



GETTLER - RYAN INC.

ENVIRONMENTAL PROTECTION

00 MAY -4 AM 9:12

TRANSMITTAL

April 17, 2000

G-R #: 180012

STB 1713

Responded to
11/15/2000

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

DL

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	April 14, 2000	Groundwater Monitoring and Sampling Report Annual 2000 - Event of March 7, 2000

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 29, 2000**, this report will be distributed to the following:

Enclosure

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

agency/5484dbd.qmt



GETTLER - RYAN INC.

April 14, 2000
G-R Job #180012

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

RE: Annual 2000 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 7, 2000, 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.

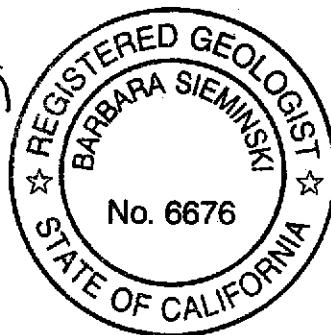
Sincerely,

Deanna L. Harding

Deanna L. Harding
Project Coordinator

Barbara Sieminski

Barbara Sieminski
Project Geologist, R.G. No. 6676

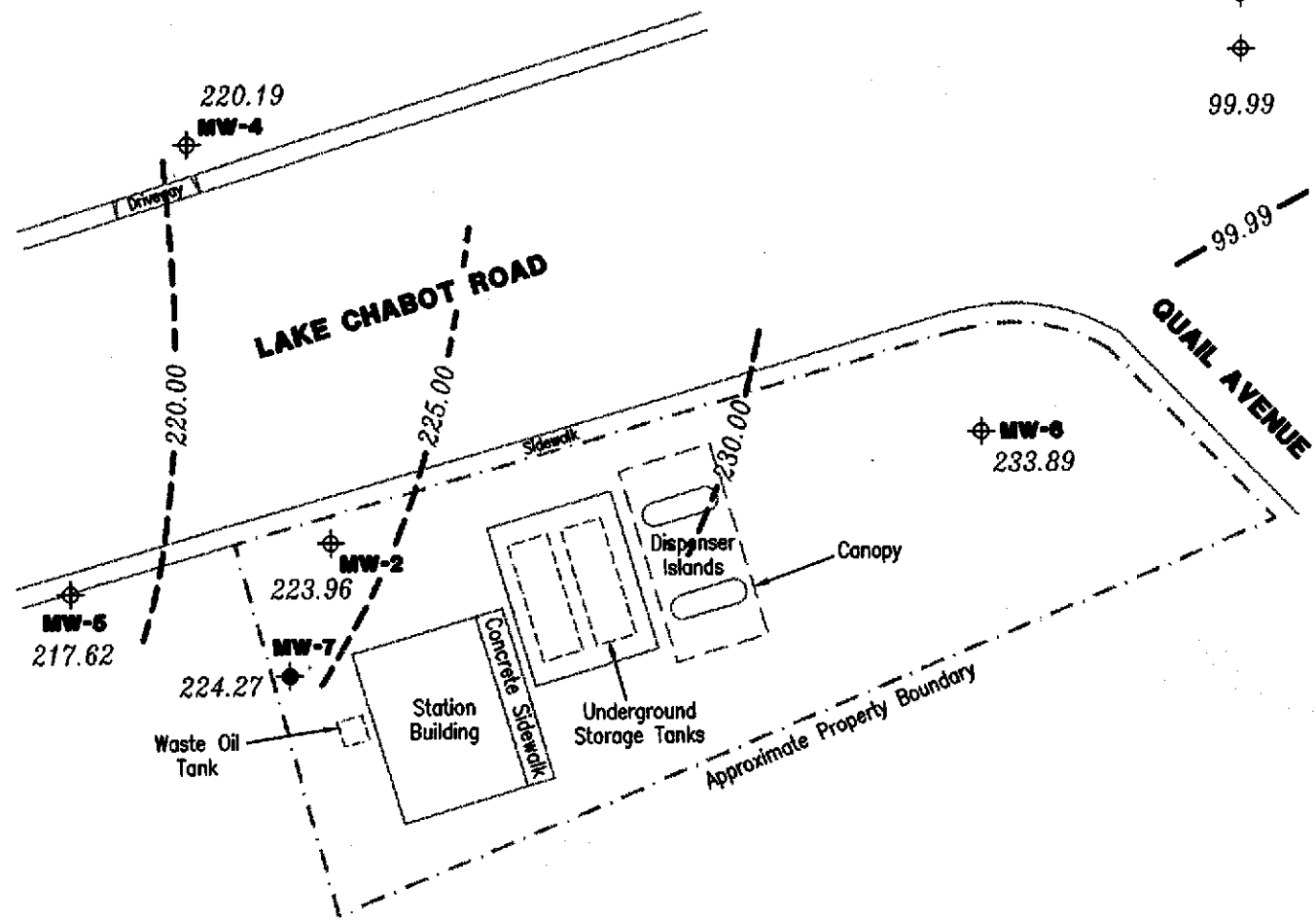


- Figure 1: Potentiometric Map
- Figure 2: Concentration Map
- Table 1: Groundwater Monitoring Data and Analytical Results
- Table 2: Groundwater Analytical Results
- Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical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

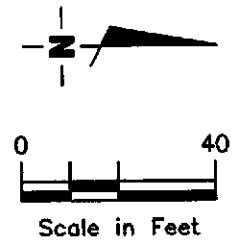
5484.qml

EXPLANATION

- ◆ Groundwater monitoring well (KEI)
- ⊕ Groundwater monitoring well (AGS)
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- Groundwater elevation contour, dashed where inferred.



Approximate groundwater flow direction at a gradient of 0.10 Ft./Ft.



Source: Figure Modified from Drawing Provided by MFDS Services, Inc.



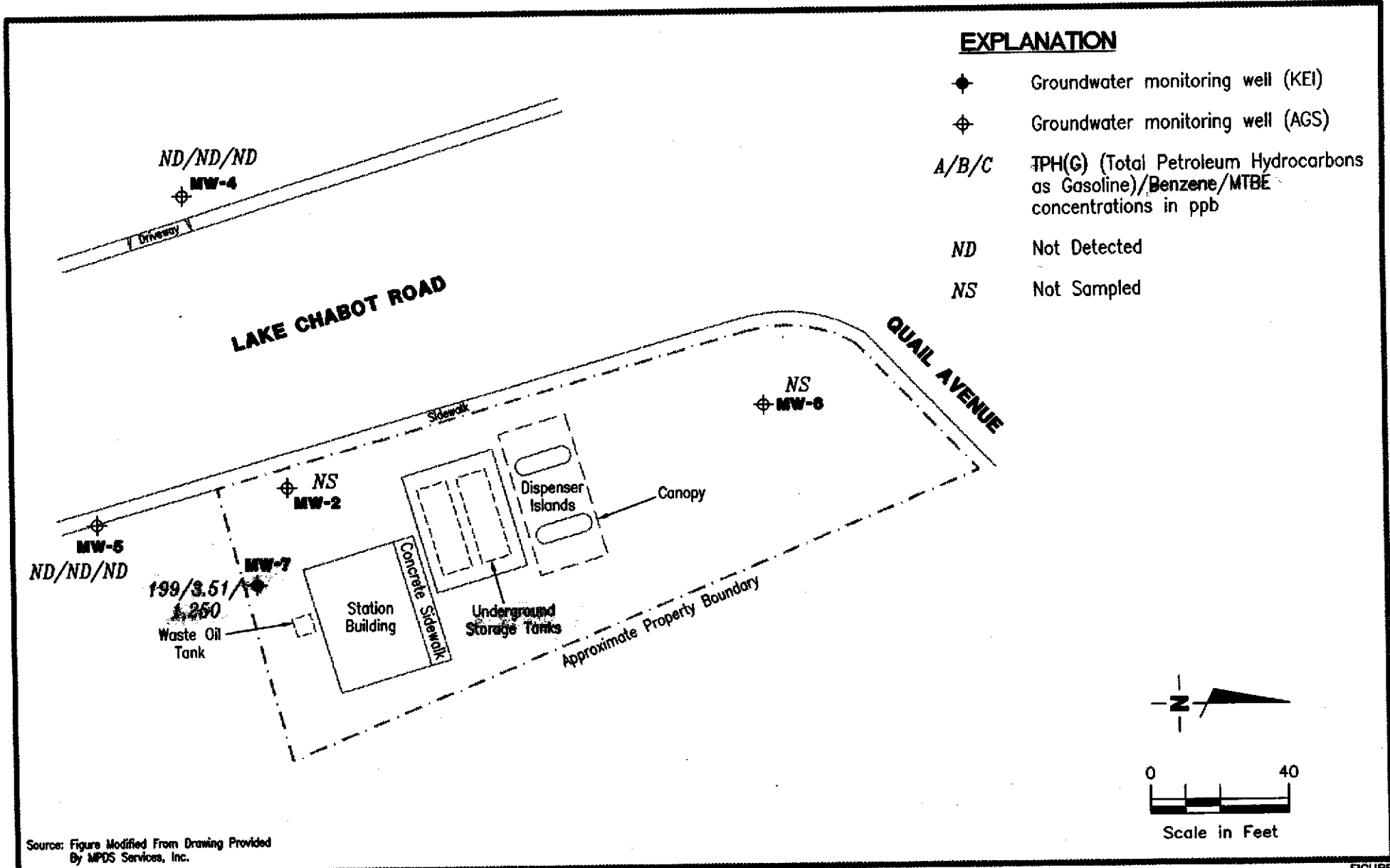
Gettler - Ryan Inc.

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Dublin, CA 94568

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

FIGURE

1



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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
180012

REVIEWED BY

DATE
March 7, 2000

REVISED DATE

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	--	--	--	--	--	--	--
	03/07/00	4.92	223.96	--	--	--	--	--	--	--

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	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	--
	09/10/92	--	--	--	--	--	--	--	--	--
	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
	03/07/00	7.58	220.19	--	ND	ND	1.11	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 (mst)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
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	--
	12/01/94	9.18	215.93	79 ²	ND	ND	ND	ND	ND	--
	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
	03/07/00	7.49	217.62	--	ND	ND	1.43	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results
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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-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	--	--	--	--	--	--	--
	03/07/00	5.15	233.89	--	--	--	--	--	--	--

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)
231.66	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
	03/07/00	7.12	224.27	--	199⁸	3.51	ND	3.30	0.697	1,250
Trip Blank										
TB-LB	03/02/98	--	--	--	ND	ND	ND	ND	ND	ND
	03/25/99	--	--	--	ND	ND	ND	ND	ND	ND
	03/07/00	--	--	--	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	B = Benzene	ppb = Parts per billion
DTW = Depth to Water	T = Toluene	ND = Not Detected
(ft.) = Feet	E = Ethylbenzene	-- = Not Measured/Not Analyzed
GWE = Groundwater Elevation	X = Xylenes	
msl = Relative to mean sea level	MTBE = Methyl tertiary butyl ether	
TPH(D) = Total Petroleum Hydrocarbons as Diesel		
TPH(G) = Total Petroleum Hydrocarbons as Gasoline		

* 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 reports.
- ⁸ Laboratory report indicates weathered gasoline C6-C12.

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)	Chloroform (ppb)	Bromodich- loromethane (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	--	--
	03/07/00	--	ND⁷	ND⁷	ND⁷	ND⁷	87.1	ND⁷
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	--	--
	03/07/00	--	ND⁷	ND⁷	ND⁷	ND⁷	69.7	7.16
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	--	--	

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)	Chloroform (ppb)	Bromodich- loromethane (ppb)
MW-7	12/05/95 ⁵	--	--	--	--	ND	--	--
(cont)	12/08/95	--	ND	ND	14	--	--	--
	04/11/96	--	ND	7.6	42	0.75	--	--
	03/13/97	--	120	ND	9.0	ND	--	--
	03/02/98 ⁶	--	--	--	--	0.92	--	--
	03/25/99	--	ND	ND	ND	ND	--	--
	03/07/00	--	ND⁷	ND⁷	ND⁷	ND⁷	ND⁷	ND⁷

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 from 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.

⁷ Detection limit raised. Refer to analytical reports.

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

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

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

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

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

FIELD DATA SHEET

Client/
 Facility # 5484
 Address: 18950 Lake Chabot Rd.
 City: Castro Valley

Job#: 180012
 Date: 3-7-00
 Sampler: JOC

Well ID MW-2

Well Condition: o.k

Well Diameter 2 in.

Hydrocarbon Amount Bailed
 Thickness: 0 (feet) (product/water): 0 (Gallons)

Total Depth 19.15 ft.

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

Depth to Water 4.92 ft.

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

Purge
 Equipment:

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

Sampling
 Equipment:

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

Starting Time: _____

Weather Conditions: cloudy

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-	3 vials	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe
	2 vials	"	"	"	8010
	1 Amber	"	"	"	8270

COMMENTS: n. only

FIELD DATA SHEET

Client/ Facility # 5484 Job#: 180012
 Address: 18950 Lake Chabot Rd. Date: 3-7-00
 City: Castro Valley Sampler: Joc

Well ID MW-4 Well Condition: O.K.
 Well Diameter 4 in. Hydrocarbon Amount Bailed
 Thickness: 0 (feet) (product/water): 0 (Gallons)
 Total Depth 27.25 ft.
 Depth to Water 7.58 ft.

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

19.67 x VF 0.66 = 12.99 x 3 (case volume) = Estimated Purge Volume: 39 (gal.)

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

Starting Time: 7:10 Weather Conditions: cloudy
 Sampling Time: 7:30 A.M. Water Color: clear Odor: none
 Purging Flow Rate: 3 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)
<u>7:12</u>	<u>12</u>	<u>7.80</u>	<u>8.56</u>	<u>69.2</u>			
<u>7:15</u>	<u>25</u>	<u>7.41</u>	<u>9.14</u>	<u>69.1</u>			
<u>7:18</u>	<u>39</u>	<u>7.37</u>	<u>9.19</u>	<u>64.0</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>300A</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(GI)/bTEX/mtbe</u>
	<u>200A</u>	<u>''</u>	<u>''</u>	<u>''</u>	<u>8010</u>
	<u>1 Amber</u>	<u>''</u>	<u>-</u>	<u>''</u>	<u>8270</u>

COMMENTS: _____

FIELD DATA SHEET

Client/ Facility # 5484 Job#: 180012
 Address: 18950 Lake Chabot Rd. Date: 3-7-00
 City: Castro Valley Sampler: Jac

Well ID MW-5 Well Condition: O.K.
 Well Diameter 4 in. Hydrocarbon Thickness: 0 (feet) Amount Bailed (product/water): 0 (Gallons)
 Total Depth 23.80 ft.

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

 Depth to Water 7.49 ft.

16.31 x VF 0.66 = 10.76 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: 7:45 Weather Conditions: cloudy
 Sampling Time: 8:10 A.M. Water Color: clear Odor: none
 Purging Flow Rate: 3 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)
<u>7:55</u>	<u>11</u>	<u>7.57</u>	<u>9.68</u>	<u>70.1</u>			
<u>7:57</u>	<u>22</u>	<u>7.52</u>	<u>10.02</u>	<u>70.2</u>			
<u>8:00</u>	<u>33</u>	<u>7.47</u>	<u>10.07</u>	<u>70.7</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>300A</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(GI)/bTEX/mtbe</u>
	<u>200A</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>8010</u>
	<u>1 Amber</u>	<u>"</u>	<u>-</u>	<u>"</u>	<u>8270</u>

COMMENTS: _____

FIELD DATA SHEET

Client/
 Facility # 5484
 Address: 18950 Lake Chabot Rd.
 City: Castro Valley

Job#: 180012
 Date: 3-7-00
 Sampler: Joc

Well ID: MW-6
 Well Diameter: 4 in.
 Total Depth: 26.42 ft.
 Depth to Water: 5.15 ft.

Well Condition: O.K.
 Hydrocarbon Thickness: 0 (feet) Amount Bailed (product/water): 0 (Gallons)

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: _____
 Sampling Time: _____
 Purging Flow Rate: _____ gpm.
 Did well de-water? _____

Weather Conditions: cloudy
 Water Color: clear Odor: _____
 Sediment Description: none
 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	3vo A	Y	HCL	SEQUOIA	TPH(GI)/bTEX/mtbe
	2vo A	"	"	"	8010
	1 Amber	"	-	"	8270

COMMENTS: M. only

FIELD DATA SHEET

Client/ Facility # 5484 Job#: 180012
 Address: 18950 Lake Chabot Rd. Date: 3-7-00
 City: Castro Valley Sampler: Joc

Well ID MW-7 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Amount Bailed
 Thickness: 0 (feet) (product/water): 0 (Gallons)
 Total Depth 19.55 ft.
 Depth to Water 7.12 ft.

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

$12.43 \times VF \ 0.17 = 2.11 \times 3 \text{ (case volume)} = \text{Estimated Purge Volume: } 6.5 \text{ (gal.)}$

Purge Equipment: Disposable Bailer
 Bailer
 Stack
~~Section~~
 Grundfos
 Other: _____

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

Starting Time: 8:20 Weather Conditions: cloudy
 Sampling Time: 8:42A Water Color: clear Odor: faint
 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)
8:27	2	7.25	5.16	73.0			
8:29	4	7.31	5.19	72.2			
8:32	6.5	7.24	5.23	71.7			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-7	3 v o A	Y	HCL	SEQUOIA	TPH(G)/btex/mtbe
	2 v o A	"	"	"	8010
	1 Amber	"	-	"	8270

COMMENTS: _____



March 28, 2000

RECEIVED

MAR 30 2000

GETTLER-RYAN INC.
GENERAL CONTRACTORS

Deanna Harding
Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite D
Dublin, CA 94568

RE: Tosco/L003076

Dear Deanna Harding:

Enclosed are the results of analyses for sample(s) received by the laboratory on March 7, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson
Project Manager

CA ELAP Certificate Number I-2360





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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ANALYTICAL REPORT FOR L003076

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
TB-LB	L003076-01	Water	3/7/00
MW-4	L003076-02	Water	3/7/00
MW-5	L003076-03	Water	3/7/00
MW-7	L003076-04	Water	3/7/00





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: TB-LB
Laboratory Sample Number: L003076-01

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
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Sequoia Analytical - San Carlos

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Purgeable Hydrocarbons as Gasoline	0030085	3/18/00	3/18/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		109	%	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-4
Laboratory Sample Number: L003076-02

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
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Sequoia Analytical - San Carlos

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Purgeable Hydrocarbons as Gasoline	0030085	3/18/00	3/18/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	1.11	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	"	"	"	70.0-130		94.4	%	

Volatile Organic Compounds by EPA Method 8010B

Freon 113	0030056	3/15/00	3/16/00		3.33	ND	ug/l	
Bromodichloromethane	"	"	"		1.67	ND	"	
Bromoform	"	"	"		1.67	ND	"	
Bromomethane	"	"	"		3.33	ND	"	
Carbon tetrachloride	"	"	"		1.67	ND	"	
Chlorobenzene	"	"	"		1.67	ND	"	
Chloroethane	"	"	"		3.33	ND	"	
2-Chloroethylvinyl ether	"	"	"		3.33	ND	"	
Chloroform	"	"	"		1.67	87.1	"	
Chloromethane	"	"	"		3.33	ND	"	
Dibromochloromethane	"	"	"		1.67	ND	"	
1,3-Dichlorobenzene	"	"	"		1.67	ND	"	
1,4-Dichlorobenzene	"	"	"		1.67	ND	"	
1,2-Dichlorobenzene	"	"	"		1.67	ND	"	
1,1-Dichloroethane	"	"	"		1.67	ND	"	
1,2-Dichloroethane	"	"	"		1.67	ND	"	
1,1-Dichloroethene	"	"	"		1.67	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.67	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.67	ND	"	
1,2-Dichloropropane	"	"	"		1.67	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.67	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.67	ND	"	
Methylene chloride	"	"	"		16.7	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.67	ND	"	
Tetrachloroethene	"	"	"		1.67	ND	"	
1,1,1-Trichloroethane	"	"	"		1.67	ND	"	
1,1,2-Trichloroethane	"	"	"		1.67	ND	"	
Trichloroethene	"	"	"		1.67	ND	"	
Trichlorofluoromethane	"	"	"		1.67	ND	"	
Vinyl chloride	"	"	"		1.67	ND	"	
<i>Surrogate: 1-Chloro-2-fluorobenzene</i>	"	"	"	70.0-130		124	%	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-4
Laboratory Sample Number: L003076-02

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
Semivolatile Organic Compounds by EPA Method 8270C								
Acenaphthene	0030327	3/14/00	3/21/00		13.3	ND	ug/l	
Acenaphthylene	"	"	"		13.3	ND	"	
Anthracene	"	"	"		13.3	ND	"	
Benzidine	"	"	"		66.5	ND	"	
Benzoic acid	"	"	"		66.5	ND	"	
Benzo (a) anthracene	"	"	"		13.3	ND	"	
Benzo (b+k) fluoranthene (total)	"	"	"		13.3	ND	"	
Benzo (g,h,i) perylene	"	"	"		13.3	ND	"	
Benzo (a) pyrene	"	"	"		13.3	ND	"	
Benzyl alcohol	"	"	"		26.6	ND	"	
Bis(2-chloroethoxy)methane	"	"	"		13.3	ND	"	
Bis(2-chloroethyl)ether	"	"	"		13.3	ND	"	
Bis(2-chloroisopropyl)ether	"	"	"		13.3	ND	"	
Bis(2-ethylhexyl)phthalate	"	"	"		13.3	ND	"	
4-Bromophenyl phenyl ether	"	"	"		13.3	ND	"	
Butyl benzyl phthalate	"	"	"		13.3	ND	"	
4-Chloroaniline	"	"	"		26.6	ND	"	
4-Chloro-3-methylphenol	"	"	"		26.6	ND	"	
2-Chloronaphthalene	"	"	"		13.3	ND	"	
2-Chlorophenol	"	"	"		13.3	ND	"	
4-Chlorophenyl phenyl ether	"	"	"		13.3	ND	"	
Chrysene	"	"	"		13.3	ND	"	
Dibenz (a,h) anthracene	"	"	"		13.3	ND	"	
Dibenzofuran	"	"	"		13.3	ND	"	
Di-n-butyl phthalate	"	"	"		13.3	ND	"	
1,2-Dichlorobenzene	"	"	"		13.3	ND	"	
1,3-Dichlorobenzene	"	"	"		13.3	ND	"	
1,4-Dichlorobenzene	"	"	"		13.3	ND	"	
3,3'-Dichlorobenzidine	"	"	"		26.6	ND	"	
2,4-Dichlorophenol	"	"	"		13.3	ND	"	
Diethyl phthalate	"	"	"		13.3	ND	"	
2,4-Dimethylphenol	"	"	"		13.3	ND	"	
Dimethyl phthalate	"	"	"		13.3	ND	"	
4,6-Dinitro-2-methylphenol	"	"	"		66.5	ND	"	
2,4-Dinitrophenol	"	"	"		66.5	ND	"	
2,4-Dinitrotoluene	"	"	"		13.3	ND	"	
2,6-Dinitrotoluene	"	"	"		13.3	ND	"	
Di-n-octyl phthalate	"	"	"		13.3	ND	"	
1,2-Diphenylhydrazine	"	"	"		26.6	ND	"	
Fluoranthene	"	"	"		13.3	ND	"	
Fluorene	"	"	"		13.3	ND	"	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-4
Laboratory Sample Number: L003076-02

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
Semivolatile Organic Compounds by EPA Method 8270C (continued)								
Hexachlorobenzene	0030327	3/14/00	3/21/00		13.3	ND	ug/l	
Hexachlorobutadiene	"	"	"		13.3	ND	"	
Hexachlorocyclopentadiene	"	"	"		13.3	ND	"	
Hexachloroethane	"	"	"		13.3	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		13.3	ND	"	
Isophorone	"	"	"		13.3	ND	"	
2-Methylnaphthalene	"	"	"		13.3	ND	"	
2-Methylphenol	"	"	"		13.3	ND	"	
4-Methylphenol	"	"	"		13.3	ND	"	
Naphthalene	"	"	"		13.3	ND	"	
2-Nitroaniline	"	"	"		66.5	ND	"	
3-Nitroaniline	"	"	"		66.5	ND	"	
4-Nitroaniline	"	"	"		66.5	ND	"	
Nitrobenzene	"	"	"		13.3	ND	"	
2-Nitrophenol	"	"	"		13.3	ND	"	
4-Nitrophenol	"	"	"		66.5	ND	"	
N-Nitrosodimethylamine	"	"	"		26.6	ND	"	
N-Nitrosodiphenylamine	"	"	"		13.3	ND	"	
N-Nitrosodi-n-propylamine	"	"	"		13.3	ND	"	
Pentachlorophenol	"	"	"		66.5	ND	"	
Phenanthrene	"	"	"		13.3	ND	"	
Phenol	"	"	"		13.3	ND	"	
Pyrene	"	"	"		13.3	ND	"	
Pyridine	"	"	"		13.3	ND	"	
1,2,4-Trichlorobenzene	"	"	"		13.3	ND	"	
2,4,5-Trichlorophenol	"	"	"		13.3	ND	"	
2,4,6-Trichlorophenol	"	"	"		13.3	ND	"	
Surrogate: 2-Fluorophenol	"	"	"	21.0-100		50.5	%	
Surrogate: Phenol-d6	"	"	"	10.0-94.0		72.0	"	
Surrogate: Nitrobenzene-d5	"	"	"	35.0-114		84.2	"	
Surrogate: 2-Fluorobiphenyl	"	"	"	43.0-116		87.2	"	
Surrogate: 2,4,6-Tribromophenol	"	"	"	10.0-123		52.0	"	
Surrogate: Terphenyl-d14	"	"	"	34.0-141		100	"	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-5
Laboratory Sample Number: L003076-03

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
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Sequoia Analytical - San Carlos

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Purgeable Hydrocarbons as Gasoline	0030085	3/18/00	3/18/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	1.13	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	"	"	"	<i>70.0-130</i>		<i>92.9</i>	<i>%</i>	

Volatile Organic Compounds by EPA Method 8010B

Freon 113	0030076	3/16/00	3/16/00		4.00	ND	ug/l	
Bromodichloromethane	"	"	"		2.00	7.16	"	
Bromoform	"	"	"		2.00	ND	"	
Bromomethane	"	"	"		4.00	ND	"	
Carbon tetrachloride	"	"	"		2.00	ND	"	
Chlorobenzene	"	"	"		2.00	ND	"	
Chloroethane	"	"	"		4.00	ND	"	
2-Chloroethylvinyl ether	"	"	"		4.00	ND	"	
Chloroform	"	"	"		2.00	69.7	"	
Chloromethane	"	"	"		4.00	ND	"	
Dibromochloromethane	"	"	"		2.00	ND	"	
1,3-Dichlorobenzene	"	"	"		2.00	ND	"	
1,4-Dichlorobenzene	"	"	"		2.00	ND	"	
1,2-Dichlorobenzene	"	"	"		2.00	ND	"	
1,1-Dichloroethane	"	"	"		2.00	ND	"	
1,2-Dichloroethane	"	"	"		2.00	ND	"	
1,1-Dichloroethene	"	"	"		2.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		2.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		2.00	ND	"	
1,2-Dichloropropane	"	"	"		2.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		2.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		2.00	ND	"	
Methylene chloride	"	"	"		20.0	ND	"	
1,1,1,2,2-Tetrachloroethane	"	"	"		2.00	ND	"	
Tetrachloroethene	"	"	"		2.00	ND	"	
1,1,1-Trichloroethane	"	"	"		2.00	ND	"	
1,1,2-Trichloroethane	"	"	"		2.00	ND	"	
Trichloroethene	"	"	"		2.00	ND	"	
Trichlorofluoromethane	"	"	"		2.00	ND	"	
Vinyl chloride	"	"	"		2.00	ND	"	
<i>Surrogate: 1-Chloro-2-fluorobenzene</i>	"	"	"	<i>70.0-130</i>		<i>110</i>	<i>%</i>	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-5
Laboratory Sample Number: L003076-03

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
Semivolatile Organic Compounds by EPA Method 8270C								
Acenaphthene	0030327	3/14/00	3/21/00		13.8	ND	ug/l	
Acenaphthylene	"	"	"		13.8	ND	"	
Anthracene	"	"	"		13.8	ND	"	
Benidine	"	"	"		69.0	ND	"	
Benzoic acid	"	"	"		69.0	ND	"	
Benzo (a) anthracene	"	"	"		13.8	ND	"	
Benzo (b+k) fluoranthene (total)	"	"	"		13.8	ND	"	
Benzo (g,h,i) perylene	"	"	"		13.8	ND	"	
Benzo (a) pyrene	"	"	"		13.8	ND	"	
Benzyl alcohol	"	"	"		27.6	ND	"	
Bis(2-chloroethoxy)methane	"	"	"		13.8	ND	"	
Bis(2-chloroethyl)ether	"	"	"		13.8	ND	"	
Bis(2-chloroisopropyl)ether	"	"	"		13.8	ND	"	
Bis(2-ethylhexyl)phthalate	"	"	"		13.8	ND	"	
4-Bromophenyl phenyl ether	"	"	"		13.8	ND	"	
Butyl benzyl phthalate	"	"	"		13.8	ND	"	
4-Chloroaniline	"	"	"		27.6	ND	"	
4-Chloro-3-methylphenol	"	"	"		27.6	ND	"	
2-Chloronaphthalene	"	"	"		13.8	ND	"	
2-Chlorophenol	"	"	"		13.8	ND	"	
4-Chlorophenyl phenyl ether	"	"	"		13.8	ND	"	
Chrysene	"	"	"		13.8	ND	"	
Dibenz (a,h) anthracene	"	"	"		13.8	ND	"	
Dibenzofuran	"	"	"		13.8	ND	"	
Di-n-butyl phthalate	"	"	"		13.8	ND	"	
1,2-Dichlorobenzene	"	"	"		13.8	ND	"	
1,3-Dichlorobenzene	"	"	"		13.8	ND	"	
1,4-Dichlorobenzene	"	"	"		13.8	ND	"	
3,3'-Dichlorobenzidine	"	"	"		27.6	ND	"	
2,4-Dichlorophenol	"	"	"		13.8	ND	"	
Diethyl phthalate	"	"	"		13.8	ND	"	
2,4-Dimethylphenol	"	"	"		13.8	ND	"	
Dimethyl phthalate	"	"	"		13.8	ND	"	
4,6-Dinitro-2-methylphenol	"	"	"		69.0	ND	"	
2,4-Dinitrophenol	"	"	"		69.0	ND	"	
2,4-Dinitrotoluene	"	"	"		13.8	ND	"	
2,6-Dinitrotoluene	"	"	"		13.8	ND	"	
Di-n-octyl phthalate	"	"	"		13.8	ND	"	
1,2-Diphenylhydrazine	"	"	"		27.6	ND	"	
Fluoranthene	"	"	"		13.8	ND	"	
Fluorene	"	"	"		13.8	ND	"	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-5
Laboratory Sample Number: L003076-03

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
Semivolatile Organic Compounds by EPA Method 8270C (continued)								
Hexachlorobenzene	0030327	3/14/00	3/21/00		13.8	ND	ug/l	
Hexachlorobutadiene	"	"	"		13.8	ND	"	
Hexachlorocyclopentadiene	"	"	"		13.8	ND	"	
Hexachloroethane	"	"	"		13.8	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		13.8	ND	"	
Isophorone	"	"	"		13.8	ND	"	
2-Methylnaphthalene	"	"	"		13.8	ND	"	
2-Methylphenol	"	"	"		13.8	ND	"	
4-Methylphenol	"	"	"		13.8	ND	"	
Naphthalene	"	"	"		13.8	ND	"	
2-Nitroaniline	"	"	"		69.0	ND	"	
3-Nitroaniline	"	"	"		69.0	ND	"	
4-Nitroaniline	"	"	"		69.0	ND	"	
Nitrobenzene	"	"	"		13.8	ND	"	
2-Nitrophenol	"	"	"		13.8	ND	"	
4-Nitrophenol	"	"	"		69.0	ND	"	
N-Nitrosodimethylamine	"	"	"		27.6	ND	"	
N-Nitrosodiphenylamine	"	"	"		13.8	ND	"	
N-Nitrosodi-n-propylamine	"	"	"		13.8	ND	"	
Pentachlorophenol	"	"	"		69.0	ND	"	
Phenanthrene	"	"	"		13.8	ND	"	
Phenol	"	"	"		13.8	ND	"	
Pyrene	"	"	"		13.8	ND	"	
Pyridine	"	"	"		13.8	ND	"	
1,2,4-Trichlorobenzene	"	"	"		13.8	ND	"	
2,4,5-Trichlorophenol	"	"	"		13.8	ND	"	
2,4,6-Trichlorophenol	"	"	"		13.8	ND	"	
Surrogate: 2-Fluorophenol	"	"	"	21.0-100		60.5	%	
Surrogate: Phenol-d6	"	"	"	10.0-94.0		68.5	"	
Surrogate: Nitrobenzene-d5	"	"	"	35.0-114		71.4	"	
Surrogate: 2-Fluorobiphenyl	"	"	"	43.0-116		72.1	"	
Surrogate: 2,4,6-Tribromophenol	"	"	"	10.0-123		91.0	"	
Surrogate: Terphenyl-d14	"	"	"	34.0-141		99.2	"	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-7
Laboratory Sample Number: L003076-04

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
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Sequoia Analytical - San Carlos

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Purgeable Hydrocarbons as Gasoline	0030085	3/18/00	3/18/00		50.0	199	ug/l	1
Benzene	"	"	"		0.500	3.51	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	3.30	"	
Xylenes (total)	"	"	"		0.500	0.697	"	
Methyl tert-butyl ether	"	"	"		50.0	1250	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		102	%	

Volatile Organic Compounds by EPA Method 8010B

Freon 113	0030076	3/16/00	3/16/00		5.00	ND	ug/l	
Bromodichloromethane	"	"	"		2.50	ND	"	
Bromoform	"	"	"		2.50	ND	"	
Bromomethane	"	"	"		5.00	ND	"	
Carbon tetrachloride	"	"	"		2.50	ND	"	
Chlorobenzene	"	"	"		2.50	ND	"	
Chloroethane	"	"	"		5.00	ND	"	
2-Chloroethylvinyl ether	"	"	"		5.00	ND	"	
Chloroform	"	"	"		2.50	ND	"	
Chloromethane	"	"	"		5.00	ND	"	
Dibromochloromethane	"	"	"		2.50	ND	"	
1,3-Dichlorobenzene	"	"	"		2.50	ND	"	
1,4-Dichlorobenzene	"	"	"		2.50	ND	"	
1,2-Dichlorobenzene	"	"	"		2.50	ND	"	
1,1-Dichloroethane	"	"	"		2.50	ND	"	
1,2-Dichloroethane	"	"	"		2.50	ND	"	
1,1-Dichloroethene	"	"	"		2.50	ND	"	
cis-1,2-Dichloroethene	"	"	"		2.50	ND	"	
trans-1,2-Dichloroethene	"	"	"		2.50	ND	"	
1,2-Dichloropropane	"	"	"		2.50	ND	"	
cis-1,3-Dichloropropene	"	"	"		2.50	ND	"	
trans-1,3-Dichloropropene	"	"	"		2.50	ND	"	
Methylene chloride	"	"	"		25.0	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		2.50	ND	"	
Tetrachloroethene	"	"	"		2.50	ND	"	
1,1,1-Trichloroethane	"	"	"		2.50	ND	"	
1,1,2-Trichloroethane	"	"	"		2.50	ND	"	
Trichloroethene	"	"	"		2.50	ND	"	
Trichlorofluoromethane	"	"	"		2.50	ND	"	
Vinyl chloride	"	"	"		2.50	ND	"	
Surrogate: 1-Chloro-2-fluorobenzene	"	"	"	70.0-130		116	%	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-7
Laboratory Sample Number: L003076-04

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
Semivolatile Organic Compounds by EPA Method 8270C								
Acenaphthene	0030327	3/14/00	3/21/00		11.8	ND	ug/l	
Acenaphthylene	"	"	"		11.8	ND	"	
Anthracene	"	"	"		11.8	ND	"	
Benzidine	"	"	"		58.8	ND	"	
Benzoic acid	"	"	"		58.8	ND	"	
Benzo (a) anthracene	"	"	"		11.8	ND	"	
Benzo (b+k) fluoranthene (total)	"	"	"		11.8	ND	"	
Benzo (g,h,i) perylene	"	"	"		11.8	ND	"	
Benzo (a) pyrene	"	"	"		11.8	ND	"	
Benzyl alcohol	"	"	"		23.5	ND	"	
Bis(2-chloroethoxy)methane	"	"	"		11.8	ND	"	
Bis(2-chloroethyl)ether	"	"	"		11.8	ND	"	
Bis(2-chloroisopropyl)ether	"	"	"		11.8	ND	"	
Bis(2-ethylhexyl)phthalate	"	"	"		11.8	ND	"	
4-Bromophenyl phenyl ether	"	"	"		11.8	ND	"	
Butyl benzyl phthalate	"	"	"		11.8	ND	"	
4-Chloroaniline	"	"	"		23.5	ND	"	
4-Chloro-3-methylphenol	"	"	"		23.5	ND	"	
2-Chloronaphthalene	"	"	"		11.8	ND	"	
2-Chlorophenol	"	"	"		11.8	ND	"	
4-Chlorophenyl phenyl ether	"	"	"		11.8	ND	"	
Chrysene	"	"	"		11.8	ND	"	
Dibenz (a,h) anthracene	"	"	"		11.8	ND	"	
Dibenzofuran	"	"	"		11.8	ND	"	
Di-n-butyl phthalate	"	"	"		11.8	ND	"	
1,2-Dichlorobenzene	"	"	"		11.8	ND	"	
1,3-Dichlorobenzene	"	"	"		11.8	ND	"	
1,4-Dichlorobenzene	"	"	"		11.8	ND	"	
3,3'-Dichlorobenzidine	"	"	"		23.5	ND	"	
2,4-Dichlorophenol	"	"	"		11.8	ND	"	
Diethyl phthalate	"	"	"		11.8	ND	"	
2,4-Dimethylphenol	"	"	"		11.8	ND	"	
Dimethyl phthalate	"	"	"		11.8	ND	"	
4,6-Dinitro-2-methylphenol	"	"	"		58.8	ND	"	
2,4-Dinitrophenol	"	"	"		58.8	ND	"	
2,4-Dinitrotoluene	"	"	"		11.8	ND	"	
2,6-Dinitrotoluene	"	"	"		11.8	ND	"	
Di-n-octyl phthalate	"	"	"		11.8	ND	"	
1,2-Diphenylhydrazine	"	"	"		23.5	ND	"	
Fluoranthene	"	"	"		11.8	ND	"	
Fluorene	"	"	"		11.8	ND	"	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Sample Description: MW-7
Laboratory Sample Number: L003076-04

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
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Semivolatile Organic Compounds by EPA Method 8270C (continued)

Hexachlorobenzene	0030327	3/14/00	3/21/00		11.8	ND	ug/l	
Hexachlorobutadiene	"	"	"		11.8	ND	"	
Hexachlorocyclopentadiene	"	"	"		11.8	ND	"	
Hexachloroethane	"	"	"		11.8	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		11.8	ND	"	
Isophorone	"	"	"		11.8	ND	"	
2-Methylnaphthalene	"	"	"		11.8	ND	"	
2-Methylphenol	"	"	"		11.8	ND	"	
4-Methylphenol	"	"	"		11.8	ND	"	
Naphthalene	"	"	"		11.8	ND	"	
2-Nitroaniline	"	"	"		58.8	ND	"	
3-Nitroaniline	"	"	"		58.8	ND	"	
4-Nitroaniline	"	"	"		58.8	ND	"	
Nitrobenzene	"	"	"		11.8	ND	"	
2-Nitrophenol	"	"	"		11.8	ND	"	
4-Nitrophenol	"	"	"		58.8	ND	"	
N-Nitrosodimethylamine	"	"	"		23.5	ND	"	
N-Nitrosodiphenylamine	"	"	"		11.8	ND	"	
N-Nitrosodi-n-propylamine	"	"	"		11.8	ND	"	
Pentachlorophenol	"	"	"		58.8	ND	"	
Phenanthrene	"	"	"		11.8	ND	"	
Phenol	"	"	"		11.8	ND	"	
Pyrene	"	"	"		11.8	ND	"	
Pyridine	"	"	"		11.8	ND	"	
1,2,4-Trichlorobenzene	"	"	"		11.8	ND	"	
2,4,5-Trichlorophenol	"	"	"		11.8	ND	"	
2,4,6-Trichlorophenol	"	"	"		11.8	ND	"	
Surrogate: 2-Fluorophenol	"	"	"	21.0-100		46.3	%	
Surrogate: Phenol-d6	"	"	"	10.0-94.0		60.8	"	
Surrogate: Nitrobenzene-d5	"	"	"	35.0-114		63.1	"	
Surrogate: 2-Fluorobiphenyl	"	"	"	43.0-116		72.1	"	
Surrogate: 2,4,6-Tribromophenol	"	"	"	10.0-123		91.5	"	
Surrogate: Terphenyl-d14	"	"	"	34.0-141		97.5	"	





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0030085			Date Prepared: 3/18/00			Extraction Method: EPA 5030B [P/T]				
Blank			0030085-BLK1							
Purgeable Hydrocarbons as Gasoline	3/18/00			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.2	"	70.0-130	112			
Blank			0030085-BLK2							
Purgeable Hydrocarbons as Gasoline	3/19/00			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.36	"	70.0-130	93.6			
LCS			0030085-BS1							
Benzene	3/18/00	10.0		11.3	ug/l	70.0-130	113			
Toluene	"	10.0		10.7	"	70.0-130	107			
Ethylbenzene	"	10.0		10.8	"	70.0-130	108			
Xylenes (total)	"	30.0		33.0	"	70.0-130	110			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.6	"	70.0-130	116			
LCS			0030085-BS2							
Purgeable Hydrocarbons as Gasoline	3/18/00	250		227	ug/l	70.0-130	90.8			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		12.1	"	70.0-130	121			
LCS			0030085-BS3							
Benzene	3/19/00	10.0		10.3	ug/l	70.0-130	103			
Toluene	"	10.0		9.54	"	70.0-130	95.4			
Ethylbenzene	"	10.0		9.57	"	70.0-130	95.7			
Xylenes (total)	"	30.0		29.2	"	70.0-130	97.3			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.9	"	70.0-130	109			
LCS			0030085-BS4							
Purgeable Hydrocarbons as Gasoline	3/19/00	250		223	ug/l	70.0-130	89.2			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.8	"	70.0-130	108			





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike	0030085-MS1	L003075-02								
Purgeable Hydrocarbons as Gasoline	3/18/00	250	ND	238	ug/l	60.0-140	95.2			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.76	"	70.0-130	97.6			
Matrix Spike Dup	0030085-MSD1	L003075-02								
Purgeable Hydrocarbons as Gasoline	3/18/00	250	ND	201	ug/l	60.0-140	80.4	25.0	16.9	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.10	"	70.0-130	91.0			





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Volatile Organic Compounds by EPA Method 8010B/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0030056		Date Prepared: 3/14/00			Extraction Method: EPA 5030B IP/T					
Blank		0030056-BLK2								
Freon 113	3/14/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				
2-Chloroethylvinyl ether	"			ND	"	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,1,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
<i>Surrogate: 1-Chloro-2-fluorobenzene</i>	"	10.0		9.58	"	70.0-130	95.8			

Blank		0030056-BLK3								
Freon 113	3/15/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				





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

Project: Tosco
Project Number: TOSCO#5484
Project Manager: Deanna Harding

Sampled: 3/7/00
Received: 3/7/00
Reported: 3/28/00

Volatile Organic Compounds by EPA Method 8010B/Quality Control Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)										
0030056-BLK3										
2-Chloroethylvinyl ether	3/15/00			ND	ug/l	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,1,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
<i>Surrogate: 1-Chloro-2-fluorobenzene</i>	"	10.0		12.2	"	70.0-130	122			
LCS										
0030056-BS2										
Chlorobenzene	3/14/00	10.0		7.82	ug/l	70.0-130	78.2			
1,1-Dichloroethene	"	10.0		8.27	"	65.0-135	82.7			
Trichloroethene	"	10.0		8.49	"	70.0-130	84.9			
<i>Surrogate: 1-Chloro-2-fluorobenzene</i>	"	10.0		9.74	"	70.0-130	97.4			
LCS										
0030056-BS3										
Chlorobenzene	3/16/00	10.0		10.9	ug/l	70.0-130	109			
1,1-Dichloroethene	"	10.0		10.8	"	65.0-135	108			
Trichloroethene	"	10.0		10.4	"	70.0-130	104			
<i>Surrogate: 1-Chloro-2-fluorobenzene</i>	"	10.0		12.0	"	70.0-130	120			
Matrix Spike										
0030056-MS1 L003014-05										
Chlorobenzene	3/14/00	10.0	ND	7.94	ug/l	60.0-140	79.4			
1,1-Dichloroethene	"	10.0	ND	8.10	"	60.0-140	81.0			
Trichloroethene	"	10.0	ND	7.59	"	60.0-140	75.9			





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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**Volatile Organic Compounds by EPA Method 8010B/Quality Control
Sequoia Analytical - San Carlos**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike (continued)										
<u>0030056-MS1</u> <u>L003014-05</u>										
Surrogate: 1-Chloro-2-fluorobenzene	3/14/00	10.0		9.02	ug/l	70.0-130	90.2			
Matrix Spike Dup										
<u>0030056-MSD1</u> <u>L003014-05</u>										
Chlorobenzene	3/15/00	10.0	ND	7.83	ug/l	60.0-140	78.3	25.0	1.40	
1,1-Dichloroethene	"	10.0	ND	8.18	"	60.0-140	81.8	25.0	0.983	
Trichloroethene	"	10.0	ND	8.19	"	60.0-140	81.9	25.0	7.60	
Surrogate: 1-Chloro-2-fluorobenzene	"	10.0		8.54	"	70.0-130	85.4			
Batch: 0030076										
Date Prepared: 3/16/00										
Extraction Method: EPA 5030B [P/T]										
Blank										
<u>0030076-BLK1</u>										
Freon 113	3/16/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				
2-Chloroethylvinyl ether	"			ND	"	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
Surrogate: 1-Chloro-2-fluorobenzene	"	10.0		10.5	"	70.0-130	105			





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

Project: Tosco
Project Number: TOSCO#5484
Project Manager: Deanna Harding

Sampled: 3/7/00
Received: 3/7/00
Reported: 3/28/00

Volatile Organic Compounds by EPA Method 8010B/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank	<u>0030076-BLK2</u>									
Freon 113	3/17/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				
2-Chloroethylvinyl ether	"			ND	"	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
<i>Surrogate: 1-Chloro-2-fluorobenzene</i>	"	10.0		10.9	"	70.0-130	109			
LCS	<u>0030076-BS1</u>									
Chlorobenzene	3/16/00	10.0		10.4	ug/l	70.0-130	104			
1,1-Dichloroethene	"	10.0		11.8	"	65.0-135	118			
Trichloroethene	"	10.0		11.1	"	70.0-130	111			
<i>Surrogate: 1-Chloro-2-fluorobenzene</i>	"	10.0		10.7	"	70.0-130	107			
LCS	<u>0030076-BS2</u>									
Chlorobenzene	3/17/00	10.0		9.89	ug/l	70.0-130	98.9			
1,1-Dichloroethene	"	10.0		9.47	"	65.0-135	94.7			





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

Project: Tosco
Project Number: TOSCO#5484
Project Manager: Deanna Harding

Sampled: 3/7/00
Received: 3/7/00
Reported: 3/28/00

Volatile Organic Compounds by EPA Method 8010B/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<u>LCS (continued)</u>		<u>0030076-BS2</u>								
Trichloroethene	3/17/00	10.0		10.5	ug/l	70.0-130	105			
Surrogate: 1-Chloro-2-fluorobenzene	"	10.0		10.3	"	70.0-130	103			
<u>Matrix Spike</u>		<u>0030076-MS1</u>	<u>L003149-01</u>							
Chlorobenzene	3/16/00	20.0	ND	21.2	ug/l	60.0-140	106			
1,1-Dichloroethene	"	20.0	ND	21.7	"	60.0-140	109			
Trichloroethene	"	20.0	ND	22.5	"	60.0-140	113			
Surrogate: 1-Chloro-2-fluorobenzene	"	10.0		11.8	"	70.0-130	118			
<u>Matrix Spike Dup</u>		<u>0030076-MSD1</u>	<u>L003149-01</u>							
Chlorobenzene	3/16/00	20.0	ND	20.0	ug/l	60.0-140	100	25.0	5.83	
1,1-Dichloroethene	"	20.0	ND	20.5	"	60.0-140	103	25.0	5.66	
Trichloroethene	"	20.0	ND	20.2	"	60.0-140	101	25.0	11.2	
Surrogate: 1-Chloro-2-fluorobenzene	"	10.0		12.2	"	70.0-130	122			





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Semivolatile Organic Compounds by EPA Method 8270C/Quality Control
Sequoia Analytical - Petaluma

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
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Batch: 0030327

Date Prepared: 3/14/00

Extraction Method: EPA 3520B

Blank

0030327-BLK1

Acenaphthene	3/21/00			ND	ug/l	10.0				
Acenaphthylene	"			ND	"	10.0				
Anthracene	"			ND	"	10.0				
Benzidine	"			ND	"	50.0				
Benzoic acid	"			ND	"	50.0				
Benzo (a) anthracene	"			ND	"	10.0				
Benzo (b+k) fluoranthene (total)	"			ND	"	10.0				
Benzo (g,h,i) perylene	"			ND	"	10.0				
Benzo (a) pyrene	"			ND	"	10.0				
Benzyl alcohol	"			ND	"	20.0				
Bis(2-chloroethoxy)methane	"			ND	"	10.0				
Bis(2-chloroethyl)ether	"			ND	"	10.0				
Bis(2-chloroisopropyl)ether	"			ND	"	10.0				
Bis(2-ethylhexyl)phthalate	"			ND	"	10.0				
4-Bromophenyl phenyl ether	"			ND	"	10.0				
Butyl benzyl phthalate	"			ND	"	10.0				
4-Chloroaniline	"			ND	"	20.0				
4-Chloro-3-methylphenol	"			ND	"	20.0				
2-Chloronaphthalene	"			ND	"	10.0				
2-Chlorophenol	"			ND	"	10.0				
4-Chlorophenyl phenyl ether	"			ND	"	10.0				
Chrysene	"			ND	"	10.0				
Dibenz (a,h) anthracene	"			ND	"	10.0				
Dibenzofuran	"			ND	"	10.0				
Di-n-butyl phthalate	"			ND	"	10.0				
1,2-Dichlorobenzene	"			ND	"	10.0				
1,3-Dichlorobenzene	"			ND	"	10.0				
1,4-Dichlorobenzene	"			ND	"	10.0				
3,3'-Dichlorobenzidine	"			ND	"	20.0				
2,4-Dichlorophenol	"			ND	"	10.0				
Diethyl phthalate	"			ND	"	10.0				
2,4-Dimethylphenol	"			ND	"	10.0				
Dimethyl phthalate	"			ND	"	10.0				
4,6-Dinitro-2-methylphenol	"			ND	"	50.0				
2,4-Dinitrophenol	"			ND	"	50.0				
2,4-Dinitrotoluene	"			ND	"	10.0				
2,6-Dinitrotoluene	"			ND	"	10.0				
Di-n-octyl phthalate	"			ND	"	10.0				
1,2-Diphenylhydrazine	"			ND	"	20.0				
Fluoranthene	"			ND	"	10.0				





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Semivolatile Organic Compounds by EPA Method 8270C/Quality Control
Sequoia Analytical - Petaluma

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)										
	0030327-BLK1									
Fluorene	3/21/00			ND	ug/l	10.0				
Hexachlorobenzene	"			ND	"	10.0				
Hexachlorobutadiene	"			ND	"	10.0				
Hexachlorocyclopentadiene	"			ND	"	10.0				
Hexachloroethane	"			ND	"	10.0				
Indeno (1,2,3-cd) pyrene	"			ND	"	10.0				
Isophorone	"			ND	"	10.0				
2-Methylnaphthalene	"			ND	"	10.0				
2-Methylphenol	"			ND	"	10.0				
4-Methylphenol	"			ND	"	10.0				
Naphthalene	"			ND	"	10.0				
2-Nitroaniline	"			ND	"	50.0				
3-Nitroaniline	"			ND	"	50.0				
4-Nitroaniline	"			ND	"	50.0				
Nitrobenzene	"			ND	"	10.0				
2-Nitrophenol	"			ND	"	10.0				
4-Nitrophenol	"			ND	"	50.0				
N-Nitrosodimethylamine	"			ND	"	20.0				
N-Nitrosodiphenylamine	"			ND	"	10.0				
N-Nitrosodi-n-propylamine	"			ND	"	10.0				
Pentachlorophenol	"			ND	"	50.0				
Phenanthrene	"			ND	"	10.0				
Phenol	"			ND	"	10.0				
Pyrene	"			ND	"	10.0				
Pyridine	"			ND	"	10.0				
1,2,4-Trichlorobenzene	"			ND	"	10.0				
2,4,5-Trichlorophenol	"			ND	"	10.0				
2,4,6-Trichlorophenol	"			ND	"	10.0				
Surrogate: 2-Fluorophenol	"	150		39.2	"	21.0-100	26.1			
Surrogate: Phenol-d6	"	150		65.9	"	10.0-94.0	43.9			
Surrogate: Nitrobenzene-d5	"	100		74.2	"	35.0-114	74.2			
Surrogate: 2-Fluorobiphenyl	"	100		74.7	"	43.0-116	74.7			
Surrogate: 2,4,6-Tribromophenol	"	150		48.9	"	10.0-123	32.6			
Surrogate: Terphenyl-d14	"	100		100	"	34.0-141	100			
LCS										
	0030327-BS1									
Acenaphthene	3/21/00	100		84.4	ug/l	57.7-120	84.4			
4-Chloro-3-methylphenol	"	150		124	"	50.6-116	82.7			
2-Chlorophenol	"	150		108	"	28.0-111	72.0			
1,4-Dichlorobenzene	"	100		72.8	"	28.8-108	72.8			
2,4-Dinitrotoluene	"	100		100	"	60.2-114	100			





Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Semivolatile Organic Compounds by EPA Method 8270C/Quality Control
Sequoia Analytical - Petaluma

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
LCS (continued)		0030327-BS1								
4-Nitrophenol	3/21/00	150		153	ug/l	24.6-148	102			
N-Nitrosodi-n-propylamine	"	100		92.1	"	29.0-119	92.1			
Pentachlorophenol	"	150		141	"	39.9-131	94.0			
Phenol	"	150		109	"	21.8-117	72.7			
Pyrene	"	100		104	"	52.3-127	104			
1,2,4-Trichlorobenzene	"	100		72.5	"	23.6-131	72.5			
Surrogate: 2-Fluorophenol	"	150		101	"	21.0-100	67.3			
Surrogate: Phenol-d6	"	150		108	"	10.0-94.0	72.0			
Surrogate: Nitrobenzene-d5	"	100		76.4	"	35.0-114	76.4			
Surrogate: 2-Fluorobiphenyl	"	100		83.0	"	43.0-116	83.0			
Surrogate: 2,4,6-Tribromophenol	"	150		148	"	10.0-123	98.7			
Surrogate: Terphenyl-d14	"	100		101	"	34.0-141	101			
LCS Dup		0030327-BSD1								
Acenaphthene	3/21/00	100		68.7	ug/l	57.7-120	68.7	26.7	20.5	
4-Chloro-3-methylphenol	"	150		99.5	"	50.6-116	66.3	30.3	22.0	
2-Chlorophenol	"	150		92.1	"	28.0-111	61.4	38.8	15.9	
1,4-Dichlorobenzene	"	100		61.8	"	28.8-108	61.8	40.7	16.3	
2,4-Dinitrotoluene	"	100		94.0	"	60.2-114	94.0	22.1	6.19	
4-Nitrophenol	"	150		148	"	24.6-148	98.7	43.7	3.29	
N-Nitrosodi-n-propylamine	"	100		75.2	"	29.0-119	75.2	43.9	20.2	
Pentachlorophenol	"	150		136	"	39.9-131	90.7	32.9	3.57	
Phenol	"	150		94.3	"	21.8-117	62.9	32.6	14.5	
Pyrene	"	100		100	"	52.3-127	100	24.6	3.92	
1,2,4-Trichlorobenzene	"	100		60.6	"	23.6-131	60.6	48.0	17.9	
Surrogate: 2-Fluorophenol	"	150		81.7	"	21.0-100	54.5			
Surrogate: Phenol-d6	"	150		87.4	"	10.0-94.0	58.3			
Surrogate: Nitrobenzene-d5	"	100		65.0	"	35.0-114	65.0			
Surrogate: 2-Fluorobiphenyl	"	100		67.7	"	43.0-116	67.7			
Surrogate: 2,4,6-Tribromophenol	"	150		118	"	10.0-123	78.7			
Surrogate: Terphenyl-d14	"	100		97.4	"	34.0-141	97.4			





ENVIRONMENTAL
PROTECTION

00 MAY -4 AM 10: 05

Gettler-Ryan/Geostrategies 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco Project Number: TOSCO#5484 Project Manager: Deanna Harding	Sampled: 3/7/00 Received: 3/7/00 Reported: 3/28/00
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Notes and Definitions

#	Note
1	Chromatogram Pattern: Weathered Gasoline C6-C12
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

