Increase in MTBE in MW-2, d/g of UST complex

GETTLER-RYAN INC.

TRANSMITTAL

September 25, 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	September 15, 2000	Groundwater Monitoring and Sampling Report Third Quarter - Event of July 14, 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 ***October 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/1156.dbd

GETTLER-RYAN INC.

September 15, 2000
G-R Job #180225

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

RE: Third 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 July 14, 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,

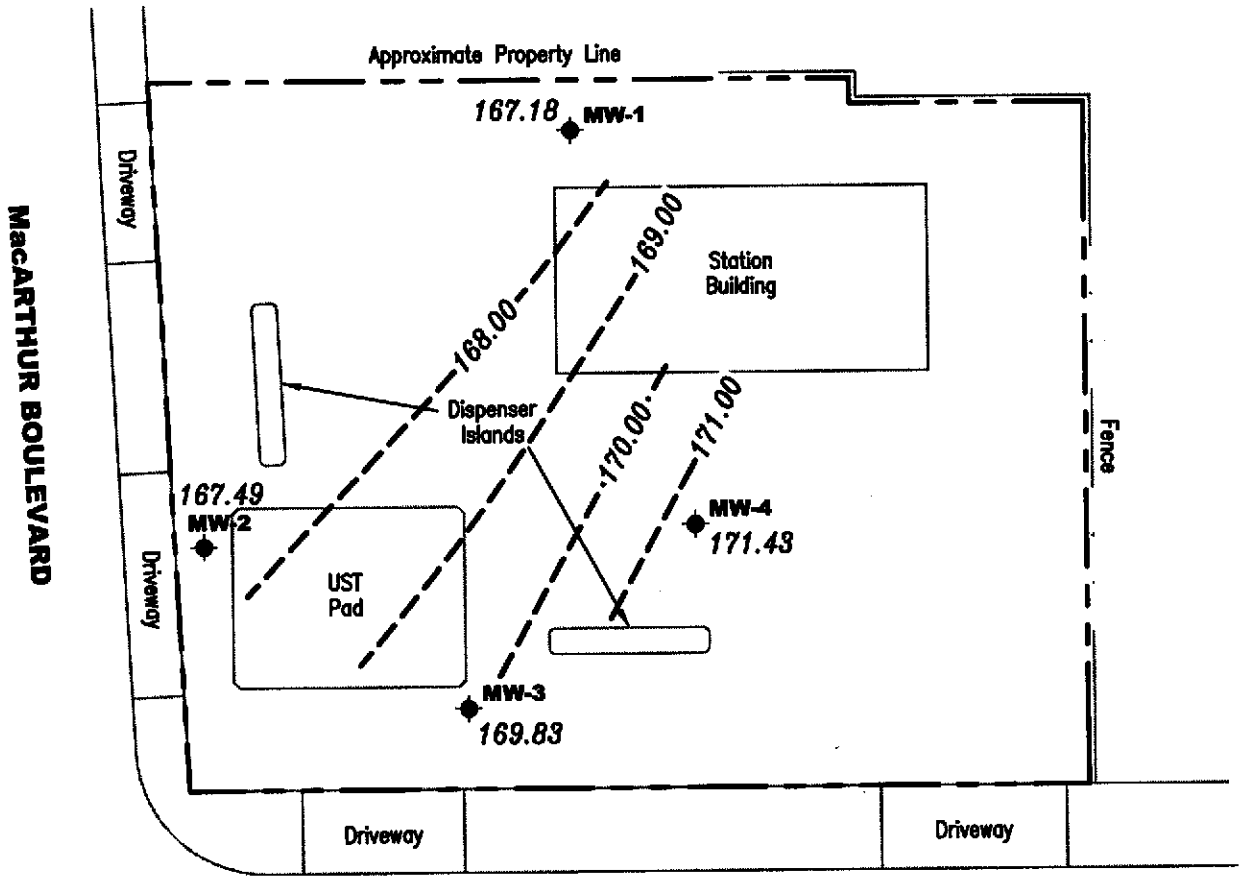
Deanna L. Harding
Project Coordinator

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

REGISTERED GEOLOGIST
DOUGLAS J. LEE
No. 6882
STATE OF CALIFORNIA

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



EXPLANATION

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

Approximate groundwater flow direction at a gradient of 0.05 to 0.1 Ft./Ft.

N

0 30

Scale in Feet

Source: Figure modified from drawing provided by Gettler-Ryan Inc.

Gettler - Ryan Inc.

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

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

FIGURE 1

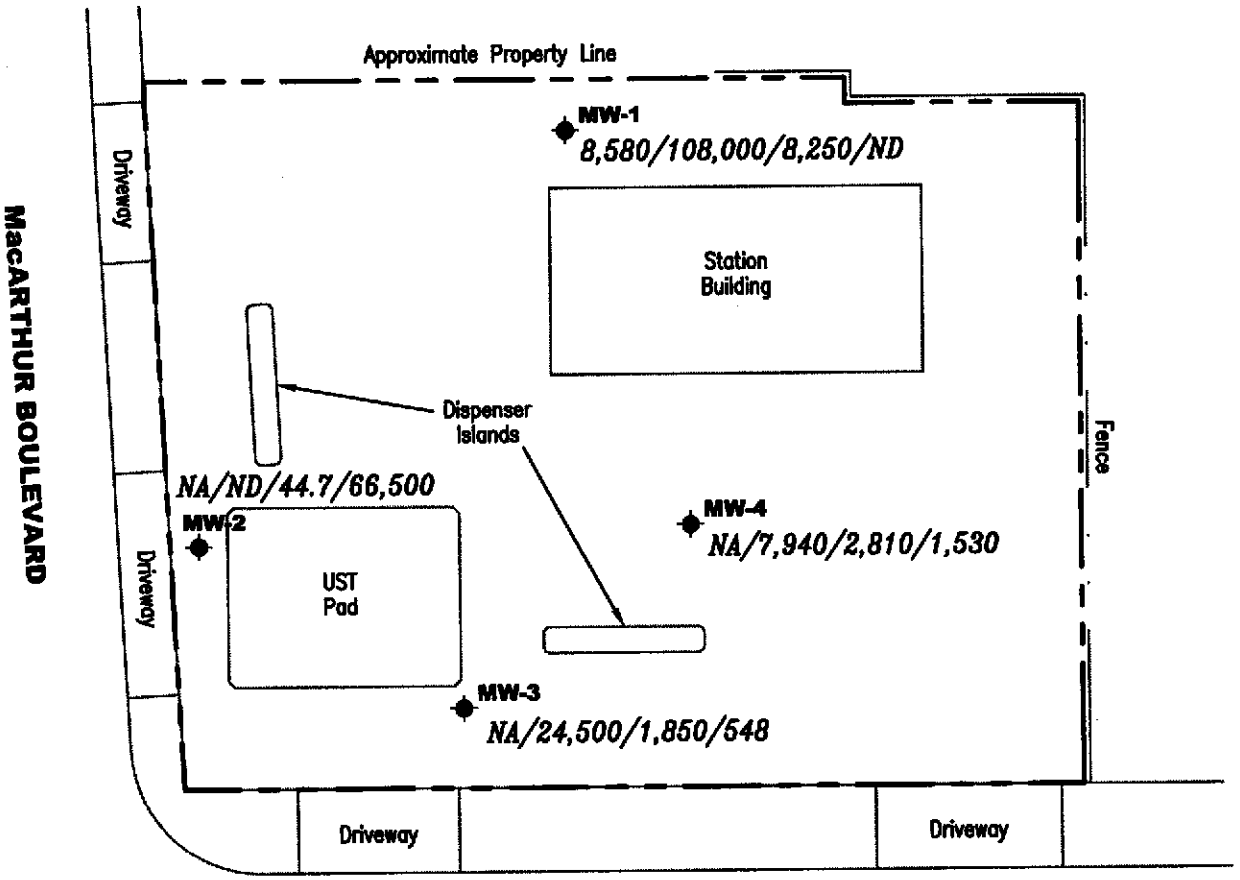
PROJECT NUMBER 180225

REVIEWED BY

DATE July 14, 2000

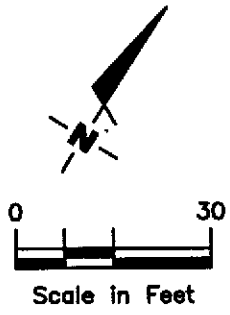
REVISED DATE

FILE NAME: P:\ENVIRO\TOSCO\1156\Q00-1156.DWG | Layout Tab: POT2



EXPLANATION

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



Source: Figure modified from drawing provided by Gettler-Ryan Inc.

FIGURE 2

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

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

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
180225		July 14, 2000	

FILE NAME: P:\ENVIRO\TOSCO\1156\Q00-1156.DWG | Layout Tab: CON2

Table 1

Groundwater Monitoring Data and Analytical Results

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

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft. bgs.)	GWE (msl)	Product Thickness (ppb)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1												
174.86	07/20/99[5]	7.50	5.0-25.0	167.36	--	16,000[2]	120,000	11,000	27,000	3,300	18,000	ND[1]
	09/28/99	8.75		166.11	<0.01	2,410[2]	6,020[6]	1,030	1,040	68.5	412	321/333[3]
	01/07/00	9.05		165.83**	0.02	7,870[2,4]	72,700[6]	7,410	13,900	2,070	9,620	ND[1]
	03/31/00	7.18		167.68	0.00	3,600[2]	92,000[6]	10,000	23,000	3,200	14,000	ND[1]
	07/14/00	**7.68**		**167.18**	**Sheen**	**8,580[2]**	**108,000[6]**	**8,250**	**18,700**	**3,750**	**17,800**	**ND[1]**
MW-2												
173.01	07/20/99	5.40	5.0-25.0	167.61	--	--	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]	4,500/11,000[3,4]
	09/28/99	5.60		167.41	0.00	--	1,390[6]	124	ND[1]	62.9	43.1	5,280/6,150[3]
	01/07/00	5.92		167.09	0.00	--	1,450[6]	99.0	ND[1]	23.8	16.0	33,100
	03/31/00	5.23		167.78	0.00	--	ND[1]	42	ND[1]	ND[1]	ND[1]	17,000
	07/14/00	**5.52**		**167.49**	**0.00**	**--**	**ND[1]**	**44.7**	**ND[1]**	**ND[1]**	**ND[1]**	**66,500**
MW-3												
178.44	07/20/99	8.50	5.0-25.0	169.94	--	--	1,000	76	52	79	76	330
	09/28/99	8.31		170.13	0.00	--	1,860[6]	174	95.4	71.8	135	443/288[3]
	01/07/00	8.56		169.88	0.00	--	28,400[6]	2,450	3,090	1,560	3,910	1,940
	03/31/00	8.42		170.02	0.00	--	26,000[6]	1,300	2,900	2,600	3,500	2,800
	07/14/00	**8.61**		**169.83**	**0.00**	**--**	**24,500[6]**	**1,850**	**2,630**	**2,750**	**3,900**	**548**
MW-4												
179.10	07/20/99	7.40	5.0-25.0	171.70	--	--	69	2.7	0.77	ND	7.1	100
	09/28/99	7.19		171.91	0.00	--	4,050[6]	1,250	72.0	51.3	133	416/459[3]
	01/07/00	8.98		170.12	0.00	--	7,010[6]	2,260	167	271	276	764
	03/31/00	7.26		171.84	0.00	--	5,500[6]	1,800	230	330	400	1,000
	07/14/00	**7.67**		**171.43**	**0.00**	**--**	**7,940[6]**	**2,810**	**332**	**450**	**247**	**1,530**

Table 1

Groundwater Monitoring Data and Analytical Results

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

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft. bgs.)	GWE (msl)	Product Thickness (ppb)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
Trip Blank												
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
	07/14/00	--		--	--	--	ND	ND	ND	ND	ND	ND

Table 1

Groundwater Monitoring Data and Analytical Results

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

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
DTW = Depth to Water
(ft.) = Feet
S.I. = Screen Interval
(ft. bgs.) = Feet Below Ground Surface
GWE = Groundwater Elevation
(msl) = 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 x 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[3]	--	--	--	ND[1]	ND[2]
	09/28/99	--	ND[6]	333	ND[6]	ND[6]	ND[6]	ND[4]	ND[5]
	01/07/00	--	--	--	--	--	--	ND[7,8]	ND[9]
	03/31/00	--	--	--	--	--	--	--[11]	ND[10]
	07/14/00	--	--	--	--	--	--	**ND[12]**	**ND[13]**
MW-2	09/28/99	--	ND[6]	6,150	ND[6]	ND[6]	ND[6]	--	--
MW-3	09/28/99	--	ND[6]	288	ND[6]	ND[6]	8.80	--	--
MW-4	09/28/99	--	ND[6]	459	ND[6]	ND[6]	ND[6]	--	--

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

1 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.

2 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.

3 Laboratory analyzed sample past EPA recommended holding time.

4 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.

5 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.

6 Detection limit raised. Refer to analytical reports.

7 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.

8 EPA Method 8260A for HVOCs

9 All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 315 ppb and Naphthalene at 615 ppb.

10 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.

11 Laboratory did not analyze for HVOCs.

12 All HVOCs were ND (with a raised detection limit) except for Tetrachloroethene at 334 ppb.

13 All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 300 ppb and Naphthalene at 690 ppb.

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 Job#: 180225

Address: 4276 MacArthur Date: 7-14-00

City: Oakland, CA Sampler: Joe

Well ID MW-1 Well Condition: O.K.

Well Diameter 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth 25.15 ft.

Depth to Water 7.68 ft.

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

17.47 X VF 0.17 = 2.97 X 3 (case volume) = Estimated Purge Volume: 9 (gal.)

Purge Equipment: Disposable Bailer / Bailer / Stack / (Suction) / Grundfos / Other:

Sampling Equipment: (Disposable Bailer) / Bailer / Pressure Bailer / Grab Sample / Other:

Starting Time: 2:20 Weather Conditions: Clear

Sampling Time: 2:42 pm Water Color: Clear Odor: yes

Purging Flow Rate: ~1 gpm Sediment Description: none

Did well de-water? Yes; Time: Volume: (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature (F)	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
2:30	3	6.78	1.57	73.1			
2:31	6	6.90	1.68	73.4			
2:32	9	6.92	1.72	73.6			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	3 VOA	Y	HCL	Sequoia	TPHG, BTEX, MTBE
	2 VOA	"	"	"	HVOC's by 8010
	1 Amb	"	—	"	TPHD
	1 Amb	"	—	"	SVOC's by 8270

COMMENTS: Sheen in sampled water.

3/97-fieldst.frm

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 1156 Job#: 180225

Address: 4276 MacArthur Date: 7-14-00

City: Oakland, CA Sampler: Joe

Well ID MW-2 Well Condition: O.K.

Well Diameter 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 6 (gal.)

Total Depth 25.45 ft.

Depth to Water 5.52 ft.

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

19.93 X VF 0.17 = 3.39 X 3 (case volume) = Estimated Purge Volume: 10.5 (gal.)

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

Sampling Equipment: (Disposable Bailer), ~~Bailer~~, Pressure Bailer, Grab Sample, Other: _____

Starting Time: 3:00 Weather Conditions: Clear

Sampling Time: 3:20 P.M. Water Color: Clear Odor: Some

Purging Flow Rate: 1 gpm Sediment Description: none

Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity (10^2) µmhos/cm X	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
3:07	3.5	7.47	2.68	74.1			
3:09	7.5	7.20	2.95	74.0			
3:11	10.5	7.26	3.05	73.9			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	3 VOA	Y	HCL	Sequoia	TPHG, BTEX, MTBE

COMMENTS: _____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 1156 Job#: 180225

Address: 4276 MacArthur Date: 7-14-00

City: Oakland, CA 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 8.61 ft.

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

16.44 X VF 0.17 = 2.79 X 3 (case volume) = Estimated Purge Volume: 8.5 (gal.)

Purge Equipment: Disposable Bailer / Bailer / Stack / (Suction) / Grundfos / Other: _____

Sampling Equipment: (Disposable Bailer) / Bailer / Pressure Bailer / Grab Sample / Other: _____

Starting Time: 3:30 Weather Conditions: Clear

Sampling Time: 3:50 p.m. Water Color: Clear Odor: Some

Purging Flow Rate: 1 gpm. Sediment Description: none

Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity x 100 µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
3:36	3	7.39	4.77	72.8			
3:38	5.5	7.12	4.76	73.1			
3:39	8.5	7.32	4.81	73.0			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	3 VOA	Y	HCL	Sequoia	TPHG, BTEX, MTBE

COMMENTS: _____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 1156 Job#: 180225

Address: 4276 MacArthur Date: 7-14-00

City: Oakland, CA Sampler: Joe

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.

Depth to Water 7.67 ft.

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

17.63 X VF 0.17 = 3.00 X 3 (case volume) = Estimated Purge Volume: 9 (gal.)

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

Sampling Equipment: ~~Disposable Bailer~~, Bailer, Pressure Bailer, Grab Sample, Other:

Starting Time: 1:45 Weather Conditions: Clear

Sampling Time: 2:10 pm Water Color: Clear Odor: Some

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)
1:55	3	7.41	4.81	72.5			
1:57	6	7.22	480	72.8			
1:58	9	7.15	476	72.4			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	3 VOA	Y	HCL	Sequoia	TPHG, BTEX, MTBE

COMMENTS:

Chain-of-Custody-Record

TOSCO

Tosco Marketing Company
3700 Crow Canyon Pl., Ste. 400
San Ramon, California 94583

Facility Number TOSCO (76) SS#1156 (600110)
Facility Address 4276 MACARTHUR, OAKLAND CA
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
Samples Collected by (Name) JOE ATEMIAN
Collection Date 7-14-00
Signature

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	TPH Gas + BTEX w/MTBE (8020)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (TCLP or AA)	HVOC's by 8010	SVOC's by 8270				Remarks
TB-LB		1 VOA	W	G	—	HCl	Y	✓													DO NOT BILL TB-LB ANALYSIS
MW-1		5 VOA 2 AMB	1	1	2:42	1	1	✓	✓							✓	✓				
MW-2		3 VOA 4	1	1	3:20	1	1	✓													
MW-3		3 VOA	1	1	3:50	1	1	✓													
MW-4		3 VOA	1	1	2:10	1	Y	✓													

Analyses To Be Performed

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G-R Inc.	7.14.00 5:00 P.M.			7/14/00 1700
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)

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

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August 22, 2000

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

RE: Tosco(4)/L007110

Dear Deanna Harding

Enclosed are the results of analyses for sample(s) received by the laboratory on July 14, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard Yee
for
Kevin Cesar
Project Manager

CA ELAP Certificate Number I2360

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

ANALYTICAL REPORT FOR L007110

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
TB-LB	L007110-01	Water	7/14/00
MW-1	L007110-02	Water	7/14/00
MW-2	L007110-03	Water	7/14/00
MW-3	L007110-04	Water	7/14/00
MW-4	L007110-05	Water	7/14/00

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
TB-LB			**L007110-01**				**Water**	
Purgeable Hydrocarbons as Gasoline	0070115	7/27/00	7/27/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70.0-130*		*102*	*%*	
MW-1			**L007110-02**				**Water**	
Purgeable Hydrocarbons as Gasoline	0070115	7/27/00	7/27/00		25000	**108000**	ug/l	1
Benzene	"	"	"		250	**8250**	"	
Toluene	"	"	"		250	**18700**	"	
Ethylbenzene	"	"	"		250	**3750**	"	
Xylenes (total)	"	"	"		250	**17800**	"	
Methyl tert-butyl ether	"	"	"		2500	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70.0-130*		*112*	*%*	
MW-2			**L007110-03**				**Water**	
Purgeable Hydrocarbons as Gasoline	0070115	7/27/00	7/27/00		1000	ND	ug/l	
Benzene	"	"	"		10.0	**44.7**	"	
Toluene	"	"	"		10.0	ND	"	
Ethylbenzene	"	"	"		10.0	ND	"	
Xylenes (total)	"	"	"		10.0	ND	"	
Methyl tert-butyl ether	"	"	"		2500	**66500**	"	2
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70.0-130*		*114*	*%*	
MW-3			**L007110-04**				**Water**	
Purgeable Hydrocarbons as Gasoline	0070115	7/27/00	7/27/00		5000	**24500**	ug/l	1
Benzene	"	"	"		50.0	**1850**	"	
Toluene	"	"	"		50.0	**2630**	"	
Ethylbenzene	"	"	"		50.0	**2750**	"	
Xylenes (total)	"	"	"		50.0	**3900**	"	
Methyl tert-butyl ether	"	"	"		500	**548**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70.0-130*		*106*	*%*	
MW-4			**L007110-05**				**Water**	
Purgeable Hydrocarbons as Gasoline	0070115	7/27/00	7/27/00		5000	**7940**	ug/l	1
Benzene	"	"	"		50.0	**2810**	"	
Toluene	"	"	"		50.0	**332**	"	
Ethylbenzene	"	"	"		50.0	**450**	"	
Xylenes (total)	"	"	"		50.0	**247**	"	

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-4 (continued)			**L007110-05**				**Water**	
Methyl tert-butyl ether	0070115	7/27/00	7/27/00		500	**1530**	ug/l	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70.0-130*		*98.8*	%	

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1			**L007110-02**				**Water**	**3**
Freon 113	0070087	7/24/00	7/24/00		500	ND	ug/l	
Bromodichloromethane	"	"	"		250	ND	"	
Bromoform	"	"	"		250	ND	"	
Bromomethane	"	"	"		500	ND	"	
Carbon tetrachloride	"	"	"		250	ND	"	
Chlorobenzene	"	"	"		250	ND	"	
Chloroethane	"	"	"		500	ND	"	
2-Chloroethylvinyl ether	"	"	"		500	ND	"	
Chloroform	"	"	"		250	ND	"	
Chloromethane	"	"	"		500	ND	"	
Dibromochloromethane	"	"	"		250	ND	"	
1,3-Dichlorobenzene	"	"	"		250	ND	"	
1,4-Dichlorobenzene	"	"	"		250	ND	"	
1,2-Dichlorobenzene	"	"	"		250	ND	"	
1,1-Dichloroethane	"	"	"		250	ND	"	
1,2-Dichloroethane	"	"	"		250	ND	"	
1,1-Dichloroethene	"	"	"		250	ND	"	
cis-1,2-Dichloroethene	"	"	"		250	ND	"	
trans-1,2-Dichloroethene	"	"	"		250	ND	"	
1,2-Dichloropropane	"	"	"		250	ND	"	
cis-1,3-Dichloropropene	"	"	"		250	ND	"	
trans-1,3-Dichloropropene	"	"	"		250	ND	"	
Methylene chloride	"	"	"		2500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		250	ND	"	
Tetrachloroethene	"	"	"		250	**334**	"	
1,1,1-Trichloroethane	"	"	"		250	ND	"	
1,1,2-Trichloroethane	"	"	"		250	ND	"	
Trichloroethene	"	"	"		250	ND	"	
Trichlorofluoromethane	"	"	"		250	ND	"	
Vinyl chloride	"	"	"		250	ND	"	
Surrogate: 1-Chloro-2-fluorobenzene	"	"	"	*70.0-130*		*103*	*%*	

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

Diesel Hydrocarbons (C9-C24) by DHS LUFT
Sequoia Analytical - Morgan Hill

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MW-1			**L007110-02**				**Water**	
Diesel Range Hydrocarbons	0G24017	7/24/00	7/25/00	DHS LUFT	200	**8580**	ug/l	4
Surrogate: n-Pentacosane	"	"	"	*50-150*		*151*	%	5

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MW-1			**L007110-02**				**Water**	
Acenaphthene	0H08021	7/20/00	8/12/00	EPA 8270B	50	ND	ug/l	
Acenaphthylene	"	"	"	EPA 8270B	50	ND	"	
Aniline	"	"	"	EPA 8270B	50	ND	"	
Anthracene	"	"	"	EPA 8270B	50	ND	"	
Benzoic acid	"	"	"	EPA 8270B	100	ND	"	
Benzo (a) anthracene	"	"	"	EPA 8270B	50	ND	"	
Benzo (b) fluoranthene	"	"	"	EPA 8270B	50	ND	"	
Benzo (k) fluoranthene	"	"	"	EPA 8270B	50	ND	"	
Benzo (ghi) perylene	"	"	"	EPA 8270B	50	ND	"	
Benzo[a]pyrene	"	"	"	EPA 8270B	50	ND	"	
Benzyl alcohol	"	"	"	EPA 8270B	50	ND	"	
Bis(2-chloroethoxy)methane	"	"	"	EPA 8270B	50	ND	"	
Bis(2-chloroethyl)ether	"	"	"	EPA 8270B	50	ND	"	
Bis(2-chloroisopropyl)ether	"	"	"	EPA 8270B	50	ND	"	
Bis(2-ethylhexyl)phthalate	"	"	"	EPA 8270B	100	ND	"	
4-Bromophenyl phenyl ether	"	"	"	EPA 8270B	50	ND	"	
Butyl benzyl phthalate	"	"	"	EPA 8270B	50	ND	"	
4-Chloroaniline	"	"	"	EPA 8270B	100	ND	"	
2-Chloronaphthalene	"	"	"	EPA 8270B	50	ND	"	
4-Chloro-3-methylphenol	"	"	"	EPA 8270B	50	ND	"	
2-Chlorophenol	"	"	"	EPA 8270B	50	ND	"	
4-Chlorophenyl phenyl ether	"	"	"	EPA 8270B	50	ND	"	
Chrysene	"	"	"	EPA 8270B	50	ND	"	
Dibenz (a,h) anthracene	"	"	"	EPA 8270B	50	ND	"	
Dibenzofuran	"	"	"	EPA 8270B	50	ND	"	
Di-n-butyl phthalate	"	"	"	EPA 8270B	100	ND	"	
1,2-Dichlorobenzene	"	"	"	EPA 8270B	50	ND	"	
1,3-Dichlorobenzene	"	"	"	EPA 8270B	50	ND	"	
1,4-Dichlorobenzene	"	"	"	EPA 8270B	50	ND	"	
3,3'-Dichlorobenzidine	"	"	"	EPA 8270B	100	ND	"	
2,4-Dichlorophenol	"	"	"	EPA 8270B	50	ND	"	
Diethyl phthalate	"	"	"	EPA 8270B	50	ND	"	
2,4-Dimethylphenol	"	"	"	EPA 8270B	50	ND	"	
Dimethyl phthalate	"	"	"	EPA 8270B	50	ND	"	
4,6-Dinitro-2-methylphenol	"	"	"	EPA 8270B	100	ND	"	
2,4-Dinitrophenol	"	"	"	EPA 8270B	100	ND	"	
2,4-Dinitrotoluene	"	"	"	EPA 8270B	50	ND	"	
2,6-Dinitrotoluene	"	"	"	EPA 8270B	50	ND	"	
Di-n-octyl phthalate	"	"	"	EPA 8270B	50	ND	"	
Fluoranthene	"	"	"	EPA 8270B	50	ND	"	
Fluorene	"	"	"	EPA 8270B	50	ND	"	

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MW-1 (continued)			**L007110-02**				**Water**	
Hexachlorobenzene	0H08021	7/20/00	8/12/00	EPA 8270B	50	ND	ug/l	
Hexachlorobutadiene	"	"	"	EPA 8270B	50	ND	"	
Hexachlorocyclopentadiene	"	"	"	EPA 8270B	100	ND	"	
Hexachloroethane	"	"	"	EPA 8270B	50	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"	EPA 8270B	50	ND	"	
Isophorone	"	"	"	EPA 8270B	50	ND	"	
2-Methylnaphthalene	"	"	"	EPA 8270B	50	**300**	"	
2-Methylphenol	"	"	"	EPA 8270B	50	ND	"	
4-Methylphenol	"	"	"	EPA 8270B	50	ND	"	
Naphthalene	"	"	"	EPA 8270B	50	**690**	"	
2-Nitroaniline	"	"	"	EPA 8270B	100	ND	"	
3-Nitroaniline	"	"	"	EPA 8270B	100	ND	"	
4-Nitroaniline	"	"	"	EPA 8270B	100	ND	"	
Nitrobenzene	"	"	"	EPA 8270B	50	ND	"	
2-Nitrophenol	"	"	"	EPA 8270B	50	ND	"	
4-Nitrophenol	"	"	"	EPA 8270B	100	ND	"	
N-Nitrosodimethylamine	"	"	"	EPA 8270B	50	ND	"	
N-Nitrosodiphenylamine	"	"	"	EPA 8270B	50	ND	"	
N-Nitrosodi-n-propylamine	"	"	"	EPA 8270B	50	ND	"	
Pentachlorophenol	"	"	"	EPA 8270B	100	ND	"	
Phenanthrene	"	"	"	EPA 8270B	50	ND	"	
Phenol	"	"	"	EPA 8270B	50	ND	"	
Pyrene	"	"	"	EPA 8270B	50	ND	"	
1,2,4-Trichlorobenzene	"	"	"	EPA 8270B	50	ND	"	
2,4,5-Trichlorophenol	"	"	"	EPA 8270B	100	ND	"	
2,4,6-Trichlorophenol	"	"	"	EPA 8270B	50	ND	"	
Surrogate: 2-Fluorophenol	"	"	"	*21-110*		*38.2*	*%*	
Surrogate: Phenol-d6	"	"	"	*10-110*		*41.3*	"	
Surrogate: Nitrobenzene-d5	"	"	"	*35-114*		*78.5*	"	
Surrogate: 2-Fluorobiphenyl	"	"	"	*43-116*		*100*	"	
Surrogate: 2,4,6-Tribromophenol	"	"	"	*10-123*		*85.0*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*33-141*		*48.2*	"	

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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: 0070115	**Date Prepared: 7/27/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0070115-BLK1**									
Purgeable Hydrocarbons as Gasoline	7/27/00			**ND**	ug/l	**50.0**				
Benzene	"			**ND**	"	**0.500**				
Toluene	"			**ND**	"	**0.500**				
Ethylbenzene	"			**ND**	"	**0.500**				
Xylenes (total)	"			**ND**	"	**0.500**				
Methyl tert-butyl ether	"			**ND**	"	**5.00**				
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*9.72*	"	*70.0-130*	*97.2*			
LCS	**0070115-BS1**									
Benzene	7/27/00	10.0		9.92	ug/l	70.0-130	99.2			
Toluene	"	10.0		9.16	"	70.0-130	91.6			
Ethylbenzene	"	10.0		9.21	"	70.0-130	92.1			
Xylenes (total)	"	30.0		28.2	"	70.0-130	94.0			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*11.2*	"	*70.0-130*	*112*			
LCS	**0070115-BS2**									
Purgeable Hydrocarbons as Gasoline	7/27/00	250		245	ug/l	70.0-130	98.0			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*10.0*	"	*70.0-130*	*100*			
Matrix Spike	**0070115-MS1**		**L007108-07**							
Purgeable Hydrocarbons as Gasoline	7/28/00	250	ND	244	ug/l	60.0-140	**97.6**			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*10.1*	"	*70.0-130*	*101*			
Matrix Spike Dup	**0070115-MSD1**		**L007108-07**							
Purgeable Hydrocarbons as Gasoline	7/28/00	250	ND	252	ug/l	60.0-140	**101**	25.0	**3.42**	
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*11.3*	"	*70.0-130*	*113*			

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0070087	**Date Prepared: 7/24/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0070087-BLK1**									
Freon 113	7/24/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				
2-Chloroethylvinyl ether	"			ND	"	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
Surrogate: 1-Chloro-2-fluorobenzene	"	*10.0*		*7.28*	"	*70.0-130*	*72.8*			
Blank	**0070087-BLK2**									
Freon 113	7/25/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)	**0070087-BLK2**									
2-Chloroethylvinyl ether	7/25/00			ND	ug/l	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
Surrogate: 1-Chloro-2-fluorobenzene	"	*10.0*		*8.72*	"	*70.0-130*	*87.2*			
Blank	**0070087-BLK3**									
Freon 113	7/26/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				
2-Chloroethylvinyl ether	"			ND	"	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				

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Gettler-Ryan/Geostrategies(1)	Project: Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number: TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager: Deanna Harding	Reported: 8/22/00

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)	**0070087-BLK3**									
1,2-Dichloroethane	7/26/00			ND	ug/l	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
Surrogate: 1-Chloro-2-fluorobenzene	"	*10.0*		*8.81*	"	*70.0-130*	*88.1*			
LCS	**0070087-BS1**									
Chlorobenzene	7/24/00			8.95	ug/l	70.0-130	89.5			
1,1-Dichloroethene	"			9.53	"	65.0-135	95.3			
Trichloroethene	"			9.45	"	70.0-130	94.5			
Surrogate: 1-Chloro-2-fluorobenzene	"	*10.0*		*9.07*	"	*70.0-130*	*90.7*			
LCS	**0070087-BS2**									
Chlorobenzene	7/25/00			10.1	ug/l	70.0-130	101			
1,1-Dichloroethene	"			11.3	"	65.0-135	113			
Trichloroethene	"			10.6	"	70.0-130	106			
Surrogate: 1-Chloro-2-fluorobenzene	"	*10.0*		*11.0*	"	*70.0-130*	*110*			
LCS	**0070087-BS3**									
Chlorobenzene	7/26/00			9.82	ug/l	70.0-130	98.2			
1,1-Dichloroethene	"			10.8	"	65.0-135	108			
Trichloroethene	"			10.0	"	70.0-130	100			
Surrogate: 1-Chloro-2-fluorobenzene	"	*10.0*		*9.28*	"	*70.0-130*	*92.8*			
Matrix Spike	**0070087-MS1**		**L007119-03**							
Chlorobenzene	7/24/00		ND	11.2	ug/l	60.0-140	**112**			
1,1-Dichloroethene	"		ND	12.4	"	60.0-140	**124**			
Trichloroethene	"		ND	10.8	"	60.0-140	**108**			
Surrogate: 1-Chloro-2-fluorobenzene	"	*10.0*		*11.5*	"	*70.0-130*	*115*			

*Refer to end of report for text of notes and definitions.

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike Dup	**0070087-MSD1**		**L007119-03**							
Chlorobenzene	7/24/00		ND	10.4	ug/l	60.0-140	**104**	25.0	**7.41**	
1,1-Dichloroethene	"		ND	11.8	"	60.0-140	**118**	25.0	**4.96**	
Trichloroethene	"		ND	10.8	"	60.0-140	**108**	25.0	**0**	
Surrogate: 1-Chloro-2-fluorobenzene	"	*10.0*		*11.5*	"	*70.0-130*	*115*			

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

Diesel Hydrocarbons (C9-C24) by DHS LUFT/Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0G24017	**Date Prepared: 7/24/00**					**Extraction Method: EPA 3510B**				
Blank	**0G24017-BLK1**									
Diesel Range Hydrocarbons	7/25/00			**ND**	ug/l	**0.0500**				
Surrogate: n-Pentacosane	"	*100*		*91.7*	"	*50-150*	*91.7*			
LCS	**0G24017-BS1**									
Diesel Range Hydrocarbons	7/25/00	1000		903	ug/l	60-140	90.3			
Surrogate: n-Pentacosane	"	*100*		*113*	"	*50-150*	*113*			
Matrix Spike	**0G24017-MS1**		**MJG0421-01**							
Diesel Range Hydrocarbons	7/25/00	1000	138	1090	ug/l	50-150	**95.2**			
Surrogate: n-Pentacosane	"	*100*		*122*	"	*50-150*	*122*			
Matrix Spike Dup	**0G24017-MSD1**		**MJG0421-01**							
Diesel Range Hydrocarbons	7/25/00	1000	138	1110	ug/l	50-150	**97.2**	50	**1.82**	
Surrogate: n-Pentacosane	"	*100*		*109*	"	*50-150*	*109*			

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0H08021	**Date Prepared: 7/20/00**				**Extraction Method: EPA 3510B**					
Blank	**0H08021-BLK1**									
Acenaphthene	8/9/00			ND	ug/l	10				
Acenaphthylene	"			ND	"	10				
Aniline	"			ND	"	10				
Anthracene	"			ND	"	10				
Benzoic acid	"			ND	"	20				
Benzo (a) anthracene	"			ND	"	10				
Benzo (b) fluoranthene	"			ND	"	10				
Benzo (k) fluoranthene	"			ND	"	10				
Benzo (ghi) perylene	"			ND	"	10				
Benzo[a]pyrene	"			ND	"	10				
Benzyl alcohol	"			ND	"	10				
Bis(2-chloroethoxy)methane	"			ND	"	10				
Bis(2-chloroethyl)ether	"			ND	"	10				
Bis(2-chloroisopropyl)ether	"			ND	"	10				
Bis(2-ethylhexyl)phthalate	"			ND	"	20				
4-Bromophenyl phenyl ether	"			ND	"	10				
Butyl benzyl phthalate	"			ND	"	10				
4-Chloroaniline	"			ND	"	20				
2-Chloronaphthalene	"			ND	"	10				
4-Chloro-3-methylphenol	"			ND	"	10				
2-Chlorophenol	"			ND	"	10				
4-Chlorophenyl phenyl ether	"			ND	"	10				
Chrysene	"			ND	"	10				
Dibenz (a,h) anthracene	"			ND	"	10				
Dibenzofuran	"			ND	"	10				
Di-n-butyl phthalate	"			ND	"	20				
1,2-Dichlorobenzene	"			ND	"	10				
1,3-Dichlorobenzene	"			ND	"	10				
1,4-Dichlorobenzene	"			ND	"	10				
3,3'-Dichlorobenzidine	"			ND	"	20				
2,4-Dichlorophenol	"			ND	"	10				
Diethyl phthalate	"			ND	"	10				
2,4-Dimethylphenol	"			ND	"	10				
Dimethyl phthalate	"			ND	"	10				
4,6-Dinitro-2-methylphenol	"			ND	"	20				
2,4-Dinitrophenol	"			ND	"	20				
2,4-Dinitrotoluene	"			ND	"	10				
2,6-Dinitrotoluene	"			ND	"	10				
Di-n-octyl phthalate	"			ND	"	10				
Fluoranthene	"			ND	"	10				

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)	**0H08021-BLK1**									
Fluorene	8/9/00			ND	ug/l	10				
Hexachlorobenzene	"			ND	"	10				
Hexachlorobutadiene	"			ND	"	10				
Hexachlorocyclopentadiene	"			ND	"	20				
Hexachloroethane	"			ND	"	10				
Indeno (1,2,3-cd) pyrene	"			ND	"	10				
Isophorone	"			ND	"	10				
2-Methylnaphthalene	"			ND	"	10				
2-Methylphenol	"			ND	"	10				
4-Methylphenol	"			ND	"	10				
Naphthalene	"			ND	"	10				
2-Nitroaniline	"			ND	"	20				
3-Nitroaniline	"			ND	"	20				
4-Nitroaniline	"			ND	"	20				
Nitrobenzene	"			ND	"	10				
2-Nitrophenol	"			ND	"	10				
4-Nitrophenol	"			ND	"	20				
N-Nitrosodimethylamine	"			ND	"	10				
N-Nitrosodiphenylamine	"			ND	"	10				
N-Nitrosodi-n-propylamine	"			ND	"	10				
Pentachlorophenol	"			ND	"	20				
Phenanthrene	"			ND	"	10				
Phenol	"			ND	"	10				
Pyrene	"			ND	"	10				
1,2,4-Trichlorobenzene	"			ND	"	10				
2,4,5-Trichlorophenol	"			ND	"	20				
2,4,6-Trichlorophenol	"			ND	"	10				
Surrogate: 2-Fluorophenol	"	*200*		*113*	"	*21-110*	*56.5*			
Surrogate: Phenol-d6	"	*200*		*82.5*	"	*10-110*	*41.3*			
Surrogate: Nitrobenzene-d5	"	*200*		*152*	"	*35-114*	*76.0*			
Surrogate: 2-Fluorobiphenyl	"	*200*		*146*	"	*43-116*	*73.0*			
Surrogate: 2,4,6-Tribromophenol	"	*200*		*128*	"	*10-123*	*64.0*			
Surrogate: p-Terphenyl-d14	"	*200*		*83.9*	"	*33-141*	*42.0*			
LCS	**0H08021-BS1**									
Acenaphthene	8/9/00	200		173	ug/l	46-118	86.5			
4-Chloro-3-methylphenol	"	200		162	"	23-97	81.0			
2-Chlorophenol	"	200		165	"	27-123	82.5			
1,4-Dichlorobenzene	"	200		164	"	36-97	82.0			
2,4-Dinitrotoluene	"	200		185	"	24-96	92.5			
4-Nitrophenol	"	200		96.8	"	10-80	48.4			

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6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
LCS (continued)	**0H08021-BS1**									
N-Nitrosodi-n-propylamine	8/9/00	200		184	ug/l	41-116	92.0			
Pentachlorophenol	"	200		245	"	9-103	123			6
Phenol	"	200		93.2	"	12-110	46.6			
Pyrene	"	200		164	"	26-127	82.0			
1,2,4-Trichlorobenzene	"	200		151	"	39-98	75.5			
Surrogate: 2-Fluorophenol	"	*200*		*122*	"	*21-110*	*61.0*			
Surrogate: Phenol-d6	"	*200*		*85.8*	"	*10-110*	*42.9*			
Surrogate: Nitrobenzene-d5	"	*200*		*159*	"	*35-114*	*79.5*			
Surrogate: 2-Fluorobiphenyl	"	*200*		*146*	"	*43-116*	*73.0*			
Surrogate: 2,4,6-Tribromophenol	"	*200*		*135*	"	*10-123*	*67.5*			
Surrogate: p-Terphenyl-d14	"	*200*		*73.4*	"	*33-141*	*36.7*			
Matrix Spike	**0H08021-MS1**		**W008195-01**							
Acenaphthene	8/12/00	200	ND	232	ug/l	46-118	**116**			
4-Chloro-3-methylphenol	"	200	ND	231	"	23-97	**116**			7
2-Chlorophenol	"	200	ND	179	"	27-123	**89.5**			
1,4-Dichlorobenzene	"	200	ND	176	"	36-97	**88.0**			
2,4-Dinitrotoluene	"	200	ND	197	"	24-96	**98.5**			7
4-Nitrophenol	"	200	ND	101	"	10-80	**50.5**			
N-Nitrosodi-n-propylamine	"	200	ND	308	"	41-116	**154**			7
Pentachlorophenol	"	200	ND	273	"	9-103	**137**			7
Phenol	"	200	ND	112	"	12-110	**56.0**			
Pyrene	"	200	ND	183	"	26-127	**91.5**			
1,2,4-Trichlorobenzene	"	200	ND	250	"	39-98	**125**			7
Surrogate: 2-Fluorophenol	"	*200*		*99.9*	"	*21-110*	*50.0*			
Surrogate: Phenol-d6	"	*200*		*83.0*	"	*10-110*	*41.5*			
Surrogate: Nitrobenzene-d5	"	*200*		*311*	"	*35-114*	*156*			*8*
Surrogate: 2-Fluorobiphenyl	"	*200*		*182*	"	*43-116*	*91.0*			
Surrogate: 2,4,6-Tribromophenol	"	*200*		*192*	"	*10-123*	*96.0*			
Surrogate: p-Terphenyl-d14	"	*200*		*113*	"	*33-141*	*56.5*			
Matrix Spike Dup	**0H08021-MSD1**		**W008195-01**							
Acenaphthene	8/12/00	200	ND	230	ug/l	46-118	**115**	30	**0.866**	
4-Chloro-3-methylphenol	"	200	ND	247	"	23-97	**124**	30	**6.69**	7
2-Chlorophenol	"	200	ND	134	"	27-123	**67.0**	30	**28.8**	
1,4-Dichlorobenzene	"	200	ND	205	"	36-97	**103**	30	**15.2**	7
2,4-Dinitrotoluene	"	200	ND	198	"	24-96	**99.0**	30	**0.506**	7
4-Nitrophenol	"	200	ND	104	"	10-80	**52.0**	30	**2.93**	
N-Nitrosodi-n-propylamine	"	200	ND	307	"	41-116	**154**	30	**0.325**	7
Pentachlorophenol	"	200	ND	272	"	9-103	**136**	30	**0.367**	7
Phenol	"	200	ND	109	"	12-110	**54.5**	30	**2.71**	

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6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike Dup (continued)	**0H08021-MSD1**		**W008195-01**							
Pyrene	8/12/00	200	ND	191	ug/l	26-127	**95.5**	30	**4.28**	
1,2,4-Trichlorobenzene	"	200	ND	277	"	39-98	**139**	30	**10.2**	7
Surrogate: 2-Fluorophenol	"	*200*		*130*	"	*21-110*	*65.0*			
Surrogate: Phenol-d6	"	*200*		*98.8*	"	*10-110*	*49.4*			
Surrogate: Nitrobenzene-d5	"	*200*		*199*	"	*35-114*	*99.5*			
Surrogate: 2-Fluorobiphenyl	"	*200*		*181*	"	*43-116*	*90.5*			
Surrogate: 2,4,6-Tribromophenol	"	*200*		*162*	"	*10-123*	*81.0*			
Surrogate: p-Terphenyl-d14	"	*200*		*110*	"	*33-141*	*55.0*			

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled: 7/14/00
6747 Sierra Court, Suite J	Project Number:	TOSCO (76) SS#1156	Received: 7/14/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 8/22/00

Notes and Definitions

#	Note
1	Chromatogram Pattern: Gasoline C6-C12
2	MTBE was reported from second analysis.
3	This sample was diluted due to high non-target compounds.
4	Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
5	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
6	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.
7	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
8	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
Recov.	Recovery
RPD	Relative Percent Difference