

# GETTLER-RYAN INC.

TRANSMITTAL

August 28, 2001 G-R #180065

#521 /RO 219

TO:

Mr. David B. De Witt

Tosco Marketing Company

2000 Crow Canyon Place, Suite 400

San Ramon, California

CC:

Mr. Douglas Lee

Gettler-Ryan Inc.

6747 Sierra Court, Suite J Dublin, California 94568

FROM:

Deanna L. Harding

**Project Coordinator** Gettler-Ryan Inc.

6747 Sierra Court, Suite J Dublin, California 94568

RE:

**Tosco (Unocal) Service Station** 

#5043

449 Hegenberger Road Oakland, California

Continued elevated TPHd, & & BTEX in MW-6 @ levels near for. This well has had DVE

WE HAVE ENCLOSED THE FOLLOWING:

w/o much (hiprovement

COPIES	DATED	DESCRIPTION
1	August 22, 2001	Groundwater Monitoring and Sampling Report Third Quarter – Event of July 17, 2001

#### **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 September 11, 2001, this report will be distributed to the following:

Mr. Barney M. Chan, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Suite 250, Alameda, cc: California 94502

Beretta Investment Group, 39560 Stevenson Place, Suite 118, Fremont, CA 94539

Enclosure

trans/5043.dbd



August 22, 2001 G-R Job #180065

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

RE: Third Quarter Event of July 17, 2001

Groundwater Monitoring & Sampling Report Tosco (Unocal) Service Station #5043 449 Hegenberger Road

Oakland, California

Dear Mr. De Witt:

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

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Static water level data and groundwater elevations are summarized in Table 1. Product Thickness/Removal Data is 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.

No. 6882

Sincerely,

Deanna L. Harding Project Coordinator

- FOR -

Senior Geologist, R.G. No. 6882

Figure 1: Pote:

Potentiometric Map

Figure 2: Table 1:

Concentration Map

Table 1:

Groundwater Monitoring Data and Analytical Results
Groundwater Analytical Results - Oxygenate Compounds

Table 3:

Product Thickness/Removal Data

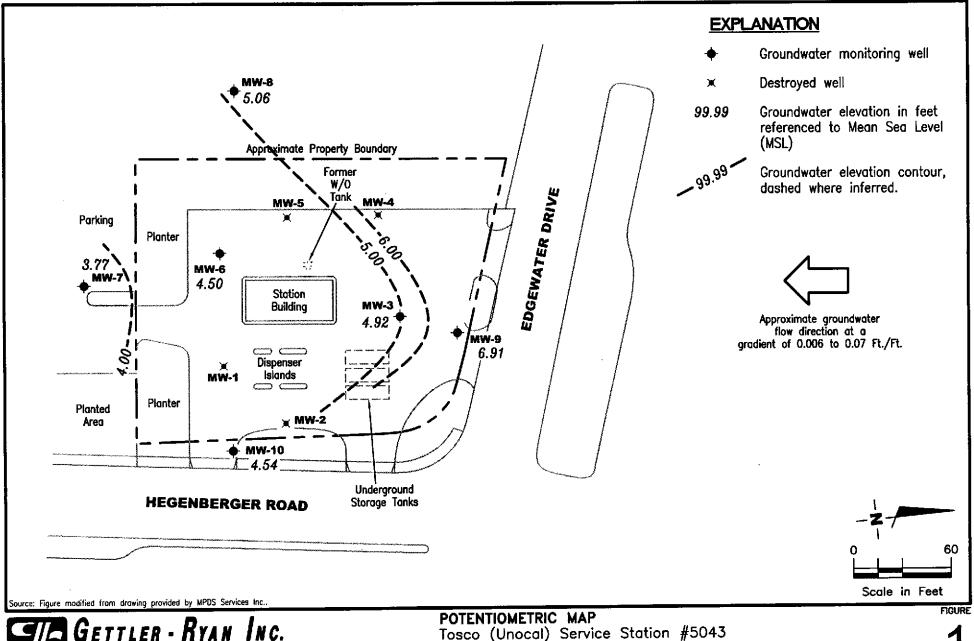
Attachments:

Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

5043.qml



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

REVIEWED BY

Tosco (Unocal) Service Station #5043 449 Hegenberger Road

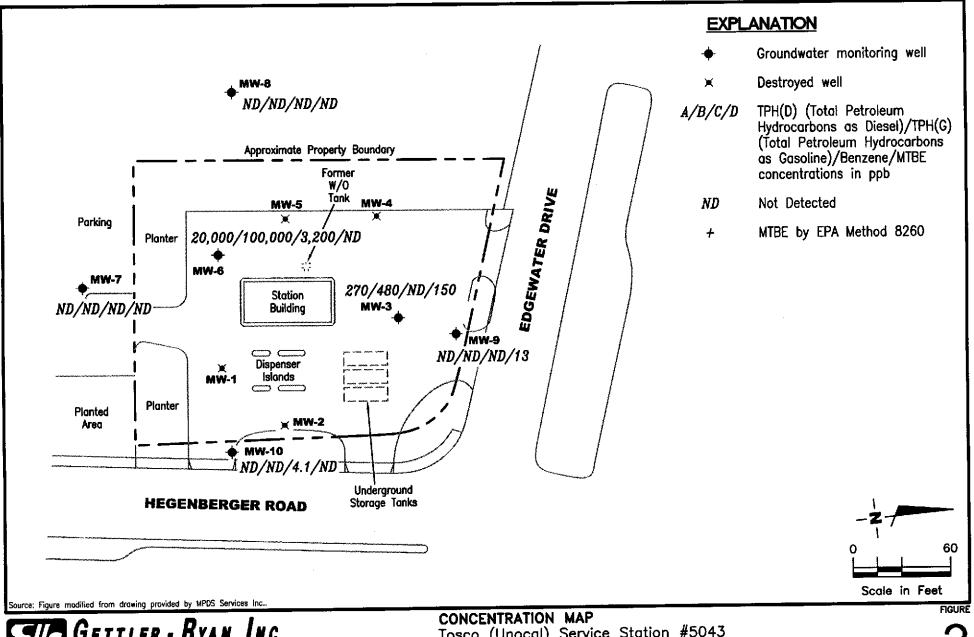
Oakland, California

DATE July 17, 2001

REVISED DATE

180065 FILE NAME: P:\ENVIRO\TOSCO\5043\Q01-5043.DWG | Layout Tab: Pot3

PROJECT NUMBER



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

Tosco (Unocal) Service Station #5043 449 Hegenberger Road Oakland, California

REVISED DATE

PROJECT NUMBER 180065

REVIEWED BY

July 17, 2001

DATE

FILE NAME: P:\ENVIRO\TOSCO\5043\Q01-5043.DWG | Layout Tab: Con3

# Table 1 Groundwater Monitoring Data and Analytical Results

					Product				<b>—</b>		<b>.</b>	
WELL ID/	DATE	DTW	S.I.	GWE	Thickness	TPH-D	TPH-G	В	T	E	X	MTBE
toc*		(ft.)	(ft. bgs)	(msl)	(ft.)	(pph)	(ppb)	(ppb)	(ppb)	(ppb)	(pph)	(pph)
MW-1	02/18/92					13,000	150,000	17,000	26,000	5,200	26,000	
	05/20/92											
	08/31/92					8,9001	64,000	13,000	12,000	2,500	22,000	
	11/30/92											
	02/04/93											
1.96◆	05/04/93	2.13		5.73**	0.10	NOT SAMPLI	ED DUE TO T	HE PRESENCI	OF FREE PRO	DDUCT		
	08/04/93	2.92		4.88**	0.03	NOT SAMPLI	ED DUE TO T	HE PRESENCI	OF FREE PRO	DDUCT		
.38	11/03/93	3.04		4.74	< 0.01	NOT SAMPLI	ED DUE TO TI	HE PRESENCI	OF FREE PRO	DDUCT		
	02/07/94	2.55		4.85**	0.03	NOT SAMPLI	ED DUE TO TH	HE PRESENCI	OF FREE PRO	DDUCT		
	05/19/94	2,23		5.16**	0.01	NOT SAMPLI	ED DUE TO T	HE PRESENCI	E OF FREE PRO	DDUCT		
	06/25/94	2.49		4.90**	0.01	NOT SAMPLI	ED DUE TO TI	HE PRESENCI	OF FREE PRO	DDUCT		
	07/27/94	3.10		4.28	0.00							
	08/15/94	2.85		4.61**	0.11	NOT SAMPLI	ED DUE TO TI	HE PRESENCI	E OF FREE PRO	DDUCT		
	11/14/94	2.97		4.50**	0.12	NOT SAMPLI	ED DUE TO T	HE PRESENCI	OF FREE PRO	DDUCT		
	02/21/95	1.53		5.87**	0.02	NOT SAMPLI	ED DUE TO T	HE PRESENCI	E OF FREE PRO	DDUCT		
	DESTROYED											
MW-2	02/18/92					4,300	29,000	1,000	5,300	260	7,900	
V1 VY - 2	05/20/92					4,300 <sup>1</sup>	24,000	2,200	7,600	630	11,000	
	03/20/92					1,600 <sup>1</sup>	9,000	1,800	640	140	2,000	
	11/30/92				-	5,700 <sup>1</sup>	29,000	2,000	3,400	1,200	6,900	
	02/04/93					6,100¹	18,000	1,600	3,000	ND	6,900	
.96◆	05/04/93	2.48		6.48	0.00	7,100'	63,000	3,200	17,000	470	17,000	
-30.	08/04/93	3.20		5.76	0.00	1,800 <sup>2</sup>	45,000	2,100	6,600	1,400	12,000	
.58	11/03/93	3.37		5.70	0.00	$2,600^2$	72,000	3,700	16,000	3,700	20,000	
	02/07/94	2.40		6.18	<0.01				E OF FREE PRO			
	05/19/94	2.13		6.45	0.00	3,000 <sup>2</sup>	42,000	2,500	1,300	2,300	13,000	
	05/15/94	2.65		5.93	0.00	2,000		2,.700			,-	
	00/23/94	3.44		5.14	0.00		· <del>-</del>					

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #5043

	Dending Carrotting													
WELL ID/ TOC*	DATE	DTW S.I. (ft.) (ft. bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (pph)	T (ppb)	E (pph)	X (pph)	MTBE (ppb)			
MW-2	08/15/94	3.25	5.33	0.00	2,800 <sup>2</sup>	35,000	2,400	850	1,700	15,000				
(cont)	11/14/94	2.13	6.45	0.00	10,000	43,000	2,200	6,500	1,800	14,000				
	02/21/95	1.65	6.93	0.00	$2,000^2$	44,000	2,200	3,200	1,300	1,500	••			
	DESTROYED	) .												
MW-3	02/18/92	2.5-14.0			ND	230	4.8	22	1.8	33				
	05/20/92	INACCESSIBLE												
	08/31/92	<b></b>			92 <sup>2</sup>	210 <sup>4</sup>	1	ND	ND	ND				
	11/30/92				94	790⁴	ND	ND	ND	ND				
	02/04/93				$550^{2}$	3,300	320	ND	96	6.1				
7.84•	05/04/93	4.32	3.52	0.00	$250^{2}$	$1,800^3$	95	ND	ND	ND				
	08/04/93	4.94	2.90	0.00	100	210 <sup>4</sup>	ND	ND	ND	ND				
7.42	11/03/93	4.53	2.89	0.00	160	640 <sup>4</sup>	ND	ND	ND	ND				
	02/07/94	2.40	5.02	0.00	$620^{2}$	2,700	110	ND	17	ND				
	05/19/94	3.60	3.82	0.00	$480^{2}$	1,800	83	ND	6.2	9.1				
	06/25/94	4.58	2.84	0.00										
	07/27/94	4.58	2.84	0.00					••					
	08/15/94	4.65	2.77	0.00	$110^2$	130	1.1	0.54	ND	0.97				
	11/14/94	3.18	4.24	0.00	$150^{2}$	1,600 <sup>4</sup>	ND	ND	ND	ND				
	02/21/95	1.81	5.61	0.00	850 <sup>2</sup>	3,800	350	ND	130	22				
	05/18/95	4.56	2.86	0.00	150 <sup>1</sup>	$1,300^3$	42	ND	ND	ND				
	08/17/95	INACCESSIBLE												
	07/26/96	INACCESSIBLE												
	10/28/96 <sup>6</sup>	INACCESSIBLE			**			<b></b>						
	01/29/97	INACCESSIBLE												
	04/15/97	INACCESSIBLE		••		<del></del>								
	05/27/97	3.45	4.59	0.00		670	6.5	ND	ND	ND	250			
	06/01/97	3.50	4.54	0.00	610 <sup>2</sup>	<b></b> .								
8.04	07/15/97	3.71	4.33	0.00	240 <sup>2</sup>	240	ND	ND	ND	ND	490			
	10/09/97	3.70	4.34	0.00	$500^{2}$	270	1.1	ND	2.4	1.4	910			

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #5043

					Product		monte en			E	X	MTBE
WELL ID/	DATE	DTW	S.I.	GWE	Thickness	TPH-D	TPH-G	B (pph)	T (ppb)	E (pph)	X (ppb)	(pph)
TOC*		(ft.)	(ft. bgs)	(msl)	(ft.)	(pph)	(ppb)	(ppv)	(ppo)	(upp)	WP#/	(PPP)
MW-3	01/14/98	2.16	2.5-14.0	5.88	0.00	340 <sup>7</sup>	310	ND	ND	0.62	0.65	140
(cont)	04/01/98	2.20		5.84	0.00	3207	370	5.7	$ND^9$	$ND^9$	$ND^9$	93
(30)	07/15/98	3.38		4.66	0.00	510 <sup>10</sup>	460 <sup>11</sup>	$ND^9$	$ND^9$	$ND^9$	$ND^9$	230
	10/16/98	2.30		5.74	0.00	67 <sup>13</sup>	33014	4.7	$ND^9$	$ND^9$	$ND^9$	60
	01/25/99	2.42		5.62	0.00	1207	42014	1.5	$ND^9$	$ND^9$	$ND^9$	180
	04/15/99	2.16		5.88	0.00	170 <sup>17</sup>	290	0.54	ND	ND	ND	160
	07/14/99	2.35		5.69	0.00	420 <sup>19</sup>	290	3.2	ND	ND	ND	160
	10/21/99	2.49		5.55	0.00	3507	$360^{23}$	0.77	ND	ND	ND	82
	01/20/00	2.38		5.66	0.00	2,060	ND	0.81	ND	ND	ND	54
	04/13/00	2.76		5.28	0.00	$200^{21}$	$250^{23}$	0.69	ND	ND	ND	91/150 <sup>26</sup>
	07/14/00	3.26		4.78	0.00	423 <sup>7</sup>	345 <sup>27</sup>	ND	ND	ND	ND	94.7
	10/26/00	3.12		4.92	0.00	$330^{29}$	$480^{23}$	6.0	${\sf ND}^9$ .	$ND^9$	$ND^9$	120
	01/03/01	3.65		4.39	0.00	2877	364 <sup>27</sup>	1.59	ND	ND	ND	118
	04/04/01	3.98		4.06	0.00	$360^{7}$	417 <sup>27</sup>	1.24	ND	ND	0.802	237
	07/17/01	3.12		4.92	0.00	$270^{28}$	480 <sup>27</sup>	ND	ND	ND	ND	150
MW-4	08/31/92				. <b></b>	90 <sup>2</sup>	240 <sup>4</sup>	ND	ND	ND	0.54	
	11/30/92					61	420 <sup>4</sup>	ND	ND	ND	ND	
	02/04/93					ND	ND	ND	ND	ND	ND	
9.00+	05/04/93	4.09		4.91	0.00	ND	1103	0.95	ND	ND	ND	
	08/04/93	5.01		3.99	0.00	81	250 <sup>4</sup>	ND	3.5	ND	4.1	
8.41	11/03/93	4.23		4.18	0.00	68	130 <sup>4</sup>	ND	ND	ND	ND	
	02/07/94	3.35		5.06	0.00	ND	56 <sup>4</sup>	ND	ND	ND	ND	
	05/19/94	3.92		4.49	0.00	$90^{2}$	140 <sup>4</sup>	ND	ND	ND	ND	••
	06/25/94	4.35		4.06	0.00							
	07/27/94	4.28		4.13	0.00							<del>-</del> -
	08/15/94	4.27		4.14	0.00	72 <sup>2</sup>	59 <sup>4</sup>	ND	0.6	ND	ND	
	11/14/94	4.05		4.36	0.00	ND	$130^{4}$	ND	ND	ND	ND	
	DESTROYED											

Table 1
Groundwater Monitoring Data and Analytical Results

				Product				<u> </u>		فيو .	ت بيسرو و
WELL ID/	DATE	DTW S.I.	GWE	Thickness	TPH-D	TPH-G	В	T	E	X	MTBE
TOC*		(ft.) (ft. bgs	) (msl)	(ft.)	(ppb)	(ррв)	(ppb)	(ppb)	(pph)	(ppb)	(pph)
MW-5	08/31/92				690 <sup>1</sup>	78	0.89	ND	ND	13	
.+± ++ = <b>↓</b> /	11/30/92 <sup>5</sup>				470 <sup>2</sup>	930	70	290	0.79	14	
	02/04/93 <sup>5</sup>				5,500 <sup>2</sup>	5,700	38	ND	620	170	
	05/04/93 <sup>5</sup>	4.37	4.90	0.00	4,600 <sup>1</sup>	7,400	41	ND	1,000	35	
	08/04/93 <sup>5</sup>	5.81	3.46	0.00	970 <sup>2</sup>	1,500	130	Ţ	460	11	
3.95	11/03/93	5.68	3.27	0.00	$2,100^2$	13,000	350	ND	3,500	530	
***	02/07/94	5.11	3.84	0.00	830 <sup>2</sup>	2,000	87	ND	370	110	
	05/19/94	5.09	3.86	0.00	$600^{2}$	260	44	ND	32	4.1	
	06/25/94	4.55	4.40	0.00							
	07/27/94	5.72	3.23	0.00					<del></del>		
	08/15/94	5.68	3.27	0.00	$860^{2}$	1,600	110	ND	340	72	
	11/14/94	5.63	3.32	0.00	290 <sup>1</sup>	250	40	ND	ND	5	
	DESTROYED										
MW-6	08/31/92	2.5-13	.5		$750^{2}$	ND	ND	ND	ND	ND	
	11/30/92				1,400	9,200	550	ND	740	1,600	
	02/04/93				890 <sup>2</sup>	3,600	340	ND	290	550	••
9.12*	05/04/93	3.72	5.40	0.00	1,8001	4,900	360	18	450	430	
	08/04/93	5.15	3.97	0.00	$1,100^2$	3,400	390	ND	440	190	
8.87	11/03/93	5.25	3.62	0.00	$390^{2}$	1,400	320	ND	200	7.7	
•	02/07/94	4.55	4.32	0.00	970 <sup>2</sup>	4,900	650	ND	250	35	
	05/19/94	4.62	4.25	0.00	1,400 <sup>2</sup>	3,600	300	1.7	210	41	
	08/15/94	5.08	3.79	0.00	790 <sup>2</sup>	1,300	130	6.7	54	57	
	11/14/94	5.30	3.57	0.00	800 <sup>2</sup>	730	50	ND	ND	39	
	02/21/95	5.37	3.50	0.00	730 <sup>2</sup>	2,000	250	4.6	25	30	
	05/18/95	INACCESSIBLE		·							
	08/17/95	INACCESSIBLE									
	07/26/96	6.40	5.03**	3.33		ED DUE TO T					
	10/28/96	4.10	4.93**	0.21	NOT SAMPL	ED DUE TO T	HE PRESENC	E OF FREE PR	ODUCT		
	11/13/96	4.02	5.04**	0.25							

### Groundwater Monitoring Data and Analytical Results Tosco (Unocal) Service Station #5043

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft. bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (pph)	T (ppb)	E (ppb)	X (pph)	MTBE (ppb)
MW-6	11/25/96	4.01	2.5-13.5	5.44**	0.75					7-		
(cont)	11/25/96	3.65	۷.,√-1,7,.1	5.61**	0.73					••		
(com)	12/04/96	4.80		5.76**	2.20				<u></u>	••	••	
	01/08/97	4.84		5.38**	1.75							
	01/14/97	4.51		5.25**	1.15						••	
	01/27/97	4.00		6.22**	1.75			••				
	01/29/97	3.24		5.87**	0.31	NOT SAMPLE	ED DUE TO TI	HE PRESENCI	E OF FREE PR	ODUCT		
	02/11/97	4.65		5.14**	1.20							
	02/24/97	4.81		4.91**	1.10							
	03/10/97	4.60		5.00**	0.95						••	
	03/17/97	4.50		5.06**	0.89							
	03/31/97	4.65		4.99**	1.00							
	04/15/97	4.90		4.76**	1.03	NOT SAMPLE	ED DUE TO TI	HE PRESENCE	OF FREE PR	ODUCT		
	04/28/97	4.78		4.11**	0.03							••
	05/15/97	4.60		4,46**	0.25							
	05/27/97	4.50		4.56**	0.25					**		
	06/09/97	4.60		4.42**	0.20							
	06/24/97	4.50		4.56**	0.25							
	07/09/97	4.80		4.53**	0.60							
	07/15/97	4.63		4.56**	0.42	NOT SAMPL	ED DUE TO T	HE PRESENCI	E OF FREE PR	ODUCT		
	07/21/97	4.75		4.31**	0.25							
	08/06/97	4.50		4.45**	0.10							
	08/20/97	4.55		4.40**	0.10							
	09/02/97	4.75		4.16**	0.05		<u></u> ·			•		
	10/09/97	4.84		4.06**	0.04	NOT SAMPL	ED DUE TO T	HE PRESENC	E OF FREE PR	ODUCT		
	01/14/98	3.90		5.69**	0.94	NOT SAMPL	ED DUE TO T	HE PRESENC	E OF FREE PR	ODUCT		
	02/12/98	3.35		6.01**	0.64							
	03/03/98	4.51		4.38**	0.02							
	04/01/98	3.67		6.43**	1.60	NOT SAMPL	ED DUE TO T	HE PRESENC	E OF FREE PR	ODUCT		••
	05/26/98	4.11		5.15**	0.50							
	06/15/98	5.03		4.07**	0.30							

Table 1

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

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (pph)	B (pph)	T (pph)	E (ppb)	X (pph)	MTBE (pph)			
MW-6	07/15/98	4.56	2.5-13.5	4.35**	0.05	NOT SAMPLI	ED DUE TO TH	E PRESENCE	OF FREE PRO	DDUCT					
(cont)	08/21/98	4.77		4.12**	0.02										
	09/30/98	5.08		3.81**	0.03										
	10/16/98	4.31		6.41**	2.40	NOT SAMPLI	ED DUE TO TH	IE PRESENCE	E OF FREE PRO	DDUCT					
	11/06/98	3.98		5.02**	0.17										
	11/25/98	3.92		5.03**	0.10										
	12/28/98	3.90		5.12**	0.20							<del></del>			
	01/25/99	4.18		5.15**	0.60	NOT SAMPLE	ED DUE TO TH	IE PRESENCE	E OF FREE PRO	DDUCT					
	02/22/99	4.07		4.97**	0.22										
	03/22/99	4.32		4.67**	0.15		- <del>-</del>								
	04/15/99	4.23		5.37**	0.95	NOT SAMPLI	ED DUE TO TH	IE PRESENCE	E OF FREE PR	DDUCT					
	05/28/99	4.38					4.79**	0.39							<del></del>
	06/29/99	4.12		4.77**	0.02										
	07/14/99	4.20		4.69**	0.03	NOT SAMPLE	ED DUE TO TH	IE PRESENCI	OF FREE PR	ODUCT	**				
	08/23/99	4.51		4.54**	0.24										
	09/30/99	4.17		4.83**	0.17							<del>-</del> -			
	10/21/99	4.27		4.69**	0.12	NOT SAMPL	ED DUE TO TH	IE PRESENCI	E OF FREE PR	ODUCT					
	11/29/99	4.18		4.69	< 0.01										
	12/20/99	4.26		4.62**	0.01										
	01/20/00	4.31		4.56	< 0.01	6 <b>7,6</b> 00¹	130,000 <sup>23</sup>	2,900	8,600	2,000	16,000	ND <sup>9</sup>			
	02/26/00	3.98		4.89	0.00										
	03/31/00	4.14		4.73	0.00						••				
	04/13/00	4.04		4.83	0.00	8,700 <sup>7</sup>	$140,000^{23}$	5,000	14,000	3,600	27,000	7,700			
	05/26/00	4.41		4.46	0.00										
	06/17/00	4.35		4.52	0.00							0 9.76			
	07/14/00	4.47		4.40	<0.01	133,000 <sup>7</sup>	$259,000^{23}$	7,670	13,700	6,860	40,700	<sup>9</sup> ND/ND <sup>9.26</sup>			
	08/24/00	3.71		5.16	0.00										
	09/27/00	4.33		4.54	0.00										

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #5043

			0.04080080008040008		Product							
WELL ID/	DATE	DTW	<b>S.I.</b>	GWE	Thickness	TPH-D	TPH-G	В	T	E	X	MTBE
TOC*		(ft.)	(ft. bgs)	(msl)	(ft.)	(pph)	(pph)	(pph)	(ppb)	(pph)	(ppb)	(ppb)
MW-6	10/26/00	4.32	2.5-13.5	4.55	0.00	61,000 <sup>28</sup>	110,000 <sup>23</sup>	7,000	6,200	3,700	12,000	670/43 <sup>30</sup>
(cont)	01/03/01	4.52	2.5-13.5	4.35	0.00	929 <sup>7</sup>	84,700 <sup>23</sup>	3,950	4,130	3,650	11,800	9ND/ND <sup>9,26</sup>
(com)	04/04/01	4.32		4.58	0.00	18,000 <sup>28</sup>	$69,800^{23}$	2,060	2,840	3,650	10,900	9ND/47.8 <sup>26</sup>
·	07/17/01	4.37		4.50	0.00	20,000	100,000 <sup>23</sup>	3,200	3,300	3,400	12,000	ND°
MW-7	05/27/97	4.50	3.0-13.0	4.33	0.00		68	ND	ND	ND	ND	ND
8.83	06/01/97	4.54	2.0-15.0	4.29	0.00	69 <sup>2</sup>						
0.02	07/15/97	4.70		4.13	0.00	ND	ND	ND	ND	ND	ND	ND
	10/09/97	4.30		4.53	0.00	190¹	ND	ND	ND	ND	ND	ND
	01/14/98	2.88		5.95	0.00	65 <sup>7</sup>	ND	ND	ND	ND	ND	36
	04/01/98	3.13		5.70	0.00	ND	ND	ND	ND	ND	ND	ND
	07/15/98	4.45		4.38	0.00	74 <sup>12</sup>	ND	ND	ND	ND	ND	ND
	10/16/98	3.45		5.38	0.00	ND	ND	ND	ND	ND	ND	ND
	01/25/99	3.22		5.61	0.00	ND	ND	ND	ND	ND	ND	ND
	04/15/99	3.11		5.72	0.00	ND	ND	ND	ND	ND	ND	ND
	07/14/99	3.34		5.49	0.00	$69^{20}$	ND	ND	ND	ND	ND	ND
	10/21/99	3.43		5.40	0.00	ND	ND	ND	ND	ND	ND	ND
	01/20/00	3.29		5.54	0.00	ND	ND	ND	ND	ND	ND	4.2
-	04/13/00	3.39		5.44	0.00	$ND^9$	ND	ND	ND	ND	ND	ND
	07/14/00	4,42		4.41	0.00	68.0 <sup>7</sup>	ND	ND	ND	ND	ND	7.83
	07/17/01	5.06		3.77	0.00	ND	ND	ND	ND	ND	ND	ND
MW-8	05/27/97	3.42	3.0-15.0	5.10	0.00		310	0.88	0.67	15	70	ND
8.52	06/01/97	3.46		5.06	0.00	$320^{2}$						
	07/15/97	3.49		5.03	0.00	ND	ND	ND	ND	2.7	3.8	ND
	10/09/97	3.73		4.79	0.00	390 <sup>1</sup>	590	1.4	ND	32	4.1	ND
	01/14/98	1.92		6.60	0.00	$230^{7}$	ND	ND	ND	ND	ND	ND
	04/01/98	2.38		6.14	0.00	510 <sup>7</sup>	ND	ND	ND	ND	ND	4.7
	07/15/98	3.53		4.99	0.00	14012	ND	ND	ND	0.56	1.1	ND

# Table 1 Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	S.I.	GWE	Product Thickness	TPH-D	TPH-G	В	Т	E	X	MTBE
TOC*	<b>~</b> A ≈ <b>3.5.</b> d	(ft.)	(ft. bgs)	(msl)	(ft.)	(ppb)	(pph)	(pph)	(pph)	(ppb)	(ppb)	(ppb)
MW-8	10/16/98	3.04	3.0-15.1	5.48	0.00	170 <sup>15</sup>	ND	ND	ND	ND	ND	ND
(cont)	01/25/99	2.92		5.60	0.00	$ND^9$	ND	ND	ND	ND	ND	ND
	04/15/99	2.40		6.12	0.00	9112	ND	ND	ND	ND	ND	ND
	07/14/99	3.03		5.49	0.00	12021	ND	ND	ND	ND	ND	ND
	10/21/99	3.11		5.41	0.00	$110^{24}$	ND	ND	ND	ND	ND	ND
	01/20/00	3.06		5.46	0.00	5831	ND	ND	ND	ND	ND	ND
	04/13/00	2.84		5.68	0.00	$80^{24}$	ND	ND	ND	ND	ND	ND
	07/14/00	3.39		5.13	0.00	1137	ND	ND	ND	ND	ND	ND
	07/17/01	3.46		5.06	0.00	ND	ND	ND	ND	ND	ND	ND
MW-9	02/21/95	1.98	3.0-13.0	6.31	0.00	712	70 <sup>4</sup>	ND	ND	ND	ND	
8.29	05/18/95	3.47		4.82	0.00	ND	52	ND	1.1	ND	1.9	
	08/17/95	1.49		6.80	0.00	ND	ND	ND	ND	ND	ND	
	07/26/96	0.28		8.01	0.00	98	ND	ND	ND	ND	ND	ND
	10/28/96	1.15	*	7.14	0.00	99¹	ND	ND	ND	ND	ND	7.6
	01/29/97	1.05		7.24	0.00	54	ND	ND	ND	ND	ND	5.4
	04/15/97	1.88		6.41	0.00	94'	ND	ND	ND	ND	ND	5.4
	05/27/97	1.05		7.24	0.00							
	07/15/97	1.90	•	6.39	0.00	ND	ND	ND	ND	ND	ND	ND
	10/09/97	1.76		6.53	0.00	160 <sup>1</sup>	ND	ND	ND	ND	ND	ND
	01/14/98	1.26		7.03	0.00	1107	ND	ND	ND	ND	ND	3.0
	04/01/98	0.85		7.44	0.00	1107	ND	ND	ND	ND	ND	ND
	07/15/98	1.52		6.77	0.00	20012	ND	ND	ND	ND	ND	ND
	10/16/98	0.81		7.48	0.00	ND	ND	ND	ND	ND	ND	ND
	01/25/99	0.92		7.37	0.00	ND	ND	ND	ND	ND	ND	ND
	04/15/99	0.90		7.39	0.00	ND	75 <sup>18</sup>	21	ND	ND	1.1	680
	07/14/99	1.04		7.25	0.00	$140^{21}$	ND	1.9	ND	ND	ND	260
	10/21/99	1.23		7.06	0.00	$210^{24}$	ND	ND	ND	ND	ND	170
	01/20/00	1.18		7.11	0.00	519 <sup>1</sup>	ND	1.1	ND	ND	ND	35
	04/13/00	1.08		7.21	0.00	81 <sup>25</sup>	160 <sup>23</sup>	0.64	ND	ND	ND	53

# Table 1 Groundwater Monitoring Data and Analytical Results

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (pph)	E (ppb)	X (ppb)	MTBE (ppb)
		<u> </u>				7						20.2
MW-9	07/14/00	1.43	3.0-13.0	6.86	0.00	1077	ND	ND	ND	ND	ND	20.2
(cont)	10/26/00	1.38		6.91	0.00	2407	240 <sup>23</sup>	2.9	ND	ND	ND	56
	01/03/01	1.66		6.63	0.00	164 <sup>7</sup>	166 <sup>27</sup>	0.763	0.776	ND	1.28	50.2
	04/04/01	1.27		7.02	0.00	2407	296 <sup>27</sup>	0.738	ND	ND	0.907	135
	07/17/01	1.38		6.91	0.00	ND	ND	ND	ND	ND	ND	13
MW-10	02/21/95	4.69	3.0-13.0	3.93	0.00	270²	1,500	250	26	9.1	160	
8.62	05/18/95	4.92		3.70	0.00	75¹	810	520	ND	18	23	
0.02	08/17/95	4.05		4.57	0.00	ND	67	25	ND	2.4	ND	
	07/26/96	4.08		4.54	0.00	ND	ND	3.7	ND	ND	ND	ND
	10/28/96	4.09		4.53	0.00	ND	ND	1.1	ND	ND	ND	ND
	01/29/97	2.94		5.68	0.00	ND	210	41	0.67	7.2	4.8	11
	04/15/97	4.07		4.55	0.00	ND	110	12	ND	0.77	ND	9.7
	05/27/97	4.40		4.22	0.00							<b></b>
	07/15/97	4.19		4.43	0.00	ND	ND	2.1	ND	0.67	0.73	ND
	10/09/97	4.75		3.87	0.00	ND	190	38	0.92	6.6	7.6	ND
	01/14/98	2.66		5.96	0.00	8	59	9.5	0.85	1.2	1.7	4.5
	04/01/98	3,45		5.17	0.00	62 <sup>7</sup>	230	66	1.7	12	17	6.4
	07/15/98	4.21		4.41	0.00	78 <sup>12</sup>	290	98	45	21	38	21
	10/16/98	4.11		4.51	0.00	ND	160 <sup>16</sup>	44	0.96	2.5	10	17
	01/25/99	3.26		5.36	0.00	ND	140	27	ND	2.8	6.8	23
	04/15/99	3.63		4.99	0.00	ND	120	18	ND	1.8	5.1	14
	07/14/99	3.89		4.73	0.00	$180^{22}$	280	55	3.2	11	31	6.1
	10/21/99	4.09		4.53	0.00	96 <sup>7</sup>	$140^{23}$	22	0.59	1.7	7. <b>7</b>	5.3
	01/20/00	3.92		4.70	0.00	252¹	ND	0.73	0.86	ND	ND	5.2
	04/13/00	3.85		4.77	0.00	69 <sup>24</sup>	67 <sup>23</sup>	54	ND	2.6	ND	3.8
	07/14/00	4.18		4,44	0.00	149 <sup>7</sup>	ND	0.547	ND	ND	ND	ND

# Table 1 Groundwater Monitoring Data and Analytical Results Tosco (Unocal) Service Station #5043

WELL ID/	DATE	DTW	S.I.	GWE	Product Thickness	TPH-D	TPH-G	В	T	E	X	MTBE
TOC*		(ft.)	(ft. bgs)	(msl)	(ft.)	(ppb)	(pph)	(pph)	(ppb)	(ppb)	(ppb)	(ppb)
MW-10	10/26/00	3.96	3.0-13.0	4.66	0.00	83 <sup>24</sup>	ND	3.3	ND	0.83	1.5	ND
(cont)	01/03/01	4.14		4.48	0.00	1267	52.7 <sup>23</sup>	5.15	ND	0.823	1.57	ND
`	04/04/01	3.88		4.74	0.00	75 <sup>24</sup>	129 <sup>23</sup>	28.1	1.67	4.97	10.1	ND
07/17/01		4.08		4.54	0.00	ND	ND	4.1	ND	1.0	1.8	ND
Trip Blank												
TB-LB	01/14/98						ND	ND	ND	ND	ND	ND
	04/01/98						ND	ND	ND	ND	ND	ND
	07/15/98						ND	ND	ND	ND	ND	ND
	10/16/98						ND	ND	ND	ND	ND	ND
	01/25/99			••			ND	ND	ND	ND	ND	ND
	04/15/99						ND	ND	ND	ND	ND	ND
	07/14/99						ND	ND	ND	ND	ND	ND
	10/21/99						ND	ND	ND	ND	ND	ND
	01/20/00						ND	ND	ND	ND	ND	ND
	04/13/00						ND	ND	ND	ND	ND	ND
	07/14/00						ND	ND	ND	ND	ND	ND
	10/26/00						ND	ND	ND	ND	ND	ND
	01/03/01						ND	ND	ND	NĐ	ND	ND
	04/04/01						ND	ND	ND	ND	ND	ND
	07/17/01						ND	ND	ND	ND	ND	ND

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

Tosco (Unocal) Service Station #5043 449 Hegenberger Road Oakland, California

#### **EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing

TPH-D = Total Petroleum Hydrocarbons as Diesel

(ppb) = Parts per billion

DTW = Depth to Water

TPH-G = Total Petroleum Hydrocarbons as Gasoline

ND = Not Detected

(ft.) = Feet

B = Benzene

-- = Not Measured/Not Analyzed

S. I. = Screen Interval

T = Toluene

(ft. bgs) = Feet Below Ground Surface

E = Ethylbenzene

GWE = Groundwater Elevation

X = Xylenes

(msl) = Mean sea level

MTBE = Methyl tertiary butyl ether

- \* TOC elevations are relative to msl, per the City of Oakland Benchmark #3880, (Elevation = 20.37 feet, msl).
- \*\* GWE corrected for the presence of free product; correction factor: [(TOC DTW) + (Product Thickness x 0.77)].
- Elevations were based on the top of the well covers and were surveyed relative to msl, per the City of Oakland Benchmark #3880, (Elevation = 20.37 feet).
- Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- <sup>4</sup> Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- <sup>5</sup> Total Oil and Grease (TOG) was ND.
- The well was obstructed with debris at 0.55 feet. A water sample was collected but was not analyzed as it was considered not representative of groundwater in this well.
- <sup>7</sup> Laboratory report indicates unidentified hydrocarbons C9-C24
- Sample bottle broken at laboratory.
- 9 Detection limit raised. Refer to analytical reports.
- Laboratory report indicates unidentified hydrocarbons >C14 and <C12.
- Laboratory report indicates gasoline and unidentified hydrocarbons >C8.
- Laboratory report indicates unidentified hydrocarbons >C14.
- Laboratory report indicates non diesel mix >C14.
- Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.
- Laboratory report indicates non diesel mix C9-C27.
- Laboratory report indicates unidentified hydrocarbons <C7.</p>
- Laboratory report indicates unidentified hydrocarbons >C10.
- Laboratory report indicates unidentified hydrocarbons C6-C12.
- 19 Laboratory report indicates unidentified hydrocarbons >C9.
- <sup>20</sup> Laboratory report indicates discrete peaks and unidentified hydrocarbons >C20.

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

Tosco (Unocal) Service Station #5043 449 Hegenberger Road Oakland, California

#### EXPLANATIONS: (cont)

- Laboratory report indicates discrete peaks and unidentified hydrocarbons >C16.
- Laboratory report indicates unidentified hydrocarbons <C14 and >C16.
- Laboratory report indicates gasoline C6-C12.
- <sup>24</sup> Laboratory report indicates unidentified hydrocarbons >C16.
- 25 Laboratory report indicates discrete peaks.
- MTBE by EPA Method 8260.
- <sup>27</sup> Laboratory report indicates weathered gasoline C6-C12.
- <sup>28</sup> Laboratory report indicates unidentified hydrocarbons <C16
- <sup>29</sup> Laboratory report indicates unidentified hydrocarbons C9-C40.
- MTBE by EPA Method 8260 was originally analyzed within holding time. Re-analysis for confirmation or dilution was performed past the recommended holding time.
- Laboratory report indicates diesel C9-C24.

#### Groundwater Analytical Results - Oxygenate Compounds

Tosco (Unocal) Service Station #5043 449 Hegenberger Road Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (pph)	TAME (pph)	1,2-DCA (ppb)	EDB (ppb)
MW-3	04/13/00	ND	ND	150	ND	ND	ND	NĐ	ND
MW-6	07/14/00 10/26/00 01/03/01 04/04/01	   ND¹	   ND'	ND <sup>1</sup> 43 <sup>2</sup> ND <sup>1</sup> 47.8	   ND <sup>1</sup>	  ND <sup>1</sup>	   ND¹	   ND <sup>1</sup>	   ND <sup>1</sup>

**EXPLANATIONS:** 

**ANALYTICAL METHOD:** 

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 or 1,2-Dibromoethane

(ppb) = Parts per billion

ND = Not Detected

-- = Not Analyzed

EPA Method 8260 for Oxygenate Compounds

Detection limit raised. Refer to analytical reports.

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

# Table 3 Product Thickness/Removal Data Tosco (Unocal) Service Station #5043

449 Hegenberger Road Oakland, California

Oakiano, Camornia									
WELL ID	DATE	DTW	Product Thickness	Amount Bailed (Product + Water)					
		(fi.)	(ft.)	(gallons)					
	07/2/10/	Z 40	2.22	2.10					
MW-6	07/26/96	6.40	3.33	2.10					
	10/28/96	4.10	0.21	0.14					
	11/13/96	4.02	0.25	0.09					
	11/25/96	4.01	0.75	0.47					
	12/04/96	3.65	0.50	0.43					
	12/19/96	4.80	2.20	1.02					
	01/08/97	4.84	1.75	0.59					
	01/14/97	4.51	1.15	0.66					
	01/27/97	4.00	1.75	0.78					
	01/29/97	3.24	0.31	0.25					
	02/11/97	4.65	1.20	0.62					
	02/24/97	4.81	1.10	0.50					
	03/10/97	4.60	0.95	0.47					
	03/17/97	4.50	0.89	0.35					
	03/31/97	4.65	1.00	0.50					
	04/15/97	4.90	1.03	0.51					
	04/28/97	4.78	0.03	0.20					
	05/15/97	4.60	0.25	0.20					
	05/27/97	4.50	0.25	0.00					
	06/09/97	4.60	0.20	0.23					
	06/24/97	4.50	0.25	0.25					
	07/09/97	4.80	0.60	0.25					
	07/15/97	4.63	0.42	0.20					
	07/21/97	4.75	0.25	0.27					
	08/06/97	4.50	0.10	0.16					
	08/20/97	4.55	0.10	0.20					
	09/02/97	4.75	0.05	0.12					
	10/09/97	4.84	0.04	0.12					
	01/14/98 <sup>1</sup>	3.90	0.94	1.50					
	02/12/981	3.35	0.64	0.32					
	03/03/981	4.51	0.02	2.00					
	04/01/98 <sup>1</sup>	3.67	1.60	0.50					
	05/26/98 <sup>1</sup>	4.11	0.50	0.08					
	06/15/98 <sup>1</sup>	5.03	0.30	0.060					
	07/15/98 <sup>1</sup>	4.56	0.05	0.10					
	08/21/981	4.77	0.02	0.040					
	09/30/981	5.08	0.03	0.027					
	10/16/98 <sup>1</sup>	4.32	2.40	0.98					
	11/06/98 <sup>1</sup>	3.98	0.17	0.16					
	11/25/98 <sup>1</sup>	3.92	0.10	0.12					
	12/28/98 <sup>1</sup>	3.90	0.20	0.14					
	01/25/99 <sup>1</sup>	4.18	0.60	0.27					
	02/22/991	4.07	0.22	0.078 product/3.0 water					
	03/22/99 <sup>i</sup>	4.32	0.15	0.039 product/5.0 water					

Table 3
Product Thickness/Removal Data

Tosco (Unocal) Service Station #5043 449 Hegenberger Road Oakland, California

WELL ID	DATE	DTW	Product Thickness	Amount Bailed (Product + Water)				
		(ft.)	(ft.)	(gallons)				
MW-6	04/15/991	4.23	0.95	1.0 product				
(солt)	05/28/991	4.38	0.39	0.141 product/1.0 water				
•	06/29/991	4.12	0.02	0.054 product/8.0 water				
	07/14/99 <sup>1</sup>	4.20	0.03	0.039 product/2.0 water				
	08/23/99 <sup>1</sup>	4.51	0.24	0.094 product/1.0 water				
	09/30/991	4.17	0.17	0.141 product/1.0 water				
	10/21/99 <sup>1</sup>	4.27	0.12	0.070 product/1.0 water				
	11/29/99 <sup>2</sup>	4.18	<0.01	0.0078 product/1.0 water				
	12/20/99 <sup>2</sup>	4.26	0.01	0.0156 product/1.0 water				
	01/20/00 <sup>2</sup>	4.31	< 0.01	0.00				
	02/26/00	3.98	0.00	0.00				
	03/31/00	4.14	0.00	0.00				
	04/13/00	4.04	0.00	0.00				
	05/26/00	4.41	0.00	0.00				
	06/17/00	4.35	0.00	0.00				
	07/14/00	4.47	< 0.01	<1 ounce				
	08/24/00	3.71	0.00	0.00				
	09/27/00	4.33	0.00	0.00				
	10/26/00	4.32	0.00	0.00				
	01/03/01	4.52	0.00	0.00				
	04/04/01	4.29	0.00	0.00				
	07/17/01	4.37	0.00	0.00				

#### **EXPLANATIONS:**

Product Thickness/Removal Data prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

DTW = Depth to Water

(ft.) = Feet

Skimmer present in well.

No skimmer found in well.

#### 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.

acility #_502	13		Job#:	18006	5
ddress: 44	g Hegenbero	er Pe	Date:	7-17-01	
	Kland		Samp	ler: <u>Joe</u>	
Well ID	MW- 3	Well	Condition:	OK	<u> </u>
Vell Diameter	2 in.	•	ocarbon kness:	Amount E	12
otal Depth	13.92	Vol	ume 2" = 0.		
Depth to Water	3.12	Fac	tor (VF)	6* = 1.50 .	12" = 5.80
	10.8 ×	vf <u>0.17</u>	=1.84 x 3 (case	volume) = Estimated F	Purge Volume: 5.3 (gal.)
Purge Equipment:	Disposable Bailer Bailer		Sampling Equipment	: Disposable B	ailer
- derpresent	Stack			Bailer Pressure Bai	ler
	Suction Grandfos	•		Grab Sample	•
	Other:	<del></del>	·	Other:	<del>_</del>
Starting Time: Sampling Time:	9!25 Am (0:	925)	Weather Condition Water Color: Sediment Descrip	clear	Odor:_Mild
Did well de-wate		<del>_</del>		Volu	me:
	Volume pH (gal.)	Con.	ductivity   C Temp	cerature D.O.	ORP Alkalinity (mV) (ppm)
9:07	1.5 7.21			<u></u>	
4 12	3.5 7.17			<u>5.3</u>	<u> </u>
9:15	5,( 7.14		357 6	<u> </u>	
		LABO	RATORY INFORM		
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	AOVE	Y	HCL	Seq.	TPHG, BTEX, MTBE
	1 Amb	:/			1 1 TIVE
l					
COMMENTS:					

acility # 504	4 5		Job#:	18006	5
Address: 44	a Hegenbero	jer Pol.	Date:	7-17-01	
City: Oè	· ·		Sample	er: <u>50</u> e	
Well ID	:MW- 6	Well Con	dition:	o.F	
Well Diameter	2 in.	Hydrocar	- Line	Amount B	<i>(</i> -2
Total Depth	12.71	Thicknes	2" = 0.1		
Depth to Water	4-37	Factor (\		6" = 1.50	12" = 5.80
	×	vf <u>0.17</u> <u>1</u>	.42 X 3 (case v	olume) = Estimated P	urge Volume: 4.5 (ael.)
Purge Equipment:	Disposable Bailer Bailer	•	Sampling Equipment:		ailer /
	Stack Suction	÷		Bailer Pressure Bail	er
	Grundfos Other:	· <del></del>	(	·Grab Sample Other:	<u> </u>
Starting Time: Sampling Time: Purging Flow Rat	10:10 10:36 AM (10 te:	<u>23</u> 6) War	liment Descript	clear	
Did well de-wate	r?			Volu	Te:
Time \	Volume pH	Conducti	vity   COTempo	nature D.O.	ORP Alkalinity (mV) (ppm)
	(gal.)		<i>/</i> -		(22.)
10:20	6.75	0.84	ŕ	5,2 <u> </u>	
10:24		0.75			
	i.s 6.75 3 6.73	0.75		5.2 5.3	
10.27	6.75 3 6.73 4.7 6.72	LABORAT	CORY INFORMA	5.2 5.3 5.3	
10.27 10.27	6.75 6.73 4.7 6.72	LABORAT REFRIG. P	ORY INFORMA	TION LABORATORY	ANALYSES
10.27	6.75 3 6.73 4.7 6.72 (3) - CONTAINER 3 YO A	LABORAT	CORY INFORMA	5.2 5.3 5.3	ANALYSES TPHG, BTEX, MTBE
10.27 10.27	6.75 6.73 4.7 6.72	LABORAT REFRIG. P	ORY INFORMA	TION LABORATORY Seq.	ANALYSES
10,27	6.75 3 6.73 4.7 6.72 (3) - CONTAINER 3 YO A	LABORAT REFRIG. P	ORY INFORMA	TION LABORATORY Seq.	ANALYSES TPHG, BTEX, MTBE
10.27 10.27 SAMPLE ID	6.75 3 6.73 4.7 6.72 (3) - CONTAINER 3 YO A	LABORAT REFRIG. P	ORY INFORMA	TION LABORATORY Seq.	ANALYSES TPHG, BTEX, MTBE

Client/ Facility # <u>\$_</u> 0_	43		Job#:	18006	5	_
Address: 44	a Hegenberg	er Pa	Date:	7-17-01		_
City: Oè				er: <u>Joe</u>		
Well ID	MW-7	Weil	Condition:	oit		_
Well Diameter	2 in.	•	ocarbon	. Amount B	(2)	al)
Total Depth	13.15	Vot		17 3" = 0.3	8 4" = 0.66	7
Depth to Water	5.06 #	-	or (VF)	6" = 1.50	12" = 5.80	
	8.09 x	VF 0.17	=1.38 x 3 (case s	volume) = Estimated f	Purge Volume: 4.5 lo	لائم
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos	· . ·	Sampling Equipment:	Disposable B Bailer Pressure Bail Grab Sample	er	,
	Other:			Other:		
Starting Time: Sampling Time: Purging Flow Rat	7:25Am (07	25)	Weather Condition Water Color: Sediment Descrip	clear	Odor: UDN &	
Did well de-wate		_	If yes; Time:	Volu	me:	(. اعوا
Time '	Volume pH (gal.)	Con.	ductivity   ( <sup>7)</sup> Temp hos/cm K 4		ORP Alleli (mV) (pp	
7:10	1.5 7.95		47 65	<u>.3</u>		
7:/4	7 7.65			- 1		
<u> 7:17</u> _	4./ 7.62	_ <u> </u>	-53 65			
SAMPLE ID	(#) - CONTAINER	Labo Refrig.	RATORY INFORMA	ATION LABORATORY	ANALYSES _	٠
MW-7	3404	Y	HCL	Seq.	TPHG, BTEX, MT	ВЕ
	1AM6	1/		. 11	TPHO	
				'	-	
		1	<u> </u>	1		
COMMENTS: .	One padlock	·			<u> </u>	<del></del>
		•	•			

Client/ Facility # <u></u> 5 o.	43		Job#:	18006	5
Address: 44	9 Hegenber	yer P.	Date:	7-17-01	
City:0				er: <u>Joe</u>	
Well ID	MW-8	Well	Condition:	OIF	
Well Diameter	2 in	_	ocarbon kness:	Amount Ba	<i>(2)</i>
Total Depth	14.80 #		ume 2° = 0.1	7 3" = 0.38	4" = 0.66
Depth to Water	3.46 #	1	tor (VF)	6" = 1.50	12" = 5.80
Purge	11.34 x Disposable Bailer	*	= 1.93 x3 (case v		
Equipment:	Bailer		Equipment:	Disposable Bailer	idér
	Stack Suction	÷.		Pressure Baile	er .
	Grundfos			-Grab Sample	·
	Other:		•	Other:	-
	re:	——————————————————————————————————————	Sediment Descript If yes; Time:	tion: Volum	
Time	Volume pH (gal.)	lmų	inctivity   ( <sup>2)</sup> Tempo hos/cm <sup>x</sup> -F	(mg/L)	ORP Alkalinity (mV) (ppm)
7:48	2 7.48	9.	67 65.	<u> </u>	
7:52	4 .7.50		<u>53 65</u>		·
7:56	6 7.43		<u>57 65</u>	.6	<del></del>
			<del></del>		
SAMPLE ID	(#) - CONTAINER	LABOI REFRIG.	RATORY INFORMA PRESERV. TYPE	TION LABORATORY	ANALYSES .
MW_ 2	3404	Y	HCL	Seq.	TPHG, BTEX, MTBE
<b></b>	1AW6	11		- le	TPHO .
			1		
		_			•
COMMENTS: _		-	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
<del></del>		•			·

+3		Job#:	[8006	5
9 Hegenbero	zer Pol.	Date:	7-17-01	
Kland			ler: <u>Joe</u>	
Mw-9	Well Cor	ndition:	of Se	e notes below.
2 in.	-	400	Amount Ba	(-)
11.90 #	Volume	2° = 0.	<del></del>	4" = 0.66
· <del></del>				
10.52 x	VF 0.17 =_	7 X 3 (case	volume) = Estimated Po	srge Volume: 5.) [gal]
Disposable Bailer Bailer Stack		Sampling Equipment:	Bailer	•
Suction Grundfas	₹,		Pressure Baile Grab Sample	er
Other:	<del></del>		Other:	<b>-</b>
8140A.m (00	<u>840)</u> Wa	iter Color:	clear	<del></del>
	Conduct	ivity Is Temp	ecature D.O.	ORP Alkalinity
/olume pH (gal.)	µmhos/e	×	C (mg/L)	(mV) (ppm)
(gal.) 1.5 7.40	umhos/e	cm.× −1	5.9	(mV) (ppm)
(gal) 1.5 7.40 3 7.32	4.8 4.8	\(\frac{1}{6}\)	5.9	(mV) (ppm)
(gal.) 1.5 7.40	4.8 4.8	\(\frac{1}{6}\)	5.9	(mV) (ppm)
(gal) 1.5 7.40 3 7.32	4.8 4.8	\(\frac{1}{6}\)	5.9	(mV) (ppm)
(gal) 1.5 7.40 3 7.32	4.8 4.8 4.8	\(\frac{1}{6}\)	5.4	
(gal.)  1.5 7.40  3 7.32  5.5 7.26  (#) - CONTAINER	4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8	ORY INFORM.	ATION LABORATORY	ANALYSES
(gal.)  1.5 7.40  3 7.32  5.5 7.26  (#)- CONTAINER  3 YO 4	4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8	CORY INFORM.	5.9 5.4 5.6	ANALYSES TPHG, BTEX, MTBE
(gal.)  1.5 7.40  3 7.32  5.5 7.26  (#) - CONTAINER	LABORAT REFRIG. P	ORY INFORM.	ATION LABORATORY Seq.	ANALYSES
(gal.)  1.5 7.40  3 7.32  5.5 7.26  (#)- CONTAINER  3 YO 4	LABORAT REFRIG. P	ORY INFORM.	ATION LABORATORY Seq.	ANALYSES TPHG, BTEX, MTBE
(gal.)  1.5 7.40  3 7.32  5.5 7.26  (#)- CONTAINER  3 YO A  1 A M 6	LABORAT REFRIG. F	ORY INFORM. PRESERV. TYPE HCL	ATION LABORATORY Seq.	ANALYSES TPHG, BTEX, MTBE
(gal.)  1.5 7.40  3 7.32  5.5 7.26  (#)- CONTAINER  3 YO A  1 A M 6	LABORAT REFRIG. F	ORY INFORM. PRESERV. TYPE HCL	ATION LABORATORY Seq.	ANALYSES TPHG, BTEY, MTBE TPHI)
	WW-9  2 in.  11. 90 tr.  1.38 tr.  10.52 x  Disposable Bailer  Bailer  Stack Suction Grundfos Other:  8:15  8:40A·m (02)  e: 0.5 gr	MW-9 Well Cor  Z in. Hydroca Thicknes  11.90 ft. Volume Factor (  10.52 x vf 0.17 =  Disposable Bailer Stack Suction Grundfos Other:  8:15 We 8140A·m (0840) Wa e: 0.5 gpm. Secon	MW-9 Well Condition:  Zin. Hydrocarbon Thickness:  11. 90 Yolume  10.52 X VF  O.17 = 1.79 X 3 (case  Disposable Bailer Sampling Equipment: Stack Suction Grundfos Other:  8:15 Weather Condition Water Color:  E: 0.5 gpm. Sediment Descrip	MW-9  Well Condition:  Zin. Hydrocarbon Amount Barbickness:  Note Thickness:  Note Thicknes

Client/ Facility # <u>\$</u> 0.	43		Job#:	18006	5
Address 44	9 Hegenber	mer P.	Date:	7-17-01	
City:0	*			er: <u>Joe</u>	
Well ID	Mw-10	Well	Condition:	OF	
Well Diameter	2 in	_	rocarbon	Amount B	1 7
Total Depth	1281		kness:	<u>in.</u> (product/we	
Depth to Water	4.08 4	4	turne 2° = 0.1 zor (VF)	6" = 1.50 .	12" = 5.80
	x	VF 0.1	=1.48 ×3 (case ×	rolume) = Estimated P	urge Volume: 4.5 (gal.)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	· · · · · · · · · · · · · · · · · · ·	Sampling Equipment:	Disposable Bailer Bailer Pressure Bail Grab Sample Other:	er
Starting Time: Sampling Time: Purging Flow Rat Did well de-wate	te:o:) <sub>a</sub>	pro	Water Color: Sediment Descript If yes; Time: ductivity   ?	tion: Volum	
	Volume pH (gal.)	yan.	hos/cm / +	(mg/L)	(mV) (ppm)
9'43 9'47 9:51	7.2:		1.80 65 1.76 65	515	
SAMPLE ID	(#) - CONTAINER	LABO	RATORY INFORMA	TION LABORATORY	ANALYSES
MW- 10	3 YOA	Y	HCL	Seq.	TPHG, BTEY, MTBE
	1AM6	11	·	/r	CHAL
COMMENTS:				· · · · · · · · · · · · · · · · · · ·	
			· · · · · · · · · · · · · · · · · · ·		
		•			·

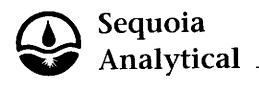


Years Marketing Company 2000 Game Compon PL, Sto. 400 San Ramon, Collectin 94883

Focility Number UNOCAL SS# 5043
Foolily Address 449 Hegenberger Road, Oakland, CA  Consultant Project Number 180065.85
Consultant Project Number
Address 6747 Sierra Court, Suite J. Dublin, CA 94568
Emiet Cooleet (Name) Deanna L. Harding
(Phone) 510-551-7555 (Fax Number) 510-551-7888

Contact (Home) MR. DAVID DEWIT	t
(Phone) 925-277-2.384	·
Loborotory Name Sequoia Analytical	<u> </u>
Samples Collected by (Name) JOE AJEMIAN	
Collection Date 7-17-01	
Signature Survey our	

	$\neg \tau$								١,				-	Analyse	• То В	Perfor	ned					DO NOT BILL
Sample Number	MS	Lab Sample Number	Number of Containers	Metric S = Soil A = Air W = Water C = Charmel	Type G = Grab C = Composite D = Discrete	∏m∙	Somple Preservation	load (Yes or No)	TPH Gat BTEX WANTEE	TPH Diesed (8015)	Oil and Gracine (5520)	Purpeable Halocarbors (8010)	Purpeable Aromatics (8020)	Purgeoble Organics (8240)	Extractoble Organics (8270)	Hetals C4CrPb.Zn.M (ICAP or AA)						TB-LB ANALYSIS
TB-LB		01	VOA	W	C-	~	HCL	4	/		ļ			ļ					•			
Wm-	<del>5</del>		3VOA		/	0925	1	/	<u> </u>	4				<del> </del>	<u> </u>	ļ <u>.                                    </u>				<u> </u>		
MW.		03	4	1	1	1036	/	/	1	<u></u>		<u> </u>	ļ	<u> </u>	ļ	<u> </u>			· · · · · · · · · · · · · · · · · · ·			
ww.		04	1/	1	1	0725		1	<u>  ~</u>	_		ļ		<del> </del>	<del> </del>	ļ						
MW-	8	05	4	1.	1	0804	,	~	/	/	ļ		-	<del> </del>	<del> </del>	├				<b> </b>		
MW-	<del></del> +	مان	4	,	У.	0840	/		1	1	ļ	ļ	ļ	· <del> </del> -	-	<del>  - '</del>				ļ <u>.</u>		
MUL		07	9	1	1	1000	1		1			. <del> </del>	<u> </u>	<del> </del>	<del> </del>	<del> </del>		<sup>'</sup>		<del> </del>		-
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								ļ		<b>. </b>	ļ	<del>- </del>				-		·	· · · · · · ·	<del>                                     </del>	<u> </u>	
	- 1	(Signature)			penization -R Inc	- 1	Date/Time 1847-17-01	50 Re	oolyed E	y (Sign	aturas O	<u> </u>		Organiza			ارم (2) (2)	1804 1	L	Turn A	24	me (Cirole Cholos)
\$ 15 m		(Signature)		Ore	ganizollon	•	Date/Time	Re	celved [	y (Sign	ature)			Organiza	itlon		•/TIM•				5	Daye Daye
Ĭ,	м ву	(Signature)	)	or	ganization	· .	Date/Time	Re	eleved I	For Labo	protory		alure)		·	Dal	•/Tim•					ontracted



1551 Industrial Road San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612 www.sequoialabs.com

AUG U 3 2001

# GETTLEK-KYAN INC

August 01, 2001

Deanna Harding Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568 RE: Tosco(1) / L107145

Enclosed are the results of analyses for samples received by the laboratory on 07/17/01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Johnya M. Pell

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#5043, Oakland, CA

Project Manager: Deanna Harding

Reported:

08/01/01 15:12

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L107145-01	Water	07/17/01 00:00	07/17/01 18:00
MW-3	L107145-02	Water	07/17/01 09:25	07/17/01 18:00
MW-6	L107145-03	Water	07/17/01 10:36	07/17/01 18:00
MW-7	L107145-04	Water	07/17/01 07:25	07/17/01 18:00
MW-8	L107145-05	Water	07/17/01 08:04	07/17/01 18:00
MW-9	L107145-06	Water	07/17/01 08:40	07/17/01 18:00
MW-10	L107145-07	Water	07/17/01 10:00	07/17/01 18:00

Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J

Dublin CA, 94568

Project: Tosco(1)

Project Number: Unocal SS#5043, Oakland, CA

Project Manager: Deanna Harding

Reported:

08/01/01 15:12

# Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (L107145-01) Water Sa	mpled: 07/17/01 00:00	Received:	07/17/01	18:00					
Purgeable Hydrocarbons as Gasolin	ne ND	50	ug/l	1	1070140	07/31/01	07/31/01	DHS LUFT	
Benzene	ND	0.50	*	41	п	t1	11	H ·	
Toluene	ND	0.50	#	11	"	H	P	n	
Ethylbenzene	ND	0.50	H	"	11	"	11	H	
Xylenes (total)	ND	0.50			Ħ	н	*	-	
Methyl tert-butyl ether	ND	5.0		*	11	#	H	n	
Surrogate: a,a,a-Trifluorotoluene		79.3 %	70	-130	"	"	"	. #	
MW-3 (L107145-02) Water Sai	npled: 07/17/01 09:25	Received: 0	7/17/01	18:00					
Purgeable Hydrocarbons as Gase	line 480	50	ug/l	1	1070140	07/31/01	07/31/01	DHS LUFT	P-02
Benzene	ND	0.50	#	**	tt	Ħ	**	H	
Toluene	ND	0.50		'n	Ħ		11	п	
Ethylbenzene	ND	0.50	•	n	н		n	<b>e</b>	
Xylenes (total)	ND	0.50	17	**	**	**	•	91	
Methyl tert-butyl ether	150	5.0	H	**	п	11	41		
Surrogate: a,a,a-Trifluorotoluene		86.6 %	70	-130	"	"	H	*	
MW-6 (L107145-03) Water San	mpled: 07/17/01 10:36	Received: (	07/17/01	18:00		_			
Purgeable Hydrocarbons as Gase	oline 100000	20000	ug/l	400	1070135	07/30/01	07/31/01	DHS LUFT	P-01
Benzene	3200	200	**	n	Ħ	ŧŧ	17	n	
Toluene	3300	200	**	**	P.	n	**	,•	
Ethylbenzene	3400	200	*	11	P	ħ		n	
Xylenes (total)	12000	200-		n	\$r	#1	n	н	
Methyl tert-butyl ether	ND	2000		П	"	"	Ħ	Ħ	
Surrogate: a,a,a-Trifluorotoluene		95.7 %	70	-130	,,	m m	n	"	

Gettler-Ryan/Geostrategies(1)

6747 Sierra Court, Suite J

Project: Tosco(1)

Project Number: Unocal SS#5043, Oakland, CA

Reported: 08/01/01 15:12

Dublin CA, 94568 Project Manager: Deanna Harding

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-7 (L107145-04) Water	Sampled: 07/17/01 07:25	Received: 0	7/17/01	18:00		· · · · · · · · · · · · · · · · · · ·			
Purgeable Hydrocarbons as G	asoline ND	50	ug/l	1 ,	1070140	07/31/01	07/31/01	DHS LUFT	
Benzene	ND	0.50		Ħ	п	"	H	**	
Toluene	ND	0.50	**	Ħ	71	Ħ	н	11	
Ethylbenzene	ND	0.50	Ħ		91	••	••	н	
Xylenes (total)	ND	0.50	n	**	11	н	Ħ	Ħ	
Methyl tert-butyl ether	ND	5.0	. *	Ħ	p	11	n	H	
Surrogate: a,a,a-Trifluorotoli	iene	78.6 %	70	-130	#	n	e	*	
MW-8 (L107145-05) Water	Sampled: 07/17/01 08:04	Received: 0	7/17/01	18:00					
Purgeable Hydrocarbons as G	asoline ND	50	ug/l	-1	1070135	07/30/01	07/31/01	DHS LUFT	
Benzene	ND	0.50		44			n	•	
Toluene	ND	0.50		Ħ	h	•	w.	π	
Ethylbenzene	ND	0.50	**		11	•	11	. п	
Xylenes (total)	ND	0.50	н		11	Ħ	"	n	
Methyl tert-butyl ether	ND	5.0	Ħ	T	n	It		#	
Surrogate: a,a,a-Trifluorotoli		74.7 %	70	-130	. "	tr	н	M	
MW-9 (L107145-06) Water		Received: 0	7/17/01	18:00					
Purgeable Hydrocarbons as G	Gasoline ND	50	ug/l	1	1070135	07/30/01	07/31/01	DHS LUFT	
Benzene	ND	0.50	*	•	п	"	n	41	
Toluene	ND	0.50	H	17	11	**	•	**	
Ethylbenzene	ND	0.50		11	#1	Ħ	11	**	
Xylenes (total)	ND	0.50	#		Ħ	n	п	**	
Methyl tert-butyl ether	13	5.0	**	п	*		"	en	
Surrogate: a,a,a-Trifluorotol		80.2 %	70	)-130	"	#	"	#	

Gettler-Ryan/Geostrategies(1)

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

Project Number: Unocal SS#5043, Oakland, CA

Project Manager: Deanna Harding

Reported:

08/01/01 15:12

# Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-10 (L107145-07) Water	Sampled: 07/17/01 10:00	Received:	07/17/01 1	8:00					
Purgeable Hydrocarbons as Gas	soline ND	50	ug/l	1	1070135	07/30/01	07/31/01	DHS LUFT	
Benzene	4.1	0.50		**	P	•	*	•	
Toluene	ND	0.50		n	H	#	**	**	
Ethylbenzene	1.0	0.50	4	n	91	Ħ	11	н	
Xylenes (total)	1.8	0.50	#	14	**	11	tı	11	
Methyl tert-butyl ether	ND	5.0		11		**	# 	**	
Surrogate: a.a.a-Trifluorotolue	ne	86.8 %	70-1	30	H	H	Ħ	π	

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

Project Number: Unocal SS#5043, Oakland, CA

Project Manager: Deanna Harding

Reported: 08/01/01 15:12

### Diesel Hydrocarbons (C9-C24) by DHS LUFT Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution .	Batch	Prepared	Analyzed	Method	Notes
MW-3 (L107145-02) Water	Sampled: 07/17/01 09:25	Received: 0	7/17/01	18:00					
Diesel Range Hydrocarbons	270	50_	ug/l	1	1G23010	07/23/01	07/24/01	EPA 8015M	D-11
Surrogate: n-Pentacosane		97.0 %	<i>50</i> -	-150	"	*	π	#	
MW-6 (L107145-03) Water	Sampled: 07/17/01 10:36	Received: 0	7/17/01	18:00					
Diesel Range Hydrocarbons	20000	500	ug/l	10	1G23010	07/23/01	07/25/01	EPA 8015M	D-13
Surrogate: n-Pentacosane		%	50	-150	n	,,	Ħ	*	D-09
MW-7 (L107145-04) Water	Sampled: 07/17/01 07:25	Received: (	7/17/01	18:00				·	
Diesel Range Hydrocarbons	ND	50	ug/l	1	1 <b>G23</b> 010	07/23/01	07/24/01	EPA 8015M	
Surrogate: n-Pentacosane		76.0 %	50	-150	*	Ħ	#	et	
MW-8 (L107145-05) Water	Sampled: 07/17/01 08:04	Received: (	07/17/01	18:00				a *:	
Diesel Range Hydrocarbons	ND	50	ug/i	1	1G23010	07/23/01	07/24/01	EPA 8015M	
Surrogate: n-Pentacosane	,	73.0 %	50	-150	m	"	п	H	
MW-9 (L107145-06) Water	Sampled: 07/17/01 08:40	Received:	07/17/01	18:00					
Diesel Range Hydrocarbons	ND	50	ug/l	1	1G23010	07/23/01	07/24/01	EPA 8015M	
Surrogate: n-Pentacosane		83.2 %	50	-150	и	p	n	*	
MW-10 (L107145-07) Water	Sampled: 07/17/01 10:00	Received:	07/17/0	1 18:00					
Diesel Range Hydrocarbons	ND	50	ug/l	1	1G25004	07/25/01	07/25/01	EPA 8015M	
Surrogate: n-Pentacosane		103 %	50	-150	*	*	"	n	

Gettler-Ryan/Geostrategies(1)

6747 Sierra Court, Suite J **Dublin CA, 94568** 

Project: Tosco(1)

Project Number: Unocal SS#5043, Oakland, CA

Spike

Source

Project Manager: Deanna Harding

Reported:

RPD

%REC

08/01/01 15:12

# Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control Sequoia Analytical - San Carlos

Reporting

		Reporting		Spike	Source		70ICC		M D	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1070135 - EPA 5030B (P/T)					· · · · · · · · · · · · · · · · · · ·	<u></u>				
Blank (1070135-BLK1)				Prepared	& Analyze	ed: 07/30/0	01			
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l							
Benzene	ND	0.50	н							
Toluene .	ND	0.50								
Ethylbenzene	ND	0.50								
(ylenes (total)	ND	0.50	*							
Methyl tert-butyl ether	ND	5.0								
Surrogate: a,a,a-Trifluorotoluene	11.0	-	77	10.0		110	70-130			
LCS (1070135-BS1)				Prepared:	07/30/01	Analyzec	1: 07/31/01			
Benzene	8.61	0.50	սք/1	10.0		86.1	70-130			
Foluene	8.53	0.50		10.0		85.3	70-130			
Ethylbenzene	8.58	0.50		10.0		85.8	70-130			
Kylenes (total)	26.2	0.50	11	30.0		87.3	70-130			
Surrogate: a,a,a-Trifluorotoluene	11.1		n	10.0		111	70-130			
LCS (1070135-BS2)				Prepared	07/30/01	Analyzed	1: 07/31/01			
Purgeable Hydrocarbons as Gasoline	270	50	ug/l	250		108	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.8		,,	10.0		108	70-130			
Matrix Spike (1070135-MS1)	Sou	rce: L10714	5-05	Prepared	07/30/01	Analyze	d: 07/31/01			
Benzene	8.77	0.50	ug/l	10.0	ND	87.7	60-140			
Toluene .	8.76	0.50	H	10.0	ND	87.6	60-140			
Ethylbenzene	8.76	0.50	**	10.0	ND	87.6	60-140			
Xylenes (total)	27.1	0.50	Ħ	30.0	ND	90.3	60-140			
Surrogate: a,a,a-Trifluorotoluene	9.39	<del></del>	,	10.0		93.9	70-130			_
Matrix Spike Dup (1070135-MSD1)	Sou	Source: L107145-05			Prepared: 07/30/01 Analyzed: 07/31/01					
Benzene	7.66	0.50	ug/l	10.0	ND	76.6	60-140	13.5	25	
Toluene	7.62	0.50	n	10.0	ФИ	76.2	60-140	13.9	25	
Ethylbenzene	8.27	0.50	n	10.0	ND	82.7	60-140	5.75	25	
Xylenes (total)	25.0	0.50	n	30.0	ND	83.3	60-140	8.06	25	
Surrogate: a,a,a-Trifluorotoluene	8.81		n	10.0		88.1	70-130			
•										

Gettler-Ryan/Geostrategies(1)

Project: Tosco(1)

6747 Sierra Court, Suite J

Project Number: Unocal SS#5043, Oakland, CA

08/01/01 15:12

Reported:

Dublin CA, 94568 Project Manager: Deanna Harding

# Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control Sequoia Analytical - San Carlos

<del></del>		Reporting		<b>Spik</b> €	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1070140 - EPA 5030B (P/T)										······
Blank (1070140-BLK1)				Prepared a	& Analyz	ed: 07/31/0	01			
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l							
Benzene	ND	0.50								
Toluene	ND	0.50	**							
Ethylbenzene	ND	0.50	н							
Xylenes (total)	ND	0.50	н							
Methyl tert-butyl ether	ND	5.0	#							
Surrogale: a,a,a-Trifluorotoluene	7.94		a)	10.0		79.4	70-130	•		
LCS (1070140-BS1)				Prepared a	& Anaiyz	ed: 07/31/	01			
Benzene	7.99	0.50	ug/l	10.0		79.9	70-130			
Toluene	7.73	0.50	•	10.0		77.3	70-130			
Ethylbenzene	7.79	0.50	-	10.0		77.9	70-130			
Xylenes (total)	23.5	0.50	•	30.0		78.3	70-130			· · · · · · · · · · · · · · · · · · ·
Surrogate: a,a,a-Trifluorotoluene	8.33	· · · · · · · · · · · · · · · · · · ·	"	10.0		83.3	70-130			
LCS (1070140-BS2)				Prepared	& Analyz	ed: 07/31/	01			
Purgeable Hydrocarbons as Gasoline	223	50	ug/l	250		89.2	70-130			
Surrogate: a,a,a-Trifluorotoluene	8.44		н	10.0		84.4	70-130			
Matrix Spike (1070140-MS1)	Sou	ırce: L10714	5-04	Prepared:	07/31/01	Analyze	d: 08/01/0 <u>1</u>			
Purgeable Hydrocarbons as Gasoline	271	50	ug/l	250	ND	108	60-140			
Surrogate: a,a,a-Trifluorotoluene	8.92		"	10.0		89.2	70-130			- · <del>-</del>
Matrix Spike Dup (1070140-MSD1)	Soi	arce: L10714	5-04	Prepared:	07/31/01	Analyze	d: 08/01/01			
Purgeable Hydrocarbons as Gasoline	276	50	ug/l	250	ND	110	60-140	1.83	25	
Surrogate: a,a,a-Trifluorotoluene	9.53		"	10.0		95.3	70-130			

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

Project: Tosco(1)

Project Number: Unocal SS#5043, Oakland, CA

Project Manager: Deanna Harding

Reported:

08/01/01 15:12

## Diesel Hydrocarbons (C9-C24) by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

	Reporting		Spike	Source		%REC		RPD	
Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
							_		
			Prepared:	07/23/01	Analyzed	: 07/24/01		<del></del>	
ND	50	ug/l			- <del></del>				
<b>34</b> .7		"	33.3		104	50-150			
			Prepared	& Analyz	ed: 07/23/	01	_	· · · · · · · · ·	
384	50	ug/l	500		76.8	60-140			
34.3		#	33.3		103	50-150			
			Prepared	& Analyz	ed: 07/23/	01			
411	50	ug/l	500		82.2	60-140	6.79	50	
37.7		и	33.3		113	50-150			
			Prepared	& Analyz	ed: 07/25/	01			
ND	50	ug/l							
27.3		*	33.5		82.0	50-150			
			Prepared	& Analyz	ed: 07/25/	01			
351	50	ug/l	500		70.2	60-140			
30.7		pr	33.5		92.2	50-150			
			Prepared	& Analyz	zed: 07/25/	01			
332	50	ug/l	500		66.4	60-140	5.56	. 50	
27.3		n	33.3		82.0	50-150		-	
	ND 34.7  384 34.3  411 37.7  ND 27.3  351 30.7	ND 50 34.7  384 50 34.3  411 50 37.7  ND 50 27.3  351 50 30.7	ND   50 ug/l   34.7   "	Prepared:   ND   50   ug/l     33.3	Prepared: 07/23/01     ND   50   ug/l     34.7   "   33.3     Prepared & Analyz     34.3   "   33.3     Prepared & Analyz     411   50   ug/l   500     37.7   "   33.3     Prepared & Analyz     412   50   ug/l     500   37.7   "     33.3     Prepared & Analyz     413   50   ug/l     500   ug/l     500   ug/l     500   30.7   "   33.5     Prepared & Analyz     33.5     Analyz     Ana	Prepared: 07/23/01 Analyzed   ND   50   ug/l     33.3   104	Result   Limit   Units   Level   Result   %REC   Limits	Prepared	Prepared   Name   Nam

Gettler-Ryan/Geostrategies(1)

6747 Sierra Court, Suite J

**Dublin CA, 94568** 

Project: Tosco(1)

Project Number: Unocal SS#5043, Oakland, CA

Project Manager: Deanna Harding

Reported:

08/01/01 15:12

#### **Notes and Definitions**

D-09	Surrogate diluted out below control limits due to high concentrations of hydroca	rbons.
IJ-U9	Surrogate diffied out below control limits due to high concentrations of hydroca	TOOTE

D-11 Chromatogram Pattern: Unidentified Hydrocarbons < C16

D-13 Chromatogram Pattern: Diesel C9-C24

P-01 Chromatogram Pattern: Gasoline C6-C12

P-02 Chromatogram Pattern: Weathered Gasoline C6-C12

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