GETTLER-RYAN INC.

August 13, 1998
G-R Job #180061

Ms. Tina R. Berry
Tosco Marketing Company
2000 Crow Canyon Place, Suite 200
San Ramon, California 94583

RE: Second Quarter 1998 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #5325
3220 Lakeshore Avenue
Oakland, California

Dear Ms. Berry:

This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On June 15, 1998, 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. 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. Dissolved Oxygen Concentrations are summarized in Table 3. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

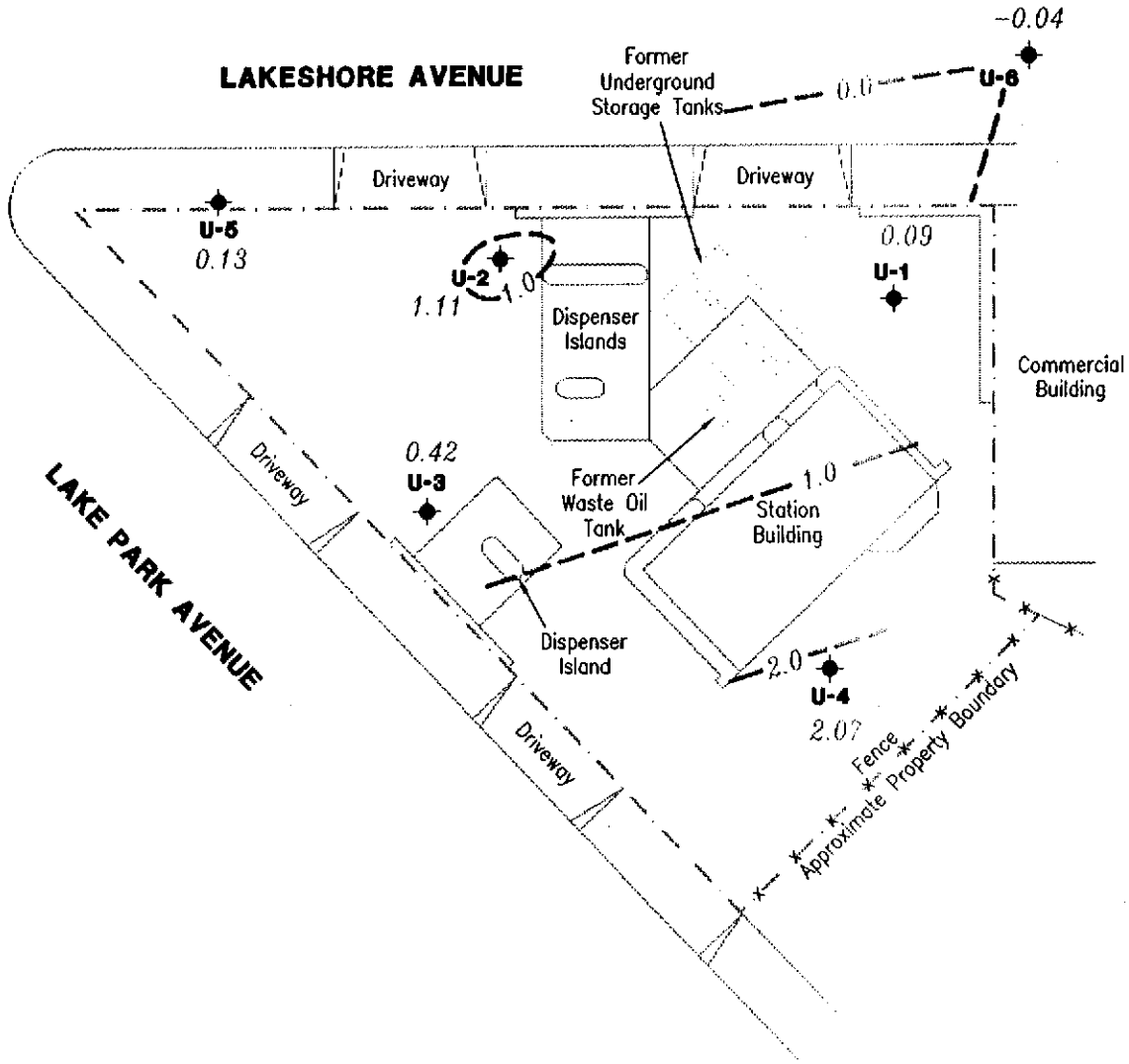
Deanna L. Harding
Project Coordinator

Stephen J. Carter
Senior Geologist, R.G. No. 5577

REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

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

5325.qml



EXPLANATION

- Groundwater monitoring well
- 99.99 — Groundwater elevation in feet referenced to USGS–Datum (Feet)
- 99.99 — Groundwater elevation contour, dashed where inferred.
- \+ — Groundwater elevation corrected for the presence of free–phase hydrocarbons

gradient of 0.01 to 0.03 Ft./Ft.

N

0 40

Scale in Feet

Source: Figure Modified From Drawing Provided By MPDS Services, Inc.

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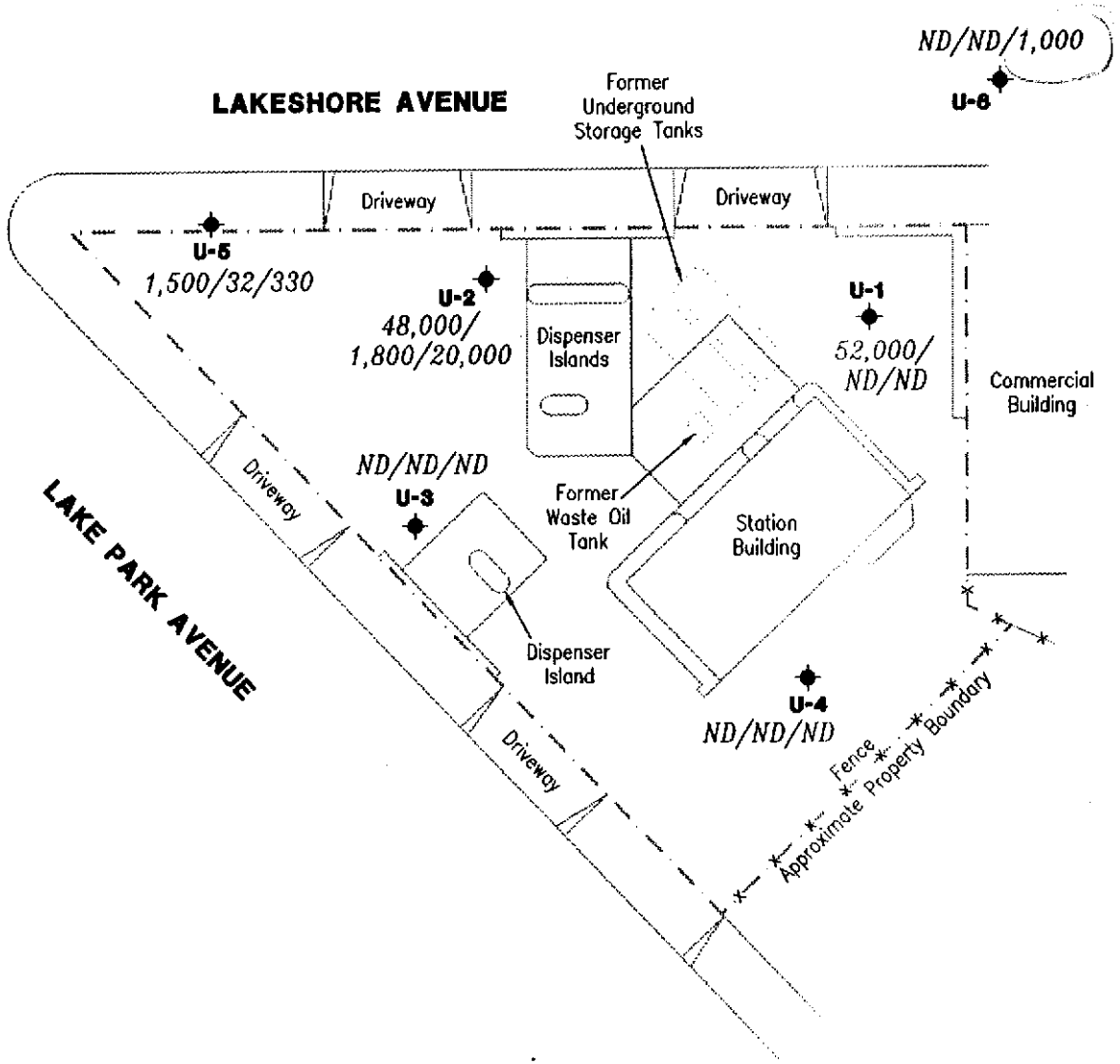
6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

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

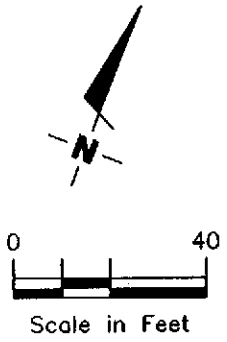
FIGURE 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180061		June 15, 1998	



EXPLANATION

✦	Groundwater monitoring well
A/B/C	TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/Benzene/MTBE concentrations in ppb
ND	Not Detected



Source: Figure Modified From Drawing Provided By MPDS Services, Inc.

FIGURE **2**

Gettler - Ryan Inc.

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Dublin, CA 94568
(925) 551-7555

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

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180061		June 15, 1998	

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (ft.)	Product Thickness (ft.)	TPH(G)	B	T	E	X	MTBE
					<		ppb			>
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	--
5.32	11/16/93	8.6[illegible]	-3.29	0.00	690	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	8.23	0.26**	0.04	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT				--	--
	06/15/98	**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*	Date	DTW (ft.)	GWE (ft.)	Product Thickness (ft.)	TPH(G)	B	T	E	X	MTBE
					<----------ppb---------->					
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				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 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**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (ft.)	Product Thickness (ft.)	TPH(G)	B	T	E	X	MTBE
					<----------ppb---------->					
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				2:0	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

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (ft.)	Product Thickness (ft.)	TPH(G)	B	T	E	X	MTBE
					<----------		ppb			---------->
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**
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

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5325

3220 Lakeshore Avenue

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (ft.)	Product Thickness (ft.)	TPH(G)	B	T	E	X	MTBE
					<		ppb			>
U-5	06/30/97	7.08	-0.10	0.00	4,200	74	51	180	980	270
(cont)	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**
U-6										
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	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	--
	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]**	**ND[7]**	**ND[7]**	**1,000**
Trip Blank										
TB-LB	03/03/98	--	--	--	ND	ND	ND	ND	ND	ND
	06/15/98	**--**	**--**	**--**	**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 provided by MPDS Services, Inc.

TOC = Top of Casing
DTW = Depth to Water
(ft.) = Feet
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
ppm = Parts per million
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 results.

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

Table 2

Groundwater Analytical Results

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

Well ID	Date	Iron (ppm)	Nitrate as NO3 (ppm)	Phosphate as PO4 (ppm)	Redox Potential (ppm)
U-1	**06/15/98**	**39**	**ND**	**ND**	**3.82 (mV)**
U-2	03/03/98	25	ND	ND	3.69 (mV)
	06/15/98	**42**	**ND**	**ND**	**3.41 (mV)**
U-3	06/30/97	1.4	21	0.86	190
	09/19/97	0.57	19	ND	75
	12/12/97	1.9	23	0.85	390
	03/03/98	0.013	36	ND	3.58 (mV)
	06/15/98	**0.16**	**33**	**ND**	**3.18 (mV)**
U-4	06/30/97	0.13	35	0.52	200
	09/19/97	0.35	30	ND	45
	12/12/97	0.68	31	0.73	380
	03/03/98	0.018	3.2	ND	2.84 (mV)
	06/15/98	**0.14**	**33**	**ND**	**2.56 (mV)**
U-5	06/30/97	16	ND	ND	160
	09/19/97	0.22	ND	ND	63
	12/12/97	6.7	ND	ND	400
	03/03/98	18	3.1	ND	3.45 (mV)
	06/15/98	**17**	**ND**	**ND**	**3.33 (mV)**
U-6	06/30/97	88	0.80	ND	190
	09/19/97	2.9	1.80	ND	ND
	12/12/97	51	ND	ND	380
	03/03/98	60	3.5	ND	3.27 (mV)
	06/15/98	**590**	**4.8**	**ND**	**3.15 (mV)**

EXPLANATIONS:

Groundwater analytical results prior to March 3, 1998, were provided by MPDS Services, Inc.

ppm = Parts per million
ND = Not Detected
mV = millivolts

Table 3

Dissolved Oxygen Concentrations

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

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**
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**
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**
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**

EXPLANATIONS:

Dissolved oxygen concentrations prior to March 3, 1998, were provided 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 flexi-dip interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

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

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

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

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

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

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 6-15-98

City: Oakland Sampler: Joe

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

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

Total Depth 19.70 ft.

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

Depth to Water 8.37 ft.

11.33 X VF 0.38 = 4.42 X 3 (case volume) = Estimated Purge Volume: 14 (gal.)

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

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

Starting Time: 3:18 Weather Conditions: clear

Sampling Time: 3:47 P.M. Water Color: Semi-clear Odor: Strong

Purging Flow Rate: 1.5 gpm Sediment Description: None

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm X/1000	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
3:27	5	6.82	0.26	71.5		382	
3:30	10	6.86	0.31	71.2			
3:33	14	6.89	0.32	71.0			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
"	1 plastic	"	HNO_3	"	Iron
"	1 plastic	"	Plain	"	Nitrate, Phosphate

COMMENTS: ____

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WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 6-15-98

City: Oakland Sampler: Joe

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

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

Total Depth 19.65 ft.

Depth to Water 6.51 ft.

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

13.14 X VF 0.38 = 4.99 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: 2:30 Weather Conditions: clear

Sampling Time: 2:58 p.m. Water Color: clear Odor: strong

Purging Flow Rate: 1.5 gpm Sediment Description: None

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm X/00	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
2:38	5	7.36	2.80	71.5		3.41	
2:41	10	7.33	2.99	72.0			
2:45	15	7.27	3.02	72.0			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
"	1 plastic	"	HNO_3	"	Iron
"	1 plastic	"	Plain	"	Nitrate, Phosphate

COMMENTS: ____

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 6-15-98

City: Oakland Sampler: Joe

Well ID U-3 Well Condition: O.K.

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

Total Depth 19.40 ft.

Depth to Water 10.56 ft.

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

8.84 X VF 0.38 = 3.36 X 3 (case volume) = Estimated Purge Volume: 10 (gal.)

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

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

Starting Time: 11:15 Weather Conditions: clear

Sampling Time: 11:50 A.M. Water Color: clear Odor: None

Purging Flow Rate: 1 gpm. Sediment Description: None

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm X/00	Temperature °C °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:30	3.5	6.51	5.18	71.5	2.93	3.18	
11:32	7	6.46	5.19	72.0			
11:35	10	6.42	5.23	72.3			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
"	1 plastic	"	HNO_3	"	Iron
"	1 plastic	"	Plain	"	Nitrate, Phosphate

COMMENTS: ____

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WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 6-15-98

City: Oakland Sampler: Joe

Well ID U-4 Well Condition: O.K.

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

Total Depth 20.15 ft.

Depth to Water 9.08 ft.

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

11.07 x VF 0.66 = 7.31 X 3 (case volume) = Estimated Purge Volume: 22 (gal.)

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

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

Starting Time: 12:00 Weather Conditions: clear

Sampling Time: 12:35 p.m. Water Color: clear Odor: None

Purging Flow Rate: 2 gpm Sediment Description: None

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm X/000	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
12:12	7	7.41	5.63	71.9	3.08	2.56	
12:15	15	7.26	5.67	72.0			
12:19	22	7.17	5.68	72.0			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
"	1 plastic	"	HNO_3	"	Iron
"	1 plastic	"	Plain	"	Nitrate, Phosphate

COMMENTS: ____

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 6-15-98

City: Oakland Sampler: Joe

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

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

Total Depth 20.08 ft.

Depth to Water 6.85 ft.

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

13.23 X VF 0.66 = 8.73 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: 1:45 Weather Conditions: clear

Sampling Time: 2:15 P.M. Water Color: clear Odor: Strong

Purging Flow Rate: 2 gpm Sediment Description: None

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm X/100	Temperature °C °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1:50	8	7.82	2.85	71.8	2.55	333	
1:55	17	7.61	2.88	72.2			
1:59	27	7.63	2.80	72.6			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
"	1 plastic	"	HNO_3	"	Iron
"	1 plastic	"	Plain	"	Nitrate, Phosphate

COMMENTS: ____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5325 Job#: 180061

Address: 3220 Lakeshore Ave. Date: 6-15-98

City: Oakland Sampler: Joe

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

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

Total Depth 23.81 ft.

Depth to Water 7.18 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 = 2.83 X 3 (case volume) = Estimated Purge Volume: 9 (gal.)

Purge Equipment: Disposable Bailer; Bailer; Stack; (Suction); Grundfos; Other: ____

Sampling Equipment: (Disposable Bailer); Bailer; Pressure Bailer; Grab Sample; Other: ____

Starting Time: 1:05 Weather Conditions: clear

Sampling Time: 1:28 PM Water Color: clear Odor: None

Purging Flow Rate: 1 gpm. Sediment Description: None

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm X/ 100	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1:10	3	7.25	5.16	70.5	2.48	315	
1:13	6	7.35	5.10	70.9			
1:16	9	7.42	5.07	71.4			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-	3 VOA	Y	HCL	Seq.	TPHG, BTEX, MTBE
"	1 plastic	"	HNO_3	"	Iron
"	1 plastic	"	Plain	"	Nitrate, Phosphate

COMMENTS: ____

3/97-fieldsht.fmm

TOSCO

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

Facility Number: 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): 510-551-7555 (Fax Number): 510-551-7888

Contact (Name): TINA BERRY
(Phone): (925) 277-5325
Laboratory Name: Sequoia Analytical
Laboratory Release Number:
Samples Collected by (Name): Joe Ajemian
Collection Date: 6-15-98
Signature: Joe Ajemian

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 (8020) (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 (ICAP or AA)	Phosphate Nitrate	Iron				DO NOT BILL TB-LB ANALYSIS Remarks
TB-LB	1	2 VOA	W	—	—	HCl	Y	✓													
U-1	2	3 VOA 2 pl.	"	G	3:47 p.m.	HCl HNO_3	"	✓								—	—				
U-2	3	"	"	"	2:58 p.m.	"	"	✓								—	—				
U-3	4	"	"	"	11:50 A.m.	"	"	✓								—	—				
U-4	5	"	"	"	12:35 p.m.	"	"	✓								—	—				
U-5	6	"	"	"	2:15 p.m.	"	"	✓								—	—				
U-6	7	"	"	"	1:28 p.m.	"	"	✓								—	—				

(9806A42)

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G-R Inc.	6-15-98 5:30 p.m.			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					6/15/98 17:00

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal 5325/180061.85

Lab Proj. ID: 9806A42

Sampled: 06/15/98
Received: 06/15/98
Analyzed: see below

Reported: 06/28/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9806A42-02 Sample Desc : **LIQUID,U-1**				
Iron by ICP	**mg/L**	**06/17/98**	**0.010**	**39**
Nitrate as Nitrate	mg/L	06/16/98	1.0	N.D.
Phosphate	mg/L	06/16/98	10	N.D.
Lab No: 9806A42-03 Sample Desc : **LIQUID,U-2**				
Iron by ICP	**mg/L**	**06/17/98**	**0.010**	**42**
Nitrate as Nitrate	mg/L	06/16/98	1.0	N.D.
Phosphate	mg/L	06/16/98	10	N.D.
Lab No: 9806A42-04 Sample Desc : **LIQUID,U-3**				
Iron by ICP	**mg/L**	**06/17/98**	**0.010**	**0.16**
Nitrate as Nitrate	**mg/L**	**06/16/98**	**1.0**	**33**
Phosphate	mg/L	06/16/98	10	N.D.
Lab No: 9806A42-05 Sample Desc : **LIQUID,U-4**				
Iron by ICP	**mg/L**	**06/17/98**	**0.010**	**0.14**
Nitrate as Nitrate	**mg/L**	**06/16/98**	**1.0**	**33**
Phosphate	mg/L	06/16/98	10	N.D.
Lab No: 9806A42-06 Sample Desc : **LIQUID,U-5**				
Iron by ICP	**mg/L**	**06/17/98**	**0.010**	**17**
Nitrate as Nitrate	mg/L	06/16/98	1.0	N.D.
Phosphate	mg/L	06/16/98	10	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal 5325/180061.85

Lab Proj. ID: 9806A42

Sampled: 06/15/98
Received: 06/15/98
Analyzed: see below

Reported: 06/28/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9806A42-07				
Sample Desc : **LIQUID,U-6**				
Iron by ICP	**mg/L**	**06/18/98**	**0.020**	**590**
Nitrate as Nitrate	**mg/L**	**06/16/98**	**1.0**	**4.8**
Phosphate	mg/L	06/16/98	10	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal 5325/180061.85	Sampled: 06/15/98
6747 Sierra Court Suite J	Sample Descript: TB-LB	Received: 06/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/20/98
Attention: Deanna Harding	Lab Number: 9806A42-01	Reported: 06/28/98

QC Batch Number: GC062098BTEX02A
Instrument ID: GCGP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal 5325/180061.85
Sample Descript: U-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9806A42-02

Sampled: 06/15/98
Received: 06/15/98

Analyzed: 06/22/98
Reported: 06/28/98

QC Batch Number: GC062298BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50000**	**52000**
Methyl t-Butyl Ether	2500	N.D.
Benzene	500	N.D.
Toluene	**500**	**900**
Ethyl Benzene	**500**	**1800**
Xylenes (Total)	**500**	**13000**
Chromatogram Pattern:		**GAS**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	73

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal 5325/180061.85
Sample Descript: U-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9806A42-03

Sampled: 06/15/98
Received: 06/15/98

Analyzed: 06/16/98
Reported: 06/28/98

QC Batch Number: GC061698BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	48000
Methyl t-Butyl Ether	500	20000
Benzene	100	1800
Toluene	100	330
Ethyl Benzene	100	470
Xylenes (Total)	100	7900
Chromatogram Pattern:		GAS

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler Ryan/Geostrategies	Client Proj. ID: Unocal 5325/180061.85	Sampled: 06/15/98
6747 Sierra Court Suite J	Sample Descript: U-3	Received: 06/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/16/98
Attention: Deanna Harding	Lab Number: 9806A42-04	Reported: 06/28/98

QC Batch Number: GC061698BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	78

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal 5325/180061.85	Sampled: 06/15/98
6747 Sierra Court Suite J	Sample Descript: U-4	Received: 06/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/20/98
Attention: Deanna Harding	Lab Number: 9806A42-05	Reported: 06/28/98

QC Batch Number: GC062098BTEX02A
Instrument ID: GCGP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal 5325/180061.85	Sampled: 06/15/98
6747 Sierra Court Suite J	Sample Descript: U-5	Received: 06/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/16/98
Attention: Deanna Harding	Lab Number: 9806A42-06	Reported: 06/28/98

QC Batch Number: GC061698BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**1500**
Methyl t-Butyl Ether	**5.0**	**330**
Benzene	**1.0**	**32**
Toluene	1.0	N.D.
Ethyl Benzene	**1.0**	**91**
Xylenes (Total)	**1.0**	**83**
Chromatogram Pattern:		**GAS**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	259 Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal 5325/180061.85
Sample Descript: U-6
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9806A42-07

Sampled: 06/15/98
Received: 06/15/98

Analyzed: 06/20/98
Reported: 06/28/98

QC Batch Number: GC062098BTEX02A
Instrument ID: GCGP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	250	N.D.
Methyl t-Butyl Ether	**12**	**1000**
Benzene	2.5	N.D.
Toluene	2.5	N.D.
Ethyl Benzene	2.5	N.D.
Xylenes (Total)	2.5	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies
6747 Sierra Court, Ste J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal 5325/180061.85
Matrix: Liquid
Work Order #: 9806A42 01-07

Reported: Jul 2, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0617986010MDA	ME0617986010MDA	ME0617986010MDA	ME0617986010MDA
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010
Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	9806A4801	9806A4801	9806A4801	9806A4801
Sample Conc.:	N.D.	N.D.	N.D.	0.34
Prepared Date:	6/17/98	6/17/98	6/17/98	6/17/98
Analyzed Date:	6/17/98	6/17/98	6/17/98	6/17/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Result:	1.0	1.1	1.0	1.3
MS % Recovery:	100	110	100	96
Dup. Result:	0.98	1.0	0.98	1.3
MSD % Recov.:	98	100	98	96
RPD:	2.0	9.5	2.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20
LCS #:	BLK061798	BLK061798	BLK061798	BLK061798
Prepared Date:	6/17/98	6/17/98	6/17/98	6/17/98
Analyzed Date:	6/17/98	6/17/98	6/17/98	6/17/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
LCS Result:	1.0	1.0	1.0	1.0
LCS % Recov.:	100	100	100	100
MS/MSD Control Limits	80-120	80-120	80-120	80-120
LCS Control Limits	80-120	80-120	80-120	80-120

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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Gettler Ryan/Geostratagies
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal 5324/180061.85

QC Sample Group: 9806A42-01,05,07

Reported: Jun 30, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid			
Method:	EPA 8020			
Analyst:				
ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
QC Batch #:	GC062098BTEX02A			
Sample No.:	GW9806C39-05			
Date Prepared:	6/20/98	6/20/98	6/20/98	6/20/98
Date Analyzed:	6/20/98	6/20/98	6/20/98	6/20/98
Instrument I.D.#:				
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	10.0	10.0	10.0	30
% Recovery:	100.0	100.0	100.0	100.0
Matrix pike Duplicate, ug/L:	11	11	10.0	31
% Recovery:	110	110	100.0	103
elative % Difference:	9.5	9.5	0.0	3.0
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#:	GWBLK062098ABS			
Date Prepared:	6/20/98	6/20/98	6/20/98	6/20/98
Date Analyzed:	6/20/98	6/20/98	6/20/98	6/20/98
Instrument I.D.#:				
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	9.6	9.0	9.1	27
LCS % Recovery:	96	90	91	90

Percent Recovery Control Limits:

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

Please Note:
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Gettler Ryan/Geostratagies
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal 5324/180061.85

QC Sample Group: 9806A42-03,04,06

Reported: Jun 30, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8020
Analyst: N. Herrera

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
QC Batch #:	GC061698BTEX17A			
Sample No.:	GW9806683-9			
Date Prepared:	6/16/98	6/16/98	6/16/98	6/16/98
Date Analyzed:	6/16/98	6/16/98	6/16/98	6/16/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	9.5	8.7	8.7	26
% Recovery:	95	87	87	87
Matrix pike Duplicate, ug/L:	9.8	8.9	8.2	27
% Recovery:	98	89	82	90
elative % Difference:	3.1	2.3	5.9	3.4
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#:	GWBLK061698A			
Date Prepared:	6/16/98	6/16/98	6/16/98	6/16/98
Date Analyzed:	6/16/98	6/16/98	6/16/98	6/16/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	9.6	9.1	8.6	27
LCS % Recovery:	96	91	86	90

Percent Recovery Control Limits:

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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Gettler Ryan/Geostratagies
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal 5324/180061.85

QC Sample Group: 9806A42-02

Reported: Jun 30, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid
Method:	EPA 8015
Analyst:	
ANALYTE	Gasoline

QC Batch #: GC062298BTEX02A

Sample No.:	GW9806B33-1
Date Prepared:	6/22/98
Date Analyzed:	6/22/98
Instrument I.D.#:	GCHP02
Sample Conc., ug/L:	N.D.
Conc. Spiked, ug/L:	250
Matrix Spike, ug/L:	230
% Recovery:	92
Matrix pike Duplicate, ug/L:	240
% Recovery:	96
elative % Difference:	4.3
RPD Control Limits:	0-25

LCS Batch#: GWBLK062298ABS

Date Prepared:	6/22/98
Date Analyzed:	6/22/98
Instrument I.D.#:	GCHP02
Conc. Spiked, ug/L:	250
LCS Recovery, ug/L:	250
LCS % Recovery:	100.0

Percent Recovery Control Limits:

MS/MSD	60-140
LCS	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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Gettler Ryan/Geostratagies
6747 Sierra Court, Suite J
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Attention: Deanna Harding

Client Project ID: Unocal 5324/180061.85

QC Sample Group: 9806A42-01-07

Reported: Jun 30, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 300.0
Analyst: G. Fish

ANALYTE	Fluoride	Chloride	Nitrite	Bromide	Nitrate	Phosphate	Sulfate
QC Batch #:	IN0616983000ACA						
Sample No.:	9806A25-01						
Date Prepared:	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98
Date Analyzed:	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98
Instrument I.D.#:	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1
Sample Conc., mg/L:	N.D.	98	N.D.	N.D.	47	N.D.	870
Conc. Spiked, mg/L:	1000	1000	1000	1000	1000	1000	1000
Matrix Spike, mg/L:	980	970	950	910	940	850	1900
% Recovery:	98	96	95	91	89	85	100
Matrix pike Duplicate, mg/L:	990	980	950	910	960	880	1900
% Recovery:	99	98	95	91	96	88	100
elative % Difference:	1.0	2.1	0.0	0.0	7.6	3.5	0.0
RPD Control Limits:							

LCS Batch#:	IN0616983000ACA						
Date Prepared:	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98
Date Analyzed:	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98	6/16/98
Instrument I.D.#:	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1
Conc. Spiked, mg/L:	10	10	10	10	10	10	10
LCS Recovery, mg/L:	10.0	9.0	9.6	9.1	9.3	9.3	9.1
LCS % Recovery:	100.0	90	96	91	93	93	91

Percent Recovery Control Limits:

MS/MSD	75-125	75-125	75-125	75-125	75-125	75-125	75-125
LCS	90-110	90-110	90-110	90-110	90-110	90-110	90-110

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal 5325/180061.85	Received: 06/15/98
6747 Sierra Court Suite J		
Dublin, CA 94568	Lab Proj. ID: 9806A42	Reported: 06/28/98
Attention: Deanna Harding		

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 16 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

TPGBMW: Sample 9806A42-6 had high surrogate recovery due to matrix effect.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager