



GETTLER-RYAN INC.

TRANSMITTAL

NOV 26 2001

November 6, 2001

G-R #180203

TO: Mr. David B. De Witt
Phillips 66 Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

CC: Mr. Paul Blank
ERI, Inc.
73 Digital Drive, Suite 100
Novato, California 94949

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

RE: **Former Tosco 76 Service Station
#0843
1629 Webster Street
Alameda, California**

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	October 31, 2001	Groundwater Monitoring and Sampling Report Third Quarter - Event of September 24, 2001

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 *November 19, 2001*, this report will be distributed to the following:

cc: Ms. Eva Chu, Alameda County Dept., of Environmental Health, 1131 Harbor Bay Parkway, Alameda, CA 94502

Enclosure

trans/0843.dbd



GETTLER-RYAN INC.

October 31, 2001
G-R Job #180203

Mr. David B. De Witt
Phillips 66 Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

RE: Third Quarter Event of September 24, 2001
Groundwater Monitoring & Sampling Report
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

Dear Mr. De Witt:

This report documents the most recent groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

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

- For -

Deanna L. Harding
Project Coordinator

Douglas J. Lee

Douglas J. Lee
Senior Geologist, R.G. No. 6882

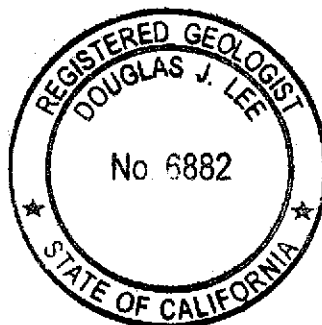
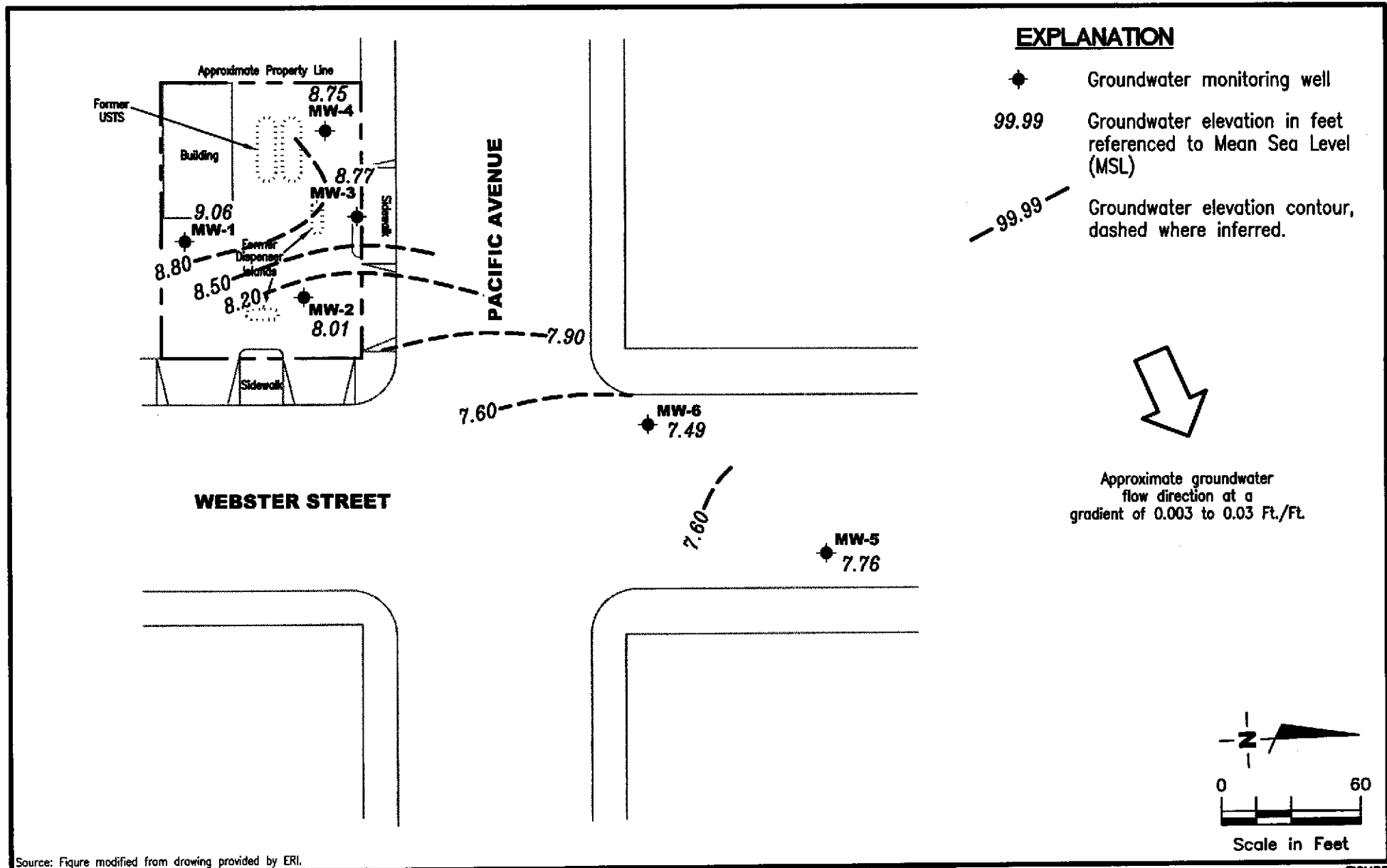


Figure 1: Potentiometric Map
Figure 2: Concentration Map
Table 1: Groundwater Monitoring Data and Analytical Results
Table 2: Groundwater Analytical Results - Oxygenate Compounds
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory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

0843.qml



Source: Figure modified from drawing provided by ERI.

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

POTENTIOMETRIC MAP
 Former Tosco 76 Service Station #0843
 1629 Webster Street
 Alameda, California

FIGURE

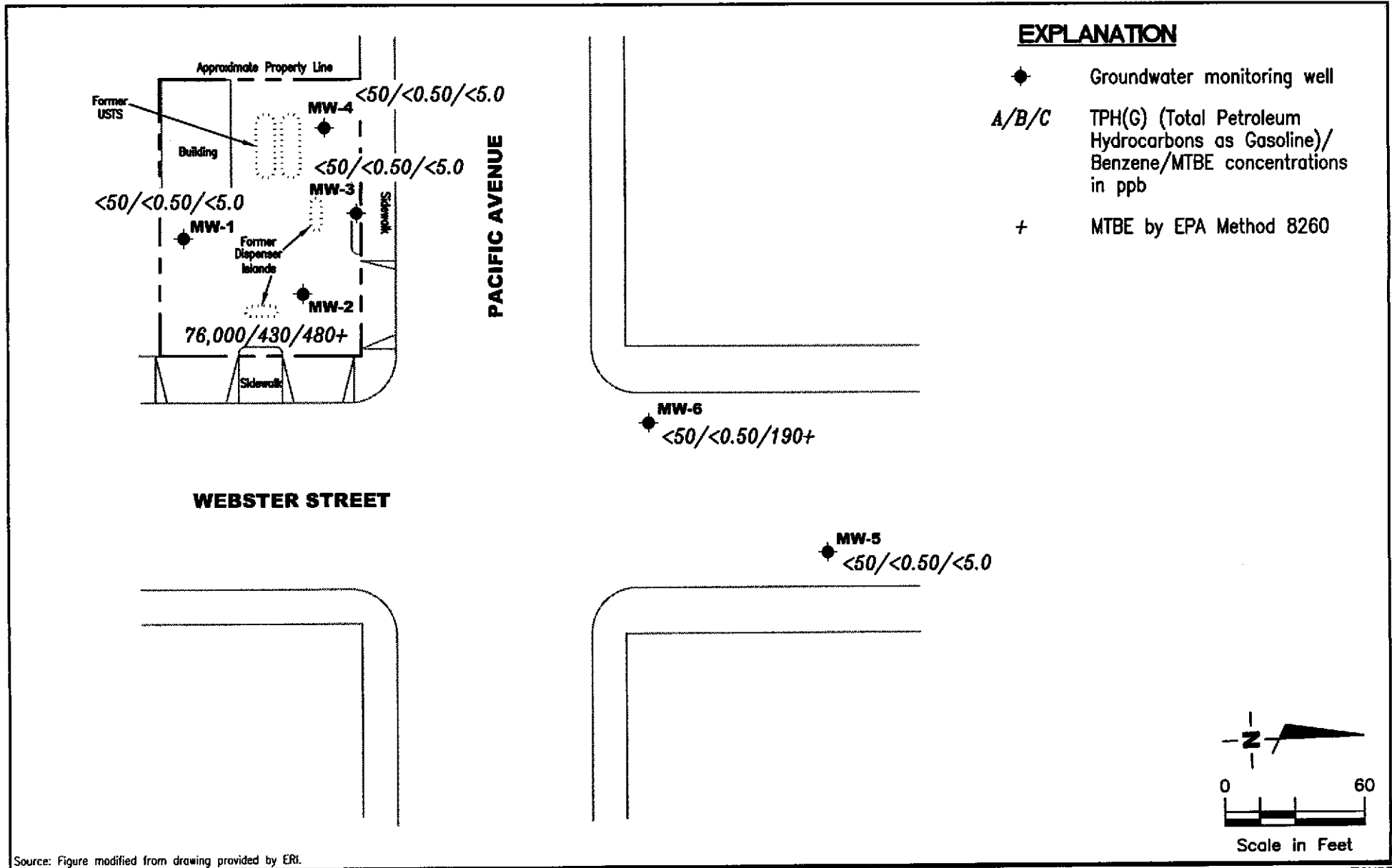
1

PROJECT NUMBER
 180203

REVIEWED BY

DATE
 September 24, 2001

REVISED DATE



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CONCENTRATION MAP
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

FIGURE
2

PROJECT NUMBER
180203

REVIEWED BY

DATE
September 24, 2001

REVISED DATE

Table 1
Groundwater Monitoring Data and Analytical Results
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID/ TOC* (ft.)	DATE	DTW (ft.)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1									
16.18	03/05/99 ¹	--	--	86.6 ³	ND	2.04	ND	4.06	23.9 ²
	06/03/99	6.24	9.94	ND	ND	ND	ND	ND	ND/ND ²
	09/02/99	7.19	8.99	ND	ND	ND	ND	ND	ND/ND ²
	12/14/99	8.07	8.11	ND	ND	ND	ND	ND	ND
	03/14/00	5.47	10.71	ND	ND	ND	ND	ND	ND
	05/31/00	6.22	9.96	ND	ND	ND	ND	ND	ND
	08/29/00	6.82	9.36	ND	ND	ND	ND	ND	ND
	12/01/00	7.54	8.64	ND	ND	ND	ND	ND	ND
	03/17/01	5.73	10.45	ND	ND	ND	ND	ND	ND
	05/23/01	6.43	9.75	ND	ND	ND	ND	ND	ND
	09/24/01	7.12	9.06	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-2									
15.57	03/05/99 ¹	--	--	34,400	2,070	7,710	2,340	8,240	8,460 ²
	06/03/99	5.96	9.61	51,200 ⁴	1,820	7,570	2,510	7,320	6,460/8,800 ²
	09/02/99	6.85	8.72	17,000 ⁵	1,000	3,100	1,400	3,700	4,000/3,720 ²
	12/14/99	7.65	7.92	83,000 ⁵	3,000	22,000	4,500	17,000	9,100/11,000 ²
	03/14/00	5.26	10.31	31,000 ⁵	1,600	4,600	2,300	7,300	5,700/8,700 ²
	05/31/00	5.60	9.97	9,970 ⁵	598	1,030	487	2,060	2,500/1,670 ²
	08/29/00	6.35	9.22	7,900 ⁵	390	1,500	280	1,900	1,800/1,300 ²
	12/01/00	7.06	8.51	87,500 ⁵	1,860	17,400	5,590	19,400	6,220/3,790 ²
	03/17/01	5.98	9.59	4,310 ⁵	371	59.0	280	682	321/433 ²
	05/23/01	6.97	8.60	45,400 ⁵	374	4,490	2,790	10,900	⁷ ND/406 ²
	09/24/01	7.56	8.01	76,000 ³	430	13,000	4,700	18,000	<2,000/480 ²
MW-3									
15.11	03/05/99 ¹	--	--	135 ³	ND	ND	ND	4.84	2.46 ²
	06/03/99	5.57	9.54	ND	ND	ND	ND	ND	5.23/12.7 ²
	09/02/99	6.50	8.61	ND	ND	ND	ND	ND	13/11.0 ²
	12/14/99	7.28	7.83	ND	ND	ND	ND	ND	ND
	03/14/00	4.87	10.24	ND	ND	ND	ND	ND	7.2/6.3 ²

Table 1
Groundwater Monitoring Data and Analytical Results
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID/ TOC* (ft.)	DATE	DTW (ft.)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-3 (cont)	05/31/00	5.58	9.53	ND	ND	ND	ND	ND	ND
	08/29/00	6.06	9.05	ND	ND	ND	ND	ND	ND
	12/01/00	6.76	8.35	ND	ND	ND	ND	ND	ND
	03/17/01	5.09	10.02	ND	ND	ND	ND	ND	ND
	05/23/01	5.72	9.39	ND	ND	ND	ND	ND	ND
	09/24/01	6.34	8.77	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-4 15.17	03/05/99 ¹	--	--	ND	ND	ND	ND	2.44	25.2 ²
	06/03/99	5.45	9.72	ND	ND	ND	ND	ND	ND/3.96 ²
	09/02/99	6.48	8.69	ND	ND	ND	ND	ND	23/27.0 ²
	12/14/99	7.27	7.90	ND	ND	ND	ND	ND	200/270 ²
	03/14/00	4.67	10.50	ND	ND	ND	ND	ND	46/49 ²
	05/31/00	5.48	9.69	ND	ND	ND	ND	ND	ND
	08/29/00	6.10	9.07	ND	ND	ND	ND	ND	6.1/3.2 ²
	12/01/00	6.79	8.38	ND	ND	ND	ND	ND	152/101 ²
	03/17/01	5.01	10.16	ND	ND	ND	ND	ND	ND
	05/23/01	5.78	9.39	ND	ND	ND	ND	ND	ND
	09/24/01	6.42	8.75	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5 13.34	12/14/99	6.45	6.89	ND	ND	ND	ND	ND	3.5/3.8 ²
	03/14/00	4.46	8.88	ND	ND	ND	ND	ND	ND
	05/31/00	5.18	8.16	ND	ND	ND	ND	ND	ND
	08/29/00	5.46	7.88	ND	ND	ND	ND	ND	ND
	12/01/00	5.95	7.39	ND	ND	ND	ND	ND	ND
	03/17/01	5.36	7.98	ND	ND	ND	ND	ND	ND
	05/23/01	5.09	8.25	ND	ND	ND	ND	ND	ND
	09/24/01	5.58	7.76	<50	<0.50	<0.50	<0.50	<0.50	<5.0

Table 1
Groundwater Monitoring Data and Analytical Results
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID/ TOC* (ft.)	DATE	DTW (ft.)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-6	12/14/99	6.64	7.44	ND	ND	ND	ND	ND	11,000/18,000 ²
14.08	03/14/00	4.72	9.36	ND ⁷	ND ⁷	ND ⁷	ND ⁷	ND ⁷	19,000/21,000 ^{2,6}
	05/31/00	5.28	8.80	ND ⁷	ND ⁷	ND ⁷	ND ⁷	ND ⁷	13,200
	08/29/00	5.39	8.69	ND	ND	ND	ND	ND	270/400 ²
	12/01/00	6.11	7.97	ND	ND	ND	ND	ND	6,330/3,640 ²
	03/17/01	6.02	8.06	18,700 ⁵	2,950	989	1,040	3,000	10,200/11,500 ²
	05/23/01	5.82	8.26	ND ⁷	ND ⁷	ND ⁷	ND ⁷	ND ⁷	4,660 ⁸
	09/24/01¹⁰	6.59	7.49	<50	<0.50	<0.50	<0.50	<0.50	160/190⁹
Trip Blank	03/05/99 ¹	--	--	ND	ND	ND	ND	ND	ND ²
TB-LB	06/03/99	--	--	ND	ND	ND	ND	ND	ND
	09/02/99	--	--	ND	ND	ND	ND	ND	ND
	12/14/99	--	--	ND	ND	ND	ND	ND	ND
	03/14/00	--	--	ND	ND	ND	ND	ND	ND
	05/31/00	--	--	ND	ND	ND	ND	ND	ND
	08/29/00	--	--	ND	ND	ND	ND	ND	ND
	12/01/00	--	--	ND	ND	ND	ND	ND	ND
	03/17/01	--	--	ND	ND	ND	ND	ND	ND
	05/23/01	--	--	ND	ND	ND	ND	ND	ND
	09/24/01	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0

Table 1
Groundwater Monitoring Data and Analytical Results
 Former Tosco 76 Service Station #0843
 1629 Webster Street
 Alameda, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to June 3, 1999, were compiled from reports prepared by ERI, Inc.

TOC = Top of Casing	B = Benzene	(ppb) = Parts per billion
(ft.) = Feet	T = Toluene	ND = Not Detected
DTW = Depth to Water	E = Ethylbenzene	-- = Not Measured/Not Analyzed
GWE = Groundwater Elevation	X = Xylenes	
(msl) = Mean sea level	MTBE = Methyl tertiary butyl ether	
TPH-G = Total Petroleum Hydrocarbons as Gasoline		

* TOC elevations are based on USC&GS Benchmark WEB PAC - 1947 - R 1951; (Elevation = 14.054 feet).

¹ B,T,E,X by EPA Method 8260.

² MTBE by EPA Method 8260.

³ Laboratory report indicates weathered gasoline C6-C12.

⁴ Laboratory report indicates chromatogram pattern C6-C12.

⁵ Laboratory report indicates gasoline C6-C12.

⁶ Laboratory report indicates sample was analyzed 03/28/00 but required reanalysis at a dilution. The dilution was analyzed outside of the EPA recommended holding time.

⁷ Detection limit raised. Refer to analytical reports.

⁸ Laboratory did not perform analysis for MTBE by EPA Method 8260 as requested on the Chain of Custody for 8020 MTBE hits.

⁹ MTBE by EPA Method 8260 was analyzed past the EPA recommended holding time.

¹⁰ Due to laboratory error, MW-6 was not analyzed within the EPA recommended holding time.

Table 2
Groundwater Analytical Results - Oxygenate Compounds
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-1	09/02/99	ND	ND	ND	ND	ND	ND	--	--
MW-2	09/02/99	ND ¹	ND ¹	3,720	ND ¹	ND ¹	ND ¹	--	--
	12/14/99	ND ¹	ND ¹	11,000	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
	03/14/00	ND ¹	1,300	8,700	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
	05/31/00	ND ¹	ND ¹	1,670	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
	08/29/00	ND	250	1,300	ND	ND	ND	ND	ND
	12/01/00	ND ¹	ND ¹	3,790	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
	03/17/01	ND ¹	ND ¹	433	14.8	ND ¹	ND ¹	ND ¹	ND ¹
	05/23/01	ND ¹	ND ¹	406	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
	09/24/01	<50,000	<5,000	480	<100	<100	<100	<100	<100
MW-3	09/02/99	ND	ND	11.0	ND	ND	ND	--	--
	03/14/00	--	--	6.3	--	--	--	--	--
MW-4	09/02/99	ND	ND	27.0	ND	ND	ND	--	--
	12/14/99	--	--	270	--	--	--	--	--
	03/14/00	--	--	49	--	--	--	--	--
	08/29/00	--	--	3.2	--	--	--	--	--
MW-5	12/14/99	--	--	3.8	--	--	--	--	--

Table 2
Groundwater Analytical Results - Oxygenate Compounds
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-6	12/14/99	--	--	18,000	--	--	--	--	--
	03/14/00	--	--	21,000 ²	--	--	--	--	--
	08/29/00	--	--	400	--	--	--	--	--
	03/17/01	ND ¹	ND ¹	11,500	ND ¹	ND ¹	ND ¹	219	ND ¹
	05/23/01 ³	--	--	--	--	--	--	--	--
	09/24/01 ⁴	<1,000	<100	190	<2.0	<2.0	<2.0	<2.0	<2.0

Table 2
Groundwater Analytical Results - Oxygenate Compounds
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

EXPLANATIONS:

TBA = Tertiary butyl alcohol
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
(ppb) = Parts per billion
-- = Not Analyzed
ND = Not Detected

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

- ¹ Detection limit raised. Refer to analytical reports.
- ² Laboratory report indicates sample was analyzed 03/28/00 but required reanalysis at a dilution. The dilution was analyzed outside of the EPA recommended holding time.
- ³ Laboratory did not perform analysis for oxygenates as requested on the Chain of Custody, on all 8020 MTBE hits.
- ⁴ Laboratory report indicates sample was analyzed past the EPA recommended holding time.

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 an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

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

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

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

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

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

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/
Facility # 0843
Address: 1629 Webster St.
City: Alameda, CA

Job#: 180203
Date: 9-24-01
Sampler: Joe

Well ID MW-1
Well Diameter 2 in.
Total Depth 20.05 ft.
Depth to Water 7.12 ft.

Well Condition: O.K.

Hydrocarbon Thickness:	<u>0</u> in.	Amount Bailed (product/water):	<u>0</u> (gal.)
Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

12.93 x VF 0.17 = 2.20 x 3 (case volume) = Estimated Purge Volume: 7 (gal.)

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

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

Starting Time: 3:16
Sampling Time: 3:35 P.M. (1535)
Purging Flow Rate: 1 gpm
Did well de-water? _____

Weather Conditions: Foggy
Water Color: Clear Odor: none
Sediment Description: _____
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^2$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>3:21</u>	<u>2.5</u>	<u>7.66</u>	<u>17.37</u>	<u>71.6</u>	_____	_____	_____
<u>3:22</u>	<u>5</u>	<u>7.67</u>	<u>12.43</u>	<u>72.9</u>	_____	_____	_____
<u>3:24</u>	<u>7</u>	<u>7.59</u>	<u>12.41</u>	<u>72.0</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>3YOA</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility # 0843
Address: 1629 Webster St.
City: Alameda, CA

Job#: 180203
Date: 9-24-01
Sampler: Joe

Well ID MW-2
Well Diameter 2 in.
Total Depth 20.25 ft.
Depth to Water 7.56 ft.

Well Condition: O.K.

Hydrocarbon Thickness:	<u>0</u> in.	Amount Bailed (product/water):	<u>0</u> (gal.)
Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

12.69 X VF 0.17 = 2.16 X 3 (case volume) = Estimated Purge Volume: 6.5 (gal.)

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

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

Starting Time: 4:20
Sampling Time: 4:41 P.M. (1641)
Purging Flow Rate: _____ (gpm)
Did well de-water? _____

Weather Conditions: Foggy
Water Color: Clear Odor: None
Sediment Description: _____
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^2$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>4:29</u>	<u>2</u>	<u>7.35</u>	<u>4.15</u>	<u>72.1</u>			
<u>4:30</u>	<u>4</u>	<u>7.25</u>	<u>4.22</u>	<u>71.9</u>			
<u>4:32</u>	<u>6.5</u>	<u>7.17</u>	<u>4.25</u>	<u>71.6</u>			
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>3V0A</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
	<u>2V0A</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>(6) Oxy's, 1.2 DCM/ED</u>

COMMENTS: _____

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/
Facility # 0843
Address: 1629 Webster St.
City: Alameda, CA

Job#: 180203
Date: 9-24-01
Sampler: Joe

Well ID MW-3

Well Condition: O.K.

Well Diameter 2 in.

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

Total Depth 19.90 ft.

Depth to Water 6.34 ft.

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

13.56 x VF 0.17 = 2.31 x 3 (case volume) = Estimated Purge Volume: 7 (gal.)

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

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

Starting Time: 2:40
Sampling Time: 3:10 A.M. (1504)
Purging Flow Rate: _____ gpm.
Did well de-water? _____

Weather Conditions: Foggy
Water Color: Clear Odor: None
Sediment Description: _____
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{hos/cm} \times 10^2$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>2:52</u>	<u>25</u>	<u>7.50</u>	<u>9.21</u>	<u>72.8</u>	_____	_____	_____
<u>2:51</u>	<u>5</u>	<u>7.56</u>	<u>9.17</u>	<u>72.4</u>	_____	_____	_____
<u>2:53</u>	<u>7</u>	<u>7.52</u>	<u>9.14</u>	<u>72.1</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>3Y0A</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility # 0843
Address: 1629 Webster St.
City: Alameda, CA

Job#: 180203
Date: 9-24-01
Sampler: Joe

Well ID MW-4
Well Diameter 2 in.
Total Depth 19.80 ft.
Depth to Water 6.42 ft.

Well Condition: O.K.
Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)
Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66
6" = 1.50 12" = 5.80

13.38 x VF 0.17 = 2.27 x 3 (case volume) = Estimated Purge Volume: 7 (gal.)

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

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

Starting Time: 2:10
Sampling Time: 2:30 P.M. (1430)
Purging Flow Rate: 1 gpm.
Did well de-water? _____

Weather Conditions: Foggy
Water Color: clear Odor: none
Sediment Description: _____
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^2$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>2:18</u>	<u>2.5</u>	<u>7.37</u>	<u>11.29</u>	<u>71.9</u>	_____	_____	_____
<u>2:20</u>	<u>5</u>	<u>7.36</u>	<u>11.46</u>	<u>71.8</u>	_____	_____	_____
<u>2:21</u>	<u>7</u>	<u>7.35</u>	<u>11.49</u>	<u>72.2</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>3YOL</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility # 0843
Address: 1629 Webster St.
City: Alameda, CA

Job#: 180203
Date: 9-24-01
Sampler: Joe

Well ID MW-5

Well Condition: O.K.

Well Diameter 2 in.

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

Total Depth 20.22 ft.

Depth to Water 5.58 ft.

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

14.64 x VF 0.17 = 2.49 x 3 (case volume) = Estimated Purge Volume: 7.5 (gal)

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

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

Starting Time: 1:25
Sampling Time: 1:52 p.m. (1352)
Purging Flow Rate: 1 gpm
Did well de-water? _____

Weather Conditions: Foggy
Water Color: clear Odor: none
Sediment Description: _____
If yes; Time: _____ Volume: _____ (gal)

Time	Volume (gal)	pH	Conductivity $\mu\text{mhos/cm}^\circ\text{K}$	Temperature $^\circ\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>1:35</u>	<u>2.5</u>	<u>7.96</u>	<u>10.80</u>	<u>71.9</u>	_____	_____	_____
<u>1:37</u>	<u>5</u>	<u>7.56</u>	<u>10.83</u>	<u>72.0</u>	_____	_____	_____
<u>1:39</u>	<u>7.5</u>	<u>7.53</u>	<u>10.82</u>	<u>72.0</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>3YOA</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility # 0843
Address: 1629 Webster St.
City: Alameda, CA

Job#: 180203
Date: 9-24-01
Sampler: Joe

Well ID MW-6
Well Diameter 2 in.
Total Depth 20.15 ft
Depth to Water 6.59 ft

Well Condition: O.K.
Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)
Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66
6" = 1.50 12" = 5.80

13.56 x VF 0.17 = 2.31 x 3 (case volume) = Estimated Purge Volume: 7 (gal.)

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

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

Starting Time: 3:48
Sampling Time: 4:12 p.m. (1612)
Purging Flow Rate: _____ gpm.
Did well de-water? _____

Weather Conditions: Foggy
Water Color: clear Odor: mild
Sediment Description: _____
If yes, Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}^\circ\text{K}$	Temperature $^\circ\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>3:56</u>	<u>2.5</u>	<u>7.42</u>	<u>5.98</u>	<u>72.5</u>	_____	_____	_____
<u>3:58</u>	<u>5</u>	<u>7.33</u>	<u>6.26</u>	<u>72.8</u>	_____	_____	_____
<u>4:00</u>	<u>7</u>	<u>7.29</u>	<u>6.21</u>	<u>72.4</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>3VOL</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

Chain-of-Custody-Record



Tosco Marketing Company
2020 Dow Canyon Pl., Ste. 400
San Ramon, California 94583

Facility Number TOSCO (Former 76) SS #0843
 Facility Address 1629 Webster Street, ALAMEDA CA
 Consultant Project Number 18003.85
 Consultant Name Gettler-Ryan Inc. (G-R Inc.)
 Address 6747 Sierra Court, Suite J, Dublin, CA 94568
 Project Contact (Name) Deanna L. Harding
 (Phone) 925-551-7555 (Fax Number) 925-551-7888

Contact (Name) Mr. Ed Ralston David W. Witt
 (Phone) (916) 774-2910
 Laboratory Name Sequoia Analytical
 Laboratory Release Number _____
 Samples Collected by (Name) JOE ASEMIAN
 Collection Date 9-24-01
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Diacrete	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)	(6) Oxy's 1,2 DCA EDB by 8260							
TB-LB	01	10A	W	G	-	HCL	Y	✓															
MW-1	02	3 10A	,	,	1535	,	,	✓															
MW-2	03	5 10A	,	,	1641	,	,	✓															
MW-3	04	3 10A	,	,	1504	,	,	✓															
MW-4	05	,	,	,	1430	,	,	✓															
MW-5	06	,	,	,	1352	,	,	✓															
MW-6	07	"	,	,	1612	,	,	✓															

DO NOT BILL TB-LB ANALYSIS

Run 8260 - 6 Oxy's + 1,2-DCA & EDB on ALL 8020 Mtbe hits. Thank you.

Relinquished By (Signature) <u>[Signature]</u>	Organization G-R Inc.	Date/Time 1800 9-24-01	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time <u>9/24/01</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 6 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	



**Sequoia
Analytical**

1551 Industrial Road
San Carlos, CA 94070
(650) 232-9600
FAX (650) 232-9612
www.sequoialabs.com

17 October, 2001

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

RECEIVED
OCT 17 2001
GETTLER-RYAN INC.
GENERAL CONTRACTORS

RE: Tosco(1)
Sequoia Report: L109167

Enclosed are the results of analyses for samples received by the laboratory on 09/24/01 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya Pelt
Project Manager

CA ELAP Certificate #2360



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

Project: Tosco(1)
Project Number: Tosco (Former 76) SS#0843, Alameda, C
Project Manager: Deanna Harding

Reported:
10/17/01 14:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L109167-01	Water	09/24/01 00:00	09/24/01 18:00
MW-1	L109167-02	Water	09/24/01 15:35	09/24/01 18:00
MW-2	L109167-03	Water	09/24/01 16:41	09/24/01 18:00
MW-3	L109167-04	Water	09/24/01 15:04	09/24/01 18:00
MW-4	L109167-05	Water	09/24/01 14:30	09/24/01 18:00
MW-5	L109167-06	Water	09/24/01 13:52	09/24/01 18:00
MW-6	L109167-07	Water	09/24/01 16:12	09/24/01 18:00

Due to miscommunication within the laboratory, MW-6 was not analyzed within the EPA recommended holding time.

Sequoia Analytical - San Carlos

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Latonya Pelt, Project Manager



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

Project: Tosco(1)
Project Number: Tosco (Former 76) SS#0843, Alameda, C
Project Manager: Deanna Harding

Reported:
10/17/01 14:57

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (L109167-01) Water Sampled: 09/24/01 00:00 Received: 09/24/01 18:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100032	10/05/01	10/05/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		88.0 %	70-130		"	"	"	"	
MW-1 (L109167-02) Water Sampled: 09/24/01 15:35 Received: 09/24/01 18:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100032	10/05/01	10/05/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		85.4 %	70-130		"	"	"	"	
MW-2 (L109167-03) Water Sampled: 09/24/01 16:41 Received: 09/24/01 18:00									
Purgeable Hydrocarbons as Gasoline	76000	20000	ug/l	400	1100032	10/05/01	10/05/01	DHS LUFT	P-02
Benzene	430	200	"	"	"	"	"	"	
Toluene	13000	200	"	"	"	"	"	"	
Ethylbenzene	4700	200	"	"	"	"	"	"	
Xylenes (total)	18000	200	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2000	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		94.3 %	70-130		"	"	"	"	



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

Project: Tosco(1)
Project Number: Tosco (Former 76) SS#0843, Alameda, C
Project Manager: Deanna Harding

Reported:
10/17/01 14:57

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (L109167-04) Water Sampled: 09/24/01 15:04 Received: 09/24/01 18:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100032	10/05/01	10/05/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		78.9 %		70-130	"	"	"	"	
MW-4 (L109167-05) Water Sampled: 09/24/01 14:30 Received: 09/24/01 18:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100031	10/05/01	10/05/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		87.4 %		70-130	"	"	"	"	
MW-5 (L109167-06) Water Sampled: 09/24/01 13:52 Received: 09/24/01 18:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100031	10/05/01	10/05/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		97.7 %		70-130	"	"	"	"	

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

 Project: Tosco(1)
 Project Number: Tosco (Former 76) SS#0843, Alameda, C
 Project Manager: Deanna Harding

 Reported:
 10/17/01 14:57

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (L109167-07) Water Sampled: 09/24/01 16:12 Received: 09/24/01 18:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100031	10/05/01	10/05/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	160	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		93.2 %		70-130	"	"	"	"	



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

Project: Tosco(1)
Project Number: Tosco (Former 76) SS#0843, Alameda, C
Project Manager: Deanna Harding

Reported:
10/17/01 14:57

**Volatile Organic 8 Oxygenated Compounds by EPA Method 8260B
Sequoia Analytical - San Carlos**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (L109167-03) Water Sampled: 09/24/01 16:41 Received: 09/24/01 18:00									
Ethanol	ND	50000	ug/l	50	1100022	10/05/01	10/05/01	EPA 8260B	
1,2-Dibromoethane	ND	100	"	"	"	"	"	"	
1,2-Dichloroethane	ND	100	"	"	"	"	"	"	
Di-isopropyl ether	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	100	"	"	"	"	"	"	
Methyl tert-butyl ether	480	100	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	100	"	"	"	"	"	"	
Tert-butyl alcohol	ND	5000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		104 %	76-114	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.2 %	88-110	"	"	"	"	"	
MW-6 (L109167-07) Water Sampled: 09/24/01 16:12 Received: 09/24/01 18:00 HT-04									
Ethanol	ND	1000	ug/l	1	1100045	10/16/01	10/16/01	EPA 8260B	
1,2-Dibromoethane	ND	2.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	2.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	2.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
Methyl tert-butyl ether	190	2.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	2.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	100	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.0 %	76-114	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.8 %	88-110	"	"	"	"	"	



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

Project: Tosco(1)
Project Number: Tosco (Former 76) SS#0843, Alameda, C
Project Manager: Deanna Harding

Reported:
10/17/01 14:57

**Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control
Sequoia Analytical - San Carlos**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1100031 - EPA 5030B (P/T)

Blank (1100031-BLK1)

Prepared & Analyzed: 10/05/01

Purgeable Hydrocarbons as Gasoline	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	5.0	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	8.86		"	10.0		88.6	70-130			

LCS (1100031-BS1)

Prepared & Analyzed: 10/05/01

Benzene	7.34	0.50	ug/l	10.0		73.4	70-130			
Toluene	7.40	0.50	"	10.0		74.0	70-130			
Ethylbenzene	7.59	0.50	"	10.0		75.9	70-130			
Xylenes (total)	23.3	0.50	"	30.0		77.7	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	8.92		"	10.0		89.2	70-130			

LCS (1100031-BS2)

Prepared & Analyzed: 10/05/01

Purgeable Hydrocarbons as Gasoline	250	50	ug/l	250		100	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.8		"	10.0		108	70-130			

Matrix Spike (1100031-MS1)

Source: L109167-06

Prepared & Analyzed: 10/08/01

Purgeable Hydrocarbons as Gasoline	274	50	ug/l	250	ND	110	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	11.0		"	10.0		110	70-130			

Matrix Spike Dup (1100031-MSD1)

Source: L109167-06

Prepared & Analyzed: 10/08/01

Purgeable Hydrocarbons as Gasoline	232	50	ug/l	250	ND	92.8	60-140	16.6	25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	11.4		"	10.0		114	70-130			

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

 Project: Tosco(1)
 Project Number: Tosco (Former 76) SS#0843, Alameda, C
 Project Manager: Deanna Harding

Reported:
 10/17/01 14:57

**Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control
 Sequoia Analytical - San Carlos**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1100032 - EPA 5030B (P/T)
Blank (1100032-BLK1)

Prepared & Analyzed: 10/05/01

Purgeable Hydrocarbons as Gasoline	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	5.0	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.55		"	10.0		95.5	70-130			

LCS (1100032-BS1)

Prepared & Analyzed: 10/05/01

Benzene	8.37	0.50	ug/l	10.0		83.7	70-130			
Toluene	8.39	0.50	"	10.0		83.9	70-130			
Ethylbenzene	8.43	0.50	"	10.0		84.3	70-130			
Xylenes (total)	25.0	0.50	"	30.0		83.3	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.8		"	10.0		108	70-130			

LCS (1100032-BS2)

Prepared & Analyzed: 10/05/01

Purgeable Hydrocarbons as Gasoline	239	50	ug/l	250		95.6	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.2		"	10.0		102	70-130			

Matrix Spike (1100032-MS1)

Source: L109167-02

Prepared: 10/05/01 Analyzed: 10/06/01

Purgeable Hydrocarbons as Gasoline	246	50	ug/l	250	ND	98.4	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.86		"	10.0		98.6	70-130			

Matrix Spike Dup (1100032-MSD1)

Source: L109167-02

Prepared: 10/05/01 Analyzed: 10/06/01

Purgeable Hydrocarbons as Gasoline	242	50	ug/l	250	ND	96.8	60-140	1.64	25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.59		"	10.0		95.9	70-130			

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 Project Manager: Deanna Harding

 Reported:
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Volatile Organic 8 Oxygenated Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
Batch 1100022 - EPA 5030B [P/T]										
Blank (1100022-BLK1) Prepared & Analyzed: 10/03/01										
Ethanol	ND	1000	ug/l							
1,2-Dibromoethane	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
Methyl tert-butyl ether	ND	2.0	"							
Tert-amyl methyl ether	ND	2.0	"							
Tert-butyl alcohol	ND	100	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	49.3		"	50.0		98.6	76-114			
<i>Surrogate: Toluene-d8</i>	53.2		"	50.0		106	88-110			
Blank (1100022-BLK2) Prepared & Analyzed: 10/04/01										
Ethanol	ND	1000	ug/l							
1,2-Dibromoethane	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
Methyl tert-butyl ether	ND	2.0	"							
Tert-amyl methyl ether	ND	2.0	"							
Tert-butyl alcohol	ND	100	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	51.1		"	50.0		102	76-114			
<i>Surrogate: Toluene-d8</i>	49.9		"	50.0		99.8	88-110			
Blank (1100022-BLK3) Prepared & Analyzed: 10/05/01										
Ethanol	ND	1000	ug/l							
1,2-Dibromoethane	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
Methyl tert-butyl ether	ND	2.0	"							
Tert-amyl methyl ether	ND	2.0	"							
Tert-butyl alcohol	ND	100	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	52.6		"	50.0		105	76-114			
<i>Surrogate: Toluene-d8</i>	49.2		"	50.0		98.4	88-110			



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Volatile Organic 8 Oxygenated Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1100022 - EPA 5030B [P/T]

LCS (1100022-BS1)										
Prepared & Analyzed: 10/03/01										
Methyl tert-butyl ether	53.1	2.0	ug/l	50.0		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	49.9		"	50.0		99.8	76-114			
Surrogate: Toluene-d8	53.6		"	50.0		107	88-110			

LCS (1100022-BS2)										
Prepared & Analyzed: 10/04/01										
Methyl tert-butyl ether	50.1	2.0	ug/l	50.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	52.9		"	50.0		106	76-114			
Surrogate: Toluene-d8	50.9		"	50.0		102	88-110			

LCS (1100022-BS3)										
Prepared & Analyzed: 10/05/01										
Methyl tert-butyl ether	49.5	2.0	ug/l	50.0		99.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	50.9		"	50.0		102	76-114			
Surrogate: Toluene-d8	50.0		"	50.0		100	88-110			

Matrix Spike (1100022-MS1)										
Source: L109147-03 Prepared & Analyzed: 10/04/01										
Methyl tert-butyl ether	56.5	2.0	ug/l	50.0	3.2	107	60-140			
Surrogate: 1,2-Dichloroethane-d4	51.2		"	50.0		102	76-114			
Surrogate: Toluene-d8	49.4		"	50.0		98.8	88-110			

Matrix Spike Dup (1100022-MSD1)										
Source: L109147-03 Prepared & Analyzed: 10/04/01										
Methyl tert-butyl ether	55.8	2.0	ug/l	50.0	3.2	105	60-140	1.89	25	
Surrogate: 1,2-Dichloroethane-d4	51.7		"	50.0		103	76-114			
Surrogate: Toluene-d8	51.0		"	50.0		102	88-110			

Batch 1100045 - EPA 5030B [P/T]

Blank (1100045-BLK1)										
Prepared & Analyzed: 10/09/01										
Ethanol	ND	1000	ug/l							
1,2-Dibromoethane	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
Methyl tert-butyl ether	ND	2.0	"							
Tert-amyl methyl ether	ND	2.0	"							
Tert-butyl alcohol	ND	100	"							
Surrogate: 1,2-Dichloroethane-d4	56.1		"	50.0		112	76-114			
Surrogate: Toluene-d8	49.4		"	50.0		98.8	88-110			

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 Project Manager: Deanna Harding

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Volatile Organic 8 Oxygenated Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1100045 - EPA 5030B [P/T]										
Blank (1100045-BLK2) Prepared & Analyzed: 10/16/01										
Ethanol	ND	1000	ug/l							
1,2-Dibromoethane	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
Methyl tert-butyl ether	ND	2.0	"							
Tert-amyl methyl ether	ND	2.0	"							
Tert-butyl alcohol	ND	100	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	49.0		"	50.0		98.0	76-114			
<i>Surrogate: Toluene-d8</i>	49.5		"	50.0		99.0	88-110			
LCS (1100045-BS1) Prepared & Analyzed: 10/09/01										
Methyl tert-butyl ether	57.3	2.0	ug/l	50.0		115	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	55.4		"	50.0		111	76-114			
<i>Surrogate: Toluene-d8</i>	55.2		"	50.0		110	88-110			
LCS (1100045-BS2) Prepared & Analyzed: 10/16/01										
Methyl tert-butyl ether	49.6	2.0	ug/l	50.0		99.2	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	51.7		"	50.0		103	76-114			
<i>Surrogate: Toluene-d8</i>	52.4		"	50.0		105	88-110			
Matrix Spike (1100045-MS1) Source: L110026-03 Prepared & Analyzed: 10/09/01										
Methyl tert-butyl ether	88.5	2.0	ug/l	50.0	37	103	60-140			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	55.5		"	50.0		111	76-114			
<i>Surrogate: Toluene-d8</i>	54.5		"	50.0		109	88-110			
Matrix Spike Dup (1100045-MSD1) Source: L110026-03 Prepared & Analyzed: 10/09/01										
Methyl tert-butyl ether	83.8	2.0	ug/l	50.0	37	93.6	60-140	9.56	25	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	54.6		"	50.0		109	76-114			
<i>Surrogate: Toluene-d8</i>	53.3		"	50.0		107	88-110			



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Notes and Definitions

HT-04 This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.

P-02 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

RPD Relative Percent Difference