

TRANSMITTAL

APR 0 8 2002

March 20, 2002 G-R #180264

TO:

Mr. David B. De Witt

Phillips 66 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) Service Station

#0018

6201 Claremont Avenue Oakland, California

### WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	March 18, 2002	Groundwater Monitoring and Sampling Report First Quarter - Event of February 6, 2002

#### 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 3, 2002*, 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



# GETTLER-RYAN INC.

March 18, 2002 G-R Job #180264

Mr. David B. De Witt Phillips 66 Company 2000 Crow Canyon Place, Suite 400 San Ramon, California 94583

RE:

First Quarter Event of February 6, 2002

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.

Sincerely,

Deanna L. Harding Project Coordinator

Hagop Kevork P.E. No. C55734

Figure 1:

Potentiometric Map

Figure 2:

Concentration Map

Table 1:

Groundwater Monitoring Data and Analytical Results

1. Harding

Table 2:

Attachments:

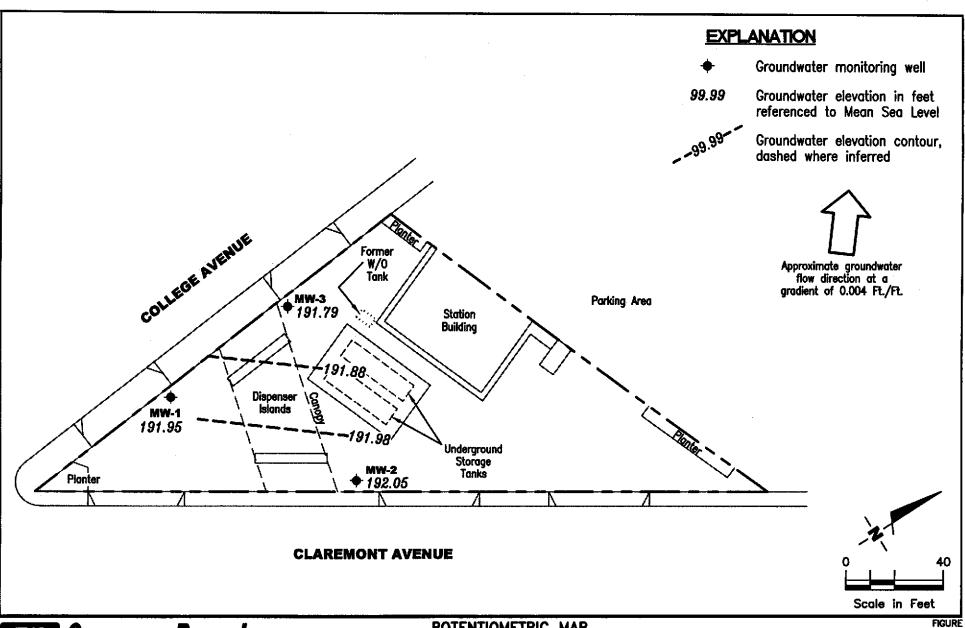
Groundwater Analytical Results - Oxygenate Compounds Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

0018-qml

APR 08 ZULL





POTENTIOMETRIC MAP

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

DATE

February 6, 2002

PROJECT NUMBER REVIEWED BY 180264

REVISED DATE

FILE NAME: P:\Enviro\TOSCO\0018\Q01-0018.DWG | Layout Tab: Pot1

## **EXPLANATION** Groundwater monitoring well A/B/CTotal Petroleum Hydrocarbons (TPH) as Gasoline/Benzene/ MTBE concentrations in ppb MTBE by EPA Method 8260 + COLLEGE AVERUE Former W/O MW-3 Parking Area Station Building <50/<0.50/<2.5 Dispenser Islands 790/<2.5/72+ Underground Storage Tanks <50/<0.50/<2.5 Planter **CLAREMONT AVENUE** Scale in Feet



CONCENTRATION MAP

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

FIGURE

PROJECT NUMBER 180264

REVIEWED BY

February 6, 2002

REVISED DATE

FILE NAME: P:\Enviro\TOSCO\0018\Q01-0018.DWG | Loyout Tab: Con1

Table 1
Groundwater Monitoring Data and Analytical Results

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

WELL JD/	DATE	DTW	S.I.	GWE	TPH-G	В	T	E	X	MTBE
TOC*(ft)		(ft.)	(ft. bgs)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-1							•			
208.15	08/24/00	18.55	10.0-30.0	189.60	$\boldsymbol{120}^{1}$	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>
	05/11/01	17.68		190.47	1,250 <sup>3</sup>	ND <sup>4</sup>	ND <sup>4</sup>	ND <sup>4</sup>	ND⁴	145/122 <sup>2</sup>
	08/10/01	20.38		187.77	580 <sup>3</sup>	<0.50	<0.50	<0.50	< 0.50	110/150 <sup>2</sup>
	11/07/01	22.68		185.47	$250^{3}$	<0.50	1.5	<0.50	<0.50	120/100 <sup>2</sup>
	02/06/02	16.20		191.95	790	<2.5	12	8.8	<2.5	90/722
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>
	11/16/00	21.61	10.000	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>
	05/11/01	18.76		191.51	ND	ND	ND	ND	ND	ND/ND <sup>2</sup>
	08/10/01	21.65		188.62	<50	<0.50	<0.50	<0.50	<0.50	<5.0/<2.0 <sup>2</sup>
	11/07/01	24.25		186.02	<50	<0.50	<0.50	<0.50	<0.50	<5.0/<1.0 <sup>2</sup>
	02/06/02	18.22		192.05	<50	<0.50	<0.50	<0.50	<0.50	<2.5
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>
	11/16/00	20.56	1014 2010	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>
	05/11/01	17.75		191.23	ND	ND	ND	ND	ND	$ND/ND^2$
	08/10/01	20,70		188.28	<50	< 0.50	<0.50	<0.50	<0.50	<5.0/<2.0 <sup>2</sup>
	11/07/01	23.02		185.96	<50	< 0.50	<0.50	<0.50	< 0.50	<5.0/1.5 <sup>2</sup>
	02/06/02	17.19		191.79	<50	<0.50	<0.50	<0.50	<0.50	<2.5

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)		(fl.)	(ft. bgs)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
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
	05/11/01				ND	ND	ND	ND	ND	ND
	08/10/01				<50	<0.50	<0.50	< 0.50	< 0.50	<5.0
	11/07/01				<50	< 0.50	< 0.50	< 0.50	< 0.50	<5.0
	02/06/02				<50	<0.50	<0.50	<0.50	<0.50	<2.5

#### Table 1

### Groundwater Monitoring Data and Analytical Results

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

#### **EXPLANATIONS:**

TOC = Top of Casing

TPH-G = Total Petroleum Hydrocarbons as Gasoline

(ppb) = Parts per billion

DTW = Depth to Water

B = Benzene

ND = Not Detected

(ft.) = Feet

T = Toluene

-- = Not Measured/Not Analyzed

S.I. = Screen Interval

E = Ethylbenzene

X = Xylenes

(ft. bgs) = Feet Below Ground Surface

GWE = Groundwater Elevation

MTBE = Methyl tertiary butyl ether

(msl) = Mean sea level

- TOC elevations have been surveyed relative to msl; per the city of Oakland benchmark being 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.
- MTBE by EPA Method 8260.
- 3 Laboratory report indicates unidentified hydrocarbons C6-C12.
- Detection limit raised. Refer to analytical reports.

Table 2
Groundwater Analytical Results - Oxygenate Compounds

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

WELL ID	DATE	ETHANOL	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB
		(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
								<del></del>	
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
	05/11/01	ND	ND	122	ND	ND	ND	ND	ND
	08/10/01	<1,000	<100	150	<2.0	<2.0	<2.0	<2.0	<2.0
	11/07/01	<500	<20	100	<1.0	<1.0	<1.0	<1.0	<1.0
	02/06/02	<500	<100	72	<2.0	<2.0	<2.0	<2.0	<2.0
						·			
MW-2	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	ND	ND
	05/11/01	ND	ND	ND	ND	ND	ND	ND	ND
	08/10/01	<1,000	<100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	11/07/01	<500	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	08/24/00	ND	ND	2.3	ND	ND	ND		
17A ∀₹ <b>~</b> J	11/16/00	ND ND	ND ND	ND	ND	ND ND	ND ND		
	02/09/01	ND ND	ND	ND	ND	ND	ND ND	 ND	ND
	05/11/01	ND	ND	ND ND	ND	ND	ND	ND	ND
	08/10/01	<1,000	<100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	11/07/01	<500	<20	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
	11/07/01	~DUC	~20	1.7	~1.0	~1.U	~1.U	~1.0	~1.0

### Table 2

## Groundwater Analytical Results - Oxygenate Compounds

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

#### **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 = 1,2-Dibromoethane

(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 Phillips 66 Company, the purge water and decontamination water generated during sampling activities is transported to Phillips 66 - San Francisco Refinery, located in Rodeo, California.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Facility # 00	18		Job#	18026	4	
	ol Claremo.	at Blu	Date	2-6-0	2	
City: Oak			•	pler: <u>To e</u>		
Well ID	mw-1	We	fl Condition:	ه راد ۰		·
Well Diameter	2 in	-	drocarbon	Amount I	72	_
Total Depth	30.02 4		ckness:	in_ (product/w		(gal.)
Depth to Water	16.20 4	•	olume 2° = 0 actor (VF)	.17 3° = 0.3 6° = 1.50		= 0.66
_		3		volume) = Estimated (	<sup>P</sup> urge Volume: _	7 (01)
Purge Equipment:	Disposable Bailer Bailer	•	Sampling Equipment	: Disposable B	ailer	. ,
	Stack	•		Bailer	· .	
	Suction Grundfos	•		Pressure Bai		
	Other:	<del></del>		-Grab Sample Other:		
Purging Flow Rat	e: <u> </u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	• `	ntion: Volu		(cel )
	*.· <del></del> -					
Time V	/olume pH (gal.)	μπ	ductivity   ( <sup>(2)</sup> Temp	erature D.O.	ORP (mV)	Alkalinity (ppm)
Time V	/olume pH (gal.) 2.5 <u>1.20</u>	μπ	ductivity   ( <sup>(2)</sup> Temp	erature D.O.	ORP (mV)	Alkalinity
Time V	/olume pH (gal.)	μπ	ductivity   Temp hos/cm X +	enature D.O. (mg/L)	ORP (mV)	Alkalinity
Time V	/olume pH (gal.) 2.5 <u>1.20</u>	μπ	ductivity   Temp hos/cm X +	erature D.O.	ORP (mV)	Alkalinity
Time V	/olume pH (gal.) 2.5 <u>1.20</u>	μπ	ductivity   Temp hos/cm X +	enature D.O. (mg/L)	ORP (mV)	Alkalinity
Time V	/olume pH (gal.) 2.5 7.26 7 7.31		ductivity   Pamp thos/cm x 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Example D.O. (mg/L) 4. 9 4. 8 4. 6	ORP (mV)	Alkalinity (ppm)
Time V 12:12 12:16 12:21  SAMPLE ID	/olume pH (gal.) 2.5	LABO	ductivity   P Temp hos/cm x   P C C C C C C C C C C C C C C C C C C	TION LABORATORY	ORP (mV)	Alkalinity (ppm)
Time V	/olume pH (gal.) 2.5 7.26 7 7.31	LABOREFRIG.	coctivity   P Temp	TION LABORATORY Seq.	ORP (mV)	Alkalinity (ppm)  YSES  EX, MTBE
Time V 12.12 12.16 12.21  SAMPLE ID	/olume pH (gal.) 2.5 7.20 5 7.26 7 7.31	LABO	ductivity   P Temp hos/cm x   P C C C C C C C C C C C C C C C C C C	TION LABORATORY	ORP (mV)	Alkalinity (ppm)
Time V 12.12 12.16 12.21  SAMPLE ID	/olume pH (gal.) 2.5 7.20 5 7.26 7 7.31	LABOREFRIG.	coctivity   P Temp	TION LABORATORY Seq.	ORP (mV)	Alkalinity (ppm)  YSES  EX, MTBE
12:12 12:16 12:21 SAMPLE ID	/olume pH (gal.) 2.5 7.20 5 7.26 7 7.31	LABOREFRIG.	coctivity   P Temp	TION LABORATORY Seq.	ORP (mV)	Alkalinity (ppm)  YSES  EX, MTBE
Time V 12:12 12:16 12:21  SAMPLE ID	/olume pH (gal.) 2.5 7.20 5 7.26 7 7.31	LABOREFRIG.	coctivity   P Temp	TION LABORATORY Seq.	ORP (mV)	Alkalinity (ppm)  YSES  EX, MTBE

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility #	018		Jo	b#:	18026	4	
	Lol Claremo	at Bl	ral. Da	ite: _	2-6-0	2	
City: Oak	•		Sa	mpler: _	300		
Well ID	mw-2	- W	/ell Condition:	g	، إد		
Well Diameter		. н	ydrocarbon	<del>リー</del> ・	Amount E	Bailed	_
Total Depth	30.0 ( 4	11	hickness:	<u> </u>	(product/w		10al )
Depth to Water	18.22		Volume 2* Factor (VF)		3* = 0.3 1.50		= 0.66
Purge Equipment:	Disposable Bailer Stack Suction Grundfos Other:	•	7 <u>2. 0/</u> x3 (co Samplin Equipme	g snt: Di B: Pi -G	Estimated P isposable B ailer ressure Bailer rab Sample	ailer er	(g=1.)
Did well de-wate	Volume pH	Co	Water Color: Sediment Desc If yes; Time:	ription: _	Volun	ne:	i (gal )
•	(gal.)	C	nhos/cm X	<b>÷₽</b>	(mg/L)	(mV)	(bbm)
11:02 _	$\frac{2}{4}$ $\frac{7.3}{2.45}$	<del></del>	0.66 0.57	03.0	-	•	•
	6 7.55	- 10	.52 60	52			<u></u>
						-	
	<del></del>				<del> </del>	<del> </del>	<del></del>
	<del></del>	I ARO	RATORY INFORM	ÉATION .	<del></del> ·	<u> </u>	<u> </u>
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE		RATORY	ANALY	rses
MW-2	BYOK	Υ	HCL	Se	<b>4</b> ·	TPHG, BT	EX, MTBE
		·	·				
	•	· · · · · · · · · · · · · · · · · · ·	1	-	-	<del> </del>	
<u> </u>			<u> </u>			<u> </u>	
COMMENTS:					<del></del>	·	<u> </u>
<del></del>	<u> </u>				•		<del></del>

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility #	018		Joi	o#: _	18026	4	
	-ol Claremo	at Blu			2-6-0	,	
City: Oak	land, ch.		- •		Toe		
Well ID	mw-3	_ w	ell Condition:	Q	,/c ·		· ·
Well Diameter	2	-	rdrocarbon	٠ ١	Amount E	Bailed	
Total Depth	29.98		ickness:	0.17	(product/w 3* = 0.3		(nel.)
Depth to Water	17.19	Y	actor (VF)		1.50	12" = 5.80	= 0.66
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	•	$I=\frac{2\cdot l7}{2\cdot l7}\times 3$ (car Sampling Equipmen	nt: D B P	isposable B ailer ressure Bail irab Sample	er	6. <u>ford 1</u>
Starting Time: Sampling Time: Purging Flow Rate Did well de-water	11:55 pm (11 0.5	<u>55)</u>	Weather Conditi Water Color: Sediment Descri If yes: Time:	ption: _			10 × R (pd)
	olume pH (gal.)	Con.	ductivity   (*) Tem hos/cm (*)	C Sersime	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
	2 7.19 4 7.19		28 <u>6</u>				
11 44	6.5 7.16		36 <u>6</u> 34 6	5.0	•	·	·
			<u> </u>				
			<del></del>				
SAMPLE ID	(#) - CONTAINER		ATORY INFORM				
MW-22	3YOA	REFRIG.	PRESERV. TYPE HCL	LABO Se	RATORY	ANAL	
	_ , , , , ,			1	<u>'</u> -t-'	TPHG, BT	CX, MIRE
							<u>.</u>
							· .
COMMENTS:		<u>.</u>	<del></del>	<u> </u>			· 
	<u> </u>	<del></del> ,					
			<u> </u>				•

GLOBAL 1D# T0600102231 Chain-of-Custody-Record Foolity Number TOSCO # 0018 Contool (Home) \_ MR. Dave DeWitt Foolity Address 6201 Claremont Ave. , Oakland, CA (Phone) 925-277-2384 Consultant Project Number 180264 Laberatory Morns \_ Sequoia Analytical TOSCO Consultent Name Gettler-Ryan Inc. (G-R Inc.) Loboratory Release Number..... AGUILON 6747 SIERRA COURT, SUITE J. DUBLIN CA 94568 Proce Marketing Company 2000 San Curyon FI, But. ACC San Florace, Culturals \$4343 Samples Collected by (Home) JOE A-TEMIAA Project Control (Name) Deanns L. Harding Collection Date 2-6-02 (Phone)(925) 551=7555 (Fax Humber, 925=551-7899 Air Charcool Analyses To be Performed DO NOT BILL THI Care STEX windfates too to the Siens (2015) Purpoble Aromotice (8028)
Purposhe Organice (8240)
Extractable Organics (8270) TB-LB ANALYSIS ₹U Parysuble Helecari (2010) 111 000 Remerks Vet. C TB-LB #CL 5 VO A. MW-02 12.30 **3**<sub>A</sub> MW.2 1118 mw-ን 1155 Relinquished\_By (Signature) 24605 Dale/Time | 805 Organization Received & (Stanolure) Organizolism Turn Around Time (Circle Choles) G-R Inc. 2.6-02 24 Hrs. Relinquiched By (Signature) Organization Dole/Time Received by (Signature) Ddte/Time Organization 48 Hrs. 5 Daye -14 h----Religional De (Standard) A----------





20 February, 2002

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

FEB 2 2 2002

GETTLER-KYAN INC.

RE: Tosco(1)

Sequoia Report: L202050

Enclosed are the results of analyses for samples received by the laboratory on 02/06/02 18:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Dreumson

Wayne Stevenson Project Manager

CA ELAP Certificate #2360



1551 Industrial Road San Carlos CA 94070 (650) 232-9600 FAX (650) 232-9612 www.sequoialabs.com

Gettler-Ryan/Geostrategies(1)

6747 Sierra Court, Suite J

Dublin CA, 94568

Project: Tosco(1)

Project Number: Tosco #0018 Project Manager: Deanna Harding Reported:

02/20/02 10:11

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L202050-01	Water	02/06/02 00:00	02/06/02 18:05
MW-1	L202050-02	Water	02/06/02 12:30	02/06/02 18:05
MW-2	L202050-03	Water	02/06/02 11:18	02/06/02 18:05
MW-3	L202050-04	Water	02/06/02 11:55	02/06/02 18:05





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J

Dublin CA, 94568

Project: Tosco(1)

Project Number: Tosco #0018 Project Manager: Deanna Harding

Reported:

02/20/02 10:11

## Volatile Organic 8 Oxygenated Compounds by EPA Method 8260B

Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (L202050-02) Water	Sampled: 02/06/02 12:30	Received: (	02/06/02	18:05					
Ethanol	ND	500	ug/l	1	2020030	02/12/02	02/12/02	EPA 8260B	
1,2-Dibromoethane	ND	2.0	n	n	H	π	ħ	<b>11</b> .	
1,2-Dichloroethane	ND	2.0	**	**	ıı	**	H	H	
Di-isopropyl ether	ND	2.0	**	**	*	111	н	п	
Ethyl tert-butyl ether	ND	2.0		н	**	н	n	*	
Methyl tert-butyl ether	72	2.0	11	H	n	n	Ħ	Ħ	
Tert-amyl methyl ether	ND	2.0	**		11	*	Ħ	11	
Tert-butyl alcohol	ND	100	<b>"</b>		#	*	, ,	"	
Surrogate: 1,2-Dichloroethan	e-d4	103 %	70-	-130	"		77	st	
Surrogate: Toluene-d8		101 %	70-	-130	tt	"	•	77	



Gettler-Ryan/Geostrategies(1)

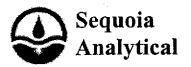
6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Tosco #0018
Project Manager: Deanna Harding

Reported: 02/20/02 10:11

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (L202050-01) Water Sampled:	02/06/02 00:00	Received:	02/06/02	18:05				******	
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	11	**	*	11	
Toluene	ND	0.50	"	**	Ħ	#	**	H	
Ethylbenzene	ND	0.50	11	11	н	"	**	**	
Xylenes (total)	ND	0.50	11	"	H	н	11	#	
Methyl tert-butyl ether (MTBE)	ND	2.5	11	"		#	n	**	.*
Surrogate: a,a,a-Trifluorotoluene		116%	70-	-130	H	н	и	н	
MW-1 (L202050-02) Water Sampled:	02/06/02 12:30	Received: 0	2/06/02	18:05					
Purgeable Hydrocarbons (C6-C12)	790	250	ug/l	5	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	2.5	"	H	Н	11	"	•	Q-28
Toluene	12	2.5	"	ır	n	n	h	11	
Ethylbenzene	8.8	2.5	"	**	"	"	"	. "	
Xylenes (total)	ND	2.5	п	n	IT	Ħ	Ħ	ŧΪ.	
Methyl tert-butyl ether (MTBE)	90	12	н	"	17	"	ŧ1	н	Q-28a
Surrogate: a,a,a-Trifluorotoluene		103 %	70-	-130	π	"	77	н	
MW-2 (L202050-03) Water Sampled:	02/06/02 11:18	Received: (	2/06/02	18:05					
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	•	n	#	*	**	Ħ	
Toluene	ND	0.50	**	н	P	77	**	n	
Ethylbenzene	ND	0.50	**	**	. 11	н	**	n n	
Xylenes (total)	ND	0.50	"	<b>t</b> t	Ħ	**	Ħ		
Methyl tert-butyl ether (MTBE)	ND	2.5		*			"	tt .	
Surrogate: a,a,a-Trifluorotoluene		106 %	70	-130	rr	"	"	π	



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Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J

**Dublin CA, 94568** 

Project: Tosco(1)

Project Number: Tosco #0018

Project Manager: Deanna Harding

Reported: 02/20/02 10:11

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (L202050-04) Water Sampled	: 02/06/02 11:55	Received: 0	2/06/02 1	8:05					_
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	-	m	н	**	n	u	Q-28
Toluene	ND	0.50	*	*	ıt	**	•	41	•
Ethylbenzene	ND	0.50	n		n	11	*	Ħ	
Xylenes (total)	ND	0.50		*	Ħ	Ħ		#	
Methyl tert-butyl ether (MTBE)	ND	2.5			"	h		n	
Surrogate: a,a,a-Trifluorotoluene		102 %	70-1	130	н	o	н	n	



Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J

Dublin CA, 94568

Project: Tosco(1)

Project Number: Tosco #0018 Project Manager: Deanna Harding Reported: 02/20/02 10:11

## Volatile Organic 8 Oxygenated Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2020030 - EPA 5030B [P/T]	<u> </u>									
Blank (2020030-BLK1)				Prepared	& Analyzo	ed: 02/08/0	02			
Ethanol	ND	500	ug/l							
1,2-Dibromoethane	ND	1.0	п							
1,2-Dichloroethane	ND	1.0	Ħ							
Di-isopropyl ether	ND	1.0	11							
Ethyl tert-butyl ether	ND	1.0	11							
Methyl tert-butyl ether	ND	1.0	11							
Tert-amyl methyl ether	ND	1.0	11							
Tert-butyl alcohol	ND	20	"							
Surrogate: 1,2-Dichloroethane-d4	53.I		"	50.0		106	70-130			
Surrogate: Toluene-d8	49.6		"	50.0		99.2	70-130			
Blank (2020030-BLK2)				Prepared	& Analyz	ed: 02/11/	02			
Ethanol	ND	500	ug/l		Ť					
1,2-Dibromoethane	ND	1.0	#							
1,2-Dichloroethane	ND	1.0	-							
Di-isopropyl ether	ND	1.0	*							
Ethyl tert-butyl ether	ND	1.0	"							
Methyl tert-butyl ether	ND	1.0								
Tert-amyl methyl ether	ND	1.0	"							
Tert-butyl alcohol	ND	20	"							
Surrogate: 1,2-Dichloroethane-d4	50.5		'n	50.0		101	70-130			
Surrogate: Toluene-d8	48.9		"	50.0		97.8	70-130			
Blank (2020030-BLK3)				Prepared	& Analyz	ed: 02/12/	02			
Ethanol	ND	500	ug/l	<del></del>	·				<u>-</u>	
1,2-Dibromoethane	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	n							
Di-isopropyl ether	ND	1.0	н							
Ethyl tert-butyl ether	ND	1.0	**							
Methyl tert-butyl ether	ND	1.0	p							
Tert-amyl methyl ether	ND	1.0	"							
Tert-butyl alcohol	ND	20	n .							
Surrogate: 1,2-Dichloroethane-d4	53.3		"	50.0		107	70-130		<del></del>	
Surrogate: Toluene-d8	50.0		"	50.0		100	70-130			



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Project Number: Tosco #0018
Project Manager: Deanna Harding

Reported: 02/20/02 10:11

## Volatile Organic 8 Oxygenated Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 2020030 - EPA 5030B [P/T]											
LCS (2020030-BS1)	Prepared & Analyzed: 02/08/02										
Methyl tert-butyl ether	42.1	1.0	ug/l	50.0		84.2	70-130				
Surrogate: 1,2-Dichloroethane-d4	53.0	·	'n	50.0		106	70-130				
Surrogate: Toluene-d8	47.3		*	50.0		94.6	70-130				
LCS (2020030-BS2)	Prepared & Analyzed: 02/11/02										
Methyl tert-butyl ether	41.8	1.0	ug/l	50.0		83.6	70-130	*			
Surrogate: 1,2-Dichloroethane-d4	52.6		*	50.0		105	70-130				
Surrogate: Toluene-d8	46.5		*	50.0		93.0	70-130				
LCS (2020030-BS3)	Prepared & Analyzed: 02/12/02										
Methyl tert-butyl ether	45.3	1.0	ug/l	50.0		90.6	70-130				
Surrogate: 1,2-Dichloroethane-d4	54.4		"	50.0		109	70-130		· · · · · · · · · · · · · · · · · · ·		
Surrogate: Toluene-d8	47.4		Ħ	50.0		94.8	70-130				
Matrix Spike (2020030-MS1)	Sor	arce: L20205	Prepared & Analyzed: 02/08/02								
Methyl tert-butyl ether	43.6	1.0	ug/l	50.0	1.5	84.2	60-140			_	
Surrogate: 1,2-Dichloroethane-d4	55.8		н	50.0		112	70-130				
Surrogate: Toluene-d8	46.3		Ħ	50.0		92.6	70-130				
Matrix Spike Dup (2020030-MSD1)	Source: L202058-07			Prepared							
Methyl tert-butyl ether	46.6	1.0	ug/l	50.0	1.5	90.2	60-140	6.65	25		
Surrogate: 1,2-Dichloroethane-d4	58.0		n	50.0		116	70-130		······································		
Surrogate: Toluene-d8	45.8		"	50.0		91.6	70-130				



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6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Tosco #0018
Project Manager: Deanna Harding

Reported: 02/20/02 10:11

## 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 2B14002 - EPA 5030B P/T			-					<del>-</del>			
Blank (2B14002-BLK2)		Prepared & Analyzed: 02/15/02									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l								
Benzene	ND	0.50	11								
l'oluene	ND	0.50	-								
Ethylbenzene	ND	0.50	**								
(ylenes (total)	ND	0.50	**								
Methyl tert-butyl ether (MTBE)	ND	2.5	•								
Surrogate: a,a,a-Trifluorotoluene	31.0		n	30.0		103	70-130				
LCS (2B14002-BS2)	_	Prepared & Analyzed: 02/15/02									
Benzene	20.9	0.50	սջ/i	20.0		104	70-130				
oluene	21.1	0.50	н	20.0		106	70-130				
Ethylbenzene	22.4	0.50	. "	20.0		112	70-130				
(ylenes (total)	66.0	0.50	n	60.0	•	110	70-130		•		
Surrogate: a,a,a-Trifluorotoluene	34.6		"	30.0		115	70-130				
Matrix Spike (2B14002-MS1)	So	Source: W202156-03			Prepared & Analyzed: 02/15/02					•	
Benzene	18.3	0.50	ug/l	20.0	ND	92	70-130				
Coluene	18.5	0.50	n	20.0	ND	92	70-130				
Ethylbenzene	19.1	0.50	н	20.0	ND	96	70-130				
(ylenes (total)	57.6	0.50	H	60.0	ND	96	70-130				
urrogate: a,a,a-Trifluorotoluene	34.5		"	30.0		115	70-130			· ·	
Matrix Spike Dup (2B14002-MSD1)	Source: W202156-03			Prepared & Analyzed: 02/15/02							
Benzene	16.1	0.50	ug/l	20.0	ND	80	70-130	13	20		
oluene	17.4	0.50	**	20.0	ND	87	70-130	6	20		
thylbenzene	17.3	0.50	**	20.0	ND	86	70-130	10	20		
(ylenes (total)	55.6	0.50	**	60.0	ND	93	70-130	4	20		
urrogate: a,a,a-Trifluorotoluene	31.2		n	30.0	· · · · · · · · · · · · · · · · · · ·	104	70-130				



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Project: Tosco(1)
Project Number: Tosco #0018
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Reported: 02/20/02 10:11

#### **Notes and Definitions**

Q-28 The opening calibration verification standard was outside acceptance criteria by -3%. Although the Laboratory Control Sample verified the accuracy of the batch, this should be considered in evaluating the data for its intended purpose.

Q-28a The opening calibration verification standard was outside acceptance criteria by 13%. Although the Laboratory Control Sample verified the accuracy of the batch, this should be considered in evaluating the data for its intended purpose.

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