RO 229

BC

GETTLER-RYAN INC.

TRANSMITTAL

#1059

January 23, 2002
G-R #180061

TO: Mr. David B. De Witt
Phillips 66 Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

CC: Mr. David Vossler
Gettler-Ryan Inc.
Petaluma, California

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

FEB 15 2002

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

Still ongoing release near 11-184-2

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	January 18, 2002	Groundwater Monitoring and Sampling Report Fourth Quarter - Event of December 10, 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 ***February 6, 2002***, this report will be distributed to the following:

cc: **Alameda County Health Care Services, 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502**

Enclosure

GETTLER-RYAN INC.

January 18, 2002
G-R Job #180061

Mr. David B. De Witt
Phillips 66 Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

RE: Fourth Quarter Event of December 10, 2001
Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #5325
3220 Lakeshore Avenue
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. 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 4. 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, 2 and 3. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

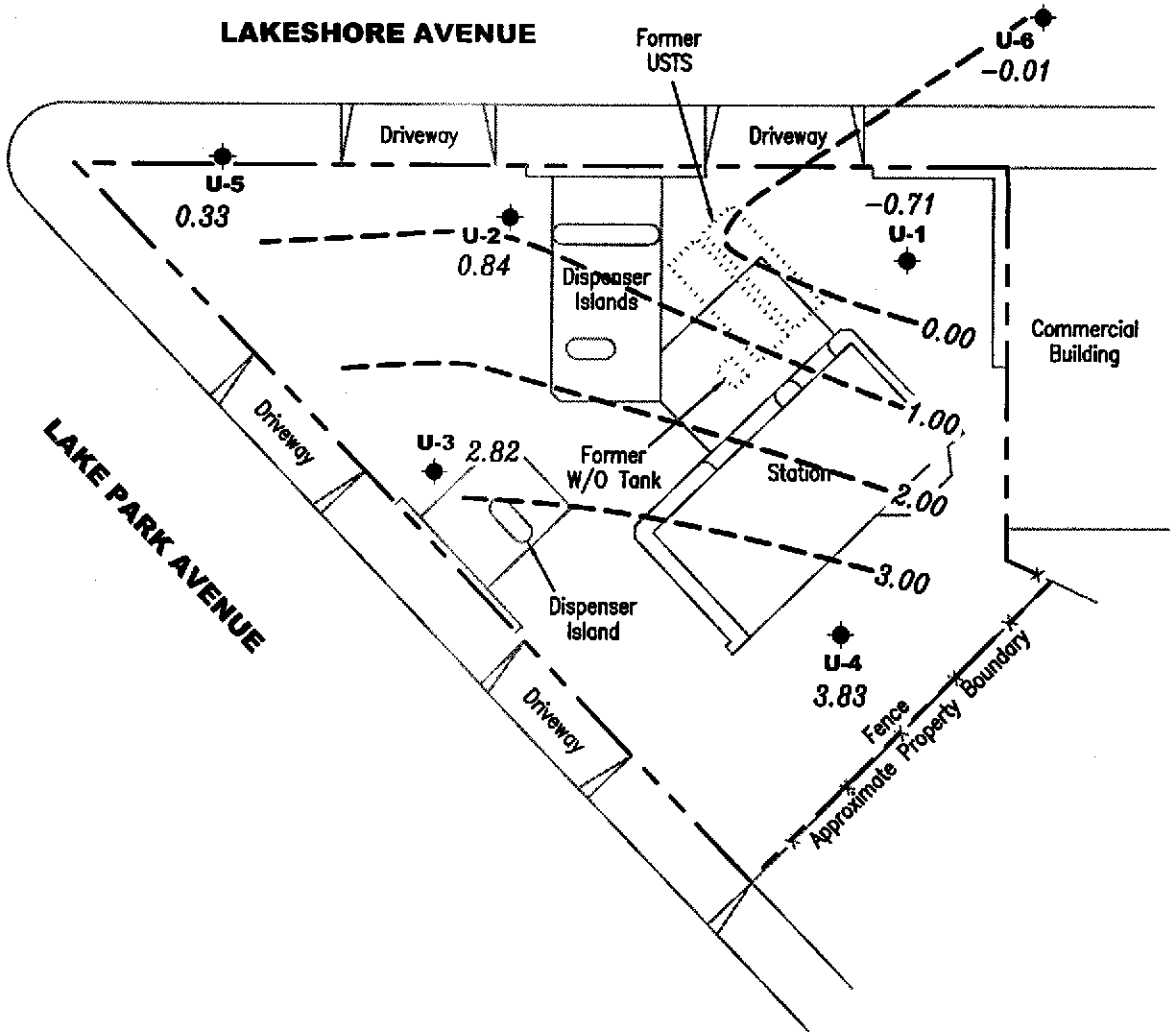
Deanna L. Harding
Project Coordinator

Hagop Kevork
P.E. No. C55734

REGISTERED PROFESSIONAL ENGINEER
HAGOP KEVORK
No. C 55734
Exp. 12/31/04
CIVIL
STATE OF CALIFORNIA

Figure 1:	Potentiometric Map
Figure 2:	Concentration Map
Table 1:	Groundwater Monitoring Data and Analytical Results
Table 2:	Groundwater Analytical Results – Oxygenate Compounds
Table 3:	Groundwater Analytical Results
Table 4:	Dissolved Oxygen Concentrations
Attachments:	Standard Operating Procedure - Groundwater Sampling
	Field Data Sheets
	Chain of Custody Document and Laboratory Analytical Reports

5325.qml



EXPLANATION

- Groundwater monitoring well
- 99.99 — Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 — Groundwater elevation contour, dashed where inferred.

Approximate groundwater flow direction at a gradient of 0.04 to 0.05 Ft./Ft.

N

0 40

Scale in Feet

Source: Figure modified from drawing provided by MPDS Services Inc..

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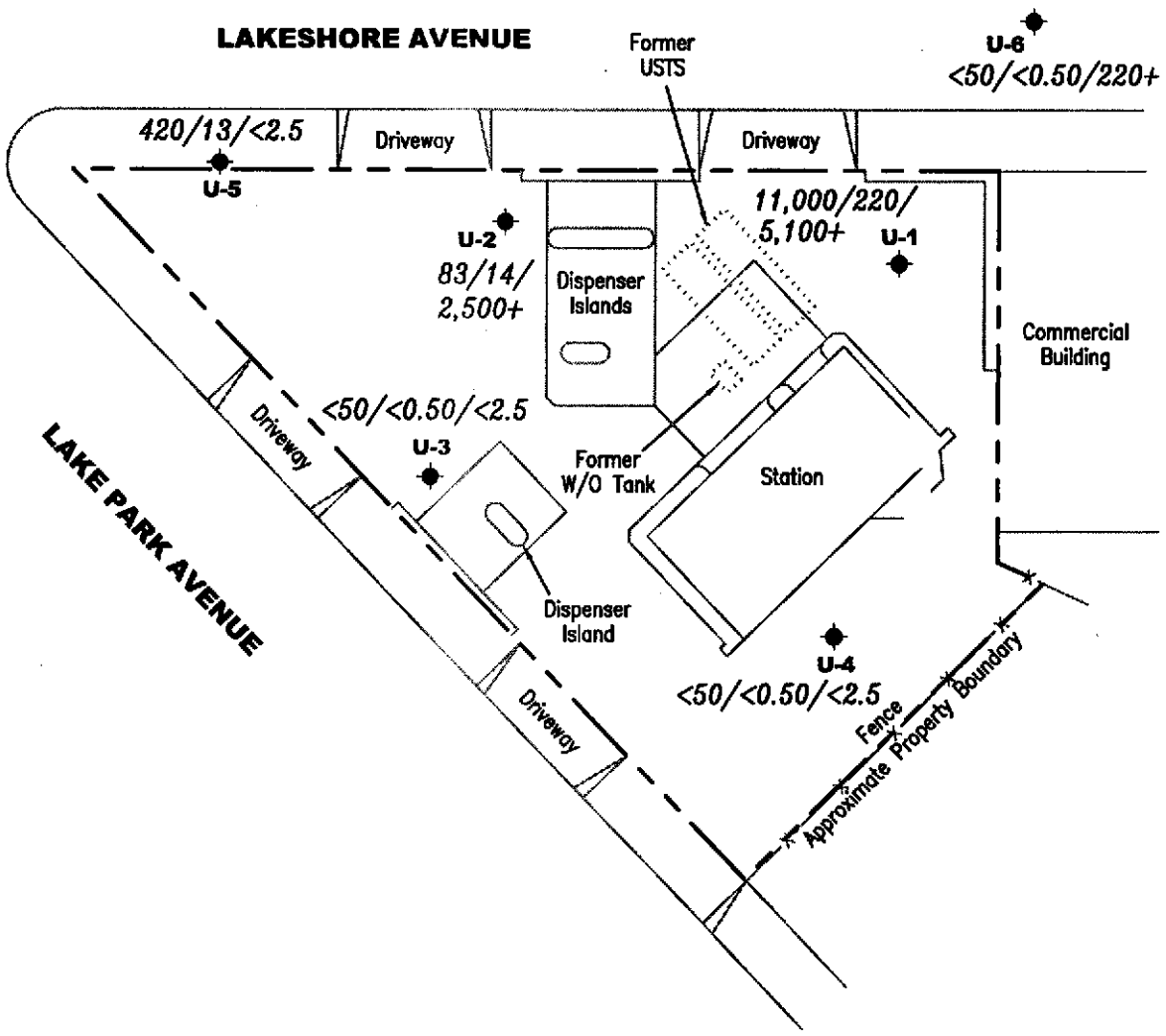
Dublin, CA 94568 (925) 551-7555

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

FIGURE 1

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
180061		December 10, 2001	

FILE NAME: P:\Enviro\Tosco\5325\Q01-5325.DWG | Layout Tab: Pot4



EXPLANATION

- ◆ Groundwater monitoring well
- *A/B/C* TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/ Benzene/MTBE concentrations in ppb
- \+ MTBE by EPA Method 8260

N

0 40

Scale in Feet

Source: Figure modified from drawing provided by MPDS Services Inc..

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

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

FIGURE
2

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
180061		December 10, 2001	

FILE NAME: P:\Enviro\Tosco\5325\Q01-5325.DWG | Layout Tab: Con4

Table 1

Groundwater Monitoring Data and Analytical Results

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

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-1	08/10/90	--	5.0-20.0	--	--	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	--
5.32	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	--
8.46	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	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	06/21/95	9.30		-0.69**	0.20	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	09/19/95	9.29		-0.53**	0.40	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/19/95	8.98		-0.50**	0.03	NOT SAMPLED DUE TO THE PRESENCE 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	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/09/96	6.88		1.60**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	03/14/97	9.02		-0.15**	0.55	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	06/30/97	8.41		0.07**	0.02	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	09/19/97	8.56		-0.08**	0.02	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/12/97	8.58		-0.11**	0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	03/03/98[17]	8.23		0.26**	0.04	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	06/15/98[17]	8.37		0.09	Sheen	52,000	ND[7]	900	1,800	13,000	ND[7]

Table 1

Groundwater Monitoring Data and Analytical Results

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

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-1	09/30/98[17]	8.94	5.0-20.0	-0.48	Sheen	1,000,000[8]	ND[7]	2,600	13,000	83,000	4,800
(cont)	12/28/98[17]	8.57		-0.11	<0.01	1,100,000[9]	ND[7]	1,600	8,600	71,000	5,700
	03/22/99[17]	8.18		0.28	Sheen	130,000	470	1,100	2,000	28,000	5,700
	06/09/99	9.37		-0.91	0.00	40,000	230	640	590	13,000	3,500/2,100[10]
	09/08/99[17]	9.53		-1.07	0.00	55,000[11]	217	202	745	14,300	6,890/6,690[10]
	12/07/99[17]	9.67		-1.21	0.00	41,200[13]	89.3	ND[7]	385	6,930	15,800/14,700[12]
	03/13/00[17]	8.44		0.02	0.00	48,000[11]	490	610	2,400	10,000	22,000/23,000[10]
	06/21/00[17]	9.45		-0.99	0.00	37,000[11]	200	ND[7]	1,200	7,200	15,000/20,000[10]
	09/27/00[17]	9.29		-0.83	0.00	15,000[11]	92	ND[7]	540	2,800	74,000/83,000[15]
	12/12/00[17]	9.37		-0.91	0.00	50,000[16]	ND[7]	ND[7]	250	1,900	12,000/15,000[12]
	03/07/01[17]	8.45		0.01	0.00	6,220[13]	29.8	10.4	96.3	638	11,200/11,800[10]
	06/06/01[17]	9.29		-0.83	0.00	5,200[13]	17	ND[7]	69	420	6,500/8,700[12]
	09/24/01[17]	9.39		-0.93	0.00	4,300[18]	36	<25	65	590	4,400/4,400[10]
	12/10/01[20]	**9.17**		**-0.71**	**0.00**	**11,000[18]**	**220**	**<100**	**380**	**1,500**	**5,100/5,100[10]**
U-2	08/10/90	--	5.0-20.0	--	--	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	--		--	--	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	--

Table 1

Groundwater Monitoring Data and Analytical Results

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

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-2	09/22/94	7.93	5.0-20.0	-0.31	0.00	8,500[3]	29	ND	ND	ND	--
(cont)	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 DUE TO THE PRESENCE OF FREE PRODUCT					--
	06/30/97	6.19		1.43	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	09/19/97	7.31		0.31	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	12/12/97	6.75		0.88**	<0.01	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--
	03/03/98	6.36		1.26	Sheen	80,000	3,000	1,100	820	16,000	16,000
	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
	12/28/98	7.06		0.56	0.00	63,000	590	160	320	5,600	16,000
	03/22/99	6.82		0.80	0.00	28,000	1,100	ND[7]	360	2,900	25,000
	06/09/99	7.51		0.11	0.00	21,000	110	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[10]
	12/07/99	8.31		-0.69	0.00	4,840[13]	17.2	ND[7]	ND[7]	157	14,900/15,600[12]
	03/13/00	6.69		0.93	0.00	11,000[11]	380	160	ND[7]	2,100	22,000/26,000[10]
	06/21/00	7.67		-0.05	0.00	9,100[11]	22	ND[7]	ND[7]	800	16,000/22,000[10]
	09/27/00	7.44		0.18	0.00	2,900[11]	43	ND[7]	ND[7]	39	20,000/26,000[15]
	12/12/00	7.51		0.11	0.00	3,600[11]	17	ND[7]	ND[7]	87	8,000/7,800[12]
	03/07/01	7.15		0.47	0.00	1,670[13]	51.0	ND[7]	7.20	19.5	5,930/7,900[10]
	06/06/01	7.57		0.05	0.00	1,100[11]	14	ND[7]	9.3	35	9,200/10,000[12]
	09/24/01	7.63		-0.01	0.00	1,000[18]	25	<2.5	12	100	9,800/11,000[10]
	12/10/01	**6.78**		**0.84**	**0.00**	**83**	**14**	**0.55**	**3.4**	**6.8**	**2,500/2,500[10]**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-3	08/10/90	--	5.0-20.0	--	--	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
	12/09/96	10.12		0.86	0.00	ND	ND	ND	ND	ND	29
	03/14/97	10.87		0.11	0.00	ND	ND	ND	ND	ND	ND
	06/30/97	11.08		-0.10	0.00	ND	ND	ND	ND	ND	ND
	09/19/97	11.05		-0.07	0.00	ND	ND	ND	ND	ND	ND
	12/12/97	10.58		0.40	0.00	ND	ND	ND	ND	ND	ND
	03/03/98	9.84		1.14	0.00	ND	ND	ND	ND	ND	ND
	06/15/98	10.56		0.42	0.00	ND	ND	ND	ND	ND	ND

Table 1

Groundwater Monitoring Data and Analytical Results

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3220 Lakeshore Avenue
Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-3	09/30/98	11.12	5.0-20.0	-0.14	0.00	ND	ND	ND	ND	ND	ND
(cont)	12/28/98	10.96		0.02	0.00	ND	ND	ND	ND	ND	ND
	03/22/99	9.46		1.52	0.00	ND	ND	ND	ND	ND	ND
	06/09/99	11.01		-0.03	0.00	ND	ND	ND	ND	ND	ND
	09/08/99	11.31		-0.33	0.00	ND	ND	ND	ND	ND	ND
	12/07/99	11.26		-0.28	0.00	ND	ND	ND	ND	ND	ND
	03/13/00	8.28		2.70	0.00	ND	ND	ND	ND	ND	ND
	06/21/00	11.12		-0.14	0.00	ND	ND	ND	ND	ND	ND
	09/27/00	11.07		-0.09	0.00	ND	ND	ND	ND	ND	ND
	12/12/00	10.94		0.04	0.00	ND	ND	ND	ND	ND	ND
	03/07/01	8.32		2.66	0.00	ND	ND	ND	ND	ND	ND
	06/06/01	10.94		0.04	0.00	ND	ND	ND	ND	ND	ND
	09/24/01	11.03		-0.05	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	12/10/01	**8.16**		**2.82**	**0.00**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**
U-4											
11.15	06/22/94	10.16	5.0-20.0	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

Table 1

Groundwater Monitoring Data and Analytical Results

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

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-4	12/12/97	8.56	5.0-20.0	2.59	0.00	ND	ND	ND	ND	ND	ND
(cont)	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
	12/28/98	9.59		1.56	0.00	ND	ND	ND	ND	ND	ND
	03/22/99	8.34		2.81	0.00	ND	ND	ND	ND	ND	ND
	06/09/99	9.39		1.76	0.00	ND	ND	ND	ND	ND	ND
	09/08/99	9.90		1.25	0.00	ND	ND	ND	ND	ND	ND
	12/07/99	10.05		1.10	0.00	ND	ND	ND	ND	ND	ND
	03/13/00	7.24		3.91	0.00	ND	ND	ND	ND	ND	ND
	06/21/00	9.48		1.67	0.00	ND	ND	ND	ND	ND	ND
	09/27/00	9.42		1.73	0.00	ND	ND	ND	ND	ND	ND
	12/12/00	9.50		1.65	0.00	ND	ND	ND	ND	ND	ND
	03/07/01	6.88		4.27	0.00	ND	ND	ND	ND	ND	ND
	06/06/01	9.18		1.97	0.00	ND	ND	ND	ND	ND	ND
	09/24/01	9.21		1.94	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	12/10/01	**7.32**		**3.83**	**0.00**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**
U-5											
6.98	06/22/94	6.83	5.0-20.0	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

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-5	03/14/97	6.99	5.0-20.0	-0.01	0.00	ND	ND	ND	ND	ND	14
(cont)	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	ND[7]	150	190	330
	06/15/98	6.85		0.13	0.00	1,500	32	ND[7]	91	83	330
	09/30/98	7.31		-0.33	0.00	1,700	44	ND[7]	39	150	60
	12/28/98	7.25		-0.27	0.00	1,400	59	ND[7]	13	27	150
	03/22/99	6.86		0.12	0.00	780	8.9	ND	0.76	4.5	350
	06/09/99	7.28		-0.30	0.00	1,000	ND[7]	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]
	12/07/99	7.67		-0.69	0.00	949[11]	9.26	ND[7]	11.2	22.7	235/301[12]
	03/13/00	6.73		0.25	0.00	880[14]	12	1.0	5.6	8.7	46/37[10]
	06/21/00	7.39		-0.41	0.00	700[11]	4.0	ND	0.99	4.0	120/140[10]
	09/27/00	7.45		-0.47	0.00	400[11]	1.9	ND	ND	1.5	160/250[15]
	12/12/00	7.68		-0.70	0.00	770[11]	3.2	ND[7]	ND[7]	ND[7]	27/13[12]
	03/07/01	6.83		0.15	0.00	623[13]	5.15	ND	ND	0.669	35.7/43.4[10]
	06/06/01	7.42		-0.44	0.00	110[13]	ND	ND	ND	ND	ND
	09/24/01	7.50		-0.52	0.00	270[19]	<0.50	<0.50	<0.50	<0.50	40/42[10]
	12/10/01	**6.65**		**0.33**	**0.00**	**420[18]**	**13**	**0.60**	**0.66**	**<0.50**	**<2.5**
U-6											
7.14	06/22/94	7.14	5.0-24.0	0.00	0.00	ND	ND	ND	ND	ND	--
	09/22/94	7.34		-0.20	0.00	130	1.3	0.8	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	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-6	06/27/96	6.52	5.0-24.0	0.62	0.00	ND	ND	ND	ND	ND	510
(cont)	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]	ND[7]	ND[7]	1,000
	09/30/98	7.90		-0.76	0.00	ND	ND	ND	ND	ND	1,200
	12/28/98	7.79		-0.65	0.00	ND[7]	ND[7]	ND[7]	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	ND[7]	ND[7]	ND[7]	ND[7]	ND[7]	1,000/850[10]
	09/08/99	7.95		-0.81	0.00	ND	ND	ND	ND	ND	851/1,040[10]
	12/07/99	8.10		-0.96	0.00	ND	ND	ND	ND	ND	1,140/1,150[12]
	03/13/00	6.95		0.19	0.00	ND	ND	ND	ND	ND	560/670[10]
	06/21/00	7.84		-0.70	0.00	ND	ND	ND	ND	ND	400/590[10]
	09/27/00	7.68		-0.54	0.00	ND	ND	ND	ND	ND	2,500/2,800[15]
	12/12/00	7.74		-0.60	0.00	ND	ND	ND	ND	ND	590/580[12]
	03/0701	7.27		-0.13	0.00	ND	ND	ND	ND	ND	310/321[12]
	06/06/01	7.80		-0.66	0.00	ND	ND	ND	ND	ND	250/330[12]
	09/24/01	7.82		-0.68	0.00	<50	<0.50	<0.50	<0.50	<0.50	530/660[10]
	12/10/01	**7.15**		**-0.01**	**0.00**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**220/220[10]**
Trip Blank											
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

Table 1

Groundwater Monitoring Data and Analytical Results

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

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (ft.)	Product Thickness (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
TB-LB	06/09/99	--	--	--	--	ND	ND	ND	ND	ND	ND
(cont)	09/08/99	--		--	--	ND	ND	ND	ND	ND	ND
	12/07/99	--		--	--	ND	ND	0.762	ND	ND	ND
	03/13/00	--		--	--	ND	ND	ND	ND	ND	ND
	06/21/00	--		--	--	ND	ND	ND	ND	ND	ND
	09/27/00	--		--	--	ND	ND	ND	ND	ND	ND
	12/12/00	--		--	--	ND	ND	ND	ND	ND	ND
	03/07/01	--		--	--	ND	ND	ND	ND	ND	ND
	06/06/01	--		--	--	ND	ND	ND	ND	ND	ND
	09/24/01	--		--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	12/10/01	--		--	--	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**

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
(ft.) = Feet
DTW = Depth to Water
S.I. = Screen Interval
(ft. bgs) = Feet Below Ground Surface
GWE = Groundwater Elevation
TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether

(ppb) = Parts per billion
ND = Not Detected
-- = Not Measured/Not Analyzed

* 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)].

1 The positive result for gasoline does not appear to have a typical gasoline pattern.

2 The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.

3 Laboratory report indicates the hydrocarbons detected did not appear to be gasoline

4 Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

5 Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.

6 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.

7 Detection limit raised. Refer to analytical reports.

8 Laboratory report indicates unidentified hydrocarbons C6-C12.

9 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.

13 Laboratory report indicates weathered gasoline C6-C12.

14 Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons <C6.

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

16 Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons >C10.

17 Skimmer present in well.

18 Laboratory report indicates gasoline C6-C10.

19 Laboratory report indicates unidentified hydrocarbons C6-C10.

20 Skimmer not present in well.

Table 2

Groundwater Analytical Results - Oxygenate Compounds

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
U-1	09/27/00[1]	--	ND[2]	83,000	ND[2]	ND[2]	ND[2]	ND[2]	ND[2]
	12/12/00	--	--	15,000[3]	--	--	--	--	--
	03/07/01	ND[2]	ND[2]	11,800	ND[2]	ND[2]	ND[2]	ND[2]	ND[2]
	06/06/01[3]	ND[2]	ND[2]	8,700	ND[2]	ND[2]	ND[2]	ND[2]	ND[2]
	09/24/01	<400,000	<20,000	4,400	<1,000	<1,000	<1,000	<1,000	<1,000
	12/10/01	**<8,000**	**<4,000**	**5,100**	**<100**	**<100**	**<100**	**<100**	**<100**
U-2	09/27/00	--	--	26,000[1]	--	--	--	--	--
	12/12/00	--	--	7,800[3]	--	--	--	--	--
	03/07/01	ND[2]	ND[2]	7,900	ND[2]	ND[2]	ND[2]	ND[2]	ND[2]
	06/06/01[3]	ND[2]	ND[2]	10,000	ND[2]	ND[2]	ND[2]	ND[2]	ND[2]
	09/24/01	<400,000	<20,000	11,000	<1,000	<1,000	<1,000	<1,000	<1,000
	12/10/01	**<4,000**	**<2,000**	**2,500**	**<50**	**<50**	**<50**	**<50**	**<50**
U-5	09/27/00	--	--	250[1]	--	--	--	--	--
	12/12/00	--	--	13[3]	--	--	--	--	--
	03/07/01	ND	ND	43.4	ND	ND	ND	ND	ND
	09/24/01	<4,000	<200	42	<10	<10	<10	<10	<10
U-6	09/27/00	--	--	2,800[1]	--	--	--	--	--
	12/12/00	--	--	580[3]	--	--	--	--	--
	03/07/01[3]	ND[2]	ND[2]	321	ND[2]	ND[2]	ND[2]	ND[2]	ND[2]
	06/06/01[3]	ND[2]	ND[2]	330	ND[2]	ND[2]	ND[2]	ND[2]	ND[2]
	09/24/01	<40,000	<2,000	660	<100	<100	<100	<100	<100
	12/10/01	**<400**	**<200**	**220**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**<5.0**

Table 2

Groundwater Analytical Results - Oxygenate Compounds

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

EXPLANATIONS:

TBA = Tertiary butyl alcohol

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

1,2-DCA = 1,2-Dichloroethane

EDB = 1,2-Dibromoethane

(ppb) = Parts per billion

ND = Not Detected

-- = Not Analyzed

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

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

[2] Detection limit raised. Refer to analytical reports.

[3] Laboratory report indicates sample was analyzed outside the EPA recommended holding time.

Table 3
Groundwater Analytical Results
Tosco (Unocal) Service Station #5325
3220 Lakeshore Avenue
Oakland, California

WELL ID	DATE	Ferrous Iron (ppm)	Nitrate as NO3 (ppm)	Phosphate as PO4 (ppm)	Redox Potential 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]
	12/07/99	5.70	ND[1]	17.0	404[3]
	03/13/00	8.0	0.18	ND	[2]117/262[3]
	06/21/00	9.3	ND[1]	ND[1]	148[2]
	09/27/00	2.8	ND[1]	18.4	119[2]
	12/12/00	0.49	ND[1]	16.0	131[2]
	03/07/01	0.483	2.64	6.89	125[2]
	06/06/01	1.0[4]	ND	2.7	141[2]
	09/24/01	<0.10	0.45[5]	--	125[2]
	12/10/01	**14**	**<0.50**	**2.2**	**141[2]**
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]
	12/07/99	0.250	ND[1]	ND[1]	389[3]
	03/13/00	4.3	0.31	ND	[2]121/184[3]
	06/21/00	0.26	ND[1]	ND[1]	136[2]
	09/27/00	0.64	ND[1]	10.5	142[2]
	12/12/00	2.7	ND[1]	ND[1]	155[2]
	03/07/01	0.677	2.24	3.02	148[2]
	06/06/01	0.80[4]	ND	2.8	163[2]
	09/24/01	<0.10	0.49[5]	--	151[2]
	12/10/01	**<0.10**	**<0.50**	**0.20**	**171[2]**
U-3	06/30/97	1.4	21	0.86	190[3]
	09/19/97	0.57	19	ND	75[3]
	12/12/97	1.9	23	0.85	390[3]
	03/03/98	0.013	36	ND	358[2]
	06/15/98	0.16	33	ND	318[2]
	09/30/98	0.040	31	ND	295[2]
	12/28/98	ND	29	ND	281[2]
	03/22/99	0.015	30	0.14	310[3]
	06/09/99	ND	26	1.2	350[3]
	09/08/99	ND	32.9	ND[1]	417[3]

Table 3

Groundwater Analytical Results

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

WELL ID	DATE	Ferrous Iron (ppm)	Nitrate as NO3 (ppm)	Phosphate as PO4 (ppm)	Redox Potential mV
U-3	12/07/99	0.0520	27.9	ND[1]	437[3]
(cont)	03/13/00	0.15	33	ND	[2]226/307[3]
	06/21/00	0.20	32	ND[1]	225[2]
	09/27/00	ND	34	15.7	211[2]
	12/12/00	ND	31	ND[1]	246[2]
	03/07/01	ND	36.5	0.443	251[2]
	06/06/01	ND[4]	8.0	0.18	214[2]
	09/24/01	<0.10	23[5]	--	198[2]
	12/10/01	**<0.10**	**21**	**0.11**	**188[2]**
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]
	12/07/99	ND	27.7	ND[1]	478[3]
	03/13/00	ND	33	ND	[2]219/244[3]
	06/21/00	0.034	32	ND[1]	248[2]
	09/27/00	ND	28	ND[1]	198[2]
	12/12/00	ND	30	ND[1]	210[2]
	03/07/01	ND	33.9	0.226	233[2]
	06/06/01	ND[4]	7.4	0.21	248[2]
	09/24/01	<0.10	24[5]	--	262[2]
	12/10/01	**<0.10**	**19**	**0.10**	**242[2]**
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]
	06/15/98	17	ND	ND	333[2]
	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]	ND[1]	335[3]
	12/07/99	0.310	ND[1]	ND[1]	408[3]
	03/13/00	0.33	0.16	ND	[2]111/264[3]
	06/21/00	0.15	ND[1]	ND[1]	159[2]

Table 3

Groundwater Analytical Results

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

WELL ID	DATE	Ferrous Iron (ppm)	Nitrate as NO3 (ppm)	Phosphate as PO4 (ppm)	Redox Potential mV
U-5	09/27/00	0.33	ND[1]	ND[1]	136[2]
(cont)	12/12/00	0.086	ND[1]	ND[1]	122[2]
	03/07/01	1.07	3.02	4.00	141[2]
	06/06/01	ND[4]	ND	1.2	112[2]
	09/24/01	<0.10	0.77[5]	--	146[2]
	12/10/01	**3.7**	**<0.50**	**2.6**	**96[2]**
U-6	06/30/97	88	0.80	ND	190[3]
	09/19/97	2.9	1.80	ND	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]
	12/07/99	0.260	ND[1]	ND[1]	443[3]
	03/13/00	0.79	0.26	ND	[2]68/222[3]
	06/21/00	1.9	ND[1]	ND[1]	159[2]
	09/27/00	2.6	ND[1]	ND[1]	170[2]
	12/12/00	ND	2.7	ND[1]	128[2]
	03/07/01	2.52	3.11	37.0	117[2]
	06/06/01	0.47[4]	0.15	0.70	97[2]
	09/24/01	<0.10	0.58[5]	--	123[2]
	12/10/01	**0.99**	**0.50**	**2.0**	**112[2]**

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
mV = millivolts
-- = Not Analyzed

1 Detection limit raised. Refer to analytical reports.
2 Field measurement.
3 Analyzed by laboratory.
4 Due to the transfer of samples from one laboratory to another laboratory; the sample was received beyond the EPA recommended holding time.
5 Laboratory report indicates the sample was analyzed beyond the EPA recommended holding time.

Table 4

Dissolved Oxygen Concentrations

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

WELL ID	DATE	Before Purge *(mg/L)*
U-1	12/07/99	1.36
	06/21/00	1.53
	09/27/00	1.63
	12/12/00	1.48
	03/07/01	1.91
	06/06/01	1.77
	09/24/01	1.64
	12/10/01	**1.82**
U-2	12/07/99	2.28
	06/21/00	1.96
	09/27/00	2.12
	12/12/00	2.35
	03/07/01	2.21
	06/06/01	2.67
	09/24/01	2.10
	12/10/01	**2.81**
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
	12/07/99	4.21
	06/21/00	4.27
	09/27/00	4.67
	12/12/00	4.79
	03/07/01	5.16
	06/06/01	4.79
	09/24/01	4.27
	12/10/01	**4.66**
U-4	06/30/97	5.4
	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

Table 4

Dissolved Oxygen Concentrations

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

WELL ID	DATE	Before Purge *(mg/L)*
U-4 (cont)	03/22/99	4.26
	06/09/99	3.61
	09/08/99	3.75
	12/07/99	4.03
	06/21/00	4.89
	09/27/00	5.09
	12/12/00	4.86
	03/07/01	4.97
	06/06/01	5.12
	09/24/01	4.86
	12/10/01	**5.05**
U-5	06/30/97	3.4
	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	2.10
	09/08/99	2.21
	12/07/99	2.66
	06/21/00	3.42
	09/27/00	3.85
	12/12/00	3.53
	03/07/01	2.98
	06/06/01	2.67
	09/24/01	3.15
	12/10/01	**2.85**
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
	12/07/99	3.44
	06/21/00	3.27
	09/27/00	3.49
	12/12/00	3.06

Table 4

Dissolved Oxygen Concentrations

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

WELL ID	DATE	Before Purge *(mg/L)*
U-6	03/07/01	2.85
(cont)	06/06/01	2.46
	09/24/01	3.10
	12/10/01	**2.57**

Table 4

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 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.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave Date: 12-10-01

City: Oakland, CA Sampler: Joe

Well ID U-1 Well Condition: O.K.

Well Diameter 3 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth 19.68 ft.

Depth to Water 9.17 ft.

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

10.51 X VF 0.38 = 4.00 X 3 (case volume) = Estimated Purge Volume: 12 (gal.)

Purge Equipment: Disposable Bailer / Bailer / Stack / (Suction) / Grundfos / Other:

Sampling Equipment: (Disposable Bailer) / Bailer / Pressure Bailer / Grab Sample / Other:

Starting Time: 10:42 Weather Conditions: wet/cold

Sampling Time: 12:12 p.m (1212) Water Color: clear Odor: yes

Purging Flow Rate: 1 gpm. Sediment Description:

Did well de-water? If yes; Time: Volume: (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm x 10^3	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:53	4	6.70	1.11	71.1	1.82	141	
10:55	8	6.71	0.98	71.5			
10:57	12	6.72	0.96	71.6			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-1	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
	1 plastic	"	—	"	Ferrous Iron
					Nitrate
					Phosphate

COMMENTS: No skimmer found in well.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 12-10-01

City: Oakland, CA. Sampler: Joe

Well ID U-2 Well Condition: O.K.

Well Diameter 3 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 [gal.]

Total Depth 19.60 ft.

Depth to Water 6.78 ft.

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

12.82 X VF 0.38 = 4.87 X 3 (case volume) = Estimated Purge Volume: 15 [gal.]

Purge Equipment:
- Disposable Bailer
- Bailer
- Stack
- Suction
- Grundfos
- Other: _____

Sampling Equipment:
- Disposable Bailer
- Bailer
- Pressure Bailer
- Grab Sample
- Other: _____

Starting Time: 10:00 Weather Conditions: Wet/cold

Sampling Time: 10:30 Am (1030) Water Color: Clear Odor: yes

Purging Flow Rate: 1.5 gpm Sediment Description: _____

Did well de-water? _____ If yes; Time: _____ Volume: _____ [gal.]

Time	Volume (gal.)	pH	Conductivity (mmhos/cm)	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:04	5	7.31	4.66	71.6	2.81	171	
10:11	10	7.32	4.81	71.5			
10:13	15	7.33	4.79	71.5			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-2	3 vol	Y	HCL	Seq.	TPHG, BTEX, MTBE
	1 plastic	"	—	"	Ferrous Iron
					Nitrate
					Phosphate

COMMENTS: _____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061
Address: 3220 Lakeshore Ave. Date: 12-10-01
City: Oakland, CA. Sampler: Joe

Well ID U-3 Well Condition: O.K.
Well Diameter 3 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)
Total Depth 19.36 ft.
Depth to Water 8.16 ft.

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

11.20 x VF 0.38 = 4.26 x 3 (case volume) = Estimated Purge Volume: 13 (gal.)

Purge Equipment: Disposable Bailer / Bailer / Stack / Suction / Grundfos / Other:
Sampling Equipment: Disposable Bailer / Bailer / Pressure Bailer / Grab Sample / Other:

Starting Time: 7:43
Sampling Time: 8:15 A.m (0815)
Purging Flow Rate: 1 gpm.
Did well de-water?
Weather Conditions: Wet/cold
Water Color: Clear Odor: none
Sediment Description:
If yes; Time: Volume: (gal.)

Time	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (F)	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
7:55	4	7.59	10.38	70.7	4.66	188	
7:58	8	7.61	10.19	71.0			
8:01	13	7.66	10.15	70.8			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-3	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
	1 plastic	"	—	"	Ferrous Iron
					Nitrate
					Phosphate

COMMENTS:

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility #: 5325 | Job#: 180061
Address: 3220 Lakeshore Ave. | Date: 12-10-01
City: Oakland, CA. | Sampler: Joe

Well ID: U-4 | Well Condition: O.K.
Well Diameter: 4 in.
Total Depth: 20.15 ft.
Depth to Water: 7.32 ft.

Hydrocarbon Thickness: 0 in. | Amount Bailed (product/water): 0 (gal.)

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

12.83 x VF 0.66 = 8.47 X 3 (case volume) = Estimated Purge Volume: 26 (gal.)

Purge Equipment: Disposable Bailer, Bailer, Stack, ~~Suction~~ (circled), Grundfos, Other: ______

Sampling Equipment: ~~Disposable Bailer~~ (circled), Bailer, Pressure Bailer, Grab Sample, Other: ______

Starting Time: 6:45 | Weather Conditions: Wet / Cold
Sampling Time: 7:35 A.m (0735) | Water Color: Clear | Odor: none
Purging Flow Rate: 2 gpm | Sediment Description:
Did well de-water? ______ | If yes; Time: ______ Volume: ______ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm x 10^{2}	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
7:07	8	7.17	10.68	71.2	5.05	242	
7:10	17	7.29	10.71	71.0			
7:14	26	7.34	10.72	71.2			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-4	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
	1 plastic	"	—	"	Ferrous Iron
					Nitrate
					Phosphate

COMMENTS: ______

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 12-10-01

City: Oakland, CA. Sampler: Joe

Well ID U-5 Well Condition: O.K.

Well Diameter 4 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth 20.05 ft.

Depth to Water 6.65 ft.

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

13.4 x VF 0.66 = 8.84 X 3 (case volume) = Estimated Purge Volume: 27 (gal.)

Purge Equipment: Disposable Bailer, Bailer, Stack, (Suction), Grundfos, Other:

Sampling Equipment: (Disposable Bailer), Bailer, Pressure Bailer, Grab Sample, Other:

Starting Time: 9:15 Weather Conditions: Wet

Sampling Time: 9:48 Am (0948) Water Color: Clear Odor: mild

Purging Flow Rate: 2 gpm. Sediment Description:

Did well de-water? If yes; Time: Volume: (gal.)

Time	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (F)	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:26	9	7.30	5.82	70.7	2.85	96	
9:30	18	7.20	5.67	71.0			
9:33	27	7.14	5.63	71.4			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-5	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
	1 plastic	"	—	"	(Ferrous Iron
					Nitrate.
					Phosphate.

COMMENTS:

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 12-10-01

City: Oakland, CA. Sampler: JOC

Well ID U-6 Well Condition: O.K.

Well Diameter 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth 23.78 ft.

Depth to Water 7.15 ft.

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

16.63 X VF 0.17 = 2.81 X 3 (case volume) = Estimated Purge Volume: 8.5 (gal.)

Purge Equipment: Disposable Bailer / Bailer / Stack / Suction / Grundfos / Other:

Sampling Equipment: Disposable Bailer / Bailer / Pressure Bailer / Grab Sample / Other:

Starting Time: 8:30 Weather Conditions: Wet

Sampling Time: 9:05 Am (0905) Water Color: Clear Odor: mild

Purging Flow Rate: 1 gpm. Sediment Description:

Did well de-water? Yes; Time: Volume: (gal.)

Time	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (F)	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
8:40	3.5	7.10	6.10	72.1	2.57	112	
8:42	5.5	7.09	5.62	72.4			
8:44	8.5	7.16	5.59	72.4			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-6	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
	1 plastic	"	—	"	Ferrous Iron
					Nitrate
					Phosphate

COMMENTS:

GLOBAL ID# T0600101463

TOSCO

Tosco Marketing Company
2000 Crow Canyon Pl., Ste. 400
San Ramon, California 94583

Facility Number: TOSCO (UNOCAL) SS #5325
Facility Address: 3220 Lakeshore Ave., Oakland, CA
Consultant Project Number: 180061.85
Consultant Name: Gettler-Ryan Inc. (G-R Inc.)
Address: 6747 SIERRA COURT, SUITE J, DUBLIN, CA 94568
Project Contact (Name): Deanna L. Harding
(Phone): (925) 551-7555 (Fax Number): 925-551-7899

Contact (Name): MR. Dave DeWitt
(Phone): 925-277-2384
Laboratory Name: Sequoia Analytical
Laboratory Release Number:
Samples Collected by (Name): JOE ATEMIAN
Collection Date: 12-10-01
Signature:

MK0190

Sample Number	Lab Sample Number	Number of Containers	Matrix: S = Soil, A = Air, W = Water, C = Charcoal	Type: G = Grab, C = Composite, D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: TPH Gas + BTEX w/MTBE (8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (TCLP or AA)	Ferrous Iron Nitrate phosphate				DO NOT BILL TB-LB ANALYSIS
																				RUN 8 OXY'S BY 8260 ON ALL 8020 MTBE HITS.
TB-LB	01	1 VOA	W	G	—	HCL	Y	✓												Please filter and preserve some for Ferrous Iron analysis A.S.A.P.
U-1	02	3 VOA 1 pl.	1	1	1212	1	1	✓								✓				
U-2	03	11	1	1	1030	1	1	✓								✓				
U-3	04	11	1	1	0815	1	1	✓								✓				
U-4	05	11	1	1	0735	1	1	✓								✓				
U-5	06	11	1	1	0948	1	1	✓								✓				
U-6	07	11	1	1	0905	1	1	✓								✓				

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G-R Inc.	12-10-01 1900			12/6/01 1900
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
		12/10 1630	WHS		12/10 1630
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
WH	SEQ	12/10 1830			12/10/01 1830

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

2 January, 2002

Deanna Harding
Gettler Ryan/Geostrategies - Tosco/Unocal
6747 Sierra Ct, Suite J
Dublin, CA 94568

RE: #5325, Oakland
Sequoia Report: MKL0190

Enclosed are the results of analyses for samples received by the laboratory on 12/10/01 19:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James Hartley
Project Manager

CA ELAP Certificate #1210

Sequoia Analytical

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Morgan Hill, CA 95037
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Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	MKL0190-01	Water	12/10/01 00:00	12/10/01 19:00
U-1	MKL0190-02	Water	12/10/01 12:12	12/10/01 19:00
U-2	MKL0190-03	Water	12/10/01 10:30	12/10/01 19:00
U-3	MKL0190-04	Water	12/10/01 08:15	12/10/01 19:00
U-4	MKL0190-05	Water	12/10/01 07:35	12/10/01 19:00
U-5	MKL0190-06	Water	12/10/01 09:48	12/10/01 19:00
U-6	MKL0190-07	Water	12/10/01 09:05	12/10/01 19:00

Sequoia Analytical - Morgan Hill

James Hartley, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sequoia Analytical

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FAX (408) 782-6308
www.sequoialabs.com

Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Total Purgeable Hydrocarbons (C6-C10) by 8015B modified, BTEX and MTBE by 8021B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (MKL0190-01) Water Sampled: 12/10/01 00:00 Received: 12/10/01 19:00									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	1L18002	12/18/01	12/18/01	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	A-01
Surrogate: a,a,a-Trifluorotoluene		*104 %*		*70-130*	"	"	"	"	
U-1 (MKL0190-02) Water Sampled: 12/10/01 12:12 Received: 12/10/01 19:00									
Gasoline Range Organics (C6-C10)	**11000**	10000	ug/l	200	1L18002	12/18/01	12/18/01	8015Bm/8021B	P-01
Benzene	**220**	100	"	"	"	"	"	"	
Toluene	ND	100	"	"	"	"	"	"	
Ethylbenzene	**380**	100	"	"	"	"	"	"	
Xylenes (total)	**1500**	100	"	"	"	"	"	"	
Methyl tert-butyl ether	**5100**	500	"	"	"	"	"	"	A-01a
Surrogate: a,a,a-Trifluorotoluene		*101 %*		*70-130*	"	"	"	"	
U-2 (MKL0190-03) Water Sampled: 12/10/01 10:30 Received: 12/10/01 19:00									
Gasoline Range Organics (C6-C10)	**83**	50	ug/l	1	1L18002	12/18/01	12/18/01	8015Bm/8021B	
Benzene	**14**	0.50	"	"	"	"	"	"	
Toluene	**0.55**	0.50	"	"	"	"	"	"	
Ethylbenzene	**3.4**	0.50	"	"	"	"	"	"	
Xylenes (total)	**6.8**	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**2500**	250	"	100	"	"	"	"	A-01,M-03
Surrogate: a,a,a-Trifluorotoluene		*99.6 %*		*70-130*	"	"	"	"	

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Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Total Purgeable Hydrocarbons (C6-C10) by 8015B modified, BTEX and MTBE by 8021B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-3 (MKL0190-04) Water Sampled: 12/10/01 08:15 Received: 12/10/01 19:00									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	1L18002	12/18/01	12/18/01	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	A-01
Surrogate: a,a,a-Trifluorotoluene		*102 %*		*70-130*	"	"	"	"	
U-4 (MKL0190-05) Water Sampled: 12/10/01 07:35 Received: 12/10/01 19:00									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	1L18002	12/18/01	12/18/01	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	A-01
Surrogate: a,a,a-Trifluorotoluene		*81.9 %*		*70-130*	"	"	"	"	
U-5 (MKL0190-06) Water Sampled: 12/10/01 09:48 Received: 12/10/01 19:00									
Gasoline Range Organics (C6-C10)	**420**	50	ug/l	1	1L18002	12/18/01	12/18/01	8015Bm/8021B	P-01
Benzene	**13**	0.50	"	"	"	"	"	"	
Toluene	**0.60**	0.50	"	"	"	"	"	"	
Ethylbenzene	**0.66**	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	A-01
Surrogate: a,a,a-Trifluorotoluene		*125 %*		*70-130*	"	"	"	"	

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Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Total Purgeable Hydrocarbons (C6-C10) by 8015B modified, BTEX and MTBE by 8021B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-6 (MKL0190-07) Water Sampled: 12/10/01 09:05 Received: 12/10/01 19:00									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	1L18002	12/18/01	12/18/01	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**220**	25	"	10	"	"	"	"	A-01,M-03
Surrogate: a,a,a-Trifluorotoluene		*101 %*		*70-130*		"	"	"	

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6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-1 (MKL0190-02) Water Sampled: 12/10/01 12:12 Received: 12/10/01 19:00									
Ethanol	ND	8000	ug/l	200	1L20029	12/20/01	12/20/01	EPA 8260B	
tert-Butyl alcohol	ND	4000	"	"	"	"	"	"	
Methyl tert-butyl ether	**5100**	100	"	"	"	"	"	"	
Di-isopropyl ether	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	100	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	100	"	"	"	"	"	"	
1,2-Dichloroethane	ND	100	"	"	"	"	"	"	
Ethylene dibromide	ND	100	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*	*60-140*		"	"	"	"	
U-2 (MKL0190-03) Water Sampled: 12/10/01 10:30 Received: 12/10/01 19:00									
Ethanol	ND	4000	ug/l	100	1L20028	12/19/01	12/20/01	EPA 8260B	
tert-Butyl alcohol	ND	2000	"	"	"	"	"	"	
Methyl tert-butyl ether	**2500**	50	"	"	"	"	"	"	
Di-isopropyl ether	ND	50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	50	"	"	"	"	"	"	
Ethylene dibromide	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*	*60-140*		"	"	"	"	
U-6 (MKL0190-07) Water Sampled: 12/10/01 09:05 Received: 12/10/01 19:00									
Ethanol	ND	400	ug/l	10	1L20028	12/19/01	12/20/01	EPA 8260B	
tert-Butyl alcohol	ND	200	"	"	"	"	"	"	
Methyl tert-butyl ether	**220**	5.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethylene dibromide	ND	5.0	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*	*60-140*		"	"	"	"	

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Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-1 (MKL0190-02) Water	**Sampled: 12/10/01 12:12**	**Received: 12/10/01 19:00**							
Phosphorus (Ortho)	**2.2**	0.050	mg/l	5	1L18013	12/11/01	12/11/01	EPA 365.3	
U-2 (MKL0190-03) Water	**Sampled: 12/10/01 10:30**	**Received: 12/10/01 19:00**							
Phosphorus (Ortho)	**0.20**	0.010	mg/l	1	1L18013	12/11/01	12/11/01	EPA 365.3	
U-3 (MKL0190-04) Water	**Sampled: 12/10/01 08:15**	**Received: 12/10/01 19:00**							
Phosphorus (Ortho)	**0.11**	0.010	mg/l	1	1L18013	12/11/01	12/11/01	EPA 365.3	
U-4 (MKL0190-05) Water	**Sampled: 12/10/01 07:35**	**Received: 12/10/01 19:00**							
Phosphorus (Ortho)	**0.10**	0.010	mg/l	1	1L18013	12/11/01	12/11/01	EPA 365.3	
U-5 (MKL0190-06) Water	**Sampled: 12/10/01 09:48**	**Received: 12/10/01 19:00**							
Phosphorus (Ortho)	**2.6**	0.060	mg/l	6	1L18013	12/11/01	12/11/01	EPA 365.3	
U-6 (MKL0190-07) Water	**Sampled: 12/10/01 09:05**	**Received: 12/10/01 19:00**							
Phosphorus (Ortho)	**2.0**	0.060	mg/l	6	1L18013	12/11/01	12/11/01	EPA 365.3	

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Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Ferrous Iron by Hach method 8146/1;10 Phenanthroline Method

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-1 (MKL0190-02) Water Sampled: 12/10/01 12:12 Received: 12/10/01 19:00									
Ferrous Iron	**14**	2.5	mg/l	25	1L27010	12/10/01	12/10/01	Hach Co. 8146	
U-2 (MKL0190-03) Water Sampled: 12/10/01 10:30 Received: 12/10/01 19:00									
Ferrous Iron	ND	0.10	mg/l	1	1L27010	12/10/01	12/10/01	Hach Co. 8146	
U-3 (MKL0190-04) Water Sampled: 12/10/01 08:15 Received: 12/10/01 19:00									
Ferrous Iron	ND	0.10	mg/l	1	1L27010	12/10/01	12/10/01	Hach Co. 8146	
U-4 (MKL0190-05) Water Sampled: 12/10/01 07:35 Received: 12/10/01 19:00									
Ferrous Iron	ND	0.10	mg/l	1	1L27010	12/10/01	12/10/01	Hach Co. 8146	
U-5 (MKL0190-06) Water Sampled: 12/10/01 09:48 Received: 12/10/01 19:00									
Ferrous Iron	**3.7**	1.2	mg/l	12.5	1L27010	12/10/01	12/10/01	Hach Co. 8146	
U-6 (MKL0190-07) Water Sampled: 12/10/01 09:05 Received: 12/10/01 19:00									
Ferrous Iron	**0.99**	0.25	mg/l	2.5	1L27010	12/10/01	12/10/01	Hach Co. 8146	

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6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Anions by EPA Method 300.0

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-1 (MKL0190-02) Water	**Sampled: 12/10/01 12:12**	**Received: 12/10/01 19:00**							
Nitrate as NO3	ND	0.50	mg/l	1	1L27022	12/11/01	12/11/01	EPA 300.0	
U-2 (MKL0190-03) Water	**Sampled: 12/10/01 10:30**	**Received: 12/10/01 19:00**							
Nitrate as NO3	ND	0.50	mg/l	1	1L27022	12/11/01	12/11/01	EPA 300.0	
U-3 (MKL0190-04) Water	**Sampled: 12/10/01 08:15**	**Received: 12/10/01 19:00**							
Nitrate as NO3	**21**	5.0	mg/l	10	1L27022	12/11/01	12/11/01	EPA 300.0	
U-4 (MKL0190-05) Water	**Sampled: 12/10/01 07:35**	**Received: 12/10/01 19:00**							
Nitrate as NO3	**19**	5.0	mg/l	10	1L27022	12/11/01	12/11/01	EPA 300.0	
U-5 (MKL0190-06) Water	**Sampled: 12/10/01 09:48**	**Received: 12/10/01 19:00**							
Nitrate as NO3	ND	0.50	mg/l	1	1L27022	12/11/01	12/11/01	EPA 300.0	
U-6 (MKL0190-07) Water	**Sampled: 12/10/01 09:05**	**Received: 12/10/01 19:00**							
Nitrate as NO3	**0.50**	0.50	mg/l	1	1L27022	12/11/01	12/11/01	EPA 300.0	

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6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Total Purgeable Hydrocarbons (C6-C10) by 8015B modified, BTEX and MTBE by 8021B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L18002 - EPA 5030B [P/T]										
Blank (1L18002-BLK1)				Prepared & Analyzed: 12/18/01						
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*9.78*		"	*10.0*		*97.8*	*70-130*			
LCS (1L18002-BS1)				Prepared & Analyzed: 12/18/01						
Benzene	8.80	0.50	ug/l	10.0		88.0	70-130			
Toluene	10.0	0.50	"	10.0		100	70-130			
Ethylbenzene	11.1	0.50	"	10.0		111	70-130			
Xylenes (total)	34.0	0.50	"	30.0		113	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.0*		"	*10.0*		*100*	*70-130*			
LCS (1L18002-BS2)				Prepared & Analyzed: 12/18/01						
Gasoline Range Organics (C6-C10)	242	50	ug/l	250		96.8	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.45*		"	*10.0*		*94.5*	*70-130*			
LCS (1L18002-BS3)				Prepared & Analyzed: 12/18/01						
Gasoline Range Organics (C6-C10)	444	50	ug/l	550		80.7	70-130			
Benzene	8.12	0.50	"	6.60		123	70-130			
Toluene	39.6	0.50	"	39.7		99.7	70-130			
Ethylbenzene	10.9	0.50	"	9.20		118	70-130			
Xylenes (total)	52.3	0.50	"	46.1		113	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.69*		"	*10.0*		*96.9*	*70-130*			
LCS Dup (1L18002-BSD3)				Prepared & Analyzed: 12/18/01						
Gasoline Range Organics (C6-C10)	464	50	ug/l	550		84.4	70-130	4.41	25	
Benzene	8.48	0.50	"	6.60		128	70-130	4.34	25	
Toluene	42.3	0.50	"	39.7		107	70-130	6.59	25	
Ethylbenzene	11.2	0.50	"	9.20		122	70-130	2.71	25	
Xylenes (total)	53.7	0.50	"	46.1		116	70-130	2.64	25	
Surrogate: a,a,a-Trifluorotoluene	*9.79*		"	*10.0*		*97.9*	*70-130*			

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6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L20028 - EPA 5030B P/T										
Blank (1L20028-BLK1)				Prepared & Analyzed: 12/19/01						
Ethanol	ND	40	ug/l							
tert-Butyl alcohol	ND	20	"							
Methyl tert-butyl ether	ND	0.50	"							
Di-isopropyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethylene dibromide	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	*10.7*		"	*10.0*		*107*	*60-140*			
LCS (1L20028-BS1)				Prepared & Analyzed: 12/19/01						
Methyl tert-butyl ether	11.4	0.50	ug/l	10.0		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	*10.6*		"	*10.0*		*106*	*60-140*			
LCS Dup (1L20028-BSD1)				Prepared & Analyzed: 12/19/01						
Methyl tert-butyl ether	11.5	0.50	ug/l	10.0		115	70-130	0.873	25	
Surrogate: 1,2-Dichloroethane-d4	*10.6*		"	*10.0*		*106*	*60-140*			
Batch 1L20029 - EPA 5030B P/T										
Blank (1L20029-BLK1)				Prepared & Analyzed: 12/20/01						
Ethanol	ND	40	ug/l							
tert-Butyl alcohol	ND	20	"							
Methyl tert-butyl ether	ND	0.50	"							
Di-isopropyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethylene dibromide	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	*10.8*		"	*10.0*		*108*	*60-140*			

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Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L20029 - EPA 5030B P/T										
LCS (1L20029-BS1)				Prepared & Analyzed: 12/20/01						
Methyl tert-butyl ether	11.4	0.50	ug/l	10.0		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	*10.6*		"	*10.0*		*106*	*60-140*			
Matrix Spike (1L20029-MS1)		**Source: MKL0379-01**		Prepared & Analyzed: 12/20/01						
Methyl tert-butyl ether	113	5.0	ug/l	100	ND	113	70-130			
Surrogate: 1,2-Dichloroethane-d4	*10.9*		"	*10.0*		*109*	*60-140*			
Matrix Spike Dup (1L20029-MSD1)		**Source: MKL0379-01**		Prepared & Analyzed: 12/20/01						
Methyl tert-butyl ether	109	5.0	ug/l	100	ND	109	70-130	3.60	25	
Surrogate: 1,2-Dichloroethane-d4	*10.7*		"	*10.0*		*107*	*60-140*			

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Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L18013 - General Preparation										
Blank (1L18013-BLK1)				Prepared & Analyzed: 12/11/01						
Phosphorus (Ortho)	ND	0.010	mg/l							
LCS (1L18013-BS1)				Prepared & Analyzed: 12/11/01						
Phosphorus (Ortho)	0.235	0.010	mg/l	0.250		94.0	80-120			
Matrix Spike (1L18013-MS1)		Source: MKL0190-05		Prepared & Analyzed: 12/11/01						
Phosphorus (Ortho)	0.369	0.010	mg/l	0.250	0.10	108	75-125			
Matrix Spike Dup (1L18013-MSD1)		Source: MKL0190-05		Prepared & Analyzed: 12/11/01						
Phosphorus (Ortho)	0.366	0.010	mg/l	0.250	0.10	106	75-125	0.816	20	

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Gettler Ryan/Geostrategies - Tosco/Unocal	Project: #5325, Oakland	
6747 Sierra Ct, Suite J	Project Number: 3220 Lakeshore Ave.	**Reported:**
Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Ferrous Iron by Hach method 8146/1;10 Phenanthroline Method - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L27010 - General Preparation										
Blank (1L27010-BLK1)				Prepared & Analyzed: 12/10/01						
Ferrous Iron	ND	0.10	mg/l							
LCS (1L27010-BS1)				Prepared & Analyzed: 12/10/01						
Ferrous Iron	0.389	0.10	mg/l	0.400		97.2	90-110			
Matrix Spike (1L27010-MS1)		Source: MKL0190-04		Prepared & Analyzed: 12/10/01						
Ferrous Iron	0.415	0.10	mg/l	0.400	ND	104	80-120			
Matrix Spike Dup (1L27010-MSD1)		Source: MKL0190-04		Prepared & Analyzed: 12/10/01						
Ferrous Iron	0.419	0.10	mg/l	0.400	ND	105	80-120	0.959	20	

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Dublin CA, 94568	Project Manager: Deanna Harding	01/02/02 13:55

Anions by EPA Method 300.0 - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L27022 - General Preparation										
Blank (1L27022-BLK1)				Prepared & Analyzed: 12/11/01						
Nitrate as NO3	ND	0.50	mg/l							
LCS (1L27022-BS1)				Prepared & Analyzed: 12/11/01						
Nitrate as NO3	9.26	0.50	mg/l	10.0		92.6	90-110			
Matrix Spike (1L27022-MS1)		Source: MKL0190-04		Prepared & Analyzed: 12/11/01						
Nitrate as NO3	117	5.0	mg/l	100	21	96.0	80-120			
Matrix Spike Dup (1L27022-MSD1)		Source: MKL0190-04		Prepared & Analyzed: 12/11/01						
Nitrate as NO3	117	5.0	mg/l	100	21	96.0	80-120	0.00	20	

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Notes and Definitions

A-01	MTBE reported from GCMS on 12/19/01.
A-01a	MTBE reported from GCMS on 12/20/01.
M-03	This result is from a second dilution of the sample. An initial result was reported from a previous dilution of the sample necessary to report other analytes in a different range.
P-01	Chromatogram Pattern: Gasoline C6-C10
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