

GETTLER-RYAN INC.

JUL 1 9 2002

TRANSMITTAL

June 28, 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	June 21, 2002	Groundwater Monitoring and Sampling Report Second Quarter - Event of May 8, 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 *July 16*, 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



JUL 1 9 2002

June 21, 2002 G-R Job #180264

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

RE: Second Quarter Event of May 8, 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 and submitted to a state certified laboratory for analyses. The field data sheets for this event are attached. Analytical results are presented in the table(s) listed below. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Please call if you have any questions or comments regarding this report. Thank you.

Sincerely,

Deanna L. Harding

Project Coordinator

Hagop Kevork P.E. No. C55734

Figure 1:

Potentiometric Map

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Figure 2:

Concentration Map

Table 1: Table 2:

Groundwater Monitoring Data and Analytical Results Groundwater Analytical Results - Oxygenate Compounds

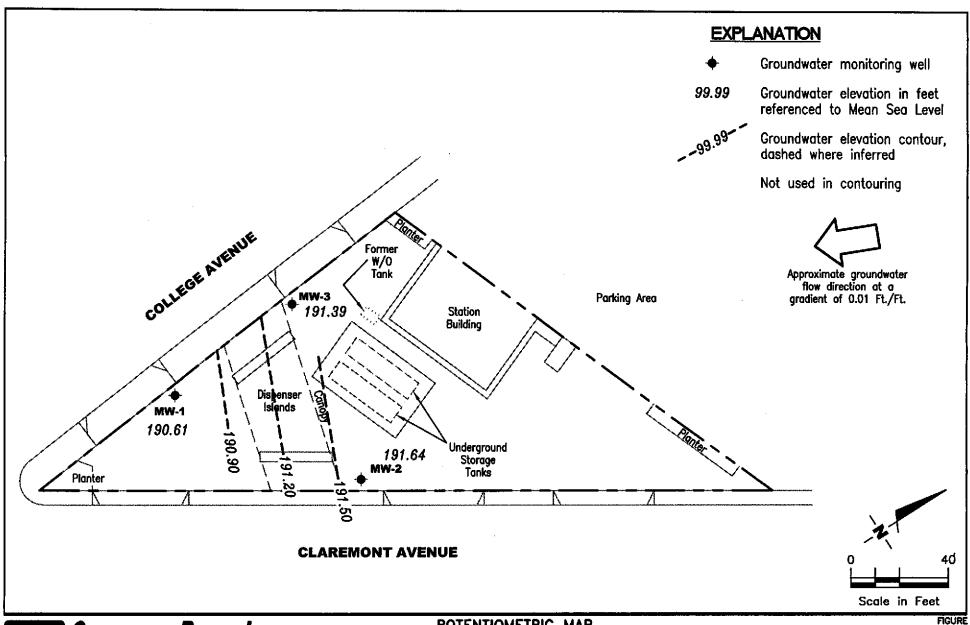
Attachments:

Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

0018-qm3





POTENTIOMETRIC MAP

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

PROJECT NUMBER 180264

REVIEWED BY

May 8, 2002

REVISED DATE

EXPLANATION Groundwater monitoring well A/B/CTotal Petroleum Hydrocarbons (TPH) as Gasoline/Benzene/ MTBE concentrations in ppb MTBE by EPA Method 8260 + COLLEGE AVENUE Former W/O MW-3 Parking Area <50/<0.50/<5.0 Station Building Dispenser \g 890/<2.5/81+ <50/<0.50/<5.0 Underground Storage Tanks Planter **CLAREMONT AVENUE** Scale in Feet



CONCENTRATION MAP

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

2

PROJECT NUMBER 180264

REVIEWED BY

DATE May 8, 2002 REVISED DATE

FILE NAME: P:\Enviro\TOSCO\0018\Q02-0018.DWG | Layout Tab: Con2

FIGURE

Table 1
Groundwater Monitoring Data and Analytical Results

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

				`	zakianu, Camon					
WELL ID/	DATE	DTW	S.1.	GWE	TPH-G	В	T	E	X	MTBE
TOC*(ft)		(ft.)	(ft. bgs)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ррв)
MW-1										
208.15	08/24/00	18.55	10.0-30.0	189.60	120 ⁱ	0.67	ND	0.86	1.4	54/54 ²
	11/16/00	20.30		187.85	169 ³	NĎ	1.20	1.74	0.629	68.6/97.7 ²
	02/09/01	20.16		187.99	330^{3}	1.3	ND	1.0	4.6	140/150 ²
	05/11/01	17.68		190.47	1,250 ³	ND^4	ND ⁴	ND⁴	ND⁴	145/122 ²
	08/10/01	20.38		187.77	580 ³	<0.50	<0.50	< 0.50	< 0.50	110/150 ²
	11/07/01	22.68		185.47	250^{3}	<0.50	1.5	<0.50	< 0.50	120/100 ²
	02/06/02	16.20		191.95	790	<2.5	12	8.8	<2.5	90/72 ²
	05/08/02	17.54		190.61	8903	<2.5	<2.5	<2.5	<2.5	78/81 ²
MW-2										
210.27	08/24/00	19.69	10.0-30.0	190.58	ND	ND	ND	ND	ND	ND/ND ²
	11/16/00	21.61		188.66	ND	ND	NĎ	ND	ND	ND/ND ²
	02/09/01	21.52		188.75	ND .	ND	ND	ND	ND	ND/ND^2
	05/11/01	18.76		191.51	ND	ND	ND	ND	ND	ND/ND ²
	08/10/01	21.65		188.62	<50	< 0.50	< 0.50	< 0.50	< 0.50	<5.0/<2.0 ²
	11/07/01	24.25		186.02	<50	<0.50	< 0.50	< 0.50	< 0.50	<5.0/<1.0 ²
	02/06/02	18.22		192.05	<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5
	05/08/02	18.63		191.64	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-3 208.98	08/24/00	18.68	10.0-30.0	190.30	ND	ND	NĎ	ND	NĎ	4.7/2.3 ²
200.70	11/16/00	20.56	1010 0010	188.42	ND	ND	ND	ND	ND	ND/ND ²
	02/09/01	20.45		188.53	ND	ND	ND	ND	ND	ND/ND ²
	05/11/01	17.75		191.23	NĎ	ND	ND	ND	ИD	ND/ND ²
	08/10/01	20.70		188.28	<50	< 0.50	< 0.50	< 0.50	< 0.50	<5.0/<2.0 ²
	11/07/01	23.02		185.96	<50	<0.50	< 0.50	< 0.50	<0.50	<5.0/1.5 ²
	02/06/02	17.19		191.79	<50	<0.50	<0.50	< 0.50	< 0.50	<2.5
	05/08/02	17.59		191.39	<50	<0.50	<0.50	< 0.50	<0.50	<5.0

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	Ť	E	X	MTBE
TOC*(ft)		(ft.)	(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	NĎ	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
	05/08/02				<50	< 0.50	< 0.50	< 0.50	<0.50	<5.0

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

(ft. bgs) = Feet Below Ground Surface

X = Xylenes

E = Ethylbenzene

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.
- 2 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)
	22/21/02								
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	NĎ	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
	05/08/02	<500	<100	81	<2.0	<2.0	<2.0	<2.0	<2.0
MW-2	00/24/00	NO) ID	ND.	N.				
IV1 VV - Z	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	Й	ND	ND	ND	ND	ND	NĎ
	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	NĎ	ND	2.3	ND	ND	ND		
	11/16/00	ND	ND	ND	ND	NĎ	ND		
	02/09/01	ND	ND	ND	ND	ND	ND	ND	ND ·
	05/11/01	NĎ	ND	ND	ND	ND	NĎ	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

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

lient/		,			11		•
acility # <u>00</u>		· · · · · · · · · · · · · · · · · · ·			80260		
ddress: 62	ol Claremo	n+Bl.	vo. Dat	e:	5-8-0	<u> </u>	
ity:	kland; ca	 	San	npler:	Joe	<u> </u>	
Well ID	_mw-1	We	Il Condition:	0.4			
Vell Diameter	$v_{\rm in}$	•	drocarbon A		mount Bail	1	_
otal Depth	30.02 #		ckness: 2°=	0.17	roduct/water		lost_ = 0,66
epth to Water	17.54	1	vctor (VF)	6" = 1.50		12" = 5,80	- 0,00
	12.48 ×	VF _01	1 - 212 x 3 (car	se volume) = Es	nimated Pure	ge Volume: _	6.5 lost
Purge iquipment:	Disposable Bailer		Sampling Equipmen		sable Bail	ec	. 7
	Stack Suction	•		Press	sure Bailer		
	at the same of the same			-Gmh	Sample		
	Structions Other: 8:58 A an Co	858)	Weather Condit	Other:	2 ka/	Odor4	titlus Son
Sampling Time: Purging Flow Rat	Other:	<u>858)</u>	Weather Condit Water Color: Sediment Desc	Other:	2 ka/		•
Sampling Time: Purging Flow Rat Did well de wate Time	Other: 8:58 A an Co e: U-3 foliume pH (gal.)	858) mm. ——————————————————————————————————	Weather Condit Water Color: Sediment Describes; Time: , iductivity () Ten	Other:	2 ka/		Alkalinit
Sampling Time: Purging Flow Rat Did well de wate Time V	Other: Column PH	858)	Weather Condit Water Color: Sediment Describer: If yes; Time: Iductivity () Ten Ithos/cm ()	Other:	Volume D.O.	ORP	Alkalinit (ppm)
Sampling Time: Purging Flow Rat Did well de wate Time	Other: 8:58 A an Co e: U-3 foliume pH (gal.)	858) Con (Con (Weather Condit Water Color: Sediment Describer: If yes; Time: Iductivity () Ten Ithos/cm ()	Other:	Volume D.O.	ORP	Alkalinit
Sampling Time: Purging Flow Rat Did well de wate Time 8:36 8:41	Other: 8:58 A an Co e: 0:50 7:70 1 7.96 1 7.46	858) Con (Con (Weather Condit Water Color: Sediment Descrit If yes; Time: Iductivity ** Ten Thos/cm X	Other: ions: iption: possure F 5 7 8 61. \(\frac{1}{2}\)	Volume D.O.	ORP	Alkalinit
Sampling Time: Purging Flow Rat Did well de wate Time 8:36 8:41	Other: 8:58 A an Co e: 0:50 7:70 1 7.96 1 7.46	858) mm. Con par 6	Weather Condit Water Color: Sediment Descritives; Time: Iductivity 7 Ten Iductivi	Other: ions: iption: **Processor** **F	Volume D.O.	ORP	Alkalinit
Sampling Time: Purging Flow Rat Did well de wate Time 8:36 8:41	Other: 8:58 A an Co e: 0:50 7:70 1 7.96 1 7.46	858) mm. Con par 6	Weather Condit Water Color: Sediment Descrit If yes; Time: Iductivity ** Ten Thos/cm X	Other: ions: iption: **Processor** **F	Volume D.O. (mg/L)	ORP (mV)	Alledinin
Sampling Time: Purging Flow Rat Did well de wate Time 8:36 8:41 8:52	Other: 8:58 A an Co e: 0.5 7:7 Columne pH (gal.) 7.96 7.46 7.46	858) Con (6	Weather Condit Water Color: Sediment Descritive: If yes; Time: Iductivity	Other: ions: Coo iption: 55.8 61.2 61.4	Volume D.O. (mg/L)	ORP (mV)	Alkalinit (ppm)
Sampling Time: Purging Flow Rat Did well de wate Time 8:36 8:41 8:52	Other:	Con (Con (Con (Con (Con (Con (Con (Con (Weather Condit Water Color: Sediment Descritif yes; Time: Iductivity (*) Ten Iductivi	ions: iption: iption: iption: iption: iATION LABORA	Volume D.O. (mg/L)	ORP (mV)	Alkalinit (ppm)
Sampling Time: Purging Flow Rat Did well de wate Time 8:36 8:41 8:52	Other: 8:58 A an Co e: 0.5 e: 7.96 4 7.46 6.5 7.41	Con Con A Con Con	Weather Condit Water Color: Sediment Descritive: If yes; Time: Iductivity	Other: ions: Clea iption:	Volume D.O. (mg/L)	ORP (mV)	Alkalinit (ppm)
Sampling Time: Purging Flow Rat Did well de wate Time 8:36 8:41 8:52	Other: 8:58 A an Co e: 0.5 e: 7.96 4 7.46 6.5 7.41	Con Con A Con Con	Weather Condit Water Color: Sediment Descritive: If yes; Time: Iductivity	Other: ions: Clea iption:	Volume D.O. (mg/L)	ORP (mV)	Alkalinit (ppm)

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility # 00	18	·	Job	#: _1803	264
	01 Claremo	n+ B1	vd. Dat	e: <u>5-8</u>	-02
City: _O&	kland, ca	•	San	npler:	
Well ID	Mw-2	₩e	Condition:	0.4	
Well Diameter	ν_{in}	•	Irocarbon	Amount	The same of the sa
Total Depth	30,05 f			0.17 3° = 0	
Depth to Water	18.63	Fa	ctor (VF)	€ = 1.50	12" = 5,80
	11.42	VF .0.1	1.94 × 3 (cas	sa volumai = Estimated	Purge Volume: 6 [gai]
Purge Equipment:	Disposable Bailer Bailer		Sampling Equipmen	The state of the s	Railer
Edathment.	Stack	_	24,00,000	Bailer	
	Suction Grundfos	•		Pressure Ba Grab Samp	
	Other:		.3	Other:	 .
Starting Time: Sampling Time: Purging Flow Rate	7:40A m (074	10)	Weather Conditi Water Color: Sediment Descri	dear	Odor nou e
Did well de-water	?	:	If yes; Time:	Voli	ıme:
.1	clume . pH (gal.) 2 7.57	12	descrivity 10° Tem hos/cm x	-C (mg/L)	
7:29	7.72			6.1	
	~			_	
				<u> </u>	
· · · · · · · · · · · · · · · · · · ·	, ,		· ·		
SAMPLE ID	(#) - CONTAINER		RATORY INFORM		ANALYSES
SAMPLE ID Mu - 2	(#) - CONTAINER	LABOI REFRIG.	RATORY INFORM PRESERV. TYPE HCL	IATION LABORATORY Seq.	ANALYSES TPHG.BTEX,MTBE
		REFRIG.	PRESERV. TYPE	LABORATORY	
		REFRIG.	PRESERV. TYPE	LABORATORY	
Mu - 2		REFRIG.	PRESERV. TYPE	LABORATORY	
		REFRIG.	PRESERV. TYPE	LABORATORY	

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility # 00	18		Job	#:	18026	4	
	ol Claremo	+ B1.	vd. Date	e:	5-8-0	ب ر	·
	Fland, ca			npler:	Joe	·	
Well ID	MW-3	Wel	ll Condition:	0.	<u>k</u> -		
Well Diameter	2 in	-	Irocarbon	in.	Amount Bai	1	. Ind 1
Total Depth	29.98	T		0.17	3" = 0.38	, , , , , , , , , , , , , , , , , , , 	= 0. 66
Depth to Water	17.59	F-	ctor (VF)	6" = 1.		12" = 5,80	
	1239 x	VF <u>-0.1</u>	_ <u>2//</u> x 3 (cas	se volume) =	Estimated Pur	rge Volume:	a S lond 1
Purge	Disposable Bailer		Sampling Equipmen		posable Bai	ilar	•
Equipment:	Stack	. ·	Equipmen	~	ier Poseone can		. *
	Suction	*.			essure Baîler ab Sample	ſ	
	Grundfos Other:		, 'व	، Other: ــــ	•		
-		Con	Water Color: Sediment Descritives; Time: ductivity Tenders Tende	iption:		Odor: ALC	Alkalinity (ppm)
						·	
		1 6 80	RATORY INFORM	······································			·
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABO	RATORY	ANAL	YSES
MW-3	FORE	Υ	HCL	Se	q.·	TPHG.BT	EX, MTBE
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COMMENTS: _		·	•				
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23 May, 2002

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

RE: Tosco(1)

Sequoia Work Order: L205033

Enclosed are the results of analyses for samples received by the laboratory on 05/09/02 15:45. If you have any questions concerning this report, please feel free to contact me.

THERE BURGERY

ENTERAL FORESTANCE WAS A

Sincerely,

Richard G. Yee For Wayne Stevenson

Project Manager

CA ELAP Certificate #2360



1455 McDowell Blvd, North Ste D Petaluma, CA 94954 (707) 792-1865 FAX (707) 792-0342 www.sequoialabs.com

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

Project: Tosco(1)

Project Number: Tosco #0018, Oakland

Project Manager: Deanna Harding

Reported:

05/23/02 15:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L205033-01	Water	05/08/02 00:00	05/09/02 15:45
MW-1	L205033-02	Water	05/08/02 08:58	05/09/02 15:45
MW-2	L205033-03	Water	05/08/02 07:40	05/09/02 15:45
MW-3	L205033-04	Water	05/08/02 08:20	05/09/02 15:45

Sequoia Analytical - San Carlos

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



Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Tosco #0018, Oakland

Project Manager: Deanna Harding

Reported: 05/23/02 15:46

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (L205033-01) Water Sampled	05/08/02 00:00	Received:	05/09/02	15:45					
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	2050047	05/21/02	05/21/02	EPA 8021B	
Benzene	ND	0.50	11	II	11		II.	11	
Toluene	ND	0.50	**	ıı	n		11	•	
Ethylbenzene	ND	0.50	¥f	H	H	"	*	•	
Xylenes (total)	ND	0.50	*	n	it	n	77	n	
Methyl tert-butyl ether	ND	5.0			II.	**		H	
Surrogate: a,a,a-Trifluorotoluene		99.4 %	70-	130	#	"	п	n ·	•
MW-1 (L205033-02) Water Sampled:	05/08/02 08:58	Received: 0	5/09/02 1	5:45					
Purgeable Hydrocarbons as Gasoline	890	250	u g/l	5	2050053	05/22/02	05/22/02	EPA 8021B	P-03
Benzene	ND	2.5	Ħ	"	u	11	н		
Toluene	ND	2.5	n	Ħ	Ħ	17	п	ŧτ	
Ethylbenzene	ND	2.5	Ħ	*		**	н	н	
Xylenes (total)	ND	2.5	n	#	H	**	11	11	
Methyl tert-butyl ether	78	25	II		n	H .	11		·
Surrogate: a,a,a-Trifluorotoluene		127 %	70-	130	"	H	*	п	
MW-2 (L205033-03) Water Sampled:	05/08/02 07:40	Received: 0	5/09/02 1	5:45	<u>.</u>			<u></u>	··
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	2050047	05/21/02	05/22/02	EPA 8021B	
Benzene	ND	0.50	11	**	•	n	#	H	
Toluene	ND	0.50	u	**	Ħ	H	•	n	
Ethylbenzene	ND	0.50	•	н	47	н	н	u	
Xylenes (total)	ND	0.50	er	H	n	"	11	•	
Methyl tert-butyl ether	ND	5.0	P	"	"	н	11		<u></u>
Surrogate: a,a,a-Trifluorotoluene		106 %	70-	130	rr	H	n	"	



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

Project: Tosco(1)

Project Number: Tosco #0018, Oakland

Project Manager: Deanna Harding

Reported:

05/23/02 15:46

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (L205033-04) Water Sampled: 0	5/08/02 08:20	Received: 0	5/09/02 1	5:45					
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	2050047	05/21/02	05/22/02	EPA 8021B	
Benzene	ND	0.50	11	н	ri	H	*	B 40213	
Toluene	ND	0.50	#		10	11		н	
Ethylbenzene	ND	0.50	17	**	н	**	n	11	
Xylenes (total)	ND	0.50	н	н	et	Ħ	11	,	
Methyl tert-butyl ether	ND	5.0	**	*	и	н .	н	**	
Surrogate: a,a,a-Trifluorotoluene		104 %	70-1	130	*	"	rr	н	



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

Dublin CA, 94568

Project: Tosco(1)

Project Number: Tosco #0018, Oakland

Project Manager: Deanna Harding

Reported: 05/23/02 15:46

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 (L205033-02) Water	Sampled: 05/08/02 08:58	Received: 0	5/09/02 1	15:45					
Ethanol	ND	500	ug/l	1	2050016	05/13/02	05/13/02	EPA 8260B	
1,2-Dibromoethane	NĎ	2.0		π	#	N	н	#	
1,2-Dichloroethane	ND	2.0	ŧí	**	0	н	n	п	
Di-isopropyl ether	ND	2.0	н	n	R	и	H	10	
Ethyl tert-butyl ether	ND	2.0	n	n	н	11	n	"	
Methyl tert-butyl ether	81	2.0	19	п	n	₩.	н	Ħ	
Tert-amyl methyl ether	ND	2.0	н	£r.	**	H	W	P	
Tert-butyl alcohol	ND	100	10		n	. "	#	н	
Surrogate: 1,2-Dichloroethan	e-d4	110%	70-	130	11	μ	"	н	
Surrogate: Toluene-d8		94.0 %	70-	130	tr	"	rr .	"	





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

Project: Tosco(1)

Project Number: Tosco #0018, Oakland

Project Manager: Deanna Harding

Reported: 05/23/02 15:46

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2050047 - EPA 5030B (P/T)		Dank	Ome	Bever	Nesun	/uktsc	Limits	Nr.D	THIII	ivotes
Blank (2050047-BLK1)		<u>-</u>		Prepared	& Analyz	ed: 05/21/	02			
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	Tepareu	& Allaly Zi	SG. 03/21/	02			
Веплене	ND	0.50	ugr,							
Toluene	ND	0.50	*							
Ethylbenzene	ND	0.50	н							
Xylenes (total)	ND	0.50	п							
Methyl tert-butyl ether	ND	5.0	11							
Surrogate: a,a,a-Trifluorotoluene	9.22		п	10.0		92.2	70-130			
LCS (2050047-BS1)				Prepared &	& Analyze	ed: 05/21/0	02			
Benzene	9.22	0.50	ug/l	10.0		92.2	70-130			
Toluene	8.81	0.50	"	10.0		88.1	70-130			
Ethylbenzene	8.09	0.50	H	10.0		80.9	70-130			
Xylenes (total)	24.2	0.50	п	30.0		80.7	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.1		"	10.0		. 101	70-130			i
LCS (2050047-BS2)				Prepared &	& Analyze	d: 05/21/0)2			
Purgeable Hydrocarbons as Gasoline	243	50	ug/l	250	.	97.2	70-130			
Surrogate: a,a,a-Trifluorotoluene	9.82		17	10.0	÷-	98.2	70-130			
Matrix Spike (2050047-MS1)	Sour	rce: L205032	-05	Prepared &	k Analyze	d: 05/21/0	12			
Benzene	9.68	0.50	ug/l	10.0	ND	96.8	60-140			
°oluene	9.24	0.50	,,	10.0	ND	92.4	60-140			
Ethylbenzene	8.70	0.50	н	10.0	ND	87.0	60-140			
(ylenes (total)	25.7	0.50	μ	30.0	ND	85.7	60-140			
urrogate: a,a,a-Trifluorotoluene	9.98	· · · · · · · · · · · · · · · · · · ·	rr	10.0		99.8	70-130			
Matrix Spike Dup (2050047-MSD1)	Sour	ce: L205032	-05	Prepared &	z Analyze	d: 05/21/0	2			
Benzene	10,2	0.50	ug/l	10.0	ND	102	60-140	5.23	25	
oluene	9.63	0.50	п	10.0	ND	96.3	60-140	4.13	25	
thylbenzene	9.14	0.50	Ħ	10.0	ND	91.4	60-140	4.93	25	

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

Dublin CA, 94568

Project: Tosco(1)

Project Number: Tosco #0018, Oakland Project Manager: Deanna Harding Reported: 05/23/02 15:46

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2050047 - EPA 5030B (P/T)										
Matrix Spike Dup (2050047-MSD1)	Source: L205032-05			Prepared a	& Analyze	d: 05/21/0)2			
Xylenes (total)	26.8	0.50	ug/l	30.0	ND	89.3	60-140	4.19	25	
Surrogate: a,a,a-Trifluorotoluene	10.4		n	10.0		104	70-130	<u>.</u>		
Batch 2050053 - EPA 5030B (P/T)									-	
Blank (2050053-BLK1)				Prepared a	& Analyze	d: 05/22/0)2			
Purgeable Hydrocarbons as Gasoline	ND	50	u g/l							
Benzene	ND	0.50	*							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	н							
Xylenes (total)	ND	0.50	h							
Methyl tert-butyl ether	ND	5.0	н							
Surrogate: a,a,a-Trifluorotoluene	10.5		"	10.0		105	70-130			
LCS (2050053-BS1)				Prepared &	& Analyze	d: 05/22/0)2			
Вепzепе	9.09	0.50	ug/l	10.0		90.9	70-130			
Toluene	8.60	0.50	н	10.0		86.0	70-130			
Ethylbenzene	7.95	0.50	"	10.0		79.5	70-130			
Xylenes (total)	23.9	0.50	н	30.0		79.7	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.6		"	10.0		106	70-130			
LCS (2050053-BS2)				Prepared &	k Analyze	d: 05/22/0)2		_	
Purgeable Hydrocarbons as Gasoline	235	50	ug/l	250		94.0	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.6	<u> </u>	<i>"</i>	10.0		106	70-130			
Matrix Spike (2050053-MS1)	Sou	rce: L205040	Prepared &							
Purgeable Hydrocarbons as Gasoline	253	50	ug/l	250	ND	101	60-140			
Surrogate: a,a,a-Trifluorotoluene	9.10	· · · · · · · · · · · · · · · · · · ·	tt	10.0	· ·- · · · · · · · · · · · · · · · · ·	91.0	70-130			



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

Project: Tosco(1)

Project Number: Tosco #0018, Oakland

Project Manager: Deanna Harding

Reported: 05/23/02 15:46

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2050053 - EPA 5030B (P/T)							1			
Matrix Spike Dup (2050053-MSD1)	Source: L205040-06			Prepared	& Analyze	d: 05/22/0			· .	
Purgeable Hydrocarbons as Gasoline	270	50	ug/l	250	ND	108	60-140	6.50	25	· · · · · · · · · · · · · · · · · · ·
Surrogate: a,a,a-Trifluorotoluene	10.3	<u>. </u>	μ	10.0		103	70-130			· · · ·



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

Project: Tosco(1)

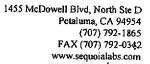
Project Number: Tosco #0018, Oakland

Project Manager: Deanna Harding

Reported: 05/23/02 15:46

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	Note
Batch 2050016 - EPA 5030B [P/T]										
Blank (2050016-BLK1)				Prepared	& Analyze	d: 05/08/0	02		· · · · · · · · · · · · · · · · · · ·	
Ethanol	ND	500	ug/l							
1,2-Dibromoethane	ND	2.0	н							
1,2-Dichloroethane	ND	2.0	h							
Di-isopropyl ether	ND	2.0	и							
Ethyl tert-butyl ether	ND	2.0	**							
Methyl tert-butyl ether	ND	2.0								
Tert-amyl methyl ether	ИD	2.0	"							
Tert-butyl alcohol	ND	100	н							
Surrogate: 1,2-Dichloroethane-d4	52.1	 -	,,	50.0		104	70-130	·		
Surrogate: Toluene-d8	50.0		n	50.0		100	70-130			
Blank (2050016-BLK2)				Prepared &	& Anaivze	d: 05/10/0	02			
Ethanol	ND	500	ug/l							
,2-Dibromoethane	ND	2.0	91						-	
1,2-Dichloroethane	ND	2.0	77							
Di-isopropyl ether	ND	2.0	4							
Ethyl tert-butyl ether	ND	2.0	Ħ							
Methyl tert-butyl ether	ND	2.0	n							
Tert-amyl methyl ether	ND	2.0	H							
Fert-butyl alcohol	ND	100	Ħ							
furrogate: 1,2-Dichloroethane-d4	49.1		11	50.0		98.2	70-130	·	-	
Eurrogate: Toluene-d8	47.4		**	50,0		94.8	70-130			
Blank (2050016-BLK3)				Prepared &	k Analyze	d: 05/13/0	2			
Ethanol	ND	500	ug/l	-	-					
,2-Dibromoethane	ND	2.0	el .							
,2-Dichloroethane	ND	2.0	н							
Di-isopropyl ether	ND	2.0	11							
thyl tert-butyl ether	ND	2.0	I I							
fethyl tert-butyl ether	ND	2.0	*1							
ert-amyl methyl ether	ND	2.0	H							
ert-butyl alcohol	ND	100								





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

Project: Tosco(1)

Project Number: Tosco #0018, Oakland Project Manager: Deanna Harding

Reported: 05/23/02 15:46

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	Not
<u> </u>	Result		Onna	react	Kesun	70KEC	Limits	KPU	Limit	Notes
Batch 2050016 - EPA 5030B [P/T]			<u>.</u>							
Blank (2050016-BLK3)				Prepared	& Analyze	ed: 05/13/	02			
Surrogate: 1,2-Dichloroethane-d4	48.8		ug/l	50.0		97.6	70-130			
Surrogate: Toluene-d8	48.2		"	50.0		96.4	70-130			
LCS (2050016-BS1)				Prepared	& Analyze	ed: 05/08/	02			
Methyl tert-butyl ether	44.3	2.0	ug/l	50.0		88.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	51.0		"	50.0		102	70-130			····
Surrogate: Toluene-d8	51.6		77	50.0		103	70-130			
LCS (2050016-BS2)				Prepared of	& Analyze	:d: 05/10/0	02			
Methyl tert-butyl ether	43.0	2.0	ug/l	50.0		86.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	49.0		n	50.0		98.0	70-130			
Surrogate: Toluene-d8	48.5		"	50.0		97.0	70-130			
LCS (2050016-BS3)				Prepared a	& Analyze	d: 05/13/0)2			
Methyl tert-butyl ether	51.1	2.0	ug/l	50.0	-	102	70-130			
Surrogate: 1,2-Dichloroethane-d4	50.7		"	50.0	_	101	70-130			
Surrogate: Toluene-d8	50.2		"	50.0		100	70-130			
Matrix Spike (2050016-MS1)	Sou	rce: L205016	6-05	Prepared &	k Analyze	d: 05/08/0	2		٠	
Methyl tert-butyl ether	47.1	2.0	ug/l	50.0	ND	94.2	60-140	·4.		-
Surrogate: 1,2-Dichloroethane-d4	50.0		ıţ	50.0		100	70-130			· · · · · · · · · · · · · · · · · · ·
Surrogate: Toluene-d8	51.2		"	50.0		102	70-130			
Matrix Spike Dup (2050016-MSD1)	Sour	rce: L205016	5-05	Prepared &	k Analyzeα	d: 05/08/0	2			
Methyl tert-butyl ether	45.8	2.0	ug/l	50.0	ND	91.6	60-140	2.80	25	
urrogate: 1,2-Dichloroethane-d4	51.0		,,	50.0		102	70-130			
urrogate: Toluene-d8	52.0		"	50.0		102	70-130 70-130			



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Gettler-Ryan/Geostrategies(1)

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Dublin CA, 94568

Project: Tosco(1)

Project Number: Tosco #0018, Oakland

Project Manager: Deanna Harding

Reported:

05/23/02 15:46

Notes and Definitions

P-03 Chromatogram Pattern: Unidentified Hydrocarbons C6-C12

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference