



GETTLER-RYAN Inc.

ENVIRONMENTAL PROTECTION

TRANSMITTAL

00 JAN 26 PM 2: 18

January 10, 2000

G-R #:180203

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

CC: Mr. Glen Matteucci
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 SS #0843
1629 Webster Street
Alameda, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	January 4, 2000	Groundwater Monitoring and Sampling Report 1999 - Event of December 14, 1999

COMMENTS:

This report is being sent to you for your review/comment, prior to being distributed on your behalf. If no comments are received by **January 21, 2000**, this report will be distributed to the following:

Enclosure

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

[HC] increasing in Mw-2,
dg of dispenser island.
is site vacant? If so, consider
overex of dispenser area.
nearest Webster St.

- Request Mw install rpt

QUARTERLY SUMMARY REPORT

Fourth Quarter 1999
(October - December)

TOSCO SERVICE STATION 0843

1629 Webster Street
Alameda, California

City/County ID: City of Alameda/Alameda County

Lead Agency: Alameda County Department of Environmental Health Services

BACKGROUND

During June 1998, Tosco Marketing Company (Tosco) removed two 10,000-gallon gasoline underground storage tanks (USTs), one 550-gallon used-oil UST, product lines, and dispensers, and excavated and removed 388 tons of soil and backfill. Concentrations of residual total purgeable petroleum hydrocarbons as gasoline (TPPHg) and methyl tertiary butyl ether (MTBE) were detected in soil up to 44 parts per million (ppm) and 280 ppm, respectively, in soil samples collected from the sidewalls of the gasoline UST cavity. Concentrations of dissolved TPPHg, MTBE, and benzene were detected in a groundwater sample collected from the gasoline UST cavity up to 19,000 parts per billion (ppb), 1,300 ppb, and 880 ppb, respectively.

During March 1999, Environmental Resolutions, Inc. (ERI) drilled four soil borings at the site and installed groundwater monitoring wells MW1 through MW4 in the borings. Concentrations of residual benzene (0.0295 ppm) and MTBE (0.561 ppm) were detected in the soil samples collected from boring MW2. Concentrations of dissolved TPPHg (up to 34,400 ppb), benzene (at 2,070 ppb), and MTBE (up to 8,460 ppb) were detected in groundwater samples collected in well MW1 through MW4.

RECENT QUARTER ACTIVITIES

ERI implemented the *Work Plan for Supplemental Evaluation of Groundwater*, dated September 8, 1999, and installed two off-site groundwater monitoring wells downgradient of the site. Performed ongoing quarterly groundwater monitoring, sampling, and reporting.

NEXT QUARTER ACTIVITIES

Submit the supplemental groundwater evaluation report. Continue quarterly groundwater monitoring, sampling, and reporting.

CHARACTERIZATION/REMEDIAL STATUS

Soil contamination delineated?	<u>Yes</u>
Dissolved groundwater delineated?	<u>No</u>
Free Product delineated?	<u>NA</u>
Amount of gw contaminant recovered?	<u>NA</u>
Amount of soil contamination recovered?	<u>344 tons</u>
Soil remediation in progress?	<u>No</u>
Dissolved/free product remediation in progress?	<u>No</u>

CONSULTANT:

Environmental Resolutions, Inc.



GETTLER - RYAN INC.

January 4, 2000
G-R Job #180203

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

RE: 1999 Groundwater Monitoring & Sampling Report
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

Dear Mr. De Witt:

This report documents well development and the groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On December 14, 1999, field personnel developed two wells (MW-5 and MW-6) and monitored and sampled six wells (MW-1 through MW-6) and 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.

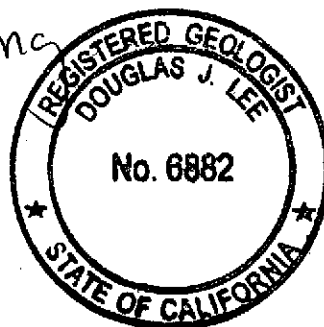
Sincerely,

Deanna L. Harding

Deanna L. Harding
Project Coordinator

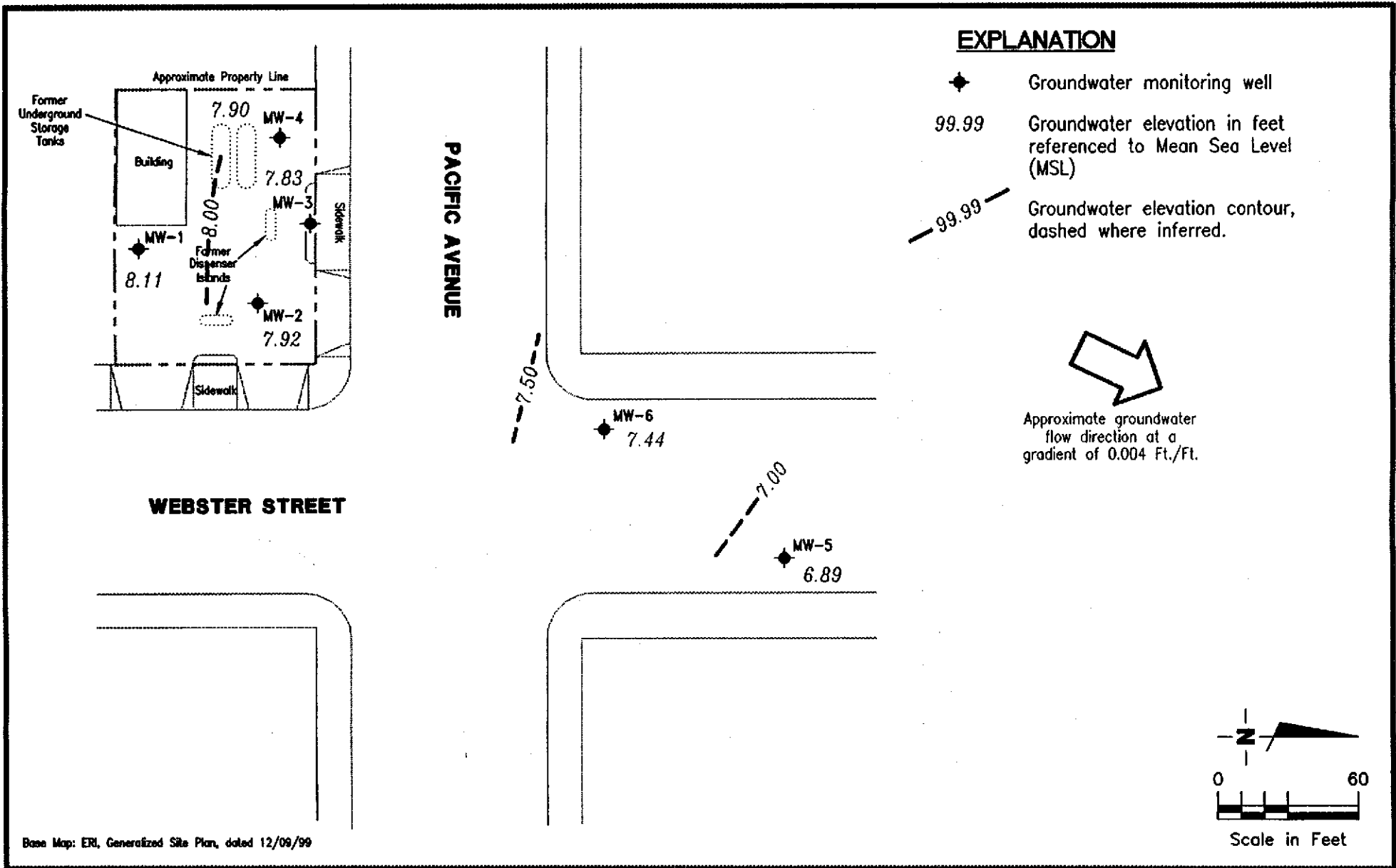
Douglas J. Lee

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



Gettler - Ryan Inc.

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

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

FIGURE

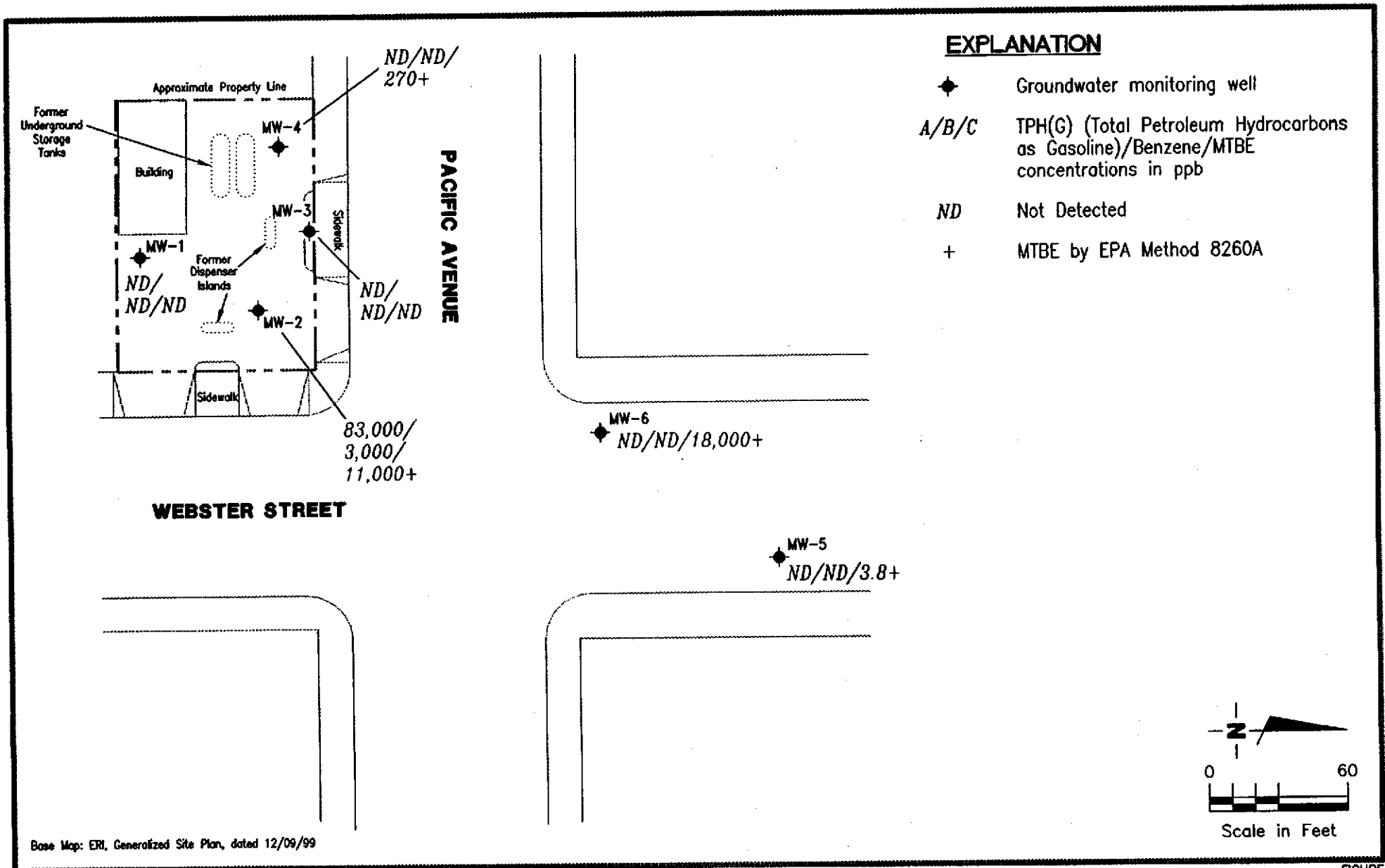
1

JOB NUMBER
180203

REVIEWED BY

DATE
December 14, 1999

REVISED DATE



Gettler - Ryan Inc.

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

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

FIGURE

2

JOB NUMBER
180203

REVIEWED BY

DATE
December 14, 1999

REVISED DATE

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

Well ID/ TOC*	Date	DTW (ft.)	GWE (mst)	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
16.18	12/14/99	8.07	8.11	ND	ND	ND	ND	ND	ND
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
15.57	12/14/99	7.65	7.92	83,000 ⁵	3,000	22,000	4,500	17,000	9,100/11,000 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
15.11	12/14/99	7.28	7.83	ND	ND	ND	ND	ND	ND
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
15.17	12/14/99	7.27	7.90	ND	ND	ND	ND	ND	200/270 ²
MW-5									
13.34	12/14/99	6.45	6.89	ND	ND	ND	ND	ND	3.5/3.8 ²
MW-6									
14.08	12/14/99	6.64	7.44	ND	ND	ND	ND	ND	11,000/18,000 ²

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

Well ID/ IOC*	Date	DTW (ft.)	GWE (msl)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
Trip Blank									
TB-LB	03/05/99 ¹	--	--	ND	ND	ND	ND	ND	ND ²
	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

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 elevation

DTW = Depth to Water

(ft.) = Feet

GWE = Groundwater Elevation

TPH(G) = Total Petroleum Hydrocarbons as Gasoline

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

MTBE = Methyl tertiary butyl ether

ppb = Parts per billion

ND = Not Detected

-- = Not Measured/Not Analyzed

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

¹ Benzene, toluene, ethylbenzene and total xylenes by EPA Method 8260A.

² MTBE by EPA Method 8260A.

³ Laboratory report indicates weathered gasoline C6-C12.

⁴ Laboratory report indicates chromatogram pattern C6-C12.

⁵ Laboratory report indicates gasoline C6-C12.

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
MW-3	09/02/99	ND	ND	11.0	ND	ND	ND	--	--
MW-4	09/02/99	ND	ND	27.0	ND	ND	ND	--	--
	12/14/99	--	--	270	--	--	--	--	--
MW-5	12/14/99	--	--	3.8	--	--	--	--	--
MW-6	12/14/99	--	--	18,000	--	--	--	--	--

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 = Ethylene dibromide
ppb = Parts per billion
ND = Not Detected
-- = Not Analyzed

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

¹ Detection limit raised. Refer to analytical reports.

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.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility Former Tosco #0843 Job#: 180203
 Address: 1629 Webster St. Date: 12/14/99
 City: Alameda, CA Sampler: HAIG KEVORK

Well ID MW-1 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: Ø (feet) Amount Bailed (product/water): Ø (Gallons)
 Total Depth 20.50 ft. Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66
 Depth to Water 8.07 ft. 6" = 1.50 12" = 5.80

$12.43 \times \text{VF } 0.17 = 2.1 \times 3 \text{ (case volume)} = \text{Estimated Purge Volume: } 6.3 \text{ (gal.)}$

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

Starting Time: 12:50 Weather Conditions: SUNNY
 Sampling Time: 13:05 Water Color: _____ Odor: _____
 Purging Flow Rate: 1-1.25 gpm Sediment Description: _____
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}$	Temperature $^{\circ}\text{C}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>12:52</u>	<u>2</u>	<u>8.10</u>	<u>367</u>	<u>19.2</u>			
	<u>4</u>	<u>8.02</u>	<u>352</u>	<u>18.8</u>			
<u>12:57</u>	<u>6</u>	<u>7.95</u>	<u>344</u>	<u>18.6</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>2 VOA</u>	<u>Y</u>	<u>Hcl</u>	<u>SEQUOIA</u>	<u>TPH Gas/Btex/Mtbe</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility Former Tosco #0843 Job#: 180203
Address: 1629 Webster St. Date: 12/14/99
City: Alameda, CA Sampler: HAIG KIEVOAK

Well ID MW- 2 Well Condition: OK
Well Diameter 2 in. Hydrocarbon Thickness: Ø (feet) Amount Bailed (product/water): Ø (Gallons)
Total Depth 20.50 ft.
Depth to Water 7.65 ft.

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

12.85 x VF 0.17 = 2.1 x 3 (case volume) = Estimated Purge Volume: 6.5 (gal.)

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

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

Starting Time: 14:30 Weather Conditions: SUNNY
 Sampling Time: 14:45 Water Color: _____ Odor: _____
 Purging Flow Rate: 1-1.25 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>14:32</u>	<u>2</u>	<u>7.35</u>	<u>552</u>	<u>18.7</u>	_____	_____	_____
	<u>4</u>	<u>7.27</u>	<u>545</u>	<u>19.2</u>	_____	_____	_____
<u>14:38</u>	<u>6</u>	<u>7.23</u>	<u>540</u>	<u>19.0</u>	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW- 2</u>	<u>4 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH Gas/Btex/Mtbe</u>
					<u>60X45/1,2 DCA</u>
					<u>EDB BY 8260</u>

COMMENTS: _____

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/
 Facility Former Tosco #0843 Job#: 180203
 Address: 1629 Webster St. Date: 12/14/99
 City: Alameda, CA Sampler: HAIG KEVOAK

Well ID MW-3 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: Ø (feet) Amount Bailed: Ø (Gallons)
 Total Depth 20.50 ft. Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66
 Depth to Water 7.28 ft. 6" = 1.50 12" = 5.80

$13.22 \times VF \ 0.17 = 2.2 \times 3 \text{ (case volume)} = \text{Estimated Purge Volume: } 6.6 \text{ (gal.)}$

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

Starting Time: 13:23 Weather Conditions: SUNNY
 Sampling Time: 13:40 Water Color: _____ Odor: _____
 Purging Flow Rate: 1-1.25 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}$	Temperature $^{\circ}\text{C}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>13:25</u>	<u>2.5</u>	<u>7.82</u>	<u>382</u>	<u>18.7</u>			
	<u>5</u>	<u>7.75</u>	<u>374</u>	<u>18.6</u>			
<u>13:31</u>	<u>6.5</u>	<u>7.70</u>	<u>369</u>	<u>18.9</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>2 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPHGas/Bttx/Mtbe</u>

COMMENTS: _____

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility Former Tosco #0843 Job#: 180203
 Address: 1629 Webster St. Date: 12/14/99
 City: Alameda, CA Sampler: HAIG KEVORK

Well ID MW-4 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: Ø (feet) Amount Bailed: Ø (Gallons)
 Total Depth 20.50 ft.

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

 Depth to Water 7.27 ft.

13.23 x VF 0.17 = 2.2 x 3 (case volume) = Estimated Purge Volume: 6.6 (gal.)

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

Starting Time: 13:55 Weather Conditions: SUNNY
 Sampling Time: 14:10 Water Color: _____ Odor: _____
 Purging Flow Rate: 1-1.25 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>13:57</u>	<u>2.5</u>	<u>7.48</u>	<u>895</u>	<u>19.7</u>	_____	_____	_____
<u>14:03</u>	<u>5</u>	<u>7.39</u>	<u>901</u>	<u>19.4</u>	_____	_____	_____
<u>14:03</u>	<u>6.5</u>	<u>7.35</u>	<u>904</u>	<u>19.4</u>	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>2 VOA</u>	<u>Y</u>	<u>1+Cl</u>	<u>SEQUOIA</u>	<u>TPHGas/Btex/Mtbe</u>

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility Former Tosco #0843 Job#: 180203
 Address: 1629 Webster St. Date: 12/14/99
 City: Alameda, CA Sampler: HAIG KEVORK

Well ID MW-5 Well Condition: NEW
 Well Diameter 2 in. Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)
 Total Depth 20.22 ft. Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66
 Depth to Water 6.45 ft. 6" = 1.50 12" = 5.80

13.77 x VF 0.17 = 2.3 X 10 (case volume) = Estimated Purge Volume: 23 (gal.)

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

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

Starting Time: 15:00 Weather Conditions: SUNNY
 Sampling Time: 15:45 Water Color: _____ Odor: _____
 Purging Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>15:05</u>	<u>2.5</u>	<u>8.10</u>	<u>972</u>	<u>18.9</u>			
	<u>5</u>	<u>7.88</u>	<u>1030</u>	<u>19.6</u>			
	<u>8</u>	<u>7.76</u>	<u>1040</u>	<u>19.2</u>			
	<u>12</u>	<u>7.70</u>	<u>1010</u>	<u>19.8</u>			
	<u>16</u>	<u>7.67</u>	<u>990</u>	<u>19.5</u>			
	<u>20</u>	<u>7.62</u>	<u>980</u>	<u>19.6</u>			
<u>15:37</u>	<u>23</u>	<u>7.60</u>	<u>960</u>	<u>19.5</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>2 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>Sequoia</u>	<u>TPHGas/Btex/Mtbe</u>

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: Former Tosco #0843 Job#: 180203
 Address: 1629 Webster St. Date: 12/14/99
 City: Alameda, CA Sampler: HAIG KEVOAK

Well ID: MW-6 Well Condition: NEW
 Well Diameter: 2 in. Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)
 Total Depth: 20.15 ft. Volume Factor (VF): 2" = 0.17, 3" = 0.38, 4" = 0.66, 6" = 1.50, 12" = 5.80
 Depth to Water: 6.64 ft.

13.51 x VF 0.17 = 2.29 x 10 (case volume) = Estimated Purge Volume: 23 (gal.)

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

Starting Time: 16:00 Weather Conditions: SUNNY
 Sampling Time: 16:40 Water Color: _____ Odor: _____
 Purging Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature -C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>16:04</u>	<u>2.5</u>	<u>7.89</u>	<u>1040</u>	<u>18.2</u>			
	<u>5</u>	<u>7.80</u>	<u>980</u>	<u>17.8</u>			
	<u>8</u>	<u>7.62</u>	<u>960</u>	<u>17.6</u>			
	<u>12</u>	<u>7.58</u>	<u>940</u>	<u>17.5</u>			
	<u>16</u>	<u>7.54</u>	<u>940</u>	<u>17.3</u>			
	<u>20</u>	<u>7.49</u>	<u>930</u>	<u>17.6</u>			
<u>16:32</u>	<u>23</u>	<u>7.46</u>	<u>920</u>	<u>17.5</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>2 VOA</u>	<u>Y</u>	<u>HCL</u>	<u>Sequoia</u>	<u>TPHGas/Btex/Mtbe</u>

COMMENTS: _____



Sequoia
Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

29 December, 1999

Deanna L. Harding
Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin, CA 94568

RE: Tosco

Enclosed are the results of analyses for samples received by the laboratory on 15-Dec-99 12:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alan B. Kemp
Laboratory Director



Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding

Reported:
29-Dec-99 09:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	W912320-01	Water	14-Dec-99 00:00	15-Dec-99 12:50
MW-1	W912320-02	Water	14-Dec-99 13:05	15-Dec-99 12:50
MW-2	W912320-03	Water	14-Dec-99 14:45	15-Dec-99 12:50
MW-3	W912320-04	Water	14-Dec-99 13:40	15-Dec-99 12:50
MW-4	W912320-05	Water	14-Dec-99 14:10	15-Dec-99 12:50
MW-5	W912320-06	Water	14-Dec-99 15:45	15-Dec-99 12:50
MW-6	W912320-07	Water	14-Dec-99 16:40	15-Dec-99 12:50




Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding

Reported:
29-Dec-99 09:20

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (W912320-01) Water Sampled: 14-Dec-99 00:00 Received: 15-Dec-99 12:50									
Purgeable Hydrocarbons	ND	50	ug/l	1	9L21005	21-Dec-99	21-Dec-99	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		110 %	70-130	"	"	"	"	"	
MW-1 (W912320-02) Water Sampled: 14-Dec-99 13:05 Received: 15-Dec-99 12:50									
Purgeable Hydrocarbons	ND	50	ug/l	1	9L21005	21-Dec-99	21-Dec-99	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		113 %	70-130	"	"	"	"	"	
MW-2 (W912320-03) Water Sampled: 14-Dec-99 14:45 Received: 15-Dec-99 12:50 P-01									
Purgeable Hydrocarbons	83000	10000	ug/l	200	9L21005	21-Dec-99	21-Dec-99	EPA	
Benzene	3000	100	"	"	"	"	"	8015M/8020	
Toluene	22000	100	"	"	"	"	"	"	
Ethylbenzene	4500	100	"	"	"	"	"	"	
Xylenes (total)	17000	100	"	"	"	"	"	"	
Methyl tert-butyl ether	9100	500	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		103 %	70-130	"	"	"	"	"	


Alan B. Kemp, Laboratory Director



Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding

Reported:
29-Dec-99 09:20

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W912320-04) Water Sampled: 14-Dec-99 13:40 Received: 15-Dec-99 12:50									
Purgeable Hydrocarbons	ND	50	ug/l	1	9L21005	21-Dec-99	21-Dec-99	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		110 %	70-130		"	"	"	"	
MW-4 (W912320-05) Water Sampled: 14-Dec-99 14:10 Received: 15-Dec-99 12:50									
Purgeable Hydrocarbons	ND	50	ug/l	1	9L21005	21-Dec-99	21-Dec-99	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	200	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		113 %	70-130		"	"	"	"	
MW-5 (W912320-06) Water Sampled: 14-Dec-99 15:45 Received: 15-Dec-99 12:50									
Purgeable Hydrocarbons	ND	50	ug/l	1	9L21005	21-Dec-99	21-Dec-99	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	3.5	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		110 %	70-130		"	"	"	"	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding

Reported:
29-Dec-99 09:20

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (W912320-07) Water Sampled: 14-Dec-99 16:40 Received: 15-Dec-99 12:50									
Purgeable Hydrocarbons	ND	50	ug/l	1	9L21005	21-Dec-99	21-Dec-99	EPA	
Benzene	ND	0.50	"	"	"	"	"	8015M/8020	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		103 %	70-130		"	"	"	"	
MW-6 (W912320-07RE1) Water Sampled: 14-Dec-99 16:40 Received: 15-Dec-99 12:50									
Methyl tert-butyl ether	11000	250	ug/l	100	9L21005	21-Dec-99	22-Dec-99	EPA	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		107 %	70-130		"	"	"	8015M/8020	


Alan B. Kemp, Laboratory Director



Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568


Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding

Reported:
29-Dec-99 09:20

MTBE Confirmation by EPA Method 8260A

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W912320-05) Water Sampled: 14-Dec-99 14:10 Received: 15-Dec-99 12:50									
Methyl tert-butyl ether	270	10	ug/l	5	9L22012	22-Dec-99	23-Dec-99	EPA 8260A	
Surrogate: Dibromofluoromethane		106 %	50-150		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		94.0 %	50-150		"	"	"	"	
MW-5 (W912320-06) Water Sampled: 14-Dec-99 15:45 Received: 15-Dec-99 12:50									
Methyl tert-butyl ether	3.8	2.0	ug/l	1	9L22012	22-Dec-99	23-Dec-99	EPA 8260A	
Surrogate: Dibromofluoromethane		108 %	50-150		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		96.0 %	50-150		"	"	"	"	
MW-6 (W912320-07) Water Sampled: 14-Dec-99 16:40 Received: 15-Dec-99 12:50									
Methyl tert-butyl ether	18000	200	ug/l	100	9L22012	22-Dec-99	23-Dec-99	EPA 8260A	
Surrogate: Dibromofluoromethane		110 %	50-150		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		100 %	50-150		"	"	"	"	


Alan B. Kemp, Laboratory Director





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding


Reported:
29-Dec-99 09:20

**Volatile Organic Compounds by EPA Method 8260A
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (W912320-03) Water Sampled: 14-Dec-99 14:45 Received: 15-Dec-99 12:50									
Ethanol	ND	2500	ug/l	5	9L17011	16-Dec-99	16-Dec-99	EPA 8260A	
tert-Butyl alcohol	ND	500	"	"	"	"	"	"	
Methyl tert-butyl ether	11000	100	"	50	"	"	"	"	
Di-isopropyl ether	ND	10	"	5	"	"	"	"	
Ethyl tert-butyl ether	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	10	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	10	"	"	"	"	"	"	
Ethylene dibromide	ND	10	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		100 %		50-150	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		98.0 %		50-150	"	"	"	"	

Sequoia Analytical - Walnut Creek

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.


Alan B. Kemp, Laboratory Director





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding

Reported:
29-Dec-99 09:20

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

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

Batch 9L21005: Prepared 21-Dec-99 Using EPA 5030B [P/T]

Blank (9L21005-BLK1)

Purgeable Hydrocarbons	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	2.5	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	35.7		"	30.0		119	70-130			

LCS (9L21005-BS1)

Benzene	21.8	0.50	ug/l	20.0		109	70-130			
Toluene	22.3	0.50	"	20.0		111	70-130			
Ethylbenzene	23.0	0.50	"	20.0		115	70-130			
Xylenes (total)	69.5	0.50	"	60.0		116	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	30.9		"	30.0		103	70-130			

Matrix Spike (9L21005-MS1)

Source: W912389-06

Benzene	20.1	0.50	ug/l	20.0	ND	101	70-130			
Toluene	20.8	0.50	"	20.0	ND	104	70-130			
Ethylbenzene	21.3	0.50	"	20.0	ND	106	70-130			
Xylenes (total)	64.2	0.50	"	60.0	ND	107	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	30.5		"	30.0		102	70-130			

Matrix Spike Dup (9L21005-MSD1)

Source: W912389-06

Benzene	20.9	0.50	ug/l	20.0	ND	104	70-130	3.90	20	
Toluene	21.6	0.50	"	20.0	ND	108	70-130	3.77	20	
Ethylbenzene	21.9	0.50	"	20.0	ND	109	70-130	2.78	20	
Xylenes (total)	66.7	0.50	"	60.0	ND	111	70-130	3.82	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	31.3		"	30.0		104	70-130			

Sequoia Analytical - Walnut Creek

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.


Alan B. Kemp, Laboratory Director



Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding

Reported:
29-Dec-99 09:20

MTBE Confirmation by EPA Method 8260A - Quality Control Sequoia Analytical - Walnut Creek

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

Batch 9L22012: Prepared 22-Dec-99 Using EPA 5030B [P/T]

Blank (9L22012-BLK2)

Methyl tert-butyl ether	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	57.0		"	50.0		114	50-150			
Surrogate: 1,2-Dichloroethane-d4	53.0		"	50.0		106	50-150			

LCS (9L22012-BS2)

Methyl tert-butyl ether	65.4	2.0	ug/l	50.0		131	70-130			Q-01
Surrogate: Dibromofluoromethane	57.0		"	50.0		114	50-150			
Surrogate: 1,2-Dichloroethane-d4	55.0		"	50.0		110	50-150			

Matrix Spike (9L22012-MS1)

Source: W912394-02

Methyl tert-butyl ether	68.4	2.0	ug/l	50.0	ND	137	60-150			
Surrogate: Dibromofluoromethane	54.0		"	50.0		108	50-150			
Surrogate: 1,2-Dichloroethane-d4	49.0		"	50.0		98.0	50-150			

Matrix Spike Dup (9L22012-MSD1)

Source: W912394-02

Methyl tert-butyl ether	61.4	2.0	ug/l	50.0	ND	123	60-150	10.8	25	
Surrogate: Dibromofluoromethane	52.0		"	50.0		104	50-150			
Surrogate: 1,2-Dichloroethane-d4	45.0		"	50.0		90.0	50-150			



Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin CA, 94568	Project: Tosco Project Number: Tosco # 0843 Project Manager: Deanna L. Harding	Reported: 29-Dec-99 09:20
--	--	------------------------------

**Volatile Organic Compounds by EPA Method 8260A - Quality Control
Sequoia Analytical - Walnut Creek**

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

Batch 9L17011: Prepared 16-Dec-99 Using EPA 5030B [P/T]

Blank (9L17011-BLK1)

Ethanol	ND	500	ug/l							
tert-Butyl alcohol	ND	100	"							
Methyl tert-butyl ether	ND	2.0	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
tert-Amyl methyl ether	ND	2.0	"							
<i>Surrogate: Dibromofluoromethane</i>	51.0		"	50.0		102	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	51.0		"	50.0		102	50-150			

LCS (9L17011-BS1)

Methyl tert-butyl ether	59.9	2.0	ug/l	50.0		120	70-130			
<i>Surrogate: Dibromofluoromethane</i>	51.0		"	50.0		102	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	51.0		"	50.0		102	50-150			

Matrix Spike (9L17011-MS1)

Source: W912187-01

Methyl tert-butyl ether	57.4	2.0	ug/l	50.0	ND	115	60-150			
<i>Surrogate: Dibromofluoromethane</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	48.0		"	50.0		96.0	50-150			

Matrix Spike Dup (9L17011-MSD1)

Source: W912187-01

Methyl tert-butyl ether	46.7	2.0	ug/l	50.0	ND	93.4	60-150	20.6	25	
<i>Surrogate: Dibromofluoromethane</i>	49.0		"	50.0		98.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	45.0		"	50.0		90.0	50-150			





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 0843
Project Manager: Deanna L. Harding

Reported:
29-Dec-99 09:20

Notes and Definitions

- P-01 Chromatogram Pattern: Gasoline C6-C12
- Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
- 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