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> April 30, 2001 G-R #:180109

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MAY 2 1 2001

TO:

Mr. David B. De Witt

**Tosco Marketing Company** 

2000 Crow Canyon Place, Suite 400

San Ramon, California 94583

CC:

Mr. Tim Ripp

IT Corporation

1921 Ringwood Avenue San Jose, California 95131

FROM:

Deanna L. Harding

Project Coordinator Gettler-Ryan Inc.

6747 Sierra Court, Suite J Dublin, California 94568 RE:

Tosco (Unocal) SS #5760

376 Lewelling Boulevard San Lorenzo, California



WE HAVE ENCLOSED THE FOLLOWING:

DATED

April 19, 2001

 DESCRIPTION
Groundwater Monitoring and Sampling Report First Semi-Annual - Event of March 16, 2001

#### **COMMENTS:**

COPIES

1

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 14*, 2001, this report will be distributed to the following:

cc: Ms. Amy Leech, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Alameda, CA 94501

Enclosure

trans/5760-dbd



April 19, 2001 G-R Job #180109

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

RE: First Semi-Annual Event of March 16, 2001

Groundwater Monitoring & Sampling Report

Tosco (Unocal) Service Station #5760

376 Lewelling Boulevard San Lorenzo, California

Dear Mr. De Witt:

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

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the wells. Static water level data and groundwater elevations are summarized in Table 1. Dissolved Oxygen Concentrations are summarized in Table 3. A Potentiometric Map is included as Figure 1.

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

Sincerely,

Deanna L. Harding

**Project Coordinator** 

Stephen J. Carter

Senior Geologist, R.G. No. 5577

Figure 1:

Potentiometric Map

Figure 2:

Concentration Map

Table 1:

Groundwater Monitoring Data and Analytical Results

Table 2:

Groundwater Analytical Results - Oxygenate Compounds

Table 3:

**Dissolved Oxygen Concentrations** 

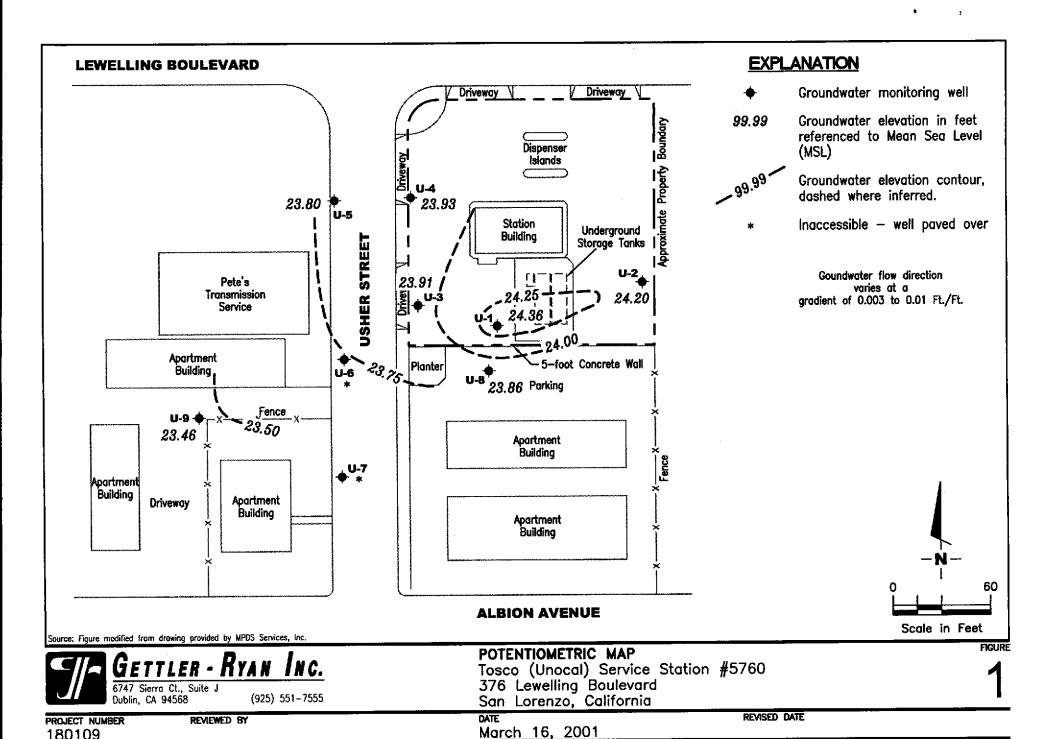
Attachments:

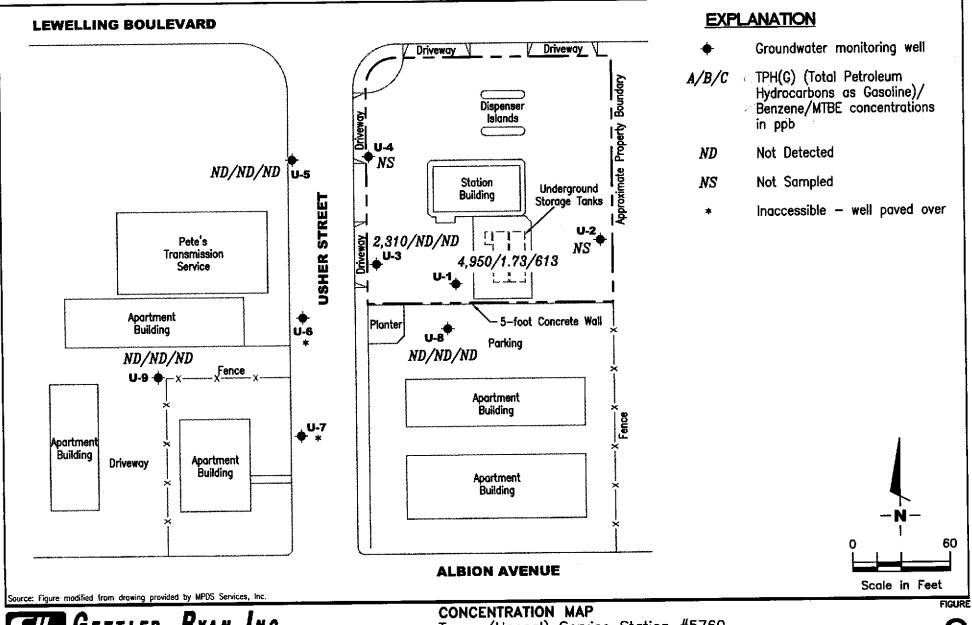
Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

5760.ami







REVIEWED BY

Tosco (Unocal) Service Station #5760 376 Lewelling Boulevard San Lorenzo, California

DATE March 16, 2001 REVISED DATE

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PROJECT NUMBER

# Table 1 Groundwater Monitoring Data and Analytical Results

**/*** * ****	Name	Para	esser.	Product	TPH-G	В	Т	E	X	МТВЕ
WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	Thickness (ft.)	(ppb)	D (ppb)	1 (ppb)	r (ppb)	A (ppb)	(ppb)
ITOC:		U.G	(IIISI)	USI	(ұро)	( <i>ppo</i> )	(рри)	(РРФ)	(PPO)	(PPU)
U-1	02/09/88	••			93,000	3,600	11,000	<u></u> l	20,000	
	03/20/90				36,000	2,100	5,500	1,900	9,300	••
	06/05/90				46,000	2,300	5,500	2,500	11,000	
	08/24/90				27,000	1,200	1,800	1,400	5,500	
	12/05/90				NOT SAMPLE	DUE TO THE	PRESENCE OF	FREE PRODUC	T	
	03/04/91				NOT SAMPLE	DUE TO THE	PRESENCE OF	FREE PRODUC	Т	
	06/03/91				NOT SAMPLE	DUE TO THE	PRESENCE OF	FREE PRODUC	T	
	09/19/91				NOT SAMPLE	DUE TO THE	PRESENCE OF	FREE PRODUC	T	
	12/04/91				NOT SAMPLE	DOLE TO THE	PRESENCE OF	FREE PRODUC	Т	
	03/05/92			ست.	NOT SAMPLE	DUE TO THE	PRESENCE OF	FREE PRODUC	Ť	
	04/07/92				NOT SAMPLEI	O - PRODUCT S	SKIMMER INST	ALLED IN WEL	L	
	08/06/92				NOT SAMPLEI	DUE TO THE	PRESENCE OF	FREE PRODUC	T	
	11/20/92	<del></del>			NOT SAMPLEI	DUE TO THE	PRESENCE OF	FREE PRODUC	T	
	02/12/93				70,000	2,200	8,400	3,100	18,000	
40.51	06/04/93	16.72	23.79	0.00	35,000	1,300	5,700	900	9,200	
	09/09/93	17.77	22.74	0.00	67,000	2,900	18,000	6,200	32,000	••
40.20	12/02/93	18.36	21.84	< 0.01	NOT SAMPLE	D DUE TO THE	PRESENCE OF	FREE PRODUC	Т	
	03/09/94	17.20	23.00	0.00	45,000	930	4,100	2,000	11,000	
	06/09/94	17.42	22.78	0.00	59,000	5,200	1,300	5,200	15,000	
	09/07/94	18.17	22.03	0.00	41,000	1,600	6,200	3,100	16,000	
	12/05/94	16.67	23.53	0.00	1,300	55	20	16	330	
	03/09/95	15.82	24.38	0.00	49,000	860	3,200	1,900	10,000	1,500
	06/13/95	14.70	25.50	0.00	53,000	1,400	5,000	2,500	14,000	2,800
40.01**	09/12/95	16.77	23.24	0.00	43,000	910	2,700	1,700	9,600	1,400
40.20	12/14/95	INACCESSIBL	E - WELL CO	NNECTED TO F	REMEDIATION S	YSTEM WHIC	H WAS NOT RU	JNNING		
	03/20/96	INACCESSIBL	E - WELL CO	NNECTED TO F	REMEDIATION S	YSTEM WHIC	H WAS NOT RU	JNNING		
	03/22/96		**		13,000	200	590	640	4,000	790
	09/24/96	INACCESSIBL	E - WELL CO	NNECTED TO F	REMEDIATION S	SYSTEM WHIC	H WAS NOT RU	JNNING		
	03/27/97	15.29	24.91	0.00	1,300	8.0	ND	ND	400	ND
	09/23/97	17.20	23.00	0.00	2,000	15	ND	ND	530	ND
	03/10/98	12.68	27.52	0.00	$2,200^6$	19	4.8	$ND^7$	980	38

Table 1
Groundwater Monitoring Data and Analytical Results

				San I	Lorenzo, Came					
				Product			<b></b>	E	x	MTBE
WELL ID/	DATE	DTW	GWE	Thickness	TPH-G	В	T (ppb)	E (ppb)	A (ppb)	(ppb)
TOC*		(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppa)	урры)	(РРО)	
	00104100	16.84	23.36	0.00	5,3008	53	$ND^7$	410	620	$ND^7$
U-1	09/04/98		23.36	0.00	1,500	19	$\mathrm{ND}^7$	56	110	310
(cont)	03/04/99	13.04	23.06	0.00	5,850 <sup>8</sup>	32.7	$\mathrm{ND}^7$	520	925	$ND^7$
	09/13/99	17.14	25.84	0.00	4,8208	17.4	7.74	297	1,370	ND <sup>7</sup>
	03/21/00	14.36	23.48	0.00	6479	6.44	ND <sup>7</sup>	22.3	6.86	22.2
	09/18/00	16.72	23.46	0.00						/29 <sup>10</sup>
	10/13/00	16.85	23.33 24.36	0.00	4,95011	1.73	1.77	429	536	613
	03/16/01	15.84	24.30	<b>U.</b> UU	4,520	1175	2			
					ND	ND	ND	ND	ND	<del></del>
U-2	08/23/90			<del></del>	ND ND	ND	ND	ND	ND	
	12/05/90				ND ND	ND	0.9	ND	2.6	
	03/04/91				ND ND	ND ND	ND	ND	ND	
	06/03/91					ND ND	ND	ND	ND	
	09/19/91				ND	ND ND	ND	ND	ND	
	12/04/91				ND	ND ND	0.36	ND	ND	
	03/05/92				ND		0.30 ND	ND	ND	
	04/07/92				ND	ND	ND	ND	ND	
	08/06/92				ND	ND		ND	ND	
	11/20/92				ND	ND	ND		ND	
	02/12/93				ND	ND	ND	ND	ND ND	
41.62	06/04/93	17.59	24.03	0.00	ND	ND	ND	ND	ND ND	••
	09/09/93	18.68	22.94	0.00	ND	ND	ND	ND		
41.26	12/02/93	19.23	22.03	0.00	ND	ND	ND	ND	ND	
	03/09/94	18.05	23.21	0.00	62	1.1	5.4	1.1	9.7	
	04/13/94	18.18	23.08	0.00	ND	ND	ND	ND	ND	
	06/09/94	18.26	23.00	0.00	ND	ND	ND	ND	ND	
	09/07/94	19.28	21.98	0.00	ND	ND	0.63	ND	0.61	
	12/05/94	18.82	22.44	0.00	ND	ND	ND	ND	ND	
	03/09/95	16.96	24.30	0.00	ND	ND	ND	ND	ND	ND
	06/13/95	16.71	24.55	0.00	ND	ND	ND	ND	ND	ND
	09/12/95	17.80	23.46	0.00	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #5760

			OMIE.	Product	TPH-G	В	T	E	X	MTBE
WELL ID/	DATE	DTW (ft.)	GWE (msl)	Thickness (ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
TOC*		()4.)	(11131)	(j.,)	(PPO)	2000 A. 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	· · · · · · · · · · · · · · · · · · ·			20000000000000000000000000000000000000
U-2	12/14/95	18.18	23.08	0.00	ND	ND	ND	ND	ND	ND
(cont)	03/20/96	15.02	26.24	0.00						
(cont)	09/24/96	17.90	23.36	0.00						
	03/27/97	16.45	24.81	0.00	ND	ND	ND	ND	ND	ND
	09/23/97	18.40	22.86	0.00						
	03/10/98	13.79	27.47	0.00	ND	ND	ND	ND	ND	ND
	09/04/98	17.98	23.28	0.00				7-		
	03/04/99	14.96	26.30	0.00	ND	ND	ND	ND	ND	ND
	09/13/99	18.25	23.01	0.00						
	03/21/00	15.54	25.72	0.00	ND	ND	ND	ND	ND	ND
	09/18/00	17.55	23.71	0.00	<u></u>					
	03/16/01	17.06	24.20	0.00						
	<i></i>									
U-3	08/23/90	<b></b>			110,000	4,400	13,000	2,800	17,000	
0-3	12/05/90	••			69,000	1,900	3,500	1,600	9,800	
	01/18/91			<del>-</del> -	51,000	1,700	3,100	1,500	7,500	
	03/04/91				84,000	1,400	10,000	2,900	17,000	
	06/03/91				130,000	5,800	19,000	4,600	24,000	
	09/19/91				61,000	3,300	9,700	2,800	15,000	
	12/04/91				75,000	2,500	6,100	1,900	11,000	
	03/05/92				160,000	5,300	15,000	5,400	26,000	
	04/07/92				97,000	6,100	16,000	5,400	28,000	
	08/06/92				140,000	5,100	13,000	5,000	23,000	
	11/20/92		<del></del>		50,000	3,200	4,700	1,900	10,000	
	02/12/93				80,000	3,700	9,400	3,700	18,000	
39.64	06/04/93	15.48	24.16	0.00	92,000	2,900	8,700	4,300	20,000	
,77.UT	09/09/93	17.04	22.60	0.00	110,000	2,800	10,000	6,500	31,000	
39.26	12/02/93	17.55	21.71	0.00	110,000	3,200	7,700	5,600	26,000	
37.20	03/09/94	16.35	22.91	0.00	120,000	4,500	8,300	5,600	28,000	
	05/09/94	16.60	22.66	0.00	120,000 <sup>4</sup>	3,300	6,100	5,200	26,000	

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #5760

WELL ID/	DATE	DTW	GWE	Product Thickness	TPH-G	В	Т	E	X	МТВЕ
TOC*	DAIL	(fi.)	(msl)	(ft.)	(ppb)	(ppb)	(pph)	(ppb)	(ppb)	(ppb)
		9-2								
U-3	09/07/94	17.61	21.65	0.00	100,000	2,400	4,900	4,200	21,000	
(cont)	12/05/94	17.08	22.18	0.00	140,000	3,100	5,100	4,900	21,000	
,	03/09/95	15.20	24.06	0.00	100,000	2,300	3,300	4,800	21,000	54,000
	06/13/95	15.11	24.15	0.00	64,000	1,700	1,500	3,800	18,000	900
39.26**	09/12/95	16.11	23.15	0.00	69,000	1,700	820	4,000	19,000	29,000
	12/14/95	INACCESSIBL	E - WELL CO	NNECTED TO RE	MEDIATION S	YSTEM WHIC	H WAS NOT R	UNNING		
	03/20/96	INACCESSIBL	E - WELL CO	NECTED TO RE	MEDIATION S	YSTEM WHIC	H WAS NOT R	UNNING		
	03/22/96				15,000	150	490	480	3,100	400
	09/24/96	INACCESSIBL	E - WELL CO	NNECTED TO RE	MEDIATION S	YSTEM WHIC	H WAS NOT R	UNNING		
	03/27/97	1 <b>4.77</b>	24.49	0.00	110	ND	ND	ND	0.62	9.6
	09/23/97	16.74	22.52	0.00	ND	ND	ND	ND	ND	ND
	03/10/98	12.18	27.08	0.00	ND	ND	ND	ND	3.1	ND
	09/04/98	16.46	22.80	0.00	ND	ND	ND	1.2	2.3	ND
	03/04/99	13.48	25.78	0.00	ND	ND	ND	ND	ND	ND
	09/13/99	16.71	22.55	0.00	ND	ND	1.77	ND	1.06	9.08
	03/21/00	13.87	25.39	0.00	1 <b>8,7</b> 00 <sup>8</sup>	$ND^7$	$ND^7$	1,290	4,770	$ND^7$
	09/18/00	16.12	23.14	0.00	ND	ND	ND	ND	ND	ND
	03/16/01	15.35	23.91	0.00	2,31012	ND	ND	184	618	ND
U-4	08/23/90				ND	ND	1.0	ND	1.8	
	12/05/90				ND	ND	ND	ND	ND	
	01/18/91				ND	ND	ND	ND	ND	
	03/04/91				ND	ND	ND	ND	ND	
	06/03/91				ND	ND	ND	ND	ND	
	09/19/91				ND	ND	ND	ND	ND	
	12/04/91				ND	ND	ND	ND	ND	
	03/05/92				ND	ND	ND	ND	ND	
	04/07/92				ND	ND	ND	ND	ND	·
	08/06/92	<del>-</del> -			ND	ND	ND	ND	ND	

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #5760

376 Lewelling Boulevard
San Lorenzo, California

WELL ID/	DATE	DTW	GWE	Product Thickness	TPH-G	В	Т	E	X	MTBE
TOC*	DAIL	(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
			<del></del>				2.5	MD	NID	
U- <b>4</b>	11/20/92		••		ND	ND	2.5	ND	ND	
(cont)	02/12/93				ND	ND	ND	ND	ND	
40.53	06/04/93	16.73	23.80	0.00	ND	ND	ND	ND	ND	
	09/09/93	16.89	23.64	0.00	ND	ND	ND	ND	ND	
40.25	12/02/93	18.46	21.79	0.00	ND	ND	ND	ND	2.6	
	03/09/94	17.30	22.95	0.00	ND	1.4	4.7	1.1	8.1	
	04/13/94	17.44	22.81	0.00	ND	ND	ND	ND	ND	
	06/09/94	17.53	22.72	0.00	ND	ND	ND	ND	ND	
40.28	09/07/94	18.52	21.76	0.00	ND	ND	1.1	ND	1.0	
	12/05/94	18.08	22.20	0.00	ND	ND	ND	ND	ND	
	03/09/95	16.16	24.12	0.00	ND	ND	ND	ND	ND	ND
40.25	06/13/95	15.95	24.30	0.00	ND	ND	ND	ND	ND	2.7
	09/12/95	17.10	23.15	0.00	ND	ND	ND	ND	ND	ND
	12/14/95	17.43	22.82	0.00	ND	ND	ND	ND	ND	1.3
	03/20/96	14.93	25.32	0.00						
	09/24/96	17.19	23.06	0.00						
	03/27/97	15.66	24.59	0.00	ND	ND	ND	ND	ND	ND
	09/23/97	17.69	22.56	0.00						
	03/10/98	12.99	27.26	0.00	ND	ND	ND	ND	ND	ND
	09/04/98	17.28	22.97	0.00						
	03/04/99	14.17	26.08	0.00	ND	ND	ND	ND	ND	ND
	09/13/99	17.55	22.70	0.00						
	03/21/00	14.74	25.51	0.00	ND	ND	ND	ND	ND	ND
	09/18/00	16.88	23.37	0.00						
	03/16/01	16.32	23.93	0.00						

Table 1
Groundwater Monitoring Data and Analytical Results

Out Loronzo, Cuntotina												
WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH-G (ppb)	В (ppb)	T (ppb)	E (ppb)	X (ppb)	МТВЕ <i>(ppb)</i>		
1.00		U-7		<u> </u>								
U-5	04/07/92				ND	ND	ND	ND	ND			
-	08/06/92				ND	ND	ND	ND	ND			
	11/20/92				ND	ND	ND	ND	ND			
	02/12/93				ND	ND	ND	ND	ND			
39.61	06/04/93	16.05	23.56	0.00	ND	ND	ND	ND	ND			
0,701	09/09/93	16.90	22.71	0.00	ND	ND	ND	ND	ND			
39.31	12/02/93	17.66	21.65	0.00	ND	ND	ND	ND	ND			
,	03/09/94	16.45	22.86	0.00	71	1.7	6.3	1.5	10			
	04/13/94	16.64	22.67	0.00	ND	ND	ND	ND	ND			
	06/09/94	16.70	22.61	0.00	ND	ND	ND	ND	ND			
	09/07/94	17.73	21.58	0.00	ND	ND	0.73	ND	0.84			
	12/05/94	17. <b>2</b> 3	22.08	0.00	ND	ND	ND	ND	ND			
	03/09/95	15.35	23.96	0.00	ND	ND	ND	ND	ND	ND		
	06/13/95	15.16	24.15	0.00	ND	ND	ND	ND	ND	0.87		
	09/12/95	16.30	23.01	0.00	ND	ND	ND	ND	ND	ND		
	12/14/95	16.56	22.75	0.00	ND	ND	ND	ND	ND	ND		
	03/20/96	14.07	25.24	0.00								
	09/24/96	16.55	22.76	0.00								
	03/27/97	14.85	24.46	0.00	ND	ND	ND	ND	ND	ND		
	09/23/97	16.90	22.41	0.00								
	03/10/98	12.21	27.10	0.00	ND	ND	ND	ND	ND	ND		
	09/04/98	16.57	22.74	0.00								
	03/04/99	13.42	25.89	0.00	ND	ND	0.67	ND	ND	ND		
	09/13/99	17.02	22.29	0.00								
	03/21/00	13.93	25.38	0.00	ND	ND	ND	ND	ND	ND		
	09/18/00	16.17	23.14	0.00								
	03/16/01	15.51	23.80	0.00	ND	ND	ND	ND	ND	ND		

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
					6,600	90	ND	820	1,200	
U-6	04/07/92	<del></del>		<u></u>	9,200	160	ND	360	150	
	08/06/92									
	11/20/92	INACCESSIBLE			2,600	27	ND	120	51	
	02/12/93		23.49	0.00	13,000	100	38	450	320	<b>-</b>
37.94	06/04/93	14.45		0.00	$6,300^3$	29	ND	120	34	
	09/09/93	15.56	22.38	0.00	2,100	12	1.6	21	1.1	
37.68	12/02/93	16.08	21.60	0.00	2,200	11	8.2	24	16	
	03/09/94	14.90	22.78	0.00	2,600 <sup>4</sup>	16	ND	29	ND	
	06/09/94	15.18	22.50	0.00	16,004	ND	ND	ND	ND	
	09/07/94	16.20	21.48	0.00	450 <sup>5</sup>	ND	ND	ND	ND	
	12/05/94	15.60	22.08	0.00	2,500	29	ND	70	120	320
	03/09/95	13.74	23.94		1,300	ND	ND	20	46	5,400
	06/13/95	13.73	23.95	0.00	1,500 ND	ND	ND	ND	ND	6,600
	09/12/95	14.85	22.83	0.00	760	ND	ND	7.0	8.4	1,100
	12/14/95	14.89	22.79	0.00	52	1.1	0.98	ND	0.75	1,200
	03/20/96	12.41	25.27	0.00		ND	ND	ND	ND	750
	09/24/96	15.06	22.62	0.00	ND		ND	ND	ND	150
	03/27/97	13.48	24.20	0.00	ND	ND	ND	ND	ND	150
	09/23/97	15.36	22.32	0.00	66	0.81	ND ND	ND	ND	18
	03/10/98	10.90	26.78	0.00	ND	ND	ND	ND	ND	ND
	09/04/98	14.85	22.83	0.00	ND	ND			ND	6.5
	03/04/99	12.10	25.58	0.00	ND	ND	ND	ND		
	09/13/99	INACCESSIBLE								
	03/21/00	INACCESSIBLE								
	09/18/00	INACCESSIBLE								
	03/16/01	INACCESSIBLE	E - PAVED (	OVER						

# Table 1 Groundwater Monitoring Data and Analytical Results Tosco (Unocal) Service Station #5760

WELL ID/	DATE	DTW	GWE	Product Thickness	трн-с	В	т	E	X	MTBE
TOC*	DAIL	(fi.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
- Olimpian members of the control of										
U-7	04/07/92				ND	ND	ND	ND	ND	
	08/06/92				ND	ND	ND	ND	ND	
	11/20/92				ND	ND	ND	ND	ND	
	02/12/93				ND	ND	ND	ND	ND	
37.49	06/04/93	14.17	23.32	0.00	ND	ND	ND	ND	ND	
	09/09/93	15.23	22.26	0.00	ND	ND	ND	ND	ND	
37.11	12/02/93	15.61	21.50	0.00	ND	ND	ND	ND	ND	
	03/09/94	14.45	22.66	0.00	ND	1.4	4.4	0.96	7.5	
	04/13/94	14.63	22.48	0.00	ND	ND	ND	ND	ND	
	06/09/94	14.70	22.41	0.00	ND	ND	ND	ND	ND	
-	09/07/94	15.72	21.39	0.00	ND	ND	ND	ND	ND	
	12/05/94	15.10	22.01	0.00	ND	ND	ND	ND	ND	
	03/09/95	13.36	23.75	0.00	ND	ND	ND	ND	ND	ND
	06/13/95	13.33	23.78	0.00	ND	ND	ND	NĐ	ND	3.5
	09/12/95	14.40	22.71	0.00	ND	ND	ND	ND	ND	ND
	12/14/95	14.39	22.72	0.00	ND	ND	ND	ND	ND	1.4
	03/20/96	11.96	25.15	0.00						
	09/24/96	14.59	22.52	0.00						
	03/27/97	13.08	24.03	0.00	ND	ND	ND	ND	ND	ND
	09/23/97	14.90	22.21	0.00						
	03/10/98	10.46	26.65	0.00	ND	ND	ND	ND	ND	ND
	09/04/98	14.42	22.69	0.00						
	03/04/99	11.64	25,47	0.00	ND	ND	ND	ND	ND	6.6
	09/13/99	INACCESSIBL	.E - PAVED O	VER						
	03/21/00	INACCESSIBL	E - PAVED O	VER						
	09/18/00	INACCESSIBL	.E - PAVED O	VER						
	03/16/01	INACCESSIB	LE - PAVED (	OVER						

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	Product Thickness	TPH-G	В	Т	E	X	мтве
TOC*		(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ррь)
					ND	ND	ND	ND	ND	
U-8	04/07/92				ND ND	ND ND	ND ND	ND	ND	
	08/06/92				ND		ND ND	ND	ND	
	02/12/93				ND	ND			ND ND	
38.94	06/04/93	15.26	23.68	0.00	ND	ND	ND	ND		
	09/09/93	16.38	22.56	0.00	ND	ND	ND	ND	ND	
38.57	12/02/93	16.80	21.77	0.00	ND	ND	ND	ND	ND	
	03/09/94	15.62	22.95	0.00	ND	1.2	3.7	0.79	6.1	
	04/13/94	15.80	22.77	0.00	ND	ND	0.78	ND	0.98	
	06/09/94	15.86	22.71	0.00	ND	ND	ND	ND	ND	
	09/07/94	16.87	21.70	0.00	ND	ND	ND	ND	ND	
	12/05/94	16.32	22.25	0.00	ND	ND	ND	ND	ND	
	03/09/95	14.56	24.01	0.00	ND	ND	ND	ND	ND	ND
	06/13/95	14.40	24.17	0.00	ND	ND	ND	ND	ND	ND
	09/12/95	15.50	23.07	0.00	ND	ND	ND	ND	ND	ND
	12/14/95	15.67	22.90	0.00	ND	ND	ND	ND	ND	ND
	03/20/96	13.25	25.32	0.00						
	09/24/96	15.75	22.82	0.00						
	03/27/97	14.18	24.39	0.00	ND	ND	ND	ND	ND	ND
	09/23/97	16.05	22.52	0.00						
	03/10/98	11.63	26.94	0.00	ND	ND	ND	ND	ND	ND
	09/04/98	15.81	22.76	0.00						
	03/04/99	12.81	25.76	0.00	ND	ND	ND	ND	ND	ND
	09/13/99	16.37	22.20	0.00						
	03/21/00	13.25	25.32	0.00	ND	ND	ND	ND	ND	ND
	09/18/00	15.25	23.26	0.00						
	03/16/01	13.31	23.86	0.00	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results

Wast Comy	DATE:	DEW	GWE	Product Thickness	TPH-G	В	Т	Е	X	МТВЕ
WELL ID/ TOC*	DATE	DTW (ft.)	GWE (msl)	1 mckness (ft.)	(ppb)	p (ppb)	(ppb)	(pph)	A (ppb)	(ppb)
			000000000000000000000000000000000000000	<b>U</b>	<u> </u>	F F-Z	ogogogogogoda <b>Fal</b> Egynta Annon o gogodogo			
U-9										
37.88	06/04/93	14.67	23.21	0.00	$2,100^2$	ND	ND	ND	ND	
	09/09/93	15.79	22.09	0.00	$1,200^2$	ND	ND	ND	ND	
37.31	12/02/93	15.93	21.38	0.00	ND	ND	ND	ND	ND	
	03/09/94	14.74	22.57	0.00	5,700 <sup>4</sup>	ND	ND	ND	ND	
	04/13/94	14.96	22.35	0.00	ND	ND	ND	ND	ND	
	06/09/94	15.05	22.26	0.00	2,900 <sup>5</sup>	ND	ND	ND	ND	
	09/07/94	16.06	21.25	0.00	2,700 <sup>5</sup>	ND	ND	ND	ND	
	12/05/94	15.43	21.88	0.00	3,700 <sup>5</sup>	ND	ND	ND	ND	
	03/09/95	13.50	23.81	0.00	$2,500^5$	ND	ND	ND	ND	5,800
	06/13/95	13.63	23.68	0.00	ND	ND	ND	ND	ND	1,200
	09/12/95	14.73	22.58	0.00	ND	ND	ND	ND	ND	1,600
	12/14/95	14.67	22.64	0.00	ND	ND	ND	ND	ND	4,400
	03/20/96	12.27	25.04	0.00	ND	ND	ND	ND	ND	480
	09/24/96	14.92	22.39	0.00	ND	ND	ND	ND	ND	ND
	03/27/97	13.36	23.95	0.00	ND	ND	ND	ND	ND	42
	09/23/97	15.28	22.03	0.00	ND	ND	ND	ND	ND	ND
	03/10/98	10.86	26.45	0.00	ND	ND	ND	ND	3.1	ND
	09/04/98	15.03	22.28	0.00	ND	ND	ND	ND	ND	ND
	03/04/99	11.95	25.36	0.00	ND	ND	ND	ND	ND	ND
	09/13/99	15.61	21.70	0.00	ND	ND	1.67	ND	1.01	7.85
	03/21/00	12.38	24.93	0.00	ND	ND	ND	ND	ND	ND
	09/18/00	14.87	22.44	0.00	ND	ND	1.42	ND	1.06	ND
	03/16/01	13.85	23.46	0.00	ND	ND	ND	ND	ND	ND

# Table 1 Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	Product Thickness	TPH-G	В	T	E	×	МТВЕ
TOC*		(ft.)	(msl)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
Trip Blank										
TB-LB	03/10/98				ND	ND	ND	ND	ND	ND
	09/04/98				ND	ND	ND	ND	ND	ND
	03/04/99				ND	ND	ND	ND	ND	ND
	09/13/99				ND	ND	ND	ND	ND	ND
	03/21/00	<b></b>			ND	ND	ND	ND	ND -	ND
	09/18/00				ND	ND	ND	ND	ND	ND
	10/13/00				ND	ND	ND	ND	ND	ND
	03/16/01				ND	ND	ND	ND	ND	ND

#### Table 1

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

Tosco (Unocal) Service Station #5760 376 Lewelling Boulevard San Lorenzo, California

#### **EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to March 10, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing

B = Benzene

(ppb) = Parts per billion

DTW = Depth to Water

T = Toluene

ND = Not Detected

(ft.) = Feet

E = Ethylbenzene

-- = Not Measured/Not Analyzed

GWE = Groundwater Elevation

X = Xylenes

(msl) = Mean sea level

MTBE = Methyl tertiary butyl ether

TPH-G = Total Petroleum Hydrocarbons as Gasoline

- TOC elevations have been surveyed relative to msl. Prior to December 2, 1993, the DTW measurements were taken from the top of well covers.
- The PVC well casing was shortened in September 1995.
- 1 Ethylbenzene and Xylenes were combined prior to March 1990.
- The concentration reported as gasoline is primarily due to the presence of a discrete hydrocarbon peak not indicative of standard gasoline. 2
- The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline. 3
- Laboratory report indicates the hydrocarbons detected appeared to be gasoline and non-gasoline mixture.
- Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- Laboratory report indicates gasoline and unidentified hydrocarbons >C8.
- Detection limit raised. Refer to analytical reports.
- Laboratory report indicates gasoline C6-C12.
- Laboratory report indicates weathered gasoline C6-C12.
- 10 MTBE by EPA Method 8260.
- 11 Laboratory report indicates gas range and late peaks.
- 12 Laboratory report indicates gas pattern.

#### Table 2

#### **Groundwater Analytical Results - Oxygenate Compounds**

Tosco (Unocal) Service Station #5760 376 Lewelling Boulevard San Lorenzo, California

WELLID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
U-1	10/13/00	ND	ND	29	ND	ND	ND	ND	ND

#### **EXPLANATIONS:**

TBA = Tertiary butyl alcohol

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

1,2-DCA = 1,2-Dichloroethane

EDB = Ethylene dibromide

(ppb) = Parts per billion

ND = Not Detected

#### **ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

## **Table 3 Dissolved Oxygen Concentrations**

Tosco (Unocal) Service Station #5760 376 Lewelling Boulevard San Lorenzo, California

WELT ID	DATE	Before Purging (mg/L)	After Purging (mg/L)
U-1	03/27/97	2.41	2.35
U-2	03/27/97	4.36	4.49
U-3	03/27/97	3.18	3.32
U-4	03/27/97	3.32	3.26
U-5	03/27/97	3.74	3.77
U-6	03/20/96 09/20/96 03/27/97	3.85 3.73 4.43	3.89 3.81 4.36 4.14
	09/23/97 03/10/98	 	3.95
U-7	03/27/97	3.29	3.38
U-8	03/27/97	3.04	3.11
U-9	03/20/96 09/20/96 03/27/97 09/23/97	4.02 3.85 3.65	4.00 3.98 3.57 3.80
	03/10/98	 	3.62

#### **EXPLANATIONS:**

Dissolved oxygen concentrations prior to March 10, 1998, were compiled from reports prepared by MPDS Services, Inc.

(mg/L) = Milligrams per liter

-- = Not Measured

#### STANDARD OPERATING PROCEDURE -GROUNDWATER SAMPLING

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

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

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

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

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

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

As requested by 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.

		FIELD DA	I A STILL	•		
Client/ Facility # <u>7o</u> s	co # 5760		Job#:	180109 311610		<u></u>
Address: <u>37</u>	6 Lewelling	Blud.	Date:		<u> </u>	<del></del>
City:Sac	6 Lewelling b Lovento,	Ce	Sample	: Voitkes		
Well ID	<u>u-1</u>	Well Condi	tion:	)K		
Well Diameter	3 <u>in</u>	Hydrocarbo Thickness:	<i></i>	Amount Bail	n: <u> </u>	(pal.)
Total Depth	23.17	Volume Factor (VF	2° = 0.17	3" = 0.38 6" = 1.50	4" = 12" = 5.80	0.66
Depth to Water	15.84#	L			₹	
	7.33 × v	0:38 -2.	28 x 3 (case vo	lume) = Estimated Put	ge Volume: 🍮	<u> (gel.)</u>
Purge Equipment:	Disposable Bailer Bailer Stack	· ·	Samplin <b>g</b> Equipment:	Disposable Bail Bailer Pressure Bailer		
	Suction Grundfos Other:		. c	Grab Sample		·
Starting Time: Sampling Time:	2	Wat	ther Condition er Color: ment Descript	che.	Odor: his/a	<u> </u>
Purging Flow Ra	ألمد		s; Time:		o:	
Time	Volume pH (gal.)	Conductiv µmhos/cr	a T	(mg/L)	ORP (mV)	Alkalinity (ppm)
6:36	3 7.40 6 7.29	77	3 60			
6-39	8.5 7.29	7-80	_ 69	7.5	· · · · · · · · · · · · · · · · · · ·	
			<u> </u>			<del></del>
		LABORATO	ORY INFORMA	TION LABORATORY	ANAL	rses
SAMPLE ID	(#) - CONTAINER		ESERV. TYPE	SEQUOIA	TPHE STEX	
<u>U-1</u>	3 x VDA VIAL	7	HLL		•••	
					<del>                                     </del>	
		<u> </u>				
COMMENTS:						
<del> </del>					<u> </u>	

lient/	•	•		180109	
acility #_ Tose	0 # 5760		Job#:	<del></del>	
ddress: <u>376</u>	Lewelling	Blud.	Date:	311610	
ity: San	Lovelling Lovento,	Ce.	Sampler	: Vortkes	
Well ID	<u> 4-2</u>	Well Condition	on: <u>E</u>	)K	
Vell Diameter	3_ <u>in</u>	Hydrocarbon Thickness:	0.00	Amount Bail	<i></i>
Total Depth	29.89	Volume	2" = 0.17	3" = 0.38 6" = 1.50	4" == 0.66 12" = 5.80
Depth to Water	17.06 11	Factor (VF)			
	x v	F	_ X 3 (case vol	ume) = Estimated Pur	ge Volume:(gel_)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:		Samplin <b>g</b> Equipment: O	Disposable Bail Bailer Pressure Bailer Grab Sample ther:	
Starting Time: Sampling Time:		<del></del>	er Conditions Color:		Odor:
· -	e:o	m_ Sedim	ent Description	UI I:	e: (gal-
Did well de-wate	r?	if yes;	Time:	Volum	
Time 1	/olume pH (gal.)	Conductivity µmhos/cm	Temper	ature D.O. (mg/L)	ORP Alkalinity (ppm)
	<del>/</del>				
			<u> </u>	/	
/-				$\angle =$	
		LABORATOR	Y INFORMA	TION	ANALYSES
SAMPLE ID	(#) - CONTAINER		SERV. TYPE	SEQUOTA	TPHG BTEX MIDE
4-	3 × VOR VIAL	*	ter	3644077	11 40 010
		<del></del>			
	<del> </del>	<del> </del>			
<u></u>	<u>i                                     </u>	1			
		<i>3</i>	the state of the s	**	•
COMMENTS: .	Monitor on	<u>ly</u>			

		HELD D	TIM OURE				
ient/ cility #	0 # 5760		Job#:	-	0109		
ddress: <u>376</u>	Levelling	Blud.	Date:		16/01		
ity: <u>San</u>	Levelling Lorenzo,	Ca.	Samp	ler: _ <i>Va</i>			
Well ID	<u>u-3</u>	Well Con	dition: —	OK			
/ell Diameter	<u>3</u> in.	Hydrocal Thicknes			mount Baile	<u>:                                    </u>	(0=1.)
otal Depth	24.81 #	Volume Factor (	2* = 0. VF)	.17 6" = 1.50	3" = 0.38 ) 1	2" = 5.80	- 0.66
epth to Water	15.35 th	<u> </u>					· ~
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	<u>- 0.38</u>	X 3 (case Sampling Equipment	t: Disp Bailt	posable Baile er ssure Bailer b Sample	_	
Starting Time: Sampling Time: Purging Flow Rat Did well de-wate	(4.67)	Wa	eather Condition eter Color: — diment Descri yes; Time: -	iption: S	i. /+	Odor: /LO	
,	Volume pH (gal.)	Conduc	/com.	perature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>5:58</u> 6:02	3.5 7.45 7 7.34	84	1 6	9.9			
6:06	11 7:38	85					
							·
SAMPLE ID	(#) - CONTAINER	LABORA REFRIG.	TORY INFORI	LABO	RATORY		LYSES
	3 x VOA VIAL	4	Hec	SEQ	uOIA	TPHG 8TE	K //MTGE
U-3		<del> </del>	<u> </u>			1	
<i>U-3</i>							
COMMENTS:							

client/ acility #	c # 5760 Lewelling Loren7D,	Blúd. Ca.	Job#: Date: Sample	180109 311610 er: Vartkes	
Well ID	4-4	Well Cond	ition:	OK	
Well Diameter	3in_	Hydrocarb Thickness		Amount Ba	
Total Depth	<u>27.86 n</u>	Volume Factor (VI	2" = 0.1	7 3" = 0.38 6" = 1.50	4" = 0.66 12" = 5.80
Depth to Water	16.32 11			rolume) = Estimated Pu	irge Volume:(gal.)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:		Sampling Equipment:		iller
Starting Time:			ither Condition		Odor:
Sampling Time:			er Color:	tion:	
Purging Flow Rat  Did well de-wate	re:or	if ye	es; Time:	Volum	ne:
	Volume pH (gal.)	Conduction purhos/co	·~, / ·	erature D.O. (mg/L)	ORP Alcalinity (mV) (ppm)
		LABORAT	ORY INFORM	ÁTION	
SAMPLE ID	(何 - CONTAINER	REFRIG. P	RESERV. TYPE	LABORATORY	THE BTEX MIDE
U	3 x VDA VIAL	4	1100	SEQUOIA	TPHGIOTER IMTOE
	<del> </del>	<del>  -</del>	<u></u>		
	. * l	1			
COMMENTS: .	Monitor on	<del>'</del>			

		LIELD L	JA 1 A U				
lient/ acility #	ico # 5760		<del></del>		80109 111101	•	
Address: <u>37</u>	6 Lewilling Lorento,	Blud.	_ Da	ite: <u></u>	<u>(6/0 1</u>		
city: Sax	Lorenzo	Ce.	_ Sa	mpler:/	itkes_	<del>_</del>	
							, , , , , , , , , , , , , , , , , , , ,
Well ID	<u> U-5</u>	Well Co	ondition:	_OK_			<del></del> .
Well Diameter	2_ <u>in</u> _	Hydroc Thickn	arbon ع ess:		Amount Baile (product/water)	): <u> </u>	(lool.)
Total Depth	28.47	Volum	<del>-</del>	'= 0.17 6" = 1.5	3" = 0.38 io <sup>3</sup>	1" = 12" = 5.80	- 0.66
Depth to Water	15,57 #	<u> </u>					
	1296 xx	r 0:17	<u>2.20</u> x3	(case volume) =	Estimated Purg	je Volume: 🛨	(Jeel.)
Purge	Disposable Bailer	٠	Sampl Equip		posable Bail	BF)	•
Equipment:	Bailer Stack	•	Edorbi	Bai			
	Suction			Gr	sb Sample		
	Grundfos Other:	_		Other:		· 	
		<u> </u>			dia		·
Starting Time:	4:45	`	Veather Co	:	or	Odor: KO	·
Sampling Times	4		a	ecciption:			
Purging Flow R	ats	<del>pan.</del> 3	If yes; Tim	16:	Volume	e:	
Did well de-wa	Iteli			•	D.O.	ORP	Alkalinity
Time	Volume pH (gal.)	Cond: µmh	uctivity os/cm	Temperature	(mg/L)	(mV)	(bbw)
4:47	2.6 7.50.	9	16	70.3	<del></del>		<u> </u>
4: 50	4.5 7.38	9	23	69.8		<u>-</u>	
4:52	7 7.34	<u> </u>	30	69.9	<u> </u>		
							. <del></del>
			ATORY IN	FORMATION			
	(#) - CONTAINER	REFRIG.	PRESERV.	TABE: FVE	ORATORY	<u> </u>	YSES
SAMPLE ID		٧	Hee	SEC	QUO IA	TPHG STE	X /M TOE
1			<b></b>			1	
			<b> </b>				
			<u> </u>				
COMMENTS	i:	<u> </u>	<u> </u>				

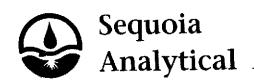
ient/ ciliby# Tosc	0#5760		_ J	ob#:		0109		-
11 274	Land Office	Blad.	ַ	)ate:	31	16/0	<u> </u>	<del></del>
ddress: <u>270</u>	Lewelling Lorento,	Ca	 •	Sampler	. Và	rtkes		
ty: <u> </u>	Lorento,	<u>CB.</u>	_	ample	•			
					Le	Posta	d ove	· (
Well ID	<u>u-6</u>	Well Co	ndition:	<u></u> _	<del>T</del>	<u> </u>	7 9/3	
ell Diameter	ln_	Hydroc Thickne		0.00	<b>`</b>	nount Baile reduct/weter		look
otal Depth	<u>fr</u>	Volum Factor	£	2" = 0.17	6" = 1.50	3" = 0.38	4" 12" = 5,80	= 0.66
epth to Water	<u>_</u>	<u> </u>						<del> </del>
	, .		· · · · · · · · · · · · · · · · · · ·	3 (casa Voi	lume) = Es	nimated Pur	e Volume:	(gal.)
•	x v	· —— -		-				
Purge	Disposable Bailer Bailer			pling pment:		osabl <b>e</b> Baile	er	•
quipment:	Stack	-/	•	-	Baile	r sure Bailer		
	Suction				Pres: Grab	Sample		
	Grundfos			0	ther:			•
	Other:			<u>.</u>				
	. /	14	Veather C	onditio <b>n</b> s	::			<del></del>
Starting Time:		_	Vater Col			<del>_</del>	Odor:	<del>/</del>
Sampling Time:		_	ediment	/	on:	<u> </u>		
Purging Flow Rate		-		pie:		_ Volume	::/	
Did well de-water	<i>y</i>	_	fyes; Ti	ине. ——		_		
	olume pH		ctivity	Temper	ature	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
	(gal.)	panho	s/cm	•₽		` "		
	<u> </u>		<u></u>			<del>-/</del>		
		_ '/_			<sub>7</sub>	/		
		_			/·	·		. <del></del>
		_ `	·		·		-	<u> </u>
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		LABOR	ATORY IN		TION			
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV	TYPE	LABOR	RATORY		LYSES
	3 × VDA VIAL	4	HEL		SEQU	( <del>C)      </del>	TPHG BTE	K MTOE
4							<b></b> _	
4					<del></del>			
Ш						<u> </u>	-	
<u>u</u>								
Ш								
COMMENTS: _								

Well ID  Well Condition:  Hydrocarbon Thickness:  In. Hydr	1 1				i i			
Well ID  U T  Well Condition:  Hydrocarbon Thickness: T	1/-	3 × V0	AVIAL					
Well ID  UT  Well Condition:  Hydrocarbon Thickness:  In. (product/water):  Well Condition:  Hydrocarbon Thickness:  In. (product/water):  Volume  2° = 0.17 Factor (VF)  X 3 (case volume) = Estimated Purgs Volume:  Lege Disposable Bailer Stack Suction Grundfos Other:  Grab Sampling Equipment:  Bailer Stack Suction Grundfos Other:  Other:  Weather Conditions:  Water Color:  Sediment Description:  If yes; Time:  Volume (gal.)  LABORATORY INFORMATION ANALYSES	SAMPLE ID		1/				TPHG BTE	MIDE
Well ID  Well Condition:  Well Condition:  Well Condition:  Faved Cycy  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Con		<u> </u>			Y INFORMA	TIÓN	ANAL	YSES
Well ID  Well Condition:  Well Condition:  Well Condition:  Faved Cycy  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Con						_/		
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Well ID  Well Condition:  Well Condition:  Well Condition:  Faved Cycy  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Conduct/water):  Amount Bailed (product/water):  In Conduct/water):  In Con			<u>/                                     </u>		- /			
Well ID  Well Condition:  Well Condition:  Well Condition:  Amount Bailed (product/water):  Thickness:  Thickness:		Volume	рН	Conductivity  µmhos/cm	Tempera			Alkalinit (ppm)
Well ID  U-T  Well Condition:  Hydrocarbon Thickness:  Thickness: Thickness:  Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Thickness: Th				/		Volur	ne:	100
Well ID  U—T  Well Condition:  Hydrocarbon Thickness:  Amount Bailed (product/water):  Thickness:  Volume Factor (VF)  X VF  — X 3 (case volume) = Estimated Purgs Volume:  X VF  Sampling Equipment:  Bailer Stack Suction Grundfos Other:  Weather Conditions:	ampling Time:						<u>/</u>	
Well ID  U—T  Well Condition:  Hydrocarbon Thickness:  Thickness:  Volume Factor (VF)  Thickness:  X VF — = X 3 (case volume) = Estimated Purgs Volume:  Sampling Equipment:  Bailer Stack Suction Grundfos  Other:  Grab Sample  Other:  Others	tarting Time:						Odor:	
Well ID  U_T  Well Condition:  Hydrocarbon Thickness:  Amount Bailed (product/water):  Thickness:  Volume The Volume The Textor (VF)  Thickness:  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  The Textor (VF)  Thickness:  Thi		Grundfos			Ot	_	·	
Well ID  U-T  Well Condition:  Hydrocarbon Thickness:  Thickness:  Volume Factor (VF)  X VF — = X 3 (case volume) = Estimated Purgs Volume:  X VF — Sampling Equipment:  Disposable Bailer  Well Condition:  Amount Bailed (product/water):  (product/water):  4" = 0.66  4" = 0.66  Sampling Equipment:  Disposable Bailer	uipment:	Stack		•		Pressure Baile	er e	
Well ID U-T Well Condition: Faved System State of the Water State of the Water Factor (VF)  Well Condition: Faved System System State of System State of System State of System S	orge .			 S:	empling	Disposable Ba		
Well ID  U-T  Well Condition:  Hydrocarbon Thickness:  Volume Factor (VF)  Well Condition:  Faved Svov  Amount Bailed (product/water):  (product/water):  4" = 0.66	bai to savies				X 3 (case volu	me) = Estimated Pu	rge Volume:	(gal.)
Well ID U-T Well Condition: Fraved Svor  Well Condition: Fraved Svor  Amount Bailed (product/water): Fraved Svor  Thickness: In (product/water): Fraved Svor  Amount Bailed (product/water): Fraved Svor  Amount Bailed (product/water): Fraved Svor  Amount Bailed (product/water): Fraved Svor  Thickness: 7° = 0.17 3° = 0.38 4° = 0.66					(	6" = 1.50 	12" = 5.80	
Well ID U-T Well Condition: BR Pared Over Amount Bailed	II Diameter		 i	Thickness:	2° = 0.17		4" ==	
	Well ID							- <u>(nel.)</u>
	·				. 5	& Parec	1 over	<u> </u>
San Lorento, Ca. Sampler:	y: Sac	torer	70,C	<u> </u>	Sampler:			
ress: 376 Lewelling Blud. Date: 3/16/01  : San Lorento, Ca. Sampler: Vaitkes	dress: <u>376</u>	5 Lewel	ling B)	úð	Date:	1/27 than	_	

Client/ Facility # <u>7039</u>	C# 5760		Job#:	18010	•	
Address: <u>376</u> City: <u>San</u>	Levelling. Lovento,	Elvid Ca	Date: Sample	<u>31161</u> er: <u>Vartke</u>		
Well ID	<u>u-8</u>	Well Cond	lition: —	9K		<u> </u>
Well Diameter		Hydrocart Thickness		Amount (product/v		) (pal.)
Total Depth	<u>29.83 m</u>	Volume Factor (V.	2" = 0.1	7 3" = 0. 6" = 1.50		= 0.66
Depth to Water	14.71 4					<del></del>
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	<u> </u>	Sampling Equipment:	Disposable Bailer Pressure Ba Grab Samp	Bailer	<u>070 (g=L)</u>
Starting Time: Sampling Time: Purging Flow Rat Did well de-wate		Wat	ather Condition ter Color: liment Descrip es; Time:	53.4 tion: 53.4	Odor: 123	
	Volume pH (gal.)  2.5 7.54  7.40  8 7.39	Conducti µmhos/c 68- 63-	+ 69 - 69	.6		Alkalinity (ppm)
		LABORAT REFRIG. P	ORY INFORMA	ATION LABORATORY	ÁNA	LYSES
SAMPLE ID	3 × VDA VIAL	Y Y	Нес	SEQUOIA	TPHG BTE	K MTOE
COMMENTS:						
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			LIELD I	JAIA					
lient/ ecility # <u>Tose</u>	co # 57	60		_	ob#:		16/0		
ddress: <u>376</u>	5 Lewel	ling	Blvd.	_ [	ate:	<u>اھ_</u> ار	16/01	<u> </u>	
ddress: <u>376</u>	Lorer	70,	Ca.		Sample:	: <u>V</u> a	itkes		
Well ID	U-°	 9	Well Co	ondition:		K			
		in.	Hydroc	arbon	0,00	_ A	mount Baile		) (cel.)
Vell Diameter			Thickn				oroduct/water		- 0.66
otal Depth	28.22	<u> </u>	Volum Factor		2" = 0.17	6" = 1.50		12" = 5.80	
epth to Water	13.8	<u> </u>						7	
•	14.35	x vf	0.17	243 x	3 (case vo	iume) = E	stimated Pur	ge Volume: ${\cal J}$	(gel.)
Purge	Disposable	Bailer			plin <b>g</b> pment:		osable Bail	er	
Equipment:	Bailer Stack		•		•	Baik Pres	er ssure Bailer		
	Suction Grundfos						b Sample		
	Other:		•						<del></del>
	tile		\ \	Veather C	ondition	s:	cha		
Starting Time: Sampling Time:	<u>+:1:</u> +:3		- ,	Makes Col	or _	bre		Odor:_ <u>rs2</u>	<u> </u>
Purging Flow Ra		_	<u>.</u>	Sediment	Descripti	ion: ا	Volume	e:	(gal.)
Did well de-wat			<b>-</b> . 1	If yes; T	ime:				
Time	Volume (gal.)	pН	Cond: µmh	uctivity os/cm	Temper F		D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
4:77	2.5	7.79		68	69		-,		
9;10	5	7.60	<u>5</u>	77	<u>69.</u>	<del>1</del> 9 .			
4:22	7.5	7.56		<u> </u>				· · ·	
	·			<u> </u>		· ·			
			LABOF REFRIG.	ATORY I	NFORMA v. TYPE	LABO	RATORY		LYSES
SAMPLE ID	3 × VD		Y	He		SEQ	u0 jA	TPHG BTE	* MTOE
1 0-1	7 ~ 40	1				<b>}</b> -		-	
	1 - <del></del>			1		l .			
				-					





April 02, 2001

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

RE: Tosco(1) / L103110

Enclosed are the results of analyses for samples received by the laboratory on 03/16/01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Godonya K. Pelt

Latonya Pelt Project Manager

CA ELAP Certificate Number 2360

Gettler-Ryan/Geostrategies(1)

6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Unocal SS#5760 Project Manager: Deanna Harding Reported: 04/02/01 06:32

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L103110-01	Water	03/16/01 00:00	03/16/01 19:42
U-1	L103110-02	Water	03/16/01 18:50	03/16/01 19:42
U-3	L103110-03	Water	03/16/01 18:15	03/16/01 19:42
U-5	L103110-04	Water	03/16/01 17:05	03/16/01 19:42
U-8	L103110-05	Water	03/16/01 17:40	03/16/01 19:42
U-9	L103110-06	Water	03/16/01 16:30	03/16/01 19:42

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

Project Number: Unocal SS#5760 Project Manager: Deanna Harding Reported: 04/02/01 06:32

### Total Petroleum Hydrocarbons as Gasoline by EPA 8015M

**Great Lakes Analytical** 

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (L103110-01) Wat	er Sampled: 03/16/01 00:	00 Received:	03/16/01	19:42					
Gasoline	ND	50.0	ug/l	1	1030469	03/28/01	03/29/01	EPA 8015M-VOA	
U-1 (L103110-02) Water	Sampled: 03/16/01 18:50	Received: 03/	16/01 19:	42					
Gasoline	4950	50.0	ug/l	1	1030469	03/28/01	03/28/01	EPA 8015M-VOA	T2, <b>T</b> 4
U-3 (L103110-03) Water	Sampled: 03/16/01 18:15	Received: 03/	/16/01 19:	42			·-		
Gasoline	2310	50.0	ug/l	1	1030469	03/28/01	03/28/01	EPA 8015M-VOA	TI
U-5 (L103110-04) Water	Sampled: 03/16/01 17:05	Received: 03/	/16/01 19:	42					
Gasoline	ND	50.0	ug/l	1	1030469	03/28/01	03/29/01	EPA 8015M-VOA	
U-8 (L103110-05) Water	Sampled: 03/16/01 17:40	Received: 03	/16/01 19:	42					
Gasoline	ND	50.0	ug/l	1	1030469	03/28/01	03/28/01	EPA 8015M-VOA	
U-9 (L103110-06) Water	Sampled: 03/16/01 16:30	Received: 03	/16/01 19:	42					
Gasoline	ND	50.0	ug/l	1	1030469	03/28/01	03/29/01	EPA 8015M-VOA	

Gettler-Ryan/Geostrategies(1)

6747 Sierra Court, Suite J

Dublin CA, 94568

Project: Tosco(1)

Project Number: Unocal SS#5760 Project Manager: Deanna Harding Reported: 04/02/01 06:32

### BTEX+MTBE by EPA Method 8021B

### **Great Lakes Analytical**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (L103110-01) Wate	r Sampled: 03/16/01 00:00	Received: (	3/16/01	19:42					
Benzene	ND	0.500	ug/l	1	1030469	03/28/01	03/29/01	EPA 8021B	
Toluene	ND	0.500	Ħ	Ħ	#	Ħ	**	IT	
Ethylbenzene	ND	0.500	11	H	Ħ	Ħ	**		
Total Xylenes	ND	0.500	u	n		11	Ħ	n	
Methyl tert-butyl ether	ND	0.500				17	#		
Surrogate: 4-BFB		98.0 %	86.0	142	**	•	n	"	
U-1 (L103110-02) Water	Sampled: 03/16/01 18:50 I	Received: 03/1	6/01 19:	42					
Benzene	1.73	0.500	ug/l	1	1030469	03/28/01	03/28/01	EPA 8021B	
Toluene	1.77	0.500	н	•	H	H	n	10	
Ethylbenzene	429	5.00	•	10	<b>"</b>	н	03/29/01	H	G12
Total Xylenes	536	0.500	11	1	**	"	03/28/01		
Methyl tert-butyl ether	613	5.00	**	10	"	#	03/29/01	H	G12
Surrogate: 4-BFB		80.0 %	86.0-142		H	n	03/28/01	#	04
U-3 (L103110-03) Water	Sampled: 03/16/01 18:15	Received: 03/1	16/01 19:	:42			_		
Benzene	ND	0.500	ug/l	1	1030469	03/28/01	03/28/01	EPA 8021B	
Toluene	ND	0.500	#		Ħ	**	n	H	
Ethylbenzene	184	0.500		**	11	#	*		
Total Xylenes	618	0.500		Ħ		IF.		7	
Methyl tert-butyl ether	ND	0.500	н	н	H				
Surrogate: 4-BFB		103 %	86.	0-142	"	"	<b>"</b>	*	
U-5 (L103110-04) Water	Sampled: 03/16/01 17:05	Received: 03/	16/01 19	:42					
Benzene	ND	0.500	ug/l	1	1030469	03/28/01	03/29/01	EPA 8021B	
Toluene	ND	0.500	n	44	ĸ	"	•	*	
Ethylbenzene	ND	0.500	Ħ	**	**	Ħ	**	•	
Total Xylenes	ND	0.500		π	н	tt	*	**	
Methyl tert-butyl ether	ND	0.500	-	**	n		#1	**	<u></u>
Surrogate: 4-BFB		98.0 %	86.	0-142	п	п	"	u	

Gettler-Ryan/Geostrategies(1)

6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Unocal SS#5760 Project Manager: Deanna Harding Reported: 04/02/01 06:32

### BTEX+MTBE by EPA Method 8021B

### **Great Lakes Analytical**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
U-8 (L103110-05) Water	Sampled: 03/16/01 17:40	Received: 03/1	6/01 19:	42					
Benzene	ND	0.500	ug/l	1	1030469	03/28/01	03/28/01	EPA 8021B	
Toluene	ND	0.500	11	4	4	n	11	*	
Ethylbenzene	ND	0.500	ti .	Ħ	Ħ	"	n	*	
Total Xylenes	ND	0.500	•		H	u	n	7	
Methyl tert-butyl ether	ND	0.500	**				tt	*	
Surrogate: 4-BFB		100 %	86.0	0-142	"	*	*	н	
U-9 (L103110-06) Water	Sampled: 03/16/01 16:30	Received: 03/1	16/01 19:	:42				· <u></u>	
Benzene	ND	0,500	ug/l	1	1030469	03/28/01	03/29/01	EPA 8021B	
Toluene	ND	0.500	'n	и .	H	n	**		
Ethylbenzene	ND		**		"		н	**	
Total Xylenes	ND		н		"	**	•	н	
Methyl tert-butyl ether	ND		H	Ħ	н			11	
Surrogate: 4-BFB		104 %	86.	0-142	"	н	"	"	

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

Project Number: Unocal SS#5760 Project Manager: Deanna Harding Reported: 04/02/01 06:32

### Total Petroleum Hydrocarbons as Gasoline by EPA 8015M - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC_	%REC Limits	RPD	RPD Limit	Notes
Batch 1030469 - EPA 5030B (P/T)										
Blank (1030469-BLK1)				Prepared:	03/28/01	Analyzed	1: 03/29/01			
Gasoline	ND	50.0	ug/l							
LCS (1030469-BS2)				Prepared	& Analyz	ed: 03/28/	01			
Gasoline	2210	50.0	ug/l	2000		111	80.0-120			
Matrix Spike (1030469-MS2)	Son	urce: L10311	0-06	Prepared:	03/28/01	Analyzec	1: 03/29/01	<u> </u>		
Gasoline	2230	50.0	ug/l	2000	ND	112	80.0-120			
Matrix Spike Dup (1030469-MSD2)	So	urce: L10311	0-06	Prepared:	03/28/01	Analyze	i: 03/29/01			
Gasoline	1910	50.0	ug/l	2000	ND	95.5	80.0-120	15.9	20.0	

Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin CA, 94568 Project : Tosco(1)
Project Number: Unocal SS#5760
Project Manager: Deanna Harding

Reported: 04/02/01 06:32

### BTEX+MTBE by EPA Method 8021B - Quality Control Great Lakes Analytical

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1030469 - EPA 5030B (P/T)										
Blank (1030469-BLK1)				Prepared:	03/28/01	Analyzed	1: 03/29/01			
Benzene	ND	0.500	ug/l							
[oluene	ND	0.500								
Ethylbenzene	ND	0.500								
Total Xylenes	ND	0.500	ħ							
Methyl tert-butyl ether	ND	0.500	н			_				
Surrogate: 4-BFB	19.9	-	н	20.0		99.5	86.0-142			
LCS (1030469-BS1)				Prepared	& Analyze	ed: 03/28/	01			
Benzene	22.9	0.500	ug/l	25.0	-	91.6	85.0-115			
Toluene	23.7	0.500	н	25.0		94.8	85.0-115			
Ethylbenzene	24.7	0.500	Ħ	25.0		98.8	85.0-115			
Total Xylenes	74.0	0.500	**	75.0		98.7	85.0-115			
Methyl tert-butyl ether	23.7	0.500		25.0		94.8	85.0-115			<u> </u>
Surrogate: 4-BFB	20.8		77	20.0		104	86.0-142			
Matrix Spike (1030469-MS1)	So	urce: L10311	0-06	Prepared	: 03/28/01	Analyze	d: 03/29/01			
Benzene	21.4	0.500	ug/l	25.0	ND	85.6	74.3-134			
Toluene	22.2	0.500	н	25.0	ND	88.8	63.8-141			
Ethylbenzene	23.2	0.500		25.0	ND	92.8	64.3-140			
Total Xylenes	69.0	0.500	n	75.0	ND	92.0	67.6-143			
Methyl tert-butyl ether	21.6	0.500	n	25.0	ИD	86.4	67.2-157			
Surrogate: 4-BFB	20.1		- и	20.0		101	86.0-142			
Matrix Spike Dup (1030469-MSD1)	So	urce: L1031	10-06	Prepared	: 03/28/01	Analyze	d: 03/29/01			
Benzene	22.0	0.500	ug/l	25.0	ND	88.0	74.3-134	2.76	21.1	
Toluene	23.2	0.500	**	25.0	ND	92.8	63.8-141	4.41	17.5	
Ethylbenzene	24.3	0.500	#	25.0	ND	97.2	64.3-140	4.63	17.5	
Total Xylenes	72.4	0.500	H	75.0	ND	96.5	67.6-143	4.77	17.6	
Methyl tert-butyl ether	22.1	0.500	н	25.0	ND	88.4	67.2-157	2.29	27.9	
Surrogate: 4-BFB	20.5	<del></del>	"	20.0	•	103	86.0-142			
<del></del>										

Gettler-Ryan/Geostrategies(1)	Project: Tosco(1)	
6747 Sierra Court, Suite J	Project Number: Unocal SS#5760	Reported:
Dublin CA, 94568	Project Manager: Deanna Harding	04/02/01 06:32

#### Notes and Definitions

G12	The reporting limit of this sample/analyte is elevated due to sample matrix and/or other effects.
O4	The recovery for this analyte is below the laboratory's established acceptance criteria.
T1	Gas Pattern
T2	Late Peaks
T4	Gas Range
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis

RPD

Relative Percent Difference