GETTLER-RYAN INC.

August 31, 1999
G-R Job #180066

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

RE: Semi-Annual 1999 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #0752
800 Harrison Street
Oakland, California

Dear Mr. De Witt:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On July 15, 1999, field personnel monitored and sampled eight wells (MW-1 through MW-8) 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 the wells. Static water level data and groundwater elevations are summarized in Table 1. Dissolved oxygen concentrations are summarized in Table 4. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are summarized in Tables 1, 2 and 3. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

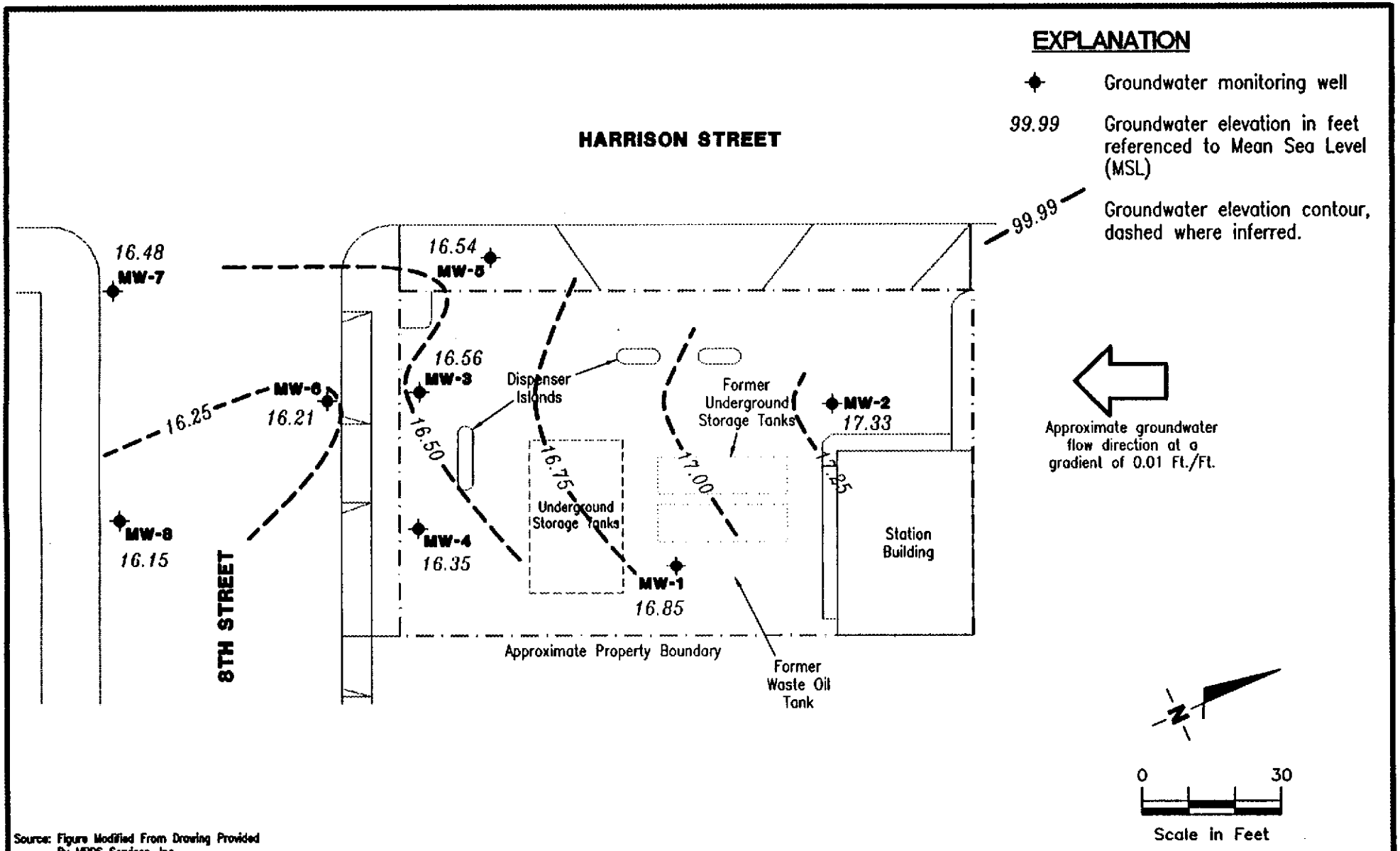
Sincerely,

Deanna L. Harding
Project Coordinator

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: Groundwater Analytical Results
Table 4: Dissolved Oxygen Concentrations
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
0752.qml Chain of Custody Document and Laboratory Analytical Reports



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

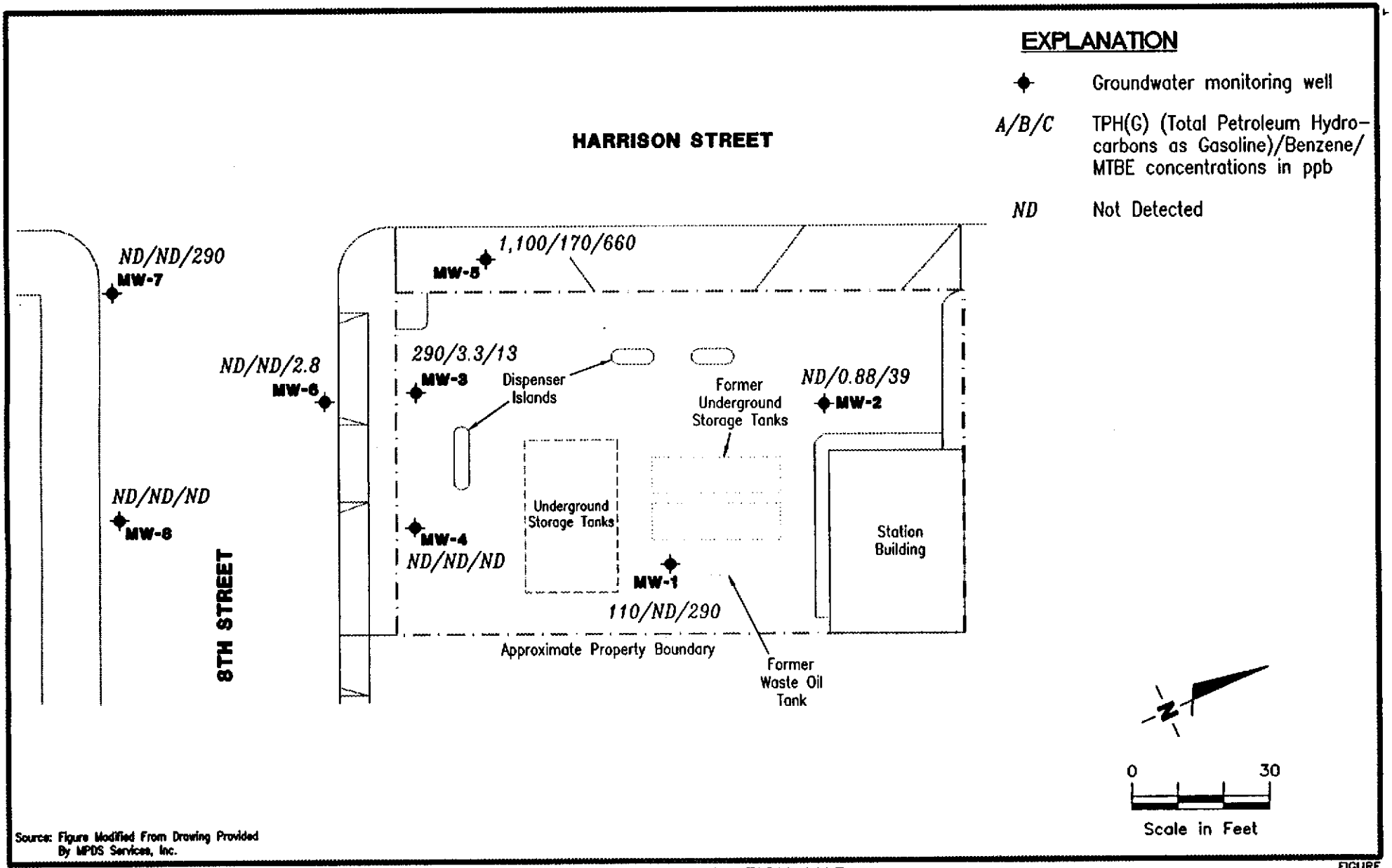
Gettler - Ryan Inc.

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

POTENTIOMETRIC MAP
Tosco (Unocal) Service Station No. 0752
800 Harrison Street
Oakland, California

FIGURE 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180066		July 15, 1999	



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

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

CONCENTRATION MAP
Tosco (Unocal) Service Station No. 0752
800 Harrison Street
Oakland, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180066		July 15, 1999	

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #0752

800 Harrison Street

Oakland, California

Well ID/ TOC*		Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro-form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-1		06/05/91	--	--	ND	47	ND	ND	ND	ND	--	7.8	2.9	1.3
		09/30/91	--	--	ND	ND	ND	ND	ND	ND	--	--	--	--
		12/30/91	--	--	ND	ND	ND	ND	ND	ND	--	6.4	2.1	0.9
		04/02/92	--	--	94	ND	ND	ND	ND	ND	--	7.1	2.6	1.4
		06/30/92	--	--	120	ND	ND	ND	ND	ND	--	9.5	2.2	1.3
		09/15/92	--	--	ND	76	1.0	ND	ND	ND	--	12	2.2	1.3
34.94		12/21/92	21.17	13.77	ND	95	0.69	ND	ND	1.0	--	12	1.4	0.83
		04/28/93[1]	--	--	470[2]	920	3.1	2.3	1.2	9.7	--	12	0.89	0.85
		07/23/93	20.13	14.81	ND	ND	0.5	0.66	ND	ND	--	16	1.3	0.91
34.69		10/05/93	20.30	14.39	57[3]	92[5]	1.5	ND	ND	0.72	--	13	1.3	0.66
		01/03/94[6]	20.52	14.17	ND	ND	ND	ND	ND	ND	--	18	1.4	0.93
		04/02/94	20.16	14.53	ND	ND	ND	ND	ND	ND	--	15	1.1	0.68
		07/05/94	19.27	15.42	--	250	4.8	13	1.2	7.3	--	--	--	--
		10/06/94	20.87	13.82	--	540	1.4	ND	0.66	11	--	--	--	--
		01/02/95	19.67	15.02	--	140	ND	ND	ND	ND	--	--	--	--
		04/03/95	17.61	17.08	--	580	3.6	0.75	ND	4.0	--	--	--	--
		07/14/95	18.58	16.11	--	260	2.1	ND	ND	1.2	--	--	--	--
		10/10/95	19.60	15.09	--	220	2.0	ND	25	5.6	29	--	--	--
		01/03/96	19.69	15.00	--	190	2.4	ND	0.71	1.2	--	--	--	--
		04/10/96	17.65	17.04	--	540	8.9	1.7	1.5	7.4	50	--	--	--
		07/09/96	18.52	16.17	--	490	3.0	1.4	1.3	2.5	150	--	--	--
		01/24/97	17.72	16.97	--	760	27	0.89	5.2	10	510	--	--	--
		07/23/97	19.42	15.27	--	ND	ND	ND	ND	ND	550	--	--	--
	NP	01/26/98	17.46	17.23	--	1,800[8]	ND[9]	ND[9]	ND[9]	ND[9]	4,800	--	--	--
	NP	07/03/98	18.61	16.08	--	ND[9]	ND[9]	ND[9]	ND[9]	ND[9]	1,800	--	--	--
		01/14/99	18.92	15.77	--	83[10]	ND	ND	ND	ND	230	--	--	--
		07/15/99	**17.84**	**16.85**	**--**	**110**	**ND**	**ND**	**ND**	**1.0**	**290**	**--**	**--**	**--**
MW-2		06/05/91	--	--	--	49	ND	ND	ND	ND	--	--	--	--
		09/30/91	--	--	--	130	18	0.53	14	9.6	--	--	--	--
		12/30/91	--	--	--	91	16	0.89	11	1.9	--	--	--	--
		04/02/92	--	--	--	88	12	0.32	6.3	7.2	--	--	--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #0752

800 Harrison Street

Oakland, California

Well ID/ TOC*		Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro-form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-3		01/03/94	19.40	13.74	--	4,900	830	100	170	150	--	--	--	--
(cont)		04/02/94	19.01	14.13	--	6,000	800	30	140	110	--	--	--	--
		07/05/94	18.14	15.00	--	25,000[5]	ND	ND	ND	ND	--	--	--	--
		10/06/94	19.73	13.41	--	49,000[4]	1,300	200	280	300	--	--	--	--
		01/02/95	18.36	14.78	--	480	1.6	ND	1.4	ND	--	--	--	--
		04/03/95	16.38	16.76	--	8,100[5]	65	ND	ND	ND	--	--	--	--
		07/14/95	17.49	15.65	--	ND	1,300	ND	ND	ND	--	--	--	--
		10/10/95	18.50	14.64	--	3,100	1,400	36	50	53	190,000	--	--	--
		01/03/96[7]	18.54	14.60	--	ND	2,300	110	150	140	--	--	--	--
		04/10/96	16.40	16.74	--	940	38	33	39	47	69,000	--	--	--
		07/09/96	17.43	15.71	--	ND	2,000	ND	150	160	140,000	--	--	--
		01/24/97	16.57	16.57	--	540	8.0	ND	11	9.9	45	--	--	--
		07/23/97	18.38	14.76	--	7,400	1,900	180	140	340	45,000	--	--	--
	NP	01/26/98	16.22	16.92	--	250	2.2	1.9	0.87	1.9	4.0	--	--	--
	NP	07/03/98	17.46	15.68	--	230	1.8	2.5	1.5	3.4	6.3	--	--	--
		01/14/99	17.73	15.41	--	400[10]	8.2	2.7	0.90	5.9	140	--	--	--
		07/15/99	**16.58**	**16.56**	**--**	**290[10]**	**3.3**	**3.6**	**1.7**	**2.5**	**13**	**--**	**--**	**--**
MW-4		10/19/92	--	--	--	480	0.51	2.1	2.8	6.8	--	--	--	--
33.12		12/21/92	19.73	13.39	--	220[4]	ND	ND	0.97	0.74	--	--	--	--
		04/28/93	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
		07/23/93	18.72	14.40	--	85[4]	ND	ND	ND	ND	--	--	--	--
32.71		10/05/93	18.74	13.97	--	130[5]	ND	ND	ND	ND	--	--	--	--
		01/03/94	18.93	13.78	--	210	ND	ND	0.76	1.6	240	9.0	1.0	ND
		04/02/94	18.53	14.18	--	89	ND	ND	ND	ND	--	--	--	--
		07/05/94	17.67	15.04	--	190[5]	ND	ND	ND	ND	--	--	--	--
		10/06/94	19.25	13.46	--	170	0.85	ND	ND	0.74	--	--	--	--
		01/02/95	17.75	14.96	--	ND	ND	ND	ND	ND	--	--	--	--
		04/03/95	15.87	16.84	--	98[5]	ND	ND	ND	ND	--	--	--	--
		07/14/95	17.01	15.70	--	ND	ND	ND	ND	ND	--	--	--	--
		10/10/95	18.03	14.68	--	ND	ND	ND	ND	ND	120	--	--	--
		01/03/96[7]	18.05	14.66	--	ND	ND	ND	ND	ND	--	--	--	--
		04/10/96	16.00	16.71	--	ND	ND	ND	ND	ND	240	--	--	--
		07/09/96	16.96	15.75	--	ND	ND	ND	ND	ND	480	--	--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #0752

800 Harrison Street

Oakland, California

Well ID/ TOC*		Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro-form** (ppb)	PCE** (ppb)	TCE** (ppb)
MW-4		01/24/97	16.04	16.67	--	ND	ND	ND	ND	ND	270	--	--	--
(cont)		07/23/97	17.87	14.84	--	ND	ND	ND	ND	ND	460	--	--	--
	NP	01/26/98	16.05	16.66	--	ND	ND	ND	ND	ND	17	--	--	--
	NP	07/03/98	16.95	15.76	--	ND	ND	ND	ND	ND	3.8	--	--	--
		01/14/99	17.34	15.37	--	ND	ND	ND	ND	ND	4,600	--	--	--
		07/15/99	**16.36**	**16.35**	**--**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**--**	**--**	**--**
MW-5		10/19/92	--	--	--	2,700	61	5.0	100	61	--	--	--	--
33.25		12/21/92	19.75	13.50	--	1,700	51	4.7	83	34	--	--	--	--
		04/28/93	--	--	--	6,700	200	190	250	430	--	--	--	--
		07/23/93	18.74	14.51	--	2,000	122	8.0	68	47	--	--	--	--
32.95		10/05/93	18.83	14.12	--	1,700	70	6.2	54	40	--	--	--	--
		01/03/94	19.05	13.90	--	1,500	44	ND	42	46	--	--	--	--
		04/02/94	18.68	14.27	--	1,800	46	5.1	38	35	--	--	--	--
		07/05/94	17.90	15.05	--	2,200	97	8.4	37	36	--	--	--	--
		10/06/94	19.37	13.58	--	1,600	79	5.7	28	22	--	--	--	--
		01/02/95	17.92	15.03	--	1,700	50	8.6	30	28	--	--	--	--
		04/03/95	16.15	16.80	--	5,400[5]	190	240	170	420	--	--	--	--
		07/14/95	17.18	15.77	--	3,800	210	100	130	190	--	--	--	--
		10/10/95	18.15	14.80	--	1,300	92	14	15	39	1,100	--	--	--
		01/03/96[7]	18.20	14.75	--	630	53	4.4	8.3	13	--	--	--	--
		04/10/96	16.05	16.90	--	500	25	18	7.0	20	640	--	--	--
		07/09/96	17.11	15.84	--	1,000	44	20	10	34	150	--	--	--
		01/24/97	16.36	16.59	--	4,000	190	400	160	430	600	--	--	--
		07/23/97	18.08	14.87	--	1,700	200	23	18	45	2,500	--	--	--
	NP	01/26/98	16.27	16.68	--	ND	ND	ND	ND	ND	ND	--	--	--
	NP	07/03/98	17.27	15.68	--	ND	ND	ND	ND	ND	ND	--	--	--
		01/14/99	17.55	15.40	--	330	61	4.1	2.2	2.9	560	--	--	--
		07/15/99	**16.41**	**16.54**	**--**	**1,100**	**170**	**ND[9]**	**ND[9]**	**27**	**660**	**--**	**--**	**--**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #0752

800 Harrison Street

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	Chloro-form** (ppb)	PCE** (ppb)	TCE** (ppb)
Trip Blank													
TB-LB	01/26/98	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	07/03/98	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	01/14/99	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
	07/15/99	--	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	--	--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #0752

800 Harrison Street

Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to January 26, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing elevation
DTW = Depth to Water
(ft.) = Feet
GWE = Groundwater Elevation
msl = Relative to mean sea level
TPH(D) = Total Petroleum Hydrocarbons as Diesel
TPH(G) = Total Petroleum Hydrocarbons as Gasoline

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

PCE = Tetrachloroethene
TCE = Trichloroethene
ppb = Parts per billion
ND = Not Detected
-- = Not Measured/Not Analyzed
NP = No Purge

* TOC elevations are relative to mean sea level (msl), per the City of Oakland benchmark disk stamped "25/A" at the northeast corner of 7th and Harrison (Elevation = 28.81 feet msl). Prior to October 5, 1993, the DTW measurements were taken from the top of well covers.

** All EPA Method 8010 constituents were ND, except as indicated above.

1 1,2-dichloroethane (1,2-DCA) was detected in MW-8 at a concentration of 4.0 ppb on 01/03/94, and 1.1 ppb in MW-1 on 04/28/93.

2 Laboratory report indicates the hydrocarbons detected did not appear to be diesel.

3 Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

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

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

6 A fuel fingerprint analysis was conducted on this sample. Laboratory report indicates total extractable petroleum hydrocarbons in this sample were not detected in high enough concentrations to compare with known standards and approximate their makeup.

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 gasoline and unidentified hydrocarbons C6-C8.

9 Detection limit raised. Refer to analytical results.

10 Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.

Table 2

Groundwater Analytical Results

Tosco (Unocal) Service Station #0752

800 Harrison Street

Oakland, California

Well ID	Date	TOG (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Nickel (ppm)	Zinc (ppm)
MW-1	06/05/91	ND	ND	0.0083	0.011	0.063	0.023
	09/30/91	ND	ND	0.019	ND	ND	0.11
	12/30/91	ND	ND	0.0078	0.0057	ND	0.046
	04/02/92	ND	ND	0.015	0.016	ND	0.02
	06/30/92	ND	ND	0.079	0.009	0.1	0.087

EXPLANATIONS:

Groundwater analytical results were compiled from reports prepared by MPDS Services, Inc.

TOG = Total Oil and Grease
ppm = Parts per million
ND = Not Detected

Table 3

Groundwater Analytical Results

Tosco (Unocal) Service Station #0752
800 Harrison Street
Oakland, California

Well ID	Date	BOD (ppm)	Bicarbonate Alkalinity (ppm)	Calcium (ppm)	Iron (ppm)	Manganese (ppm)	Nitrate (ppm)	Sulfate (ppm)	Heterotrophic Plate Count (CFU/mL)
MW-1	04/10/96	--	160	21	15	2.6	--	--	--
MW-2	01/03/96	2.2	130	27	77	3.0	0.22	97	>5,700
	04/10/96	--	460	58	60	7.0	--	--	--
MW-3	01/03/96	4.3	430	43	61	5.4	0.23	16	350
	04/10/96	--	360	40	60	3.7	--	--	--
MW-4	01/03/96	ND	120	20	61	3.3	10	44	1,000
	04/10/96	--	160	25	43	2.0	--	--	--
MW-5	01/03/96	3.4	240	31	80	3.3	ND	17	>5,700
	04/10/96	--	240	22	18	2.4	--	--	--
MW-6	04/10/96	--	240	35	61	3.7	--	--	--
MW-7	04/10/96	--	210	44	120	4.8	--	--	--
MW-8	01/03/96	ND	310	37	62	3.3	0.57	20	>5,700
	04/10/96	--	380	37	63	3.6	--	--	--

EXPLANATIONS:

Groundwater analytical results were compiled from reports prepared by MPDS Services, Inc.

BOD = Biochemical Oxygen Demand
ppm = Parts per million
CFU/mL = Colony Forming Units per milliliter
-- = Not Analyzed
ND = Not Detected

Table 4

Dissolved Oxygen Concentrations

Tosco (Unocal) Service Station #0752
800 Harrison Street
Oakland, California

Well ID	Date	Before Purging (mg/L)	After Purging (mg/L)
MW-7	04/10/96	--	5.10
	07/09/96	--	2.34
	01/24/97	--	1.91
	07/23/97	3.25	2.83
	01/26/98	3.44	--
	07/03/98	3.83	--
MW-8	01/03/96	--	1.30
	04/10/96	--	4.80
	07/09/96	--	1.32
	01/24/97	--	2.09
	07/23/97	4.08	3.27
	01/26/98	4.71	--
	07/03/98	5.16	--

EXPLANATIONS:

Dissolved oxygen concentrations prior to January 26, 1998, were compiled from reports prepared by MPDS Services, Inc.

mg/L = milligrams per liter
-- = Not Measured

Note: Measurements were taken using a LaMotte DO4000 dissolved oxygen meter.

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, temperature, pH and electrical conductivity are measured. If purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. The measurements are taken a minimum of three times during the purging. Purging continues until these parameters stabilize.

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

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

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

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

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 0752 Job#: 180066

Address: 800 Harrison st. Date: 7-15-99

City: Oakland Sampler: Joe

Well ID MW-1 Well Condition: O.K

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

Total Depth 33.50 ft.

Depth to Water 17.84 ft.

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

15.66 X VF 0.17 = 2.67 X 3 (case volume) = Estimated Purge Volume: 8 (gal.)

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

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

Starting Time: 11:35 Weather Conditions: clear/hot

Sampling Time: 12:00 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 10^2	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:45	3	7.11	4.67	69.6			
11:47	5.5	7.22	4.65	71.5			
11:49	8	7.19	4.67	72.2			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	3 VOA	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe

COMMENTS: _____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 0752 Job#: 180066

Address: 800 Harrison st. Date: 7-15-99

City: Oakland Sampler: Joe

Well ID MW-2 Well Condition: O.K

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

Total Depth 30.00 ft.

Depth to Water 17.39 ft.

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

12.61 X VF 0.17 = 2.14 X 3 (case volume) = Estimated Purge Volume: 6.5 (gal.)

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

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

Starting Time: 10:55 Weather Conditions: clear/hot

Sampling Time: 11:22 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 10^3	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:06	2	7.71	3.95	71.5			
11:08	4	7.52	3.92	73.0			
11:10	6.5	7.54	3.89	72.7			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	3 VOA	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe

COMMENTS: _____

9/97-fieldst.frm

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 0752 Job#: 180066

Address: 800 Harrison st. Date: 7-15-99

City: Oakland Sampler: Joe

Well ID MW-3 Well Condition: O.K

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

Total Depth 30.50 ft.

Depth to Water 16.58 ft.

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

13.92 X VF 0.17 = 2.37 X 3 (case volume) = Estimated Purge Volume: 7.5 (gal.)

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

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

Starting Time: 10:22 Weather Conditions: clear/hot

Sampling Time: 10:45 AM Water Color: clear Odor: ~~none~~ yes

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 10²	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:30	2.5	7.25	2.28	72.7			
10:34	5	7.26	2.55	72.9			
10:38	7.5	7.22	2.56	73.2			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	3 VOA	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe

COMMENTS: _____

9/97-fieldst.frm

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 0752 Job#: 180066

Address: 800 Harrison st. Date: 7-15-99

City: Oakland Sampler: Joe

Well ID MW-4 Well Condition: O.K

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

Total Depth 32.30 ft.

Depth to Water 16.36 ft.

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

15.94 X VF 0.17 = 2.71 X 3 (case volume) = Estimated Purge Volume: 8.5 (gal.)

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

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

Starting Time: 9:50 Weather Conditions: clear/hot

Sampling Time: 10:12 A.m Water Color: clear Odor: ~~none~~ yes

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 10^3	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:57	3	7.41	4.76	71.9			
9:59	5	7.48	5.12	72.2			
10:02	8.5	7.48	5.21	73.0			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	3 VOA	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe

COMMENTS: _____

9/97-fieldat.frm

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 0752 Job#: 180066

Address: 800 Harrison st. Date: 7-15-99

City: Oakland Sampler: Joe

Well ID MW-5 Well Condition: O.K

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

Total Depth 31.60 ft.

Depth to Water 16.41 ft.

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

15.19 X VF 0.17 = 2.58 X 3 (case volume) = Estimated Purge Volume: 8 (gal.)

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

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

Starting Time: 9:20 Weather Conditions: clear/hot

Sampling Time: 9:40 AM 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 10²	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:21	2.5	7.60	6.35	71.9			
9:30	5	7.40	6.07	73.2			
9:32	8	7.37	5.92	73.4			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-5	3 VOA	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe

COMMENTS: _____

9/97-fieldat.frm

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 0752 Job#: 180066

Address: 800 Harrison st. Date: 7-15-99

City: Oakland Sampler: Joe

Well ID MW-6 Well Condition: O.K

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

Total Depth 30.90 ft.

Depth to Water 15.95 ft.

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

14.95 X VF 0.17 = 2.54 X 3 (case volume) = Estimated Purge Volume: 8 (gal.)

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

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

Starting Time: 8:45 Weather Conditions: clear/hot

Sampling Time: 9:11 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 10³	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
8:55	3	7.41	4.85	73.1			
9:57	5	7.52	4.76	73.4			
9:10	8	7.49	4.77	73.6			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	3 VOA	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe

COMMENTS: _____

Chain of Custody Record

TOSCO

Tosco Marketing Company
3500 Crow Canyon Pl., Ste. 400
San Ramon, California 94583

Facility Number: UNOCAL SS #0752
Facility Address: 800 HARRISON STREET, OAKLAND CA
Consultant Project Number: 180066.85
Consultant Name: Gettler-Ryan Inc. (G-R Inc.)
Address: 6747 Sierra Court, Suite J, Dublin, CA 94568
Project Contact (Name): Deanna L. Harding
(Phone) 925-551-7555 (Fax Number) 925-551-7888

Contact (Name): MR. DAVID DEWITT
(Phone): (925) 277-2384
Laboratory Name: Sequoia Analytical
Laboratory Release Number:
Samples Collected by (Name): JOE AJEMIAN
Collection Date: 7-15-99
Signature:

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: TPH Gas + BTEX w/MTBE (8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					DO NOT BILL TB-LB ANALYSIS: Remarks
TB-LB		3 VOA	W	G	—	HCL	Y	✓												9071160
MW-1		3 VOA	"	"	12:10 P.M	"	"	✓												9071161
MW-2		"	"	"	11:22 A.M	"	"	✓												9071162
MW-3		"	"	"	10:45 A.M	"	"	✓												9071163
MW-4		"	"	"	10:12 A.M	"	"	✓												9071164
MW-5		"	"	"	9:48 A.M	"	"	✓												9071165
MW-6		"	"	"	9:11 A.M	"	"	✓												9071166
MW-7		"	"	"	8:30 A.M	"	"	✓												9071167
MW-8		"	"	"	7:35 A.M	"	"	✓												9071168

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
Joe Ajemian	G-R Inc.	7-15-99 1330		Sequoia	071599 1330	24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
						5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	10 Days
			Ronald Arnett		7/16/99 18:35	As Contracted

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#0752, Oakland	Sampled:	Jul 15, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received:	Jul 15, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Jul 30, 1999
Attention: Deanna Harding	First Sample #:	907-1160		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 907-1160 TB-LB	Sample I.D. 907-1161 MW-1	Sample I.D. 907-1162 MW-2	Sample I.D. 907-1163 MW-3	Sample I.D. 907-1164 MW-4	Sample I.D. 907-1165 MW-5
Purgeable Hydrocarbons	50	N.D.	110	N.D.	290	N.D.	1,100
Benzene	0.50	N.D.	N.D.	0.88	3.3	N.D.	170
Toluene	0.50	N.D.	N.D.	N.D.	3.6	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	1.7	N.D.	N.D.
Total Xylenes	0.50	N.D.	1.0	N.D.	2.5	N.D.	27
MTBE	2.5	N.D.	290	39	13	N.D.	660
Chromatogram Pattern:		--	Gasoline	--	Gasoline & Unidentified Hydrocarbons C6 - C12	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	20
Date Analyzed:	7/22/99	7/22/99	7/22/99	7/22/99	7/22/99	7/23/99
Instrument Identification:	HP-2	HP-2	HP-2	HP-2	HP-2	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	96	98	95	109	98	85

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#0752, Oakland	Sampled:	Jul 15, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received:	Jul 15, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Jul 30, 1999
Attention: Deanna Harding	First Sample #:	907-1166		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 907-1166 MW-6	Sample I.D. 907-1167 MW-7	Sample I.D. 907-1168 MW-8
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	N.D.
MTBE	2.5	2.8	290	N.D.
Chromatogram Pattern:		--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Analyzed:	7/22/99	7/22/99	7/22/99
Instrument Identification:	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	86	112	97

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

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

Client Project ID: Unocal SS#0752, Oakland
Matrix: Liquid
QC Sample Group: 9071160-168

Reported: Jul 30, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD Batch#:	9071122	9071122	9071122	9071122
Date Prepared:	7/22/99	7/22/99	7/22/99	7/22/99
Date Analyzed:	7/22/99	7/22/99	7/22/99	7/22/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	100	90	95	108
Matrix Spike Duplicate % Recovery:	90	85	105	103
Relative % Difference:	11	5.7	10	4.7
LCS Batch#:	2LCS072299	2LCS072299	2LCS072299	2LCS072299
Date Prepared:	7/22/99	7/22/99	7/22/99	7/22/99
Date Analyzed:	7/22/99	7/22/99	7/22/99	7/22/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	105	95	100	108
% Recovery Control Limits:	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
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.

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

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

Client Project ID: Unocal SS#0752, Oakland
Matrix: Liquid
QC Sample Group: 9071160-168

Reported: Jul 30, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD Batch#:	9071088	9071088	9071088	9071088
Date Prepared:	7/22/99	7/22/99	7/22/99	7/22/99
Date Analyzed:	7/22/99	7/22/99	7/22/99	7/22/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	100	100	105	105
Matrix Spike Duplicate % Recovery:	95	95	95	100
Relative % Difference:	5.1	5.1	10	4.9
LCS Batch#:	5LCS072299	5LCS072299	5LCS072299	5LCS072299
Date Prepared:	7/22/99	7/22/99	7/22/99	7/22/99
Date Analyzed:	7/22/99	7/22/99	7/22/99	7/22/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	105	110	105	110
% Recovery Control Limits:	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
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.

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#0752, Oakland
6747 Sierra Court, Suite J	Matrix:	Liquid
Dublin, CA 94568		
Attention: Deanna Harding	QC Sample Group:	9071160-168

Reported: Jul 30, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD Batch#:	9071217	9071217	9071217	9071217
Date Prepared:	7/23/99	7/23/99	7/23/99	7/23/99
Date Analyzed:	7/23/99	7/23/99	7/23/99	7/23/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	95	100	100	103
Matrix Spike Duplicate % Recovery:	100	105	105	108
Relative % Difference:	5.1	4.9	4.9	4.7
LCS Batch#:	5LCS072399	5LCS072399	5LCS072399	5LCS072399
Date Prepared:	7/23/99	7/23/99	7/23/99	7/23/99
Date Analyzed:	7/23/99	7/23/99	7/23/99	7/23/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	95	100	100	103
% Recovery Control Limits:	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
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.