



# GETTLER-RYAN INC.

## TRANSMITTAL

May 10, 1999  
G-R #: 180108

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

**CC:** Mr. Tim Ripp  
PEG Inc.  
2025 Gateway Place, Suite 440  
San Jose, California 95110

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

**RE:** Tosco (Unocal) SS #5367  
500 Bancroft Avenue  
San Leandro, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	May 5, 1999	Groundwater Monitoring and Sampling Report Semi-Annual 1999 - Event of March 11, 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 **May 21, 1999**, this report will be distributed to the following:

Enclosure

cc: Mr. Scott Seery, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Alameda, CA 94502  
Mr. Michael Bakaldin, City of San Leandro Fire Department, 835 East 14th Street, San Leandro, CA 94577

agency/5367d/bd.qmt

99 MAY 24 PM 4: 50  
ENVIRONMENTAL PROTECTION



# GETTLER-RYAN INC.

May 5, 1999  
G-R Job #180108

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

RE: Semi-Annual 1999 Groundwater Monitoring & Sampling Report  
Tosco (Unocal) Service Station #5367  
500 Bancroft Avenue  
San Leandro, California

Dear Mr. De Witt:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On March 11, 1999, field personnel monitored and sampled ten wells (MW-1 through MW-10) at the above referenced site.

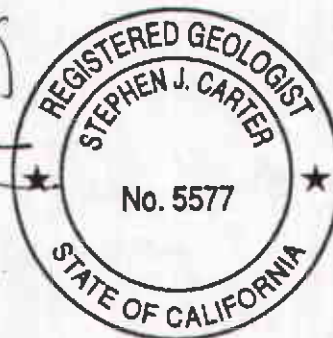
Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the wells. Static water level data and groundwater elevations are summarized in Table 1. Dissolved Oxygen Concentrations are summarized in Table 2. A Potentiometric Map is included as Figure 1.

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

Sincerely,

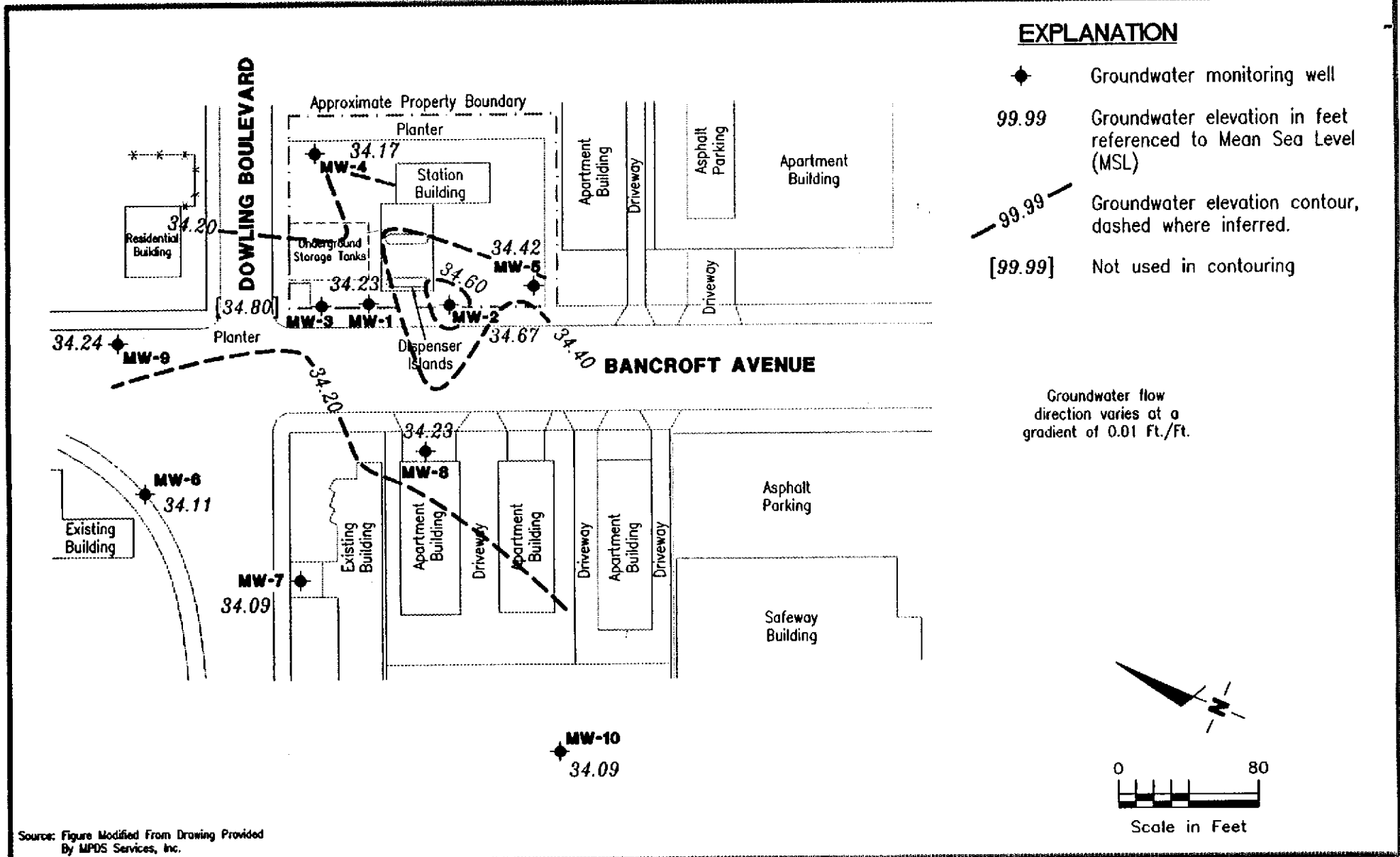
Deanna L. Harding  
Project Coordinator

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



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

5367.qml



**Gottler - Ryan Inc.**

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Dublin, CA 94568

**POTENTIOMETRIC MAP**

Tosco (Unocal) Service Station No. 5367  
500 Bancroft Avenue  
San Leandro, California

FIGURE

1

JOB NUMBER  
180108

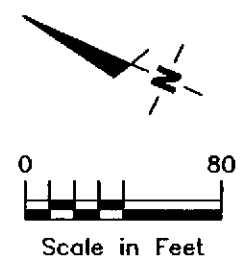
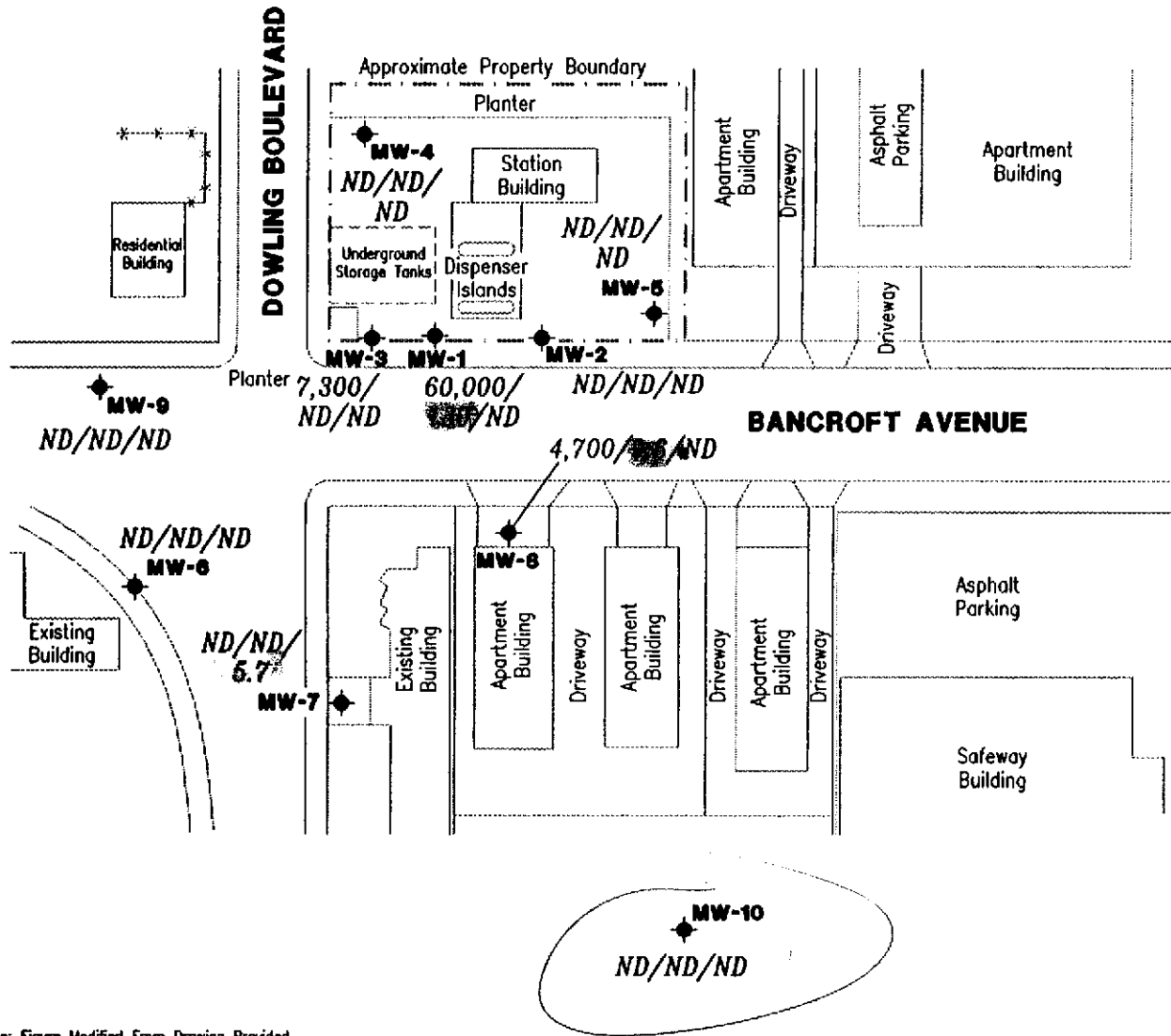
REVIEWED BY

DATE  
March 11, 1999

REVISED DATE

**EXPLANATION**

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



Source: Figure Modified From Drawing Provided By MPDS Services, Inc.



**Gettler - Ryan Inc.**

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

**CONCENTRATION MAP**  
Tosco (Unocal) Service Station No. 5367  
500 Bancroft Avenue  
San Leandro, California

FIGURE

**2**

JOB NUMBER  
180108

REVIEWED BY

DATE  
March 11, 1999

REVISED DATE

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5367  
 500 Bancroft Avenue  
 San Leandro, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-1 57.83	09/23/87	33.40	24.43**	0.02	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	09/24/87	33.24	24.59**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	10/06/87	33.39	24.44**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	11/05/87	34.14	23.69**	0.31	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	11/13/87	34.15	23.68**	0.38	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	11/19/87	33.89	23.94**	0.06	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	04/27/88	32.40	25.43**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	09/07/88	DRY	--	--	--	--	--	--	--	--	--
	10/03/88	DRY	--	--	--	--	--	--	--	--	--
	01/27/89	DRY	--	--	--	--	--	--	--	--	--
	02/16/90	DRY	--	--	--	--	--	--	--	--	--
	07/19/90	DRY	--	--	--	--	--	--	--	--	--
	08/24/90	DRY	--	--	--	--	--	--	--	--	--
	11/30/90	DRY	--	--	--	--	--	--	--	--	--
	02/06/91	DRY	--	--	--	--	--	--	--	--	--
	05/06/91	33.00	24.83	0.00	--	--	--	--	--	--	--
	09/27/91	DRY	--	--	--	--	--	--	--	--	--
	03/31/92	31.00	26.83	0.00	--	330,000	8,200	33,000	6,800	36,000	--
	06/18/92	32.76	25.07	0.00	--	680,000	9,000	40,000	7,600	44,000	--
	10/16/92	DRY	--	--	--	--	--	--	--	--	--
	11/18/92	DRY	--	--	--	--	--	--	--	--	--
	03/03/93	26.03	31.80	0.00	--	330,000	3,800	21,000	4,200	24,000	--
	06/25/93	28.36	29.47	0.00	--	160,000	4,300	36,000	5,800	34,000	--
	09/03/93	30.80	27.03	0.00	--	160,000	3,900	41,000	6,800	38,000	--
	12/13/93	32.73	25.10	0.00	--	140,000	3,600	37,000	7,100	40,000	--
	03/18/94	30.10	27.73	0.00	--	99,000	3,800	37,000	6,800	36,000	--
	06/23/94	31.32	26.51	0.00	--	150,000	2,500	33,000	6,400	37,000	--
	09/21/94	33.21	24.62	0.00	--	110,000	2,500	23,000	4,500	25,000	--
	12/19/94	30.97	26.86	0.00	--	200,000	2,400	28,000	6,600	37,000	--
	03/27/95	22.77	35.06	0.00	--	88,000	1,500	20,000	4,200	25,000	--
06/26/95	25.69	32.14	0.00	--	130,000	1,000	23,000	5,600	33,000	--	
07/28/95	26.97	30.86	0.00	--	--	--	--	--	--	--	
09/28/95	29.55	28.28	0.00	--	100,000	810	21,000	6,500	37,000	--	
10/24/95	29.99	27.84	0.00	--	--	--	--	--	--	--	

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #5367  
500 Bancroft Avenue  
San Leandro, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product						
				Thickness (ft.)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1	12/29/95	30.40	27.43	0.00	110,000	990	22,000	8,300	47,000	--
(cont)	03/27/96	22.29	35.54	0.00	120,000	920	17,000	7,100	41,000	180
	09/21/96	29.44	28.39	0.00	110,000	270	3,500	5,900	16,000	260
	03/31/97	24.18	33.65	0.00	82,000	240	8,700	3,800	23,000	ND
	09/27/97	31.86	25.97	0.00	81,000	ND	1,000	5,900	31,000	ND
	03/20/98	16.88	40.95	0.00	52,000	ND <sup>5</sup>	350	2,900	14,000	ND <sup>5</sup>
	09/09/98	26.21	31.62	0.00	59,000	51	64	6,000	4,800	ND <sup>5</sup>
	<b>03/11/99</b>	<b>23.60</b>	<b>34.23</b>	<b>0.00</b>	<b>60,000</b>	<b>130</b>	<b>ND<sup>5</sup></b>	<b>2,900</b>	<b>12,000</b>	<b>ND<sup>5</sup></b>
<b>MW-2</b>										
58.13	10/03/88	36.04	22.09	0.00	1,760	47.8	7.4	20.9	81.6	--
	01/27/89	34.77	23.36	0.00	510	58	8.7	22.6	20.3	--
	02/16/90	34.50	23.63	0.00	840	50	0.5	28	44	--
	05/90	--	--	--	1,000	39	ND	32	52	--
	07/19/90	35.72	22.41	0.00	--	--	--	--	--	--
	08/24/90	36.30	21.83	0.00	330	17	ND	19	20	--
	11/30/90	37.40	20.73	0.00	400	41	ND	39	37	--
	02/07/91	37.27	20.86	0.00	510	40	ND	29	44	--
	05/06/91	33.31	24.82	0.00	2,300	150	10	52	110	--
	09/27/91	36.86	21.27	0.00	110	2.6	ND	5.6	5.1	--
	12/27/91	37.66	20.47	0.00	170	3.9	ND	7.3	60	--
	03/31/92	37.66	20.47	0.00	--	--	--	--	--	--
	06/18/92	31.27	26.86	0.00	1,200	35	1.6	56	26	--
	09/30/92	--	--	--	820	21	ND	42	25	--
	10/16/92	35.87	22.26	0.00	--	--	--	--	--	--
	11/18/92	36.24	21.89	0.00	65	1.2	ND	2.8	1.4	--
	03/03/93	26.30	31.83	0.00	4,200	62	2.9	97	120	--
	06/25/93	28.40	29.73	0.00	4,000	110	ND	320	280	--
	09/03/93	31.10	27.03	0.00	1,400	31	4.3	99	53	--
	12/13/93	33.03	25.10	0.00	260	7.7	0.83	17	23	--
	03/18/94	30.34	27.79	0.00	250	6.4	0.64	28	24	--
	06/23/94	31.63	26.50	0.00	420	3.9	0.66	23	11	--
	09/21/94	33.52	24.61	0.00	ND	ND	ND	ND	ND	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5367  
 500 Bancroft Avenue  
 San Leandro, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-2	12/19/94	31.26	26.87	0.00	190	1.9	ND	15	6.8	--	
(cont)	03/27/95 <sup>2</sup>	23.02	35.11	0.00	ND	ND	0.55	1.2	2.5	--	
	06/26/95	25.98	32.15	0.00	ND	ND	0.93	0.88	3.4	--	
	07/28/95	27.26	30.87	0.00	--	--	--	--	--	--	
	09/28/95	29.77	28.36	0.00	730	2.9	ND	41	29	--	
	10/24/95	30.56	27.57	0.00	--	--	--	--	--	--	
	12/29/95	30.25	27.88	0.00	860	4.3	1.0	27	50	--	
	03/27/96	22.30	35.83	0.00	NOT SAMPLED (CONNECTED TO REMEDIATION SYSTEM)					--	--
	09/21/96	29.47	28.66	0.00	NOT SAMPLED (CONNECTED TO REMEDIATION SYSTEM)					--	--
	03/31/97	24.20	33.93	0.00	ND	ND	ND	ND	ND	ND	
	09/27/97	31.07	27.06	0.00	ND	ND	ND	ND	ND	ND	
	03/20/98	16.73	41.40	0.00	ND	ND	ND	ND	ND	ND	
	09/09/98	26.03	32.10	0.00	ND	ND	0.54	ND	0.57	ND	
	03/11/99	23.46	34.67	0.00	ND	ND	0.59	ND	1.1	ND	
 MW-3											
57.92	10/03/88	35.86	22.06	0.00	61,000	1,060	3,380	1,520	8,720	--	
	01/27/89	34.60	23.32	0.00	39,000	1,570	2,830	1,250	7,070	--	
	02/16/90	35.23	22.69	0.00	22,000	710	4,100	6,900	33,000	--	
	05/90	--	--	--	19,000	330	170	310	1,500	--	
	07/19/90	35.50	22.42	0.00	--	--	--	--	--	--	
	08/24/90	36.08	21.84	0.00	19,000	480	160	510	1,500	--	
	11/30/90	37.17	20.75	0.00	13,000	390	81	410	1,000	--	
	02/06/91	37.07	20.85	0.00	13,000	310	150	380	1,200	--	
	05/06/91	33.11	24.81	0.00	39,000	1,000	570	930	3,900	--	
	09/27/91	36.64	21.28	0.00	4,000	160	84	180	560	--	
	12/27/91	37.46	20.46	0.00	31,000	240	280	400	1,600	--	
	03/31/92	31.10	26.82	0.00	100,000	1,900	1,900	2,300	9,400	--	
	06/18/92	32.83	25.09	0.00	180,000	2,200	1,700	2,300	1,100	--	
	09/30/92	--	--	--	36,000	730	200	1,000	4,400	--	
	10/16/92	35.66	22.26	0.00	--	--	--	--	--	--	
	11/18/92	36.04	21.88	0.00	24,000 <sup>1</sup>	430	160	640	2,800	--	
	03/03/93	26.11	31.81	0.00	96,000 <sup>1</sup>	1,400	1,900	1,400	8,400	--	

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5367  
 500 Bancroft Avenue  
 San Leandro, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-5 (cont)	09/27/91	37.23	21.27	0.00	ND	ND	ND	ND	ND	--
	12/27/91	38.02	20.48	0.00	ND	ND	ND	ND	ND	--
	03/31/92	31.62	26.88	0.00	ND	ND	ND	ND	1.1	--
	06/18/92	33.46	25.04	0.00	--	--	--	--	--	--
	10/16/92	36.23	22.27	0.00	ND	ND	ND	ND	ND	--
	11/18/92	36.62	21.88	0.00	--	--	--	--	--	--
	03/03/93	26.62	31.88	0.00	ND	ND	ND	ND	ND	--
	06/25/93	INACCESSIBLE	--	--	--	--	--	--	--	--
	09/03/93	31.45	27.05	0.00	ND	ND	1.5	ND	7.9	--
	12/13/93	33.39	25.11	0.00	SAMPLED SEMI-ANNUALLY		--	--	--	--
	03/18/94	30.67	27.83	0.00	ND	ND	ND	ND	ND	--
	06/23/94	32.00	26.50	0.00	--	--	--	--	--	--
	09/21/94	33.90	24.60	0.00	ND	ND	0.98	ND	1.6	--
	12/19/94	31.63	26.87	0.00	--	--	--	--	--	--
	03/27/95	23.44	35.06	0.00	ND	ND	0.66	ND	2.9	--
	06/26/95	26.35	32.15	0.00	--	--	--	--	--	--
	07/28/95	27.63	30.87	0.00	--	--	--	--	--	--
	09/28/95	30.15	28.35	0.00	ND	ND	ND	ND	ND	--
	10/24/95	30.98	27.52	0.00	--	--	--	--	--	--
	12/29/95	30.87	27.63	0.00	--	--	--	--	--	--
	03/27/96	22.75	35.75	0.00	ND	ND	1.7	ND	2.4	ND
	09/21/96	29.95	28.55	0.00	ND	ND	ND	ND	ND	ND
	03/31/97	24.80	33.70	0.00	ND	ND	ND	ND	ND	ND
09/27/97	31.65	26.85	0.00	ND	ND	ND	ND	ND	ND	
03/20/98	17.31	41.19	0.00	ND	ND	ND	ND	ND	ND	
09/09/98	26.63	31.87	0.00	ND	ND	ND	ND	ND	ND	
03/11/99	24.08	34.42	0.00	ND	ND	0.96	ND	1.7	ND	
MW-6 56.96	02/16/90	34.50	22.46	0.00	ND	ND	ND	ND	ND	--
	05/90	--	--	--	ND	ND	ND	ND	ND	--
	07/19/90	34.74	22.22	0.00	ND	ND	ND	ND	ND	--
	08/24/90	35.32	21.64	0.00	ND	ND	ND	ND	ND	--
	11/30/90	36.38	20.58	0.00	ND	ND	ND	ND	ND	--



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5367  
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 San Leandro, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-6 (cont)	02/06/91	36.27	20.69	0.00	ND	ND	ND	ND	ND	--	
	05/06/91	32.41	24.55	0.00	--	--	--	--	--	--	
	09/27/91	35.87	21.09	0.00	ND	ND	ND	ND	ND	--	
	12/27/91	36.67	20.29	0.00	ND	ND	ND	ND	ND	--	
	03/31/92	30.32	26.64	0.00	ND	ND	1.3	ND	2	--	
	06/18/92	32.18	24.78	0.00	ND	ND	ND	ND	ND	--	
	10/16/92	34.92	22.04	0.00	ND	ND	ND	ND	ND	--	
	11/18/92	35.28	21.68	0.00	--	--	--	--	--	--	
	03/03/93	25.43	31.53	0.00	ND <sup>1</sup>	ND	ND	ND	ND	--	
	06/25/93	27.86	29.10	0.00	--	--	--	--	--	--	
	09/03/93	30.25	26.71	0.00	ND	ND	ND	ND	ND	--	
	12/13/93	32.14	24.82	0.00	SAMPLED SEMI-ANNUALLY		--	--	--	--	--
	03/18/94	29.46	27.50	0.00	ND	ND	0.93	ND	1.4	--	
	06/23/94	30.76	26.20	0.00	--	--	--	--	--	--	
	09/21/94	32.62	24.34	0.00	ND	ND	ND	ND	ND	--	
	12/19/94	30.32	26.64	0.00	--	--	--	--	--	--	
	03/27/95	22.10	34.86	0.00	56	ND	0.65	ND	3.3	--	
	06/26/95	25.20	31.76	0.00	--	--	--	--	--	--	
	07/28/95	26.48	30.48	0.00	--	--	--	--	--	--	
	09/28/95	28.92	28.04	0.00	ND	ND	ND	ND	ND	--	
	10/24/95	29.73	27.23	0.00	--	--	--	--	--	--	
	12/29/95	29.62	27.34	0.00	--	--	--	--	--	--	
	03/27/96	21.59	35.37	0.00	50	ND	0.92	ND	0.96	ND	
	09/21/96	28.72	28.24	0.00	ND	ND	ND	ND	ND	ND	
	03/31/97	23.72	33.24	0.00	73	0.67	0.82	ND	ND	ND	
	09/27/97	30.52	26.44	0.00	ND	ND	ND	ND	ND	ND	
03/20/98	16.35	40.61	0.00	ND	ND	ND	ND	ND	ND		
09/09/98	25.53	31.43	0.00	ND	ND	0.64	ND	0.65	3.3		
03/11/99	22.85	34.11	0.00	ND	ND	0.71	ND	1.4	ND		
MW-7 57.25	02/16/90	35.75	21.50	0.00	ND	ND	ND	ND	ND	--	
	05/90	--	--	--	24	ND	ND	0.74	1.7	--	
	07/19/90	35.03	22.22	0.00	--	--	--	--	--	--	

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #5367  
500 Bancroft Avenue  
San Leandro, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
<b>MW-8</b>										
57.71	02/16/90	35.10	22.61	0.00	1,900	11	ND	52	55	--
	05/90	--	--	--	770	6.5	ND	20	32	--
	07/19/90	35.41	22.30	0.00	--	--	--	--	--	--
	08/24/90	36.00	21.71	0.00	990	13	ND	48	66	--
	11/30/90	37.08	20.63	0.00	570	13	ND	45	36	--
	02/06/91	36.92	20.79	0.00	630	9.6	ND	35	36	--
	05/06/91	33.03	24.68	0.00	14,000	80	ND	250	550	--
	09/27/91	36.55	21.16	0.00	720	13	4.3	26	26	--
	12/27/91	37.34	20.37	0.00	1,600	15	2.9	40	49	--
	03/31/92	31.93 <sup>6</sup>	25.78	0.00	15,000	120	1.0	430	530	--
	06/18/92	INACCESSIBLE	--	--	--	--	--	--	--	--
	10/16/92	35.58	22.13	0.00	300	0.96	ND	4.0	3.5	--
	11/18/92	35.94	21.77	0.00	1,100	6.1	ND	13	5.6	--
	03/03/93	26.00	31.71	0.00	13,000	33	ND	160	290	--
	06/25/93	28.27	29.44	0.00	8,100	160	ND	580	740	--
	09/03/93	30.90	26.81	0.00	9,800	180	ND	580	700	--
	12/13/93	32.75	24.96	0.00	6,900	180	ND	240	550	--
	03/18/94	30.12	27.59	0.00	6,100	85	ND	260	260	--
	06/23/94	31.40	26.31	0.00	12,000	210	ND	610	860	--
	09/21/94	33.30	24.41	0.00	6,900	190	ND	460	510	--
	12/19/94	30.95	26.76	0.00	6,200	91	ND	230	210	--
	03/27/95 <sup>2</sup>	22.78	34.93	0.00	9,200	240	ND	200	1,400	--
	06/26/95	24.83	32.88	0.00	11,000	320	ND	680	2,000	--
	07/28/95	27.10	30.61	0.00	--	--	--	--	--	--
	09/28/95	29.58	28.13	0.00	10,000	250	ND	760	910	-- <sup>3</sup>
	10/24/95	30.40	27.31	0.00	--	--	--	--	--	--
	12/29/95	30.25	27.46	0.00	7,500	260	ND	580	870	-- <sup>4</sup>
	03/27/96	22.20	35.51	0.00	970	29	0.77	82	85	ND
	09/21/96	29.34	28.37	0.00	3,800	27	ND	46	45	ND
	03/31/97	24.35	33.36	0.00	ND	ND	ND	ND	ND	ND
	09/27/97	31.15	26.56	0.00	78	0.90	ND	12	ND	ND
	03/20/98	16.84	40.87	0.00	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #5367  
 500 Bancroft Avenue  
 San Leandro, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-8	09/09/98	26.14	31.57	0.00	910	ND	49	12	2.2	1.5
(cont)	<b>03/11/99</b>	<b>23.48</b>	<b>34.23</b>	<b>0.00</b>	<b>4,700</b>	<b>9.6</b>	<b>ND<sup>5</sup></b>	<b>280</b>	<b>95</b>	<b>ND<sup>5</sup></b>
<b>MW-9</b>										
56.47	12/19/94	29.71	26.76	0.00	ND	ND	1.6	1.5	8.4	--
	03/27/95	21.48	34.99	0.00	ND	ND	0.61	ND	2.8	--
	06/26/95	24.50	31.97	0.00	ND	ND	ND	ND	3.9	--
	07/28/95	25.77	30.70	0.00	--	--	--	--	--	--
	09/28/95	28.23	28.24	0.00	ND	ND	ND	ND	ND	--
	10/24/95	29.21	27.26	0.00	--	--	--	--	--	--
	12/29/95	29.02	27.45	0.00	ND	ND	0.58	ND	0.52	--
	03/27/96	20.91	35.56	0.00	ND	ND	0.68	ND	0.51	ND
	09/21/96	28.05	28.42	0.00	ND	ND	ND	ND	ND	ND
	03/31/97	23.48	32.99	0.00	ND	ND	ND	ND	ND	ND
	09/27/97	30.38	26.09	0.00	ND	ND	ND	ND	ND	ND
	03/20/98	15.60	40.87	0.00	ND	ND	ND	ND	ND	ND
	09/09/98	24.85	31.62	0.00	ND	0.69	ND	ND	0.61	ND
	<b>03/11/99</b>	<b>22.23</b>	<b>34.24</b>	<b>0.00</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>0.76</b>	<b>ND</b>
<b>MW-10</b>										
58.94	07/28/95	25.53	33.41	0.00	ND	ND	ND	ND	ND	--
	09/28/95	--	--	--	--	--	--	--	--	--
	10/24/95	31.76	27.18	0.00	ND	ND	ND	ND	ND	--
	12/29/95	31.55	27.39	0.00	ND	ND	0.65	ND	1.1	--
	03/27/96	23.62	35.32	0.00	ND	ND	0.68	ND	0.69	ND
	09/21/96	30.77	28.17	0.00	ND	ND	ND	ND	ND	ND
	03/31/97	26.05	32.89	0.00	ND	ND	ND	ND	ND	ND
	09/27/97	32.80	26.14	0.00	ND	ND	ND	ND	ND	ND
	03/20/98	18.13	40.81	0.00	ND	ND	ND	ND	ND	ND
	09/09/98	27.54	31.40	0.00	ND	ND	0.55	ND	ND	ND
	<b>03/11/99</b>	<b>24.85</b>	<b>34.09</b>	<b>0.00</b>	<b>ND</b>	<b>ND</b>	<b>0.61</b>	<b>ND</b>	<b>0.87</b>	<b>ND</b>

**Table 2**  
**Dissolved Oxygen Concentrations**  
 Tosco (Unocal) Service Station #5367  
 500 Bancroft Avenue  
 San Leandro, California

Well ID	Date	Before Purging (mg/L)	After Purging (mg/L)
MW-1	03/27/95 <sup>1</sup>	--	1.5
	06/26/95	--	1.60
	09/28/95	--	1.22
	12/29/95	--	1.74
	03/27/96	1.48	1.02
	09/21/96	--	1.01
	03/31/97	1.47	1.49
MW-2	03/27/95 <sup>1</sup>	--	1.7
	06/26/95	--	4.55
	09/28/95	--	3.00
	12/29/95	--	8.71
	03/27/96	--	--
	09/21/96	--	--
	03/31/97	2.18	2.12
MW-3	03/27/95 <sup>1</sup>	--	0.90
	06/26/95	--	1.55
	09/28/95	--	1.63
	12/29/95	--	6.97
	03/27/96	--	--
	09/21/96	--	--
	03/31/97	1.95	2.06
MW-4	03/27/95 <sup>1</sup>	--	4.90
	06/26/95	--	--
	09/28/95	--	6.29
	12/29/95	--	--
	03/27/96	4.32	3.91
	09/21/96	--	2.82
	03/31/97	2.66	2.63
MW-5	03/27/95 <sup>1</sup>	--	5.20
	06/26/95	--	--
	09/28/95	--	1.96
	12/29/95	--	--
	03/27/96	4.03	4.71
	09/21/96	--	4.12
	03/31/97	2.98	3.11

**Table 2**  
**Dissolved Oxygen Concentrations**  
 Tosco (Unocal) Service Station #5367  
 500 Bancroft Avenue  
 San Leandro, California

Well ID	Date	Before Purging (mg/L)	After Purging (mg/L)
MW-6	03/27/95 <sup>1</sup>	--	7.4
	06/26/95	--	--
	09/28/95	--	4.19
	12/29/95	--	--
	03/27/96	5.94	4.96
	09/21/96	--	3.74
	03/31/97	3.21	3.11
MW-7	03/27/95 <sup>1</sup>	--	8.4
	06/26/95	--	--
	09/28/95	--	2.04
	12/29/95	--	--
	03/27/96	6.63	5.23
	09/21/96	--	1.19
	03/31/97	2.29	2.16
MW-8	03/27/95 <sup>1</sup>	--	2.2
	06/26/95	--	3.86
	09/28/95	--	1.85
	12/29/95	--	2.03
	03/27/96	11.73	9.76
	09/21/96	--	2.16
	03/31/97	2.81	2.91
	09/27/97	3.11	--
03/20/98	--	2.65	
MW-9	03/27/95 <sup>1</sup>	--	7.8
	06/26/95	--	4.61
	09/28/95	--	5.76
	12/29/95	--	5.32
	03/27/96	5.62	5.23
	09/21/96	--	4.13
	03/31/97	3.36	3.27
MW-10	12/29/95	--	5.11
	03/27/96	4.38	4.57
	09/21/96	--	5.38
	03/31/97	4.48	4.83

**Table 2**  
**Dissolved Oxygen Concentrations**  
Tosco (Unocal) Service Station #5367  
500 Bancroft Avenue  
San Leandro, California

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**EXPLANATIONS:**

Dissolved oxygen concentrations prior to March 20, 1998, were compiled from reports prepared by MPDS Services, Inc.

mg/L = milligrams per liter

-- = Not Measured

<sup>1</sup> The measurements were taken at Sequoia Analytical Laboratory.

Note: Field measurements were taken using a LaMotte DO4000 dissolved oxygen meter.

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Facility # Tosco 5367 Job#: 180108  
 Address: 500 Bancroft Ave. Date: 3/11/99  
 City: San Leandro Sampler: Vortex

Well ID MW-1 Well Condition: OK  
 Well Diameter 2 in. Hydrocarbon Thickness: ∅ (feet) Amount Bailed (Gallons) ∅  
 Total Depth 35.14 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66  
 Depth to Water 23.60 ft. Factor (VF) 6" = 1.50 12" = 5.80

11.54 x VF 0.17 = 1.96 x 3 (case volume) = Estimated Purge Volume: 5.89 (gal.)

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

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

Starting Time: 3:35 Weather Conditions: clear  
 Sampling Time: 3:50 Water Color: clear Odor: 4  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? no If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}/100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>3:37</u>	<u>2</u>	<u>7.26</u>	<u>3.64</u>	<u>72.6</u>			
<u>3:40</u>	<u>4</u>	<u>7.09</u>	<u>3.52</u>	<u>71.5</u>			
<u>3:41</u>	<u>6</u>	<u>7.03</u>	<u>3.49</u>	<u>71.2</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>

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ TOSCO  
 Facility# 5367  
 Address: 500 Bancroft Ave.  
 City: San Leandro

Job#: 180108  
 Date: 3/11/99  
 Sampler: Vortex

Well ID MW-2  
 Well Diameter 4 in.  
 Total Depth 46.91 ft.  
 Depth to Water 23.46 ft.

Well Condition: OK

Hydrocarbon Thickness:	<u>Ø</u> (feet)	Amount Bailed (product/water):	<u>Ø</u> (Gallons)
Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

23.45 X VF ~~0.66~~ <sup>0.66</sup> = 15.48 X 3 (case volume) = Estimated Purge Volume: 46.43 (gal.)

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

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

Starting Time: 10:47  
 Sampling Time: 11:15  
 Purging Flow Rate: 2 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 $\mu$ mhos/cm/100	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:54</u>	<u>15.5</u>	<u>7.61</u>	<u>3.12</u>	<u>69.2</u>	_____	_____	_____
<u>11:02</u>	<u>31</u>	<u>7.47</u>	<u>3.24</u>	<u>68.8</u>	_____	_____	_____
<u>11:09</u>	<u>46.5</u>	<u>7.42</u>	<u>3.28</u>	<u>68.7</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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



**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility # 5367  
 Address: 500 Bancroft Ave.  
 City: San Leandro

Job#: 180108  
 Date: 3/11/99  
 Sampler: Vortex

Well ID MW-3  
 Well Diameter 4 in.  
 Total Depth 48.20 ft.  
 Depth to Water 23.12 ft.

Well Condition: OK

Hydrocarbon Thickness:	<u>∅</u> (feet)	Amount Bailed (product/water):	<u>∅</u> (Gallons)
Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

25.08 X VF 0.66 = 16.55 X 3 (case volume) = Estimated Purge Volume: 49.66 gal.

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

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

Starting Time: 11:30  
 Sampling Time: 12:05  
 Purging Flow Rate: 2 gpm.  
 Did well de-water? no

Weather Conditions: clear  
 Water Color: clear Odor: (sewer)  
 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>11:38</u>	<u>16.5</u>	<u>7.51</u>	<u>3.72</u>	<u>69.0</u>			
<u>11:46</u>	<u>33</u>	<u>7.35</u>	<u>3.59</u>	<u>68.6</u>			
<u>11:55</u>	<u>50</u>	<u>7.28</u>	<u>3.57</u>	<u>68.4</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(G)/btex/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ TOSCO  
 Facility# 5367  
 Address: 500 Bancroft Ave.  
 City: San Leandro

Job#: 180108  
 Date: 3/11/99  
 Sampler: Vortex

Well ID MW-4  
 Well Diameter 4 in.  
 Total Depth 48.52 ft.  
 Depth to Water 24.12 ft.

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

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

24.40 x VF 0.66 = 16.10 x 3 (case volume) = Estimated Purge Volume: 48.31 (gal.)

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

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

Starting Time: 12:20  
 Sampling Time: 1:00  
 Purging Flow Rate: 2 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>12:28</u>	<u>16</u>	<u>7.57</u>	<u>293</u>	<u>69.8</u>			
<u>12:36</u>	<u>32</u>	<u>7.39</u>	<u>301</u>	<u>69.1</u>			
<u>12:44</u>	<u>48.5</u>	<u>7.36</u>	<u>306</u>	<u>69.3</u>			
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility # 5367  
 Address: 500 Bancroft Ave.  
 City: San Leandro

Job#: 180108  
 Date: 3/11/99  
 Sampler: Vaxtes

Well ID MW-5  
 Well Diameter 2 in.  
 Total Depth 44.38 ft.  
 Depth to Water 24.08 ft.

Well Condition: OK

Hydrocarbon Thickness:	<u>Ø</u> (feet)	Amount Bailed (product/water):	<u>Ø</u> (Gallons)
Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

20.30 x VF 0.17 = 3.45 X 3 (case volume) = Estimated Purge Volume: 10.35 gal.

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

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

Starting Time: 10:15  
 Sampling Time: 10:33  
 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>10:18</u>	<u>3.5</u>	<u>7.71</u>	<u>3.44</u>	<u>68.9</u>			
<u>10:22</u>	<u>7</u>	<u>7.56</u>	<u>3.35</u>	<u>68.5</u>			
<u>10:25</u>	<u>10.5</u>	<u>7.50</u>	<u>3.31</u>	<u>68.3</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE /	LABORATORY	ANALYSES
<u>MW-5</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility# 5367  
 Address: 500 Bancroft Ave.  
 City: San Leandro

Job#: 180108  
 Date: 3/11/99  
 Sampler: Vacthes

Well ID MW-6

Well Condition: OK

Well Diameter 2 in.

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

Total Depth 44.62 ft.

Depth to Water 22.85 ft.

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

21.77 X VF 0.17 = 3.70 X 3 (case volume) = Estimated Purge Volume: 11.10 (gal.)

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

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

Starting Time: 1:52  
 Sampling Time: 2:10  
 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>1:56</u>	<u>4</u>	<u>7.57</u>	<u>2.93</u>	<u>71.4</u>			
<u>2:00</u>	<u>8</u>	<u>7.41</u>	<u>3.01</u>	<u>70.6</u>			
<u>2:03</u>	<u>11.5</u>	<u>7.35</u>	<u>3.08</u>	<u>70.3</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(GI)/btex/mtbe</u>

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility# 5367  
 Address: 500 Bancroft Ave.  
 City: San Leandro

Job#: 180108  
 Date: 3/11/99  
 Sampler: Vortex

Well ID MW-7  
 Well Diameter 2 in.  
 Total Depth 43.96 ft.  
 Depth to Water 23.16 ft.

Well Condition: OK  
 Hydrocarbon Thickness: Ø (feet) Amount Bailed (product/water): Ø (Gallons)  
 Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66  
 6" = 1.50 12" = 5.80

20.80 X VF 0.17 = 3.54 X 3 (case volume) = Estimated Purge Volume: 10.61 (gal.)

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

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

Starting Time: 2:28  
 Sampling Time: 2:50  
 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 °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>2:31</u>	<u>3.5</u>	<u>7.71</u>	<u>2.32</u>	<u>72.1</u>	_____	_____	_____
<u>2:35</u>	<u>7</u>	<u>7.53</u>	<u>2.43</u>	<u>70.9</u>	_____	_____	_____
<u>2:39</u>	<u>11</u>	<u>7.49</u>	<u>2.51</u>	<u>70.8</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(GI)/btex/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility # 5367 Job #: 180108  
 Address: 500 Bancroft Ave. Date: 3/11/99  
 City: San Leandro Sampler: Vortex

Well ID MW-8 Well Condition: OK  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: ∅ (feet) (product/water): ∅ (Gallons)  
 Total Depth 43.88 ft.  
 Depth to Water 23.48 ft.

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

20.40 x VF 0.17 = 3.47 x 3 (case volume) = Estimated Purge Volume: 10.40 gal.

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

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

Starting Time: 3:05 Weather Conditions: clear  
 Sampling Time: 3:22 Water Color: clear Odor: y (mild)  
 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>3:08</u>	<u>3.5</u>	<u>7.46</u>	<u>3.72</u>	<u>72.4</u>			
<u>3:12</u>	<u>7</u>	<u>7.28</u>	<u>3.63</u>	<u>71.2</u>			
<u>3:15</u>	<u>10.5</u>	<u>7.22</u>	<u>3.58</u>	<u>70.8</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>

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ TOSCO  
 Facility # 5367 Job #: 180108  
 Address: 500 Bancroft Ave. Date: 3/11/99  
 City: San Leandro Sampler: Vortex

Well ID MW-9 Well Condition: OK  
 Well Diameter 2 in. Hydrocarbon Amount Bailed  
 Thickness: ∅ (feet) (product/water): ∅ (Gallons)  
 Total Depth 44.63 ft.  
 Depth to Water 22.23 ft.

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

22.40 X VF 0.17 = 3.81 X 3 (case volume) = Estimated Purge Volume: 11.42 (gal.)

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

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

Starting Time: 1:17 Weather Conditions: clear  
 Sampling Time: 1:35 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>1:21</u>	<u>4</u>	<u>7.64</u>	<u>2.48</u>	<u>71.1</u>			
<u>1:25</u>	<u>8</u>	<u>7.50</u>	<u>2.59</u>	<u>70.7</u>			
<u>1:28</u>	<u>11.5</u>	<u>7.43</u>	<u>2.67</u>	<u>70.5</u>			
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE /	LABORATORY	ANALYSES
<u>MW-9</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/ Tosco  
 Facility # 5367  
 Address: 500 Bancroft Ave.  
 City: San Leandro

Job#: 180108  
 Date: 3/11/99  
 Sampler: Vortex

Well ID MW-10

Well Condition: OK

Well Diameter 2 in.

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

Total Depth 42.65 ft.

Depth to Water 24.85 ft.

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

17.80 x VF 0.17 = 3.03 X 3 (case volume) = Estimated Purge Volume: 9.08 (gal.)

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

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

Starting Time: 9:45

Weather Conditions: clear

Sampling Time: 10:01

Water Color: clear Odor: no

Purging Flow Rate: \_\_\_\_\_ 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>9:48</u>	<u>3</u>	<u>7.68</u>	<u>3.71</u>	<u>66.8</u>	_____	_____	_____
<u>9:51</u>	<u>6</u>	<u>7.53</u>	<u>3.60</u>	<u>67.7</u>	_____	_____	_____
<u>9:54</u>	<u>9.5</u>	<u>7.47</u>	<u>3.56</u>	<u>67.9</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-10</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</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: Unocal SS #5367, San Leandro  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015 Mod./8020  
First Sample #: 903-1254

**RECEIVED**  
APR 14 1999

Sampled: Mar 11, 1999  
Received: Mar 11, 1999  
Reported: Mar 30, 1999

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

GETTLER-RYAN INC.  
GENERAL CONTRACTORS

Analyte	Reporting Limit µg/L	Sample I.D. 903-1254 TB-LB	Sample I.D. 903-1255 MW-1	Sample I.D. 903-1256 MW-2	Sample I.D. 903-1257 MW-3	Sample I.D. 903-1258 MW-4	Sample I.D. 903-1259 MW-5
Purgeable Hydrocarbons	50	N.D.	60,000	N.D.	7,300	N.D.	N.D.
Benzene	0.50	N.D.	130	N.D.	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	0.59	N.D.	0.70	0.96
Ethyl Benzene	0.50	N.D.	2,900	N.D.	320	N.D.	N.D.
Total Xylenes	0.50	N.D.	12,000	1.1	210	1.2	1.7
MTBE	2.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	Gasoline	--	Gasoline	--	--

### Quality Control Data

Report Limit Multiplication Factor:	1.0	200	1.0	1.0	1.0	1.0
Date Analyzed:	3/19/99	3/23/99	3/22/99	3/22/99	3/22/99	3/22/99
Instrument Identification:	HP-2	HP-2	HP-9	HP-9	HP-9	HP-9
Surrogate Recovery, %: (QC Limits = 70-130%)	105	107	97	89	95	97

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

Client Project ID: Unocal SS#5367, San Leandro  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015 Mod./8020  
First Sample #: 903-1260

Sampled: Mar 11, 1999  
Received: Mar 11, 1999  
Reported: Mar 30, 1999

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 903-1260 MW-6	Sample I.D. 903-1261 MW-7	Sample I.D. 903-1262 MW-8	Sample I.D. 903-1263 MW-9	Sample I.D. 903-1264 MW-10
Purgeable Hydrocarbons	50	N.D.	N.D.	4,700	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	9.6	N.D.	N.D.
Toluene	0.50	0.71	0.91	N.D.	N.D.	0.61
Ethyl Benzene	0.50	N.D.	N.D.	280	N.D.	N.D.
Total Xylenes	0.50	1.4	1.6	95	0.76	0.87
MTBE	2.5	N.D.	5.7	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	Gasoline	--	--

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	10	1.0	1.0
Date Analyzed:	3/22/99	3/22/99	3/23/99	3/22/99	3/22/99
Instrument Identification:	HP-9	HP-9	HP-5	HP-9	HP-9
Surrogate Recovery, %: (QC Limits = 70-130%)	96	95	83	95	96

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



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

Client Project ID: Unocal SS#5367, San Leandro  
Matrix: Liquid

QC Sample Group: 9031254-264

Reported: Mar 30, 1999

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	9031505	9031505	9031505	9031505
Date Prepared:	3/19/99	3/19/99	3/19/99	3/19/99
Date Analyzed:	3/19/99	3/19/99	3/19/99	3/19/99
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:	100	100	105	112
Matrix Spike Duplicate % Recovery:	90	90	95	103
Relative % Difference:	11	11	10	7.8

LCS Batch#:	2LCS031999	2LCS031999	2LCS031999	2LCS031999
Date Prepared:	3/19/99	3/19/99	3/19/99	3/19/99
Date Analyzed:	3/19/99	3/19/99	3/19/99	3/19/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	85	85	95	98

% 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

*Jullanne Fegley*  
Jullanne Fegley  
Project Manager



# Sequoia Analytical

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

Client Project ID: Unocal SS#5367, San Leandro  
Matrix: Liquid

QC Sample Group: 9031254-264

Reported: Mar 30, 1999

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analytst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater

MS/MSD Batch#:	9031282	9031282	9031282	9031282
Date Prepared:	3/22/99	3/22/99	3/22/99	3/22/99
Date Analyzed:	3/22/99	3/22/99	3/22/99	3/22/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	115	115	115
Matrix Spike Duplicate % Recovery:	105	115	120	118
Relative % Difference:	0.0	0.0	4.3	2.9

LCS Batch#:	9LCS032299	9LCS032299	9LCS032299	9LCS032299
Date Prepared:	3/22/99	3/22/99	3/22/99	3/22/99
Date Analyzed:	3/22/99	3/22/99	3/22/99	3/22/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	100	110	110	108

% Recovery Control Limits:	70-130	70-130	70-130	70-130
----------------------------	--------	--------	--------	--------

**Please Note:**

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

SEQUOIA ANALYTICAL, #1271

*Julianne Fegley*  
Julianne Fegley  
Project Manager



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

Client Project ID: Unocal SS#5367, San Leandro  
Matrix: Liquid

QC Sample Group: 9031254-264

Reported: Mar 30, 1999

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater

MS/MSD Batch#:	9031342	9031342	9031342	9031342
Date Prepared:	3/23/99	3/23/99	3/23/99	3/23/99
Date Analyzed:	3/23/99	3/23/99	3/23/99	3/23/99
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	80	90	93
Matrix Spike Duplicate % Recovery:	95	90	90	102
Relative % Difference:	11	12	0.0	8.5

LCS Batch#:	2LCS032399	2LCS032399	2LCS032399	2LCS032399
Date Prepared:	3/23/99	3/23/99	3/23/99	3/23/99
Date Analyzed:	3/23/99	3/23/99	3/23/99	3/23/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	85	85	95	98

% Recovery Control Limits:	70-130	70-130	70-130	70-130
----------------------------	--------	--------	--------	--------

**Please Note:**

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

SEQUOIA ANALYTICAL, #1271

*Julianne Fegley*  
Julianne Fegley  
Project Manager



# Sequoia Analytical

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Dublin, CA 94568  
Attention: Deanna Harding

Client Project ID: Unocal SS#5367, San Leandro  
Matrix: Liquid

QC Sample Group: 9031254-264

Reported: Mar 30, 1999

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater

### MS/MSD

Batch#:	9031278	9031278	9031278	9031278
Date Prepared:	3/23/99	3/23/99	3/23/99	3/23/99
Date Analyzed:	3/23/99	3/23/99	3/23/99	3/23/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	95	100	105	103
Matrix Spike Duplicate % Recovery:	95	100	105	103
Relative % Difference:	0.0	0.0	0.0	0.0

LCS Batch#:	9LCS032399	9LCS032399	9LCS032399	9LCS032399
Date Prepared:	3/23/99	3/23/99	3/23/99	3/23/99
Date Analyzed:	3/23/99	3/23/99	3/23/99	3/23/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	85	95	100	97

% 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*  
Julianne Fegley  
Project Manager