<40	<40	<40	<40

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
Tosco (Unocal) Service Station #5325  
3220 Lakeshore Avenue  
Oakland, California

**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  
-- = Not Analyzed

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

- <sup>1</sup> Laboratory report indicates sample was originally analyzed within holding time. Re-analysis for confirmation or dilution was performed past the recommended holding time.
- <sup>2</sup> Detection limit raised. Refer to analytical reports.
- <sup>3</sup> Laboratory report indicates sample was analyzed outside the EPA recommended holding time.
- <sup>4</sup> Due to Laboratory error, samples for oxygenate (8260) analyses was not performed.

**Table 3**  
**Field Measurements and Groundwater Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID	DATE	Ferrous Iron (ppm)	Nitrate as NO3 (ppm)	Phosphate as PO4 (ppm)	ORP (mV)	D.O. Before Purge (mg/L)
U-1	06/15/98	39	ND	ND	382 <sup>2</sup>	--
	09/30/98	17	ND	ND	366 <sup>2</sup>	--
	12/28/98	4.3	6.3	28	298 <sup>2</sup>	--
	03/22/99	4.9	ND	3.5	320 <sup>3</sup>	--
	06/09/99	1.2	ND	ND	260 <sup>3</sup>	--
	09/08/99	1.80	ND <sup>1</sup>	ND <sup>1</sup>	85 <sup>3</sup>	--
	12/07/99	5.70	ND <sup>1</sup>	17.0	404 <sup>3</sup>	1.36
	03/13/00	8.0	0.18	ND	<sup>2</sup> 117/ <sup>262</sup> <sup>3</sup>	--
	06/21/00	9.3	ND <sup>1</sup>	ND <sup>1</sup>	148 <sup>2</sup>	1.53
	09/27/00	2.8	ND <sup>1</sup>	18.4	119 <sup>2</sup>	1.63
	12/12/00	0.49	ND <sup>1</sup>	16.0	131 <sup>2</sup>	1.48
	03/07/01	0.483	2.64	6.89	125 <sup>2</sup>	1.91
	06/06/01	1.0 <sup>4</sup>	ND	2.7	141 <sup>2</sup>	1.77
	09/24/01	<0.10	0.45 <sup>5</sup>	--	125 <sup>2</sup>	1.64
	12/10/01	14	<0.50	2.2	141 <sup>2</sup>	1.82
	03/11/02	15	<0.50	0.11	132 <sup>2</sup>	2.21
	06/04/02	<0.50	<0.50	<0.10	117 <sup>2</sup>	1.88
09/03/02	<0.50	<0.50	<0.10	94 <sup>2</sup>	1.62	
U-2	03/03/98	25	ND	ND	369 <sup>2</sup>	--
	06/15/98	42	ND	ND	341 <sup>2</sup>	--
	09/30/98	25	ND	ND	354 <sup>2</sup>	--
	12/28/98	28	ND	ND	276 <sup>2</sup>	--
	03/22/99	0.68	ND	2.3	320 <sup>3</sup>	--
	06/09/99	0.50	ND	ND	290 <sup>3</sup>	--
	09/08/99	1.90	ND <sup>1</sup>	ND <sup>1</sup>	235 <sup>3</sup>	--
	12/07/99	0.250	ND <sup>1</sup>	ND <sup>1</sup>	389 <sup>3</sup>	2.28
	03/13/00	4.3	0.31	ND	<sup>2</sup> 121/ <sup>184</sup> <sup>3</sup>	--
	06/21/00	0.26	ND <sup>1</sup>	ND <sup>1</sup>	136 <sup>2</sup>	1.96
	09/27/00	0.64	ND <sup>1</sup>	10.5	142 <sup>2</sup>	2.12
	12/12/00	2.7	ND <sup>1</sup>	ND <sup>1</sup>	155 <sup>2</sup>	2.35
	03/07/01	0.677	2.24	3.02	148 <sup>2</sup>	2.21
	06/06/01	0.80 <sup>4</sup>	ND	2.8	163 <sup>2</sup>	2.67
	09/24/01	<0.10	0.49 <sup>5</sup>	--	151 <sup>2</sup>	2.10
	12/10/01	<0.10	<0.50	0.20	171 <sup>2</sup>	2.81
	03/11/02	<0.10	<0.50	0.65	156 <sup>2</sup>	2.77
06/04/02	<0.10	<0.50	<0.10	144 <sup>2</sup>	3.14	
09/03/02	<0.25	<0.50	0.26	151 <sup>2</sup>	2.85	
U-3	06/30/97	1.4	21	0.86	190 <sup>3</sup>	4.10
	09/19/97	0.57	19	ND	75 <sup>3</sup>	4.20
	12/12/97	1.9	23	0.85	390 <sup>3</sup>	2.97

**Table 3**  
**Field Measurements and Groundwater Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID	DATE	Ferrous Iron (ppm)	Nitrate as NO3 (ppm)	Phosphate as PO4 (ppm)	ORP (mV)	D.O. Before Purge (mg/L)
U-3	03/03/98	0.013	36	ND	358 <sup>2</sup>	2.63
(cont)	06/15/98	0.16	33	ND	318 <sup>2</sup>	2.93
	09/30/98	0.040	31	ND	295 <sup>2</sup>	3.11
	12/28/98	ND	29	ND	281 <sup>2</sup>	3.59
	03/22/99	0.015	30	0.14	310 <sup>3</sup>	4.02
	06/09/99	ND	26	1.2	350 <sup>3</sup>	3.70
	09/08/99	ND	32.9	ND <sup>1</sup>	417 <sup>3</sup>	3.96
	12/07/99	0.0520	27.9	ND <sup>1</sup>	437 <sup>3</sup>	4.21
	03/13/00	0.15	33	ND	<sup>2</sup> 226/ <sup>3</sup> 307 <sup>3</sup>	--
	06/21/00	0.20	32	ND <sup>1</sup>	225 <sup>2</sup>	4.27
	09/27/00	ND	34	15.7	211 <sup>2</sup>	4.67
	12/12/00	ND	31	ND <sup>1</sup>	246 <sup>2</sup>	4.79
	03/07/01	ND	36.5	0.443	251 <sup>2</sup>	5.16
	06/06/01	ND <sup>4</sup>	8.0	0.18	214 <sup>2</sup>	4.79
	09/24/01	<0.10	23 <sup>5</sup>	--	198 <sup>2</sup>	4.27
	12/10/01	<0.10	21	0.11	188 <sup>2</sup>	4.66
	03/11/02	<0.10	30	0.14	166 <sup>2</sup>	5.06
	06/04/02	<0.10	18	<0.10	151 <sup>2</sup>	5.79
	09/03/02	<0.10 <sup>5</sup>	28	<0.10	143 <sup>2</sup>	6.04
U-4	06/30/97	0.13	35	0.52	200 <sup>3</sup>	5.40
	09/19/97	0.35	30	ND	45 <sup>3</sup>	5.10
	12/12/97	0.68	31	0.73	380 <sup>3</sup>	3.11
	03/03/98	0.018	3.2	ND	284 <sup>2</sup>	2.94
	06/15/98	0.14	33	ND	256 <sup>2</sup>	3.08
	09/30/98	0.049	31	ND	276 <sup>2</sup>	4.05
	12/28/98	0.36	31	ND	280 <sup>2</sup>	4.57
	03/22/99	ND	30	0.14	320 <sup>3</sup>	4.26
	06/09/99	ND	35	0.91	340 <sup>3</sup>	3.61
	09/08/99	ND	24	ND <sup>1</sup>	391 <sup>3</sup>	3.75
	12/07/99	ND	27.7	ND <sup>1</sup>	478 <sup>3</sup>	4.03
	03/13/00	ND	33	ND	<sup>2</sup> 219/ <sup>3</sup> 244 <sup>3</sup>	--
	06/21/00	0.034	32	ND <sup>1</sup>	248 <sup>2</sup>	4.89
	09/27/00	ND	28	ND <sup>1</sup>	198 <sup>2</sup>	5.09
	12/12/00	ND	30	ND <sup>1</sup>	210 <sup>2</sup>	4.86
	03/07/01	ND	33.9	0.226	233 <sup>2</sup>	4.97
	06/06/01	ND <sup>4</sup>	7.4	0.21	248 <sup>2</sup>	5.12
	09/24/01	<0.10	24 <sup>5</sup>	--	262 <sup>2</sup>	4.86
	12/10/01	<0.10	19	0.10	242 <sup>2</sup>	5.05
	03/11/02	<0.10	31	0.14	195 <sup>2</sup>	4.83
	06/04/02	<0.10	27	<0.10	169 <sup>2</sup>	5.58
	09/03/02	<0.10 <sup>5</sup>	28	0.27	126 <sup>2</sup>	5.94

**Table 3**  
**Field Measurements and Groundwater Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

WELL ID	DATE	Ferrous Iron (ppm)	Nitrate as NO3 (ppm)	Phosphate as PO4 (ppm)	ORP (mV)	D.O. Before Purge (mg/L)
U-5	06/30/97	16	ND	ND	160 <sup>5</sup>	3.40
	09/19/97	0.22	ND	ND	63 <sup>3</sup>	0.60
	12/12/97	6.7	ND	ND	400 <sup>3</sup>	1.75
	03/03/98	18	3.1	ND	345 <sup>2</sup>	2.36
	06/15/98	17	ND	ND	333 <sup>2</sup>	2.55
	09/30/98	17	ND	ND	318 <sup>2</sup>	1.93
	12/28/98	17	6.6	ND	305 <sup>2</sup>	1.64
	03/22/99	0.12	ND	2.4	340 <sup>3</sup>	1.99
	06/09/99	0.23	ND	ND	320 <sup>3</sup>	2.10
	09/08/99	2.10	ND <sup>1</sup>	ND <sup>1</sup>	335 <sup>3</sup>	2.21
	12/07/99	0.310	ND <sup>1</sup>	ND <sup>1</sup>	408 <sup>3</sup>	2.66
	03/13/00	0.33	0.16	ND	<sup>2</sup> 111/ <sup>3</sup> 264	--
	06/21/00	0.15	ND <sup>1</sup>	ND <sup>1</sup>	159 <sup>2</sup>	3.42
	09/27/00	0.33	ND <sup>1</sup>	ND <sup>1</sup>	136 <sup>2</sup>	3.85
	12/12/00	0.086	ND <sup>1</sup>	ND <sup>1</sup>	122 <sup>2</sup>	3.53
	03/07/01	1.07	3.02	4.00	141 <sup>2</sup>	2.98
	06/06/01	ND <sup>4</sup>	ND	1.2	112 <sup>2</sup>	2.67
	09/24/01	<0.10	0.77 <sup>5</sup>	--	146 <sup>2</sup>	3.15
	12/10/01	3.7	<0.50	2.6	96 <sup>2</sup>	2.85
	03/11/02	0.10	<0.50	0.52	108 <sup>2</sup>	3.15
06/04/02	<0.25	<0.50	<0.10	118 <sup>2</sup>	3.46	
09/03/02	<0.25	<0.50	<0.10	87 <sup>2</sup>	2.85	
U-6	06/30/97	88	0.80	ND	190 <sup>3</sup>	0.30
	09/19/97	2.9	1.80	ND	ND <sup>3</sup>	0.60
	12/12/97	51	ND	ND	380 <sup>3</sup>	2.70
	03/03/98	60	3.5	ND	327 <sup>2</sup>	2.18
	06/15/98	590	4.8	ND	315 <sup>2</sup>	2.48
	09/30/98	33	ND	ND	345 <sup>2</sup>	3.06
	12/28/98	83	7.2	ND	297 <sup>2</sup>	3.42
	03/22/99	2.1	ND	0.98	330 <sup>3</sup>	3.88
	06/09/99	0.47	0.20	ND	320 <sup>3</sup>	3.29
	09/08/99	0.140	5.59	ND <sup>1</sup>	305 <sup>3</sup>	3.12
	12/07/99	0.260	ND <sup>1</sup>	ND <sup>1</sup>	443 <sup>3</sup>	3.44
	03/13/00	0.79	0.26	ND	<sup>2</sup> 68/ <sup>3</sup> 222	--
	06/21/00	1.9	ND <sup>1</sup>	ND <sup>1</sup>	159 <sup>2</sup>	3.27
	09/27/00	2.6	ND <sup>1</sup>	ND <sup>1</sup>	170 <sup>2</sup>	3.49
	12/12/00	ND	2.7	ND <sup>1</sup>	128 <sup>2</sup>	3.06
	03/07/01	2.52	3.11	37.0	117 <sup>2</sup>	2.85
	06/06/01	0.47 <sup>4</sup>	0.15	0.70	97 <sup>2</sup>	2.46
	09/24/01	<0.10	0.58 <sup>5</sup>	--	123 <sup>2</sup>	3.10
	12/10/01	0.99	0.50	2.0	112 <sup>2</sup>	2.57

**Table 3**  
**Field Measurements and Groundwater Analytical Results**  
 Tosco (Unocal) Service Station #5325  
 3220 Lakeshore Avenue  
 Oakland, California

<b>WELL ID</b>	<b>DATE</b>	<b>Ferrous Iron (ppm)</b>	<b>Nitrate as NO3 (ppm)</b>	<b>Phosphate as PO4 (ppm)</b>	<b>ORP (mV)</b>	<b>D.O. Before Purge (mg/L)</b>
U-6	03/11/02	1.2	<0.50	0.089	128 <sup>2</sup>	3.03
(cont)	06/04/02	<0.10	<0.50	<1.0	97 <sup>2</sup>	2.84
	09/03/02	<0.10	0.58	1.1	110 <sup>2</sup>	3.12

**Table 3**  
**Field Measurements and Groundwater Analytical Results**  
Tosco (Unocal) Service Station #5325  
3220 Lakeshore Avenue  
Oakland, California

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**EXPLANATIONS:**

Groundwater analytical results prior to March 3, 1998, were compiled from reports prepared by MPDS Services, Inc.

ORP = Oxidation Reduction Potential

(mV) = millivolts

D.O. = Dissolved Oxygen

(mg/L) = milligrams per liter

(ppm) = Parts per million

ND = Not Detected

-- = Not Measured/Not Analyzed

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

<sup>2</sup> Field measurement.

<sup>3</sup> Analyzed by laboratory.

<sup>4</sup> Due to the transfer of samples from one laboratory to another laboratory; the sample was received beyond the EPA recommended holding time.

<sup>5</sup> Laboratory report indicates the sample was analyzed beyond the EPA recommended holding time.

**ANALYTICAL METHODS:**

Ferrous Iron by Hach method 8146/1;10 Phenanthroline Method

Nitrate as NO<sub>3</sub> by EPA Method 300.0

Phosphate as PO<sub>4</sub> by EPA Method 300.0

## 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 an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

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

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

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

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

As requested by Phillips 66 Company, the purge water and decontamination water generated during sampling activities is transported to Phillips 66 - San Francisco Refinery, located in Rodeo, California.





# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Unocal #5325 Job Number: 180061  
 Site Address: 3220 Lakeshore Avenue Event Date: 9-3-02  
 City: Oakland, CA Sampler: Joe

Well ID: U-1 Well Condition: O.K.  
 Well Diameter: 21(3)4 in. Hydrocarbon Amount Bailed  
 Total Depth: 19.67 ft. Thickness: 0 ft. (product/water): 0 gal.  
 Depth to Water: 9.36 ft.

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

10.31 xVF 0.38 = 3.92 x3 (case volume) = Estimated Purge Volume: 12 gal.

Purge Equipment: Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump ✓  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer ✓  
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 11:00 Weather Conditions: clear/hot  
 Sample Time/Date: 11:30 19-3-02 Water Color: clear Odor: yes  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (CE)	D.O. (mg/L)	ORP (mV)
<u>11:07</u>	<u>4</u>	<u>6.68</u>	<u>1.46</u>	<u>73.9</u>	<u>1.62</u>	<u>94</u>
<u>11:10</u>	<u>8</u>	<u>6.71</u>	<u>1.45</u>	<u>74.2</u>		
<u>11:13</u>	<u>12</u>	<u>6.75</u>	<u>1.42</u>	<u>74.1</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-1</u>	<u>3 x vov vial</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G/BTEX/MTBE</u>
	<u>1 AMS.</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Ferrous Iron</u>
	<u>1 poly</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Nit. <del>Sul</del> Phosph.</u>

COMMENTS: No skimmer found in well.

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Unocal #5325  
 Site Address: 3220 Lakeshore Avenue  
 City: Oakland, CA

Job Number: 180061  
 Event Date: 9-3-02  
 Sampler: Joe

Well ID: U-2  
 Well Diameter: 2 13/14 in.  
 Total Depth: 19.61 ft.  
 Depth to Water: 7.58 ft.

Well Condition: 0.1c  
 Hydrocarbon Thickness: 0 ft. Amount Bailed (product/water): 0 gal.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

12.03 xVF 0.38 = 4.57 x3 (case volume) = Estimated Purge Volume: 14 gal.

Purge Equipment: Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump ✓  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer ✓  
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 1015 Weather Conditions: clear/hot  
 Sample Time/Date: 1044 19.3.02 Water Color: clear Odor: yes  
 Purging Flow Rate: 1.5 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>1024</u>	<u>5</u>	<u>6.85</u>	<u>4.21</u>	<u>74.2</u>	<u>2.85</u>	<u>151</u>
<u>1026</u>	<u>9</u>	<u>6.96</u>	<u>4.26</u>	<u>74.5</u>		
<u>1029</u>	<u>14</u>	<u>7.07</u>	<u>4.27</u>	<u>74.6</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-2</u>	<u>3 x vov vial</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-GBTEX/MTBE</u>
	<u>1 Anal.</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Ferrous Iron</u>
	<u>1 poly</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Nitrate phosph</u>

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

Add/Replaced Lock: \_\_\_\_\_

Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Unocal #5325 Job Number: 180061  
 Site Address: 3220 Lakeshore Avenue Event Date: 9-3-02  
 City: Oakland, CA Sampler: Joe

Well ID: U-3 Well Condition: OK  
 Well Diameter: 2 3/4 in. Hydrocarbon Amount Bailed  
 Total Depth: 19.35 ft. Thickness: 0 ft. (product/water): 0 gal.  
 Depth to Water: 10.94 ft.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

8.41 xVF 0.38 = 3.20 x3 (case volume) = Estimated Purge Volume: 10 gal.

Purge Equipment: Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump ✓  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer ✓  
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 0655 Weather Conditions: clear/hot  
 Sample Time/Date: 0738 19-3-02 Water Color: clear Odor: none  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm) <sup>100</sup>	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0714</u>	<u>2.5</u>	<u>7.52</u>	<u>9.24</u>	<u>75.1</u>	<u>6.04</u>	<u>143</u>
<u>0716</u>	<u>7.2</u>	<u>7.50</u>	<u>9.21</u>	<u>74.8</u>		
<u>0719</u>	<u>10</u>	<u>7.51</u>	<u>9.15</u>	<u>74.2</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-3</u>	<u>3 x vial</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G/BTEX/MTBE</u>
	<u>1 subs.</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Ferrous Iron</u>
	<u>1 poly</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>N. Rate. phospho</u>

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

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Unocal #5325 Job Number: 180061  
 Site Address: 3220 Lakeshore Avenue Event Date: 9-3-02  
 City: Oakland, CA Sampler: Joe

Well ID: U-4 Well Condition: 0.1c  
 Well Diameter: 213(4) in. Hydrocarbon Thickness: 0 ft. Amount Bailed (product/water): 0 gal.  
 Total Depth: 20.17 ft.  
 Depth to Water: 9.17 ft.

Volume Factor (VF)	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

11.00 xVF 0.66 = 7.26 x3 (case volume) = Estimated Purge Volume: 22 gal.

Purge Equipment: Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump  \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  \_\_\_\_\_  
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 0750 Weather Conditions: clear/hot  
 Sample Time/Date: 0830 10-3-02 Water Color: clear Odor: none  
 Purging Flow Rate: 2 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0806</u>	<u>7</u>	<u>7.96</u>	<u>8.55</u>	<u>72.9</u>	<u>5.94</u>	<u>126</u>
<u>0809</u>	<u>15</u>	<u>7.38</u>	<u>8.53</u>	<u>73.1</u>		
<u>0813</u>	<u>22</u>	<u>7.44</u>	<u>8.57</u>	<u>73.6</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-2</u>	<u>7 x vov vial</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G/BTEX/MTBE</u>
	<u>1 Ans.</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Ferrous Iron</u>
	<u>1 gal y</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Nit. Phospho</u>

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

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Unocal #5325 Job Number: 180061  
 Site Address: 3220 Lakeshore Avenue Event Date: 9-3-02  
 City: Oakland, CA Sampler: Joe

Well ID: U-5 Well Condition: 0.1c  
 Well Diameter: 213(4) in. Hydrocarbon Amount Bailed  
 Total Depth: 20.04 ft. Thickness: 0 ft. (product/water): 0 gal.  
 Depth to Water: 7.47 ft.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

12.57 xVF 0.66 = 8.30 x3 (case volume) = Estimated Purge Volume: 25 gal.

Purge Equipment: Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump ✓ \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer ✓ \_\_\_\_\_  
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 0930 Weather Conditions: clear/hot  
 Sample Time/Date: 0007 19-3-02 Water Color: clear Odor: mild  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm) <sup>100</sup>	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0942</u>	<u>8</u>	<u>7.20</u>	<u>6.41</u>	<u>74.2</u>	<u>2.85</u>	<u>87</u>
<u>0945</u>	<u>17</u>	<u>7.17</u>	<u>6.42</u>	<u>74.5</u>		
<u>0949</u>	<u>25</u>	<u>7.16</u>	<u>6.57</u>	<u>74.5</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-5</u>	<u>3x vov vial</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G/BTEX/MTBE</u>
	<u>1 AmB</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Ferrous Iron</u>
	<u>1 poly</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>Nitro phosph.</u>

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

Add/Replaced Lock: \_\_\_\_\_

Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Unocal #5325  
 Site Address: 3220 Lakeshore Avenue  
 City: Oakland, CA

Job Number: 180061  
 Event Date: 9-3-02  
 Sampler: Joe

Well ID: U-6 Well Condition: OK  
 Well Diameter: (2) 3/4 in. Hydrocarbon: \_\_\_\_\_ Amount Bailed: \_\_\_\_\_  
 Total Depth: 23.75 ft. Thickness: 0 ft. (product/water): 0 gal.  
 Depth to Water: 7.72 ft.

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

16.03 xVF 0.17 = 2.73 x3 (case volume) = Estimated Purge Volume: 8.5 gal.

Purge Equipment: Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump ✓  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer ✓  
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 0845 Weather Conditions: Hot  
 Sample Time/Date: 0913 9.3.02 Water Color: clear Odor: mild  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (u mhos/cm) <sup>100</sup>	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0853</u>	<u>3</u>	<u>7.41</u>	<u>5.50</u>	<u>74.3</u>	<u>3.12</u>	<u>110</u>
<u>0855</u>	<u>5.5</u>	<u>7.28</u>	<u>5.56</u>	<u>74.1</u>		
<u>0857</u>	<u>8.5</u>	<u>7.35</u>	<u>5.16</u>	<u>74.5</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-6</u>	<u>3 x vov vial</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G/BTEX/MTBE</u>
	<u>1 metal</u>	<u>✓</u>	<u>-</u>	<u>✓</u>	<u>Free Iron</u>
	<u>1 poly</u>	<u>✓</u>	<u>-</u>	<u>✓</u>	<u>Nitro phosph</u>

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

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_

# Gettler-Ryan Inc., Chain-of-Custody

Tosco Corp./  
Phillips 66 Co.  
2000 Crow Canyon Place  
Suite 400  
San Ramon, CA 94583

Facility Number 5325  
Facility Address 3220 Lakeshore Avenue, Oakland, CA  
Global ID T0600101463 Project 180061.80  
Client Contact Dave DeWitt  
Phone 925-277-2384

Laboratory Name Sequoia  
Consultant Gettler-Ryan Inc.  
Address 6747 Sierra Court, Suite J, Dublin, CA 94568  
Phone 925-551-7555 Fax 925-551-7899  
Samples Collected by JOE AJEMIAN

MLI0061

SAMPLE ID	Number of Containers Metals	S = Soil A = Air W = Water C = Chloroform		Sample Preservation	Date/Time (2400 Hrs)	TPH-GAS/BIEX/MTBE EPA 8015/8021B	TPH-DIESEL EPA 8015	TPH-DIESEL w/Sludged gel EPA 8015	TPH-GAS EPA 8015	TPH-GAS/BIEX/MTBE EPA 8260	OXYGENATES EPA 8260	METHANOL EPA 8015	TOTAL OIL & GREASE EPA 5520	METALS Cd, Cr, Pb, Zn, Ni	NITRATE/SULFATE/ALKALINITY EPA 300 SERIES	PHOSPHORUS (8010) EPA 8021B	PHOSPHORUS (8240) EPA 8260	SWOG'S EPA 8270	Nitrate phosphate	Ferrous Iron	Remarks		
		✓																					
01 QA	1	W	KCL		9-3-02	✓																Run 8 Oxy's by 8260 on all 8021 MTBE hits.	
02 U-1	5				9 1130	✓																	
03 U-2	5				9 1044	✓													✓	✓			
04 U-3	5				9 0738	✓													✓	✓			
05 U-4	5				9 0830	✓													✓	✓			
06 U-5	5				9 1007	✓													✓	✓			
07 U-6	5				9 0913	✓													✓	✓			

- OXYGENATES 8260
- 1 - MTBE
  - 2 - TBA
  - 3 - TAME
  - 4 - DIPE
  - 5 - ETBE
  - 6 - 1,2-DCA
  - 7 - EOB
  - 8 - ETHANOL

Relinquished By (Signature) <i>[Signature]</i>	Organization	Date/Time 1630 9-3-02	Received By (Signature) <i>[Signature]</i>	Organization	Date/Time 1630 9/3/02	ICED Y/N	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 72 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <i>[Signature]</i>	Organization	Date/Time 9/3/02	Received By (Signature) WBS	Organization	Date/Time 1600 9/3/02	ICED Y/N	
Relinquished By (Signature) WNL	Organization SEG	Date/Time 1930 9/3/02	Received For Laboratory By (Signature) <i>[Signature]</i>	Organization	Date/Time 9-4-02	ICED Y/N 1930	

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11 September, 2002

Dave DeWitt  
Gettler Ryan/Geostrategies - Tosco/Unocal  
6747 Sierra Ct, Suite J  
Dublin, CA 94568

RE: Tosco #255325, Oakland, Ca  
Sequoia Work Order: MLI0061

Enclosed are the results of analyses for samples received by the laboratory on 09/03/02  
16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James Hartley  
Project Manager

CA ELAP Certificate #1210





Gettler Ryan/Geostrategies - Tosco/Unocal  
6747 Sierra Ct, Suite J  
Dublin CA, 94568

Project: Tosco #255325, Oakland, Ca  
Project Number: Tosco #255325, Oakland, Ca  
Project Manager: Dave DeWitt

**ML10061**  
**Reported:**  
09/11/02 18:29

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
QA	ML10061-01	Water	09/03/02 00:00	09/03/02 16:30
U-1	ML10061-02	Water	09/03/02 11:30	09/03/02 16:30
U-2	ML10061-03	Water	09/03/02 10:44	09/03/02 16:30
U-3	ML10061-04	Water	09/03/02 07:38	09/03/02 16:30
U-4	ML10061-05	Water	09/03/02 08:30	09/03/02 16:30
U-5	ML10061-06	Water	09/03/02 10:07	09/03/02 16:30
U-6	ML10061-07	Water	09/03/02 09:13	09/03/02 16:30

Gettler Ryan/Geostrategies - Tosco/Unocal  
 6747 Sierra Ct, Suite J  
 Dublin CA, 94568

 Project: Tosco #255325, Oakland, Ca  
 Project Number: Tosco #255325, Oakland, Ca  
 Project Manager: Dave DeWitt

 ML10061  
 Reported:  
 09/11/02 18:29

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>QA (ML10061-01) Water</b> Sampled: 09/03/02 00:00 Received: 09/03/02 16:30									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2104002	09/04/02	09/05/02	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	0.83	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	0.50	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		95.9 %	70-130		"	"	"	"	
<b>U-1 (ML10061-02) Water</b> Sampled: 09/03/02 11:30 Received: 09/03/02 16:30									
Gasoline Range Organics (C6-C10)	2300	1200	ug/l	25	2105044	09/05/02	09/05/02	8015Bm/8021B	HC-12
Benzene	ND	12	"	"	"	"	"	"	
Toluene	ND	12	"	"	"	"	"	"	
Ethylbenzene	ND	12	"	"	"	"	"	"	
Xylenes (total)	68	12	"	"	"	"	"	"	
Methyl tert-butyl ether	3500	62	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		104 %	70-130		"	"	"	"	
<b>U-2 (ML10061-03) Water</b> Sampled: 09/03/02 10:44 Received: 09/03/02 16:30									
Gasoline Range Organics (C6-C10)	5200	2500	ug/l	50	2105044	09/05/02	09/06/02	8015Bm/8021B	HC-12
Benzene	ND	25	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Ethylbenzene	ND	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
Methyl tert-butyl ether	11000	120	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		104 %	70-130		"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal  
6747 Sierra Ct, Suite J  
Dublin CA, 94568

Project: Tosco #255325, Oakland, Ca  
Project Number: Tosco #255325, Oakland, Ca  
Project Manager: Dave DeWitt

ML10061  
Reported:  
09/11/02 18:29

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>U-3 (ML10061-04) Water</b> Sampled: 09/03/02 07:38 Received: 09/03/02 16:30									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2104002	09/04/02	09/04/02	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		101 %		70-130	"	"	"	"	
<b>U-4 (ML10061-05) Water</b> Sampled: 09/03/02 08:30 Received: 09/03/02 16:30									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2104002	09/04/02	09/05/02	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		89.9 %		70-130	"	"	"	"	
<b>U-5 (ML10061-06) Water</b> Sampled: 09/03/02 10:07 Received: 09/03/02 16:30									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2105044	09/05/02	09/06/02	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	37	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.9 %		70-130	"	"	"	"	

Gettler Ryan/Geostrategies - Tosco/Unocal  
 6747 Sierra Ct, Suite J  
 Dublin CA, 94568

 Project: Tosco #255325, Oakland, Ca  
 Project Number: Tosco #255325, Oakland, Ca  
 Project Manager: Dave DeWitt

 ML10061  
 Reported:  
 09/11/02 18:29

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B  
 Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-6 (ML10061-07) Water    Sampled: 09/03/02 09:13    Received: 09/03/02 16:30									
<b>Gasoline Range Organics (C6-C10)</b>	<b>420</b>	<b>250</b>	ug/l	5	2105044	09/05/02	09/06/02	8015Bm/8021B	HC-12
Benzene	ND	2.5	"	"	"	"	"	"	
Toluene	ND	2.5	"	"	"	"	"	"	
Ethylbenzene	ND	2.5	"	"	"	"	"	"	
Xylenes (total)	4.7	2.5	"	"	"	"	"	"	
Methyl tert-butyl ether	860	12	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.2 %	70-130		"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal  
6747 Sierra Ct, Suite J  
Dublin CA, 94568

Project: Tosco #255325, Oakland, Ca  
Project Number: Tosco #255325, Oakland, Ca  
Project Manager: Dave DeWitt

MLI0061  
Reported:  
09/11/02 18:29

**Volatile Organic Compounds by EPA Method 8260B**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>U-1 (MLI0061-02) Water</b> Sampled: 09/03/02 11:30 Received: 09/03/02 16:30									
Ethanol	ND	50000	ug/l	100	2109007	09/09/02	09/09/02	EPA 8260B	
tert-Butyl alcohol	ND	10000	"	"	"	"	"	"	
Methyl tert-butyl ether	4700	200	"	"	"	"	"	"	
Di-isopropyl ether	ND	200	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	200	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	200	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
Ethylene dibromide	ND	200	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		101 %	78-129	"	"	"	"	"	
<b>U-2 (MLI0061-03) Water</b> Sampled: 09/03/02 10:44 Received: 09/03/02 16:30									
Ethanol	ND	250000	ug/l	500	2109007	09/09/02	09/09/02	EPA 8260B	
tert-Butyl alcohol	ND	50000	"	"	"	"	"	"	
Methyl tert-butyl ether	15000	1000	"	"	"	"	"	"	
Di-isopropyl ether	ND	1000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1000	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	1000	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1000	"	"	"	"	"	"	
Ethylene dibromide	ND	1000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	78-129	"	"	"	"	"	
<b>U-5 (MLI0061-06) Water</b> Sampled: 09/03/02 10:07 Received: 09/03/02 16:30									
Ethanol	ND	500	ug/l	1	2109007	09/09/02	09/09/02	EPA 8260B	
tert-Butyl alcohol	ND	100	"	"	"	"	"	"	
Methyl tert-butyl ether	53	2.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	2.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	2.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	2.0	"	"	"	"	"	"	
Ethylene dibromide	ND	2.0	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		112 %	78-129	"	"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal 6747 Sierra Ct, Suite J Dublin CA, 94568	Project: Tosco #255325, Oakland, Ca Project Number: Tosco #255325, Oakland, Ca Project Manager: Dave DeWitt	ML10061 Reported: 09/11/02 18:29
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**Volatile Organic Compounds by EPA Method 8260B  
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>U-6 (ML10061-07) Water</b> <b>Sampled: 09/03/02 09:13</b> <b>Received: 09/03/02 16:30</b>									
Ethanol	ND	10000	ug/l	20	2109024	09/09/02	09/10/02	EPA 8260B	
tert-Butyl alcohol	ND	2000	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1200</b>	40	"	"	"	"	"	"	
Di-isopropyl ether	ND	40	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	40	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	40	"	"	"	"	"	"	
1,2-Dichloroethane	ND	40	"	"	"	"	"	"	
Ethylene dibromide	ND	40	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		117 %		78-129	"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal  
6747 Sierra Ct, Suite J  
Dublin CA, 94568

Project: Tosco #255325, Oakland, Ca  
Project Number: Tosco #255325, Oakland, Ca  
Project Manager: Dave DeWitt

ML10061  
**Reported:**  
09/11/02 18:29

**Ferrous Iron by Hach method 8146/1;10 Phenanthroline Method  
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>U-1 (ML10061-02) Water</b> Sampled: 09/03/02 11:30 Received: 09/03/02 16:30									
Ferrous Iron	ND	0.50	mg/l	5	2110005	09/04/02	09/04/02	Hach Co. 8146	
<b>U-2 (ML10061-03) Water</b> Sampled: 09/03/02 10:44 Received: 09/03/02 16:30									
Ferrous Iron	ND	0.25	mg/l	2.5	2110005	09/04/02	09/04/02	Hach Co. 8146	
<b>U-3 (ML10061-04) Water</b> Sampled: 09/03/02 07:38 Received: 09/03/02 16:30									
Ferrous Iron	ND	0.10	mg/l	1	2110005	09/04/02	09/04/02	Hach Co. 8146	HT-04
<b>U-4 (ML10061-05) Water</b> Sampled: 09/03/02 08:30 Received: 09/03/02 16:30									
Ferrous Iron	ND	0.10	mg/l	1	2110005	09/04/02	09/04/02	Hach Co. 8146	HT-04
<b>U-5 (ML10061-06) Water</b> Sampled: 09/03/02 10:07 Received: 09/03/02 16:30									
Ferrous Iron	ND	0.25	mg/l	2.5	2110005	09/04/02	09/04/02	Hach Co. 8146	
<b>U-6 (ML10061-07) Water</b> Sampled: 09/03/02 09:13 Received: 09/03/02 16:30									
Ferrous Iron	ND	0.10	mg/l	1	2110005	09/04/02	09/04/02	Hach Co. 8146	

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 Project: Tosco #255325, Oakland, Ca  
 Project Number: Tosco #255325, Oakland, Ca  
 Project Manager: Dave DeWitt

 ML10061  
 Reported:  
 09/11/02 18:29

**Anions by EPA Method 300.0**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>U-1 (ML10061-02) Water</b> <b>Sampled: 09/03/02 11:30</b> <b>Received: 09/03/02 16:30</b>									
Nitrate as NO3	ND	0.50	mg/l	1	2105038	09/04/02	09/04/02	EPA 300.0	
Phosphate (Ortho)	ND	0.10	"	"	"	"	"	"	
<b>U-2 (ML10061-03) Water</b> <b>Sampled: 09/03/02 10:44</b> <b>Received: 09/03/02 16:30</b>									
Nitrate as NO3	ND	0.50	mg/l	1	2105038	09/04/02	09/04/02	EPA 300.0	
Phosphate (Ortho)	0.26	0.10	"	"	"	"	"	"	
<b>U-3 (ML10061-04) Water</b> <b>Sampled: 09/03/02 07:38</b> <b>Received: 09/03/02 16:30</b>									
Nitrate as NO3	28	5.0	mg/l	10	2105038	09/04/02	09/04/02	EPA 300.0	
Phosphate (Ortho)	ND	0.10	"	1	"	"	09/04/02	"	
<b>U-4 (ML10061-05) Water</b> <b>Sampled: 09/03/02 08:30</b> <b>Received: 09/03/02 16:30</b>									
Nitrate as NO3	28	5.0	mg/l	10	2105038	09/04/02	09/04/02	EPA 300.0	
Phosphate (Ortho)	0.27	0.10	"	1	"	"	09/04/02	"	
<b>U-5 (ML10061-06) Water</b> <b>Sampled: 09/03/02 10:07</b> <b>Received: 09/03/02 16:30</b>									
Nitrate as NO3	ND	0.50	mg/l	1	2105038	09/04/02	09/04/02	EPA 300.0	
Phosphate (Ortho)	ND	0.10	"	"	"	"	"	"	
<b>U-6 (ML10061-07) Water</b> <b>Sampled: 09/03/02 09:13</b> <b>Received: 09/03/02 16:30</b>									
Nitrate as NO3	0.58	0.50	mg/l	1	2105038	09/04/02	09/04/02	EPA 300.0	
Phosphate (Ortho)	1.1	0.10	"	"	"	"	"	"	



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 6747 Sierra Ct, Suite J  
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 Project: Tosco #255325, Oakland, Ca  
 Project Number: Tosco #255325, Oakland, Ca  
 Project Manager: Dave DeWitt

 MLI0061  
 Reported:  
 09/11/02 18:29

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2104002 - EPA 5030B [P/T]</b>										
<b>Blank (2104002-BLK1)</b> Prepared & Analyzed: 09/04/02										
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.4		"	10.0		104	70-130			
<b>Laboratory Control Sample (2104002-BS1)</b> Prepared & Analyzed: 09/04/02										
Benzene	9.86	0.50	ug/l	10.0		98.6	70-130			
Toluene	9.90	0.50	"	10.0		99.0	70-130			
Ethylbenzene	9.55	0.50	"	10.0		95.5	70-130			
Xylenes (total)	29.6	0.50	"	30.0		98.7	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.83		"	10.0		98.3	70-130			
<b>Laboratory Control Sample (2104002-BS2)</b> Prepared & Analyzed: 09/04/02										
Gasoline Range Organics (C6-C10)	243	50	ug/l	250		97.2	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.3		"	10.0		103	70-130			
<b>Matrix Spike (2104002-MS1)</b> Source: MLI0061-04 Prepared: 09/04/02 Analyzed: 09/05/02										
Gasoline Range Organics (C6-C10)	482	50	ug/l	550	ND	87.6	60-140			
Benzene	11.7	0.50	"	6.60	ND	177	60-140			QM-07
Toluene	39.7	0.50	"	39.7	ND	100	60-140			
Ethylbenzene	9.41	0.50	"	9.20	ND	102	60-140			
Xylenes (total)	45.3	0.50	"	46.1	ND	98.3	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.7		"	10.0		107	70-130			
<b>Matrix Spike Dup (2104002-MSD1)</b> Source: MLI0061-04 Prepared: 09/04/02 Analyzed: 09/05/02										
Gasoline Range Organics (C6-C10)	481	50	ug/l	550	ND	87.5	60-140	0.208	25	
Benzene	11.4	0.50	"	6.60	ND	173	60-140	2.60	25	QM-07

Sequoia Analytical - Morgan Hill

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 6747 Sierra Ct, Suite J  
 Dublin CA, 94568

 Project: Tosco #255325, Oakland, Ca  
 Project Number: Tosco #255325, Oakland, Ca  
 Project Manager: Dave DeWitt

 MLI0061  
 Reported:  
 09/11/02 18:29

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104002 - EPA 5030B [P/T]**
**Matrix Spike Dup (2104002-MSD1)**

Source: MLI0061-04

Prepared: 09/04/02

Analyzed: 09/05/02

Toluene	41.6	0.50	ug/l	39.7	ND	105	60-140	4.67	25	
Ethylbenzene	9.81	0.50	"	9.20	ND	107	60-140	4.16	25	
Xylenes (total)	47.3	0.50	"	46.1	ND	103	60-140	4.32	25	

Surrogate: <i>a,a,a</i> -Trifluorotoluene	10.2		"	10.0		102	70-130			
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**Batch 2105044 - EPA 5030B [P/T]**
**Blank (2105044-BLK1)**

Prepared &amp; Analyzed: 09/05/02

Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							

Surrogate: <i>a,a,a</i> -Trifluorotoluene	10.6		"	10.0		106	70-130			
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**Laboratory Control Sample (2105044-BS1)**

Prepared &amp; Analyzed: 09/05/02

Benzene	9.57	0.50	ug/l	10.0		95.7	70-130			
Toluene	10.0	0.50	"	10.0		100	70-130			
Ethylbenzene	9.79	0.50	"	10.0		97.9	70-130			
Xylenes (total)	28.7	0.50	"	30.0		95.7	70-130			

Surrogate: <i>a,a,a</i> -Trifluorotoluene	10.1		"	10.0		101	70-130			
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**Laboratory Control Sample (2105044-BS2)**

Prepared &amp; Analyzed: 09/05/02

Gasoline Range Organics (C6-C10)	221	50	ug/l	250		88.4	70-130			
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Surrogate: <i>a,a,a</i> -Trifluorotoluene	10.4		"	10.0		104	70-130			
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Sequoia Analytical - Morgan Hill

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6747 Sierra Ct, Suite J  
Dublin CA, 94568

Project: Tosco #255325, Oakland, Ca  
Project Number: Tosco #255325, Oakland, Ca  
Project Manager: Dave DeWitt

MLI0061  
Reported:  
09/11/02 18:29

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control  
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2105044 - EPA 5030B [P/T]</b>										
<b>Laboratory Control Sample Dup (2105044-BSD1)</b>					<b>Prepared &amp; Analyzed: 09/05/02</b>					
Benzene	9.86	0.50	ug/l	10.0		98.6	70-130	2.99	25	
Toluene	10.3	0.50	"	10.0		103	70-130	2.96	25	
Ethylbenzene	10.2	0.50	"	10.0		102	70-130	4.10	25	
Xylenes (total)	29.6	0.50	"	30.0		98.7	70-130	3.09	25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	<i>10.6</i>		<i>"</i>	<i>10.0</i>		<i>106</i>	<i>70-130</i>			
<b>Laboratory Control Sample Dup (2105044-BSD2)</b>					<b>Prepared &amp; Analyzed: 09/05/02</b>					
Gasoline Range Organics (C6-C10)	225	50	ug/l	250		90.0	70-130	1.79	25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	<i>11.6</i>		<i>"</i>	<i>10.0</i>		<i>116</i>	<i>70-130</i>			



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Project Manager: Dave DeWitt

MLI0061  
Reported:  
09/11/02 18:29

**Volatile Organic Compounds by EPA Method 8260B - Quality Control  
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2109007 - EPA 5030B P/T**

**Blank (2109007-BLK1)**

Prepared & Analyzed: 09/09/02

Ethanol	ND	500	ug/l							
tert-Butyl alcohol	ND	100	"							
Methyl tert-butyl ether	ND	2.0	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
tert-Amyl methyl ether	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Ethylene dibromide	ND	2.0	"							

Surrogate: 1,2-Dichloroethane-d4

5.21 " 5.00 104 78-129

**Laboratory Control Sample (2109007-BS1)**

Prepared & Analyzed: 09/09/02

Methyl tert-butyl ether	11.6	2.0	ug/l	10.0		116	63-137			
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Surrogate: 1,2-Dichloroethane-d4

5.27 " 5.00 105 78-129

**Laboratory Control Sample (2109007-BS2)**

Prepared & Analyzed: 09/09/02

Methyl tert-butyl ether	9.31	2.0	ug/l	8.40		111	63-137			
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Surrogate: 1,2-Dichloroethane-d4

5.28 " 5.00 106 78-129

**Laboratory Control Sample Dup (2109007-BSD1)**

Prepared & Analyzed: 09/09/02

Methyl tert-butyl ether	11.4	2.0	ug/l	10.0		114	63-137	1.74	13	
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Surrogate: 1,2-Dichloroethane-d4

5.35 " 5.00 107 78-129

**Laboratory Control Sample Dup (2109007-BSD2)**

Prepared & Analyzed: 09/09/02

Methyl tert-butyl ether	9.82	2.0	ug/l	8.40		117	63-137	5.33	13	
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Surrogate: 1,2-Dichloroethane-d4

5.09 " 5.00 102 78-129

**Batch 2109024 - EPA 5030B P/T**

**Blank (2109024-BLK1)**

Prepared: 09/09/02 Analyzed: 09/10/02

Ethanol	ND	500	ug/l							
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Sequoia Analytical - Morgan Hill

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6747 Sierra Ct, Suite J  
Dublin CA, 94568

Project: Tosco #255325, Oakland, Ca  
Project Number: Tosco #255325, Oakland, Ca  
Project Manager: Dave DeWitt

ML10061  
Reported:  
09/11/02 18:29

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2109024 - EPA 5030B P/T</b>										
<b>Blank (2109024-BLK1)</b> Prepared: 09/09/02 Analyzed: 09/10/02										
tert-Butyl alcohol	ND	100	ug/l							
Methyl tert-butyl ether	ND	2.0	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
tert-Amyl methyl ether	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Ethylene dibromide	ND	2.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.45		"	5.00		109	78-129			
<b>Laboratory Control Sample (2109024-BS1)</b> Prepared: 09/09/02 Analyzed: 09/10/02										
Methyl tert-butyl ether	10.6	2.0	ug/l	10.0		106	63-137			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.53		"	5.00		111	78-129			
<b>Laboratory Control Sample Dup (2109024-BSD1)</b> Prepared: 09/09/02 Analyzed: 09/10/02										
Methyl tert-butyl ether	10.7	2.0	ug/l	10.0		107	63-137	0.939	13	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.73		"	5.00		115	78-129			
<b>Matrix Spike (2109024-MS1)</b> Source: ML10093-06 Prepared: 09/09/02 Analyzed: 09/10/02										
Methyl tert-butyl ether	53.8	10	ug/l	50.0	ND	106	0-200			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.77		"	5.00		115	78-129			
<b>Matrix Spike Dup (2109024-MSD1)</b> Source: ML10093-06 Prepared: 09/09/02 Analyzed: 09/10/02										
Methyl tert-butyl ether	54.1	10	ug/l	50.0	ND	106	0-200	0.556	200	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.76		"	5.00		115	78-129			



Gettler Ryan/Geostrategies - Tosco/Unocal  
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Project Manager: Dave DeWitt

ML10061  
Reported:  
09/11/02 18:29

**Ferrous Iron by Hach method 8146/1;10 Phenanthroline Method - Quality Control  
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2110005 - General Preparation</b>										
<b>Blank (2110005-BLK1)</b> Prepared & Analyzed: 09/04/02										
Ferrous Iron	ND	0.10	mg/l							
<b>Laboratory Control Sample (2110005-BS1)</b> Prepared & Analyzed: 09/04/02										
Ferrous Iron	0.408	0.10	mg/l	0.400		102	80-120			
<b>Matrix Spike (2110005-MS1)</b> Source: ML10061-05 Prepared & Analyzed: 09/04/02										
Ferrous Iron	0.394	0.10	mg/l	0.400	ND	98.5	80-120			
<b>Matrix Spike Dup (2110005-MSD1)</b> Source: ML10061-05 Prepared & Analyzed: 09/04/02										
Ferrous Iron	0.398	0.10	mg/l	0.400	ND	99.5	80-120	1.01	20	



Gettler Ryan/Geostrategies - Tosco/Unocal  
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Project Manager: Dave DeWitt

ML10061  
Reported:  
09/11/02 18:29

**Anions by EPA Method 300.0 - Quality Control  
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2105038 - General Preparation**

**Blank (2105038-BLK1)**

Prepared & Analyzed: 09/04/02

Nitrate as NO3	ND	0.50	mg/l							
Phosphate (Ortho)	ND	0.10	"							

**Laboratory Control Sample (2105038-BS1)**

Prepared & Analyzed: 09/04/02

Nitrate as NO3	9.98	0.50	mg/l	10.0		99.8	90-110			
Phosphate (Ortho)	4.75	0.10	"	5.00		95.0	80-120			

**Matrix Spike (2105038-MS1)**

Source: ML10060-01

Prepared & Analyzed: 09/04/02

Nitrate as NO3	1030	50	mg/l	1000	ND	103	80-120			
Phosphate (Ortho)	487	10	"	500	ND	96.7	75-125			

**Matrix Spike Dup (2105038-MSD1)**

Source: ML10060-01

Prepared & Analyzed: 09/04/02

Nitrate as NO3	1030	50	mg/l	1000	ND	103	80-120	0.00	20	
Phosphate (Ortho)	484	10	"	500	ND	96.1	75-125	0.618	20	



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Project: Tosco #255325, Oakland, Ca  
Project Number: Tosco #255325, Oakland, Ca  
Project Manager: Dave DeWitt

MLI0061  
Reported:  
09/11/02 18:29

### Notes and Definitions

- HC-12 Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
- HT-04 This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.
- QM-07 The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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