505

GETTLER-RYAN INC.

TRANSMITTAL

May 18, 1999
G-R #: 180012

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

CC: Mr. Doug Lee
Gettler-Ryan Inc.
Dublin, California

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

RE: Tosco (Unocal) SS #5484
18950 Lake Chabot Road
Castro Valley, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	May 13, 1999	Groundwater Monitoring and Sampling Report Annual 1999 - Event of March 25, 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 ***May 28, 1999***, this report will be distributed to the following:

Enclosure

cc: **Alameda County Health Care Services, 1131 Harbor Bay Parkway, Alameda, CA 94501**

99 JUN -2 AM 9:21

ENVIRONMENTAL PROTECTION

agency/5484dbd.qmt

GETTLER-RYAN INC.

May 13, 1999
G-R Job #180012

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

RE: Annual 1999 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #5484
18950 Lake Chabot Road
Castro Valley, California

Dear Mr. De Witt:

This report documents the annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On March 25, 1999, field personnel monitored five wells (MW-2 and MW-4 through MW-7) and sampled three wells (MW-4, MW-5 and MW-7) 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. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

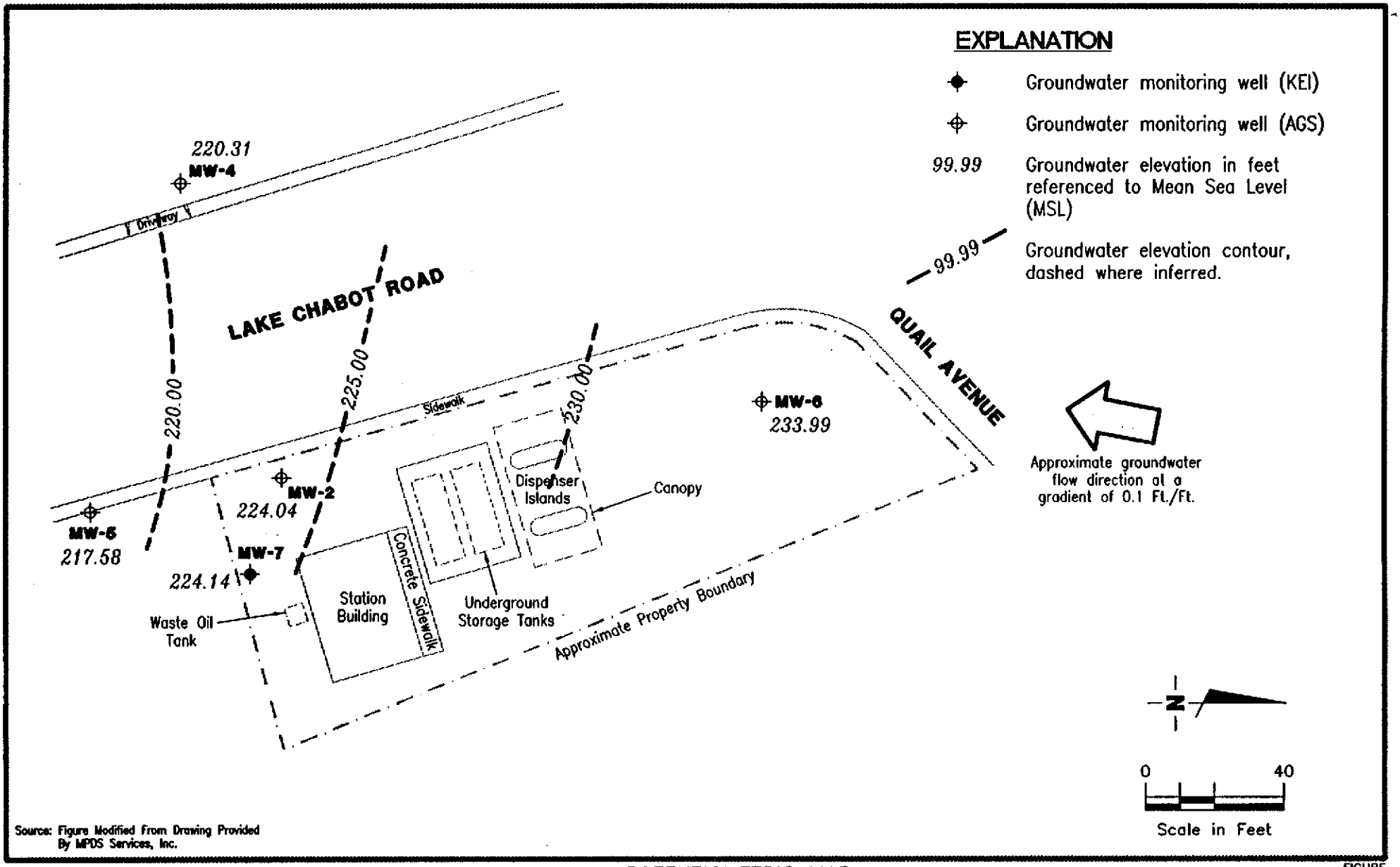
Deanna L. Harding
Project Coordinator

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

5484.qml



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

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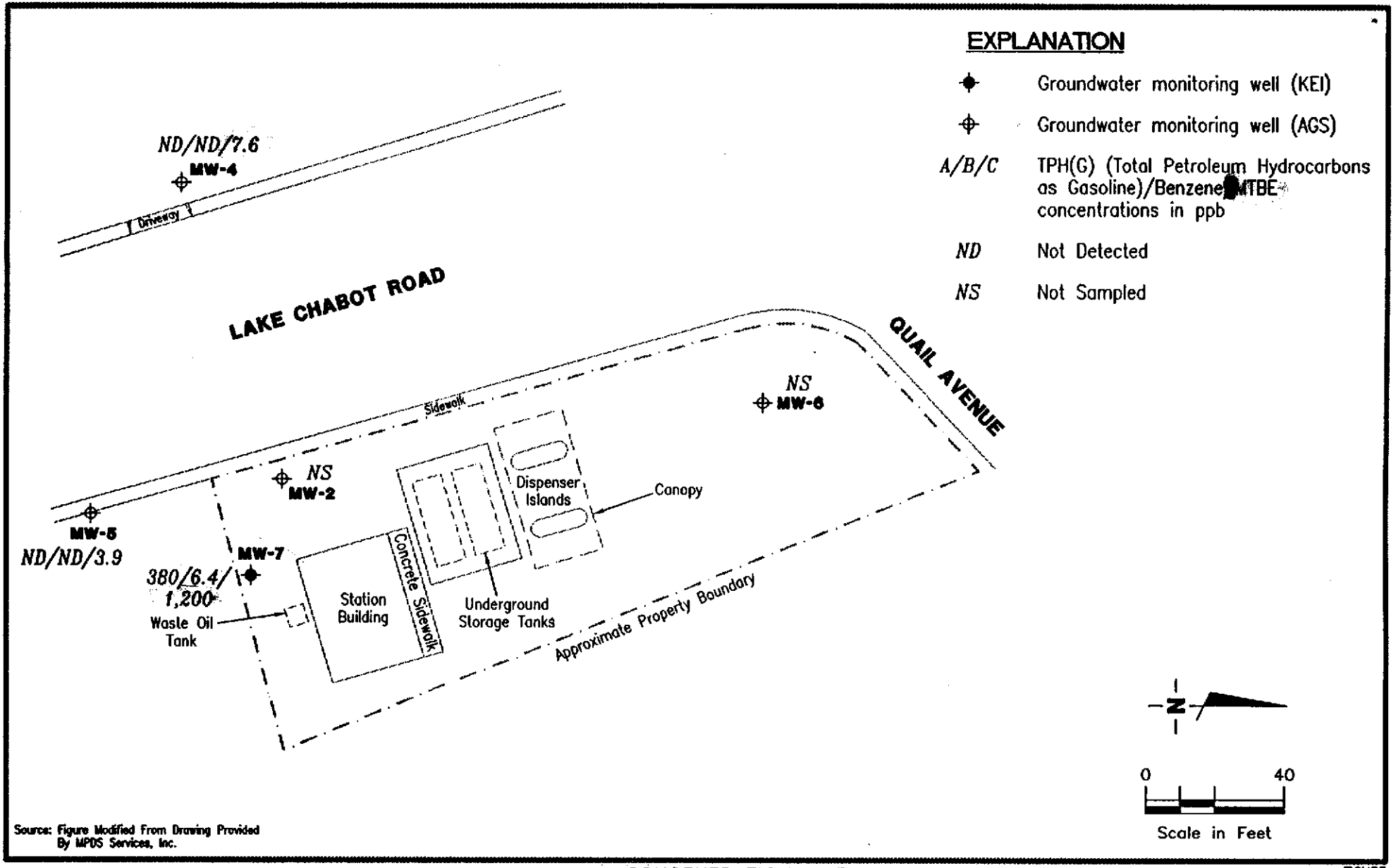
Dublin, CA 94568

POTENTIOMETRIC MAP
Tosco (Unocal) Service Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180012		March 25, 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. 5484
18950 Lake Chabot Road
Castro Valley, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180012		March 25, 1999	

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5484
18950 Lake Chabot Road
Castro Valley, 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)
MW-2	05/23/91	--	--	--	ND	ND	ND	ND	ND	--
	09/20/91	--	--	--	ND	ND	ND	ND	ND	--
	12/19/91	--	--	--	140	0.66	ND	0.64	1.2	--
	03/20/92	--	--	--	120	ND	ND	ND	ND	--
	06/18/92	--	--	--	140[1]	ND	ND	ND	ND	--
	09/10/92	--	--	--	61[1]	ND	ND	ND	ND	110
	12/10/92	--	--	--	100[1]	ND	ND	ND	ND	170
229.47	03/10/93	4.69	224.78	--	110[1]	ND	ND	ND	ND	350
	06/09/93	5.85	223.62	--	120[1]	ND	ND	ND	ND	300
228.88	09/09/93	6.59	222.29	--	210[1]	ND	ND	ND	ND	--
	12/09/93	6.94	221.94	--	96[1]	ND	ND	ND	ND	--
	03/03/94	4.91	223.97	--	240[1]	ND	ND	ND	ND	--
	06/03/94	5.71	223.17	--	190[1]	ND	ND	ND	ND	--
	09/02/94	7.05	221.83	--	720	ND	ND	ND	4.6	--
	12/01/94	6.98	221.90	--	200	0.70	ND	0.58	ND	--
	03/01/95	4.60	224.28	--	ND	ND	ND	ND	ND	--
	06/01/95	4.65	224.23	--	420[1]	ND	ND	ND	ND	--
	09/05/95	5.66	223.22	--	ND	ND	0.80	ND	0.74	--[5]
	12/05/95	6.32	222.56	--	ND	ND	ND	ND	ND	390
	04/11/96	4.22	224.66	NOT SAMPLED[6]		--	--	--	--	--
	03/13/97	6.58	222.30	--	--	--	--	--	--	--
	03/02/98	5.18	223.70	--	--	--	--	--	--	--
	03/25/99	**4.84**	**224.04**	--	--	--	--	--	--	--
MW-4	05/23/91	--	--	--	ND	ND	ND	ND	ND	--
	09/20/91	--	--	SAMPLED SEMI-ANNUALLY		--	--	--	--	--
	12/19/91	--	--	--	ND	ND	ND	ND	ND	--
	03/20/92	--	--	--	--	--	--	--	--	--
	06/18/92	--	--	--	ND	0.41	0.84	ND	0.55	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5484

18950 Lake Chabot Road

Castro Valley, 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)
MW-4	09/10/92	--	--	--	--	--	--	--	--	--
(cont)	12/10/92	--	--	--	ND	ND	ND	ND	ND	--
228.08	03/10/93	7.24	220.84	--	ND	ND	ND	ND	ND	--
	06/09/93	8.79	219.29	--	ND	ND	ND	ND	ND	--
227.77	09/09/93	9.91	217.86	--	ND	ND	ND	ND	ND	--
	12/09/93	INACCESSIBLE		--	--	--	--	--	--	--
	03/03/94	6.98	220.79	--	ND	ND	ND	ND	ND	--
	06/03/94	8.26	219.51	--	ND	ND	ND	ND	ND	--
	09/02/94	10.08	217.69	--	ND	ND	ND	ND	ND	--
	12/01/94	10.01	217.76	--	ND	ND	ND	ND	ND	--
	03/01/95	7.29	220.48	--	ND	ND	1.1	ND	0.75	--
	06/01/95	7.65	220.12	--	ND	ND	0.78	ND	1.7	--
	09/05/95	9.27	218.50	--	ND	ND	0.70	ND	0.71	--
	12/05/95	9.92	217.85	--	ND	ND	ND	ND	ND	0.68
	04/11/96	7.55	220.22	--	ND	ND	ND	ND	ND	ND
	03/13/97	9.84	217.93	--	ND	ND	ND	ND	ND	ND
	03/02/98	8.84	218.93	--	ND	ND	ND	ND	ND	ND
	03/25/99	**7.46**	**220.31**	**--**	**ND**	**ND**	**ND**	**ND**	**ND**	**7.6**
MW-5	05/23/91	--	--	--	ND	ND	ND	ND	ND	--
	09/20/91	--	--	450	ND	ND	ND	ND	ND	--
	10/10/91	--	--	ND	--	--	--	--	--	--
	12/19/91	--	--	--	ND	ND	ND	ND	ND	--
	03/20/92	--	--	170	ND	ND	ND	ND	ND	--
	06/18/92	--	--	ND	ND	ND	ND	ND	ND	--
	09/10/92	--	--	110[2]	ND	ND	ND	ND	ND	--
	12/10/92	--	--	83[3]	ND	ND	ND	ND	ND	--
225.42	03/10/93	7.67	217.75	69[2]	ND	ND	ND	ND	ND	--
	06/09/93	8.57	216.85	64	ND	ND	ND	ND	ND	--
225.11	09/09/93	9.12	215.99	58[3]	ND	ND	ND	ND	ND	--
	12/09/93	9.97	215.14	87[3]	ND	ND	ND	ND	ND	--
	03/03/94	7.87	217.24	ND	ND	ND	ND	0.71	1.7	ND
	06/03/94	9.01	216.10	80[3]	ND	ND	ND	ND	ND	--
	09/02/94	9.23	215.88	130[2]	ND	ND	ND	ND	ND	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5484
18950 Lake Chabot Road
Castro Valley, 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)
MW-5	12/01/94	9.18	215.93	79[2]	ND	ND	ND	ND	ND	--
(cont)	03/01/95	7.98	217.13	ND	ND	ND	ND	ND	ND	--
	06/01/95	8.21	216.90	57[2]	ND	ND	ND	ND	ND	--
	09/05/95	9.57	215.54	210[2]	ND	ND	0.95	ND	0.87	--[5]
	12/05/95	9.60	215.51	170[2]	ND	ND	ND	ND	ND	27
	04/11/96	7.48	217.63	--	ND	ND	ND	ND	ND	56
	03/13/97	9.56	215.55	--	ND	ND	ND	ND	ND	ND
	03/02/98	8.96	216.15	--	ND	ND	ND	ND	ND	ND
	03/25/99	**7.53**	**217.58**	**--**	**ND**	**ND**	**ND**	**ND**	**ND**	**3.9**
MW-6	05/23/91	--	--	--	ND	ND	ND	ND	ND	--
	09/20/91	--	--	SAMPLED SEMI-ANNUALLY		--	--	--	--	--
	12/19/91	--	--	--	ND	ND	ND	ND	ND	--
	06/18/92	--	--	--	ND	ND	ND	ND	ND	--
	12/10/92	--	--	--	ND	ND	ND	ND	ND	--
239.38	03/10/93	5.32	234.06	--	--	--	--	--	--	--
	06/09/93	5.94	233.44	--	ND	ND	ND	ND	ND	--
239.04	09/09/93	6.82	232.22	--	--	--	--	--	--	--
	12/09/93	7.43	231.61	--	150	ND	ND	ND	1.7	--
	03/03/94	6.45	232.59	--	--	--	--	--	--	--
	06/03/94	5.81	233.23	--	ND	ND	ND	ND	ND	--
	09/02/94	6.98	232.06	--	--	--	--	--	--	--
	12/01/94	6.92	232.12	--	ND	ND	ND	ND	ND	--
	03/01/95	5.17	233.87	--	--	--	--	--	--	--
	06/01/95	4.76	234.28	--	ND	ND	0.70	ND	1.7	--
	09/05/95	5.69	233.35	--	--	--	--	--	--	--
	12/05/95	6.75	232.29	--	ND	ND	ND	ND	ND	1.4
	04/11/96	4.28	234.76	NOT SAMPLED[6]		--	--	--	--	--
	03/13/97	7.05	231.99	--	--	--	--	--	--	--
	03/02/98	5.14	233.90	--	--	--	--	--	--	--
	03/25/99	**5.05**	**233.99**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5484
18950 Lake Chabot Road
Castro Valley, 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)
MW-7	05/23/91	--	--	540	3,000	160	1.2	25	120	--
	09/20/91	--	--	580	1,400	160	0.75	89	130	--
	12/19/91	--	--	770	3,900	240	2.4	280	270	--
	03/20/92	--	--	3,200	11,000	980	ND	990	1,600	--
	06/18/92	--	--	990[2]	5,500	340	4.2	380	410	--
	09/10/92	--	--	290[2]	2,100	160	1.9	140	150	--
	12/10/92	--	--	200[3]	1,200	28	ND	37	13	--
231.66	03/10/93	7.69	223.97	1,100[2]	4,400	310	ND	300	330	--
	06/09/93	8.59	223.07	830[3]	4,600	430	ND	510	430	--
231.39	09/09/93	10.11	221.28	550[3]	2,600[4]	160	19	250	120	--
	12/09/93	10.65	220.74	250[2]	980	54	4.6	71	5.6	--
	03/03/94	8.17	223.22	1,400[2]	9,300	290	ND	590	400	1.7
	06/03/94	8.73	222.66	2,000[2]	9,400	380	5.0	820	240	--
	09/02/94	11.00	220.39	490[2]	3,800	77	ND	180	42	--
	12/01/94	10.95	220.44	260[2]	3,100	80	ND	250	190	--
	03/01/95	8.03	223.36	1,900[3]	3,300	200	3.9	300	350	--
	06/01/95	7.92	223.47	1,600[2]	3,900	170	ND	400	430	--
	09/05/95	8.61	222.78	ND	710	32	ND	85	33	--[5]
	12/05/95	9.69	221.70	110[2]	400	23	ND	34	16	1,600
	12/08/95	9.59	221.80	--	--	--	--	--	--	--
	04/11/96	7.31	224.08	--	1,500	52	ND	160	130	1,500
	03/13/97	9.48	221.91	--	460	13	ND	31	4.0	430
	03/02/98	7.93	223.46	--	1,800	63	ND[7]	240	60	790
	03/25/99	**7.25**	**224.14**	--	**380**	**6.4**	**ND[7]**	**10**	**4.9**	**1,200**
Trip Blank										
TB-LB	03/02/98	--	--	--	ND	ND	ND	ND	ND	ND
	03/25/99	--	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station 5484
18950 Lake Chabot Road
Castro Valley, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to March 2, 1998, were provided by MPDS Services, Inc.

TOC = Top of Casing
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

ppb = Parts per billion
ND = Not Detected
-- = Not Measured/Not Analyzed

* TOC elevations are relative to Mean Sea Level (msl), per the Alameda County Benchmark (Elevation = 219.68 feet msl). Prior to September 9, 1993, DTW measurements were taken from the top of well covers.

[1] Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

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

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

[4] Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

[5] Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.

[6] Sampling discontinued per Alameda County Health Care Services letter dated April 1, 1996.

[7] Detection limit raised. Refer to analytical results.

Table 2

Groundwater Analytical Results

Tosco (Unocal) Service Station #5484

18950 Lake Chabot Road

Castro Valley, California

Well ID	Date	TOG (ppm)	Bis (2-ethylhexyl) phthalate (ppb)	2-Methyl-naphthalene (ppb)	Naphthalene (ppb)	1,2-Dichloroethane (ppb)
MW-4	04/11/96	--	ND	ND	ND	ND
	03/13/97	--	ND	ND	ND	ND
	03/02/98[6]	--	--	--	--	ND
	03/25/99	**--**	**ND**	**ND**	**ND**	**ND**
MW-5	03/10/93	--	ND	ND	ND	ND
	06/09/93	--	--	--	--	ND
	09/09/93	--	--	--	--	ND
	12/09/93	--	--	--	--	ND
	03/03/94	--	--	--	--	ND
	06/03/94	--	--	--	--	ND
	09/02/94	--	--	--	--	ND
	12/01/94	--	--	--	--	ND
	03/01/95	--	--	--	--	ND
	06/01/95	--	--	--	--	ND
	09/05/95	--	--	--	--	ND
	12/05/95	--	--	--	--	ND
	04/11/96	--	ND	ND	ND	ND
	03/13/97	--	740	ND	ND	ND
	03/02/98[6]	--	--	--	--	ND
	03/25/99	**--**	**ND**	**ND**	**ND**	**ND**
MW-7	05/23/91	ND	--	--	--	3.4
	09/20/91	ND	--	--	--	ND
	12/19/91	ND	--	--	--	3.1
	03/20/92	ND	--	--	--	ND
	06/18/92	ND	--	--	--	ND
	09/10/92	--	--	--	--	2.3
	12/10/92	--	--	--	--	2.0
	03/10/93[1]	--	13	19	83	1.3
	06/09/93[2]	--	13	19	83	1.3
	09/09/93[3]	--	ND	11	48	1.5
	12/09/93	--	ND	ND	15	1.5
	03/03/94	--	ND	34	130	1.7
	06/03/94	--	ND	18	61	1.4
	09/02/94	--	ND	ND	ND	1.1
	12/01/94	--	ND	ND	2.5	1.0
	03/01/95[4]	--	ND	40	120	1.6
	06/01/95	--	ND	13	83	1.4
	09/05/95	--	ND	ND	7.0	1.8
	12/05/95[5]	--	--	--	--	ND
	12/08/95	--	ND	ND	14	--
	04/11/96	--	ND	7.6	42	0.75

Table 2

Groundwater Analytical Results

Tosco (Unocal) Service Station #5484
18950 Lake Chabot Road
Castro Valley, California

Well ID	Date	TOG (ppm)	Bis (2-ethylhexyl) phthalate (ppb)	2-Methyl-naphthalene (ppb)	Naphthalene (ppb)	1,2-Dichloroethane (ppb)
MW-7	03/13/97	--	120	ND	9.0	ND
(cont)	03/02/98[6]	--	--	--	--	0.92
	03/25/99	--	**ND**	**ND**	**ND**	**ND**

EXPLANATIONS:

Groundwater analytical results prior to March 2, 1998, were provided by MPDS Services, Inc.

TOG = Total Oil and Grease
ppb = Parts per billion
ppm = Parts per million
ND = Not Detected
-- = Not Analyzed

[1] Nine "tentatively identified compounds" were detected by the EPA Method 8270 open scan at concentrations ranging from 10 ppb to 59 ppb. Refer to laboratory analysis sheets for the specific compounds and concentrations.

[2] Ten "tentatively identified compounds" were detected by the EPA Method 8270 open scan at concentrations ranging from 14 ppb to 150 ppb. Refer to laboratory analysis sheets for the specified compounds and concentrations.

[3] Seven "tentatively identified compounds" were detected by the EPA Method 8270 open scan at concentrations ranging 11 ppb to 88 ppb. Refer to laboratory analysis sheets for the specific compounds and concentrations.

[4] Phenol was detected at a concentration of 2.1 ppb.

[5] Tetrachloroethene was detected at a concentration of 56 ppb.

[6] EPA Method 8270 requested on chain of custody; laboratory inadvertently omitted testing.

Note: All EPA Method 8010 and 8270 compounds were ND, except as listed above.

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 # 5484 Job#: 180012

Address: 18950 Lake Chabot Rd. Date: 3-25-99

City: Castro Valley Sampler: Joe

Well ID mw-2 Well Condition: O.K

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

Total Depth 19.18 ft.

Depth to Water 4.84 ft.

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

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

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

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

Starting Time: _____ Weather Conditions: _____

Sampling Time: _____ Water Color: _____ Odor: _____

Purging Flow Rate: _____ gpm. Sediment Description: _____

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

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

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
		Y		Sequoia	~~TPHG, BTEX, MTBE~~

COMMENTS: M. only

9/97-fieldat.frm

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5484 Job#: 180012

Address: 18950 Lake Chabot Rd. Date: 3-25-99

City: Castro Valley Sampler: Joe

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

Well Diameter: 4 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth: 27.25 ft.

Depth to Water: 7.46 ft.

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

19.79 X VF 0.66 = 13.06 X 3 (case volume) = Estimated Purge Volume: 40 (gal.)

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

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

Starting Time: 7:38 Weather Conditions: rainy

Sampling Time: 8:15 A.M. Water Color: clear Odor: none

Purging Flow Rate: 2.5 gpm. Sediment Description: none

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

Time	Volume (gal.)	pH	Conductivity 10^3 µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
7:57	13	7.91	6.67	69.1			
8:02	26	7.34	6.95	69.3			
8:06	40	7.28	7.04	69.5			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	3 VOA	Y	HCL	Sequoia	TPHG, BTEX, MTBE
"	2 VOA	"	"	"	8010
"	1 Amber	"	—	"	8270

COMMENTS: _____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5484 Job#: 180012

Address: 18950 Lake Chabot Rd. Date: 3-25-99

City: Castro Valley Sampler: Joe

Well ID MW-5 Well Condition: o.k.

Well Diameter 4 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth 23.81 ft.

Depth to Water 7.53 ft.

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

16.28 X VF 0.66 = 10.74 X 3 (case volume) = Estimated Purge Volume: 33 (gal.)

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

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

Starting Time: 8:30 Weather Conditions: rainy

Sampling Time: 8:55 A.M. Water Color: clear Odor: none

Purging Flow Rate: 1.5 gpm Sediment Description: none

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm X100	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
8:40	11	7.14	6.12	69.6			
8:43	22	7.20	6.18	70.7			
8:47	33	7.27	6.21	71.0			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-5	3 VOA	Y	HCl	Sequoia	TPHG, BTEX, MTBE
"	2 VOA	"	"	"	8010
"	1 Amb.	"	—	"	8270

COMMENTS:

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5484 Job#: 180012

Address: 18950 Lake Chabot Rd. Date: 3-25-99

City: Castro Valley Sampler: Joe

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

Well Diameter 4 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth 26.44 ft.

Depth to Water 5.05 ft.

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

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

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

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

Starting Time: _____ Weather Conditions: _____

Sampling Time: _____ Water Color: _____ Odor: _____

Purging Flow Rate: _____ gpm. Sediment Description: _____

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

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

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
		Y		Sequoia	TPHG, BTEX, MTBE

COMMENTS: M. only

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 5484

Address: 18950 Lake chabot rd.

City: Castro Valley

Job#: 180012

Date: 3-25-99

Sampler: Joe

Well ID: mw-7

Well Condition: O.K

Well Diameter: 2 in.

Hydrocarbon Thickness: 0 in.

Amount Bailed (product/water): 0 (gal.)

Total Depth: 19.55 ft.

Depth to Water: 7.25 ft.

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

12.30 x VF 0.17 = 2.09 x 3 (case volume) = Estimated Purge Volume: 7 (gal.)

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

Sampling Equipment:
- (Disposable Bailer) — circled
- Bailer
- Pressure Bailer
- Grab Sample
- Other: ______

Starting Time: 9:15

Sampling Time: 9:40 A.M

Purging Flow Rate: 1 gpm.

Did well de-water? ______

Weather Conditions: rainy

Water Color: clear

Odor: none

Sediment Description: none

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

Time	Volume (gal.)	pH	Conductivity µmhos/cm (x10)	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:24	2.5	7.14	4.11	72.1			
9:26	5	7.10	3.55	72.3			
9:28	7	7.06	3.48	71.8			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
mw-7	3 voA	Y	HCL	Sequoia	TPHG, BTEX, MTBE
"	2 voA	"	"	"	8010
"	1 Ams	"	—	"	8270

COMMENTS: ______

Chain-of-Custody-Record

TOSCO

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

Facility Number # 5484
Facility Address 18950 Lake Chalet Rd. Castro Valley
Consultant Project Number 180012
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 9903612
Samples Collected by (Name) JOE AJEMIAN
Collection Date 3-25-99
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 (8020)	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 VOA	W	—	—	HCL	Y	✓													9032497
MW-4		5 VOA 1 AMB	"	G	8:15 A.M	"	"	✓			✓			✓							9032498
MW-5		"	"	"	8:55 A.M	"	"	✓			✓			✓							9032499
MW-7		"	"	"	9:40 A.M	"	"	✓			✓			✓							9032500

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G-R Inc.	3-25-99 1715		CDC	3-25-99 1730
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	CDC	3-25-99 1830			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					3/25/99

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

Ronald C. Jensen 3/25/99 18:43:25

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler-Ryan - Dublin	Client Project ID:	Tosco #5484, Castro Valley	Sampled: Mar 25, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received: Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Apr 16, 1999
Attention: Deanna Harding	First Sample #:	903-2497	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 903-2497 TB-LB	Sample I.D. 903-2498 MW-4	Sample I.D. 903-2499 MW-5	Sample I.D. 903-2500 MW-7
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	380
Benzene	0.50	N.D.	N.D.	N.D.	6.4
Toluene	0.50	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	10
Total Xylenes	0.50	N.D.	N.D.	N.D.	4.9
MTBE	2.5	N.D.	7.6	3.9	1,200
Chromatogram Pattern:		--	--	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	5.0
Date Analyzed:	4/6/99	4/6/99	4/6/99	4/8/99
Instrument Identification:	HP-9	HP-9	HP-9	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	90	89	90	108

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

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Gettler-Ryan - Dublin	Client Project ID:	Tosco #5484, Castro Valley	Sampled:	Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-4	Received:	Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8010	Analyzed:	Apr 5, 1999
Attention: Deanna Harding	Lab Number:	903-2498	Reported:	Apr 16, 1999

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	20	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	94
4-Bromofluorobenzene	50	150	85

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

9032497.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:	Tosco #5484, Castro Valley	Sampled:	Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-5	Received:	Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8010	Analyzed:	Apr 5, 1999
Attention: Deanna Harding	Lab Number:	903-2499	Reported:	Apr 16, 1999

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	10	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	98
4-Bromofluorobenzene	50	150	92

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

9032497.GET <3>

Sequoia Analytical

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Gettler-Ryan - Dublin	Client Project ID:	Tosco #5484, Castro Valley	Sampled:	Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-7	Received:	Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8010	Analyzed:	Apr 5, 1999
Attention: Deanna Harding	Lab Number:	903-2500	Reported:	Apr 16, 1999

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	10	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	91
4-Bromofluorobenzene	50	150	82

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

Sequoia Analytical

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

Gettler-Ryan - Dublin	Client Project ID:	Tosco #5484, Castro Valley	Sampled:	Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-4	Received:	Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 8270	Extracted:	Mar 29, 1999
Attention: Deanna Harding	Lab Number:	903-2498	Analyzed:	Apr 1, 1999
			Reported:	Apr 16, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	2.0	N.D.
Acenaphthylene	2.0	N.D.
Aniline	2.0	N.D.
Anthracene	2.0	N.D.
Benzidine	50	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	2.0	N.D.
Benzo(b)fluoranthene	2.0	N.D.
Benzo(k)fluoranthene	2.0	N.D.
Benzo(g,h,i)perylene	2.0	N.D.
Benzo(a)pyrene	2.0	N.D.
Benzyl alcohol	2.0	N.D.
Bis(2-chloroethoxy)methane	2.0	N.D.
Bis(2-chloroethyl)ether	2.0	N.D.
Bis(2-chloroisopropyl)ether	2.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	2.0	N.D.
Butyl benzyl phthalate	2.0	N.D.
4-Chloroaniline	2.0	N.D.
2-Chloronaphthalene	2.0	N.D.
4-Chloro-3-methylphenol	2.0	N.D.
2-Chlorophenol	2.0	N.D.
4-Chlorophenyl phenyl ether	2.0	N.D.
Chrysene	2.0	N.D.
Dibenz(a,h)anthracene	2.0	N.D.
Dibenzofuran	2.0	N.D.
Di-N-butyl phthalate	10	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	2.0	N.D.
Diethyl phthalate	2.0	N.D.
2,4-Dimethylphenol	2.0	N.D.
Dimethyl phthalate	2.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.
2,4-Dinitrotoluene	2.0	N.D.
2,6-Dinitrotoluene	2.0	N.D.
Di-N-octyl phthalate	2.0	N.D.

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:	Tosco #5484, Castro Valley	Sampled: Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-4	Received: Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 8270	Extracted: Mar 29, 1999
Attention: Deanna Harding	Lab Number:	903-2498	Analyzed: Apr 1, 1999
			Reported: Apr 16, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Fluoranthene	2.0	N.D.
Fluorene	2.0	N.D.
Hexachlorobenzene	2.0	N.D.
Hexachlorobutadiene	2.0	N.D.
Hexachlorocyclopentadiene	2.0	N.D.
Hexachloroethane	2.0	N.D.
Indeno(1,2,3-cd)pyrene	2.0	N.D.
Isophorone	2.0	N.D.
2-Methylnaphthalene	2.0	N.D.
2-Methylphenol	2.0	N.D.
4-Methylphenol	2.0	N.D.
Naphthalene	2.0	N.D.
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	2.0	N.D.
2-Nitrophenol	2.0	N.D.
4-Nitrophenol	10	N.D.
N-Nitrosodimethylamine	2.0	N.D.
N-Nitrosodiphenylamine	2.0	N.D.
N-Nitroso-di-N-propylamine	2.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	2.0	N.D.
Phenol	2.0	N.D.
Pyrene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	2.0	N.D.

Surrogates	Control Limit %		% Recovery
2-Fluorophenol	21	100	51
Phenol-d6	10	94	34
Nitrobenzene-d5	35	114	79
2-Fluorobiphenyl	43	116	91
2,4,6-Tribromophenol	10	123	81
4-Terphenyl-d14	33	141	76

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

Sequoia Analytical

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

Gettler-Ryan - Dublin	Client Project ID:	Tosco #5484, Castro Valley	Sampled:	Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-5	Received:	Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 8270	Extracted:	Mar 29, 1999
Attention: Deanna Harding	Lab Number:	903-2499	Analyzed:	Apr 1, 1999
			Reported:	Apr 16, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	2.0	N.D.
Acenaphthylene	2.0	N.D.
Aniline	2.0	N.D.
Anthracene	2.0	N.D.
Benzidine	50	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	2.0	N.D.
Benzo(b)fluoranthene	2.0	N.D.
Benzo(k)fluoranthene	2.0	N.D.
Benzo(g,h,i)perylene	2.0	N.D.
Benzo(a)pyrene	2.0	N.D.
Benzyl alcohol	2.0	N.D.
Bis(2-chloroethoxy)methane	2.0	N.D.
Bis(2-chloroethyl)ether	2.0	N.D.
Bis(2-chloroisopropyl)ether	2.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	2.0	N.D.
Butyl benzyl phthalate	2.0	N.D.
4-Chloroaniline	2.0	N.D.
2-Chloronaphthalene	2.0	N.D.
4-Chloro-3-methylphenol	2.0	N.D.
2-Chlorophenol	2.0	N.D.
4-Chlorophenyl phenyl ether	2.0	N.D.
Chrysene	2.0	N.D.
Dibenz(a,h)anthracene	2.0	N.D.
Dibenzofuran	2.0	N.D.
Di-N-butyl phthalate	10	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	2.0	N.D.
Diethyl phthalate	2.0	N.D.
2,4-Dimethylphenol	2.0	N.D.
Dimethyl phthalate	2.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.
2,4-Dinitrotoluene	2.0	N.D.
2,6-Dinitrotoluene	2.0	N.D.
Di-N-octyl phthalate	2.0	N.D.

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Gettler-Ryan - Dublin	Client Project ID:	Tosco #5484, Castro Valley	Sampled:	Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-5	Received:	Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 8270	Extracted:	Mar 29, 1999
Attention: Deanna Harding	Lab Number:	903-2499	Analyzed:	Apr 1, 1999
			Reported:	Apr 16, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Fluoranthene	2.0	N.D.
Fluorene	2.0	N.D.
Hexachlorobenzene	2.0	N.D.
Hexachlorobutadiene	2.0	N.D.
Hexachlorocyclopentadiene	2.0	N.D.
Hexachloroethane	2.0	N.D.
Indeno(1,2,3-cd)pyrene	2.0	N.D.
Isophorone	2.0	N.D.
2-Methylnaphthalene	2.0	N.D.
2-Methylphenol	2.0	N.D.
4-Methylphenol	2.0	N.D.
Naphthalene	2.0	N.D.
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	2.0	N.D.
2-Nitrophenol	2.0	N.D.
4-Nitrophenol	10	N.D.
N-Nitrosodimethylamine	2.0	N.D.
N-Nitrosodiphenylamine	2.0	N.D.
N-Nitroso-di-N-propylamine	2.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	2.0	N.D.
Phenol	2.0	N.D.
Pyrene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	2.0	N.D.

Surrogates	Control Limit %		% Recovery
2-Fluorophenol	21	100	53
Phenol-d6	10	94	35
Nitrobenzene-d5	35	114	83
2-Fluorobiphenyl	43	116	94
2,4,6-Tribromophenol	10	123	81
4-Terphenyl-d14	33	141	72

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

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Sequoia Analytical

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Gettler-Ryan - Dublin	Client Project ID:	Tosco #5484, Castro Valley	Sampled:	Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-7	Received:	Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 8270	Extracted:	Mar 29, 1999
Attention: Deanna Harding	Lab Number:	903-2500	Analyzed:	Apr 1, 1999
			Reported:	Apr 16, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	2.0	N.D.
Acenaphthylene	2.0	N.D.
Aniline	2.0	N.D.
Anthracene	2.0	N.D.
Benzidine	50	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	2.0	N.D.
Benzo(b)fluoranthene	2.0	N.D.
Benzo(k)fluoranthene	2.0	N.D.
Benzo(g,h,i)perylene	2.0	N.D.
Benzo(a)pyrene	2.0	N.D.
Benzyl alcohol	2.0	N.D.
Bis(2-chloroethoxy)methane	2.0	N.D.
Bis(2-chloroethyl)ether	2.0	N.D.
Bis(2-chloroisopropyl)ether	2.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	2.0	N.D.
Butyl benzyl phthalate	2.0	N.D.
4-Chloroaniline	2.0	N.D.
2-Chloronaphthalene	2.0	N.D.
4-Chloro-3-methylphenol	2.0	N.D.
2-Chlorophenol	2.0	N.D.
4-Chlorophenyl phenyl ether	2.0	N.D.
Chrysene	2.0	N.D.
Dibenz(a,h)anthracene	2.0	N.D.
Dibenzofuran	2.0	N.D.
Di-N-butyl phthalate	10	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	2.0	N.D.
Diethyl phthalate	2.0	N.D.
2,4-Dimethylphenol	2.0	N.D.
Dimethyl phthalate	2.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.
2,4-Dinitrotoluene	2.0	N.D.
2,6-Dinitrotoluene	2.0	N.D.
Di-N-octyl phthalate	2.0	N.D.

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Gettler-Ryan - Dublin	Client Project ID:	Tosco #5484, Castro Valley	Sampled:	Mar 25, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-7	Received:	Mar 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 8270	Extracted:	Mar 29, 1999
Attention: Deanna Harding	Lab Number:	903-2500	Analyzed:	Apr 1, 1999
			Reported:	Apr 16, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Fluoranthene	2.0	N.D.
Fluorene	2.0	N.D.
Hexachlorobenzene	2.0	N.D.
Hexachlorobutadiene	2.0	N.D.
Hexachlorocyclopentadiene	2.0	N.D.
Hexachloroethane	2.0	N.D.
Indeno(1,2,3-cd)pyrene	2.0	N.D.
Isophorone	2.0	N.D.
2-Methylnaphthalene	2.0	N.D.
2-Methylphenol	2.0	N.D.
4-Methylphenol	2.0	N.D.
Naphthalene	2.0	N.D.
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	2.0	N.D.
2-Nitrophenol	2.0	N.D.
4-Nitrophenol	10	N.D.
N-Nitrosodimethylamine	2.0	N.D.
N-Nitrosodiphenylamine	2.0	N.D.
N-Nitroso-di-N-propylamine	2.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	2.0	N.D.
Phenol	2.0	N.D.
Pyrene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	2.0	N.D.

Surrogates	Control Limit %		% Recovery
2-Fluorophenol	21	100	59
Phenol-d6	10	94	43
Nitrobenzene-d5	35	114	78
2-Fluorobiphenyl	43	116	89
2,4,6-Tribromophenol	10	123	86
4-Terphenyl-d14	33	141	78

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

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Sequoia Analytical

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

Client Project ID: Tosco #5484, Castro Valley
Matrix: Liquid
QC Sample Group: 9032497-500

Reported: Apr 16, 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#:	9032499	9032499	9032499	9032499
Date Prepared:	4/6/99	4/6/99	4/6/99	4/6/99
Date Analyzed:	4/6/99	4/6/99	4/6/99	4/6/99
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:	100	105	110	107
Matrix Spike Duplicate % Recovery:	90	100	100	98
Relative % Difference:	11	4.9	9.5	8.1
LCS Batch#:	9LCS040699	9LCS040699	9LCS040699	9LCS040699
Date Prepared:	4/6/99	4/6/99	4/6/99	4/6/99
Date Analyzed:	4/6/99	4/6/99	4/6/99	4/6/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	90	100	100	95
% 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.

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

Client Project ID: Tosco #5484, Castro Valley
Matrix: Liquid
QC Sample Group: 9032497-500

Reported: Apr 16, 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#:	9040049	9040049	9040049	9040049
Date Prepared:	4/8/99	4/8/99	4/8/99	4/8/99
Date Analyzed:	4/8/99	4/8/99	4/8/99	4/8/99
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:	191	185	187	198
Matrix Spike Duplicate % Recovery:	106	100	102	112
Relative % Difference:	57	60	59	56
LCS Batch#:	2LCS040899	2LCS040899	2LCS040899	2LCS040899
Date Prepared:	4/8/99	4/8/99	4/8/99	4/8/99
Date Analyzed:	4/8/99	4/8/99	4/8/99	4/8/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	90	85	90	97
% 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.

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

Client Project ID: Tosco #5484, Castro Valley
Matrix: Liquid
QC Sample Group: 9032497-500

Reported: Apr 16, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	P. Kosovskaya	P. Kosovskaya	P. Kosovskaya
MS/MSD Batch#:	9032583	9032583	9032583
Date Prepared:	4/5/99	4/5/99	4/5/99
Date Analyzed:	4/5/99	4/5/99	4/5/99
Instrument I.D.#:	HP-6	HP-6	HP-6
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L
Matrix Spike % Recovery:	105	110	100
Matrix Spike Duplicate % Recovery:	125	125	115
Relative % Difference:	-	-	-
LCS Batch#:	LCS040599	LCS040599	LCS040599
Date Prepared:	4/5/99	4/5/99	4/5/99
Date Analyzed:	4/5/99	4/5/99	4/5/99
Instrument I.D.#:	HP-6	HP-6	HP-6
LCS % Recovery:	115	110	110
% Recovery Control Limits:	65-135	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.

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

Client Project ID: Tosco #5484, Castro Valley
Matrix: Liquid
QC Sample Group: 9032497-500

Reported: Apr 16, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz
MS/MSD Batch#:	BLK032999	BLK032999	BLK032999	BLK032999	BLK032999	BLK032999
Date Prepared:	3/29/99	3/29/99	3/29/99	3/29/99	3/29/99	3/29/99
Date Analyzed:	3/31/99	3/31/99	3/31/99	3/31/99	3/31/99	3/31/99
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	150 µg/L	150 µg/L	100 µg/L	100 µg/L	100 µg/L	150 µg/L
Matrix Spike % Recovery:	33	80	77	95	84	80
Matrix Spike Duplicate % Recovery:	34	80	79	96	86	80
Relative % Difference:	2.0	0.0	2.6	1.0	2.4	0.0
RPD Limit:	0-30	0-30	0-30	0-30	0-30	0-30
LCS Batch#:	-	-	-	-	-	-
Date Prepared:	-	-	-	-	-	-
Date Analyzed:	-	-	-	-	-	-
Instrument I.D.#:	-	-	-	-	-	-
LCS % Recovery:	-	-	-	-	-	-
% Recovery Control Limits:	12-110	27-123	36-97	41-116	39-98	23-97

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.

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Sequoia Analytical

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

Client Project ID: Tosco #5484, Castro Valley
Matrix: Liquid
QC Sample Group: 9032497-500

Reported: Apr 16, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Acenaphthene	4-Nitrophenol	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz
MS/MSD Batch#:	BLK032999	BLK032999	BLK032999	BLK032999	BLK032999
Date Prepared:	3/29/99	3/29/99	3/29/99	3/29/99	3/29/99
Date Analyzed:	3/31/99	3/31/99	3/31/99	3/31/99	3/31/99
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	100 µg/L	150 µg/L	100 µg/L	150 µg/L	100 µg/L
Matrix Spike % Recovery:	85	30	88	93	87
Matrix Spike Duplicate % Recovery:	88	30	90	93	92
Relative % Difference:	3.5	0.0	2.2	0.0	5.6
RPD Limit:	0-30	0-30	0-30	0-30	0-30
LCS Batch#:	-	-	-	-	-
Date Prepared:	-	-	-	-	-
Date Analyzed:	-	-	-	-	-
Instrument I.D.#:	-	-	-	-	-
LCS % Recovery:	-	-	-	-	-
% Recovery Control Limits:	46-118	10-80	24-96	9-103	26-127

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.

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