



GETTLER-RYAN Inc.

TRANSMITTAL

July 15, 1999

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	July 9, 1999	Groundwater Monitoring and Sampling Report Second Quarter 1999 - Event of June 3, 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 *July 27, 1999*, 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

ENVIRONMENTAL PROTECTION
31 JUL 28 PM 4:13

agency/0843dbd.qmt

QUARTERLY SUMMARY REPORT

Second Quarter 1999

(April - June)

TOSCO SERVICE STATION 0843

1629 Webster Street
Alameda, California

City/County ID Alameda/Alameda County Department of Environmental Health Services

County: Alameda County

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.

RECENT QUARTER ACTIVITIES

ERI submitted a soil and groundwater evaluation.

NEXT QUARTER ACTIVITIES

Perform 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</u>
Soil remediation in progress?	<u>No</u>
Dissolved/free product remediation in progress?	<u>No</u>

CONSULTANT:

Environmental Resolutions, Inc.



GETTLER - RYAN INC.

July 9, 1999
G-R Job #180203

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

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

Dear Mr. De Witt:

This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On June 3, 1999, 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 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 Table 1, and a Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

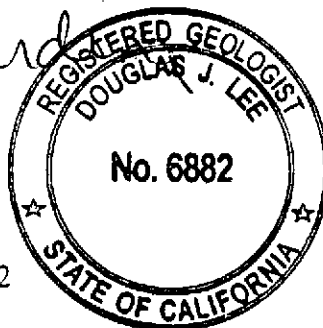
Sincerely,

Deanna L. Harding

Deanna L. Harding
Project Coordinator

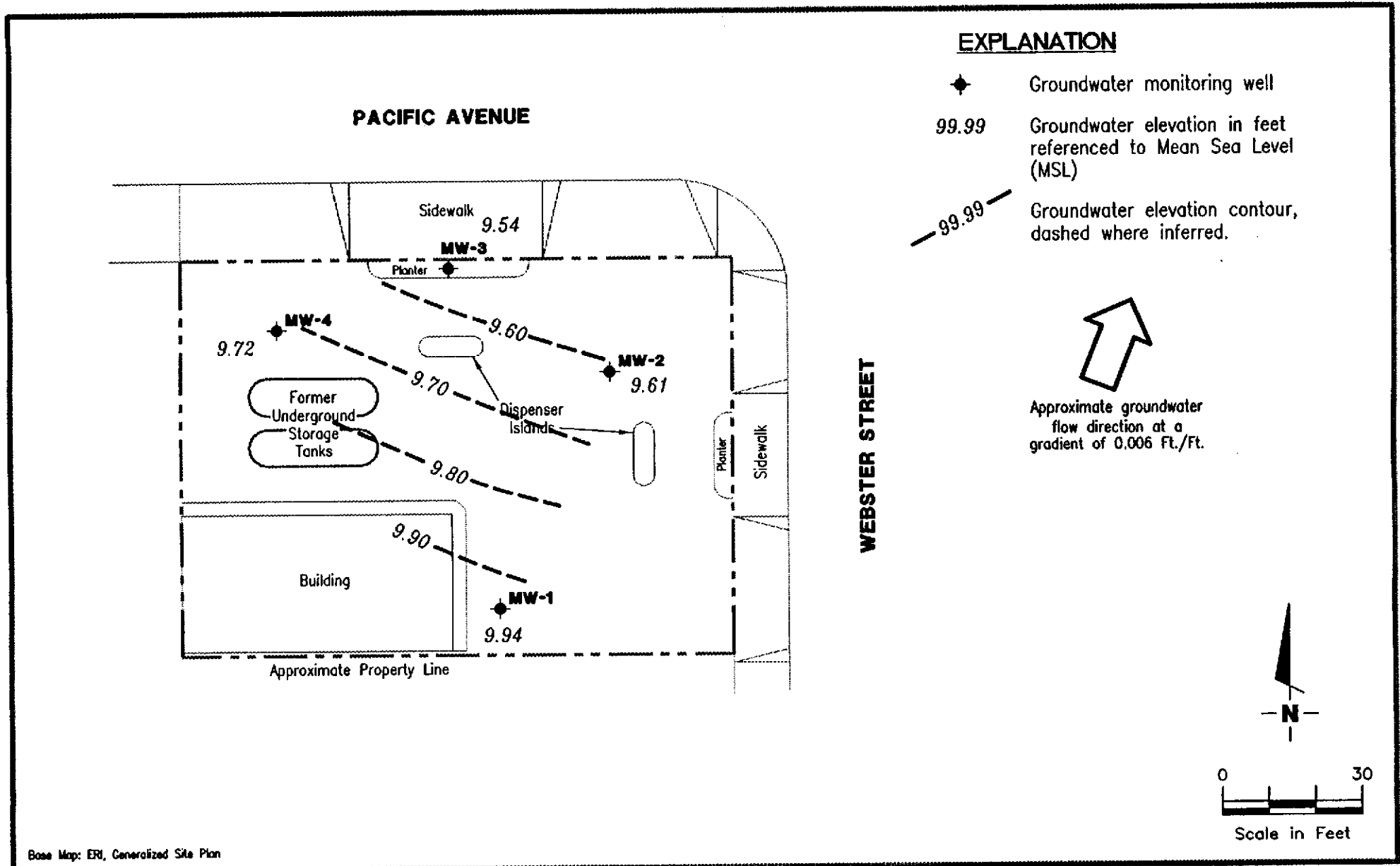
Douglas J. Lee

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
- 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 No. 0843
1629 Webster Street
Alameda, California

FIGURE

1

JOB NUMBER
180203

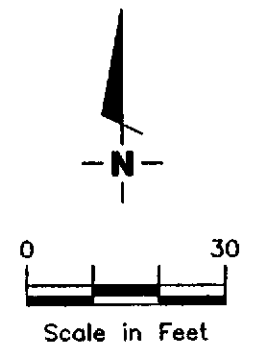
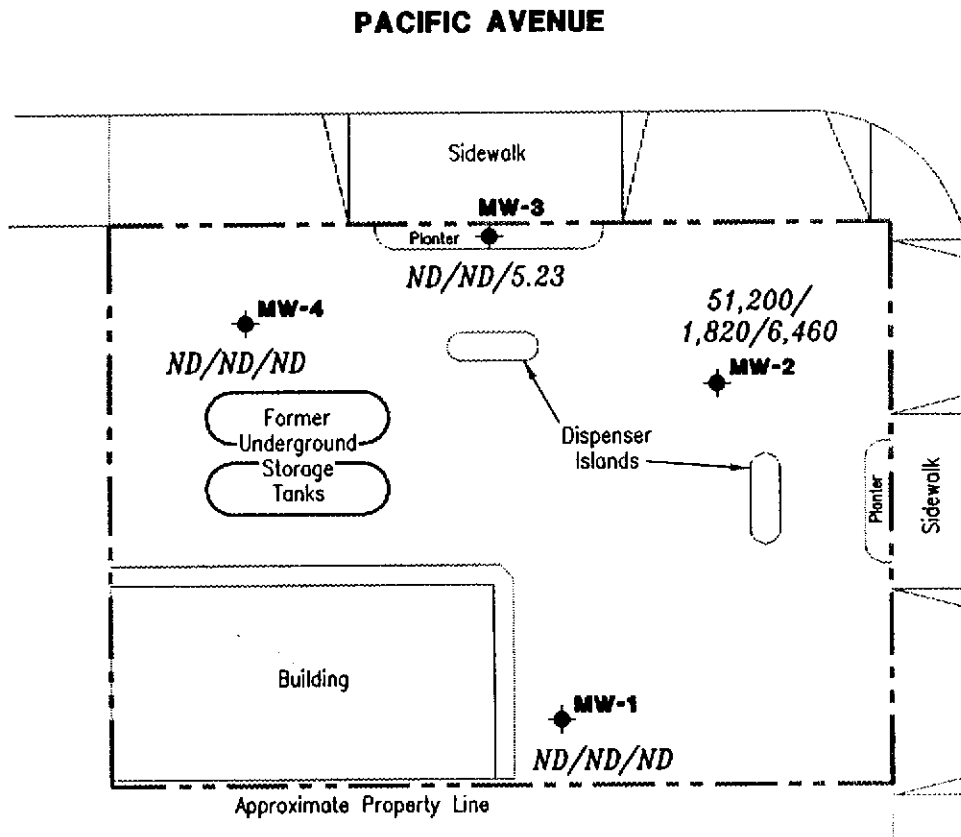
REVIEWED BY

DATE
June 3, 1999

REVISED DATE

EXPLANATION

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



Base Map: ERI, Generalized Site Plan



Gettler - Ryan Inc.

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Dublin, CA 94568

CONCENTRATION MAP

Former Tosco 76 Service Station No. 0843
1629 Webster Street
Alameda, California

FIGURE

2

JOB NUMBER
180203

REVIEWED BY

DATE
June 3, 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 (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
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
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
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
Trip Blank TB-LB	03/05/99 ¹	--	--	ND	ND	ND	ND	ND	ND ²
	06/03/99	--	--	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.

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexi-dip interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

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

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

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

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

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

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/ Facility# Tosco 0843 Job#: 180203
 Address: 1629 Webster St. Date: 6/3/99
 City: Alameda Sampler: Vaultel

Well ID MW-1 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: ∅ (feet) Amount Bailed (Gallons) ∅
 Total Depth 20.50 ft. Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66
 Depth to Water 6.24 ft. 6" = 1.50 12" = 5.80

14.26 x VF 0.17 = 2.42 x 3 (case volume) = Estimated Purge Volume: 7.27 (gal.)

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

Starting Time: 11:03 Weather Conditions: cldy
 Sampling Time: 11:20 Water Color: brn Odor: _____
 Purging Flow Rate: 1 gpm. Sediment Description: Sand
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:06</u>	<u>2.5</u>	<u>8.11</u>	<u>3.36</u>	<u>66.0</u>	_____	_____	_____
<u>11:08</u>	<u>5</u>	<u>8.01</u>	<u>3.28</u>	<u>65.2</u>	_____	_____	_____
<u>11:10</u>	<u>7.5</u>	<u>7.95</u>	<u>3.24</u>	<u>65.1</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
<u>MW-1</u>	<u>1 VOA</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>MTBE(2260)</u>
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

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

Job#: 180203
 Date: 6/3/99
 Sampler: Vartkos

Well ID: MW-2
 Well Diameter: 2 in.
 Total Depth: 20.50 ft.
 Depth to Water: 5.96 ft.

Well Condition: OK
 Hydrocarbon Thickness: Ø (feet) Amount Bailed (Gallons): Ø
 Volume Factor (VF):
 2" = 0.17 3" = 0.38 4" = 0.66
 6" = 1.50 12" = 5.80

14.54 x VF 0.17 = 2.47 x 3 (case volume) = Estimated Purge Volume: 742 (gal.)

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

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

Starting Time: 11:55
 Sampling Time: 12:10
 Purging Flow Rate: 1 gpm.
 Did well de-water? no

Weather Conditions: cloudy
 Water Color: grayish Odor: Y
 Sediment Description: sand
 If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 100$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:57	2.5	7.81	3.45	67.1			
12:00	5	7.62	3.53	66.5			
12:03	7.5	7.54	3.64	66.1			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	3 VOA	Y	HCl	SEQUOIA	TPHIGI/btex/mtbe
MW-2	1 VOA	~	~	~	MTBE (8260)

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/ Tosco
 Facility# 0843 Job#: 180203
 Address: 1629 Webster St. Date: 6/3/99
 City: Alameda Sampler: Vertek

Well ID MW-3 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Amount Bailed
 Thickness: ∅ (feet) (product/water): ∅ (Gallons)
 Total Depth 20.50 ft.
 Depth to Water 5.57 ft.

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

14.93 x VF 0.17 = 2.54 x 3 (case volume) = Estimated Purge Volume: 7.61 (gal.)

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

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

Starting Time: 11:30 Weather Conditions: cloudy
 Sampling Time: 11:45 Water Color: brn Odor: no
 Purging Flow Rate: 1 gpm. Sediment Description: Sand
 Did well de-water? no If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos}/\text{cm} \times 100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:32</u>	<u>2.5</u>	<u>7.96</u>	<u>3.37</u>	<u>66.3</u>			
<u>11:35</u>	<u>5</u>	<u>7.88</u>	<u>3.29</u>	<u>66.3</u>			
<u>11:38</u>	<u>8</u>	<u>7.83</u>	<u>3.38</u>	<u>66.1</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE /	LABORATORY	ANALYSES
<u>MW-3</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCl</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
<u>MW-3</u>	<u>1 VOA</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>MTBE (8260)</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/ Facility# Tosco 0843 Job#: 180203
 Address: 1629 Webster St. Date: 6/3/99
 City: Alameda Sampler: Ventku

Well ID MW-4 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: ∅ (feet) Amount Bailed (product/water): ∅ (Gallons)
 Total Depth 20.50 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66
 Depth to Water 5.45 ft. Factor (VF) 6" = 1.50 12" = 5.80

15.05 X VF 0.17 = 2.56 X 3 (case volume) = Estimated Purge Volume: 7.67 (gal.)

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

Starting Time: 10:13 Weather Conditions: cloudy
 Sampling Time: 10:45 Water Color: brn Odor: no
 Purging Flow Rate: 1 gpm. Sediment Description: sand
 Did well de-water? Y If yes; Time: 10:28 Volume: 5 (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm}/100$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>10:15</u>	<u>2.2</u>	<u>8.03</u>	<u>5.93</u>	<u>66.4</u>			
<u>10:18</u>	<u>5.8</u>	<u>7.88</u>	<u>6.06</u>	<u>67.7</u>			
<u>10:30</u>	<u>8</u>	<u>7.83</u>	<u>5.99</u>	<u>67.2</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>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>
<u>MW-4</u>	<u>1 VOA</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>MTBE (8260)</u>

COMMENTS: _____



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

Project: Tosco(1)
Project Number: Tosco SS#0843
Project Manager: Deanna Harding

Sampled: 6/3/99
Received: 6/3/99
Reported: 6/29/99

ANALYTICAL REPORT FOR L906066

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
TB-LB	L906066-01	Water	6/3/99
MW-1	L906066-02	Water	6/3/99
MW-2	L906066-03	Water	6/3/99
MW-3	L906066-04	Water	6/3/99
MW-4	L906066-05	Water	6/3/99



Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco(1) Project Number: Tosco SS#0843 Project Manager: Deanna Harding	Sampled: 6/3/99 Received: 6/3/99 Reported: 6/29/99
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Sample Description: TB-LB
Laboratory Sample Number: L906066-01

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

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

Purgeable Hydrocarbons as Gasoline	9060096	6/16/99	6/17/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	70.0-130		82.8	%	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco(1) Project Number: Tosco SS#0843 Project Manager: Deanna Harding	Sampled: 6/3/99 Received: 6/3/99 Reported: 6/29/99
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Sample Description: MW-1
Laboratory Sample Number: L906066-02

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

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

Purgeable Hydrocarbons as Gasoline	9060096	6/16/99	6/17/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	"	"	"	70.0-130		77.6	%	

MTBE by EPA Method 8260A

Methyl tert-butyl ether	9060068	6/11/99	6/11/99		2.00	ND	ug/l	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	"	"	"	76.0-114		109	%	





Gettler-Ryan/Geostrategies(I) 5747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco(1) Project Number: Tosco SS#0843 Project Manager: Deanna Harding	Sampled: 6/3/99 Received: 6/3/99 Reported: 6/29/99
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Sample Description: MW-2
Laboratory Sample Number: L906066-03

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
Sequoia Analytical - San Carlos								
Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT								
Purgeable Hydrocarbons as Gasoline	9060102	6/17/99	6/17/99		10000	51200	ug/l	1
Benzene	"	"	"		100	1820	"	
Toluene	"	"	"		100	7570	"	
Ethylbenzene	"	"	"		100	2510	"	
Xylenes (total)	"	"	"		100	7320	"	
Methyl tert-butyl ether	"	"	"		1000	6460	"	
Surrogate: <i>a,a,a-Trifluorotoluene</i>	"	"	"	70.0-130		89.6	%	
MTBE by EPA Method 8260A								
Methyl tert-butyl ether	9060068	6/11/99	6/11/99		100	8800	ug/l	
Surrogate: <i>1,2-Dichloroethane-d4</i>	"	"	"	76.0-114		104	%	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco(1) Project Number: Tosco SS#0843 Project Manager: Deanna Harding	Sampled: 6/3/99 Received: 6/3/99 Reported: 6/29/99
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Sample Description: MW-3
Laboratory Sample Number: L906066-04

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

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

Purgeable Hydrocarbons as Gasoline	9060103	6/17/99	6/17/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	5.23	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	"	"	"	70.0-130		93.7	%	

MTBE by EPA Method 8260A

Methyl tert-butyl ether	9060077	6/13/99	6/13/99		2.00	12.7	ug/l	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	"	"	"	76.0-114		104	%	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568	Project:	Tosco(1)	Sampled:	6/3/99
	Project Number:	Tosco SS#0843	Received:	6/3/99
	Project Manager:	Deanna Harding	Reported:	6/29/99

Sample Description: MW-4
Laboratory Sample Number: L906066-05

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

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

Purgeable Hydrocarbons as Gasoline	9060103	6/17/99	6/17/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	70.0-130		88.8	%	

MTBE by EPA Method 8260A

Methyl tert-butyl ether	9060068	6/11/99	6/11/99		2.00	3.96	ug/l	
Surrogate: <i>1,2</i> -Dichloroethane- <i>d4</i>	"	"	"	76.0-114		105	%	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco(1) Project Number: Tosco SS#0843 Project Manager: Deanna Harding	Sampled: 6/3/99 Received: 6/3/99 Reported: 6/29/99
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Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9060096			Date Prepared: 6/16/99			Extraction Method: EPA 5030B [P/T]				
Blank			9060096-BLK1							
Benzene	6/16/99			ND	ug/l	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.85	"	70.0-130	88.5			
LCS			9060096-BS1							
Benzene	6/16/99	10.0		8.96	ug/l	70.0-130	89.6			
Toluene	"	10.0		8.85	"	70.0-130	88.5			
Ethylbenzene	"	10.0		9.60	"	70.0-130	96.0			
Xylenes (total)	"	30.0		28.2	"	70.0-130	94.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.83	"	70.0-130	88.3			
Matrix Spike			9060096-MS1		L906090-07					
Benzene	6/17/99	10.0	ND	8.45	ug/l	60.0-140	84.5			
Toluene	"	10.0	ND	8.68	"	60.0-140	86.8			
Ethylbenzene	"	10.0	ND	8.88	"	60.0-140	88.8			
Xylenes (total)	"	30.0	ND	26.5	"	60.0-140	88.3			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		8.18	"	70.0-130	81.8			
Matrix Spike Dup			9060096-MSD1		L906090-07					
Benzene	6/17/99	10.0	ND	8.82	ug/l	60.0-140	88.2	25.0	4.28	
Toluene	"	10.0	ND	9.01	"	60.0-140	90.1	25.0	3.73	
Ethylbenzene	"	10.0	ND	9.30	"	60.0-140	93.0	25.0	4.62	
Xylenes (total)	"	30.0	ND	27.8	"	60.0-140	92.7	25.0	4.86	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		7.99	"	70.0-130	79.9			
Batch: 9060103			Date Prepared: 6/17/99			Extraction Method: EPA 5030B [P/T]				
Blank			9060103-BLK1							
Purgeable Hydrocarbons as Gasoline	6/17/99			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.83	"	70.0-130	98.3			
LCS			9060103-BS1							
Purgeable Hydrocarbons as Gasoline	6/17/99	250		281	ug/l	70.0-130	112			





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Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<u>LCS (continued)</u>										
<u>9060103-BS1</u>										
Surrogate: a,a,a-Trifluorotoluene	6/17/99	10.0		11.0	ug/l	70.0-130	110			
<u>Matrix Spike</u>										
<u>9060103-MS1</u> <u>L906172-05</u>										
Purgeable Hydrocarbons as Gasoline	6/17/99	250	ND	320	ug/l	60.0-140	128			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.22	"	70.0-130	92.2			
<u>Matrix Spike Dup</u>										
<u>9060103-MSD1</u> <u>L906172-05</u>										
Purgeable Hydrocarbons as Gasoline	6/17/99	250	ND	319	ug/l	60.0-140	128	25.0	0	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.85	"	70.0-130	98.5			





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568	Project: Tosco(1) Project Number: Tosco SS#0843 Project Manager: Deanna Harding	Sampled: 6/3/99 Received: 6/3/99 Reported: 6/29/99
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MTBE by EPA Method 8260A/Quality Control
Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9060068			Date Prepared: 6/11/99			Extraction Method: EPA 5030B [P/T]				
Blank			9060068-BLK1							
Methyl tert-butyl ether	6/11/99			ND	ug/l	2.00				
Surrogate: 1,2-Dichloroethane-d4	"	50.0		54.1	"	76.0-114	108			
LCS			9060068-BS1							
Methyl tert-butyl ether	6/11/99	50.0		60.0	ug/l	70.0-130	120			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		56.0	"	76.0-114	112			
Matrix Spike			9060068-MS1		L906024-01					
Methyl tert-butyl ether	6/11/99	50.0	ND	45.4	ug/l	60.0-140	90.8			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		47.7	"	76.0-114	95.4			
Matrix Spike Dup			9060068-MSD1		L906024-01					
Methyl tert-butyl ether	6/11/99	50.0	ND	53.3	ug/l	60.0-140	107	25.0	16.4	
Surrogate: 1,2-Dichloroethane-d4	"	50.0		50.8	"	76.0-114	102			
Batch: 9060077			Date Prepared: 6/13/99			Extraction Method: EPA 5030B [P/T]				
Blank			9060077-BLK1							
Methyl tert-butyl ether	6/13/99			ND	ug/l	2.00				
Surrogate: 1,2-Dichloroethane-d4	"	50.0		49.2	"	76.0-114	98.4			
LCS			9060077-BS1							
Methyl tert-butyl ether	6/13/99	50.0		58.2	ug/l	70.0-130	116			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		50.2	"	76.0-114	100			
Matrix Spike			9060077-MS1		L906175-04					
Methyl tert-butyl ether	6/13/99	50.0	ND	54.3	ug/l	60.0-140	109			
Surrogate: 1,2-Dichloroethane-d4	"	50.0		48.3	"	76.0-114	96.6			
Matrix Spike Dup			9060077-MSD1		L906175-04					
Methyl tert-butyl ether	6/13/99	50.0	ND	56.8	ug/l	60.0-140	114	25.0	4.48	
Surrogate: 1,2-Dichloroethane-d4	"	50.0		49.6	"	76.0-114	99.2			



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Notes and Definitions

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

