



GETTLER-RYAN INC.
TRANSMITTAL

ENVIRONMENTAL
PROTECTION

98 DEC 15 PM 11:09

TO: Mr. Scott Seery
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94502

DATE: December 14, 1998
G-R #: 180075

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

RE: Tosco (Unocal) SS #7376
4191 First Street
Pleasanton, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	November 25, 1998	Groundwater Monitoring and Sampling Report Third Quarter 1998 - Event of September 22, 1998

COMMENTS:

At the request of Tosco Marketing Company, we are providing you a copy of the above referenced report. The site is monitored and sampled on a quarterly basis. If you have questions please contact the Tosco Project Manager, Ms. Tina R. Berry at (925) 277-2321.

Enclosure

cc: Mr. Dave Vossler, Gettler-Ryan Inc., Novato, CA

agency/7376trb.qmt



GETTLER-RYAN INC.

November 25, 1998
G-R Job #180075

Ms. Tina R. Berry
Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

RE: Third Quarter 1998 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #7376
4191 First Street
Pleasanton, California

Dear Ms. Berry:

This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On September 22, 1998, field personnel monitored seven wells (MW-1, MW-2B, MW-3, MW-4, MW-5, MW-7, and MW-8) and sampled six wells (MW-1, MW-2B, MW-3, MW-4, MW-7, and MW-8) at the above referenced site. One well (MW-6) was not located.

0.72" FP

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. **Separate-phase hydrocarbons were present in one well (MW-5).** Static water level data and groundwater elevations are summarized in Table 1. Product Thickness/Removal Data is summarized in Table 2. A Potentiometric Map is included as Figure 1.

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

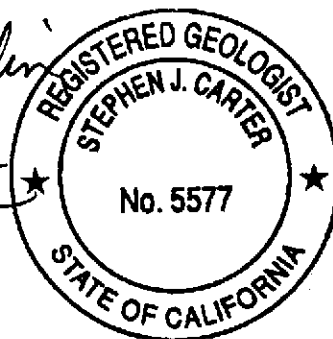
Sincerely,

Deanna L. Harding

Deanna L. Harding
Project Coordinator

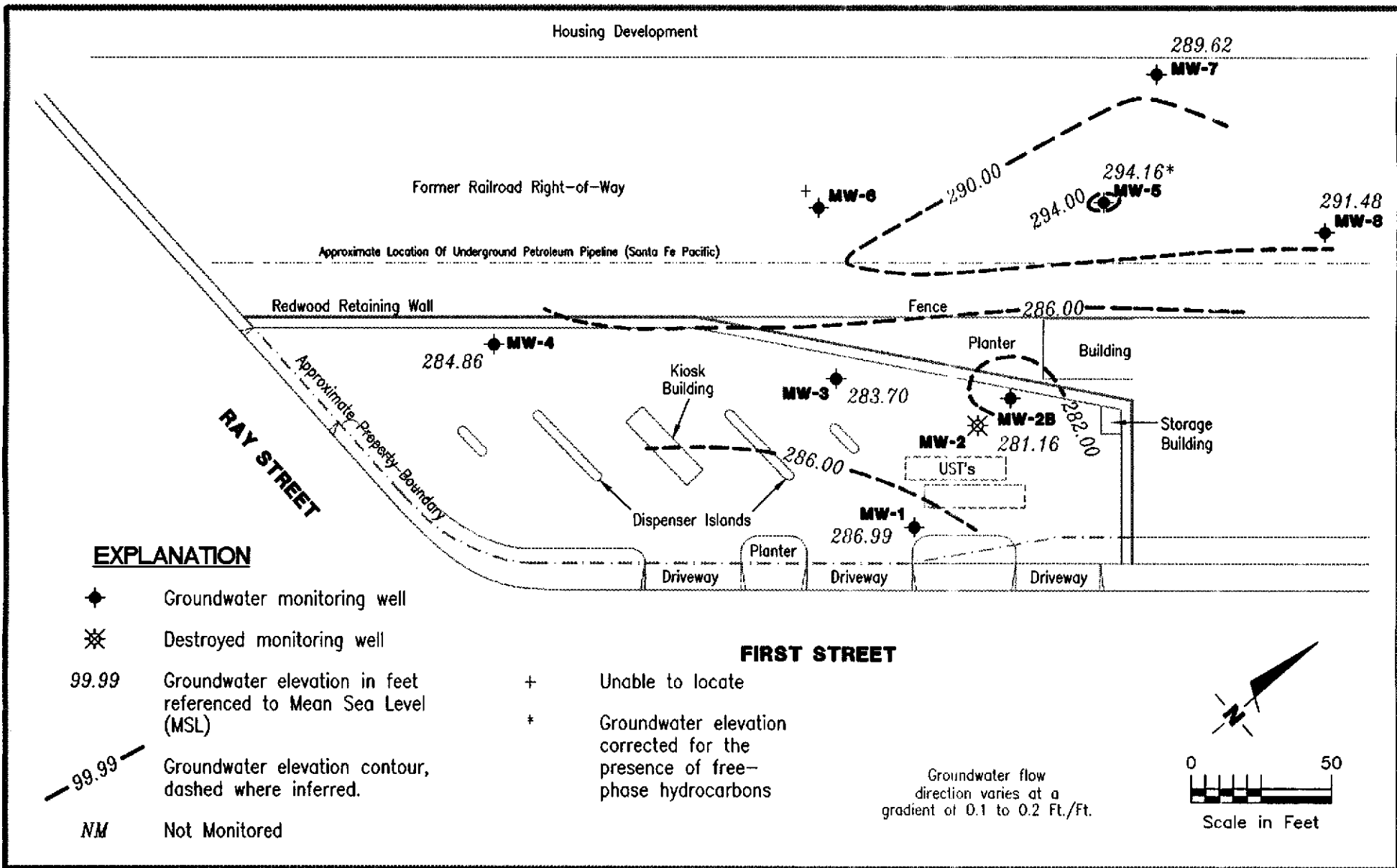
Stephen J. Carter

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



- Figure 1: Potentiometric Map
- Figure 2: Concentration Map
- Table 1: Groundwater Monitoring Data and Analytical Results
- Table 2: Product Thickness/Removal Data
- Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

7376.qml



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

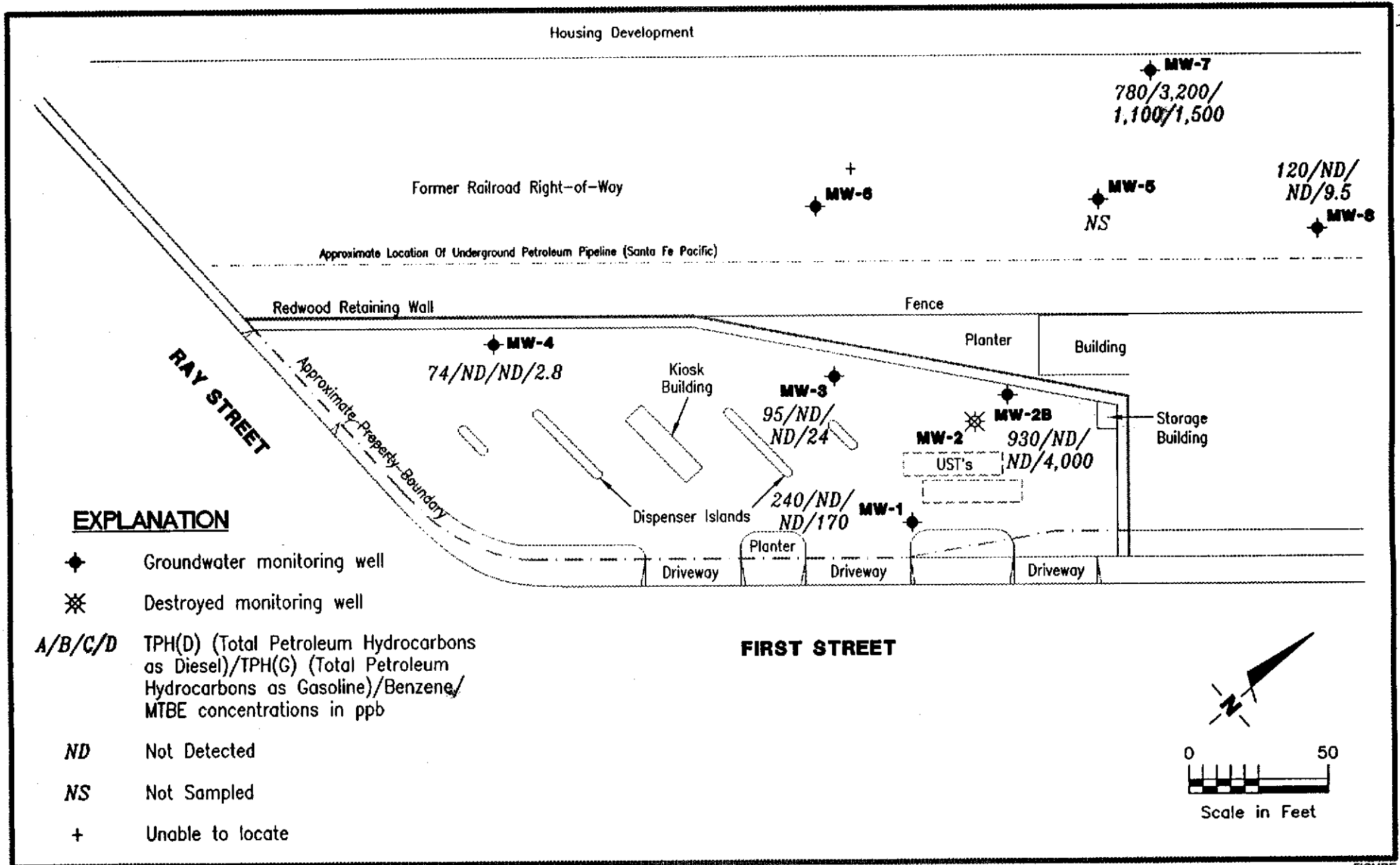
JOB NUMBER
 180075

REVIEWED BY

DATE
 September 22, 1998

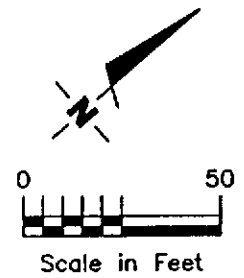
REVISED DATE

FIGURE
1



EXPLANATION

- ◆ Groundwater monitoring well
- ✱ Destroyed monitoring well
- A/B/C/D TPH(D) (Total Petroleum Hydrocarbons as Diesel)/TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/Benzene/MTBE concentrations in ppb
- ND Not Detected
- NS Not Sampled
- + Unable to locate



Gettler - Ryan Inc.

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

CONCENTRATION MAP

Tosco (Unocal) Service Station No. 7376
4191 First Street
Pleasanton, California

FIGURE

2

JOB NUMBER
180075

REVIEWED BY

DATE
September 22, 1998

REVISED DATE

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #7376
 4191 First Street
 Pleasanton, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1	12/08/87 ¹	--	--	--	2,100 ²	50 ³	58	8	ND	10	--
366.99	12/07/94	81.04	285.95	0.00	--	ND	ND	ND	ND	ND	--
	03/01/95	80.09	286.90	0.00	120	ND	ND	1.1	ND	1.3	--
	06/01/95	77.53	289.46	0.00	54 ⁵	130	1.0	2.9	0.79	4.5	--
	09/06/95	79.00	287.99	0.00	690	ND	ND	ND	ND	ND	-- ⁶
	12/12/95	77.55	289.44	0.00	190 ⁵	ND	ND	ND	ND	ND	--
	03/01/96	75.09	291.90	0.00	56	ND	ND	ND	ND	ND	370
	06/15/96	75.07	291.92	0.00	ND	ND	ND	ND	ND	ND	270
	09/18/96	79.90	287.09	0.00	130 ⁵	ND	ND	ND	ND	ND	590
	12/21/96	78.96	288.03	0.00	ND	ND	ND	ND	ND	ND	150
	03/07/97	71.49	295.50	0.00	ND	ND	ND	ND	ND	ND	220
	06/27/97	80.05	286.94	0.00	ND	ND	ND	ND	ND	ND	17
	09/29/97	80.04	286.95	0.00	ND	ND	ND	ND	ND	ND	24
	12/15/97	80.07	286.92	0.00	ND	ND	ND	ND	ND	ND	25
	03/16/98	71.00	295.99	0.00	ND	ND	ND	0.52	ND	0.71	190
366.98	06/26/98	79.29	287.69	0.00	ND	59 ¹³	0.90	ND	ND	ND	570
	08/18/98	79.93	287.05	0.00	--	--	--	--	--	--	--
	09/22/98	79.99	286.99	0.00	240 ²⁰	ND	ND	ND	ND	ND	170
MW-2	12/08/87				620 ²	1,800 ³	910	800	260	1,200	--
	12/07/94	DAMAGED	--	--	--	--	--	--	--	--	--
	02/07/95	DESTROYED	--	--	--	--	--	--	--	--	--
MW-2B											
365.05	03/01/95	80.80	284.25	0.00	320	ND	ND	ND	ND	ND	--
	06/01/95	75.69	289.36	0.00	280	350	19	5.8	ND	7.7	--
	09/06/95	77.54	287.51	0.00	ND	ND	90	ND	ND	ND	-- ⁶
	12/12/95	75.96	289.09	0.00	850 ⁴	1,200	630	ND	15	57	-- ⁷
	03/01/96	73.27	291.78	0.00	870 ⁴	1,000	620	ND	ND	5.3	4,300
	06/15/96	73.21	291.84	0.00	420	910	350	ND	ND	ND	3,700
	09/18/96	81.08	283.97	0.00	600	1,200	95	ND	ND	ND	5,200
	12/21/96	77.35	287.70	0.00	470	330 ⁸	57	ND	ND	ND	2,900
	03/07/97	69.67	295.38	Sheen	870 ⁴	190	28	0.64	ND	1.5	4,300

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #7376
 4191 First Street
 Pleasanton, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-2B (cont)	06/27/97	82.40	282.65	0.00	680 ⁴	98	3.4	1.0	0.53	ND	3,100
	09/29/97	82.72	282.33	0.00	430	ND	ND	ND	ND	ND	3,000
	12/15/97	82.57	282.48	0.00	490	54 ⁹	ND	ND	ND	ND	4,100
	03/16/98	69.13	295.92	Sheen	4,000 ¹⁰	ND ¹¹	17	ND ¹¹	ND ¹¹	ND ¹¹	4,400
365.05	06/26/98	77.78	287.27	0.00	790 ¹⁴	ND	ND	ND	ND	ND	4,000
	08/18/98	83.99	281.06	0.00	--	--	--	--	--	--	--
	09/22/98	83.89	281.16	0.00	930 ²⁰	ND ¹¹	ND ¹¹	ND ¹¹	ND ¹¹	21	4,600
MW-3 367.01	12/08/87	--	--	--	2,300 ²	24,000 ³	2,600	1,300	160	660	--
	12/07/94	85.54	281.47	0.00	--	ND	ND	ND	ND	ND	--
	03/01/95	83.20	283.81	0.00	140 ⁴	ND	ND	1.1	ND	1.1	--
	06/01/95	77.60	289.41	0.00	140 ⁵	62	7.8	0.90	ND	1.6	--
	09/06/95	79.28	287.73	0.00	880 ⁵	4,100	380	490	130	710	-- ⁶
	12/12/95	77.73	289.28	0.00	3,100 ⁴	19,000	600	380	2,100	5,300	-- ⁷
	03/01/96	75.18	291.83	0.00	1,500 ⁵	3,400	950	3.2	1,900	290	59
	06/15/96	75.13	291.88	0.00	400 ⁴	780	190	8.8	3.8	4.0	630
	09/18/96	82.84	284.17	0.00	170	2,800	340	12	11	110	2,500
	12/21/96	79.29	287.72	0.00	64 ⁴	51	1.3	ND	ND	0.53	20
	03/07/97	71.58	295.43	0.00	570 ⁴	1,400	53	14	29	68	220
	06/27/97	83.27	283.74	0.00	ND	ND	ND	ND	ND	ND	27
	09/29/97	83.33	283.68	0.00	ND	ND	ND	ND	ND	ND	11
	12/15/97	83.35	283.66	0.00	ND	ND	ND	ND	ND	ND	19
	03/16/98	71.07	295.94	0.00	670 ¹⁰	130 ¹²	6.5	1.9	1.5	1.6	210
	367.03	06/26/98	79.65	287.38	0.00	63 ¹³	400 ¹⁵	15	ND ¹¹	ND ¹¹	1.9
08/18/98		83.29	283.74	0.00	--	--	--	--	--	--	--
	09/22/98	83.33	283.70	0.00	95 ²⁰	ND	ND	ND	ND	ND	24
MW-4 369.03	09/18/96	73.67	295.36	0.00	200	160	14	ND	ND	1.6	ND
	12/21/96	77.69	291.34	0.00	ND	ND	ND	ND	ND	ND	ND
	03/07/97	68.04	300.99	0.00	ND	ND	1.9	0.99	ND	1.5	ND
	06/27/97	79.06	289.97	0.00	ND	ND	ND	ND	ND	ND	ND
	09/29/97	85.83	283.20	0.00	ND	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #7376
 4191 First Street
 Pleasanton, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ft.)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-4	12/15/97	87.26	281.77	0.00	ND	ND	ND	ND	ND	ND	ND
(cont)	03/16/98	75.09	293.94	0.00	ND	ND	ND	0.69	ND	0.82	ND
368.81	06/26/98	73.81	295.00	0.00	630 ¹⁶	100 ¹³	62	ND	ND	ND	ND
	08/18/98	78.75	290.06	0.00	--	--	--	--	--	--	--
	09/22/98	83.95	284.86	0.00	74 ²⁰	ND	ND	ND	ND	ND	2.8
MW-5											
363.23	09/18/96	64.20	299.03	0.00	4,700 ⁵	36,000	6,700	410	730	6,500	4,100
	12/21/96	61.77	301.46	Sheen	4,700 ⁴	25,000	3,200	300	780	3,600	2,600
	03/07/97	56.30	306.93	Sheen	2,100 ⁴	14,000	1,300	120	410	1,200	1,700
	06/27/97	68.88	295.03**	0.90	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	09/29/97	69.47	294.02**	0.35	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	12/15/97	64.92	298.53**	0.30	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
	03/16/98	49.63	313.67**	0.09	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
363.21	06/26/98	64.13	299.08	Sheen	230,000 ¹⁷	490 ¹⁸	6.3	2.8	4.2	5.1	10
	08/18/98	70.40	292.81**	0.005	--	--	--	--	--	--	--
	09/22/98	69.10	294.16**	0.06	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					--	--
MW-6											
363.12	09/18/96	79.07	284.05	0.00	ND	160	5.4	ND	ND	ND	ND
	12/21/96	75.40	287.72	0.00	ND	300 ⁸	96	1.3	ND	1.7	21
	03/07/97	67.61	295.51	0.00	190 ⁴	1,800 ⁸	920	18	ND	31	290
	06/27/97	80.45	282.67	0.00	73 ⁵	ND	0.73	ND	ND	38	38
	09/29/97	86.02	277.10	0.00	ND	62 ⁹	ND	ND	ND	ND	43
	12/15/97	84.03	279.09	0.00	ND	78 ⁹	ND	ND	ND	ND	39
	03/16/98	67.15	295.97	0.00	100 ¹⁰	210 ¹²	36	2.5	ND	3.0	64
363.13	06/26/98	75.71	287.42	0.00	180 ¹⁴	530	300	8.3	2.8	8.7	81
	08/18/98	74.86	288.27	0.00	--	--	--	--	--	--	--
	09/22/98	UNABLE TO LOCATE		--	--	--	--	--	--	--	--

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #7376
 4191 First Street
 Pleasanton, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product		TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
				Thickness (ft.)								
MW-7												
355.97	06/26/98	--	--	--	--	--	--	--	--	--	--	--
	08/18/98	68.75	287.22	0.00	1,400 ²⁰	4,000	1,900	48	160	ND ¹¹	1,700	
	09/22/98	66.35	289.62	0.00	780 ²⁰	3,200	1,100	ND	22	ND	1,500	
MW-8												
362.37	06/26/98	63.00	299.37	0.00	80 ¹⁹	ND	6.0	ND	ND	ND	150	
	08/18/98	73.38	288.99	0.00	--	--	--	--	--	--	--	
	09/22/98	70.89	291.48	0.00	120 ²⁰	ND	ND	ND	ND	ND	9.5	
Trip Blank												
TB-LB	03/16/98	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	06/26/98	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	08/18/98	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	09/22/98	--	--	--	--	ND	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #7376
 4191 First Street
 Pleasanton, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to March 16, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing	B = Benzene	ppb = Parts per billion
DTW = Depth to Water	T = Toluene	ND = Not Detected
(ft.) = Feet	E = Ethylbenzene	-- = Not Measured/Not Analyzed
GWE = Groundwater Elevation	X = Xylenes	
msl = Relative to mean sea level	MTBE = Methyl tertiary butyl ether	
TPH(G) = Total Petroleum Hydrocarbons as Gasoline		

* TOC elevations have been surveyed relative to mean sea level (msl) per City of Pleasanton Benchmark V1, a brass disk on the north curb of Ray Street, approximately 200 feet northwest of the centerline of First Street (Elevation = 367.17 feet msl).

** Groundwater elevation corrected for the presence of free product; correction factor = [(TOC-DTW) + (Product Thickness x 0.75)].

- 1 1,2-Dichloroethene (1,2-DCE) was detected at a concentration of 18 ppb.
- 2 Reported as Total Extractable Hydrocarbons (TEH).
- 3 Reported as Total Petroleum Hydrocarbons (TPH).
- 4 Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- 5 Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- 6 Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.
- 7 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.
- 8 Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- 9 Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- 10 Laboratory report indicates diesel and unidentified hydrocarbons > C16.
- 11 Detection limit raised. Refer to analytical results.
- 12 Laboratory report indicates gasoline and unidentified hydrocarbons < C7.
- 13 Laboratory report indicates discrete peaks.
- 14 Laboratory report indicates diesel and unidentified hydrocarbons > C20.
- 15 Laboratory report indicates discrete peaks and unidentified hydrocarbons < C7.
- 16 Laboratory report indicates diesel and unidentified hydrocarbons < C15.
- 17 Laboratory report indicates diesel and unidentified hydrocarbons < C15 and > C20.
- 18 Laboratory report indicates gasoline and unidentified hydrocarbons > C8.
- 19 Laboratory report indicates unidentified hydrocarbons > C16.
- 20 Laboratory report indicates unidentified hydrocarbons C9-C24.

Table 2
Product Thickness/Removal Data
 Tosco (Unocal) Service Station #7376
 4191 First Street
 Pleasanton, California

Well ID	Date	DTW (ft.)	Product Thickness (ft.)	Amount Bailed (Product + Water) gallons
MW-5	03/07/97	56.30	Sheen	--
	06/27/97	68.88	0.90	--
	09/29/97	69.47	0.35	--
	12/15/97	64.92	0.30	--
	03/16/98	49.63	0.09	0.25
	06/26/98	63.00	Sheen	--
	08/18/98	70.40	0.005	--
	09/22/98	69.10	0.06	--

EXPLANATIONS:

Product thickness/removal data prior to March 16, 1998, were compiled from reports prepared by MPDS Services, Inc.

DTW = Depth to water

(ft.) = Feet

-- = Not Measured/Not Available

Amount Bailed history will be updated in future reports.

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 # TOSCO - UNOCAL # 7376
 Address: 4191 First Street
 City: Pleasanton, CA

Job #: 180075
 Date: 9/22/98
 Sampler: Vaethke

Well ID mw-1
 Well Diameter 2 in.
 Total Depth 86.43 ft.
 Depth to Water 79.99 ft.

Well Condition: OK
 Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

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

6.44 X VF 0.17 = 1.09 X 3 (case volume) = Estimated Purge Volume: 3.28 (gal.)

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

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

Starting Time: 9:40
 Sampling Time: 10:00
 Purging Flow Rate: _____ gpm.
 Did well de-water? no

Weather Conditions: clear
 Water Color: brn Odor: no
 Sediment Description: silt
 If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}/100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>9:45</u>	<u>1</u>	<u>7.81</u>	<u>5.92</u>	<u>69.3</u>	_____	_____	_____
<u>9:51</u>	<u>2</u>	<u>7.66</u>	<u>5.81</u>	<u>69.1</u>	_____	_____	_____
<u>9:57</u>	<u>3.5</u>	<u>7.60</u>	<u>5.73</u>	<u>69.0</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>mw-1</u>	<u>3 VOA amber</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH6/BTEX/mtbe/_____</u>
<u>2</u>	<u>1 Amber</u>	<u>2</u>	<u>none</u>	<u>2</u>	<u>TPHD</u>
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/Facility # TOSCO-VNOCAL # 7376 Job #: 180075
 Address: 4191 First Street Date: 9/22/98
 City: Pleasanton, CA Sampler: Vault

Well ID MW-2B Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: Ø in. Amount Bailed (product/water): Ø (gal.)
 Total Depth 85.25 ft. ~~86.43~~ ft.
 Depth to Water 83.89 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.90	

1.36 X VF 0.17 = 0.23 X 3 (case volume) = Estimated Purge Volume: 0.69 (gal.)

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

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

Starting Time: 12:37 Weather Conditions: clear
 Sampling Time: 12:50 Water Color: clear Odor: no
 Purging Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? no If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>12:39</u>	<u>0.25</u>	<u>7.15</u>	<u>7.33</u>	<u>69.5</u>			
<u>12:41</u>	<u>0.5</u>	<u>6.98</u>	<u>7.21</u>	<u>69.3</u>			
<u>12:45</u>	<u>1</u>	<u>6.87</u>	<u>7.14</u>	<u>69.1</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2B</u>	<u>3 VOAAL</u>	<u>Y</u>	<u>ITCL</u>	<u>SEQUOIA</u>	<u>TPH6/BTEX/mthel/</u>
<u>~</u>	<u>1 Amber</u>	<u>~</u>	<u>NONE</u>	<u>~</u>	<u>TPHD</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/Facility # Tosco - UNOCAL # 7376 Job #: 180075
 Address: 4191 First Street Date: 9/22/98
 City: Pleasanton, CA Sampler: Wattler

Well ID mw-3 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: ∅ in. Amount Bailed (product/water): ∅ (gal.)
 Total Depth 94.11 ft
 Depth to Water 83.33 ft

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

10.78 X VF 0.17 = 1.83 X 3 (case volume) = Estimated Purge Volume: 5.50 (gal.)

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

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

Starting Time: 11:02 Weather Conditions: clear
 Sampling Time: 11:26 Water Color: clear Odor: no
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? no If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{hos/cm}$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:04</u>	<u>2</u>	<u>7.53</u>	<u>5.99</u>	<u>70.8</u>			
<u>11:06</u>	<u>4</u>	<u>7.36</u>	<u>6.03</u>	<u>70.2</u>			
<u>11:08</u>	<u>5.5</u>	<u>7.24</u>	<u>6.09</u>	<u>69.8</u>			
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>mw-3</u>	<u>3 UNOCAL</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH6/BTEX/ATSE/Disol</u>
<u>2</u>	<u>1 Rubber</u>	<u>-</u>	<u>NONE</u>	<u>-</u>	<u>TPHD</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/Facility # TOSCO - UNOCAL # 7376 Job #: 180075
 Address: 4191 First Street Date: 9/22/98
 City: Pleasanton, CA Sampler: Vastler

Well ID MW-4 Well Condition: ok
 Well Diameter 2 in. Hydrocarbon Thickness: ∅ in. Amount Bailed (product/water): ∅ (gal.)
 Total Depth 93.01 ft
 Depth to Water 83.95 ft

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

9.06 X VF 0.17 = 1.54 X 3 (case volume) = Estimated Purge Volume: 4.62 (gal.)

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

Starting Time: 11:45 Weather Conditions: clear
 Sampling Time: 12:10 Water Color: clear Odor: no
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? no If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{hos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:47</u>	<u>1.5</u>	<u>7.23</u>	<u>4.35</u>	<u>71.5</u>			
<u>11:49</u>	<u>3</u>	<u>7.09</u>	<u>4.22</u>	<u>70.3</u>			
<u>11:51</u>	<u>5</u>	<u>7.03</u>	<u>4.17</u>	<u>70.1</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>3 VOA lines</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH G/BTEX/mthc/...</u>
<u>~</u>	<u>1 Amber</u>	<u>~</u>	<u>NONE</u>	<u>~</u>	<u>TPH D</u>

COMMENTS: _____

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility # TOSCO - UNOCAL # 7376 Job #: 180075
 Address: 4191 First Street Date: 9/22/98
 City: Pleasanton, CA Sampler: Vastler

Well ID MW-5 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: 0.06' @ Amount Bailed (product/water): _____ (gal.)
 Total Depth 72.52 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.90	

 Depth to Water 69.10 ft.
N/A X VF _____ = _____ X 3 (case volume) = Estimated Purge Volume: _____ (gal.)

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

Starting Time: _____ Weather Conditions: _____
 Sampling Time: _____ Water Color: _____ Odor: _____
 Purging Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>3 Jugs</u>	<u>Y</u>	<u>ICE</u>	<u>SEQUOIA</u>	<u>TPH5/BTEX/Athe/Lead</u>
<u>u</u>	<u>LABOR</u>	<u>u</u>	<u>NONE</u>	<u>u</u>	<u>TPAD</u>

COMMENTS: Not Sampled due to presence of trace product -
Thick dark-brown.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility # TOSCO - UNOCAL # 7376
 Address: 4191 First Street
 City: Pleasanton, CA

Job #: 180075
 Date: 9/22/98
 Sampler: Nutker

Well ID mw-6

Well Condition: Covered with gravel.

Well Diameter _____ in.

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

Total Depth _____ ft.

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

Depth to Water _____ ft.

_____ X VF _____ = _____ X 3 (case volume) = Estimated Purge Volume: _____ (gal.)

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

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

Starting Time: _____

Weather Conditions: _____

Sampling Time: _____

Water Color: _____ Odor: _____

Purging Flow Rate: _____ gpm.

Sediment Description: _____

Did well de-water? _____

If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (°C)	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)

LABORATORY INFORMATION

SAMPLE ID	(1) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
mw-	3 Vials	Y	HCL	SEQUOIA	TPH6/BTEX/mthel/acet
	1 Auher		NONE		TPHD

COMMENTS: Unable to locate. I spent 30 min. digging around with no luck. However, some topsoil got on with lumber being unloaded in vicinity of well.

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/Facility # Tosco - UNOCAL # 7376
 Address: 4191 First Street
 City: Pleasanton, CA

Job #: 180075
 Date: 9/22/98
 Sampler: VoetRS

Well ID MW-7
 Well Diameter 2 in
 Total Depth 76.90 ft
 Depth to Water 66.35 ft

Well Condition: ok
 Hydrocarbon Thickness: ∅ in
 Amount Bailed (product/water): ∅ (gal.)

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.90	

10.55 x VF 0.17 = 1.79 x 3 (case volume) = Estimated Purge Volume: 5.38 (gal.)

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

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

Starting Time: 1:37
 Sampling Time: 1:55
 Purging Flow Rate: _____ gpm
 Did well de-water? no

Weather Conditions: clear
 Water Color: brn Odor: y?
 Sediment Description: Silt-
 If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>1:41</u>	<u>2</u>	<u>7.09</u>	<u>5.66</u>	<u>69.5</u>			
<u>1:48</u>	<u>4</u>	<u>6.91</u>	<u>5.59</u>	<u>69.0</u>			
<u>1:53</u>	<u>5.5</u>	<u>6.78</u>	<u>5.57</u>	<u>68.4</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-7</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH6/BTEX/mtho/</u>
<u>~</u>	<u>1 Amber</u>	<u>~</u>	<u>NONE</u>	<u>~</u>	<u>TPH(1)</u>

COMMENTS: _____

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility # TOSCO - UNOCAL # 7376 Job #: 180075
 Address: 4191 First Street Date: 9/22/98
 City: Pleasanton, CA Sampler: Vault

Well ID mw-8 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Amount Bailed
 Thickness: ∅ in. (product/water): ∅ (gal.)
 Total Depth 86.40 ft
 Depth to Water 70.89 ft

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

15.51 x VF 15.51 = 2.64 X 3 (case volume) = Estimated Purge Volume: 7.91 (gal.)

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

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

Starting Time: 10:17 Weather Conditions: clear
 Sampling Time: 10:43 Water Color: brn Odor: no
 Purging Flow Rate: 1 gpm Sediment Description: clt
 Did well de-water? yes If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:20</u>	<u>2.5</u>	<u>7.67</u>	<u>6.02</u>	<u>67.5</u>	_____	_____	_____
<u>10:27</u>	<u>5</u>	<u>7.49</u>	<u>5.94</u>	<u>68.3</u>	_____	_____	_____
<u>10:25</u>	<u>8</u>	<u>7.45</u>	<u>5.90</u>	<u>68.7</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>mw-8</u>	<u>3 VOA lines</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH6/BTEX/MTBE/Disol</u>
<u>2</u>	<u>1 Amber</u>	<u>~</u>	<u>NONE</u>	<u>~</u>	<u>TPHD</u>
_____	_____	_____	_____	_____	_____

COMMENTS: _____



Tosco Marketing Company
2000 Coal Canyon Pl., Box 400
San Ramon, California 94543

ds 23 I 08

Facility Number TOSCO (UNOCAL) SS#7376
 Facility Address 4191 First Street, Pleasanton, CA 180075.85
 Consultant Project Number 180075.85
 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) Ms. Tina R. Berry
 (Phone) (510) 277-2321
 Laboratory Name Sequoia Analytical
 Laboratory Release Number _____
 Sample Collected by (Name) Vartkes Tashjian
 Collection Date 9/22/98
 Signature [Signature]

Analysis To Be Performed 9809E69

DO NOT BILL
TB-LB ANALYSIS

Sample Number	Lab Sample Number	Number of Containers	Matrix W = Soil A = Air C = Charcoal	Type G = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analysis To Be Performed											Remarks				
								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 (ICAP or AA)								
TB-LB	01	1	W	G		HCl	Y	X															
MW-1	02	4	W	G	10:50 AM			X	X														
MW-2B	03	4	W	G	12:50 PM			X	X														
MW-3	04	4	W	G	11:26 AM			X	X														
MW-4	05	4	W	G	12:10 PM			X	X														
MW-7	06	4	W	G	1:55 PM			X	X														
MW-8	07	4	W	G	10:43 AM			X	X														

Relinquished By (Signature) <u>[Signature]</u>	Organization G-R Inc.	Date/Time 3:20 9/24/98 PM	Received By (Signature) <u>[Signature]</u>	Organization G-R INC.	Date/Time 3:20 9/22/98
Relinquished By (Signature) <u>[Signature]</u>	Organization G-R INC.	Date/Time 9:00 9/23/98	Received By (Signature) <u>[Signature]</u>	Organization Sequoia	Date/Time 9/23/98 1053
Relinquished By (Signature) <u>[Signature]</u>	Organization Sequoia	Date/Time 9/23/98	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time 9/23/98

Turn Around Time (Circle Choice)

24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

RECEIVED

OCT 14 1998

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: TB-LB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9809E69-01	Sampled: 09/22/98 Received: 09/23/98 Analyzed: 09/25/98 Reported: 10/07/98
---	--	---


Instrument ID: HP4

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	114

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

SEQUOIA ANALYTICAL - ELAP #1271



Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9809E69-02	Sampled: 09/22/98 Received: 09/23/98 Extracted: 09/30/98 Analyzed: 10/05/98 Reported: 10/07/98
Attention: Deanna Harding		


QC Batch Number: GC0930980HBPEXY
Instrument ID: GCHP5A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	100	240 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	92

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

SEQUOIA ANALYTICAL - ELAP #1210


Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568 Attention: Deanna Harding	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9809E69-02	Sampled: 09/22/98 Received: 09/23/98 Analyzed: 09/29/98 Reported: 10/07/98
--	---	---

Instrument ID: HP2

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	170
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	133 Q

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

SEQUOIA ANALYTICAL - ELAP #1271


Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-2B Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9809E69-03	Sampled: 09/22/98 Received: 09/23/98 Extracted: 10/05/98 Analyzed: 10/06/98 Reported: 10/07/98
---	--	--

QC Batch Number: GC1005980HBPEXB
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	70	930
Chromatogram Pattern: Unidentified HC		C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	105

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

SEQUOIA ANALYTICAL - ELAP #1210



Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-2B Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9809E69-03	Sampled: 09/22/98 Received: 09/23/98 Analyzed: 09/28/98 Reported: 10/07/98
Attention: Deanna Harding		


Instrument ID: HP5

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	N.D.
Methyl t-Butyl Ether	50	4600
Benzene	10	N.D.
Toluene	10	N.D.
Ethyl Benzene	10	N.D.
Xylenes (Total)	10	21
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	96

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

SEQUOIA ANALYTICAL - ELAP #1271



Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-3 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9809E69-04	Sampled: 09/22/98 Received: 09/23/98 Extracted: 10/05/98 Analyzed: 10/06/98 Reported: 10/07/98
---	---	--

QC Batch Number: GC1005980HBPEXB
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	70	95 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	101

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager



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

Attention: Deanna Harding

Client Proj. ID: TOSCO (Unocal) SS#7376
Sample Descript: MW-3
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9809E69-04

Sampled: 09/22/98
Received: 09/23/98

Analyzed: 09/25/98
Reported: 10/07/98

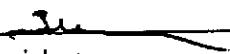
Instrument ID: HP4

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	24
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	115

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

SEQUOIA ANALYTICAL - ELAP #1271



Tod Granicher
Project Manager



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

Client Proj. ID: TOSCO (Unocal) SS#7376
Sample Descript: MW-4
Matrix: LIQUID
Analysis Method: EPA 8015 Mod
Lab Number: 9809E69-05

Sampled: 09/22/98
Received: 09/23/98
Extracted: 10/05/98
Analyzed: 10/06/98
Reported: 10/07/98

QC Batch Number: GC1005980HBPEXB
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	70	74
		C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	101

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

SEQUOIA ANALYTICAL - ELAP #1210


Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9809E69-05	Sampled: 09/22/98 Received: 09/23/98 Analyzed: 09/25/98 Reported: 10/07/98
Attention: Deanna Harding		


Instrument ID: HP4

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	2.8
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	110

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

SEQUOIA ANALYTICAL - ELAP #1271



Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-7 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9809E69-06	Sampled: 09/22/98 Received: 09/23/98 Extracted: 10/05/98 Analyzed: 10/06/98 Reported: 10/07/98
Attention: Deanna Harding		


QC Batch Number: GC1005980HBPEXB
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	85	780 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 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

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

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

Attention: Deanna Harding

Client Proj. ID: TOSCO (Unocal) SS#7376
Sample Descript: MW-7
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9809E69-06

Sampled: 09/22/98
Received: 09/23/98
Analyzed: 09/28/98
Reported: 10/07/98

Instrument ID: HP28

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	3200
Methyl t-Butyl Ether	2.5	1500
Benzene	0.50	1100
Toluene	0.50	N.D.
Ethyl Benzene	0.50	22
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		Gasoline
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	96

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

SEQUOIA ANALYTICAL - ELAP #1271


Tod Granicher
Project Manager

Page:

11



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-8 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9809E69-07	Sampled: 09/22/98 Received: 09/23/98 Extracted: 10/05/98 Analyzed: 10/06/98 Reported: 10/07/98
Attention: Deanna Harding		


QC Batch Number: GC1005980HBPEXB
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	85	120
Chromatogram Pattern: Unidentified HC		C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	100

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

SEQUOIA ANALYTICAL - ELAP #1210



Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: TOSCO (Unocal) SS#7376 Sample Descript: MW-8 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9809E69-07	Sampled: 09/22/98 Received: 09/23/98 Analyzed: 09/25/98 Reported: 10/07/98
Attention: Deanna Harding		


Instrument ID: HP4

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	9.5
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	116

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

SEQUOIA ANALYTICAL - ELAP #1271



Tod Granicher
Project Manager



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite B
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

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

Client Project ID: Tosco (Unocal) SS #7376
Matrix: Liquid

Work Order #: 9809E69 01-07

Reported: Oct 9, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BEX as TPH
QC Batch#:	GC092598802004A	GC092598802004A	GC092598802004A	GC092598802004A	GC092598802004A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

	C. Westwater	C. Westwater	C. Westwater	C. Westwater	C. Westwater
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater	C. Westwater
MS/MSD #:	8091904	8091904	8091904	8091904	8091904
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/25/98	9/25/98	9/25/98	9/25/98	9/25/98
Analyzed Date:	9/25/98	9/25/98	9/25/98	9/25/98	9/25/98
Instrument I.D.#:	HP4	HP4	HP4	HP4	HP4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	260 µg/L
Result:	21	22	22	68	270
MS % Recovery:	105	110	110	113	104
Dup. Result:	20	21	21	67	270
MSD % Recov.:	100	105	105	112	104
RPD:	4.9	4.7	4.7	1.5	0.0
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS092598	LCS092598	LCS092598	LCS092598	LCS092598
Prepared Date:	9/25/98	9/25/98	9/25/98	9/25/98	9/25/98
Analyzed Date:	9/25/98	9/25/98	9/25/98	9/25/98	9/25/98
Instrument I.D.#:	HP4	HP4	HP4	HP4	HP4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	260 µg/L
LCS Result:	18	20	20	54	270
LCS % Recov.:	90	100	100	107	104

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

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.

SEQUOIA ANALYTICAL
ELAP #1271

Tod Granicher
Project Manager

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

9809E69.GET <1>



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

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

Client Project ID: Tosco (Unocal) SS #7376
Matrix: Liquid

Work Order #: 9809E69 01-07

Reported: Oct 9, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BEX as TPH
QC Batch#:	GC092998802002A	GC092998802002A	GC092998802002A	GC092998802002A	GC092998802002A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8092196	8092196	8092196	8092196	8092196
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/29/98	9/29/98	9/29/98	9/29/98	9/29/98
Analyzed Date:	9/29/98	9/29/98	9/29/98	9/29/98	9/29/98
Instrument I.D.#:	HP2	HP2	HP2	HP2	HP2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	320 µg/L
Result:	20	20	20	60	330
MS % Recovery:	100	100	100	100	103
Dup. Result:	21	20	20	58	440
MSD % Recov.:	105	100	100	97	138
RPD:	4.9	0.0	0.0	3.4	29
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS092998	LCS092998	LCS092998	LCS092998	LCS092998
Prepared Date:	9/29/98	9/29/98	9/29/98	9/29/98	9/29/98
Analyzed Date:	9/29/98	9/29/98	9/29/98	9/29/98	9/29/98
Instrument I.D.#:	HP2	HP2	HP2	HP2	HP2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	320 µg/L
LCS Result:	19	19	19	58	310
LCS % Recov.:	95	95	95	97	97

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

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.

SEQUOIA ANALYTICAL
ELAP #1271

Tod Granicher
Project Manager

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

9809E69.GET <2>



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

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

Client Project ID: Tosco (Unocal) SS #7376
Matrix: Liquid

Work Order #: 9809E69 01-07

Reported: Oct 9, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BEX as TPH
QC Batch#:	GC092898802005A	GC092898802005A	GC092898802005A	GC092898802005A	GC092898802005A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8092179	8092179	8092179	8092179	8092179
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/28/98	9/28/98	9/28/98	9/28/98	9/28/98
Analyzed Date:	9/28/98	9/28/98	9/28/98	9/28/98	9/28/98
Instrument I.D.#:	HP5	HP5	HP5	HP5	HP5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	280 µg/L
Result:	16	17	17	53	260
MS % Recovery:	80	85	85	88	93
Dup. Result:	16	17	17	54	250
MSD % Recov.:	80	85	85	90	89
RPD:	0.0	0.0	0.0	1.9	3.9
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS092898	LCS092898	LCS092898	LCS092898	LCS092898
Prepared Date:	9/28/98	9/28/98	9/28/98	9/28/98	9/28/98
Analyzed Date:	9/28/98	9/28/98	9/28/98	9/28/98	9/28/98
Instrument I.D.#:	HP5	HP5	HP5	HP5	HP5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	280 µg/L
LCS Result:	17	17	17	54	270
LCS % Recov.:	85	85	85	90	96

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

SEQUOIA ANALYTICAL
ELAP #1271


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

9809E69.GET <3>



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

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

Client Proj. ID: TOSCO (Unocal) SS#7376

Received: 09/23/98

Lab Proj. ID: 9809E69

Reported: 10/07/98

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.).

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

Page: 1