

# GETTLER-RYAN INC.

### TRANSMITTAL

February 25, 1999 G-R #:180063

TO:

Mr. David B. De Witt

Tosco Marketing Company

2000 Crow Canyon Place, Suite 400

San Ramon, California 94583

CC: Mr. Doug Lee

Gettler-Ryan Inc.

Dublin, California

FROM:

Deanna L. Harding

Project Coordinator Gettler-Ryan Inc.

6747 Sierra Court, Suite J Dublin, California 94568

RE: Tosco (Unocal) SS #0746

3943 Broadway

Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	February 19, 1999	Groundwater Monitoring and Sampling Report Semi-Annual 1998 - Event of November 11, 1998

#### COMMENTS:

This report is being sent to you for your review/comment, prior to being distributed on your behalf. If no comments are received by March 10, 1999, this report will be distributed to the following:

#### Enclosure

cc: Alimeta County Health Care Shrvices 1131 Harbor Bay Parkway

Alameda, California 94502

D M+BEW18260 4 other Ofygenetics. @ Inaccessible weel MW-8

3 creek running along paperty is simple mu-11

agency/0746dbd.qmt

February 19, 1999 G-R Job #180063

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

RE:

Semi-Annual 1998 Groundwater Monitoring & Sampling Report

Tosco (Unocal) Service Station #0746

3943 Broadway Oakland, California

Dear Mr. De Witt:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On November 11, 1998, field personnel monitored eleven wells (MW-1 through MW-7 and MW-9 through MW-12) and sampled four wells (MW-1, MW-3, MW-4, and MW-9) at the above referenced site.

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were present in one of the wells (MW-5). 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. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

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

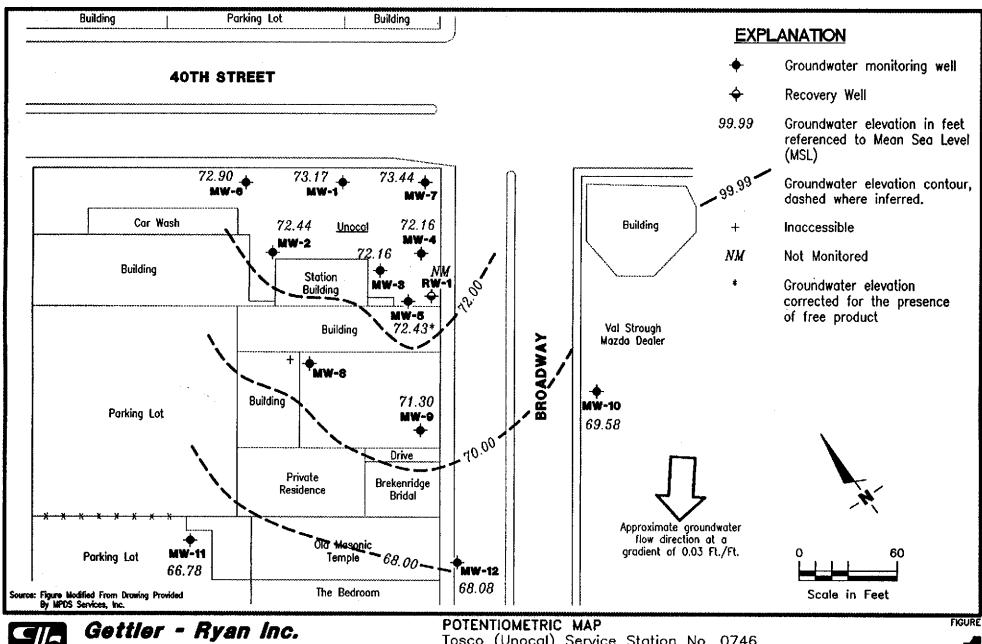
Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

No. 5577

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0746.qml





REVIEWED BY

6747 Sierra Ct., Suite J **Dublin, CA 94568** 

(925) 551-7555

Tosco (Unocal) Service Station No. 0746 3943 Broadway

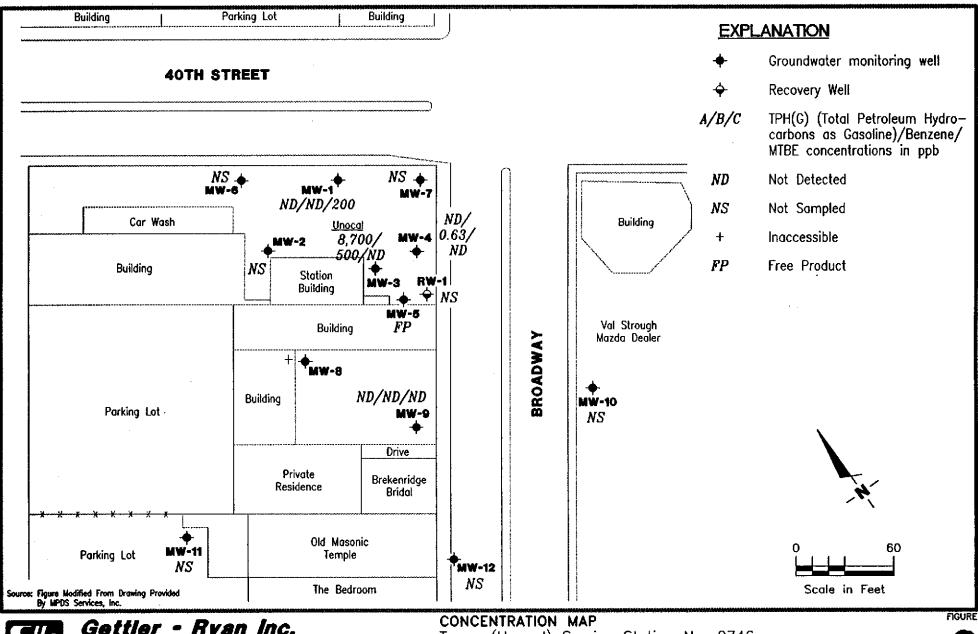
Oakland, California

DATE

REVISED DATE

JOB NUMBER 180063

November 11, 1998



Gettler - Ryan Inc.

6747 Sierro Ct., Suite J Dublin, CA 94568 (925) 551-7555 Tosco (Unocal) Service Station No. 0746 3943 Broadway Oakland, California

REVISED DATE

JOB NUMBER 180063

REVIEWED BY

DATE November 11, 1998

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	T	Ε	X	MTBE
TOC*		(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-1	11/01/89				ND	ND	ND	ND	0.3	
·	02/15/90				170	7.9	ND	2.2	2.8	~~~
	08/16/90				ND	ND	ND	ND	ND	
	11/07/90				45	ND	ND	ND	ND	
	02/25/91				ND	ND	ND	ND	ND	
	05/28/91				ND	ND	ND	ND	ND	
	08/28/91				ND	ND	ND	ND	ND	
	11/19/91				ND	ND	ND	ND	ND	
	02/06/92			•	ND	ND	ND	ND	ND	
	05/23/92				ND	ND	ND	ND	ND	
	08/26/92				ND	ND	ND	ND	ND	
	11/20/92				ND	0.75	ND	ND	ND	
	02/24/93				1,100	280	4.9	120	140	
-	05/25/93				260	27	4.9	2.6	54	
	08/25/93				ND	ND	ND	ND	ND	
	11/30/93	*.			SAMPLED SEMI-	ANNUALLY				
	02/16/94				ND	0.84	ND	ND	0.59	
	08/31/94				ND	ND	0.98	ND	0.84	
	11/10/94									
	02/07/95				6,100	670	ND	120	60	
	05/03/95				260	21	39	17	24	
	08/03/95									
	11/07/95				ND	ND	ND	ND	ND	
80.54	05/06/96	7.40	73.14	0.00	170	1.0	20	2.3	17	55
	11/05/96	7.90	72.64	0.00	ND	ND	ND	ND	ND	5.2
	05/15/97	7.77	72.77	0.00	ND	ND	ND	ND	ND	16
	11/12/97	7.48	73.06	0.00	ND	ND	ND	ND	ND	11
NI	05/04/98	7.39	73.15	0.00	ND	ND	ND	ND	ND	320
NI	P 11/11/98	7.37	73.17	0.00	ND	ND	ND	ND	ND	200
MW 2	11/01/00				200	ND	ND	3.0	1.2	
MW-2	11/01/89				200 ND		ND		1.2	<del></del>
	02/15/90				ND	ND	ND	ND	ND	

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	racini anche Maria de Carlo Africa, e la cale	В	Ţ	E	X	MTBE
TOC*	30000000000000000000000000000000000000	(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-2	08/16/90				ND	ND	6.7	ND	ND	
(cont)	11/07/90				ND	ND	ND	ND	ND	
	02/25/91				ND	0.68	0.42	ND	0.86	
	05/28/91				ND	ND	ND	ND	ND	
	08/28/91				ND	ND	ND	ND	ND	
	11/19/91				ND	ND	ND	ND	ND	
	02/06/92				ND	0.36	0.66	ND	0.62	
•	05/23/92				ND	ND	ND	ND	ND	
	08/26/92				ND	ND	ND	ND	ND	
	11/20/92				510 <sup>1</sup>	ND	ND	ND	ND	
	02/24/93				$11,000^1$	ND	ND	ND	ND	
	05/25/93				1,300 <sup>1</sup>	ND	ND	ND	ND	2,700
	08/25/93				190 <sup>t</sup>	ND	ND	ND	ND	
	11/30/93				480 <sup>i</sup>	ND	ND	ND	ND	
	02/16/94				3,200 <sup>1</sup>	ND	ND	ND	ND	<del></del>
	05/31/94	· .			1,1001	ND	ND	ND	ND	
	08/31/94				$310^{1}$	ND	ND	ND	ND	
	11/10/94				9 <b>5</b> <sup>2</sup>	ND	ND	ND	ND	
	02/07/95				1,600¹	ND	ND	ND	ND	
	05/03/95				ND	ND	ND	ND	ND	
	08/03/95				ND	ND	ND	ND	ND	
	11/07/95				ND	ND	ND	ND	ND	$160^{3}$
81.32	05/06/96	8.90	72.42	0.00	SAMPLING DISC	ONTINUED⁴	~~			
	11/05/96	10.98	70.34	0.00						••
	05/15/97	9.13	72.19	0.00						
	11/12/97	9.84	71.48	0.00						
	05/04/98	9.26	72.06	0.00			<b></b>			
	11/11/98	8.88	72.44	0.00						
MW-3	11/01/89				13,000	57	48	1.7	120	**
	02/15/90				20,000	1,700	2,100	750	3,100	
•	08/16/90				6,800	600	660	760	160	

Table 1
Groundwater Monitoring Data and Analytical Results

					Product						
Well ID/		Date	DTW	GWE	Thickness	TPH(G)	В	T	E	X	MTBE
TOC*	0.000		(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-3		11/07/90				42,000	1,400	5,000	1,800	7,500	
(cont)		02/25/91				37,000	730	2,900	1,300	7,300	
(VOIN)		05/28/91				24,000	570	1,100	810	4,200	
		08/28/91				16,000	650	2,200	1,100	5,400	
		11/19/91				22,000	250	440	660	3,000	
		02/06/92			2	24,000	600	1,800	1,200	5,800	
		05/23/92				25,000	300	130	880	4,900	
		08/26/92				20,000	690	1,900	1,300	5,700	**
		11/20/92			•	$1,100,000^2$	1,800	6,400	3,000	15,000	
		02/24/93				NOT SAMPLED I					
		05/25/93				NOT SAMPLED I					
		08/25/93				NOT SAMPLED I					
•		11/30/93				NOT SAMPLED I					
		02/16/94				57,000	910	2,500	2,100	9,000	
		05/31/94				39,000	670	630	1,500	6,200	-
		08/31/94	•			44,000	500	240	1,400	5,700	
		11/10/94 -				86,000	3,300	3,800	1,800	8,300	
		02/07/95				45,000	1,400	1,300	1,500	5,600	
		05/03/95				26,000	740	990	1,100	4,400	
		08/03/95				18,000	59	ND	530	1,900	
		11/07/95				17,000	110	26	400	1,500	880 <sup>3</sup>
81.41		05/06/96	9.44	71.97	Sheen	5,100	48	ND	87	210	370
		11/05/96	10.64	70.77	0.00	35,000	2,200	ND	1,200	2,800	460
		05/15/97	9.61	71.80	0.00	2,400	110	ND	ND	140	100
.'		11/12/97	9.18	72.23	0.00	29,000	2,000	ND	1,800	3,000	ND
	NΡ	05/04/98	9.50	71.91	0.00	8,200	430	$ND^5$	310	320	ND <sup>5</sup>
	NP	11/11/98	9.25	72.16	0.00	8,700	500	$ND^5$	330	310	$ND^5 < 5$
MW-4		02/15/90				150	8.0	8.0	10	45	
		08/16/90				3,600	480	17	230	260	
		11/07/90				180	1.5	0.37	6.3	26	
		02/25/91				22,000	600	1,300	780	2,800	

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Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	Ţ	E	X	MTBE
TOC*		(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-4	05/28/91				38	ND	ND	ND	1.9	
(cont)	08/28/91				2,000	1,500	20	120	300	
Comy	11/19/91				55	9.2	4.5	1.4	6.7	
	02/06/92				5,700	2,200	140	57	980	
	05/23/92				ND	ND	ND	ND	ND	
	08/26/92				120	86	0.52	0.57	1.6	
	11/20/92				ND	6.2	ND	1.2	0.52	
	02/24/93				140	12	0.64	9.4	3.7	
	05/25/93			ű.	74	10	ND	4.6	1.8	
	08/25/93				640	100	1.1	100	22	
	11/30/93				200	28	ND	17	8.1	
	02/16/94				190	11	0.98	21	6.6	
	05/31/94				1,100	190	ND	100	58	
	08/31/94				400	17	0.94	14	5.2	
	11/10/94				7,700	1,800	280	460	1,300	
	02/07/95				540	47	ND	17	2.5	
	05/03/95	•			160	8.3	0.52	1.5	3.7	
	08/03/95				57	2.0	ND	ND	ND	
	11/07/95				ND	0.71	ND	ND	ND	0.86
1.29	05/06/96	8.70	72.59	0.00	1,200	12	11	15	36	ND
-1	11/05/96	10.00	71.29	0.00	700	32	0.71	1.8	1.3	6.5
	05/15/97	9.37	71.92	0.00	51	ND	ND	ND	ND	ND
	11/12/97	8.92	72.37	0.00	74	1.7	ND	ND	ND	ND
N		9.48	71.81	0.00	ND	ND	ND	ND	ND	ND
N		9.13	72.16	0.00	ND	0.63	ND	ND	ND	ND
			·							
<b>1W-5</b>	02/15/90				24,000	1,500	1,700	260	3,600	
	08/16/90				16,000	1,400	1,900	2,800	660	
	11/07/90				20,000	640	1,100	670	3,000	
	02/25/91				25,000	950	1,300	900	3,500	
	05/28/91				24,000	2,300	3,400	1,300	6,000	
	08/28/91				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRE	E PRODUCT		

## Table 1 Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DTW	GWE	Product Thickness	TPH(G)	В	Т	E	X	MTBE
TOC*	Daic	(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
Tarana and the state of the sta	and make the second of the second		No. 1. No. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	en gripago neg er St. 14 & Ta vers.	e normal and a contract of the	ur p			Section 15 and Section 1	7 55.0 600000
MW-5	11/19/91				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
(cont)	02/06/92				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
·	05/23/92				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	08/26/92				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	11/20/92				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	02/24/93				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	05/25/93				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	08/25/93				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	11/30/93				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	02/16/94				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	05/31/94				43,000	1,500	1,200	1,600	6,700	
	08/31/94				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	11/10/94				NOT SAMPLED	DUE TO THE PR	ESENCE OF FRI	EE PRODUCT		
	02/07/95				25,000	1,400	740	990	3,000	
	05/03/95				12,000	680	160	600	1,800	
	08/03/95	• • •			23,000	940	280	810	2,700	
	11/07/95				40,000	510	280	1,000	5,700	630 <sup>3</sup>
81.38	05/06/96	9.03	72.35	Sheen	13,000	200	ND	180	610	170
	11/05/96	10.41	70.97	0.00	35,000	1,800	ND	1,300	4,900	580
	05/15/97	9.41	71.97	Sheen	10,000	490	ND	ND	1,300	ND
	11/12/97	9.27	72.11	0.00	100	5.1	ND	ND	ND	74
NP	05/04/98	9.18	72,20	0.00	39,000	1,600	230	1,000	3,200	ND <sup>5</sup>
	11/11/98	9.23	72.43**	0.37	NOT SAMPLED	DUE TO THE P	RESENCE OF F	REE PRODUCT		-
		•								
MW-6	11/07/90				ND	ND	ND	ND	ND	
	02/25/91				ND	0.37	0.4	0.35	1.5	
	05/28/91				ND	ND	ND	ND	0.42	
	08/28/91				ND	ND	ND	ND	ND	
	11/19/91				ND	ND	ND	ND	ND	
	02/06/92				ND	ND	ND	ND	ND	
	05/23/92				ND	ND	ND	ND	ND	
	08/26/92				ND	ND	ND	ND	ND	

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	T	E	X	MTBE
TOC*		(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-6	11/20/92				ND	ND	ND	ND	ND	
(cont)	02/24/93				ND	ND	ND	ND	ND	
	05/25/93				ND	ND	ND	ND	ND	
	08/25/93				ND	ND	ND	ND	ND	
	11/30/93				SAMPLED SEMI					
	02/16/94				ND	ND	ND	ND	ND	
	08/31/94				ND	ND	1.5	ND	1.6	
	11/10/94									
	02/07/95				ND	ND	ND	ND	ND	
	05/03/95				ND	ND	ND	ND	1.0	
	08/03/95									
	11/07/95				ND	ND	ND	ND	ND	
79.94	05/06/96	7.80	72.14	0.00	SAMPLING DISC	CONTINUED4				
	11/05/96	7.63	72.31	0.00						
	05/15/97	<b>7.4</b> 1	72.53	0.00						
	11/12/97	7.51	72.43	0.00						
	05/04/98	7.15	72.79	0.00						
	11/11/98	7.04	72.90	0.00				<b></b>		
MW-7	11/07/90				ND	ND	ND	ND	ND	
172 * * * * *	02/25/91				70	ND	ND	ND	0.52	
	05/28/91				39	ND	ND	ND	0.73	
	08/28/91				ND	ND	ND ND	ND	ND	
	11/19/91				32	ND ND	ND ND	ND	ND	
	02/06/92				ND	ND ND	ND ND	ND ND	ND	<del>44</del> 1 <del>4</del>
	05/23/92				ND ND	ND ND	ND ND	ND	ND ND	
	03/23/92									
					ND	ND	ND	0.73	ND	
•	11/20/92				ND	ND	ND	ND	ND	<del></del>
	02/24/93				ND	ND	ND	ND	ND	
	05/25/93				ND	ND	ND	ND	ND	
	08/25/93				ND	ND	ND	ND	ND	
	11/30/93				SAMPLED SEMI-	-ANNUALLY				

Table 1
Groundwater Monitoring Data and Analytical Results

				Product					وي	
Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Thickness (ft.)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
		· \/			W. W. L.	<u> </u>		. In some the Property of	e is errecen <b>ia artik</b> esperadori	an an a <b>upp t s</b> econd
MW-7	02/16/94				ND	ND	ND	ND	0.7	
(cont)	08/31/94				ND	ND	0.8	ND	0.75	
	11/10/94									_
	02/07/95				ND	ND	ND	ND	ND	
	05/03/95				ND	ND	ND	ND	1.0	
	08/03/95									
	11/07/95				ND	ND	ND	ND	ND	
81.64	05/06/96	8.15	73.49	0.00						
	11/05/96	8.67	72.97	0.00						
	05/15/97	8.47	73.17	0.00						
	11/12/97	7.88	73.76	0.00						
	05/04/98	7.93	73.71	0.00						
	11/11/ <del>9</del> 8	8.20	73.44	0.00			**			
MW-8	11/07/90				4,700	28	38	86	7,200	
	02/25/91 .	•		•	5,300	17	6.1	53	300	
	05/28/91				4,800	4.2	1.3	5.1	170	
•	08/28/91				1,800	3.2	1.9	19	74	
	11/19/91				1,600	8.1	1.8	19	52	
*	02/06/92				2,600	4.1	7.0	31	93	<del></del>
	05/23/92				2,100	8.6	1.6	1.7	28	
	08/26/92				1,800	12	8.0	4.0	13	~=
	11/20/92	INACCESSIBLE							**	
	02/24/93	INACCESSIBLE								
	05/25/93				1,200	5.4	ND	9.0	21	<del></del>
	08/25/93				1,800	11	17	8.9	29	
	11/30/93				3,500	18	ND	ND	ND	
	02/16/94				990	4.9	1.8	2.4	4.5	
	05/31/94				350	3.0	1.0	0.73	1.7	
	08/31/94				1,800 <sup>1</sup>	ND	ND	ND	ND	
	11/10/94				940	6.7	6.3	ND	16	
	02/07/95				230	1.4	0.95	0.9	1.1	
	05/03/95				75	ND	ND	ND	1.0	

## Table 1 Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DTW GWE	Product Thickness	TPH(G)	В	T	E	X	MTBE
TOC*	рате	(ft.) (msi)	(ft.)	(ppb)	(ppb)	t (ppb)	(ppb)	(ppb)	(ppb)
MW-8	08/03/95	INACCESSIBLE (PARKED OVER)		<del></del>		<b></b>			
(cont)	11/07/95	THE COLUMN THE COURT OF THE COU		210	1.3	1.2	ND	ND	3
81.41	05/06/96	INACCESSIBLE (PARKED OVER)							
	11/05/96	INACCESSIBLE (PARKED OVER)							
	05/15/97	10.46 70.95	0.00	ND	ND	ND	ND	ND	43
	11/12/97	INACCESSIBLE (PARKED OVER)							
	05/04/98	INACCESSIBLE (PARKED OVER)							
	11/11/98	INACCESSIBLE (PARKED OVER)							
MW-9	11/07/90			480	7.8	1.2	13	47	
	02/25/91			390	13	1.1	2.8	14	
	05/28/91			590	6.0	0.43	6.8	1.4	
	08/28/91			450	17	0.9	13	14	
	11/19/91			360	17	0.45	15	11	
	02/06/92	* *		660	41	1.0	33	15	
	05/23/92			460	18	0.66	1.4	3.2	
	08/26/92			250	13	ND	8.6	3.8	
	11/20/92	INACCESSIBLE							
	02/24/93	INACCESSIBLE	. <del></del>						
	05/25/93			160	6.1	ND	7.4	1.1	
-	08/25/93			220	10	ND	6.8	1.4	
	11/30/93			200	5.6	ND	2.9	2.7	
	02/16/94			250	5.1	1.3	4.4	1.5	
	05/31/94			360	7.8	0.97	4.6	2.2	
	08/31/94			650	7.7	2.8	4.4	5.0	59
	11/10/94			ND	ND	ND	ND	ND	
	02/07/95			57	0.7	ND	0.86	ND	
	05/03/95			ND	0.85	0.67	1.3	1.0	
	08/03/95			91	1.1	ND	ND	ND	
	11/07/95			130	1.5	0.62	0.71	ND	$60^{3}$
80.53	05/06/96	9.01 71.52	0.00	860	6.1	13	6.0	25	ND
	11/05/96	11.42 69.11	0.00	84	0.74	ND	1.2	4.5	ND
	05/15/97	9.89 70.64	0.00	ND	ND	ND	ND	ND	ND
	11/12/97	10.22 70.31	0.00	ND	0.55	ND	ND	ND	74

### Table 1 Groundwater Monitoring Data and Analytical Results

Well ID/		Date	DTW	GWE	Product Thickness	TPH(G)	В	Т	E	X	MTBE
TOC*			(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-9	NP	05/04/98	10.05	70.48	0.00	ND	ND	ND	ND	ND	45
(cont)	NP	11/11/98	9.23	71.30	0.00	ND	ND	ND	ND	ND	ND
MW-10		02/06/92				ND	ND	ND	ND	ND	
		05/23/92				ND	ND	ND	ND	ND	
•		08/26/92				ND	ND	ND	ND	ND	
		11/20/92				ND	ND	ND	ND	ND	
		02/24/93				ND	ND	ND	ND	ND	
		05/25/93				ND	ND	ND	ND	ND	
		08/25/93				ND	ND	ND	ND	ND	
		11/30/ <del>9</del> 3	INACCESSIBLE								
		02/16/94				ND	ND	ND	ND	ND	
		05/31/94				ND	ND	0.9	ND	0.91	
		08/31/94				ND	ND	0.64	ND	0.54	
		11/10/94				ND	ND	ND	ND	ND	
		02/07/95	**			SAMPLED SEMI	-ANNUALLY				
		05/03/95				ND	ND	ND	ND	0.65	
		08/03/95									
		11/07/95				ND	ND	ND	ND	ND	
81.61		05/06/96	10.90	70.71	0.00	SAMPLING DISC					
		11/05/96	11.96	69.65	0.00		**				
		05/15/97	10.79	70.82	0.00						
•		11/12/97	10.07	71.54	0.00						
		05/04/98	10.01	71.60	0.00						
		11/11/98	12.03	69.58	0.00					_	
		11,11,70	12.00	07.20	0.00						<del></del>
MW-11		02/06/92				ND	ND	ND	ND	ND	
		05/23/92				ND	ND	ND	ND	ND	••
		08/26/92				ND	ND	ND	ND	ND	
		11/20/92				ND	ND	ND	ND	ND	
		02/24/93				ND	ND	ND	ND	ND	
		05/25/93				ND	ND	0.75	ND	1.0	
		08/25/93				ND	ND	ND	ND	ND	
		00, <u>2</u> 2, 72				140	1117	1110	1117	1112	

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	T	E	x	MTBE
TOC*		(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-11	11/30/93				ND	ND	ND	ND	ND	
(cont)	02/16/94				ND	ND	ND	ND	ND	
(conty	05/31/94				ND	ND	ND	ND	ND	
	08/31/94				ND	ND	1.5	ND	1.8	
	11/10/94				ND	ND	ND	ND	ND	
	02/07/95				SAMPLED SEMI-					
	05/03/95				ND	ND	ND	ND	ND	
	08/03/95									
	11/07/95			•	ND	ND	ND	ND	ND	
78.18	05/06/96	13.30	64.88	0.00	SAMPLING DISC	ONTINUED <sup>4</sup>	-			
	11/05/96	10.90	67.28	0.00						
	05/15/97	11.65	66.53	0.00						
	11/12/97	9.66	68.52	0.00						
	05/04/98	10.87	67.31	0.00						
	11/11/98	11.40	66.78	0.00			46			<del></del>
			•							
MW-12	08/26/92				ND	ND	ND	ND	ND	
	11/20/92				ND	ND	ND	ND	ND	
	11/30/93				ND	ND	ND	ND	ND	
	08/25/93				ND	ND	ND	ND	ND	***
	05/25/93				ND	ND	ND	ND	ND	
	02/24/93				ND	ND	ND	ND	ND	
	02/16/94				ND	ND	ND	ND	ND	
	08/31/94				ND	ND	1.0	ND	1.0	ND
	05/31/94				ND	ND	0.81	ND	0.82	
	11/10/94				ND	ND	ND	ND	ND	
	02/07/95				SAMPLED SEMI-	ANNUALLY			**	
	05/03/95				ND	ND	ND	ND	ND	
	08/03/95					~=				
	11/07/95				ND	ND	ND	ND	ND	
79.61	05/06/96	13.25	66.36	0.00	SAMPLING DISC	ONTINUED⁴				
	11/05/96	11.88	67.73	0.00						
	05/15/97	11.72	67.89	0.00						

### Table 1 Groundwater Monitoring Data and Analytical Results

Well ID/	tabasannar tarih kiripantana kiji nacas birita naanbara masarih <b>ith</b> ⊒. <b>a</b> ⊒anahanin tarih	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	ТРН(G) <i>(ppb)</i>	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-12	11/12/97	10.01	69.60	0.00						
(cont)	05/04/98	10.96	68.65	0.00						
	11/11/98	11.53	68.08	0.00				-		
Trip Blank										
TB-LB	05/04/98				ND	ND	ND	ND	ND	ND
	11/11/98	-			ND	ND	ND	ND	ND	ND

#### Table 1

#### **Groundwater Monitoring Data and Analytical Results**

Tosco (Unocal) Service Station #0746 3943 Broadway Oakland, California

#### **EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to May 4, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing

B = Benzene

ppb = Parts per billion

DTW = Depth to Water

T = Toluene

ND = Not Detected

(ft.) = Feet

E = Ethylbenzene

-- = Not Measured/Not Analyzed

**GWE** = Groundwater Elevation

X = Xylenes

NP = No Purge

msl = Relative to mean sea level

MTBE = Methyl tertiary butyl ether

TPH(G) = Total Petroleum Hydrocarbons as Gasoline

- \* TOC elevations have been surveyed relative to mean sea level (msl) per the City of Oakland Benchmark BM#1336 (Elevation = 82.28 feet msl).
- \*\* Groundwater elevation corrected due to the presence of free product; correction factor: [(TOC-DTW)+(Product Thickness x 0.75)].
- Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- Laboratory has identified the presence of MTBE at a level greater than or equal to the taste and odor threshold of 40 ppb in the sample collected from this well.
- Sampling discontinued per Alameda County Health Care Services' letter dated January 24, 1996.
- Detection limit raised. Refer to analytical results.

Depth to water and groundwater elevation history will be updated in future reports.

Table 2
Dissolved Oxygen Concentrations

	Oakl	and, California	
Well ID	Date	Before Purging (mg/L)	After Purging (mg/L)
MW-1	05/06/96	5.21	4.13
14144-1	11/05/96	3.12	4.13 <sup>1</sup>
	05/15/97	3.92	1
	11/12/97	4.16	1
	05/04/98	3.84	1
	11/11/98	2.85	_1
MW-2	08/19/95	**	2.77
	05/15/97	3.01	1
	11/12/97	3.27	1
	05/04/98	3.63	1
MW-3	08/19/95	_	2.06
172 77 -3	11/07/95		1.68
	05/06/96	3.18	3.40
	11/05/96	2.03	_1
	05/15/97	3.08	<b></b> 1
	05/04/98	2.98	1
	11/11/98	2.22	_1
MW-4	08/19/95		2.19
	11/07/95		8.43
	05/06/96	3.75	5.97
	11/05/96	2.11	1
	05/15/97	3.24	<u></u> t
	11/12/97	3.11	<sup>l</sup>
	05/04/98	3.73	<u></u> 1
	11/11/98	4.33	_1
MW-5	08/19/95		2.09
	11/07/95		1.79
	05/06/96	2.91	1.80
	11/05/96	1.85	1
	05/15/97	2.10	<b></b> <sup>1</sup>
	11/12/97	1.98	<sup>1</sup>
	05/04/98	1.69	1
MW-6	05/15/97	2.90	_1
·	05/04/98	3.57	1

#### Table 2

#### **Dissolved Oxygen Concentrations**

Tosco (Unocal) Service Station #0746 3943 Broadway

3773 10.	Loudway
Oakland,	California

Well ID	Date	Before Purging (mg/L)	After Purging (mg/L)
MW-7	05/15/97	2.21	1
	05/04/98	3.09	1
MW-8	11/05/96	INACCESSIBLE (PARKE	D OVER)
	05/15/97	2.88	1
	11/12/97	INACCESSIBLE (PARKE	D OVER)
	05/04/98	INACCESSIBLE (PARKE	D OVER)
	11/11/98	INACCESSIBLE (PARKI	ED OVER)
MW-9	05/06/96	4.23	3,25
	11/05/96	2.98	1
	05/15/97	3.04	I
	11/12/97	4.02	1
	05/04/98	3.41	1
	11/11/98	5.19	_1
MW-10	05/15/97	1.61	1
	05/04/98	2.85	1
MW-11	05/15/97	1.68	1_1
	05/04/98	2.94	1
34111 10	05115107	0.10	ال
MW-12	05/15/97	2.10	1 1
	05/04/98	3.41	<sup>-</sup>
RW-1	11/07/95		2.13

#### **EXPLANATIONS:**

Dissolved oxygen concentrations prior to May 4, 1998, were compiled from reports prepared by MPDS Services, Inc.

mg/L = milligrams per liter

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

<sup>-- =</sup> Not Measured

Wells were not purged prior to sampling.

#### STANDARD OPERATING PROCEDURE -GROUNDWATER SAMPLING

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

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

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

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

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

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

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

Well Diameter  Total Depth  Depth to Water	BROADWA ND , CA NW -2 2" in. 19.96 t. 8.88 t.	Well Condition Hydrocarbon Thickness:  Volume Factor (VF)	Sampler:	Amount Bail (product/water 3" = 0.38	led n:4" 12" = 5.80	(Gallons)
Well ID  Well Diameter  Total Depth  Depth to Water	ND , CA  In.  In.  In.  In.  In.  In.  In.  In	Well Condition Hydrocarbon Thickness:  Volume Factor (VF)	on: 0.K  feet)  2° = 0.17  6° = 1.	Amount Bail (product/water 3" = 0.38	ied h:4" 12" = 5.80	- 0.66
Well Diameter  Total Depth  Depth to Water	2" in. 19.96 ft. 8.88 ft. x vi	Hydrocarbon Thickness:  Volume Factor (VF)	2" = 0.17 1 6" = 1.	(product/wates 3" = 0.38 50	12" = 5.80	- 0.66
Total Depth Depth to Water	19.96 ft. 8.88 ft. x vi	Thickness:	2° = 0.17 '6° = 1.	(product/wates 3" = 0.38 50	12" = 5.80	= 0.66
Depth to Water	S. Y. VI x VI sposable Bailer	Volume Factor (VF)	2" = 0.17 ' 6" = 1.	3" = 0.38 50	4" 12" = 5.80	,
·	x vi		X 3 (case volume) =	Estimated Purg	ge Volume:	,
·	sposable Bailer		X 3 (case volume) =	Estimated Purg	je Volume: 🔔	
	•	C:				(gal.)
Equipment: Ba			ampling quipment: Dis Bai	posable Bail iler	er	
Si	ack action		Pre	ssure Bailer	-	
	rundfos ther:	<del>-</del>		ab Sample her:		· · · · · · · · · · · · · · · · · · ·
Starting Time:		Weather	Conditions:			
			olor:			
Purging Flow Rate: _			nt Description:			
Did well de-water? _		If yes;	Time:	Volume	3 <b>:</b> _	(gai.)
Time Volum	•	Conductivity  µmhos/cm	Temperature •F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
	:					
	- CONTAINER	LABORATORY		RATORY	ANAL	YSES
SAMPLE ID (#	- CONTAINER	¥	SEQUOIA		TPH(G)/btax/#	ntbe
				<u></u>		
COMMENTS:	MONITORFA	ONLY	1			
				•		

Time Volume pH Conductivity Temperature D.O. ORP Alkalinity (mgl.) (mV) (ppm)  10:25  LABORATORY INFORMATION  SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY ANALYSES  MW - 4 3-VOA', Y HU SEQUOIA TPM(G)/btex/mtbe  COMMENTS: No Purcina Requires	Client/ Facility <sub>- ਪੁਘਾਟ 4</sub>	1 55# 0746	(1.0)C	<u>o)</u>	Job#:				···
Well ID  Well Diameter  2 in Hydrocarbon Thickness: Interest (productivatent): 6 (Galor Thickness: Interest (productivatent): 5 (Galor Thickness: Interest (productiva	Address: <u>394</u>	13 BRCADU	VAY		Date:		-11-9	<u> </u>	
Well Diameter  Total Depth  Depth to Water  Total Depth  Thickness:  Total Depth  Thickness:  Total Depth  Thickness:  Total Depth  Thickness:  Total Depth  Time  Total Depth  Total Depth  Total Depth  Total Depth  Time  Total Depth  To	City: <u>0</u> A/	KLAND, CA			Samp	oler: <u>\$7</u>	eve	<u> </u>	<u></u>
Total Depth  20.03 t.  Purge Disposable Bailer Equipment:  Bailer Stack Suction Grundfos Other:  Starting Time:  20.25 Weather Conditions:  Sampling Time:  (2.25 Weather Color:  (2.25 Sediment Description:  Time Volume pH Conductivity Temperature (mg/L) (m/V) (ppm)  SAMPLE ID (s) - CONTAINER REFIRE.  SAMPLE ID (s) - CONTAINER REFIRE.  LABORATORY INFORMATION  REFRIG. PRESERV. TYPE / LABORATORY ANALYSES  A* = 0.66  Factor (VF)  2* = 0.17	Well ID	-	_	ell Condition	n:	0-K			
Total Depth	Well Diameter	2" i							
Depth to Water	Total Depth	20.03 +	r [^v	olume	2" = 0.	17	3" = 0.38	4	
Purge Disposable Bailer Bailer Equipment: Disposable Bailer Stack Suction Pressure Bailer Grab Sample Other: Other	Depth to Water	9.13	r. F	actor (VF)	<del> </del>	, 6° ≈ 1.50		.2° = 5.80	
Equipment: Bailer Stack Bailer Stack Bailer Stack Bailer Stack Bailer Stack Bailer Grundfos Grundfos Grab Sample Other: O		;	< VF	- = >	C 3 (case v	volume) = Estir	nated Purge	volume: _	(gal.)
Starting Time: 10:22 Weather Conditions: PARTLY CLOVD  Sampling Time: (0:25 Water Color: CLEAR Odor: —  Purging Flow Rate: gpm. Sediment Description:  Did well de-water? If yes; Time: Volume: (93)  Time Volume pH Conductivity Temperature D.G. ORP Alkalinity (mV) (ppm)  10:25 (93) 7.05 (97) 71.6 (4.33)  LABORATORY INFORMATION  SAMPLE ID (8) - CONTAINER REFRIG. PRESERV. TYPE / LABORATORY ANALYSES  MW - Cy 3 - VO A', Y HC SEQUOIA TPHIGI/Desx/mtbs  COMMENTS: No PURCINE PEQUIREP	_	Bailer Stack				Bailer			·
Sampling Time: (3:25 Water Color: CLEAR Odor: —  Purging Flow Rate:			· 	-			•		
Purging Flow Rate:	Starting Time:	10:22		Weather (	Conditio	ns: <u>PART</u>	<u> </u>	0 V D	
Did well de-water?	Sampling Time:	10:25		Water Col	lor:	CLEAR	c	)dor:	
Time Volume pH Conductivity Temperature D.O. ORP Alkalinit (mg/L) (mV) (ppm)  10:25  LABORATORY INFORMATION  SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY ANALYSES  MW - 4 3-Vo A') Y HU SEQUOIA TPH(G)/btex/mtbe  COMMENTS: No Purging Requires		·							
LABORATORY INFORMATION  SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE / LABORATORY ANALYSES  MW - 4 3 - VO A' 3 Y HU SEQUOIA TPH(G)/btex/mtbe  COMMENTS: No PURCING REQUIRED	Did well de-wate	r?	<u> </u>	If γes; T	īme:	<del></del>	Volume:		lep)
SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE / LABORATORY ANALYSES  MW - 4 3- VO A') Y Hell SEQUOIA TPH(G)/btex/mtbe  COMMENTS: No PORGING PROVIRED		(gal \	(411)	thos/cm	F,	$\sim$ $\sim$	mg/L)_)	-	Alkalinity (ppm)
SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE / LABORATORY ANALYSES  MW - 4 3- VO A') Y Held SEQUOIA TPH(G)/btex/mtbe  COMMENTS: No Purging Required	<u> </u>	<u> </u>							
SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE / LABORATORY ANALYSES  MW - 4 3- VO A') Y Held SEQUOIA TPH(G)/btex/mtbe  COMMENTS: No Purging Required			·			-			
SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE / LABORATORY ANALYSES  MW - 4 3 - VO A') Y HU SEQUOIA TPH(G)/btex/mtbe  COMMENTS: No Purging Required				<u> </u>			<u>_</u>		·
MW-4 3-VOA'S Y Hell SEQUOIA TPH(G)/btex/mtbe	SAMPLE ID	(#) - CONTAINER					RY	ANALY	SES
COMMENTS: No PURGING PROVIRED	MW-4	<del> </del>	Y	77.					
COMMENTS: No PURCING PROVIRED					;				:
COMMENTS: No PURCING PROVIRED								·	
COMMENTS: NO FURGING PEQUIREP		440 00 00			1	<del></del>			
	COMMENTS: _	ORC'	REC	TUIREP TIS 11	IECI		<del></del>		

Client/ Facility <u>UMOCA</u>	4 <u> </u>	0746	(70)(0)	Job#:	1800	63	
Address: 390	***			and the second of the second	11-11-	97	
City: • A/				•	: STEUR		
Well ID	MW	- <u>2</u> ·	Well Condit		).K		
Well Diameter	<u></u>		Hydrocarbo Thickness:	n (BRO	Amount	Bailed	T (Gallons)
Total Depth		<u>18 fr.</u> 23 fr.	Volume Factor (VF)	$2^{\circ} = 0.17$	3" = 0. 6" = 1.50	38 4	
Depth to Water		<u> </u>	<u> </u>				
		×	VF #	_ X 3 (case volu	me) = Estimated	Purge Volume: _	(gal.)
Purge Equipment:	Bailer Stack Suction Grundfo		I	Sampling Equipment:	Disposable I Bailer Pressure Ba Grab Sampl Other:	iler e	
Starting Time: Sampling Time: Purging Flow Ra Did well de-wate	 te:		Water (	nt Description	- n: Volu	Odor:	
	Volume (gal.)	pН	Conductivity  µmhos/cm	Temperatu •F	re D.O. (mg/L)		Alkalinity (ppm)
	· · · · · · · · · · · · · · · · · · ·	<u></u>					
-	<u></u>	· · · · · · · · · · · · · · · · · · ·	LABORATORY	INFORMATIO	N	-	
SAMPLE ID	(#) - CON	TAINER		RV. TYPE /	LABORATORY	ANAL	
			× ·	SEC	DUOIA	TPH(G)/btex/n	ntbe
COMMENTS: _	0100 1	701	AMPLED , DI	E 70	PREJENCE	e of F	REE
=	PRODU				•	· · · · · · · · · · · · · · · ·	
			THE WI NCT: TO		seduo,	A CAB	9/97-fleidat.fr

Client/ Facility <u>نبيات</u>	41 SSE	10746	(Tosc	<u>o)</u>	Job#	<b>:</b> , _	18001	63	
Address: 39	•		_	•	Date:		11-11-	98	
City: <i>0A</i>			/		Samı	oler: _	STEVE	BACA	<u></u>
Well ID	MW	<u>-6·</u>	We	II Conditi	ion:	o·k		·	
Well Diameter	2	- in.	-	drocarboi ckness:	_	(fnat)	Amount I		(Gallons)
Total Depth	<u> 19</u>	.78 m	V	olume actor (VF)	2* = 0.	.17	3" = 0.3	./	4" = 0.66
Depth to Water		ft.						12 - 3.50	
		×	VF	- =	X3 (case	volume)	≖ Estimated F	Purge Volume: ,	(gal.)
Purge Equipment:	Bailer Stack	able Bailer			iampling iquipment	. 8	isposable B ailer	·	
	Suctio Grund Other:		<u>—</u>			G	ressure Bail rab Sample ther:	•	
Starting Time:				Weathe	r Conditio	ns: _			
Sampling Time:			·	Water C	Color:			Odor:	
Purging Flow Ra	ate:		apm.	Sedime	nt Descrip	tion: _			
Did well de-wat	ter?			If yes;	Time: _		Volui	me:	(gal.)
Time	Voiume (gal.)	pH		ductivity hos/cm	Tempe •F		D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<del></del> -	<del></del>	<del></del>				<del></del>			
			· —			_		·	
		· <del>-</del>	_ <del></del>					<del> </del>	•
					INFORMA				
SAMPLE ID	(#) - CO	NTAINER	REFRIG.	PRESER	v. TYPE 🦯	SEQUOL	RATORY	ANAL TPH(G)/b(e)x/r	
	3							11110110101	
				<u>-</u>				<u> </u>	
COMMENTS:	Mou	TOREN	one	7				<del></del>	<del></del>
<del>-</del>									<u>.</u>

Client/ Facility <u>(wec.</u>	AL 55# 074	16 (TOS	(0)	Job#:	1800	63	
Address: 39	143 BROA	DWAY		Date:	11-11-	9 y	
	-KLAND , C	/		Sampler:	STEVE	BALL	<u></u>
Well ID	<u>uw-7</u>	w	ell Conditio	on:	·K		
Well Diameter	2"	Th.	/drocarbon iickness: _	/	Amount		(Gallons)
Total Depth	18.50	) <u>ft.</u> \	/olume	2" = 0.17	3" = 0_	38	4" = 0.66
Depth to Water	8.20	ft.	actor (VF)	' 6" =	<b>1.50</b>	12" = 5.80	
	<del></del>	_ X VF	_ =	X 3 (case volume)	= Estimated F	Purge Volume: ,	. [gal.]
Purge Equipment:	Disposable B Bailer Stack Suction Grundfos Other:			·	Disposable E Bailer Pressure Bail Grab Sample Other:	ler	
Starting Time:			Weather	Conditions:			
Sampling Time:	-		Water Co	olor:		Odor:	
Purging Flow Ra	ate:	gom.	Sedimen	t Description:			
Did well de-wat	ter?		if yes;	Time:	Volui	me:	(gal.)
Time	Volume pl (gal.)		nductivity nhos/cm	Temperature •F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
				<del></del>		·	
_	<del></del>		<u> </u>			<del></del>	
SAMPLE ID	(#) - CONTAINE			IFORMATION TYPE / LAB	ORATORY	ANAL	VSES
			<del></del>	SEGUO		TPH(G)/btex/n	
COMMENTS:	MONITO	RED	ones				
_							
						<u> </u>	

### WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility ביעני	AL SSH	0746 (	Tosc	<u> </u>	Job#	<b>#</b> :	18006	53	
Address: 3°		`	_		Date	): 	11-11-9	ìγ	
City: <u>0</u> /			/					BACI	<u> </u>
Well ID	•	- <u>8</u>	Wei	II Conditio	on: _	* 5	ee no-	les belo	w
Well Diameter	2	in.		irocarbon ckness: _		(feet)	Amount E		(Gallons
Total Depth  Depth to Water		ft.	1	olume ector (VF)	2" = (	0.17 ' 6" = 1.	3° = 0.3 50	8 12" = 5.80	4" = 0.66
		x v	F			voluma) =	Estimated P	urge Volume:	(gal.)
Purge Equipment:	Bailer Stack Suction Grundfo		•		ampling quipmen	Bai Pre Gra	posable B ler ssure Bail ab Sample ner:	er	
Starting Time:			<del></del> .	Weather	Condition	ons:			
Sampling Time	<u> </u>			Water C	olor:			Odor:	
Purging Flow A	late:	qp	<u>m</u> ,	Sedimen	t Descri	ption:	· · · · · · · · · · · · · · · · · · ·		
Did well de-wa	ter?		<del>_</del>	If yes;	Time: _	<del></del>	Volun	ne:	(gal
Time	Volume (gal.)	<b>р</b> Н		ductivity hos/cm	Temp	erature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
		<u> </u>			_				
				ATORY II					
SAMPLE ID	(#) - CON	TAINER H	Y Y	PHESERV	/. TYPE	SEQUOIA	ATORY	ANA! TPH(G)/btex/	YSES
	<del> </del>				<u>;</u> ;	000000		7.114/1008/	,,,,,,,
						-			
COMMENTS:	*oin	NOT		MPL				ARKEO	OVER
	- RY	I WK	CAR			Inacce	ssible		<u>.</u>

#### AACTT INICIALI OUHAGIQMINICTHAG

Facility - Luck	41 55#07	46 (T	<u> </u>	Job#:	1800	63	
Address: 3	743 BRO	4nway		Date:		-9X	
	+K(AND,			Sampl	er: <u>STEV</u>	E BALLA	<u>~</u>
Well ID	MW-/	o ·	Well Condit	ion:	o.K		
Well Diameter	2"	in,	Hydrocarbo Thickness:		Amount		(Gallons)
Total Depth	21.78	ft.	Volume	2" = 0.1	7 3" = 0	.38	4" = 0.66
Depth to Water	12.03	<u>ft.</u>	Factor (VF)		· 6" = 1.50	12° = 5.80	
Purge	Disposable		S	Sampling	olume) = Estimated		(gal.)
Equipment:	Bailer Stack Suction Grundfos Other:	· · · · · · · · · · · · · · · · · · ·	E	quipment:	Disposable Bailer Pressure Ba Grab Sampl Other:	iler e	
Starting Time:			Weathe	r Condition:	s:		
Sampling Time	<u> </u>		Water C	Color:		Odor:	
Purging Flow R	ate:	gpm,	Sedime	nt Descripti	on:		
Did well de-wa	ter?		If yes;	Time:	Volu	ıme:	(gal.)
Time	Volume I	р <b>Н</b> -	Conductivity  µmhos/cm	Tempera •F		ORP (mV)	Alkalinity (ppm)
			<del></del>				·
			<u> </u>		<del></del>	<del>_</del>	·
SAMPLE ID	(#) - CONTAIN		BORATORY I	INFORMATI	ON LABORATORY	ANAL	YSES
	1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		s	EQUOIA	TPH(G)/btex/n	
	<u> </u>						
	A.c. i				*	1	
COMMENTS:	<u>Μολίτο</u> ,	REA O	Nicy _				
						•	

#### WELL MONITURING/SAMPLING FIELD DATA SHEET

Client/ Facility عنمن	CAL 55#0746	(TO)(0)	Job#:	1800	63	
Address: <u>3</u>	943 BROAD	WAY	Date:	11-11-	9x	
	AKLAND , CA	/		STEVE		لع
Well ID	MW-11.	Well Cor	ndition: O	.K		
Well Diameter	2"	<u>in.</u> Hydroca Thickne:	~~	Amount 1		<b>.</b>
Total Depth	19.20			$\frac{\text{feet}}{3^{\circ}} = 0.3$		S (Gallons)  4" = 0.66
Depth to Wate	er <u>11.40</u>	ft. Factor (		5" = 1.50		
		x vf =	X 3 (case volur	me) = Estimated F	'urge Volume: _	. (gal.)
Purge Equipment:	Disposable Bail Bailer Stack Suction Grundfos Other:	•	Sampling Equipment:	Disposable B Bailer Pressure Bail Grab Sample Other:	er	
Starting Time:		Wea	ther Conditions:		•	· · · · · · · · · · · · · · · · · · ·
Sampling Time	e:	Wat	er Color:		Odor:	
Purging Flow	Rate:	gpm. Sedi	ment Description	:	·	<u>.</u>
Did well de-wa	ater?	If ye	s; Time:	Volum	ne:	{gal.
Time	Volume pH (gal.)	Conductive umhos/cn	· -	ne D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
•		<u> </u>				
						<u> </u>
			RY INFORMATION		·	
SAMPLE ID	(#) - CONTAINER	REFRIG. PRE		ABORATORY	ANALY	
				0017	-1 DONOTEXI	***************************************
COMMENTS:	MONITOREA	oxy		<del> </del>		·
	<u> </u>			· · · · · · · · · · · · · · · · · · ·		<del></del>

#### AACTT IAIOIALI OUIIAGIQHIAILTIIAG

#### FIELD DATA SHEET

Client/ Facility <u>נאוטר 4</u>	( 55#	0746 (	Tosco)	Job#:		18006	3	
Address: 399	•		•			11-11-	98	
City: <u>0</u> A/					er: <u> </u>	TEVE	BALIA	النو
Well ID	<u>м</u> w-	7	Well Condi			Okan	,	
Well Diameter	•		Hydrocarbo Thickness:			Amount E		(Gallons)
Total Depth	11.1	65 m	Volume		7	3" = 0.3	8 4	<b>"</b> ≠ 0.66
Depth to Water	<u> 11. S</u>	.3 <sub>ft.</sub>	Factor (VF)	) 	· 6 = 1-	<del></del>	12° = 5.80	
		x v		X 3 (case vo	iume) =	Estimated Po	urge Volume: _	(qal.)
Purge Equipment:	Bailer Stack Suction Grundfo	ole Bailer s		Sampling Equipment:	Bail Pre Gra	posable Baller ssure Balle b Sample ner:	er	
Starting Time:			Weath	ièr Condition	s:			
Sampling Time:			Water	Color:			Odor:	
Purging Flow Ra	te:	db do	<del></del>					
Did well de-wate	er?		if yes;	Time:		Volun	ne:	(qal.
	/olume (gal.)	рН	Conductivity  µmhos/cm	Temper:	arure .	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
				<u> </u>				
	<u> </u>							
SAMPLE ID	{#} - CON	AINER R	LABORATORY	INFORMAT		ATORY	ANAL	rses
		1_	*		AIOUDS		TPH(G)/httpx/m	otha
<u> </u>					<u></u>		<u>.                                    </u>	
COMMENTS: _		n'tored	ordy					

S/97-fleidat.frm



Tooto Marketing Company 2003 Com Caryon FL, Std. 408 San Rosson, Cabbrelle 24443

Foolity Humber UNOCAL SS#BP0746
Facility Address 3943 BROADWAY, OAKLAND, CA
180063.85
Consultant Project Number 180063.85
Consultant Name Gettler-Ryan Inc. (G-R Inc.)
Address 6747 Sierra Court, Suite J. Dublin, CA 94568
Protect Contact (Name) Deanna L. Harding
(Phone) 510-551-7555 (Fox Number) 510-551-7888

Cantact (Home) MS. 11MA BEART

(Phone) 925-277-2321

Laboratory Name Sequota Analytical Samples Collected by (Name) STEVE BACAM

Collection Date 11-11-98

Signature STEVE BACIAN FORCE

			(Phone)510-551-7555 (Fox Number)510-551-7888							_ s	Signature STEVE RACIAL FULL										
					101107= 3							-	Analyse	e To B	• Perfor	ned				,. <u>.</u> .	DO NOT BILL
Sample Number	Lab Sample Number	Number of Contoiners	Matrix S = Soli A = Air W = Water C = Charcool	Type C = Grob C = Composite D = Discrete	Tkne	Sample Preservation	( tond (Year or No.)	1	TPH Grand (8015)	Oil and Grease (5520)		Purpeable Aromatics (8020)	Purgeable Organica (8240)	T	Metals Cd.Cr.Pb.Zn.Mi (ICAP or AA)						TB-LB ANALYSIS
TB-LB		1	W	6		14-4	X	X			110			<u> </u>	<b> </b>			<u>  ·                                     </u>			<del></del>
		3	//	10	10:17	- 11	X	X_		82	108	349	<u> </u>	<u> </u>				<del> </del>		<del> </del>	
MW-1		3	v	"	11:20	11	X	X		8	110	<u> 350</u>			ļ <u>.</u>			<del> </del> -		<del> </del>	<del> </del>
MIV 4		3	P	"	10:25	"	X	X			110 110			<u> </u>		ļ		<del> </del>	ļ	ļ —	<del> </del>
MW-3 MW-4 MW-9		3	"	"	12:20	"	火	X		8	110	85%	<u> </u>		<u> </u>			ļ <u>.</u>	<b> </b>		
7		<u> </u>	<del> </del>			·				<u> </u>		ļ 			<u> </u>	ļ		.l	<del> </del>	<u> </u>	
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		1	1				<u> </u>		<u></u>			Щ,			l Dal	te/Time	<u> </u>	┨	Turn A	round 1	lime (Circle Cholce)
Relinquished By (Signature) Organization				Date/Thme 13:25 Received By (Signature)				Organization		100	Date Villag			24 Hre-							
STEVE BAL Relinquished By	(Signature)	200		-R Inc ganization	<del></del>	-  -9     Date/Time   Rec			Received Dy (Signature)				Organization		Do	Dote/∏m≠			40 Hre. 6 Doye		
Relinquished By (Signature) Organization		,	Date/Time	Date/Time Reviewed For Laboratory By (Signatur			nature)	Date/Time		· · · · ·		O Daye									



680 Chesapeake Drive 404 N. Wiget Lane 819 Striker Avenue, Suite 8 1455 McDowell Blvd. North, Ste. D Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

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

Client Project ID: Sample Matrix: Unocal SS#BP0746, Oakland

/ Sampled: Received: Nov 11, 1998 Nov 11, 1998

Attention: Deanna Harding

Analysis Method: First Sample #: EPA 5030/8015 Mod./8020 811-0848 Reported: Nov

Nov 24, 1998

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE...

Analyte	Reporting Limit µg/L	Sample I.D. 811-0848 TB-LB	Sample I.D. 811-0849 MW-1	Sample I.D. 811-0850 MW-3	Sample I.D. 811-0851 MW-4	Sample I.D. 811-0852 MW-9	
Purgeable Hydrocarbons	50	N.D.	N.D.	8,700	N.D.	N.D.	
Benzene	0.50	N.D.	N.D.	500	0.63	N.D.	
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	
Ethyl Benzene	0.50	N.D.	N.D.	330	N.D.	N.D.	
Total Xylenes	0.50	N.D.	N.D.	310	N.D.	N.D.	
MTBE	2.5	N.D.	200	N.D.	N.D.	N.D.	
Chromatogram Pat	tern:	••		Gasoline			

**Quality Control Data** 

Report Limit Multiplication Factor:	1.0	1.0	50	1.0	1.0
Date Analyzed:	11/13/98	11/13/98	11/13/98	11/16/98	11/13/98
Instrument Identification:	HP-5	HP-5	HP-5	HP-2	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	107	106	86	103	92

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

**SEQUOIA ANALYTICAL, #1271** 

Julianne Fegley Project Manager

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680 Chesapeake Drive 404 N. Wiget Lane 819 Striker Avenue, Suite 8 1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler-Ryan - Dublin 6747 Sierra Court, Suite J

Dublin, CA 94568 Attention: Deanna Harding

Client Project ID:

Unocal SS#BP0746, Oakland Matrix:

QC Sample Group: 8110848-852

Reported:

Nov 24, 1998

#### **QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl	Xylenes	
			Benzene		
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater	
MS/MSD					
Batch#:	8110852	8110852	8110852	8110852	
Date Prepared:	11/13/98	11/13/98	11/13/98	11/13/98	
Date Analyzed:	11/13/98	11/13/98	11/13/98	11/13/98	
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	
Conc. Spiked:	20 μg/L	20 μg/L	20 μg/L	60 μg/L	
Matrix Spike					
% Recovery:	100	100	100	105	
Matrix Spike Duplicate %	115				
Recovery:	115	115	115	115	
Relative %					
Difference:	14	14 .	14	9.1	
LCS Batch#;	5LCS111398	5LCS111398	5LCS111398	5LCS111398	
Date Prepared:	11/13/98	11/13/98	11/13/98	11/13/98	
Date Analyzed:	11/13/98	11/13/98	11/13/98	11/13/98	
nstrument I.D.#:	HP-5	HP-5	HP-5	HP-5	
LCS %					
Recovery:	100	100	100	105	

SEQUOIA ANALYTICAL, #1271

70-130

% Recovery Control Limits:

Julianne Fegley **Project Manager**  Please Note:

70-130

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.

70-130

70-130



680 Chesapeake Drive 404 N. Wiget Lane 819 Striker Avenue, Suite 8 1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler-Ryan - Dublin 6747 Sierra Court, Suite J

Dublin, CA 94568 Attention: Deanna Harding Client Project ID: Unocal SS#BP0746, Oakland

Matrix: Liquid

QC Sample Group: 8110848-852

Reported:

Nov 24, 1998

#### QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Talana	Est. I	V. 1	
ANALTIE	benzene	Toluene	Ethyl	Xylenes	
			Benzene		
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	
Analyst:	C. Westwater	C. Westwater	C. Westwater		
	***	<del></del>			
MS/MSD					
Batch#:	8111108	8111108	8111108	8111108	
Date Prepared:	11/16/98	11/16/98	11/16/00	44 /46 /00	
Date Analyzed:	11/16/98	11/16/98	11/16/98 11/16/98	11/16/98	
Instrument I.D.#:	HP-2	HP-2	HP-2	11/16/98 HP-2	
Conc. Spiked:	20 μg/L				
Conc. Spikeu.	20 µg/ C	20 μg/L	20 µg/L	60 μg/L	
Matrix Spike					
% Recovery:	90	85	90	95	
Matrix Spike					
Duplicate %					
Recovery:	95	90	100	103	
Relative %					
Difference:	5.4	5.7	11	8.4	
***************************************	********************************	***************************************			
LCS Batch#:	2LCS111698	2LCS111698	2LCS111698	2LCS111698	
		- · · · · · · ·			
Date Prepared:	11/16/98	11/16/98	11/16/98	11/16/98	
Date Analyzed:	11/16/98	11/16/98	11/16/98	11/16/98	
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	
LCS %					
Recovery:	105	100	100	110	
	100	100	100	<sub>/</sub> 110	
% Recovery			-	,'	
Control Limits:	70-130	70-130	70-130	70-130	

SEQUOIA ANALYTICAL, #1271

lianne Fegleyاکلا Project Manager 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.