GETTLER-RYAN INC.

TRANSMITTAL

LOP 3627 RO251

March 29, 1999
G-R #:180064

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

CC: Mr. David Vossler
Gettler-Ryan Inc.
Novato, California 94945

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	March 25, 1999	Groundwater Monitoring and Sampling Report Semi-Annual 1999 - Event of January 13, 1999

COMMENTS:

This report is being sent to you for your review/comment, prior to being distributed on your behalf. If no comments are received by ***April 12, 1999***, this report will be distributed to the following:

Enclosure

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

agency/3538dbd.qmt

GETTLER-RYAN INC.

March 25, 1999
G-R Job #180064

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 #3538
411 West MacArthur Boulevard
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 January 13, 1999, field personnel monitored six wells (MW-1 through MW-6) and sampled two wells (MW-2 and MW-3) 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,

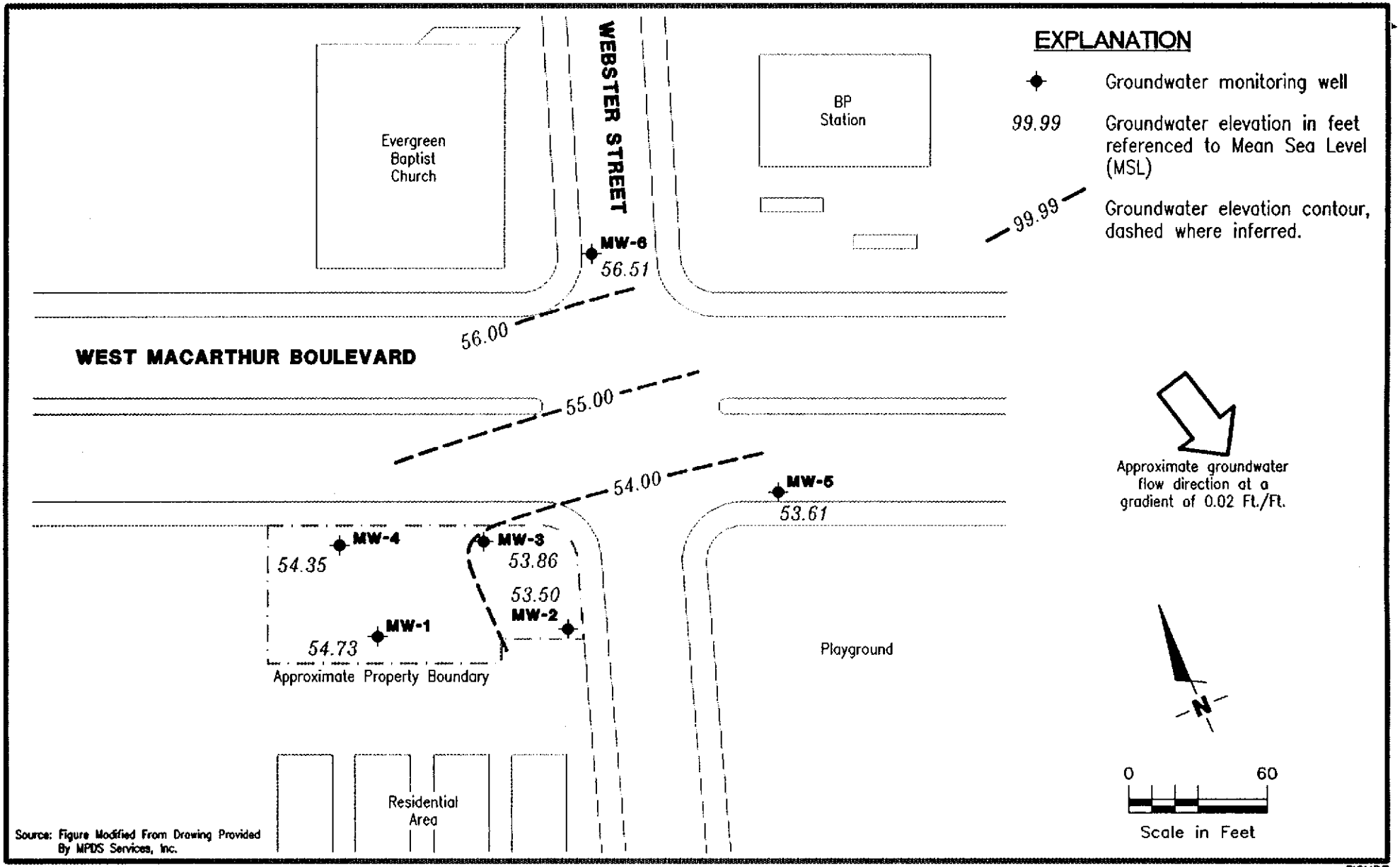
Deanna L. Harding
Project Coordinator

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



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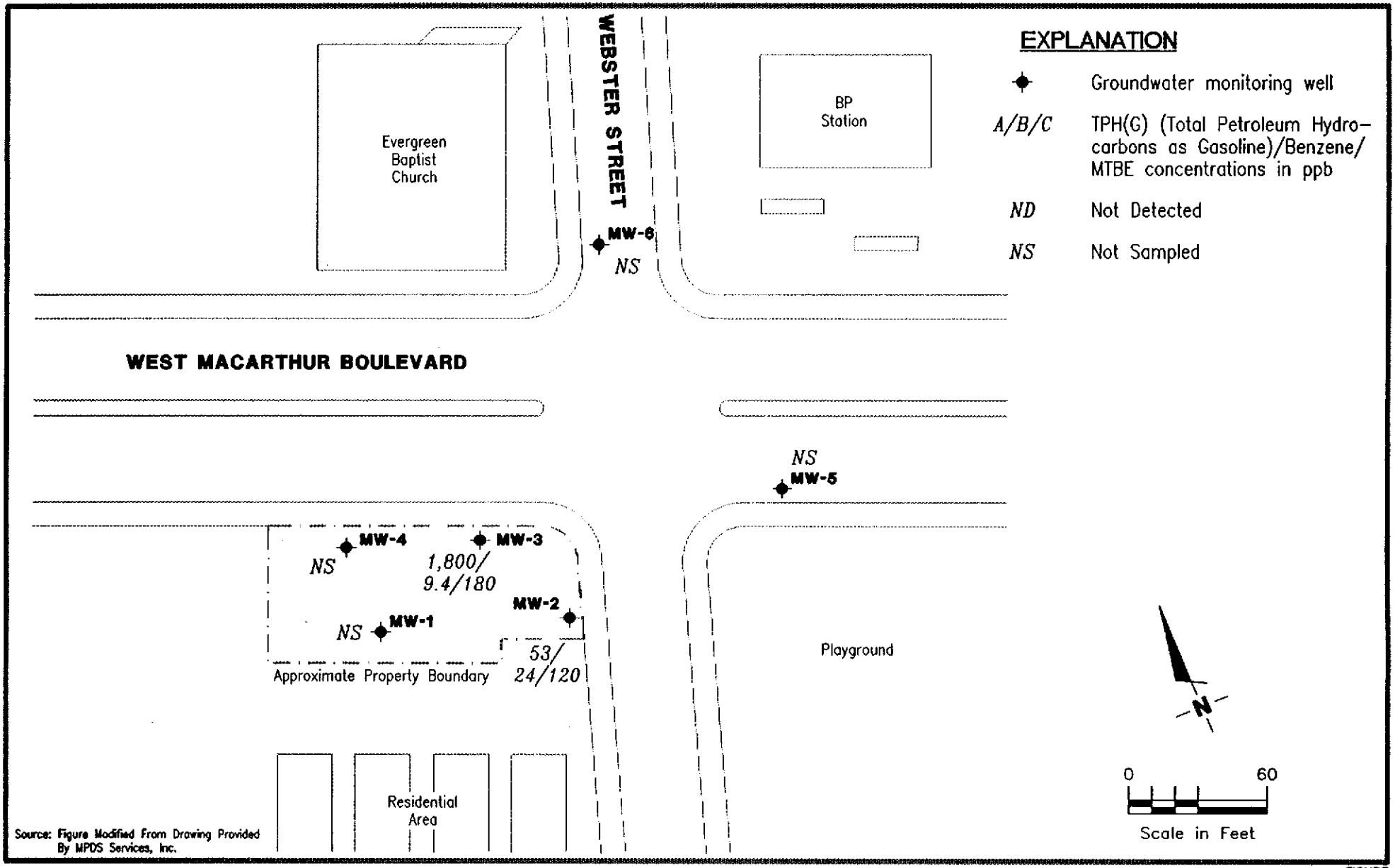
Dublin, CA 94568

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

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180064		January 13, 1999	



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

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Dublin, CA 94568

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

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180064		January 13, 1999	

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) *(ppb)*	B *(ppb)*	T *(ppb)*	E *(ppb)*	X *(ppb)*	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
	01/13/99	**17.37**	**54.73**	--	--	--	--	--	--
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) *(ppb)*	B *(ppb)*	T *(ppb)*	E *(ppb)*	X *(ppb)*	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
	01/13/99	**17.88**	**53.50**	**53**	**24**	**ND**	**0.52**	**0.98**	**120**
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) *(ppb)*	B *(ppb)*	T *(ppb)*	E *(ppb)*	X *(ppb)*	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
	01/13/99[7]	**18.00**	**53.86**	**1,800**	**9.4**	**ND[4]**	**58**	**36**	**180**
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) *(ppb)*	B *(ppb)*	T *(ppb)*	E *(ppb)*	X *(ppb)*	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
	01/13/99	**17.29**	**54.35**	--	--	--	--	--	--
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) *(ppb)*	B *(ppb)*	T *(ppb)*	E *(ppb)*	X *(ppb)*	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
	01/13/99	**17.62**	**53.61**	--	--	--	--	--	--
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
	01/13/99	**14.93**	**56.51**	--	--	--	--	--	--

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) *(ppb)*	B *(ppb)*	T *(ppb)*	E *(ppb)*	X *(ppb)*	MTBE *(ppb)*
Trip Blank									
TB-LB	01/14/98	--	--	ND	ND	ND	ND	ND	ND
	07/06/98	--	--	ND	ND	ND	ND	ND	ND
	01/13/99	--	--	**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.
7 TOC measurement may have been altered due to damaged casing.

Table 2

Groundwater Analytical Results

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

Well ID	Date	TPH(D) *(ppb)*	TOG *(ppb)*	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: 1-13-99

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 26.25 ft.

Depth to Water 17.37 ft.

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

_____ X VF 0.17 = _____ 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: clear

Sampling Time: _____ Water Color: Clear Odor: none

Purging Flow Rate: _____ 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)

LABORATORY INFORMATION

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

COMMENTS: MW. only.

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 1-13-99

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 27.48 ft.

Depth to Water 17.88 ft.

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

9.6 X VF 0.17 = 1.63 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: 8:58 Weather Conditions: clear

Sampling Time: 9:35 A.M. Water Color: clear Odor: none

Purging Flow Rate: 0.5 gpm. Sediment Description: none

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

Time	Volume (gal.)	pH	Conductivity (mS) µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:08	1.5	7.68	4.17	65.1			
9:09	3	7.52	3.92	65.0			
9:12	5	7.41	3.85	65.3			

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: 1-13-99

City: Oakland Sampler: Joe

Well ID mw-3 Well Condition: ~~OK~~ Well vault & casing completely destroyed

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

Total Depth 25.10 ft.

Depth to Water 18.09 ft.

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

7.1 X VF 0.17 = 1.21 X 3 (case volume) = Estimated Purge Volume: 4 (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 PM Water Color: Clear Odor: yes

Purging Flow Rate: 0.5 gpm. Sediment Description: none

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

Time	Volume (gal.)	pH	Conductivity (x 10³) µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1:12	1.5	7.20	3.12	65.1			
1:14	3	7.18	3.16	65.5			
1:16	4	7.20	3.18	65.5			

LABORATORY INFORMATION

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

COMMENTS: Well box should be replaced + casing repaired. Badly damaged well is exposed to the elements! • Talked to Haight John from the field about the status of the well. Temporarily broken casing is now wrapped with plastic.

To find buried well a metal detector was used. Much gravel & dirt removed. Plans [illegible]

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 1-13-99

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 28.72 ft.

Depth to Water 17.29 ft.

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

_____ X VF 0.17 = _____ 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: clear

Sampling Time: _____ Water Color: clear Odor: _____

Purging Flow Rate: _____ gpm. Sediment Description: none

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm x 1	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)

LABORATORY INFORMATION

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

COMMENTS: M. only

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 1-13-99

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 30.14 ft.

Depth to Water 17.62 ft.

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

_____ X VF 0.17 = _____ 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: clear

Sampling Time: _____ Water Color: clear Odor: _____

Purging Flow Rate: _____ 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)

LABORATORY INFORMATION

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

COMMENTS: M. only

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WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #3538 Job#: 180064

Address: 411 W. MacArthur Date: 1-13-99

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 30.05 ft.

Depth to Water 14.93 ft.

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

_____ X VF 0.17 = _____ X 3 (case volume) = Estimated Purge Volume: _____ (gal.)

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

Starting Time: _____ Weather Conditions: clear

Sampling Time: _____ Water Color: clear Odor: _____

Purging Flow Rate: _____ 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)

LABORATORY INFORMATION

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

COMMENTS: mw. only

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 9901248
Laboratory Release Number:
Samples Collected by (Name): JOE ASEMIAN
Collection Date: 1-13-98
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 ANALYS Remarks
TB-LB		3 voA	W	—	—	HCl	Y	✓									9010952			
MW-2		3 voA	"	G	9:35 A.M.	"	"	✓									9010953	A-C		
MW-3		"	"	"	1:30 P.M.	"	"	✓									9010954	↓		

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G-R Inc.	1-13-98 4:30 P.M.		CBC	1-14 1500
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	CBC	1-14 1900			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
	STQ LAB	1/14/98			1430-98 1430

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

JBKIMS 1/14 1900

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:	Jan 13, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received:	Jan 14, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Jan 28, 1999
Attention: Deanna Harding	First Sample #:	901-0952		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 901-0952 TB-LB	Sample I.D. 901-0953 MW-2	Sample I.D. 901-0954 MW-3
Purgeable Hydrocarbons	50	N.D.	53	1,800
Benzene	0.50	N.D.	24	9.4
Toluene	0.50	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	0.52	58
Total Xylenes	0.50	N.D.	0.98	36
MTBE	2.5	N.D.	120	180
Chromatogram Pattern:		--	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	10
Date Analyzed:	1/23/99	1/25/99	1/25/99
Instrument Identification:	HP-9	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	97	123	105

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

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: 9010952-954

Reported: Jan 28, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater
MS/MSD Batch#:	9010953	9010953	9010953	9010953
Date Prepared:	1/23/99	1/23/99	1/23/99	1/23/99
Date Analyzed:	1/23/99	1/23/99	1/23/99	1/23/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	115	110	112	114
Matrix Spike Duplicate % Recovery:	115	110	112	117
Relative % Difference:	0.0	0.0	0.0	2.7
LCS Batch#:	9LCS012399	9LCS012399	9LCS012399	9LCS012399
Date Prepared:	1/23/99	1/23/99	1/23/99	1/23/99
Date Analyzed:	1/23/99	1/23/99	1/23/99	1/23/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	110	110	110	115
% 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

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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: 9010952-954

Reported: Jan 28, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater
MS/MSD Batch#:	9010894	9010894	9010894	9010894
Date Prepared:	1/25/99	1/25/99	1/25/99	1/25/99
Date Analyzed:	1/25/99	1/25/99	1/25/99	1/25/99
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	98
Matrix Spike Duplicate % Recovery:	105	95	95	108
Relative % Difference:	4.9	5.4	0.0	9.7
LCS Batch#:	2LCS012599	2LCS012599	2LCS012599	2LCS012599
Date Prepared:	1/25/99	1/25/99	1/25/99	1/25/99
Date Analyzed:	1/25/99	1/25/99	1/25/99	1/25/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	100	95	95	105
% 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.