

**ENVIRONMENTAL RESOLUTIONS, INC.**

July 17, 2000  
ERI 2023QSR.L14

Mr. Steve Morse  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Subject: Tosco Marketing Company, Quarterly Summary Reports, Second Quarter 2000.

Mr. Morse:

At the request of Tosco Marketing Company (Tosco), Environmental Resolutions, Inc. (ERI) is submitting the attached second quarter 2000 summary reports for various Tosco facilities at which ERI is performing ongoing environmental work within the San Francisco Bay Region. Please call me at (415) 382-5994 with any questions.

Sincerely,  
Environmental Resolutions, Inc.

Glenn L. Matteucci  
Program Project Manager

00 JUL 19 PM 3:49  
OFFICE OF THE  
PROGRAM PROJECT MANAGER

Attachments:

- cc: Mr. Dave DeWitt, Tosco  
Mr. Dave Camille, Tosco  
Mr. Ed Ralston, Tosco  
Mr. Jake Madden, San Mateo County Department of Health Services  
Ms. Cheri D. McCaulou, City and County of San Francisco Department of Public Health  
Bureau of Environmental Health Management  
Mr. Ted Trenholm, Alameda County Water District  
Ms. Eva Chu, Alameda County Department of Environmental Health Services  
Mr. Amir Gholami, Alameda County Department of Environmental Health Services  
Mr. Bill Mitchell, City of Berkeley Planning & Economic Development Department  
Toxics Management Division  
Mr. Geoffery A. Fielder, R.G., City of Berkeley Planning & Economic Development  
Department-Toxics Management Division  
Mr. Bradley Mark, San Rafael Fire Department  
Ms. Misty Kaltreider, Solano County Department of Environmental Management  
Ms. Jaqueline Bertaina, Napa County Department of Environmental Management

# QUARTERLY SUMMARY REPORT

Second Quarter 2000

(April - June)

## TOSCO 76 Service Station 1156

4276 MacArthur Boulevard

Oakland, California

City/County ID: City of Oakland/Alameda County

Lead Agency: Alameda County Department of Environmental Health

## BACKGROUND

In 1998, Tosco Marketing Company (Tosco) removed one 280-gallon used-oil underground storage tank (UST), removed and replaced two 10,000-gallon gasoline USTs, and associated piping and dispensers. Laboratory analyses of samples collected during the work detected concentrations of petroleum hydrocarbons and related constituents in soil and groundwater beneath the site. Tosco performed remedial excavation of approximately 1,350 tons of soil and backfill. The excavated material was disposed at Forward Landfill in Manteca, California.

In 1999, at the request of Tosco, ERI performed a soil and groundwater evaluation including the installation of four groundwater monitoring wells. Laboratory analyses of soil samples collected from the borings detected up to 6,800 ppm TPPHg, 2.6 ppm benzene, 140 ppm TEPHd, 73 ppm TRPH, and 0.71 ppm MTBE. Results of laboratory analysis of groundwater samples collected from the groundwater monitoring wells detected TPPHg up to 120,000 ppb, benzene up to 11,000 ppb, TEPHd at 16,000 ppb, and MTBE up to 11,000 ppb.

## RECENT QUARTER ACTIVITIES

Performed quarterly groundwater monitoring, sampling, and reporting.

## NEXT QUARTER ACTIVITIES

Continue quarterly groundwater monitoring, sampling, and reporting. Await regulatory response to *Evaluation of Soil and Groundwater* report (ERI, October 11, 1999).

*off site mud requested 3/00.*

## CHARACTERIZATION/REMEDIAL STATUS

Soil contamination delineated?	<u>No</u>
Dissolved groundwater delineated?	<u>No</u>
Free Product delineated?	<u>NA</u>
Amount of contaminant recovered to date?	<u>NA</u>
Soil remediation in progress?	<u>1,352 tons</u>
Dissolved/free product remediation in progress?	<u>NA</u>

## CONSULTANT:

Environmental Resolutions, Inc.



**GETTLER-RYAN Inc.**

**TRANSMITTAL**

ENVIRONMENTAL  
PROTECTION

00 JUN -8 AM 8:48  
May 24, 2000  
G-R #:180225

**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

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

**RE:** Tosco 76 Service Station #1156  
4276 MacArthur Boulevard  
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	May 22, 2000	Groundwater Monitoring and Sampling Report Second Quarter 2000 - Event of March 31, 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 **June 6, 2000**, this report will be distributed to the following:

Enclosure

cc: Ms. Eva Chu, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502  
Mr. Bob Hale, Alameda County Public Works Agency, Water Resources Section, 951 Turner CT, Suite 300,  
Hayward, CA 94545

trans/1156dbd.qmt

6747 Sierra Court, Suite J • Dublin, California 94568 • (925) 551-7555



# GETTLER-RYAN INC.

May 22, 2000  
G-R Job #180225

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

RE: Second Quarter 2000 Groundwater Monitoring & Sampling Report  
Tosco 76 Service Station #1156  
4276 MacArthur Boulevard  
Oakland, California

Dear Mr. De Witt:

This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On March 31, 2000, field personnel monitored and sampled four wells (MW-1 through MW-4) 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 any of the wells. Static water level data and groundwater elevations are summarized in Table 1. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are summarized in Tables 1 and 2. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

Deanna L. Harding  
Project Coordinator

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

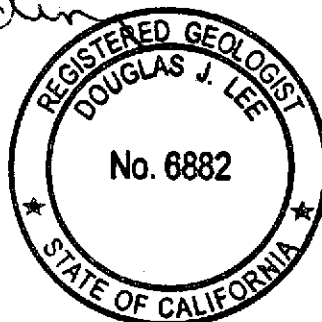
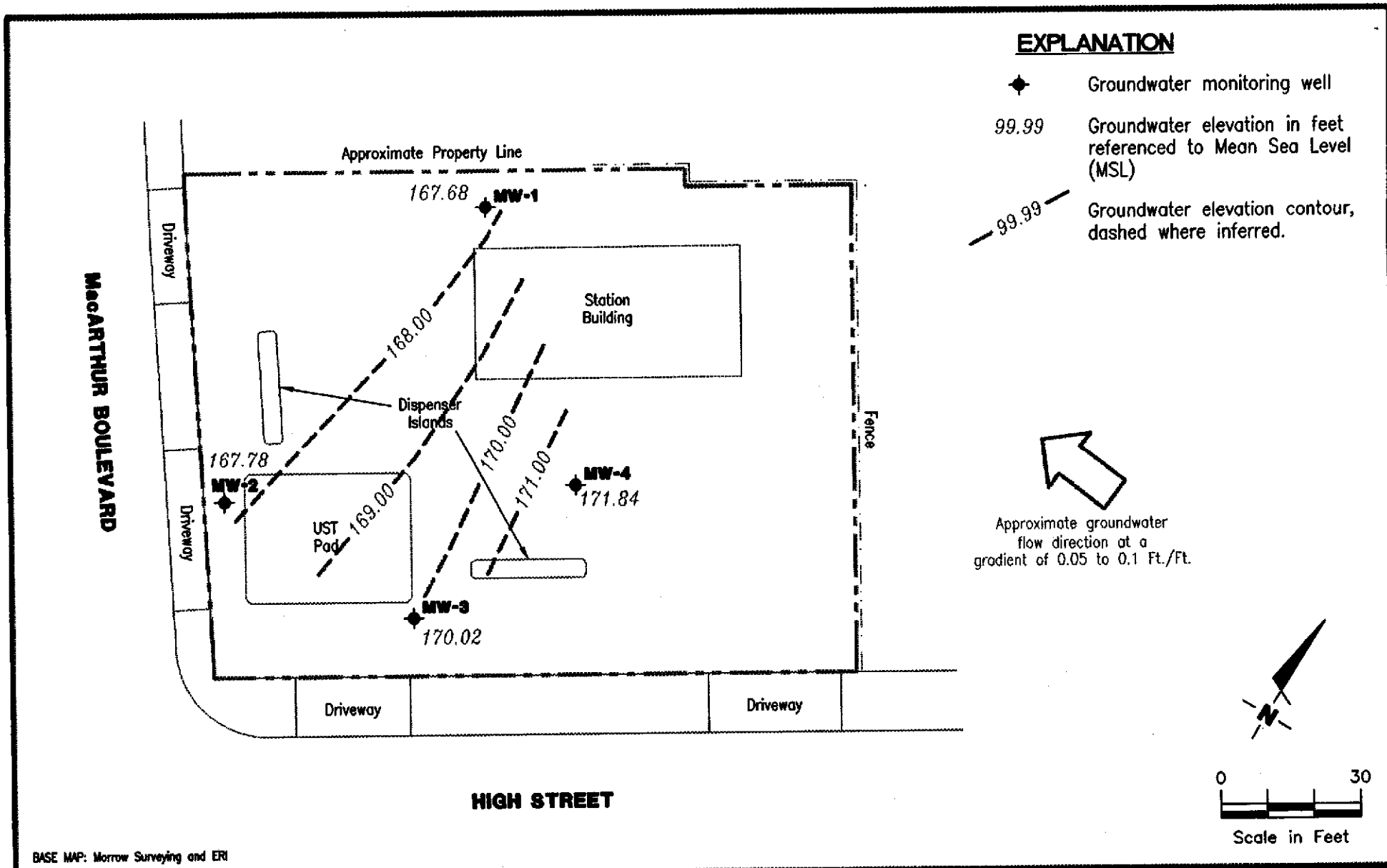


Figure 1: Potentiometric Map  
Figure 2: Concentration Map  
Table 1: Groundwater Monitoring Data and Analytical Results  
Table 2: Groundwater Analytical Results  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical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

1156.qml



**Gettler - Ryan Inc.**

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Dublin, CA 94568

**POTENTIOMETRIC MAP**  
Tosco 76 Service Station #1156  
4276 MacArthur Boulevard  
Oakland, California

FIGURE

1

JOB NUMBER  
180225

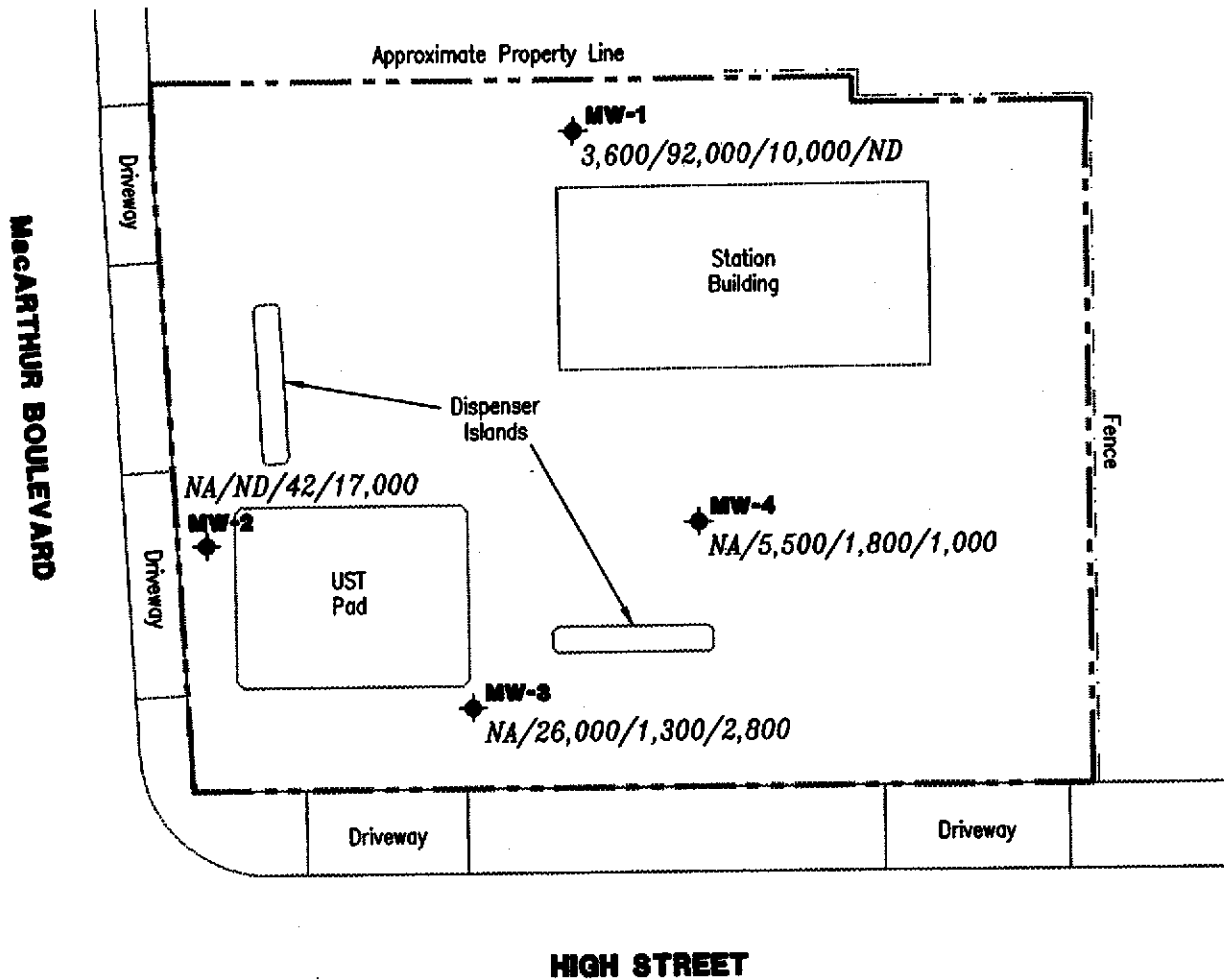
REVIEWED BY

DATE  
March 31, 2000

REVISED DATE

### EXPLANATION

- ◆ Groundwater monitoring well
- A/B/C/D TPH(D) (Total Petroleum Hydrocarbons as Diesel)/TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/Benzene/MTBE concentration in ppb
- ND Not Detected
- NA Not Analyzed



BASE MAP: Morrow Surveying and ERI



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Dublin, CA 94568

CONCENTRATION MAP  
Tosco 76 Service Station #1156  
4276 MacArthur Boulevard  
Oakland, California

FIGURE

**2**

JOB NUMBER  
180225

REVIEWED BY

DATE  
March 31, 2000

REVISED DATE

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco 76 Service Station #1156  
4276 MacArthur Boulevard  
Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	Product Thickness (ppb)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
<b>MW-1</b>											
174.86	07/20/99 <sup>5</sup>	7.50	167.36	--	16,000 <sup>2</sup>	120,000	11,000	27,000	3,300	18,000	ND <sup>1</sup>
	09/28/99	8.75	166.11	<0.01	2,410 <sup>2</sup>	6,020 <sup>6</sup>	1,030	1,040	68.5	412	321/333 <sup>3</sup>
	01/07/00	9.05	165.83**	0.02	7,870 <sup>2,4</sup>	72,700 <sup>6</sup>	7,410	13,900	2,070	9,620	ND <sup>1</sup>
	03/31/00	7.18	167.68	0.00	3,600 <sup>2</sup>	92,000 <sup>6</sup>	10,000	23,000	3,200	14,000	ND <sup>1</sup>
<b>MW-2</b>											
173.01	07/20/99	5.40	167.61	--	--	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	4,500/11,000 <sup>3,4</sup>
	09/28/99	5.60	167.41	0.00	--	1,390 <sup>6</sup>	124	ND <sup>1</sup>	62.9	43.1	5,280/6,150 <sup>3</sup>
	01/07/00	5.92	167.09	0.00	--	1,450 <sup>6</sup>	99.0	ND <sup>1</sup>	23.8	16.0	33,100
	03/31/00	5.23	167.78	0.00	--	ND <sup>1</sup>	42	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	17,000
<b>MW-3</b>											
178.44	07/20/99	8.50	169.94	--	--	1,000	76	52	79	76	330
	09/28/99	8.31	170.13	0.00	--	1,860 <sup>6</sup>	174	95.4	71.8	135	443/288 <sup>3</sup>
	01/07/00	8.56	169.88	0.00	--	28,400 <sup>6</sup>	2,450	3,090	1,560	3,910	1,940
	03/31/00	8.42	170.02	0.00	--	26,000 <sup>6</sup>	1,300	2,900	2,600	3,500	2,800
<b>MW-4</b>											
179.10	07/20/99	7.40	171.70	--	--	69	2.7	0.77	ND	7.1	100
	09/28/99	7.19	171.91	0.00	--	4,050 <sup>6</sup>	1,250	72.0	51.3	133	416/459 <sup>3</sup>
	01/07/00	8.98	170.12	0.00	--	7,010 <sup>6</sup>	2,260	167	271	276	764
	03/31/00	7.26	171.84	0.00	--	5,500 <sup>6</sup>	1,800	230	330	400	1,000
<b>Trip Blank</b>											
TB-LB	07/20/99	--	--	--	--	--	--	--	--	--	--
	09/28/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	01/07/00	--	--	--	--	ND	ND	ND	ND	ND	ND
	03/31/00	--	--	--	--	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco 76 Service Station #1156  
4276 MacArthur Boulevard  
Oakland, California

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**EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to September 28, 1999, were compiled from reports prepared by Environmental Resolutions, Inc.

TOC = Top of Casing elevation

DTW = Depth to Water

(ft.) = Feet

GWE = Groundwater Elevation

(msl) = Referenced relative to mean sea level

TPH(D) = Total Petroleum Hydrocarbons as Diesel

TPH(G) = Total Petroleum Hydrocarbons as Gasoline

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

MTBE = Methyl tertiary butyl ether

ppb = Parts per billion

ND = Not Detected

-- = Not Measured/Not Analyzed

\* TOC elevations are based on City of Oakland Benchmark No. 3967, (Elevation = 174.40 feet msl).

\*\* GWE has been corrected due to the presence of free product; Correction factor:  $[(TOC - DTW) + (Product\ Thickness \times 0.77)]$ .

1 Detection limit raised. Refer to analytical reports.

2 Laboratory report indicates unidentified hydrocarbons C9-C24.

3 MTBE by EPA Method 8260.

4 Laboratory analyzed sample past EPA recommended holding time.

5 Total Recoverable Petroleum Oil was ND.

6 Laboratory report indicates gasoline C6-C12.



**Table 2**  
**Groundwater Analytical Results**  
 Tosco 76 Service Station #1156  
 4276 MacArthur Boulevard  
 Oakland, California

Well ID	Date	Ethanol (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	HVOCs (ppb)	SVOCs (ppb)
MW-1	07/20/99	--	--	11,000 <sup>3</sup>	--	--	--	ND <sup>1</sup>	ND <sup>2</sup>
	09/28/99	--	ND <sup>6</sup>	333	ND <sup>6</sup>	ND <sup>6</sup>	ND <sup>6</sup>	ND <sup>4</sup>	ND <sup>5</sup>
	01/07/00	--	--	--	--	--	--	ND <sup>7,8</sup>	ND <sup>9</sup>
	03/31/00	--	--	--	--	--	--	-- <sup>11</sup>	ND <sup>10</sup>
MW-2	09/28/99	--	ND <sup>6</sup>	6,150	ND <sup>6</sup>	ND <sup>6</sup>	ND <sup>6</sup>	--	--
MW-3	09/28/99	--	ND <sup>6</sup>	288	ND <sup>6</sup>	ND <sup>6</sup>	8.80	--	--
MW-4	09/28/99	--	ND <sup>6</sup>	459	ND <sup>6</sup>	ND <sup>6</sup>	ND <sup>6</sup>	--	--

**Table 2**  
**Groundwater Analytical Results**  
Tosco 76 Service Station #1156  
4276 MacArthur Boulevard  
Oakland, California

**EXPLANATIONS:**

Groundwater analytical results prior to September 28, 1999, were compiled from reports prepared by Environmental Resolutions, Inc.

TBA = Tertiary Butyl Alcohol

MTBE = Methyl Tertiary Butyl Ether

DIPE = Di-isopropyl Ether

ETBE = Ethyl Tertiary Butyl Ether

TAME = Tertiary Amyl Methyl Ether

EDB = 1,2-Dibromoethane

HVOCs = Halogenated Volatile Organic Compounds

SVOCs = Semi-Volatile Organic Compounds

ppb = Parts per billion

-- = Not Analyzed

ND = Not Detected

- <sup>1</sup> All HVOCs were ND except for Chlorobenzene at 12 ppb; 1,2-Dichlorobenzene (1,2-DCB) at 3.9 ppb; 1,1-Dichloroethane (1,1-DCA) at 2.0 ppb; 1,2-Dichloroethane (1,2-DCA) at 20 ppb; cis-1,2-Dichloroethene (cis-1,2-DCE) at 3.6 ppb; and 1,2-Dichloropropane (1,2-DCP) at 0.92 ppb.
- <sup>2</sup> All SVOCs were ND except for Benzyl alcohol at 37 ppb; 2,4-Dimethylphenol at 140 ppb; 2-Methylnaphthalene at 240 ppb; 4-Methylphenol at 27 ppb; and Naphthalene at 600 ppb.
- <sup>3</sup> Laboratory analyzed sample past EPA recommended holding time.
- <sup>4</sup> All HVOCs were ND except for Benzene at 6,130 ppb; Ethylbenzene at 1,590 ppb; Naphthalene at 534 ppb; Toluene at 11,900 ppb; 1,2,4-Trimethylbenzene at 1,240 ppb; 1,3,5-Trimethylbenzene at 318 ppb; and Total Xylenes at 7,360 ppb.
- <sup>5</sup> All SVOCs were ND (with a raised detection limit) except for 2,4-Dimethylphenol at 13.6 ppb; 2-Methylnaphthalene at 87.4 ppb; 2-Methylphenol at 26.4; 4-Methylphenol at 35.6; and Naphthalene at 292 ppb.
- <sup>6</sup> Detection limit raised. Refer to analytical reports.
- <sup>7</sup> All HVOCs were ND (with a raised detection limit) except for Benzene at 8,380 ppb; Ethylbenzene at 2,380 ppb; Naphthalene at 1,050 ppb; n-Propylbenzene at 371 ppb; Toluene at 17,600 ppb; 1,2,4-Trimethylbenzene at 2,210 ppb; 1,3,5-Trimethylbenzene at 597 ppb; and Total Xylenes at 10,800 ppb.
- <sup>8</sup> EPA Method 8260A for HVOCs
- <sup>9</sup> All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 315 ppb and Naphthalene at 615 ppb.
- <sup>10</sup> All SVOCs were ND except for Bis(2-ethylhexyl)phthalate at 10 ppb; 1,2-DCB at 6.2 ppb; 2-Methylnaphthalene at 73 ppb; 2-Methylphenol at 31 ppb; 4-Methylphenol at 18 ppb; and Naphthalene at 140 ppb. Laboratory report indicates all SVOCs were analyzed outside the EPA recommended holding time.
- <sup>11</sup> Laboratory did not analyze for HVOCs.

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

EPA Method 8010 for HVOCs

EPA Method 8270 for SVOCs

## 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 # 1156  
Address: 4276 MacArthur  
City: Oakland

Job#: 180225  
Date: 3-31-00  
Sampler: Joe

Well ID: MW-1  
Well Diameter: 2 in.  
Total Depth: 25.15 ft.  
Depth to Water: 7.18 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	

17.97 X VF 0.17 = 3.05 X 3 (case volume) = Estimated Purge Volume: 9.5 (gal.)

Purge Equipment: Disposable Bailer  
Bailer  
Stack  
~~Suction~~  
Grundfos  
Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer  
Bailer  
Pressure Bailer  
Grab Sample  
Other: \_\_\_\_\_

Starting Time: 10:25  
Sampling Time: 10:46 A.M.  
Purging Flow Rate: 1 gpm.  
Did well de-water? \_\_\_\_\_

Weather Conditions: clear/windy  
Water Color: clear Odor: no  
Sediment Description: none  
If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm } ^\circ\text{F}$	Temperature $^\circ\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:35</u>	<u>3</u>	<u>6.85</u>	<u>1.96</u>	<u>69.8</u>	_____	_____	_____
<u>10:36</u>	<u>6</u>	<u>6.82</u>	<u>2.11</u>	<u>71.2</u>	_____	_____	_____
<u>10:38</u>	<u>9.5</u>	<u>6.84</u>	<u>2.12</u>	<u>72.2</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>3 vials</u>	<u>Y</u>	<u>HCC</u>	<u>Seq.</u>	<u>TPHC, BTEX, MTSE</u>
	<u>2 vial</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>
	<u>2 Amber</u>	<u>"</u>	<u>—</u>	<u>"</u>	<u>TPHD HOVC's 8260</u>
					<u>S VOC's 8270</u>

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/Facility # 1156 Job #: 180225  
 Address: 4276 MacArthur Date: 3-31-00  
 City: Oakland Sampler: Joe

Well ID MW-2 Well Condition: O.K.  
 Well Diameter 2in Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)  
 Total Depth 25.45 ft  
 Depth to Water 5.23 ft

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

20.22 x VF 0.17 = 3.44 x 3 (case volume) = Estimated Purge Volume: 10.5 (gal.)

Purge Equipment: Disposable Bailer, Stack, Suction, Grundfos, Other: \_\_\_\_\_  
 Sampling Equipment: Disposable Bailer, Bailer, Pressure Bailer, Grab Sample, Other: \_\_\_\_\_

Starting Time: 9:50 Weather Conditions: clear/windy  
 Sampling Time: 10:10 AM Water Color: clear Odor: none  
 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)
<u>9:55</u>	<u>35</u>	<u>7.25</u>	<u>3.88</u>	<u>73.1</u>			
<u>9:57</u>	<u>7</u>	<u>7.26</u>	<u>3.99</u>	<u>73.2</u>			
<u>9:58</u>	<u>10.5</u>	<u>7.3</u>	<u>4.02</u>	<u>72.8</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>340A</u>	<u>Y</u>	<u>HCC</u>	<u>Seq.</u>	<u>TPH, BTEX, MTBE</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility # 1156 Job #: 180225  
 Address: 4276 MacArthur Date: 3-31-00  
 City: Oakland 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: 25.05 ft.  
 Depth to Water: 8.42 ft.

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

16.63 x VF 0.17 = 2.83 x 3 (case volume) = Estimated Purge Volume: 8.5 (gal.)

Purge Equipment: Disposable Bailer  
 Bailer  
 Stack  
 Suction  
 Grandfos  
 Other: \_\_\_\_\_

Sampling Equipment:  Disposable Bailer  
 Bailer  
 Pressure Bailer  
 Grab Sample  
 Other: \_\_\_\_\_

Starting Time: 9:20 Weather Conditions: clear & windy  
 Sampling Time: 9:40 A.M. Water Color: clear Odor: same  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu$ mhos/cm $\times 10^2$	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>9:27</u>	<u>3</u>	<u>7.57</u>	<u>3.69</u>	<u>70.8</u>	_____	_____	_____
<u>9:28</u>	<u>5</u>	<u>7.47</u>	<u>4.42</u>	<u>71.5</u>	_____	_____	_____
<u>9:30</u>	<u>8.5</u>	<u>7.37</u>	<u>4.40</u>	<u>71.6</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>3VOA</u>	<u>Y</u>	<u>HCC</u>	<u>Seq.</u>	<u>TPHG, BT60, WTR6</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**WELL MONITORING/SAMPLING  
FIELD DATA SHEET**

Client/  
Facility # 1156

Job#: 180225

Address: 4276 MacArthur

Date: 3-31-00

City: Oakland

Sampler: Joc

Well ID MW-4

Well Condition: O.K.

Well Diameter 2 in.

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

Total Depth 25.30 ft.

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

Depth to Water 7.26 ft.

18.04 X VF 0.17 = 3.07 X 3 (case volume) = Estimated Purge Volume: 9.5 (gal.)

Purge Equipment: Disposable Bailer  
Bailer  
Stack  
 Suction  
Grundfos  
Other: \_\_\_\_\_

Sampling Equipment:  Disposable Bailer  
Bailer  
Pressure Bailer  
Grab Sample  
Other: \_\_\_\_\_

Starting Time: 8:42

Weather Conditions: clear & windy

Sampling Time: 9:10 A.M.

Water Color: clear Odor: mild

Purging Flow Rate: 1 gpm

Sediment Description: none

Did well de-water? \_\_\_\_\_

If yes; Time: \_\_\_\_\_ Volume: \_\_\_\_\_ (gal.)

Time	Volume (gal.)	pH	Conductivity (w) $\mu$ mhos/cm X	Temperature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:50</u>	<u>3</u>	<u>7.90</u>	<u>5.12</u>	<u>70.2</u>			
<u>8:52</u>	<u>6</u>	<u>7.40</u>	<u>5.15</u>	<u>71.2</u>			
<u>8:54</u>	<u>9.5</u>	<u>7.36</u>	<u>5.18</u>	<u>71.4</u>			

**LABORATORY INFORMATION**

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCL</u>	<u>Seq</u>	<u>TPHC, BTEX, METALS</u>

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Facility Number TOSCO (76) SS#1156  
 Facility Address 4276 MACARTHUR, OAKLAND CA  
180225.85  
 Consultant Project Number 180225.85  
 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. DAVID DEWITT  
 (Phone) (925) 277-2384  
 Laboratory Name Sequoia Analytical  
 Laboratory Release Number W004035  
 Samples Collected by (Name) JOE ASEMIAN  
 Collection Date 3-31-00  
 Signature [Signature]

**Analysis To Be Performed**

Sample Number	Lab Sample Number	Number of Containers	Media S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Lead (Yes or No)	Analysis To Be Performed																	
								TPH Gas - BTEX w/MTBE (8016)	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)	PHD	SVOCs by 8260	SVOCs by 8270							
✓ TB-LB	OIA	25A	W	G	-	HCC	✓	✓																	
✓ MW-1	O2A-G	500A 2 Amb.	/	/	10:46	/	/	✓																	
✓ MW-2	O3A-C	300A	/	/	10:10	/	/	✓																	
✓ MW-3	O4	"	/	/	9:40	/	/	✓																	
✓ MW-4	O5	"	/	/	9:10	/	/	✓																	

**DO NOT BILL TB-LB ANALYSIS**  
~~5 Oxygenates~~  
~~10 Ethanol~~  
 Remarks

Analyzed By (Signature) <u>[Signature]</u>	Organization <u>G-R Inc.</u>	Date/Time <u>3-31-00</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>[Blank]</u>	Date/Time <u>3/31/00</u>
Analyzed By (Signature) <u>[Signature]</u>	Organization <u>SPL</u>	Date/Time <u>4/3/00</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>Perp. Buy</u>	Date/Time <u>4/5 13:00</u>
Analyzed By (Signature) <u>[Signature]</u>	Organization <u>[Blank]</u>	Date/Time <u>[Blank]</u>	Received For Laboratory By (Signature) <u>[Signature]</u>	Organization <u>WC</u>	Date/Time <u>4/3/00</u>

**Turn Around Time (Circle Choice)**

24 Hrs.  
 48 Hrs.  
 6 Days  
 10 Days  
As Contracted





# Sequoia Analytical

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

27 April, 2000

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

RE: Tosco  
Sequoia Report: W004035

Enclosed are the results of analyses for samples received by the laboratory on 31-Mar-00 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater  
Project Manager

CA ELAP Certificate #1271





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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	W004035-01	Water	31-Mar-00 00:00	31-Mar-00 16:00
MW-1	W004035-02	Water	31-Mar-00 10:46	31-Mar-00 16:00
MW-2	W004035-03	Water	31-Mar-00 10:10	31-Mar-00 16:00
MW-3	W004035-04	Water	31-Mar-00 09:40	31-Mar-00 16:00
MW-4	W004035-05	Water	31-Mar-00 09:10	31-Mar-00 16:00





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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**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
<b>TB-LB (W004035-01) Water</b> Sampled: 31-Mar-00 00:00    Received: 31-Mar-00 16:00									
Purgeable Hydrocarbons	ND	50	ug/l	1	0D13003	13-Apr-00	13-Apr-00	EPA 8015M/8020	
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>		113 %	70-130	"	"	"	"	"	
<b>MW-1 (W004035-02) Water</b> Sampled: 31-Mar-00 10:46    Received: 31-Mar-00 16:00 <b>P-01</b>									
Purgeable Hydrocarbons	92000	50000	ug/l	1000	0D13003	13-Apr-00	13-Apr-00	EPA 8015M/8020	
Benzene	10000	500	"	"	"	"	"	"	
Toluene	23000	500	"	"	"	"	"	"	
Ethylbenzene	3200	500	"	"	"	"	"	"	
Xylenes (total)	14000	500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2500	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		109 %	70-130	"	"	"	"	"	
<b>MW-2 (W004035-03) Water</b> Sampled: 31-Mar-00 10:10    Received: 31-Mar-00 16:00									
Purgeable Hydrocarbons	ND	2500	ug/l	50	0D13003	13-Apr-00	13-Apr-00	EPA 8015M/8020	
Benzene	42	25	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Ethylbenzene	ND	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
Methyl tert-butyl ether	17000	130	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		96.3 %	70-130	"	"	"	"	"	





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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**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 (W004035-04) Water Sampled: 31-Mar-00 09:40 Received: 31-Mar-00 16:00									P-01
Purgeable Hydrocarbons	26000	20000	ug/l	400	0D12003	12-Apr-00	12-Apr-00	EPA 8015M/8020	
Benzene	1300	200	"	"	"	"	"	"	
Toluene	2900	200	"	"	"	"	"	"	
Ethylbenzene	2600	200	"	"	"	"	"	"	
Xylenes (total)	3500	200	"	"	"	"	"	"	
Methyl tert-butyl ether	2800	1000	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		99.3 %		70-130	"	"	"	"	
MW-4 (W004035-05) Water Sampled: 31-Mar-00 09:10 Received: 31-Mar-00 16:00									P-01
Purgeable Hydrocarbons	5500	1000	ug/l	20	0D13001	13-Apr-00	13-Apr-00	EPA 8015M/8020	
Benzene	1800	10	"	"	"	"	"	"	
Toluene	230	10	"	"	"	"	"	"	
Ethylbenzene	330	10	"	"	"	"	"	"	
Xylenes (total)	400	10	"	"	"	"	"	"	
Methyl tert-butyl ether	1000	50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		107 %		70-130	"	"	"	"	





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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

**Reported:**  
27-Apr-00 07:37

**Diesel Hydrocarbons (C9-C24) by DHS LUFT**

**Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W004035-02) Water	Sampled: 31-Mar-00 10:46		Received: 31-Mar-00 16:00						
Diesel Range Hydrocarbons	3600	50	ug/l	1	0D13005	12-Apr-00	14-Apr-00	EPA 8015M	D-14
Surrogate: n-Pentacosane		130 %	50-150		"	"	"	"	





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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**Semivolatile Organic Compounds by EPA Method 8270B**

**Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W004035-02) Water Sampled: 31-Mar-00 10:46 Received: 31-Mar-00 16:00									
Acenaphthene	ND	5.0	ug/l	1	0D20013	20-Apr-00	21-Apr-00	EPA 8270B	
Acenaphthylene	ND	5.0	"	"	"	"	"	"	
Aniline	ND	5.0	"	"	"	"	"	"	
Anthracene	ND	5.0	"	"	"	"	"	"	
Benzoic acid	ND	10	"	"	"	"	"	"	
Benzo (a) anthracene	ND	5.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	5.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.0	"	"	"	"	"	"	
Benzo (ghi) perylene	ND	5.0	"	"	"	"	"	"	
Benzo[a]pyrene	ND	5.0	"	"	"	"	"	"	
Benzyl alcohol	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	5.0	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	10	10	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	5.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	5.0	"	"	"	"	"	"	
4-Chloroaniline	ND	10	"	"	"	"	"	"	
2-Chloronaphthalene	ND	5.0	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	5.0	"	"	"	"	"	"	
2-Chlorophenol	ND	5.0	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	5.0	"	"	"	"	"	"	
Chrysene	ND	5.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.0	"	"	"	"	"	"	
Dibenzofuran	ND	5.0	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	6.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	10	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	5.0	"	"	"	"	"	"	
Diethyl phthalate	ND	5.0	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	5.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	5.0	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	10	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	5.0	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	5.0	"	"	"	"	"	"	

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.





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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**Semivolatile Organic Compounds by EPA Method 8270B**  
**Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W004035-02) Water Sampled: 31-Mar-00 10:46 Received: 31-Mar-00 16:00									O-04
Di-n-octyl phthalate	ND	5.0	ug/l	1	0D20013	20-Apr-00	21-Apr-00	EPA 8270B	
Fluoranthene	ND	5.0	"	"	"	"	"	"	
Fluorene	ND	5.0	"	"	"	"	"	"	
Hexachlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	10	"	"	"	"	"	"	
Hexachloroethane	ND	5.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	"	"	"	"	"	"	
Isophorone	ND	5.0	"	"	"	"	"	"	
2-Methylnaphthalene	73	5.0	"	"	"	"	"	"	
2-Methylphenol	31	5.0	"	"	"	"	"	"	
4-Methylphenol	18	5.0	"	"	"	"	"	"	
Naphthalene	140	5.0	"	"	"	"	"	"	
2-Nitroaniline	ND	10	"	"	"	"	"	"	
3-Nitroaniline	ND	10	"	"	"	"	"	"	
4-Nitroaniline	ND	10	"	"	"	"	"	"	
Nitrobenzene	ND	5.0	"	"	"	"	"	"	
2-Nitrophenol	ND	5.0	"	"	"	"	"	"	
4-Nitrophenol	ND	10	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	5.0	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	5.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	5.0	"	"	"	"	"	"	
Pentachlorophenol	ND	10	"	"	"	"	"	"	
Phenanthrene	ND	5.0	"	"	"	"	"	"	
Phenol	ND	5.0	"	"	"	"	"	"	
Pyrene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	10	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		%		21-110	"	"	"	"	S-04
Surrogate: Phenol-d6		20.1 %		10-110	"	"	"	"	
Surrogate: Nitrobenzene-d5		37.9 %		35-114	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		80.0 %		43-116	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		97.3 %		10-123	"	"	"	"	
Surrogate: p-Terphenyl-d14		62.9 %		33-141	"	"	"	"	





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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**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
<b>Batch 0D12003 - EPA 5030B [P/T]</b>										
<b>Blank (0D12003-BLK1)</b> Prepared & Analyzed: 12-Apr-00										
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>	31.4		"	30.0		105	70-130			
<b>LCS (0D12003-BS1)</b> Prepared & Analyzed: 12-Apr-00										
Benzene	20.7	0.50	ug/l	20.0		104	70-130			
Toluene	21.0	0.50	"	20.0		105	70-130			
Ethylbenzene	21.2	0.50	"	20.0		106	70-130			
Xylenes (total)	61.0	0.50	"	60.0		102	70-130			
<i>Surrogate: a, a, a-Trifluorotoluene</i>	28.8		"	30.0		96.0	70-130			
<b>Matrix Spike (0D12003-MS1)</b> Source: W004084-01 Prepared & Analyzed: 12-Apr-00										
Benzene	20.7	0.50	ug/l	20.0	ND	104	70-130			
Toluene	21.0	0.50	"	20.0	ND	105	70-130			
Ethylbenzene	21.1	0.50	"	20.0	ND	106	70-130			
Xylenes (total)	61.0	0.50	"	60.0	ND	102	70-130			
<i>Surrogate: a, a, a-Trifluorotoluene</i>	27.6		"	30.0		92.0	70-130			
<b>Matrix Spike Dup (0D12003-MSD1)</b> Source: W004084-01 Prepared & Analyzed: 12-Apr-00										
Benzene	19.5	0.50	ug/l	20.0	ND	97.5	70-130	5.97	20	
Toluene	19.8	0.50	"	20.0	ND	99.0	70-130	5.88	20	
Ethylbenzene	19.7	0.50	"	20.0	ND	98.5	70-130	6.86	20	
Xylenes (total)	57.3	0.50	"	60.0	ND	95.5	70-130	6.26	20	
<i>Surrogate: a, a, a-Trifluorotoluene</i>	27.1		"	30.0		90.3	70-130			







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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**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	Limit	RPD	RPD Limit	Notes
<b>Batch 0D13001 - EPA 5030B [P/T]</b>										
<b>Blank (0D13001-BLK1)</b> Prepared & Analyzed: 13-Apr-00										
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>	30.2		"	30.0		101	70-130			
<b>LCS (0D13001-BS1)</b> Prepared & Analyzed: 13-Apr-00										
Benzene	18.6	0.50	ug/l	20.0		93.0	70-130			
Toluene	19.4	0.50	"	20.0		97.0	70-130			
Ethylbenzene	19.1	0.50	"	20.0		95.5	70-130			
Xylenes (total)	63.3	0.50	"	60.0		105	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	27.4		"	30.0		91.3	70-130			
<b>Matrix Spike (0D13001-MS1)</b> Source: W004085-07 Prepared & Analyzed: 13-Apr-00										
Benzene	16.9	0.50	ug/l	20.0	ND	84.5	70-130			
Toluene	17.5	0.50	"	20.0	ND	87.5	70-130			
Ethylbenzene	18.1	0.50	"	20.0	ND	90.5	70-130			
Xylenes (total)	57.2	0.50	"	60.0	ND	95.3	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	26.8		"	30.0		89.3	70-130			
<b>Matrix Spike Dup (0D13001-MSD1)</b> Source: W004085-07 Prepared & Analyzed: 13-Apr-00										
Benzene	17.1	0.50	ug/l	20.0	ND	85.5	70-130	1.18	20	
Toluene	17.8	0.50	"	20.0	ND	89.0	70-130	1.70	20	
Ethylbenzene	19.2	0.50	"	20.0	ND	96.0	70-130	5.90	20	
Xylenes (total)	58.4	0.50	"	60.0	ND	97.3	70-130	2.08	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	25.4		"	30.0		84.7	70-130			





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

Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**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
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**Batch 0D13003 - EPA 5030B [P/T]**

**Blank (0D13003-BLK1)**

Prepared & Analyzed: 13-Apr-00

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>	30.6		"	30.0		102	70-130			

**LCS (0D13003-BS1)**

Prepared & Analyzed: 13-Apr-00

Benzene	20.7	0.50	ug/l	20.0		104	70-130			
Toluene	20.9	0.50	"	20.0		104	70-130			
Ethylbenzene	21.0	0.50	"	20.0		105	70-130			
Xylenes (total)	60.7	0.50	"	60.0		101	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	28.0		"	30.0		93.3	70-130			

**LCS Dup (0D13003-BSD1)**

Prepared & Analyzed: 13-Apr-00

Benzene	19.7	0.50	ug/l	20.0		98.5	70-130	4.95	20	
Toluene	19.9	0.50	"	20.0		99.5	70-130	4.90	20	
Ethylbenzene	19.9	0.50	"	20.0		99.5	70-130	5.38	20	
Xylenes (total)	57.4	0.50	"	60.0		95.7	70-130	5.59	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	28.1		"	30.0		93.7	70-130			





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**Reported:**  
27-Apr-00 07:37

**Diesel Hydrocarbons (C9-C24) 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
<b>Batch 0D13005 - EPA 3510B</b>										
<b>Blank (0D13005-BLK1)</b>										
Prepared: 12-Apr-00 Analyzed: 13-Apr-00										
Diesel Range Hydrocarbons	ND	50	ug/l							
Surrogate: <i>n</i> -Pentacosane	35.0		"	33.3		105	50-150			
<b>LCS (0D13005-BS1)</b>										
Prepared: 12-Apr-00 Analyzed: 13-Apr-00										
Diesel Range Hydrocarbons	381	50	ug/l	500		76.2	60-140			
Surrogate: <i>n</i> -Pentacosane	41.0		"	33.3		123	50-150			
<b>LCS Dup (0D13005-BSD1)</b>										
Prepared: 12-Apr-00 Analyzed: 13-Apr-00										
Diesel Range Hydrocarbons	390	50	ug/l	500		78.0	60-140	2.33	50	
Surrogate: <i>n</i> -Pentacosane	40.0		"	33.3		120	50-150			





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Project: Tosco  
Project Number: Tosco # 1156  
Project Manager: Deanna L. Harding

Reported:  
27-Apr-00 07:37

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control  
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 0D20013 - EPA 3510B**

**Blank (0D20013-BLK1)**

Prepared: 20-Apr-00 Analyzed: 21-Apr-00

Acenaphthene	ND	5.0	ug/l							
Acenaphthylene	ND	5.0	"							
Anthracene	ND	5.0	"							
Benzo (a) anthracene	ND	5.0	"							
Benzo (b) fluoranthene	ND	5.0	"							
Benzo (k) fluoranthene	ND	5.0	"							
Benzo (ghi) perylene	ND	5.0	"							
Benzo[a]pyrene	ND	5.0	"							
Bis(2-ethylhexyl)phthalate	18.1	10	"							
Chrysene	ND	5.0	"							
Dibenz (a,h) anthracene	ND	5.0	"							
Fluoranthene	ND	5.0	"							
Fluorene	ND	5.0	"							
Indeno (1,2,3-cd) pyrene	ND	5.0	"							
Naphthalene	ND	5.0	"							
Phenanthrene	ND	5.0	"							
Phenol	ND	5.0	"							
Pyrene	ND	5.0	"							
Surrogate: 2-Fluorophenol	53.8		"	150		35.9	21-110			
Surrogate: Phenol-d6	30.6		"	150		20.4	10-110			
Surrogate: Nitrobenzene-d5	72.6		"	100		72.6	35-114			
Surrogate: 2-Fluorobiphenyl	73.6		"	100		73.6	43-116			
Surrogate: 2,4,6-Tribromophenol	120		"	150		80.0	10-123			
Surrogate: p-Terphenyl-d14	82.0		"	100		82.0	33-141			

**LCS (0D20013-BS1)**

Prepared: 20-Apr-00 Analyzed: 21-Apr-00

Acenaphthene	75.6	5.0	ug/l	100		75.6	46-118			
Phenol	31.1	5.0	"	150		20.7	12-110			
Pyrene	92.7	5.0	"	100		92.7	26-127			
Surrogate: 2-Fluorophenol	56.1		"	150		37.4	21-110			
Surrogate: Phenol-d6	33.2		"	150		22.1	10-110			
Surrogate: Nitrobenzene-d5	77.8		"	100		77.8	35-114			
Surrogate: 2-Fluorobiphenyl	80.8		"	100		80.8	43-116			
Surrogate: 2,4,6-Tribromophenol	132		"	150		88.0	10-123			
Surrogate: p-Terphenyl-d14	78.4		"	100		78.4	33-141			





Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin CA, 94568	Project: Tosco Project Number: Tosco # 1156 Project Manager: Deanna L. Harding	<b>Reported:</b> 27-Apr-00 07:37
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**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control  
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 0D20013 - EPA 3510B**

LCS Dup (0D20013-BSD1)		Prepared: 20-Apr-00 Analyzed: 21-Apr-00								
Acenaphthene	73.2	5.0	ug/l	100		73.2	46-118	3.23	30	
Phenol	37.6	5.0	"	150		25.1	12-110	18.9	30	
Pyrene	93.6	5.0	"	100		93.6	26-127	0.966	30	
Surrogate: 2-Fluorophenol	62.0		"	150		41.3	21-110			
Surrogate: Phenol-d6	39.1		"	150		26.1	10-110			
Surrogate: Nitrobenzene-d5	74.6		"	100		74.6	35-114			
Surrogate: 2-Fluorobiphenyl	76.0		"	100		76.0	43-116			
Surrogate: 2,4,6-Tribromophenol	127		"	150		84.7	10-123			
Surrogate: p-Terphenyl-d14	84.2		"	100		84.2	33-141			





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Project: Tosco  
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**Reported:**  
27-Apr-00 07:37

### Notes and Definitions

- D-14 Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
- O-04 This sample was analyzed outside the EPA recommended holding time.
- P-01 Chromatogram Pattern: Gasoline C6-C12
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- 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

