October 18, 1999 G-R Job #180061

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

RE:

Third Quarter 1999 Groundwater Monitoring & Sampling Report

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue Oakland, California

Dear Mr. De Witt:

This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On September 8, 1999, field personnel monitored and sampled six wells (U-1 through U-6) at the above referenced site.

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any 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 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

Table 3:

Dissolved Oxygen Concentrations

Attachments:

Standard Operating Procedure - Groundwater Sampling

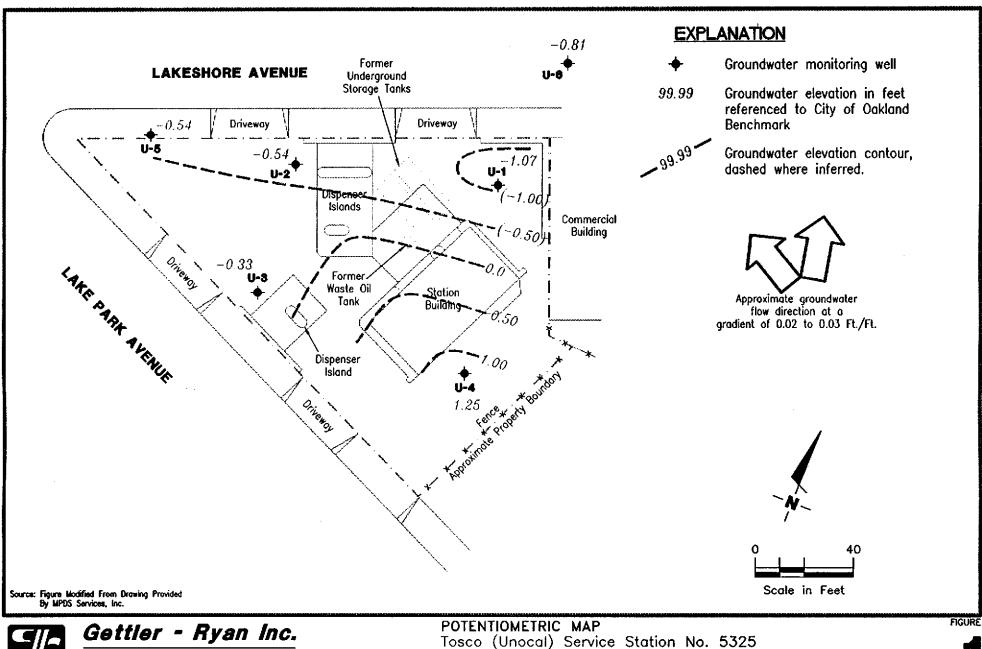
Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

No. 5577

FOF CALIFO

5325.qml





6747 Sierra Ct., Suite J Dublin, CA 94568

(925) 551-7555

3220 Lakeshore Avenue

Oakland, California

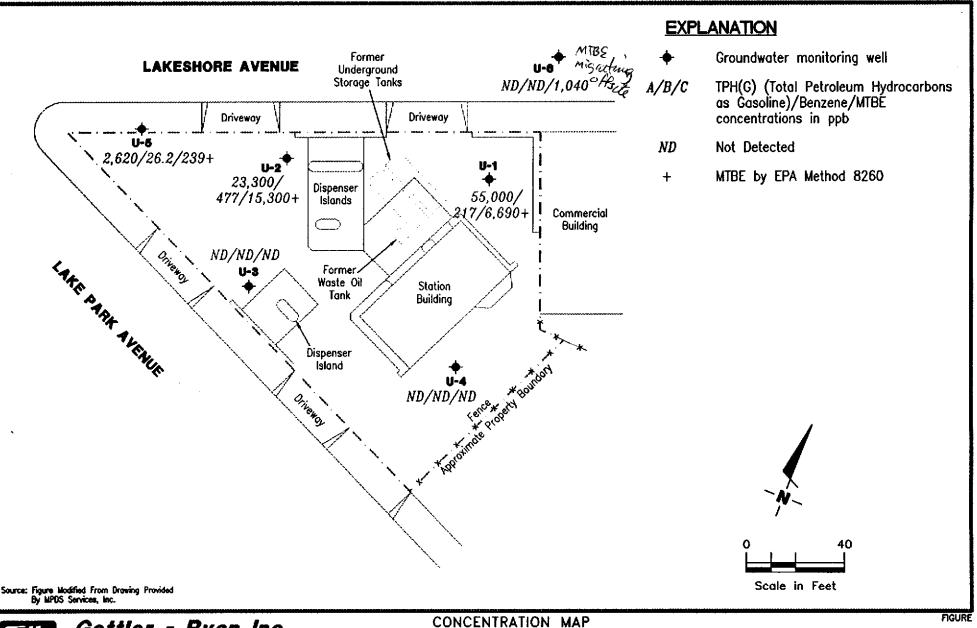
DATE

September 8, 1999

JOB NUMBER 180061

REVIEWED BY

REVISED DATE





Gettler - Ryan Inc.

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

Tosco (Unocal) Service Station No. 5325 3220 Lakeshore Avenue Oakland, California

JOB NUMBER 180061 REVIEWED BY

DATE September 8, 1999

REVISED DATE

Table 1
Groundwater Monitoring Data and Analytical Results

					Junium	a, Cumomia				
Well ID/ TOC*	Date	DTW (ft.)	GWE (ft.)	Product Thickness (ft.)	ТРН(G) (ppb)	B (ppb)	T (ppb)	E <i>(ppb)</i>	X (ppb)	MTBE (apb)
U-1	08/10/90				690	38	75	8.6	130	
	01/07/91				250	22	16	4.2	17	
	04/01/91				160	13	8.6	1.0	15	
	07/03/91				140	21	4.3	0.36	17	
	10/09/91				ND	ND	ND	ND	ND	
	02/12/92				. 250	ND	ND	ND	ND	
	05/05/92				230	1.2	ND	ND	ND	
	06/11/92				1,000	80	1.4	6.7	41	
	08/20/92				400 ¹	1.0	ND	ND	0.6	
	02/22/93				34,000	1,400	5,500	910	7,300	
	05/07/93				8,700	600	240	650	3,300	
	08/08/93				$4,900^2$	79	ND	832	270	
.32	11/16/93	8.61	-3.29	0.00	690^{3}	ND	ND	ND	ND	
	02/16/94	8.54	-3.22	0.00	$6,800^4$	ND	ND	ND	ND	
.46	06/22/94	8.39	0.07	0.00	200	ND	ND	5.9	21	
	09/22/94	8.66	-0.20	0.00	$6,100^3$	ND	ND	ND	ND	
	12/24/94	8.04	0.42	0.00	50,000	2,500	9,700	2,400	17,000	
	03/25/95	7.72	1.02**	0.37			CE OF FREE PRODUCT	2,400		
	06/21/95	9.30	-0.69**	0.20			CE OF FREE PRODUCT			
	09/19/95	9.29	-0.53**	0.40			CE OF FREE PRODUCT			
	12/19/95	8.98	-0.50**	0.03			CE OF FREE PRODUCT			
	03/18/96	8.25	0.21	0.00	27,000	ND	2,300	1,400	11,000	4,900
	06/27/96	7.92	0.54	< 0.01	120,000	540	4,300	2,600	26,000	ND
	09/26/96	9.10	-0.62**	0.02	•		CE OF FREE PRODUCT	2,000		
	12/09/96	6.88	1.60**	0.03			CE OF FREE PRODUCT			
	03/14/97	9.02	-0.15**	0.55			CE OF FREE PRODUCT			
	06/30/97	8.41	0.07**	0.02			CE OF FREE PRODUCT			
	09/19/97	8.56	-0.08**	0.02			CE OF FREE PRODUCT			
	12/12/97	8.58	-0.11**	0.01			CE OF FREE PRODUCT			
	03/03/98	8.23	0.26**	0.04			CE OF FREE PRODUCT			
	06/15/98	8.37	0.09	Sheen	52,000	ND ⁷	900	1,800	13,000	ND ⁷
	09/30/98	8.94	-0.48	Sheen	1,000,0008	ND^7	2,600	13,000	83,000	4,800
	-	•	· · · ·		-,	 -	=,000	15,500	05,000	₹,000

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	T	E	X	МТВЕ
ГОС*		(ft.)	(ft.)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-1	12/28/98	8.57	-0.11	< 0.01	1,100,000 ⁹	\mathbf{ND}^7	1,600	8,600	71,000	5,700
(cont)	03/22/99	8.18	0.28	Sheen	130,000	470	1,100	2,000	28,000	5,700
ردنانان م.د	06/09/99	9.37	-0.91	0.00	40,000	230	640	590	13,000	3,500/2,100
47	09/08/99	9.53	-1.07	0.00	55,000 ¹¹	217	202	7 45	14,300	6,890/6,690
99 -	07/00/77	7.55	-1.07	0.00	55,000	217	202	743	14,500	0,070/0,070
U-2	08/10/90				780	27	46	15	130	
	01/07/91				1,900	67	5.8	58	69	
	04/01/91				1,700	250	89	34	190	
	07/03/91				2,100	150	25	3.1	290	
	10/09/91				230	7.1	ND	ND	11	
	02/12/92			w-	410	1.9	ND	0.36	0.4	
	05/05/92				1,600	120	52	6.2	290	
	06/11/92				620	17	2.1	ND	37	
	08/20/92				700	28	6.5	1.3	4.6	
	02/22/93				3,400	2,400	2,100	1,200	5,800	
	05/07/93				17,000	1,800	660	1,700	4,000	
	08/08/93				$5,600^2$	420	ND	410	670	
4.53	11/16/93	8.17	-3.64	0.00	510 ³	ND	ND	ND	ND	
	02/16/94	7.73	-3.20	0.00	980 ⁴	49	13	2.7	40	
7.62	06/22/94	7.60	0.02	0.00	31,000	2,200	62	1,500	3,500	
	09/22/94	7.93	-0.31	0.00	$8,500^3$	29	ND	ND	ND	
	12/24/94	7.27	0.35	0.00	32,000	1,500	890	1,300	5,000	
	03/25/95	7.01	0.61	0.00	170,000	1,900	21,000	4,800	33,000	
	06/21/95	6.98	0.64	0.00	16,000	2,100	ND	1,800	1,700	
	09/19/95	7.70	-0.08	0.00	3,000	610	ND	78	240	5
	12/19/95	7.30	0.32	0.00	1,600	140	55	52	270	6
	03/18/96	6.45	1.17	0.00	12,000	2,200	ND	1,200	2,200	22,000
	06/27/96	7.41	0.21	0.00	28,000	3,400	ND	2,800	3,100	3,000
	09/26/96	7.90	-0.28	0.00	5,900	750	ND	ND	ND	18,000
	12/09/96	6.76	0.86	0.00	13,000	5,100	290	980	370	2,700
	03/14/97	7.12	0.52**	0.03	NOT SAMPLED DUI	E TO THE PRESEN	CE OF FREE PRODU	CT		
	06/30/97	6.19	1.43	< 0.01	NOT SAMPLED DUI	E TO THE PRESEN	CE OF FREE PRODU	CT		
	09/19/97	7.31	0.31	< 0.01	NOT SAMPLED DUI	E TO THE PRESEN	CE OF FREE PRODU	CT		

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	${f T}$	E	X	MTBE
TOC*		(ft.)	(ft.)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-2	12/12/97	6.75	0.88**	< 0.01	NOT SAMPLED DU	E TO THE PRESENC	CE OF FREE PRODUC	CT		
(cont)	03/03/98	6.36	1.26	Sheen	80,000	3,000	1,100	820	16,000	16,000
(cont)	06/15/98	6.51	1.11	Sheen	48,000	1,800	330	470	7,900	20,000
	09/30/98	7.17	0.45	Sheen	60,000	1,300	ND ⁷	500	9,700	19,000
	12/28/1998	7.06	0.45	0.00	63,000	590	160	320	5,600	16,000
		6.82	0.80	0.00	28,000	1,100	ND^7	360	2,900	25,000
4199 DPE	06/09/99	7.51	0.30	0.00	21,000	1,100	190	310	2,600	7,900/7,800 ¹⁰
((**	09/08/99	8.16	-0.54	0.00	23,300 ¹¹	477	138	286	4,110	16,400/15,300 ¹¹
	0 27.0072	0.20	0.0.	0.00	,_,		****	200	4,410	20, 100, 20,000
U-3	08/10/90				ND	ND	ND	ND	ND	
	01/07/91				ND	ND	ND	ND	1.8	
	04/01/91				ND	1.0	2.9	0.53	5.4	
	07/03/91				ND	ND	ND	ND	ND	
	10/09/91				ND	ND	ND	, ND	ND	
	02/12/92				ND	ND	ND	ND	ND	
	05/05/92				ND	ND	ND	ND	ND	
	06/11/92				ND	ND	ND	ND	ND	
	08/20/92				ND	ND	ND	ND	ND	
	02/22/93				ND	ND	ND	ND	ND	
	05/07/93				ND	ND	ND	ND	ND	
	08/08/93				210	5.0	9.7	0.7	4.1	
7.86	11/16/93	11.82	-3.96	0.00	ND	ND	ND	ND	ND	
	02/16/94	11.62	-3.76	0.00	ND	ND	ND	ND	ND	
10.98	06/22/94	11.64	-0.66	0.00	ND	ND	ND	ND	ND	
	09/22/94	11.76	-0.78	0.00	ND	ND	ND	ND	ND	
	12/24/94	11.28	-0.30	0.00	ND	ND	ND	ND	ND	
	03/25/95	10.96	0.02	0.00	ND	ND	ND	ND	ND	
	06/21/95	11.37	-0.39	0.00	ND	ND	ND	ND	ND	
	09/19/95	11.55	-0.57	0.00	ND	ND	ND	ND	ND	5
	12/19/95	11.45	-0.47	0.00	ND	ND	ND	ND	ND	
	03/18/96	11.10	-0.12	0.00	ND	ND	ND	ND	ND	
	06/27/96	11.16	-0.18	0.00	440	49	50	51	140	50
	09/26/96	11.55	-0.57	0.00	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	T	E	X	МТВЕ
FOC*		(ft.)	(ft.)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-3	12/09/96	10.12	0.86	0.00	ND	ND	ND	ND	ND	29
(cont)	03/14/97	10.12	0.11	0.00	ND	ND	ND ND	ND ND	ND ND	ND
(Cont)	06/30/97	11.08	-0.10	0.00	ND	ND	ND	ND ND	ND ND	ND ND
	09/19/97	11.05	-0.10	0.00	ND ND	ND	ND ND	ND ND	ND ND	ND ND
	12/12/97	10.58	0.40	0.00	ND ND	ND ND	ND ND	ND ND		
	03/03/98	9.84	1.14	0.00	ND ND	ND ND	ND	ND ND	ND	ND
	05/05/98	10.56	0.42	0.00	ND ND	ND ND			ND	ND
	09/30/98	11.12					ND	ND	ND	ND
	12/28/1998	11.12	-0.14 0.02	0.00 0.00	ND ND	ND ND	ND ND	ND	ND	ND
								ND	ND	ND
	03/22/99	9.46	1.52	0.00	ND ND	ND	ND	ND	ND	ND
	06/09/99 09/08/99	11.01 11.31	-0.03 - 0.33	0.00 0.00	ND	ND	ND	ND	ND	ND
	02/08/22	11.31	-0.33	0.00	ND	ND	ND	ND	ND	ND
U -4										
11.15	06/22/94	10.16	0.99	0.00	ND	ND	ND	ND	ND	
	09/22/94	10.79	0.36	0.00	ND	0.78	1.3	ND	1.4	
	12/24/94	9.81	1.34	0.00	ND	ND	ND	ND	ND	
	03/25/95	9.51	1.64	0.00	ND	ND	ND	ND	ND	
	06/21/95	9.54	1.61	0.00	ND	ND	ND	ND	ND	
	09/19/95	10.17	0.98	0.00	ND	ND	ND	ND	ND	
	12/19/95	9.98	1.17	0.00	ND	ND	ND	ND	ND	
	03/18/96	9.66	1.49	0.00	ND	ND	ND	ND	ND	
	06/27/96	9.74	1.41	0.00	ND	ND	ND	ND	ND	ND
	09/26/96	10.14	1.01	0.00	ND	ND	ND	ND	ND	ND
	12/09/96	8.67	2.48	0.00	ND	ND	ND	ND	ND	33
	03/14/97	9.35	1.80	0.00	ND	ND	ND	ND	ND	ND
	06/30/97	9.89	1.26	0.00	ND	ND	ND	ND	ND	ND
	09/19/97	9.96	1.19	0.00	ND	ND	ND	ND	ND	ND
	12/12/97	8.56	2.59	0.00	ND	ND	ND	ND	ND	ND
	03/03/98	7.85	3.30	0.00	ND	ND	ND	ND	ND	ND
	06/15/98	9.08	2.07	0.00	ND	ND	ND	ND	ND	ND
	09/30/98	9.75	1.40	0.00	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	T	Е	X	MTBE
TOC*		(ft.)	(ft.)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-4	12/28/1998	9.59	1.56	0.00	ND	ND	ND	ND	ND	ND
(cont)	03/22/99	8.34	2.81	0.00	ND	ND	ND	ND	ND	ND ND
(cont)	06/09/99	9.39	1.76	0.00	ND	ND ND	ND ND	ND ND	ND ND	ND ND
	09/08/99	9.90	1.76	0.00	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
	02/00/22	2.20	1.23	0.00	ND	ND	ND	NU	ND	ND
U-5						•				
6.98	06/22/94	6.83	0.15	0.00	210	7.1	13	4.5	26	
	09/22/94	6.90	0.08	0.00	170	8.4	10	8.5	18	
	12/24/94	6.43	0.55	0.00	8,700	560	70	670	430	
	03/25/95	6.35	0.63	0.00	44,000	390	960	1,500	7,600	
*	06/21/95	7.11	-0.13	0.00	400	2.3	ND	9.1	3.5	
	09/19/95	6.99	-0.01	0.00	850	14	7.1	13	66	5
	12/19/95	7.17	-0.19	0.00	ND	ND	ND	ND	ND	
	03/18/96	6.65	0.33	0.00	100	0.67	0.5	0.51	5.4	
	06/27/96	6.49	0.49	0.00	16,000	280	150	1,400	4,600	530
	09/26/96	7.13	-0.15	0.00	ND	ND	0.57	ND	0.96	ND
	12/09/96	5.90	1.08	0.00	1,300	29	46	ND	140	97
	03/14/97	6.99	-0.01	0.00	ND	ND	ND	ND	ND	14
	06/30/97	7.08	-0.10	0.00	4,200	74	51	180	980	270
	09/19/97	6.78	0.20	0.00	6,300	160	13	370	1000	480
	12/12/97	6.94	0.04	0.00	60	1.3	ND	1.6	2.1	47
	03/03/98	6.50	0.48	0.00	1,700	29	\mathbf{ND}^7	150	190	330
	06/15/98	6.85	0.13	0.00	1,500	32	\mathtt{ND}^7	91	83	330
	09/30/98	7.31	-0.33	0.00	1,700	44	\mathbf{ND}^7	39	150	60
	12/28/1998	7.25	-0.27	0.00	1,400	59	\mathtt{ND}^7	13	27	150
LIGG	03/22/99	6.86	0.12	0.00	780	8.9	ND	0.76	4.5	350
H99 —	06/09/99	7.28	-0.30	0.00	1,000	ND^7	${f ND}^7$	10	35	280/350 ¹⁰
	09/08/99	7.52	-0.54	0.00	$2,620^{11}$	26.2	ND^7	32.2	157	$280/239^{12}$

Table 1
Groundwater Monitoring Data and Analytical Results

				Product						
Well ID/	Date	DTW	GWE	Thickness	TPH(G)	В	T	E	X	MTBE
TOC*		(ft.)	(ft.)	(ft.)	(ррв)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
T										-
U-6	0.4.0=10.	- 4 ·								
7.14	06/22/94	7.14	0.00	0.00	ND	ND	ND	ND	ND	
	09/22/94	7.34	-0.20	0.00	130	1.3	8.0	ND	0.73	
	12/24/94	6.67	0.47	0.00	6,900	500	59	600	380	
	03/25/95	6.29	0.85	0.00	47,000	450	1,300	1,700	8,200	
	06/21/95	7.60	-0.46	0.00	ND	ND	ND	ND	ND	
	09/19/95	7.70	-0.56	0.00	ND	ND	ND	ND	ND	5
	12/19/95	7.75	-0.61	0.00	210	2.5	1.0	2.9	17	
	03/18/96	6.86	0.28	0.00	ND	ND	ND	ND	ND	
	06/27/96	6.52	0.62	0.00	ND	ND	ND	ND	ND	510
	09/26/96	7.62	-0.48	0.00	ND	ND	ND	ND	ND	1,400
	12/09/96	5.88	1.26	0.00	1,200	29	48	6.4	140	58
	03/14/97	7.30	-0.16	0.00	ND	ND	ND	ND	ND	1,500
	06/30/97	7.35	-0.21	0.00	ND	ND	ND	ND	ND	990
	09/19/97	7.25	-0.11	0.00	ND	ND	ND	ND	ND	1,400
	12/12/97	7.29	-0.15	0.00	ND	ND	ND	ND	ND	680
	03/03/98	7.00	0.14	0.00	ND	ND	ND	ND	ND	1,600
	06/15/98	7.18	-0.04	0.00	ND^7	ND^7	ND^7	${ m ND}^7$	\mathbf{ND}^7	1,000
	09/30/98	7.90	-0.76	0.00	ND	ND	ND	ND	ND	1,200
	12/28/1998	7.79	-0.65	0.00	ND^7	${ m ND}^7$	ND^7	${ m ND}^7$	ND^7	730
	03/22/99	7.47	-0.33	0.00	ND	ND	ND	ND	ND	1,800
	06/09/99	7.73	-0.59	0.00	\mathbf{ND}^7	ND^7	ND^7	ND^7	ND^7	1,000/85010
	09/08/99	7.95	-0.81	0.00	ND	ND	ND	ND	ND	851/1,040 ¹⁰
Trip Blank	k									
TB-LB	03/03/98				ND	ND	ND	ND	ND	ND
	06/15/98				ND	ND	ND	ND	ND	ND
	09/30/98				ND	ND	1.7	ND	2.2	ND
	12/28/98				ND	ND	0.71	ND	0.72	9.5
	03/22/99				ND	ND	ND	ND	ND	ND
	06/09/99				ND	ND	ND	ND	ND	ND
	09/08/99				ND	ND	ND	ND	ND	ND

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5325 3220 Lakeshore Avenue Oakland, California

EXPLANATIONS:

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

TOC = Top of Casing

DTW = Depth to Water

(ft.) = Feet

B = Benzene

T = Toluene

E = Ethylbenzene

ppb = Parts per billion

ppm = Parts per million

E = Ethylbenzene

ND = Not Detected

GWE = Groundwater Elevation X = Xylenes -- = Not Measured/Not Analyzed

TPH(G) = Total Petroleum Hydrocarbons as Gasoline MTBE = Methyl tertiary butyl ether

- * TOC elevations are surveyed relative to City of Oakland Benchmark, at the northeasterly corner of Weller and Cheney Avenue (Elevation = 9.055 feet, city datum; add 3.00' to U.S.G.S. datum). Prior to November 16, 1993, the DTW measurements were taken from the well cover.
- ** Groundwater elevation corrected due to the presence of free product; correction factor = [(TOC-DTW)+(Product Thickness x 0.75)].
- The positive result for gasoline does not appear to have a typical gasoline pattern.
- The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.
- Laboratory report indicates the hydrocarbons detected did not appear to be gasoline
- 4 Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.
- Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 ppb in the sample collected from this well.
- Detection limit raised. Refer to analytical reports.
- 8 Laboratory report indicates unidentified hydrocarbons C6-C12.
- Laboratory report indicates gasoline and unidentified hydrocarbons > C8.
- ¹⁰ MTBE by EPA Method 8260.
- 11 Laboratory report indicates gasoline C6-C12.
- ¹² MTBE by EPA Method 8260 analyzed past the recommended holding time.

Table 2
Groundwater Analytical Results

		•	Dakland, California		
Well ID	Date	Iron (ppm)	Nitrate as NO3 (ppm)	Phosphate as PO4 (ppm)	Redox Potential mg/L ³ or mV ²
rren 112		<i>Wijing</i>	Ψροιο	(ppus)	mg/L vi mv
U-1	06/15/98	39	ND	ND	382 ²
	09/30/98	17	ND	ND	366^{2}
	12/28/98	4.3	6.3	28	298^{2}
	03/22/99	4.9	ND	3.5	320^{3}
	06/09/99	1.2	ND	ND	260^{3}
	09/08/99	1.80	ND^1	ND ¹	85 ³
U-2	03/03/98	25	ND	ND	369 ²
	06/15/98	42	ND	ND	341 ²
	09/30/98	25	ND	ND	354 ²
	12/28/98	28	ND	ND	276 ²
	03/22/99	0.68	ND	2.3	320^{3}
	06/09/99	0.50	ND	ND	290 ³
	09/08/99	1.90	ND ¹	ND ¹	235 ³
T I 0	07/20/07	1.4	21	0.06	190 ³
U-3	06/30/97	1.4	21	0.86	75 ³
	09/19/97	0.57	19	ND	75 390 ³
	12/12/97	1.9	23	0.85	358^{2}
	03/03/98	0.013	36	ND	
	06/15/98	0.16	33	ND	318^2 295^2
	09/30/98	0.040	31	ND	
	12/28/98	ND	29	ND	281 ²
	03/22/99	0.015	30	0.14	310 ³
	06/09/99 09/08/99	ND ND	26 3 2.9	1.2 ND ¹	350 ³ 417 ³
					3
U-4	06/30/97	0.13	35	0.52	200^{3}
	09/19/97	0.35	30	ND	45 ³
	12/12/97	0.68	31	0.73	380 ³
	03/03/98	0.018	3.2	ND	284 ²
	06/15/98	0.14	33	ND	256 ²
	09/30/98	0.049	31	ND	276 ²
	12/28/98	0.36	31	ND	280 ²
	03/22/99	ND	30	0.14	320 ³
	06/09/99	ND	35	0.91	340 ³
	09/08/99	ND	24	ND ¹	391 ³
U-5	06/30/97	16	ND	ND	160^{3}
	09/19/97	0.22	ND	ND	63 ³
	12/12/97	6.7	ND	ND	400^{3}
	03/03/98	18	3.1	ND	345^{2}

Table 2
Groundwater Analytical Results

		Iron	Nitrate as NO3	Phosphate as PO4	Redox Potential
Well ID	Date	(ррт)	(ppm)	(ppm)	mg/L ³ or mV ²
U-5	06/15/98	17	ND	ND	333 ²
(cont)	09/30/98	17	ND	ND	318^{2}
	12/28/98	17	6.6	ND	305^{2}
	03/22/99	0.12	ND	2.4	340^{3}
	06/09/99	0.23	ND	ND	320^{3}
	09/08/99	2.10	ND^1	ND¹	335 ³
U-6	06/30/97	88	0.80	ND	190 ³
	09/19/97	2.9	1.80	ND	\mathbf{ND}^3
	12/12/97	51	ND	ND	380^{3}
	03/03/98	60	3.5	ND	327^{2}
	06/15/98	590	4.8	ND	315 ²
	09/30/98	33	ND	ND	345^{2}
	12/28/98	83	7.2	ND	297^{2}
	03/22/99	2.1	ND	0.98	330^{3}
	06/09/99	0.47	0.20	ND	320^{3}
	09/08/99	0.140	5.59	ND^1	305 ³

EXPLANATIONS:

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

ppm = Parts per million

ND = Not Detected

mg/L = milligrams per liter

mV = millivolts

Detection limit raised. Refer to analytical reports.

² Field measurement.

³ Analyzed by laboratory.

Table 3 Dissolved Oxygen Concentrations

DOORSOON DE COMMENCE DE COMMEN	Oakialiu, Cai	N No. 1 € or to the total of
Well ID	Date	Before Purge
		(mg/L)
U-3	06/30/97	4.1
	09/19/97	4.2
	12/12/97	2.97
	03/03/98	2.63
	06/15/98	2.93
	09/30/98	3.11
	12/28/98	3.59
	03/22/99	4.02
	06/09/99	3.70
	09/08/99	3.96
U-4	06/30/97	5.4
C 4	09/19/97	5.1
	12/12/97	3.11
	03/03/98	2.94
	06/15/98	3.08
	09/30/98	4.05
	12/28/98	4.57
	03/22/99	4.26
	06/09/99	3.61
	09/08/99	3.75
U-5	06/20/07	3.4
0-3	06/30/97	
	09/19/97	0.6
	12/12/97	1.75
	03/03/98	2.36
	06/15/98	2.55
	09/30/98	1.93
	12/28/98	1.64
	03/22/99	1.99
	06/09/99 09/08/99	2.10 2.21
U-6	06/30/97	0.30
	09/19/97	0.60
	12/12/97	2.70
	03/03/98	2.18
	06/15/98	2.48
	09/30/98	3.06
	12/28/98	3,42
	03/22/99	3.88
	06/09/99	3.29
	09/08/99	3.12

Table 3

Dissolved Oxygen Concentrations

Tosco (Unocal) Service Station #5325 3220 Lakeshore Avenue Oakland, California

EXPLANATIONS:

Dissolved oxygen concentrations prior to March 3, 1998, were compiled from reports prepared by MPDS Services, Inc.

mg/L = milligrams per liter

STANDARD OPERATING PROCEDURE -GROUNDWATER SAMPLING

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

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexidip 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.

, —	325		_ Job	o#:	8006		
Address: <u>32</u>	20 Lakesh	oce Ave.	_ Da1	te:	9-8-0	19	
City: Oak	land		_ Sar	mpler:	50C	. 	
Well ID	<u>U-1</u>	Well Cond	dition:	0.k	- :		
Well Diameter	3 _{in.}			2 " "	Amount B		- 40 11 1
otal Depth	19.70 tc.	Thickness Volume		(reet) = 0.17	(product/wa 3" = 0.38		(Gallons) " = 0.66
Depth to Water	9.53 ft.	Factor (VI				12" = 5.80	
		VF 0.38 = 3.0			Estimated Pu	urge Volume: _	12 (qal.)
Purge Equipment:	Disposable Bailer Bailer		Sampling Equipme	-	posable Ba	ailer	•
	Stack			=	ler ssure Baile	er	
	Grundfos			Gra	ab Sample		
	Other:			Oti	her:	····	
Sampling Time: Purging Flow Ra		gom. Sedin	nent Desc	ription: <u> </u>	CONC		
Did well de-wate	er?				Volun	ne:	[.lsp]
Time \	er? Volume pH	Conductivit	ryyl Ten	nperature •F	D.O. (mg/L)	ORP (mV)	(gal.) Alkalinity (ppm)
Time \	er?Volume pH		ryyl Ten		D.O.	ORP	Alkalinity
Time \\ 10'\2	er?	Conductivit µmhos/cm 1.11	ryyl Ten	nperature •F	D.O.	ORP	Alkalinity
Time \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	volume pH (gal.) 4 6.96 8 7.10	Conductivit µmhos/cm 1.11	ryyl Ten	nperature •F	D.O.	ORP	Alkalinity
Time \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	volume pH (gal.) 4 6.96 8 7.10	Conductivit µmhos/cm 1.11	ryyl Ten	nperature •F	D.O.	ORP	Alkalinity
Time \\ 10!52 \\ 10.53 \\ 10.57-	er? Volume pH (gal.) 4 6.96 8 7.10 12 7.04	Conductivity pmhos/cm 1.11 1.10 1.14 LABORATOR	Ten	nperature F 70.7 71.2 71.5 MATION	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
Time \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	er? Volume pH (gal.) 4 6.96 8 7.10 12 7.04	Conductivit µmhos/cm 1.11 1.10 1.14 LABORATOR REFRIG. PRES	Ten	nperature 70.7 71.2 71.5 MATION LABOR	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
Time \\ 10!52 \\ 10.53 \\ 10.57-	er?	Conductivit µmhos/cm 1.11 1.10 1.14 LABORATOR REFRIG. PRES	Ten	nperature F 70.7 71.2 71.5 MATION	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
Time \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	er? Volume pH (gal.) 4 6.96 8 7.10 12 7.04	Conductivit µmhos/cm 1.11 1.10 1.14 LABORATOR REFRIG. PRES	Ten	MATION LABOR	D.O. (mg/L)	ANAL TPH(G)/btex/r	Alkalinity (ppm)
Time \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	er?	Conductivit µmhos/cm 1.11 1.10 1.14 LABORATOR REFRIG. PRES	Ten	MATION LABOR	D.O. (mg/L)	ANAL TPH(G)/btex/r	Alkalinity (ppm)
Time 10/52 10:53 10:57- SAMPLE ID U-1	er?	Conductivit µmhos/cm 1.11 1.10 1.14 LABORATOR REFRIG. PRES Y	Ten Ty INFORM SERV. TYPE H C L	MATION LABOR	D.O. (mg/L)	ANAL TPH(G)/btex/r	Alkalinity (ppm)

9/97-fieldst.frm

Client/ Facility <u># 53</u>	25		Job	#: 18	3006	1	
	20 Lakesh	oso Ave	Dat	e: <u>9</u>	-8-9	19	
City: Oak	,			npler:	- 0		·
Well ID	<u>U-2</u>	Wel	Condition:	0.1			
Well Diameter	3 in.		rocarbon	2	mount B		
Total Depth	19.62 to		kness: 6	(teet) (: 0.17	3" = 0.38		(Gallons) = 0.66
Depth to Water	8.16 ft	Fac	tor (VF)	6" = 1.50		12" = 5.80	
Purge	11.46 x Disposable Bailer		= <u>4:35</u> x 3 (cas		stimated Pu	irge Volume: _	13 (gal.)
Equipment:	Bailer		Equipmer	nt: Disp	osable Ba	iiler	
	Stack Suction			Baile Pres	r sure Baile	er	
	Grundfos				Sample		
	Other:			Othe	er:		
Starting Time: Sampling Time: Purging Flow Rat	101.0 1013 re: 1.5	OA.M	Weather Condit Water Color: Sediment Descr	clea	<u> </u>	Odor:	e 5
Did well de-wate	c?		If yes; Time:		_ Volum	ne:	(qal.)
	folume pH (gal.) 7.22	μπι 	nos/cm 56 73	perature •F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:14	3 7.11			2.6			
10.15	1.9 -7.17		· 7	<u> </u>			
CAMPI E ID	ANI CONTAINED	LABOR REFRIG.	ATORY INFORM	•	TORY	ANAL	vses
SAMPLE ID	1#) - CONTAINER	Y Y	HCL .	SEQUOIA		TPH(G)/btex/n	
	Iplastic	"		11		Tron	
					•	Nitrate	chesphal
						Redox	′ "
CONTRACTOR					`	_	
COMMENTS: _						<u> </u>	
	 						

9/97-Reldat.frm

	125		Job#	: 1800	61	···
Address: 32	20 Lakeshe	co Ave.	Date	9-8-	99	
City: Oak			Sam	oler: <u>50 e-</u>		
Well ID	<u>U-3</u>	Well Co	ndition:	O.K.		
Well Diameter	3 in.	Hydroc		Amount		(Gallons)
Total Depth	19.40 tr.	Thickne Volume	2* = 0	.17 3" = 0	.38 4	
Depth to Water		Factor	(VF) 	6° = 1.50	12" = 5.80	
Purge	8.09 x Disposable Bailer	VF 0.38 =	3.07 x 3 (case	volume) = Estimated	l Purge Volume: _	9 (gal.)
Furge Equipment:	Bailer		Equipment	•	Bailer	
	Stack			Bailer Pressure Ba	ailer	
	Suction Grundfos			Grab Samp		
	Other:			Other:		
Starting Time:				1	O da su	
Sampling Time: Purging Flow Ra	<u> </u>	DA:M Wa	iter Color: diment Descri res; Time: _	clear ption: <u>none</u> Vol	Odor: <u> </u>	
Sampling Time: Purging Flow Ra Did well de-wate	7:39 te:	OA:M Wagom. Sec	iter Color: diment Descriptes; Time: vity	clear ption: <u>none</u> Vol	Odor: ume: ORP .) (mV)	
Sampling Time: Purging Flow Ra Did well de-wate	te:	OAM Wagpm. Seconduction probability of the conduction probability	riter Color: diment Descriptes; Time: _ rivity x Temp	cleac ption: <u>none</u> Vol erature D.O. F (mg/I	Odor: ume: ORP .) (mV)	(gal.) Alkalinity
Sampling Time: Purging Flow Ra Did well de-wate	7:36 te:	Conduction processing 17.28	ter Color: diment Descri res; Time: _ res; Temp Temp 72	clear ption: wone Vol erature D.O. F (mg/I	Odor: ume: ORP .) (mV)	(gal.) Alkalinity
Sampling Time: Purging Flow Ra Did well de-wate	7:36 te: / er? Volume pH (gal.) 7.59 6 7.50	Conduction processing 17.28	ter Color: diment Descri res; Time: _ res; Temp Temp 72	clear ption: wone Vol erature D.O. F (mg/I	Odor: ume: ORP .) (mV)	(gal.)
Sampling Time: Purging Flow Ra Did well de-wate	7:36 te: / er? Volume pH (gal.) 7.59 6 7.50	Conduction processing 17.28	ter Color: diment Descri res; Time: _ res; Temp Temp 72	clear ption: wone Vol erature D.O. F (mg/I	Odor: ume: ORP .) (mV)	(gal.)
Sampling Time: Purging Flow Ra Did well de-wate Time 7:15 7:10-	7:36 te:	Conduction purchased 7.18 7.28 7.31	iter Color: diment Descriptes; Time: _ vity Temp 72 73 72 000000000000000000000000000000	clear ption: Movie Vol erature D.O. F (mg/I .3 3.97	Odor:	(gal.) Alkalinity (ppm)
Sampling Time: Purging Flow Ra Did well de-wate Time 7:15 7:10- SAMPLE 10	te:	Conduction purchased 7.18 7.28 7.31	ter Color: diment Descriptes; Time: vity Temp 72 73	clear ption: Movie Vol erature D.O. F (mg/I .3 3.97	Odor: ume: ORP .) (mV)	(gal.) Alkalinity (ppm)
Sampling Time: Purging Flow Ra Did well de-wate Time 7:15 7:10-	7:36 te:	Conduction production	iter Color: diment Descriptes; Time: _ vityx Temp 72 73 73 77 78 78 78 78 78 78 78 78 78 78 78 78	clear ption: Movie Vol erature D.O. f (mg/l .3 3.90	Odor: ORP (mV) ANAL TPH(G)/btex/	(gal.) Alkalinity (ppm)
Sampling Time: Purging Flow Ra Did well de-wate Time 7:15 7:10- SAMPLE 10	7:36 te:	Conduction purposed Program Section 15 y Conduction purposed Program P	iter Color: diment Descriptes; Time: _ vityx Temp 72 73 73 77 78 78 78 78 78 78 78 78 78 78 78 78	erature D.O. F (mg/I .3 3.97	Odor: ORP (mV) ANAL TPH(G)/btex/	(gal.) Alkalinity (ppm)
Sampling Time: Purging Flow Ra Did well de-wate Time 7:15 7:10- SAMPLE 10	7:36 te:	Conduction purposed Program Section 15 y Conduction purposed Program P	iter Color: diment Descriptes; Time: _ vityx Temp 72 73 73 77 78 78 78 78 78 78 78 78 78 78 78 78	erature D.O. F (mg/I .3 3.90 ATION LABORATORY SEQUOIA	Odor: ORP (mV) ANAL TPH(G)/btex/	(gal.) Aikalinity (ppm)
Sampling Time: Purging Flow Ra Did well de-wate Time 7:15 7:10- SAMPLE 10	7:30 te:	Conduction purposed Program Section 15 y Conduction purposed Program P	iter Color: diment Descriptes; Time: _ vityx Temp 72 73 73 77 78 78 78 78 78 78 78 78 78 78 78 78	erature D.O. F (mg/I .3 3.97	Odor: ORP (mV) ANAL TPH(G)/btex/	(gal.) Alkalinity (ppm)

9/97-fieldet.fm

Facility # 5	325		Job#:	18006	[]				
Address: <u>32</u>	20 Lakesho	co Ave.	Date: 9-8-99						
City: Oak	cland		Sampler: Joe-						
Well ID	<u>U-4</u>	Well Conditio	n: <u>C</u>	k.					
Well Diameter	4 in.	Hydrocarbon		Amount B		.			
Total Depth	20.15 ft.	Thickness:		$\frac{11}{3} = 0.38$		(Gallons) " = 0.66			
Depth to Water	9.90 ft.	Factor (VF)		= 1.50	12" = 5.80				
	10.25 x	UF 066 = 6.77	X 3 (case volume)	= Estimated Pt	urge Volume: _	20 (gal.)			
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	Eq	<u>}</u> !	Disposable Baller Pressure Baile Grab Sample Other:	et	·			
Sampling Time: Purging Flow R	ate: 2 c	pm. Sediment	olor:C t Description: _ Time:	<u>Kone</u>					
Did well de-war	ter?								
	Volume pH (gal.) 7.50 13 7.60	Conductivityy (µmhos/cm	70.7	(mg/L)	ORP (mV)	Alkalinity (ppm)			
Time 7:55 -	Volume pH (gal.) 7.50	Conductivity (µmhos/cm 8.06	Temperature •F	(mg/L)		Alkalinity			
Time 7:55 -	Volume pH (gal.) 7.50	Conductivity (µmhos/cm 8.06	Temperature -F 70.7	(mg/L)		Alkalinity			
Time 7:55 - 7:58 8:01 -	Volume pH (gal.) 7 7 7 7 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	Conductivity of without the second section of the second section of the second	Temperature F 70.7 71. L 71. S P P P P P P P T T T T T T	(mg/L)		Alkalinity (ppm)			
Time 7:55 -	Volume pH (gal.) 7.50	Conductivity of without the second section of the second section of the second	Temperature •F 70.7 71. V 7/. S NFORMATION . TYPE / LAI	(mg/L) 3.75	(mV)	Alkalinity (ppm)			
Time 7:55 7:58 8:01-	Volume pH (gal.) 7 7.50 13 7.60 20 7.44 (#) - CONTAINER	Conductivity (1) #mhos/cm 8.06 8.14 9.19 LABORATORY IN REFRIG. PRESERV	Temperature •F 70.7 71. V 7/. S NFORMATION . TYPE / LAI	(mg/L) 3.75	ANAL TPH(G)/btex/s	Alkalinity (ppm)			

9/97-fleldet.frm

Client/ Facility <u>#-53</u>	325		Jo	b#: _	8000	;	 _
Address: <u>32</u>	20 Lakesh	ece Av.	<u>z </u>	te:	9-8-0	19	
City: <u>Cak</u>	land		Sa	mpler:	Jo c-		· · · · · · · · · · · · · · · · · · ·
	· · · · · · · · · · · · · · · · · · ·						····
Well ID	<u>U-5</u>	Wei	l Condition:	_ O. k	:		
Well Diameter	4 in		lrocarbon ckness:€	Ifeet	Amount E		- (Gallons)
Total Depth	20.05 tt				3" = 0.3	8 4	" = 0.66
Depth to Water	7.52 ft	Fa	ctor (VF)	6" = 1	50	12" = 5.80	
	12.53 x	VF 0.66	= <u>8.27</u> x 3 (ca	ase volume) =	Estimated P	urge Volume: _	25 (gal.)
Purge	Disposable Bailer		Samplin	g	·	_	
Equipment:	Bailer Stack		Equipme		sposable B	ailer	
	Suction	•			essure Baile		
	Grundfos Other:				ab Sample ther:		
					•		
Starting Time:	9:1	<u></u>	Weather Cond	itions: <u> </u>	clear	· <u>=</u>	
Sampling Time:	9'4		Water Color: _	cle	<u> </u>	Odor: u	125
Purging Flow Ra	te:2	gpm.	Sediment Desc	=			
Did well de-wate	er?		If yes; Time:		Volun	ne:	(qal.)
Time \	Volume pH	Cone	luctivity (Te	nperature	D.O.	ORP	Alkalinity
21:22	(gal.) 6.96	μm		_ L	(mg/L) 2.21	(Vm)	(ppm)
9:25	16 7.18		18/	72.5			
4:27-	25 7.24			726			
							
							
		LABOR	ATORY INFOR	•			-
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE		RATORY	ANAL	
	3 V 0 A	Y //	HCL_	SEQUOI/		TPH(G)/btex/r	ntbe
U- 5	المنامما			1 1		1200	
U- <u>(</u>	Iplastic		· · · · · · · · · · · · · · · · · · ·		-	a al de La	· place lad
U- \$	Iplastic					Nitrate Redov	· phespha
U- S	Iplastic					Nitrate Redox	, phospha
COMMENTS: _	Iplastic				•	Nitrate Redox	phospho

9/97-Reidet,1mm

Client/ Facility <u># 53</u>	25	 	_ Job	Job#: 180061						
Address: 32	20 Lakesho	co Ave.	Date	Date: 9-8-99						
City: Oak	,		San	Sampler: <u>Joe-</u>						
Well ID	U-6	Well Con	dition: _	0.E.						
Well Diameter	2 in.	Hydrocar			unt Bailed					
Total Depth	23.80 ft.	Thicknes		(feet) (prod	uct/water):	(Gallons) 4" = 0.66				
Depth to Water	7.95 ft.	Factor (V		6" = 1.50	12" = 5.80	- 0.00				
	_15.85 x	VF 0.17 = 2.	69 × 3 (cas	se volume) = Estim	ated Purge Volume:	8 (qal.)				
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:		Sampling Equipmen	nt: Disposa Bailer Pressure Grab Sa						
	8/53A ete:	water Water Sedi	er Color: ment Desc	clear ription: <u>wen</u>	Odor: 	one				
Time \	Volume pH (gal.) 2.5 7.30 8 7.40		Tem	iperature I	0.0. ORP ng/L) (mV)	Alkalinity (ppm)				
		LABORATO			- AMAI	Vece				
SAMPLE ID	(#) - CONTAINER	REFRIG. PRE	HCL .	/ LABORATO	TPH(G)/btex/	LYSES (mtbe				
0-6	Iplastic	"		//	Tron	e, phespha				

9/97-fleidat.frm

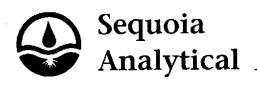


Your Markeday Company 2000 Geor Genyon PL, Sta. 400 San Floren, Colonale 94443

Focility Number UNOCAL SS#5325
Facility Address 3220 Lakeshore Ave. Oakland, CA
Consultant Project Number 180061.85
Consultant Hame Gettler-Ryan Inc. (G-R Inc.)
Address 6747 Sierra Court, Suite J. Dublin, CA 94568
Project Contact (Nome) Deanna I., Harding
(Phone) 510-551-7555 (Fox Number) 510-551-7888

management of the second of the second of the second secon	variation to the second
UNOCAL SS#5325	Contact (Hame)
3220 Lakeshore Ave. Oakland, CA	(Phone) (925) 277-5325 Laboratory Name Sequoia Analytical
Gettler-Ryan Inc. (G-R Inc.)	Laboratory Relace Number Samples Collected by (Name) 505 A 55 MIAN
Sierra Court, Suite I, Dublin, CA 94568 (Nome) Deanna L. Harding	Samples Collected by (Name) Collection Date 9-8-49
(Phone) 510-551-7555 (Fox Number) 510-551-7888	Signature Sort Comm

		<u> </u>			10114/32.3	Analyses To Be Performed								DO NOT BILL							
9067 Sample Number	Lob Somple Number	Number of Containers	Matrix S = Soll A = Air W = Water C = Charmed	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	iced (fee or No)	TPH G=+ STEX WINTBE ROOTS (8020)	TPH Diesel (8015)	Oil and Graces (5520)	Purpeable Halacarbors (8010)	Purpeable Arametics (8020)		Extractoble Organics (8270)	CACAPOZANI (KOV or M)	20	Wifiate, Phosphate	Redor Postutist			CONFIRM AND MTBE HIT BY 8260.
TB-LB	0]	VON	W	G		HCL	Y	1		1	1	1	1		ļ						Please Filter
U-1	OL.	1 Pl.	,	/	11:10	,	^	1			• 1		•		<u> </u>	<u>~</u>		<u>ن</u>		<u> </u>	from plain
U-2	03	"	1	/	10:30	/	/	7		V	L	<u> </u>	1		<u>'</u>	_	V	/	 _	<u> </u>	plastic and
U.3	OF-	"	/	/	7:30 A.M	/	/	~		1.	VI	ı	1					-	<u> </u>	<u> </u>	preserve for
U-4	8	"	1	1	8:12	1	8	1								_	-	-	 	 	Ferrous From
U-5	Ob	"	/	1	9:45	/	/_								<u> </u>	<u> </u>	-		 	 	Dualysis.
0-6	8	4	,	′	8:53 p.w	~		1	 				-	<u> </u>		-	1	 		 	
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Relinquished By	(Signature)	<u>(۲)</u>		onization SFLU		Pote/Ame	Re	celved E	y (Slan	iolues)			Organiza	llon	Dal	•/Tlm•			_	6	Doye Doye
\ <u>\</u>	(Signeture)	·		ganlzatlan		Dal+/Tim+	R	oloved f	or top	orolory	Dy (Sign	atur•)				•/IIm•	4.0			₩ C	ontractéd



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

SEP 27 7000

September 23, 1999

BETTLER-RYAN INC.

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

RE: Tosco(4)/L909067

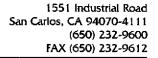
Dear Deanna Harding:

Enclosed are the results of analyses for sample(s) received by the laboratory on September 8, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson Project Manager

CA ELAP Certificate Number I-2360





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

Project: Tosco(4)

Project Number: UNOCAL SS#5325, 180061.85

Project Manager: Deanna Harding

Sampled: 9/8/99 Received: 9/8/99

g Reported: 9/23/99

ANALYTICAL REPORT FOR L909067

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
TB-LB	L909067-01	Water	9/8/99
U-1	L909067-02	Water	9/8/99
U-2	L909067-03	Water	9/8/99
U-3	L909067-04	Water	9/8/99
U-4	L909067-05	Water	9/8/99
U-5	L909067-06	Water	9/8/99
U-6	L909067-07	Water	9/8/99



Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Project: Tosco(4)

Project Number: UNOCAL SS#5325, 180061.85

Sampled: 9/8/99 Received: 9/8/99

Dublin, CA 94568

Project Manager:

Deanna Harding

Reported: 9/23/99

Sample Description:

Laboratory Sample Number:

TB-LB L909067-01

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
		Seque	ia Analytica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C)	12), BTEX an	d MTBE by	DHS LUFT					
Purgeable Hydrocarbons as Gasoline	9090095	9/20/99	9/20/99		50.0	ND	ug/l	
Benzene	H	II.	It		0.500	ND	11	
Toluene	"	H	·		0.500	ND	11	
Ethylbenzene	17	H	n		0.500	ND	It	
Xylenes (total)	**		11		0.500	ND	11	
Methyl tert-butyl ether	57	**	n		5.00	ND		
Surrogate: a,a,a-Trifluorotoluene	H	"	"	70.0-130		97.1	%	



Gettler-Ryan/Geostrategies(1)
Project: Tosco(4)
Sampled: 9/8/99
6747 Sierra Court, Suite D
Project Number: UNOCAL SS#5325, 180061.85
Received: 9/8/99
Dublin, CA 94568
Project Manager: Deanna Harding
Reported: 9/23/99

Sample Description:

Laboratory Sample Number:

U-1 L909067-02

	Batch	Date	Date	Specific Method/	Reporting			
Analyte	Number	Prepared	Analyzed	Surrogate Limits	Limit	Result	Units	Notes*
		Sagu	nia Analutica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C1	2). BTEX an							
Purgeable Hydrocarbons as Gasoline	9090095	9/20/99	9/20/99	,	5000	55000	ug/l	1
Benzene	71	u .	II.		50.0	217	n T	
Toluen e	Ħ	10	19		50.0	202	H.	
Ethylbenzene	Ħ	14	н		50.0	745	17	
Xylenes (total)	Ħ	H	H		50.0	14300	**	
Methyl tert-butyl ether	71	tt.	n		500	6890	11	
Surrogate: a,a,a-Trifluorotoluene	н	н	11	70.0-130		91.7	%	
MTBE by EPA Method 8260A								
Methyl tert-butyl ether	9090110	9/22/99	9/22/99		143	6690	ug/l	
Surrogate: 1,2-Dichloroethane-d4	"	n	"	76.0-114		102	%	



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

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

Project: Tosco(4)

Project Number: UNOCAL SS#5325, 180061.85

Sampled: 9/8/99 Received: 9/8/99

Project Manager: Deanna Harding

Reported: 9/23/99

Sample Description: **Laboratory Sample Number:** U-2

	Batch	Date	Date	Specific Method/	Reporting			
Analyte	Number	Prepared	Analyzed	Surrogate Limits	Limit	Result	Units	Notes*
		Seam	oia Analytica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C1	2), BTEX an							
Purgeable Hydrocarbons as Gasoline	9090095	9/20/99	9/20/99		5000	23300	ug/l	1
Benzene	н	tr	н		50.0	477	"	
Toluene	n	H	11		50.0	138	**	
Ethylbenzene	n	n	11		50.0	286	H	
Xylenes (total)	11	H	17		50.0	4110	**	
Methyl tert-butyl ether	Ħ	н	11		500	16400	••	
Surrogate: a,a,a-Trifluorotoluene	if	H	,r	70.0-130		88.7	%	
MTBE by EPA Method 8260A								
Methyl tert-butyl ether	9090110	9/22/99	9/22/99		333	15300	ug/l	
Surrogate: 1,2-Dichloroethane-d4	se	#	If	76.0-114		94.8	%	



Gettler-Ryan/Geostrategies(I) 6747 Sierra Court, Suite D Project: Tosco(4)

Project Number: UNOCAL SS#5325, 180061.85

Sampled: 9/8/99 Received: 9/8/99

Dublin, CA 94568

Project Manager: Deanna Harding

Nan--- Ha-di--

Reported: 9/23/99

Sample Description:

U-3

Laboratory Sample Number:

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
		Seque	oia Analytica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C1	2), BTEX an	id MTBE by	DHS LUFT					
Purgeable Hydrocarbons as Gasoline	9090095	9/20/99	9/20/99		50.0	ND	ug/l	
Benzene	11	"	#		0.500	ND	0	
Toluene	If	#1	**		0.500	ND	17	
Ethylbenzene	IF	н	н		0.500	ND	I)	
Xylenes (total)	R	#1	н		0.500	ND	11	
Methyl tert-butyl ether	IF.	"	n		5.00	ND	IF	
Surrogate: a,a,a-Trifluorotoluene	rr	н	"	70.0-130		87.2	%	



Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 9/8/99
6747 Sierra Court, Suite D	Project Number:	UNOCAL SS#5325, 180061.85	Received: 9/8/99
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 9/23/99

Sample Description:

Laboratory Sample Number:

U-4

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
		Seque	oia Analytica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C)	2), BTEX ar	d MTBE by	DHS LUFT					
Purgeable Hydrocarbons as Gasoline	9090095	9/20/99	9/21/99		50.0	ND	ug/l	
Benzene	#1	n	**		0.500	ND	**	
Toluene	#1	17	н		0.500	ND	"	
Ethylbenzene	71	H	#		0.500	· ND	"	
Xylenes (total)	n	rı	н		0.500	ND	71	
Methyl tert-butyl ether	ri	H	11		5.00	ND	π	
Surrogate: a,a,a-Trifluorotoluene	н	n	"	70.0-130		87.1	%	



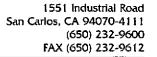
Gettler-Ryan/Geostrategies(1)
Project: Tosco(4)
Sampled: 9/8/99
6747 Sierra Court, Suite D
Project Number: UNOCAL SS#5325, 180061.85
Received: 9/8/99
Dublin, CA 94568
Project Manager: Deanna Harding
Reported: 9/23/99

Sample Description:

Laboratory Sample Number:

U-5

	Batch	Date	Date	Specific Method/	Reporting			
Analyte	Number	Prepared	Analyzed	Surrogate Limits	Limit	Result	Units	Notes*
		Seque	oia Analytica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C1	2), BTEX an	d MTBE by	DHS LUFT		•			
Purgeable Hydrocarbons as Gasoline	9090098	9/21/99	9/21/99		200	2620	ug/l	1
Benzene	11	и	н		2.00	26.2	**	
Toluene	111	11	17		2.00	ND	11	
Ethylbenzene	11	71	17		2.00	32.2	Ħ	
Xylenes (total)	II.	*11	11		2.00	157	**	
Methyl tert-butyl ether	H.	11	n		20.0	280	74	
Surrogate: a,a,a-Trifluorotoluene	n	If	н	70.0-130		113	%	
MTBE by EPA Method 8260A								2
Methyl tert-butyl ether	9090110	9/23/99	9/23/99		10.0	239	ug/l	
Surrogate: 1,2-Dichloroethane-d4	"	IF .	"	76.0-114		87.6	%	,





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

Project: Tosco(4)

UNOCAL SS#5325, 180061.85 Project Number:

Sampled: 9/8/99 Received:

Project Manager: Deanna Harding

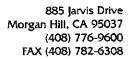
9/8/99 Reported: 9/23/99

Sample Description:

Laboratory Sample Number:

U-6

	Batch	Date	Date	Specific Method/	Reporting			
Analyte	Number	Prepared	Analyzed	Surrogate Limits	Limit	Result	Units	Notes*
		Sague	ia Amalutiani	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C	12). BTEX an			I - Sau Carios				
Purgeable Hydrocarbons as Gasoline	9090095	9/20/99	9/21/99		50.0	ND	ug/l	
Benzene	rę.	**	н		0.500	ND	**	
Toluene	H	11	н		0.500	ND	**	
Ethylbenzene	н	11	II .		0.500	ND	n	
Xylenes (total)	11	11	"		0.500	ND	11	
Methyl tert-butyl ether	9090098	9/21/99	9/21/99		50.0	851	71	
Surrogate: a,a,a-Trifluorotoluene	9090095	9/20/99	9/21/99	70.0-130		91.7	%	
MTBE by EPA Method 8260A								
Methyl tert-butyl ether	9090110	9/22/99	9/22/99		40.0	1040	ug/l	
Surrogate: 1,2-Dichloroethane-d4	"	ff	n	76.0-114		102	%	





Sequoia Analytical - San Carlos 1551 Industrial Road San Carlos, CA 94070

Project: Tosco/Gettler Ryan

Project Number: L909067(3220 Lakeshore Ave. Oakland) Project Manager: Wayne Stevenson

Sampled: 9/8/99

9/8/99 Received: Reported: 9/22/99

ANALYTICAL REPORT FOR M909281

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
L909067-02 (U-1)	M909281-01	Water	9/8/99
L909067-03 (U-2)	M909281-02	Water	9/8/99
L909067-04 (U-3)	M909281-03	Water	9/8/99
L909067-04 (U-4)	M909281-04	Water	9/8/99
L909067-04 (U-5)	M909281-05	Water	9/8/99
L909067-04 (U-6)	M909281-06	Water	9/8/99



Sequoia Analytical - San Carlos	Project:	Tosco/Gettler Ryan	Sampled:	9/8/99
1551 Industrial Road	Project Number:	L909067(3220 Lakeshore Ave. Oakland)	Received:	9/8/99
San Carlos, CA 94070	Project Manager:	Wayne Stevenson	Reported:	9/22/99

Total Metals by EPA 6000/7000 Series Methods Sequoia Analytical - Morgan Hill

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
L909067-02 (U-1)			M9092	R1_01			Water	
Ferrous Iron	9090435	9/15/99	9/16/99	EPA 6010A	0.0100	1.80	mg/l	
L909067-03 (U-2)			M9092	81-02			<u>Water</u>	
Ferrous Iron	9090435	9/15/99	9/16/99	EPA 6010A	0.0100	1.90	mg/l	
L909067-04 (U-3)			M9092	81-03			Water	
Ferrous Iron	9090435	9/15/99	9/16/99	EPA 6010A	0.0100	ND	mg/l	
L909067-04 (U-4)			M9092	<u>81-04</u>			Water	
Ferrous Iron	9090435	9/15/99	9/16/99	EPA 6010A	0.0100	ND	mg/l	
<u>L909067-04 (U-5)</u>			M9092	81-0 <u>5</u>			Water	
Ferrous Iron	9090435	9/15/99	9/16/99	EPA 6010A	0.0100	2.10	mg/l	
<u>L909067-04 (U-6)</u>			M9092	<u>81-06</u>			Water	
Ferrous Iron	9090435	9/15/99	9/16/99	EPA 6010A	0.0100	0.140	mg/l	



Sequoia Analytical - San Carlos	Project:	Tosco/Gettler Ryan	Sampled:	9/8/99
1551 Industrial Road	Project Number:	L909067(3220 Lakeshore Ave. Oakland)	Received:	9/8/99
San Carlos, CA 94070	Project Manager:	Wayne Stevenson	Reported:	9/22/99

Anions by EPA Method 300.0 Sequoia Analytical - Morgan Hill

	Batch	Date	Date	Specific	Reporting			
Analyte	Number	Prepared	Analyzed	Method	Limit	Result	Units	Notes*
rularyce	Tvainoci	Тершеч	Filalyzeu	Method	A-MINIE	Result	Omts	110103
L909067-02 (U-1)			M90928	<u>31-01</u>			Water	
Nitrate as NO3	9090347	9/13/99	9/9/99	EPA 300.0	1.00	ND	mg/l	D
Phosphate	п	tt	#	EPA 300.0	10.0	ND	11	D
L909067-03 (U-2)			M90928	<u>81-02</u>			<u>Water</u>	
Nitrate as NO3	9090347	9/13/99	9/9/99	EPA 300.0	1.00	ND	mg/l	D
Phosphate	91	н	11	EPA 300.0	10.0	ND	H	D
L909067-04 (U-3)			M90928	<u>31-03</u>			<u>Water</u>	
Nitrate as NO3	9090347	9/13/99	9/9/99	EPA 300.0	1.00	32.9	mg/l	D
Phosphate	н	н	н	EPA 300.0	10.0	ND	11	D
L909067-04 (U-4)			M90928	31-04			Water	
Nitrate as NO3	9090347	9/13/99	9/9/99 -	EPA 300.0	1.00	24.0	mg/l	D
Phosphate	и	н	•	EPA 300.0	10.0	ND	"	D
L909067-04 (U-5)			M90928	31-0 <u>5</u>			Water	
Nitrate as NO3	9090347	9/13/99	9/9/99	EPA 300.0	1.00	ND	mg/l	D
Phosphate	н	н	**	EPA 300.0	10.0	ND	11	D
L909067-04 (U-6)			M90928	<u>31-06</u>			Water	
Nitrate as NO3	9090347	9/13/99	9/9/99	EPA 300.0	1.00	5.59	mg/l	D
Phosphate	ij	н	11	EPA 300.0	10.0	ND	11	D



- 10 m				
Sequoia Analytical - San Carlos	Project:	Tosco/Gettler Ryan	Sampled:	9/8/99
1551 Industrial Road	Project Number:	L909067(3220 Lakeshore Ave. Oakland)	Received:	9/8/99
San Carlos, CA 94070	Project Manager:	Wayne Stevenson	Reported:	9/22/99

Subcontracted Analyses Sequoia Analytical - Morgan Hill

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
L909067-02 (U-1)			M9092				Water	
Oxidation/Reduction Potential	9090348	9/8/99	9/8/99	ASTM D149876		85.0	mv	
L909067-03 (U-2)			M9092	<u>81-02</u>			<u>Water</u>	
Oxidation/Reduction Potential	9090348	9/8/99	9/8/99	ASTM D149876		235	mv	
L909067-04 (U-3)			M9092	<u>81-03</u>			Water	
Oxidation/Reduction Potential	9090348	9/8/99	9/8/99	ASTM D149876		417	mv	
L909067-04 (U-4)			M90928	81-04			Water	
Oxidation/Reduction Potential	9090348	9/8/99	9/8/99	ASTM D149876		391	mv	
L909067-04 (U-5)			M9092	31-05			Water	
Oxidation/Reduction Potential	9090348	9/8/99	9/8/99	ASTM D149876		335	mv	
L909067-04 (U-6)			M90928	31-06			Water	
Oxidation/Reduction Potential	9090348	9/8/99	9/8/99	ASTM D149876		305	mv	



Sequoia Analytical - San Carlos	Project:	Tosco/Gettler Ryan	Sampled:	9/8/99	
1551 Industrial Road	Project Number:	L909067(3220 Lakeshore Ave. Oakland)	Received:	9/8/99	
San Carlos, CA 94070	Project Manager:	Wayne Stevenson	Reported:	9/22/99	

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 9090435 Blank	<u>Date Prepar</u> 9090435-BI		<u>99</u>		Extrac	tion Method: EP	A 3005A			
Ferrous Iron	9/16/99			ND	mg/l	0.0100				
LCS Ferrous Iron	<u>9090435-BS</u> 9/16/99	<u>1</u>		1.10	mg/l	80.0-120				
Matrix Spike Ferrous Iron	9090435-Mi 9/16/99	<u>M</u> 1.0	909351-01 0.130	1.20	mg/l	80.0-120	107			
Matrix Spike Dup Ferrous Iron	9090435-M 9/16/99	<u>SD1</u> <u>M</u> 1.0	909351-01 0.130	1.10	mg/l	80.0-120	97	20.0		



Sequoia Analytical - San Carlos Project: Tosco/Gettler Ryan Sampled: 9/8/99
1551 Industrial Road Project Number: L909067(3220 Lakeshore Ave. Oakland) Received: 9/8/99
San Carlos, CA 94070 Project Manager: Wayne Stevenson Reported: 9/22/99

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

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 9090347	Date Prepare	ed: _9/13/9	9		Extrac	ction Method: Ger	neral Pre	paration		
Blank	9090347-BLI	<u>K1</u>								
Nitrate as NO3	9/9/99			ND	mg/l	0.100				
Phosphate	Ħ			ND	71	1.00				
LCS	9090347-BS1	Ĺ								
Nitrate as NO3	9/9/99	10.0		9.76	mg/l	80.0-120	97.6			
Phosphate	iŧ	10.0		10.2	11	80.0-120	102			
Matrix Spike	9090347-MS	1 <u>M</u>	909183-01							
Nitrate as NO3	9/9/99	100	6.05	112	mg/l	75.0-125	106			
Phosphate	н	100	ND	90.0	11	75.0-125	90.0			
Matrix Spike Dup	9090347-MS	D1 M:	909183-01							
Nitrate as NO3	9/9/99	100	6.05	114	mg/l	75.0-125	108	20.0	1.87	
Phosphate	H	100	ND	97.3	n T	75.0-125	97.3	20.0	7.79	



Sequoia Analytical - San Carlos 1551 Industrial Road

Project: Tosco/Gettler Ryan

Sampled: 9/8/99

Extraction Method: General Preparation

San Carlos, CA 94070

Project Manager: Wayne Stevenson

Project Number: L909067(3220 Lakeshore Ave. Oakland)

QC

Result

Received: 9/8/99

Reported: 9/22/99

Subcontracted Analyses/Quality Control

Sample

Result

Sequoia Analytical - Morgan Hill 💮 🐇 🤻

Spike

Level

Reporting Limit Recov. Recov. Limits % Notes* Limit

RPD

Batch: 9090348 **Duplicate** Oxidation/Reduction Potential

Analyte

Date Prepared: 9/8/99 9090348-DUP1

Date

Analyzed

9/8/99

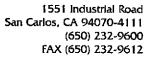
M909281-06 305

303 mv

Units

20.0 0.658

RPD





Gettler-Ryan/Geostrategies(1)
Project: Tosco(4)
Sampled: 9/8/99
6747 Sierra Court, Suite D
Project Number: UNOCAL SS#5325, 180061.85
Received: 9/8/99
Dublin, CA 94568
Project Manager: Deanna Harding
Reported: 9/23/99

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 9090095	Date Prepa	rad: 0/78/9	10		Evtraci	tion Method: EP	A 5030R	IP/TI		
Blank	9090095-B		2		EAUAC	HOR MELHOU. ELZ	3030D	11/11		
Purgeable Hydrocarbons as Gasoline	9/20/99	<u>UNI</u>		ND	ug/l	50.0				
Benzene	11			ND	n En	0.500				
Toluene	#1			ND	11	0.500				
Ethulhanzana	**			ND	**	0.500				
Xylenes (total)	**			ND	**	0.500				
Methyl tert-butyl ether	**			ND	11	5.00				
Surrogate: a,a,a-Trifluorotoluene	H	10.0		9.82	#	70.0-130	98.2			
I CC	DARRAGE DE	21								
LCS Panagana	9090095-BS			0.15	/1	70.0.120	01.5			
Benzene	9/20/99	10.0		9.15	ug/l	70.0-130	91.5			
Toluene	11	10.0		8.58),),	70.0-130	85.8			
Ethylbenzene	н	10.0		8.76		70.0-130	87.6			
Xylenes (total)		30.0		25.8		70.0-130	86.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.86	#	70.0-130	88.6			
<u>LCS</u>	9090095-BS	<u>52</u>								
Purgeable Hydrocarbons as Gasoline	9/20/99	250		250	ug/l	70.0-130	100			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.1	"	70.0-130	101			
Matrix Spike	9090095-M	<u>S1 L9</u>	09167-31							
Purgeable Hydrocarbons as Gasoline	9/20/99	250	ND	243	ug/l	60.0-140	97.2			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.3	"	70.0-130	103	-		
Matrix Spike Dup	9090095-M	SD1 L9	09167-3 <u>1</u>							
Purgeable Hydrocarbons as Gasoline	9/20/99	250	ND	238	ug/l	60.0-140	95.2	25.0	2.08	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.3	"	70.0-130	103			
Batch: 9090098	Date Prepa	red: 9/21/9	9		Extract	tion Method: EPA	4 5030B	[P/T]		
Blank	9090098-BI		-							
Purgeable Hydrocarbons as Gasoline	9/21/99			ND	ug/i	50.0				
Benzene	**			ND	11	0.500				
Toluene	**			ND	H	0.500				
Ethylbenzene	rr .			ND	IF.	0.500				
Xylenes (total)	Ħ			ND	n	0.500				
- / //	"			ND	79	5.00				
Methyl tert-butyl ether	,,	10.0		10.0		70.0-130	100			
Methyl tert-butyl ether Surrogate: a,a,a-Trifluorotoluene	"	10.0								
Surrogate: a,a,a-Trifluorotoluene										
	" 9090098-B5 9/21/99			9.00	ug/l	70.0-130	90 .0			

Sequoia Analytical - San Carlos

*Refer to end of report for text of notes and definitions.



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

Project: Tosco(4)

Project Number: UNOCAL SS#5325, 180061.85

Sampled: 9/8/99 Received: 9/8/99

Reported: 9/23/99

Project Manager: Deanna Harding

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

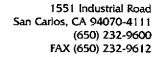
	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
I 66 (AAAAAAA DC								
LCS (continued)	9090098-BS			0.00		#0.0.120	00.0		
Ethylbenzene	9/21/99	10.0		9.00	ug/l	70.0-130	90.0		
Xylenes (total)	H	30.0		26.9	"	70.0-130	89.7		
Surrogate: a,a,a-Trifluorotoluene	11	10.0		9.95	H	70.0-130	99.5		
<u>LCS</u>	9090098-BS	<u> 2</u>							
Purgeable Hydrocarbons as Gasoline	9/21/99	250		228	ug/l	70.0-130	91.2		
Surrogate: a,a,a-Trifluorotoluene	m .	10.0		7.60	#	70.0-130	76.0		
Matrix Spike	9090098-M	<u>S1 L9</u>	09099-02						
Benzene	9/21/99	10.0	ND	9.23	ug/l	60.0-140	92.3		
Toluene	IF	10.0	ND	8.92	H	60.0-140	89.2		
Ethylbenzene	IP	10.0	ND	9.13	17	60.0-140	91.3		
Xylenes (total)	11	30.0	ND	27.1	II.	60.0-140	90.3		
Surrogate: a,a,a-Trifluorotoluene	Π	10.0	 	9.27	π	70.0-130	92.7	, , ,	
Matrix Spike Dup	9090098-MS	SD1 L9	909099-02						
Benzene	9/21/99	10.0	ND	9.02	ug/l	60.0-140	90.2	25.0	2.30
Toluene	II.	10.0	ND	8.76	1)	60.0-140	87.6	25.0	1.81
Ethylbenzene	II	10.0	ND	8.86	IF	60.0-140	88.6	25.0	3.00
Xylenes (total)	If	30.0	ND	26.0	IP	60.0-140	86.7	25.0	4.07
Surrogate: a,a,a-Trifluorotoluene	п	10.0	· · · · · · · · · · · · · · · · · · ·	9.26	rr .	70.0-130	92.6		



Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled:	9/8/99
6747 Sierra Court, Suite D	Project Number:	UNOCAL SS#5325, 180061.85	Received:	9/8/99
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported:	9/23/99

MTBE by EPA Method 8260A/Quality Control Sequoia Analytical - San Carlos

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 9090110	Date Prepar	red: 9/22/9	<u>9</u>		Extrac	tion Method: EP	A 5030B	[P/T]		
Blank	<u>9090110-BI</u>	<u>K1</u>								
Methyl tert-butyl ether	9/22/99			ND	ug/l	2.00				
Surrogate: 1,2-Dichloroethane-d4	n	50.0		49.2	"	76.0-114	98.4			
Blank	9090110-BI	_K2								
Methyl tert-butyl ether	9/23/99			ND	ug/i	2.00				
Surrogate: 1,2-Dichloroethane-d4	II .	50.0		52.0	"	76.0-114	104			
LCS	9090110-BS	<u> </u>								
Methyl tert-butyl ether	9/22/99	50.0		45,4	ug/l	70.0-130	90.8			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		48.4	H	76.0-114	96.8			
LCS	9090110-BS	32								
Methyl tert-butyl ether	9/23/99	50.0		50.7	ug/l	70.0-130	101			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		51.3	<i>"</i>	76.0-114	103			





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

Project: Tosco(4)

Sampled: 9/8/99 Received: 9/8/99

Project Number: UNOCAL SS#5325, 180061.85

Project Manager: Deanna Harding

Reported: 9/23/99

Notes and Definitions

	#	Note
	1	Chromatogram Pattern: Gasoline C6-C12
	2	The MTBE confirmation was analyzed past the recommended hold time.
	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
	Recov.	Recovery
:	RPD	Relative Percent Difference
	Note:	The Iron, Nitrate, Phosphate and Redox were subbed to Sequoia Labs at Morgan Hill. Hard copy results are enclosed.





Sequoia Analytical - San Carlos

1551 Industrial Road San Carlos, CA 94070

RPD

Project: T

Project Manager:

Tosco/Gettler Ryan

Project Number: L909067(3220 Lakeshore Ave. Oakland)

L909067(3220 Lakeshore Ave. Oakland Wayne Stevenson

Sampled: 9/8/99

Received: 9/8/99 Reported: 9/22/99

Notes and Definitions

Note

D Data reported from a dilution.

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

Recov. Recovery

Relative Percent Difference