April 4, 2001

G-R #: 180233

TO:

Mr. David B. De Witt

**Tosco Marketing Company** 

2000 Crow Canyon Place, Suite 400

San Ramon, California 94583

CC: Mr. Douglas Lee

Gettler-Ryan, Inc.

Dublin, California

FROM:

Deanna L. Harding

Project Coordinator

Gettler-Ryan Inc.

6747 Sierra Court, Suite J Dublin, California 94568 RE:

Tosco (76) SS #0018

6201 Claremont Boulevard

Oakland, California

#### WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	March 26, 2001	Groundwater Monitoring and Sampling Report First Quarter - Event of February 9, 2001

#### **COMMENTS:**

This report is being sent to you for your review/comment, prior to being distributed on your behalf. If no comments are received by *April 16, 2001*, this report will be distributed to the following:

cc: Mr. Don Huang, Alameda County Health Care Service Division, 1131 Harbor Bay Pkwy., Ste. 250, Alameda, CA 94502

Enclosure

trans/0018-dbd

March 26, 2001 G-R Job #180264

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

RE: First Quarter Event of February 9, 2001

Groundwater Monitoring & Sampling Report Tosco (76) Service Station #0018

6201 Claremont Avenue Oakland, California

Dear Mr. De Witt:

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

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the wells. Static water level data and groundwater elevations are summarized in Table 1. A Potentiometric Map is included as Figure 1.

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

No. 6882

Sincerely,

Deanna L. Harding

Project Coordinator

Stephen J Carter

Seniol Geologist, R.G. No. 5577

Figure 1:

Potentiometric Map

Figure 2:

Concentration Map

Table 1:

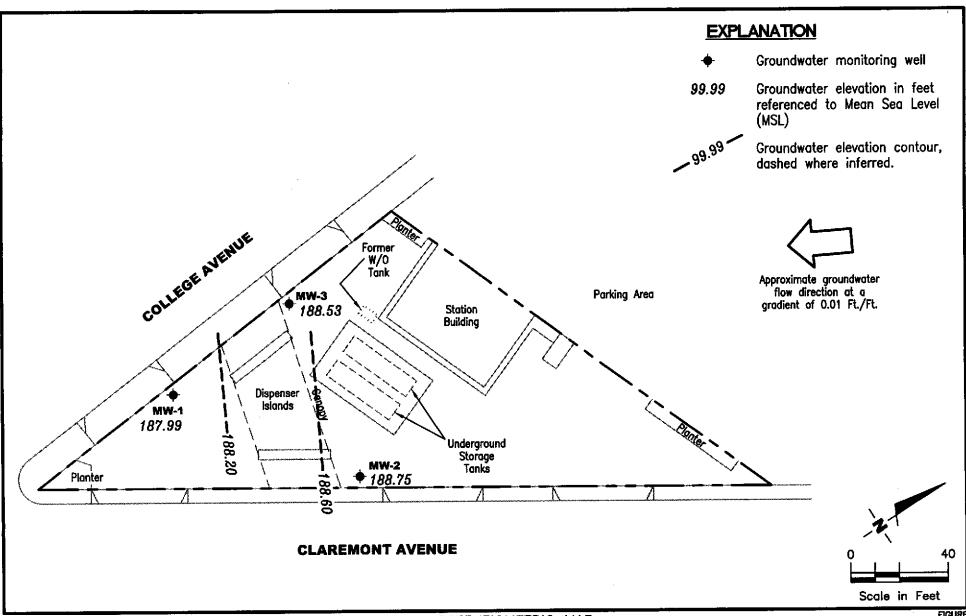
Groundwater Monitoring Data and Analytical Results

Table 2: Attachments: Groundwater Analytical Results - Oxygenate Compounds Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

0018-qmi





REVIEWED BY

POTENTIOMETRIC MAP Tosco (76) Service Station #0018

6201 Claremont Avenue Oakland, California

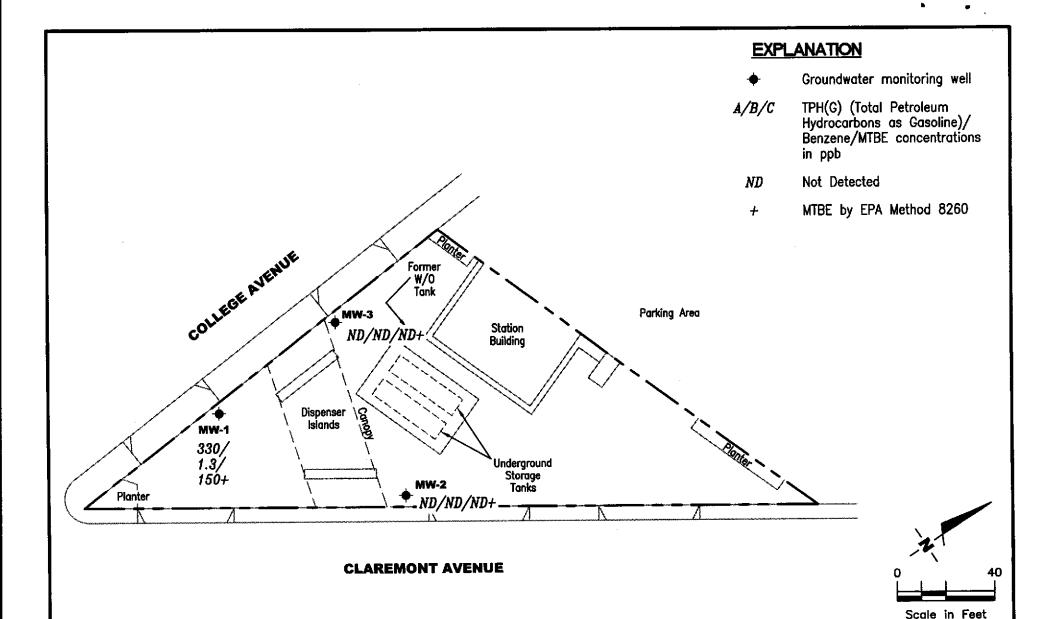
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180264 FILE NAME: P:\ENVIRO\TOSCO\0018\Q01-001B.DWG | Loyout Tab: Pot1

PROJECT NUMBER

February 9, 2001

FIGURE





**CONCENTRATION MAP** Tosco (76) Service Station #0018 6201 Clarémont Avenue Oakland, California

PROJECT NUMBER 180264

REVIEWED BY

DATE February 9, 2001 REVISED DATE

FILE NAME: P:\ENVIRO\TOSCO\0018\Q01-0018.DWG | Layout Tab: Con1

Table 1
Groundwater Monitoring Data and Analytical Results

Tosco (76) Service Station #0018 6201 Claremont Avenue Oakland, California

WELL ID/	DATE	DTW	S.I.	GWE	TPH-G	В	T	E	X	MTBE
TOC*		(ft.)	(ft, bgs)	(msl)	(ppb)	(ppb)	(ррб)	(ppb)	(ppb)	(ppb)
MW-1										
208.15	08/24/00	18.55	10.0-30.0	189.60	120¹	0.67	ND	0.86	1.4	54/54 <sup>2</sup>
	11/16/00	20.30		187.85	169 <sup>3</sup>	ND	1.20	1.74	0.629	68.6/97.7 <sup>2</sup>
	02/09/01	20.16		187.99	330 <sup>3</sup>	1.3	ND	1.0	4.6	140/150 <sup>2</sup>
MW-2										
210.27	08/24/00	19.69	10.0-30.0	190.58	ND	ND	ND	ND	ND	ND/ND <sup>2</sup>
210.27	11/16/00	21.61	70.0 5010	188.66	ND	ND	ND	ND	ND	ND/ND <sup>2</sup>
	02/09/01	21.52		188.75	ND	ND	ND	ND	ND	ND/ND <sup>2</sup>
MW-3 208.98	08/24/00	18.68	10.0-30.0	190.30	ND	ND	ND	ND	ND	4.7/2.3 <sup>2</sup>
200.90	11/16/00	20.56	10.0-30.0	188.42	ND	ND	ND	ND	ND	ND/ND <sup>2</sup>
	02/09/01	20.45		188.53	ND	ND	ND	ND	ND	ND/ND <sup>2</sup>
	02/09/01	20.43		100.55	N.D	142	112		2	
Trip Blank										
TB-LB	08/24/00				ND	ND	ND	ND	ND	ND
	11/16/00				ND	ND	ND	ND	ND	ND
	02/09/01				ND	ND	ND	ND	ND	ND

#### Table 1

#### **Groundwater Monitoring Data and Analytical Results**

Tosco (76) Service Station #0018 6201 Claremont Avenue Oakland, California

#### **EXPLANATIONS:**

TOC = Top of Casing

B = Benzene

(ppb) = Parts per billion

DTW = Depth to Water

T = Toluene

ND = Not Detected

(ft.) = Feet

E = Ethylbenzene

-- = Not Measured/Not Analyzed

S.I. = Screen Interval

X = Xylenes

(ft. bgs) = Feet Below Ground Surface

MTBE = Methyl tertiary butyl ether

GWE = Groundwater Elevation

(msl) = Mean seal level

TPH-G = Total Petroleum Hydrocarbons as Gasoline

\* TOC elevations have been surveyed relative to msl, per the city of Oakland benchmark; a cut square in the top of curb, at the curb return at the northeast corner of College Avenue and Miles Avenue. (Benchmark Elevation = 179.075 feet, msl).

- Laboratory report indicates gasoline C6-C12.
- <sup>2</sup> MTBE by EPA Method 8260.
- 3 Laboratory report indicates unidentified hydrocarbons C6-C12.

Table 2
Groundwater Analytical Results - Oxygenate Compounds

Tosco (76) Service Station #0018 6201 Claremont Avenue Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-1	08/24/00	ND	ND	54	ND	ND	ND		
	11/16/00	ND	ND	97.7	ND	ND	ND		
	02/09/01	ND	ND	150	ND	ND	ND	ND	ND
MW-2	08/24/00	ND	ND	ND	ND	ND	ND	<del></del>	
	11/16/00	ND	ND	ND	ND	ND	ND		
	02/09/01	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	08/24/00	ND	ND	2.3	ND	ND	ND		
· ·	11/16/00	ND	ND	ND	ND	ND	ND		
	02/09/01	ND	ND	ND	ND	ND	ND	ND	ND

### **EXPLANATIONS:**

TBA = Tertiary butyl alcohol

 $MTBE = Methyl \ tertiary \ butyl \ ether$ 

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

1,2-DCA = 1,2-Dichlorothane

EDB = Ethylene Dibromide

(ppb) = Parts per billion

ND = Not Detected

-- = Not Analyzed

#### **ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

### 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

Thickness:in (product/water):	<del></del>		<u> </u>	264		ob#: .					ient/ acility # <u> </u>
Well ID  Well Condition:  Well Condition:  Well Condition:  Well Condition:  Well Condition:  Well Condition:  Amount Bailed (product/water):  Woldene 2* = 0.17			<del></del>	-0	2-0	Date: .	· , I	+ Blvol	laremon	201 Cl	ddress: <u>62</u>
Purge   Pisposable Bailer   Stack   Stack   Suction   Grundfos   Other:			<u> </u>	<u> </u>	500	Sampler: .	:		, C A .	+ land	ity: <u>Oa</u>
Thickness: 10 in (product/water): 4 = 0.66  Purple	<del></del>	<del></del>			0.1		Condition:	Well	uw-1		Well ID
Time Volume pH Conductivity Nolume PH Conductivity Nolume PH (gal.)  Time Volume PH (gal.)		a ·	100			As .			$2_{in}$		ell Diameter
Purge Disposable Bailer Sampling Equipment: Bailer Stack Suction Grundfos Other:  Starting Time: 9'44 Weather Conditions: Cody Cody  Purging Flow Rate: 0.5pm. Sediment Description: Apple  Did well de-water? If yes; Time: Volume: 10'62' 12'5' 15'5	( <u>lag)</u>		<u>::</u> ≌			2" = 0.17			0.03 ft	_30	otal Depth
Purge planear Purge Sampling Equipment:  Stack Suction Grundfos Other:  Starting Time:  Sampling Time:  Searring Time:  Searri			12" = 5.80						0.16 #	_2	
Equipment:    Bailer   Stack   Suction   Grundfos   Grab Sample   Other:	_(gal_)	ne: <u>5,5</u>	je Volume:	nated Purg	e) = Estin	(case volume	<u>- 1.68</u> x	VF <u>0.17</u>	1.87 x	9	
Suction Grundfos Other:  Starting Time:  Starting Time:    Other:   Other:	×		ér	able Baile	Disposa Bailer	-				Bailer	-
Sampling Time:				ample	Grab S	Other		·	on Ifos	Suction Grund	
Did well de-water?    Time		Nø:1e_		17		1		<u>A</u>	10: k		ampling Time:
Time Volume pH Conductivity (**) Temperature D.O. ORP Allo (gal.) (my/L) (mV) (gal.) (my/L) (mv/L) (mv/	(csl_)								<u>. 0.50</u>		
9'53 1.5 7.70 10.31 65.1 9:58 3 7.54 10.32 64.6 10:02 5.5 7.66 10.39 64.4  LABORATORY INFORMATION  SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY ANALYSES  WW - 1 3NOA Y H C Seq. TPMC. BTGK, MM (6) 0x 5/1 1/2 PCM/	alinity	P Alka	ORP	D.O.		•	•		pН	Volume	
LABORATORY INFORMATION  SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY  MW-1 3NOA Y HCL Seq. TPAC BTGK, MA  (6) 0 x 5/1 y 2 PCA/					·				7 70	(gar.)	a'c2
LABORATORY INFORMATION  SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY ANALYSES  WWW-1 3NOA Y HCL Seq. TPHC. BTGK, MA  (6) 0x 51 12 PCM						641	22			3	9:58
SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY ANALYSES  WWW-1 3NOA Y HCL Seq. TRIC. BTEK, M  (6) 0x 5/1/2 PCH/						64.4	39		7.56	ک۰ک	10:02
SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY ANALYSES  WWW-1 3NOA Y HCL Seq. TRIC. BTEK, M.  (6) 0x 51 1/2 PCH/											-
76 0 x 4 12 PCH					ABORATO	YPE L			ONTAINER	(#) - C	SAMPLE ID
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		9) 12 000/0	6) 0xy)		<i>,</i> /			<i>Ç</i>	NOA	2	
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COMMENTS:				<u>-</u> -							COMMENTS:

## WELL MONITORING/SAMPLING FIELD DATA SHEET

acility #			Job		264	<del></del>
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City: Oak	land, CA.		Sam	pler: <u>Toe</u>		
Weil ID	Mw-2	Weil	Condition: _	0.1		
Vell Diameter		•	ocarbon	1.20	unt Bailed	3- A. I.
Total Depth	30.06 m	<u></u>	<ness:< td=""><td></td><td>uct/water):</td><td>4" = 0.66</td></ness:<>		uct/water):	4" = 0.66
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	8.54 ×	۷F <u>۵.۱7</u>	=1.45 x 3 (cas	e volume) = Estin	ated Purge Volume:	4.5 (gal.)
Purge Equipment:	Disposable Bailer Bailer Stack Suction		Sampling Equipmer	nt: Disposa Bailer Pressur	ble Bailer e Bailer	×
	Grundfos Other:			Grab Sa Other:		
Starting Time:	9:10	·	Weather Conditi	ons: <u>clo</u> y	Sy/rainy	
Sampling Time:	9:37	A.m	Water Color: _	n lea (	Odor: <u></u>	011
Purging Flow Rat	e:o. 📆		Sediment Descr			<del> </del>
Did well de-wate	r?			•	Volume:	; (gal.)
Time \	Volume pH (gal.)	Cond	uctivity ( ) Tem 10s/cm ×	perature l	O.O. ORP	Alkalinity (ppm)
9:20	1 7.57	_ <u>_/3</u>	<u>16 6</u>		<u> </u>	
9:27	3 7.28 1, 7.20	_ <u> </u>	<u> </u>	<del>4.7</del>		
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		LAROR	ATORY INFORM	TATION		····
	(#) - CONTAINER	REFRIG.	PRESERV, TYPE	LABORATO	RYAN	ALYSES
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SAMPLE ID	340K			1	(6) Ox4)	12 DCA/EDB 478
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## WELL MONITORING/SAMPLING FIELD DATA SHEET

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Well ID	WW-3	Well	Condition:	O.K		
Vell Diameter	$\sim$ in	_	ocarbon //	<b>)</b>	t Bailed	<b></b>
otal Depth	29.98 #		kness:	<del></del>	/water):	(gal ) = 0.66
epth to Water	20.45 #	1	tor (VF)	6" = 1.50	12* = 5.80	
	<u>9.53</u> x	٧F <u>٥.١٦</u>	=1.62 x 3 (case	volume) = Estimate	d Purge Volume: _	5 (001)
Purge iquipment:	Disposable Bailer Bailer		Sampling Equipment	: Disposable Bailer	Baller	2
	Stack Suction	•.		Pressure B	ailer	
	Grundfos Other:			Grab Samı Other:	oie —_	
Starting Time:			Weather Condition	ins: clauda	Irainy	
Sampling Time:	9:0		Water Color:		Odor: 40	10
Purging Flow Rate		/	Sediment Descrip			
Did well de-water	7		If yes; Time: _	Vo	lume:	(csl.)
	olume pH gal.)	_	luctivity ( ) Temp	erature D.O C (mg/l		Alkalinity (ppm)
	C.5 X106			<u> </u>		
0.49	3 7.63 5 7.60	$-\frac{q}{a}$	80 6	4.6	· ·	·
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_	· · · · · · · · · · · · · · · · · · ·		A TO DAY IN 150 DAY	TON		
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANAL	YSES
Mw-3	340A	Y	ΉCC	Seq.		K, MTBE
	240K	4	<u> </u>	1	(6) oxy, v	2 04/60804
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TOSO  Touce Marketing ( 2000 Cow Caryon San Ramon, Culto	Company Pl., Ste. 400
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aber T	Sample Number	Containers	A Mr.	Grab Composite Discrete		Sample Preservation	Q No	TEX W/MTBE (8020)		*80%	Purpetite Helocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)		1,2 Och				TB-LB ANALYSIS
		<u> </u>										-	Analyse	в То Ве	Perfor	med 	<del></del>	<del></del>	<del></del>	DO NOT BILL
San Ramon, Culton	nia 94583	Pı	roject Co	ntact (No	ime) <u>  D(</u> 1011e) <del>  D(</del> 1011e) <del>  D(</del>	eanna L. <del>9</del> -551-755	<u>118 E Cl</u>	: Namper	<u> 318'</u>	551-	7888	_   <u>'</u>	Signature .	<u>~</u>	<u>V</u>	em.				
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			Fno	v Normber	. Tosa	0 # 00	18						C	ontact (	(Name)	Mr	· Dave	Dew	<u>i++</u>	



26 February, 2001

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

RE: Tosco Sequoia Report W102329

Enclosed are the results of analyses for samples received by the laboratory on 12-Feb-01 16:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater Project Manager

CA ELAP Certificate #1271



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

Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J Dublin CA, 94568 Project: Tosco

Project Number: Tosco # 0018 Project Manager: Deanna L. Harding Reported: 26-Feb-01 08:22

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	W102329-01	Water	09-Feb-01 00:00	12-Feb-01 16:45
MW-1	W102329-02	Water	09-Feb-01 10:10	12-Feb-01 16:45
MW-2	W102329-03	Water	09-Feb-01 09:37	12-Feb-01 16:45
MW-3	W102329-04	Water	09-Feb-01 09:00	12-Feb-01 16:45

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.

Charlie Westwater, Project Manager





Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Project: Tosco

Project Number: Tosco # 0018
Project Manager: Deanna L. Harding

Reported: 26-Feb-01 08:22

Dublin CA, 94568

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

Analyte	Result	eporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (W102329-01) Water	Sampled: 09-Feb-01 00:00	Receive	d: 12-Feb-	01 16:45					
Purgeable Hydrocarbons	ND	50	ug/l	ì	1B16002	16-Feb-01	16-Feb-01	EPA 8015M/8020	
Benzene	ND	0.50	77		"	*	n ·	**	
Toluene	ND	0.50	Ħ		11	**	Ħ	**	CC-3
Ethylbenzene	ND	0.50	11	**	•	**	"	. •	
Xylenes (total)	ND	0.50	41	Ħ	•	**	n	n	CC-3
Methyl tert-butyl ether	ND	2.5	n	11		Ħ	11	Ħ	CC-3
Surrogate: a,a,a-Trifluorotolue	ne	102 %	70-1.	30	"	"	~	"	
MW-1 (W102329-02) Water	Sampled: 09-Feb-01 10:10	Receive	d: 12-Feb-	01 16:45					P-03
Purgeable Hydrocarbons	330	50	ug/l	1	1B20005	17-Feb-01	17-Feb-01	EPA 8015M/8020	
Benzene	1.3	0.50	11		**	"	#	11	CC-3
Toluene	ND	0.50		**		**	**	11	
Ethylbenzene	1.0	0.50	11	n	*	11	11	11	
Xylenes (total)	4,6	0.50	11		"	н	Ħ	Ħ	CC-3
Methyl tert-butyl ether	140	2.5	•	**	**	Ħ	H	H	CC-3
Surrogate: a,a,a-Trifluorotolue	ene	102 %	70-1	30	rt	#	"	"	
MW-2 (W102329-03) Water	Sampled: 09-Feb-01 09:37	Receive	d: 12-Feb-	01 16:45					
Purgeable Hydrocarbons	ND	50	ug/l	1	1B20004	17-Feb-01	17-Feb-01	EPA 8015M/8020	
Benzene	ND	0.50	n	**	Ħ	Ħ	#	**	
Toluene	ND	0.50	н	41	41	P	41	ń.	
Ethylbenzene	ND	0.50	*	Ħ	11	"	И	11	
Xylenes (total)	ND	0.50		Ħ	Ħ	•	н	"	
Methyl tert-butyl ether	ND	2.5	•		n	T	n	и	CC-3
Surrogate: a,a,a-Trifluorotolue	ene	100 %	70-1	30	"	"	"	-	

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6747 Sierra Court Suite J Dublin CA, 94568 Project: Tosco

Project Number: Tosco # 0018
Project Manager: Deanna L. Harding

Reported:

26-Feb-01 08:22

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

Analyte	R Result	eporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W102329-04) Water	Sampled: 09-Feb-01 09:00	Receive	d: 12-Feb	-01 16:45					
Purgeable Hydrocarbons	ND	50	ug/l	1	1B20004	17-Feb-01	17-Feb-01	EPA 8015M/8020	_
Benzene	ND	0.50	**	"	Ħ	*	11	. 11	
Toluene	ND	0.50	"	"	"	n	"	n	•
Ethylbenzene	ND	0.50	11	**	ш	**		"	
Xylenes (total)	ND	0.50	n	Ħ	*	n	**	n	
Methyl tert-butyl ether	ND	2.5	**		**	Pł .	#	n	CC-3
Surrogate: a,a,a-Trifluorotolue	ene	102 %	70-	130	#	r	n	"	



6747 Sierra Court Suite J Dublin CA, 94568 Project: Tosco

Project Number: Tosco # 0018
Project Manager: Deanna L. Harding

Reported: 26-Feb-01 08:22

### Volatile Organic Compounds by EPA Method 8260B Sequoia Analytical - Walnut Creek

Analyte	R Result	eporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W102329-02) Water	Sampled: 09-Feb-01 10:10	Receive	d: 12-Fel	o-01 16:45					
Ethanol	ND	500	ug/i	ı	1B14009	15-Feb-01	15-Feb-01	EPA 8260B	
tert-Butyl alcohol	ND	50	Ħ		Ħ	**	"	tı	
Methyl tert-butyl ether	150	2.0	19	n		н	Ħ	11	
Di-isopropyl ether	ND	2.0	"		it	H	•	. "	
Ethyl tert-butyl ether	ND	2.0	н	u		H	**	"	
tert-Amyl methyl ether	ND	2.0	*	"	"	**	**	11	
1,2-Dichloroethane	ND	2.0	**	#	"	**	11	"	
Ethylene dibromide	ND	2.0	#	n *	11	•	tt	**	
Surrogate: Dibromofluorometh	ane	117%	50-	150	"	"	"	#	
Surrogate: 1,2-Dichloroethane		100 %	50-	150	#	"	"	"	
MW-2 (W102329-03) Water	Sampled: 09-Feb-01 09:37	Receive	d: 12 <b>-F</b> el	b-01 16:45					
Ethanol	ND	500	ug/l	1	1B14009	15-Feb-01	15-Feb-01	EPA 8260B	•
tert-Butyl alcohol	ND	50	н	**	**	"	н	#	
Methyl tert-butyl ether	ND	2.0	If	#		н	Ħ	н	
Di-isopropyl ether	ND	2.0	v	77	•	IP	"	Ħ	
Ethyl tert-butyl ether	ND	2.0	•	**	**	H	u	H	
tert-Amyl methyl ether	ND	2.0	**	**	*	77	n	H	
1,2-Dichloroethane	ND	2.0	**	**	**	•	77		
Ethylene dibromide	ND	2.0		н	11	**	m		
Surrogate: Dibromofluorometh	nane	112 %	50-	-150	н	"	4	"	
Surrogate: 1,2-Dichloroethane		101 %	50-	-150	#	**	#	"	
MW-3 (W102329-04) Water		Receive	d: 12-Fe	b-01 16:45			·	•	
Ethanol	ND	500	ug/l	1	1B14009	15-Feb-01	15-Feb-01	EPA 8260B	,
tert-Butyl alcohol	ND	50	"		н	**	۳.	Ħ	
Methyl tert-butyl ether	ND	2.0		*	*	n	TT .	#	-
Di-isopropyl ether	ND	2.0	n	**		*	11	*	
Ethyl tert-butyl ether	ND	2.0		"	**	11	n .	<b>.</b>	
tert-Amyl methyl ether	ND	2.0	*	"	77	11	**	*	
1,2-Dichloroethane	ND	2.0	•	**	**	u	"	**	
Ethylene dibromide	ND	2.0	27	11	11	11	n	*	
Surrogate: Dibromofluorometh	iane	118 %	50	-150	"	"	#	"	
Surrogate: 1,2-Dichloroethane		109 %		-150	"	"	"	u	



Project: Tosco

6747 Sierra Court Suite J

Dublin CA, 94568 Proje

Project Number: Tosco # 0018

Project Manager: Deanna L. Harding

**Reported:** 26-Feb-01 08:22

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B16002 - EPA 5030B [P/T]										
Blank (1B16002-BLK1)				Prepared	& Analyz	ed: 16-Fel	<b>&gt;-</b> 01			
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	#							
Surrogate: a,a,a-Trifluorotoluene	33.3		H	30.0		111	70-130			
LCS (1B16002-BS1)				Prepared	& Analyz	ed: 16-Fel	o <b>-</b> 01			
Benzene	24.0	0.50	ug/l	20.0		120	70-130			
Toluene	20.1	0.50	11	20.0		101	70-130			
Ethylbenzene	22.0	0.50	n	20.0		110	70-130			
Xylenes (total)	60.0	0.50		60.0		100	70-130			
Surrogate: a, a, a-Trifluorotoluene	39.2		"	30.0		131	70-130		<del></del>	S-03
Matrix Spike (1B16002-MS1)	Sc	urce: W1022	01-19 <b>R</b> I	E1Prepared	& Analyz	ed: 16-Fe	b-01			
Benzene	23.2	0.50	ug/l	20.0	ND	116	70-130			
Toluene	19.2	0.50	#	20.0	ND	96.0	70-130			
Ethylbenzene	20.6	0.50	н	20.0	ND	103	70-130			
Xylenes (total)	55.9	0.50	1f	60.0	ND	93.2	70-130			
Surrogate: a, a, a-Trifluorotoluene	34.4		"	30.0		115	70-130			··· ·-
Matrix Spike Dup (1B16002-MSD1)	Sc	ource: W1022	01-19 <b>R</b> J	E1Prepared	& Analyz	ed: 16-Fe	b-01			
Benzene	22.3	0.50	ug/l	20.0	ND	111	70-130	3.96	20	
Toluene	18.0	0.50	**	20.0	ND	90.0	70-130	6.45	20	
Ethylbenzene	18.7	0.50	ŧı	20.0	ND	93.5	70-130	9.67	20	
Xylenes (total)	51.5	0.50	**	60.0	ND	85.8	70-130	8.19	20	
Surrogate: a, a, a-Trifluorotoluene	32.5		n	30.0		108	70-130			

6747 Sierra Court Suite J Dublin CA, 94568 Project: Tosco

Project Number: Tosco # 0018 Project Manager: Deanna L. Harding Reported: 26-Feb-01 08:22

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B20004 - EPA 5030B [P/T]										
Blank (1B20004-BLK1)	· · · · · · · · · · · · · · · · · · ·			Prepared	& Analyz	ed: 17-Feb	o-01	"		
Purgeable Hydrocarbons	ND	50	ug/l	·						•••
Benzene	ND	0.50	**							
Toluene .	ND	0.50	π							
Ethylbenzene	ND	0.50	**							
Xylenes (total)	ND	0.50	u							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	30.8		"	30.0		103	70-130			<del></del>
LCS (1B20004-BS1)				Prepared	& Analyz	ed: 17-Feb	-01			
Benzene	18.4	0.50	ug/l	20.0		92.0	70-130			
Toluene	19.1	0.50	"	20.0		95.5	70-130			
Ethylbenzene	19,8	0.50	11	20.0		99,0	70-130			
Yylenes (total)	59.0	0.50	"	60.0		98,3	70-130			
Surrogate: a, a, a-Trifluorotoluene	32.5		"	30.0		108	70-130		_	
Matrix Spike (1B20004-MS1)	Sc	urce: W1023	30-05	Prepared	& Analyz	ed: 17-Fel	<b>&gt;-01</b>			
Benzene	17.5	0.50	ug/l	20.0	ND	87,5	70-130			·
Tohuene	18.3	0,50	n	20.0	ND	91.5	70-130			
Ethylbenzene	19.2	0.50	и	20.0	ND	96.0	70-130			
Kylenes (total)	57.8	0.50	11	60,0	ND	96.3	70-130			
Surrogate: a,a,a-Trifluorotoluene	30.4		"	30.0		101	70-130			
Matrix Spike Dup (1B20004-MSD1)	Sc	urce: W1023	30-05	Prepared	& Analyz	ed: 17-Fet	o-01			
Benzene	15.4	0.50	ug/l	20.0	ND	77.0	70-130	12.8	20	
<b>Foluene</b>	20.4	0.50	н	20.0	ND	102	70-130	10.9	20	
Ethylbenzene	17.1	-0.50	Ħ	20.0	ND	85.5	70-130	11.6	20	
Kylenes (total)	51.1	0.50	u	60.0	ND	85.2	70-130	12.3	20	
Surrogate: a,a,a-Trifluorotoluene	29.3		"	30.0		97.7	70-130			

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6747 Sierra Court Suite J Dublin CA, 94568 Project: Tosco

Project Number: Tosco # 0018 Project Manager: Deanna L. Harding **Reported:** 26-Feb-01 08:22

RPD

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

Reporting

Spike

Source

%REC

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1B20005 - EPA 5030B [P/T]										
Blank (1B20005-BLK1)		•		Prepared	& Analyz	ed: 17-Fel	o-01			
Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0,50	н						,	
Toluene	ND	0.50	n							
Ethylbenzene	ND	0,50								
Xylenes (total)	ND	0.50	**							
Methyl tert-butyl ether	ND	2.5	**							
Surrogate: a,a,a-Trifluorotoluene	30.9		"	30.0	***	103	70-130			
LCS (1B20005-BS1)				Prepared	& Analyz	ed: 17-Fel	ь-01			
Benzene	19.9	0,50	ug/l	20.0		99.5	70-130			
Toluene	17.1	0.50	"	20.0		85.5	70-130			
Ethylbenzene	18.4	0.50		20.0		92.0	70-130			
Xylenes (total)	50.1	0.50	н	60.0		83.5	70-130			
Surrogate: a,a,a-Trifluorotoluene	30.4	<del></del>	"	30.0		101	70-130			
Matrix Spike (1B20005-MS1)	S	ource: W1023	361-03	Prepared	& Analyz	ed: 17-Fe	b-01			
Benzene	19.4	0.50	ug/l	20.0	ND	97.0	70-130			
Toluene	16.8	0.50	Ħ	20.0	ND	84.0	70-130			
Ethylbenzene	17.6	0.50	н	20.0	ND	88.0	70-130			
Xylenes (total)	48.6	0.50	R	60.0	ND	81.0	70-130			
Surrogate: a, a, a-Trifluorotoluene	30.1		#	30.0		100	70-130			
Matrix Spike Dup (1B20005-MSD1)	s	ource: W1023	361-03	Prepared	& Analyz	zed: 17-Fe	b-01			
Benzene	19.8	0.50	ug/l	20.0	ND	99.0	70-130	2.04	20	
Toluene	17.5	0.50	**	20.0	ND	87.5	70-130	4.08	20	
Ethylbenzene	18.4	0.50	11	20.0	ND	92.0	70-130	4.44	20	
Xylenes (total)	48.7	0.50	Ħ	60.0	ND	81.2	70-130	0.206	20	
Surrogate: a, a, a-Trifluorotoluene	31.0		m m	30.0		103	70-130			

6747 Sierra Court Suite J Dublin CA, 94568 Project: Tosco

Project Number: Tosco # 0018
Project Manager: Deanna L. Harding

Reported: 26-Feb-01 08:22

## Volatile Organic Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B14009 - EPA 5030B [P/T]		·					_			
Blank (1B14009-BLK1)				Prepared	& Analyz	ed: 14-Fet	p-01			•
Ethanol	ND	500	ug/l	· · · · · · · · · · · · · · · · · · ·						•
tert-Butyl alcohol	ND	50	**							
Methyl tert-butyl ether	ND	2.0	"							
Di-isopropyl ether	ND	2.0	•							
Ethyl tert-butyl ether	ND	2.0	**							
tert-Amyl methyl ether	ND	2.0	*							
1,2-Dichloroethane	ND	2.0	"			•				
Ethylene dibromide	ND	2.0	"							
Surrogate: Dibromofluoromethane	55.7		**	50.0		111	50-150			
Surrogate: 1,2-Dichloroethane-d4	51.8		u	50.0		104	50-150			
Blank (1B14009-BLK2)				Prepared	& Analyz	ed: 15-Fet	o-01			
Ethanol	ND	500	ug/l							
tert-Butyl alcohol	ND	50	Ħ							
Methyl tert-butyl ether	ND	2.0	н							
Di-isopropyl ether	ND	2.0								
Ethyl tert-butyl ether	ND	2.0	•							
tert-Amyl methyl ether	ND	2.0	u							
1,2-Dichloroethane	ND	2.0	**							
Ethylene dibromide	ND	2.0	11							
Surrogate: Dibromofluoromethane	54.8		n	50.0		110	50-150	······································	<del></del>	
Surrogate: 1,2-Dichloroethane-d4	49.8		"	50.0		99.6	50-150			
Blank (1B14009-BLK3)				Prepared	& Analyz	ed: 21-Fel	b-01			
Ethanol	ND	500	ug/l							
tert-Butyl alcohol	ND	50	н							
Methyl tert-butyl ether	ND	2.0	*							
Di-isopropyl ether	ND	2.0	-							
Ethyl tert-butyl ether	ND	2,0	**							
tert-Amyl methyl ether	ND	2.0	"							
1,2-Dichloroethane	ND	2,0	**							
Ethylene dibromide	ND	2.0	н							
Surrogate: Dibromofluoromethane	46.0		"	50.0		92.0	50-150			
Surrogate: 1,2-Dichloroethane-d4	50.0		"	50.0		100	50-150			

Sequoia Analytical - Walnut Creek

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





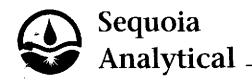
6747 Sierra Court Suite J Dublin CA, 94568 Project: Tosco

Project Number: Tosco # 0018 Project Manager: Deanna L. Harding Reported: 26-Feb-01 08:22

## Volatile Organic Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B14009 - EPA 5030B [P/T]										
LCS (1B14009-BS1)				Prepared	& Analyz	ed: 14-Fel	o <b>-</b> 01			
Methyl tert-butyl ether	58.0	2,0	ug/l	50.0		116	70-130			
Surrogate: Dibromofluoromethane	56.1	<del></del>	n	50.0		112	50-150			
Surrogate: 1,2-Dichloroethane-d4	51.1		#	50.0		102	50-150			
LCS (1B14009-BS2)				Prepared	& Analyz	ed: 15-Fel	<b>-</b> 01			
Methyl tert-butyl ether	54.7	2.0	ug/l	50.0		109	70-130			
Surrogate: Dibromofluoromethane	55.8		,,	50.0		112	50-150			
Surrogate: 1,2-Dichloroethane-d4	49.6		"	50.0		99.2	50-150			
LCS (1B14009-BS3)		÷		Prepared	& Analyz	ed: 21-Fel	b-01			
Methyl tert-butyl ether	46.5	2.0	ug/l	50.0		93.0	70-130			··-
Surrogate: Dibromofluoromethane	47.0		lt.	50.0		94.0	50-150			
Surrogate: 1,2-Dichloroethane-d4	49.0		"	50.0		98.0	50-150			
Matrix Spike (1B14009-MS1)	S	ource: W1022	289-05	Prepared	& Analyz	zed: 14-Fe	b-01			
Methyl tert-butyl ether	50.6	2.0	ug/l	50.0	ND	101	60-150			
Surrogate: Dibromofluoromethane	58.0		n	50.0		116	50-150			
Surrogate: 1,2-Dichloroethane-d4	52.0		"	50.0		104	50-150			
Matrix Spike Dup (1B14009-MSD1)	S	ource: W1022	289-05	Prepared	& Analyz	zed: 14-Fe	b-01			
Methyl tert-butyl ether	61.3	2.0	ug/l	50.0	ND	123	60-150	19.1	25	
Surrogate: Dibromofluoromethane	58.0		*	50.0		116	50-150			
Surrogate: 1,2-Dichloroethane-d4	51.1		"	50.0		102	50-150			

**€** 



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

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

**Dublin CA**, 94568

Project: Tosco

Project Number: Tosco # 0018 Project Manager: Deanna L. Harding Reported: 26-Feb-01 08:22

#### **Notes and Definitions**

CC-3 Continuing Calibration indicates that the quantitative result for this analyte includes a greater than 15% degree of uncertainty. The value as reported is within method acceptance.

P-03 Chromatogram Pattern: Unidentified Hydrocarbons C6-C12

S-03 The surrogate recovery for this sample is outside of established control limits. Review of associated QC indicates the recovery for this surrogate does not represent an out-of-control condition.

€₿

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