TOSCO

Tosco Marketing Company
2000 Crow Canyon Place, Ste. 400
San Ramon, California 94583
Telephone: 510-277-2305
Facsimile: 510-277-2361
Environmental Compliance
Department

September 28, 1998

Ms. Susan Hugo
Alameda County Health Care
Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502

RE: Tosco 76 SS #3538
411 West MacArthur Blvd. @ Webster St.
Oakland, California

Dear Ms. Hugo:

This letter requests your agency's review of the subject fuel leak case. Tosco asks that the ACHCSA evaluate the site for case closure under the leaking underground fuel tank program. The September 11, 1998 Semi-Annual Groundwater Monitoring and Sampling Report, prepared on Tosco's behalf by Gettler-Ryan, Inc., show the hydrocarbon plume to be stable with low residual groundwater impacts. The site has been monitored and site wells sampled since September 1989. The station is now closed and the USTs were removed during September 1998 in preparation for property transfer.

Please let me know if you have questions or concerns regarding this request. We will be happy to submit a completed case closure summary form if that will assist in obtaining closure status for this site.

Thank you for your consideration and assistance with this case. Please do not hesitate to contact me at 925-277-2321 if you have any question or comment regarding this letter.

Sincerely,

Tina Berry

Tina Berry
Project Manager
Tosco Marketing Company

cc: David Vossler, Deanna Harding, Gettler-Ryan, Inc.

GETTLER-RYAN INC.

TRANSMITTAL

TO: Ms. Susan Hugo
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94502

DATE: September 29, 1998
G-R #: 180064

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

RE: Tosco (Unocal) SS #3538
411 West MacArthur Blvd.
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	September 11, 1998	Groundwater Monitoring and Sampling Report Semi-Annual 1998 - Event of July 6, 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 semi-annual 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 94945

agency/3538trb.qmt

GETTLER-RYAN INC.

September 11, 1998
G-R Job #180064

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

RE: Semi-Annual 1998 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #3538
411 West MacArthur Boulevard
Oakland, California

Dear Ms. Berry:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On July 6, 1998, field personnel monitored and sampled six wells (MW1 through MW6) 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. 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 and 2, and a Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

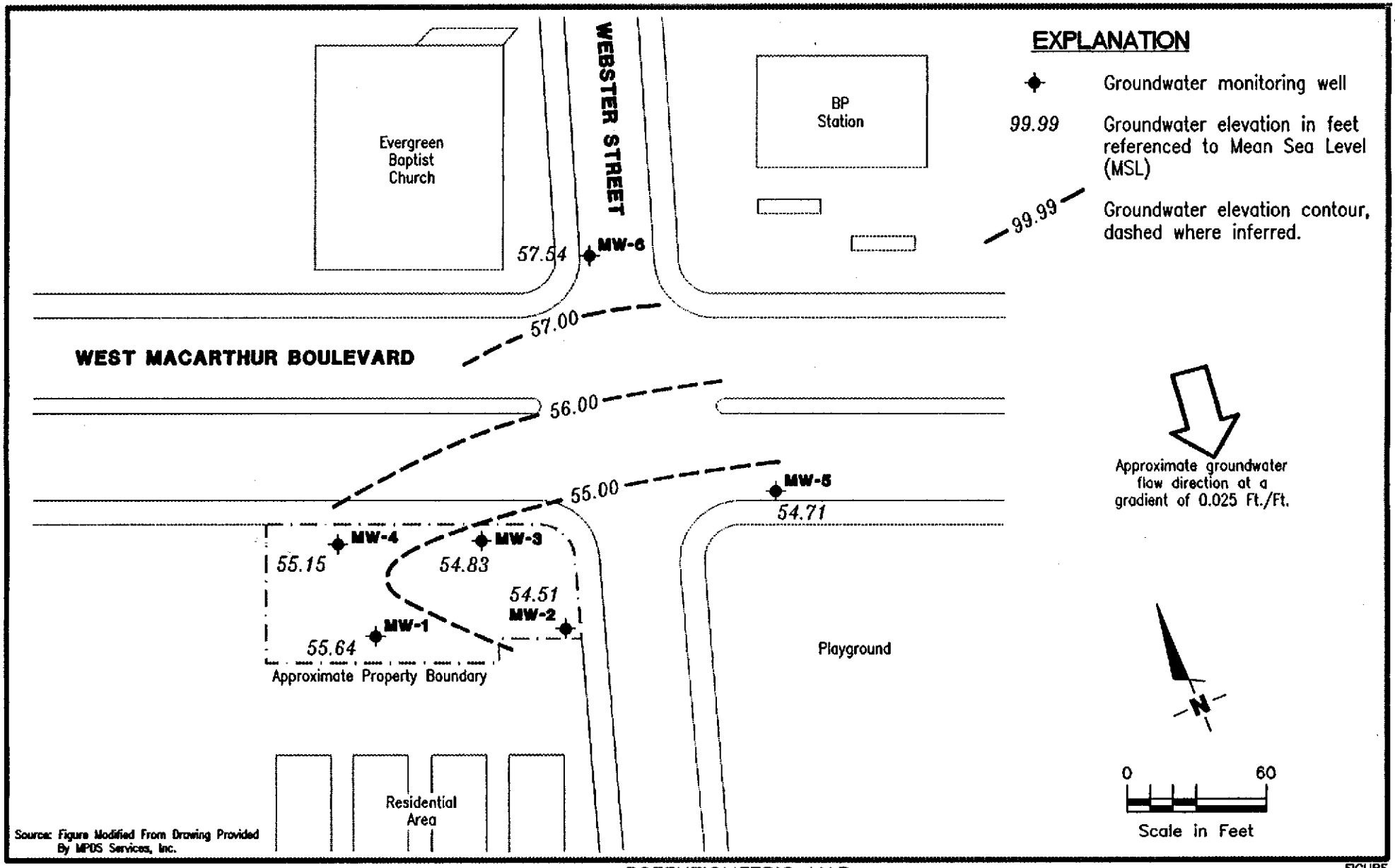
Deanna L. Harding
Project Coordinator

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
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

3538.qml

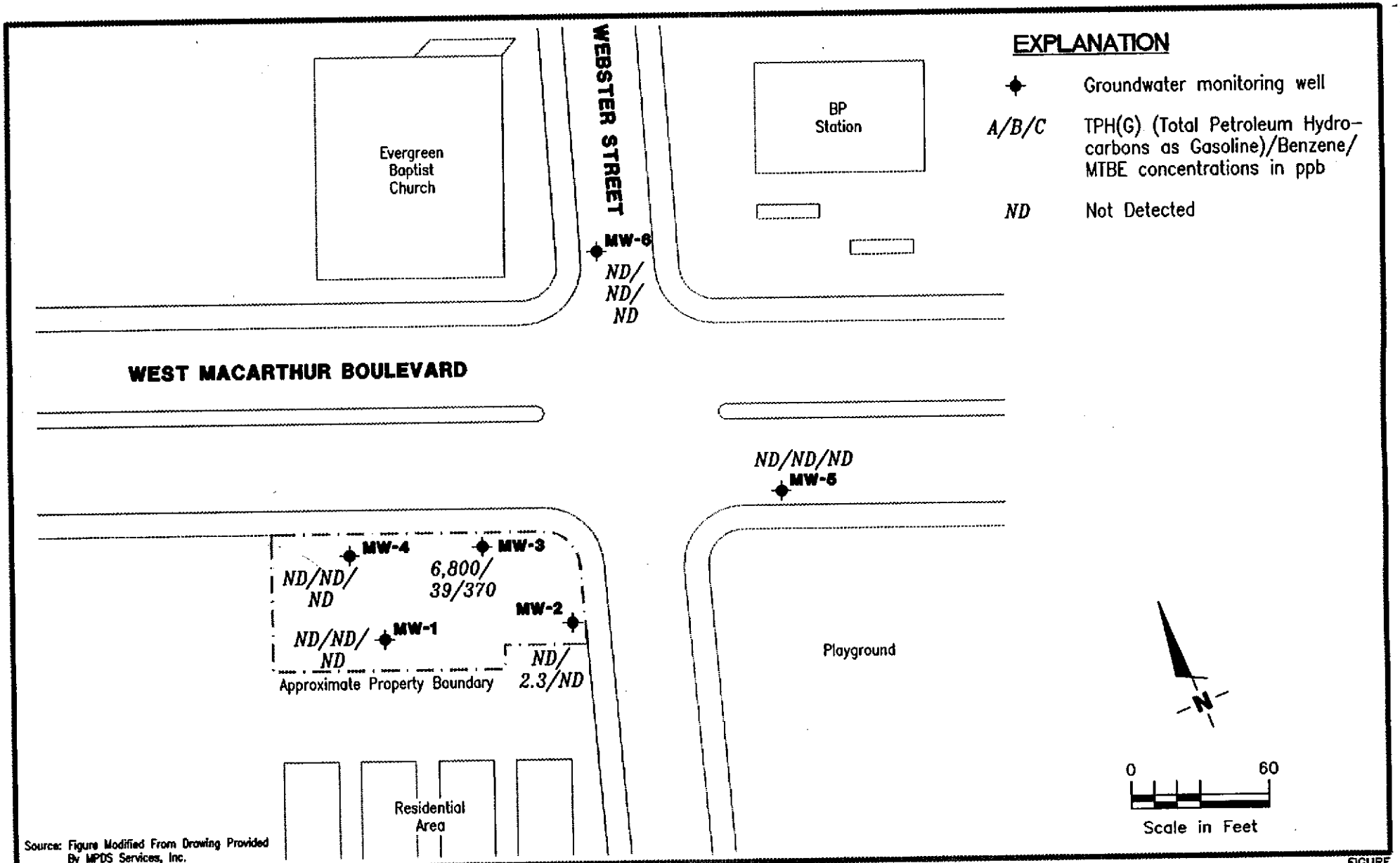


Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

POTENTIOMETRIC MAP
Tosco (Unocal) Service Station No. 3538
411 West MacArthur Boulevard
Oakland, California

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180064		JULY 6, 1998	



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

FIGURE 2

CONCENTRATION MAP
Tosco (Unocal) Service Station No. 3538
411 West MacArthur Boulevard
Oakland, California

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

JOB NUMBER 180064

REVIEWED BY

DATE July 6, 1998

REVISED DATE

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #3538

411 West MacArthur Boulevard

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G)	B	T	E	X	MTBE
				<----------		ppb			---------->
MW-1	09/15/89	--	--	ND	ND	0.61	ND	ND	--
	01/23/90	--	--	ND	1.5	2.3	ND	4.3	--
	04/19/90	--	--	ND	ND	ND	ND	ND	--
	07/17/90	--	--	ND	ND	ND	ND	ND	--
	10/16/90	--	--	ND	ND	ND	ND	ND	--
	01/15/91	--	--	ND	ND	ND	ND	ND	--
	04/12/91	--	--	ND	ND	ND	ND	ND	--
	07/15/91	--	--	ND	ND	ND	ND	ND	--
	07/14/92	--	--	ND	ND	ND	ND	ND	--
72.43	04/13/93	17.70	54.73	SAMPLED ANNUALLY		--	--	--	--
	07/14/93	18.49	53.94	ND	2.2	2.1	1.1	6.2	--
72.10	10/14/93	18.32	53.78	--	--	--	--	--	--
	01/12/94	18.18	53.92	--	--	--	--	--	--
	04/11/94	17.80	54.30	--	--	--	--	--	--
	07/07/94	18.28	53.82	ND	ND	ND	ND	ND	--
	10/05/94	18.55	53.55	--	--	--	--	--	--
	01/09/95	17.90	54.20	--	--	--	--	--	--
	04/17/95	17.22	54.88	--	--	--	--	--	--
	07/19/95	18.03	54.07	ND	ND	ND	ND	ND	--
	10/26/95	18.67	53.43	--	--	--	--	--	--
	01/16/95	17.20	54.90	--	--	--	--	--	--
	04/15/96	17.40	54.70	--	--	--	--	--	--
	07/11/96	18.03	54.07	ND	ND	ND	ND	ND	ND
	01/17/97	16.54	55.56	--	--	--	--	--	--
	07/21/97	18.16	53.94	ND	ND	ND	ND	ND	ND
	01/14/98	16.05	56.05	--	--	--	--	--	--
	07/06/98[5]	**16.46**	**55.64**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
MW-2	09/15/89	--	--	290	ND	12	ND	ND	--
	01/23/90	--	--	400	73	36	10	40	--
	04/19/90	--	--	3,900	550	5.1	91	390	--
	07/17/90	--	--	490	76	0.59	11	46	--
	10/16/90	--	--	1,400	430	2	48	240	--
	01/15/91	--	--	680	170	0.7	19	81	--
	04/12/91	--	--	2,200	160	4.3	23	62	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #3538

411 West MacArthur Boulevard

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G)	B	T	E	X	MTBE
				<--------		ppb			-------->
MW-2	07/15/91	--	--	2,200	770	12	72	370	--
(cont)	10/15/91	--	--	140	44	0.56	1.5	12	--
	01/15/92	--	--	220	37	0.52	1.1	7	--
	04/14/92	--	--	150	6.2	ND	ND	1.4	--
	07/14/92	--	--	130	3.7	ND	ND	ND	--
	10/12/92	--	--	370	3.4	0.56	ND	11	--
	01/08/93	--	--	510[1]	ND	ND	ND	ND	--
71.63	04/13/93	17.86	53.77	410[2]	42	7.7	6.4	28	200
	07/14/93	18.38	53.25	110[1]	6.5	ND	ND	1.1	250
71.38	10/14/93	18.20	53.18	230[1]	5.3	ND	ND	2.1	--
	01/12/94	18.08	53.30	300	7.8	3.8	1.8	10	--
	04/09/94	17.97	53.41	120	10	0.88	1.1	4.9	--
	04/11/94	17.88	53.50	--	--	--	--	--	--
	07/07/94	17.81	53.57	110[1]	4.4	ND	ND	ND	--
	10/05/94	18.33	53.05	720[1]	20	ND	ND	3.1	--
	01/09/95	17.40	53.98	ND	ND	ND	ND	ND	--
	04/17/95	17.50	53.88	93	5.6	0.62	1.7	5.5	--
	07/19/95	18.01	53.37	77	32	0.58	1.7	4.1	--
	10/26/95	18.21	53.17	54[2]	13	ND	ND	0.72	220
	01/16/96[3]	16.58	54.80	120	23	ND	ND	0.99	--
	04/15/96	17.61	53.77	340	21	ND	2.2	3.7	45
	07/11/96	17.98	53.40	540	34	ND	4.3	12	150
	01/17/97	17.08	54.30	320	63	2.4	9.4	26	260
	07/21/97	18.06	53.32	160	13	ND	1.3	1.6	180
	01/14/98	16.52	54.86	66	6.3	ND	ND	0.98	100
	07/06/98	**16.87**	**54.51**	**ND**	**2.3**	**ND**	**ND**	**ND**	**11**
MW-3	09/15/89	--	--	32	ND	ND	ND	ND	--
	01/23/90	--	--	450	110	1.2	4.4	11	--
	04/19/90	--	--	3,100	600	27	54	220	--
	07/17/90	--	--	4,000	270	48	130	250	--
	10/16/90	--	--	740	210	1.4	2.5	82	--
	01/15/91	--	--	3,200	460	1.5	120	270	--
	04/12/91	--	--	880	170	1.1	34	110	--
	07/15/91	--	--	9,200	1,300	230	490	1,900	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #3538

411 West MacArthur Boulevard

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G)	B	T	E	X	MTBE
				<----------ppb---------->					
MW-3	10/15/91	--	--	3,100	390	34	150	390	--
(cont)	01/15/92	--	--	3,000	590	14	310	750	--
	04/14/92	--	--	14,000	660	48	560	2,000	--
	07/14/92	--	--	21,000	890	200	1,200	4,300	--
	10/12/92	--	--	3,200	160	10	230	540	--
	01/08/93	--	--	1,100[2]	48	0.99	0.9	93	--
72.06	04/13/93	17.96	54.10	12,000[2]	290	38	760	2,300	1,400
	07/14/93	18.54	53.52	6,300	190	ND	430	1,000	860
71.86	10/14/93	18.45	53.41	2,500	52	ND	110	250	--
	01/12/94	18.34	53.52	3,800	78	ND	180	390	--
	04/09/94	18.19	53.67	1,800	22	ND	140	280	--
	04/11/94	18.12	53.74	--	--	--	--	--	--
	07/07/94	18.21	53.65	110[1]	4.5	ND	ND	ND	--
	10/05/94	18.58	53.28	ND	ND	ND	ND	ND	--
	01/09/95	17.69	54.17	ND	0.68	ND	ND	ND	--
	04/17/95	17.68	54.18	3,700	80	10	270	510	--
	07/19/95	18.20	53.66	15,000	330	27	990	2,400	--
	10/26/95	18.32	53.54	14,000	420	180	750	1,600	4,800
	01/16/96[3]	17.95	53.91	920	38	ND	30	57	--
	04/15/96	17.78	54.08	9,700	240	ND	570	860	3,200
	07/11/96	18.19	53.67	13,000	69	5.5	430	900	740
	01/17/97	17.23	54.63	4,400	25	ND	270	580	1,600
	07/21/97	18.29	53.57	9,000	36	ND	450	800	950
	01/14/98	16.71	55.15	7,100	40	ND[4]	380	360	930
	07/06/98	**17.03**	**54.83**	**6,800[6]**	**39**	**ND[4]**	**320**	**360**	**370**
MW-4	09/15/89	--	--	ND	ND	ND	ND	ND	--
	01/23/90	--	--	ND	ND	0.4	ND	ND	--
	04/19/90	--	--	ND	ND	0.48	ND	ND	--
	07/17/90	--	--	ND	ND	ND	ND	ND	--
	10/16/90	--	--	ND	ND	ND	ND	ND	--
	01/15/91	--	--	ND	ND	ND	--	ND	--
	04/12/91	--	--	ND	ND	ND	ND	ND	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #3538

411 West MacArthur Boulevard

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G)	B	T	E	X	MTBE
				<----------		ppb			---------->
MW-4	07/15/91	--	--	ND	ND	ND	ND	ND	--
(cont)	07/14/92	--	--	ND	1.3	2.5	ND	1.0	--
71.98	04/13/93	17.67	54.31	SAMPLED ANNUALLY		--	--	--	--
	07/14/93	18.31	53.67	ND	ND	ND	ND	ND	--
71.64	10/14/93	18.08	53.56	--	--	--	--	--	--
	01/12/94	17.97	53.67	--	--	--	--	--	--
	04/11/94	17.70	53.94	--	--	--	--	--	--
	07/07/94	17.80	53.84	ND	ND	ND	ND	ND	--
	10/05/94	18.28	53.36	--	--	--	--	--	--
	01/09/95	17.38	54.26	--	--	--	--	--	--
	04/17/95	17.21	54.43	--	--	--	--	--	--
	07/19/95	17.82	53.82	ND	ND	ND	ND	ND	--
	10/26/95	18.17	53.47	--	--	--	--	--	--
	01/16/96	16.45	55.19	--	--	--	--	--	--
	04/15/96	17.35	54.29	--	--	--	--	--	--
	07/11/96	17.81	53.83	ND	ND	ND	ND	ND	ND
	01/17/97	16.73	54.91	--	--	--	--	--	--
	07/21/97	17.91	53.73	ND	ND	ND	ND	ND	ND
	01/14/98	16.18	55.46	--	--	--	--	--	--
	07/06/98	**16.49**	**55.15**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
MW-5	11/30/92	--	--	ND	ND	ND	ND	ND	--
	01/08/93	--	--	ND	ND	ND	ND	ND	--
71.51	04/13/93	17.49	54.02	ND	ND	ND	ND	ND	--
	07/14/93	18.02	53.49	ND	ND	0.57	ND	ND	--
71.23	10/14/93	17.82	53.41	ND	ND	ND	ND	ND	--
	01/12/94	17.74	53.49	ND	ND	0.84	ND	1.6	--
	04/11/94	17.56	53.67	SAMPLED ANNUALLY		--	--	--	--
	07/07/94	17.50	53.73	ND	ND	ND	ND	ND	--
	10/05/94	17.98	53.25	--	--	--	--	--	--
	01/09/95	17.13	54.10	--	--	--	--	--	--
	04/17/95	17.05	54.18	--	--	--	--	--	--
	07/19/95	17.59	53.64	ND	ND	ND	ND	ND	--
	10/26/95	18.10	53.13	--	--	--	--	--	--
	01/16/96	17.11	54.12	--	--	--	--	--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #3538

411 West MacArthur Boulevard

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G)	B	T	E	X	MTBE
				<----------ppb---------->					
MW-5	04/15/96	17.22	54.01	--	--	--	--	--	--
(cont)	07/11/96	17.59	53.64	ND	ND	ND	ND	ND	ND
	01/17/97	16.75	54.48	--	--	--	--	--	--
	07/21/97	17.59	53.64	ND	ND	ND	ND	ND	ND
	01/14/98	16.16	55.07	--	--	--	--	--	--
	07/06/98	**16.52**	**54.71**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
MW-6	11/30/92	--	--	ND	ND	ND	ND	ND	--
	01/08/93	--	--	ND	ND	ND	ND	ND	--
71.79	04/13/93	11.94	59.85	ND	ND	ND	ND	ND	--
	07/14/93	17.20	54.59	ND	0.99	2.4	ND	1.9	--
71.44	10/14/93	17.21	54.23	ND	ND	0.64	ND	ND	--
	01/12/94	17.44	54.00	ND	ND	1.2	ND	2.9	--
	04/11/94	13.66	57.78	SAMPLED ANNUALLY		--	--	--	--
	07/07/94	14.05	57.39	ND	ND	ND	ND	ND	--
	10/05/94	14.16	57.28	--	--	--	--	--	--
	01/09/95	13.73	57.71	--	--	--	--	--	--
	04/17/95	11.30	60.14	--	--	--	--	--	--
	07/19/95	12.32	59.12	ND	ND	ND	ND	ND	--
	10/26/95	17.88	53.56	--	--	--	--	--	--
	01/16/96	16.38	55.06	--	--	--	--	--	--
	04/15/96	14.00	57.44	--	--	--	--	--	--
	07/11/96	13.58	57.86	ND	ND	ND	ND	ND	ND
	01/17/97	15.42	56.02	--	--	--	--	--	--
	07/21/97	13.78	57.66	ND	ND	ND	ND	ND	ND
	01/14/98	13.65	57.79	--	--	--	--	--	--
	07/06/98	**13.90**	**57.54**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trip Blank									
TB-LB	01/14/98	--	--	ND	ND	ND	ND	ND	ND
	07/06/98	**--**	**--**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #3538

411 West MacArthur Boulevard

Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to January 14, 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 = Referenced relative to sea level

TPH(G) = Total Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes

MTBE = Methyl tertiary butyl ether
ppb = Parts per billion
ND = Not detected
-- = Not Measured/Not Analyzed

* TOC elevations are relative to mean sea level (msl), per the City of Oakland Benchmark #9NW10. (Elevation = 75.50 feet msl). Prior to October 14, 1994, the DTW measurements were taken from the top of well covers.

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

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

3 Laboratory report indicates the presence of MTBE at a level above or equal to the taste and odor threshold of 40 ppb.

4 Detection limit raised. Refer to analytical results.

5 All EPA Method 8010 constituents were ND.

6 Laboratory report indicates gasoline and unidentified hydrocarbons $<$C7.

Table 2

Groundwater Analytical Results

Tosco (Unocal) Service Station #3538
411 West MacArthur Boulevard
Oakland, California

Well ID	Date	TPH(D)	TOG	Tetrachloroethene[1]
		<--------	ppb	-------->
MW-1	09/15/89	ND	ND	2.7
	01/23/90	ND	1.5	2.1
	04/19/90	ND	ND	2.2
	07/17/90	ND	ND	1.7
	10/16/90	ND	ND	2.0
	01/15/91	ND	ND	2.1
	04/12/91	ND	ND	2.0
	07/15/91	ND	ND	1.8
	07/14/92	--	--	1.4
	07/14/93	--	--	0.95
	07/07/94	--	--	0.83
	07/19/95	--	--	0.52
	07/11/96[2]	--	--	0.73
	07/21/97[3]	--	--	0.70

EXPLANATIONS:

Groundwater analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TPH(D) = Total Petroleum Hydrocarbons as Diesel
TOG = Total Oil and Grease
ppb = Parts per billion
ND = Not Detected
-- = Not Analyzed

1 All other EPA Method 8010 constituents were ND.
2 Chloroform was detected at a concentration of 0.96 ppb.
3 Chloroform was detected at a concentration of 1.0 ppb.

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 #3538 Job#: 180064

Address: 411 W. MacArthur Date: 7-8-98

City: Oakland Sampler: Joe

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

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

Total Depth 26.25 ft.

Depth to Water 16.46 ft.

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

9.79 X VF 0.17 = 1.66 X 3 (case volume) = Estimated Purge Volume: 5 (gal.)

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

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

Starting Time: 4:20 Weather Conditions: Clear

Sampling Time: 4:40 P.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 100	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
4:27	1.5	7.12	5.36	66.1			
4:29	3	7.10	5.30	65.7			
4:32	5	7.15	4.98	65.9			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	3 VOA	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe
"	2 VOA	"	"	"	8010

COMMENTS: _____

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 7-6-98

City: Oakland Sampler: Joe

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

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

Total Depth 27.48 ft.

Depth to Water 16.87 ft.

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

10.61 X VF 0.17 = 1.80 X 3 (case volume) = Estimated Purge Volume: 6 (gal.)

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

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

Starting Time: 3:45 Weather Conditions: Clear

Sampling Time: 4:05 p.m. Water Color: Clear Odor: Some

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)
3:55	2	7.30	3.18	66.2			
3:57	4	7.33	3.21	66.1			
3:59	6	7.36	3.16	66.2			

LABORATORY INFORMATION

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

COMMENTS: ____

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 7-6-98

City: Oakland Sampler: Joe

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

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

Total Depth 25.10 ft.

Depth to Water 17.03 ft.

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

8.07 X VF 0.17 = 1.37 X 3 (case volume) = Estimated Purge Volume: 4.5 (gal.)

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

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

Starting Time: 3:00 Weather Conditions: Clear

Sampling Time: 3:30 P.M. Water Color: clear Odor: mild

Purging Flow Rate: 0.5 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)
3:15	1.5	7.46	2.67	65.9			
3:17	3	7.30	2.73	65.8			
3:20	4.5	7.27	2.78	65.4			

LABORATORY INFORMATION

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

COMMENTS: _____

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 7-6-98

City: Oakland Sampler: Joe

Well ID MW-5 Well Condition: O.K. Replaced well plug

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

Total Depth 30.14 ft.

Depth to Water 16.52 ft.

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

13.62 X VF 0.17 = 2.32 X 3 (case volume) = Estimated Purge Volume: 7 (gal.)

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

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

Starting Time: 1:40 Weather Conditions: Clear

Sampling Time: 2:07 P.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	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1:50	2.5	7.10	6.33	65.7			
1:55	5	7.05	6.35	66.0			
1:59	7	7.05	6.30	65.9			

LABORATORY INFORMATION

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

COMMENTS:

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/ Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 7-6-98

City: Oakland Sampler: Joe

Well ID MW-4 Well Condition: O.K. - Replaced well plug

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

Total Depth 28.72 ft.

Depth to Water 16.49 ft.

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

12.23 X VF 0.17 = 2.10 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: 2:30 Weather Conditions: Clear

Sampling Time: 2:50 P.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 1000	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
2:38	2	7.50	4.46	65.2			
2:41	4	7.46	4.42	65.7			
2:44	6.5	7.46	4.41	65.2			

LABORATORY INFORMATION

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

COMMENTS: ____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 7-6-98

City: Oakland Sampler: Joe

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

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

Total Depth: 30.05 ft.

Depth to Water: 13.90 ft.

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

16.15 X VF 0.17 = 2.75 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: 1:00 Weather Conditions: Clear

Sampling Time: 1:30 P.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)
1:10	3	7.17	5.80	65.5			
1:13	5	7.20	6.15	65.4			
1:17	8	7.24	6.21	66.0			

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

Facility Number: UNOCAL SS# 3538
Facility Address: 411 W. MacArthur Blvd. Oakland, CA
Consultant Project Number: 180064
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 BERRY
(Phone) 510-277-2321
Laboratory Name: Sequoia Analytical
Laboratory Release Number:
Samples Collected by (Name): JOE AJEMIAN
Collection Date: 7-6-98 980706
Signature:

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: TPH Gas + BTEX w/MTBE (8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					DO NOT BILL TB-LB ANALYSIS Remarks
TB-LB		1/05	W	-	-	HCL	Y	✓												8070426
MW-1		5/40A	"	G	4:40 P.W	"	"	✓			✓									8070427 A-E
MW-2		3/40A	"	"	4:05 P.W	"	"	✓												8070428 AC
MW-3		"	"	"	3:30 P.W	"	"	✓												8070429
MW-4		"	"	"	2:50 P.W	"	"	✓												8070430
MW-5		"	"	"	2:07 P.W	"	"	✓												8070431
MW-6		"	"	"	1:30 P.W	"	"	✓												8070432

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G-R Inc.	7-6-98 6:30 P.W			
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
					7/6/98 1800

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

7-7 16:10 received THANK 7-7

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
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 - Dublin	Client Project ID:	Unocal SS#3538, Oakland	Sampled: Jul 6, 1998
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received: Jul 7, 1998
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Jul 22, 1998
Attention: Deanna Harding	First Sample #:	807-0426	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 807-0426 TB-LB	Sample I.D. 807-0427 MW-1	Sample I.D. 807-0428 MW-2	Sample I.D. 807-0429 MW-3	Sample I.D. 807-0430 MW-4	Sample I.D. 807-0431 MW-5
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	6,800	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	2.3	39	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	320	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	N.D.	360	N.D.	N.D.
MTBE	2.5	N.D.	N.D.	11	370	N.D.	N.D.
Chromatogram Pattern:		--	--	--	Gasoline & Unidentified Hydrocarbons <C7	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	50	1.0	1.0
Date Analyzed:	7/17/98	7/20/98	7/20/98	7/20/98	7/17/98	7/17/98
Instrument Identification:	HP-5	HP-2	HP-2	HP-2	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	77	103	116	110	88	83

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

Julianne Fegley
Project Manager

8070426.GET <1>

Sequoia Analytical

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

Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#3538, Oakland	Sampled:	Jul 6, 1998
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received:	Jul 7, 1998
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Jul 22, 1998
Attention: Deanna Harding	First Sample #:	807-0432		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 807-0432 MW-6
Purgeable Hydrocarbons	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Total Xylenes	0.50	N.D.
MTBE	2.5	N.D.
Chromatogram Pattern:		--

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	7/17/98
Instrument Identification:	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	73

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

8070426.GET <2>

Sequoia Analytical

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

Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#3538, Oakland	Sampled:	Jul 6, 1998
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-1	Received:	Jul 7, 1998
Dublin, CA 94568	Analysis Method:	EPA 5030/8010	Analyzed:	Jul 11, 1998
Attention: Deanna Harding	Lab Number:	807-0427	Reported:	Jul 22, 1998

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Surrogates	Control Limit %		% Recovery
Dibromodifluoromethane	50	150	79
4-Bromofluorobenzene	50	150	86

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley

Julianne Fegley
Project Manager

8070426.GET <3>

Sequoia Analytical

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

Client Project ID: Unocal SS#3538, Oakland
Matrix: Liquid
QC Sample Group: 8070426-432
Reported: Jul 22, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC072098	GC072098	GC072098	GC072098
	802002A	802002A	802002A	802002A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8070427	8070427	8070427	8070427
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/20/98	7/20/98	7/20/98	7/20/98
Analyzed Date:	7/20/98	7/20/98	7/20/98	7/20/98
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
Result:	20	20	19	60
MS % Recovery:	100	100	95	100
Dup. Result:	20	19	19	60
MSD % Recov.:	100	95	95	100
RPD:	0.0	5.1	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	2LCS072098	2LCS072098	2LCS072098	2LCS072098
Prepared Date:	7/20/98	7/20/98	7/20/98	7/20/98
Analyzed Date:	7/20/98	7/20/98	7/20/98	7/20/98
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
LCS Result:	17	17	18	54
LCS % Recov.:	85	85	90	90

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley

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.

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

Sequoia Analytical

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

Client Project ID: Unocal SS#3538, Oakland
Matrix: Liquid
QC Sample Group: 8070426-432

Reported: Jul 22, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC071798	GC071798	GC071798	GC071798
	802005A	802005A	802005A	802005A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater
MS/MSD #:	8070593	8070593	8070593	8070593
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/17/98	7/17/98	7/17/98	7/17/98
Analyzed Date:	7/17/98	7/17/98	7/17/98	7/17/98
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
Result:	18	18	18	57
MS % Recovery:	90	90	90	95
Dup. Result:	19	19	19	59
MSD % Recov.:	95	95	95	98
RPD:	5.4	5.4	5.4	3.4
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	5LCS071798	5LCS071798	5LCS071798	5LCS071798
Prepared Date:	7/17/98	7/17/98	7/17/98	7/17/98
Analyzed Date:	7/17/98	7/17/98	7/17/98	7/17/98
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
LCS Result:	19	19	19	60
LCS % Recov.:	95	95	95	100

MS/MSD LCS 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.

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

Sequoia Analytical

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404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
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 - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal SS#3538, Oakland
Matrix: Liquid
QC Sample Group: 8070426-432
Reported: Jul 22, 1998

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
QC Batch#:	GC071098 801006A	GC071098 801006A	GC071098 801006A
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030
Analyst:	N. Nelson	N. Nelson	N. Nelson
MS/MSD #:	8070342	8070342	8070342
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	7/10/98	7/10/98	7/10/98
Analyzed Date:	7/10/98	7/10/98	7/10/98
Instrument I.D.#:	HP-6	HP-6	HP-6
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L
Result:	16	16	15
MS % Recovery:	80	80	75
Dup. Result:	17	16	16
MSD % Recov.:	85	80	80
RPD:	6.1	0.0	6.5
RPD Limit:	0-25	0-25	0-25

LCS #:	LCS071098	LCS071098	LCS071098
Prepared Date:	7/10/98	7/10/98	7/10/98
Analyzed Date:	7/10/98	7/10/98	7/10/98
Instrument I.D.#:	HP-6	HP-6	HP-6
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L
LCS Result:	18	17	16
LCS % Recov.:	90	85	80

MS/MSD LCS Control Limits	65-135	70-130	70-130

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

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