

# GETTLER-RYAN INC.

# TRANSMITTAL

March 25, 2002 G-R #180021

TO:

Mr. David B. De Witt

Phillips 66 Company

2000 Crow Canyon Place, Suite 400

San Ramon, California 94583

CC: Mr. Doug 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 (Unocal) Service Station** 

#6419

6401 Dublin Boulevard Dublin, California

#### WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	March 20, 2002	Groundwater Monitoring and Sampling Report First Semi-Annual - 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 8, 2002, this report will be distributed to the following:

Ms. Eva Chu, Alameda County Health Care Services, 1131 Harbor Bay Pkwy., Alameda, CA 94502 cc:

Enclosure



March 20, 2002 G-R Job #180021

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

RE: First Semi-Annual Event of February 6, 2002

Groundwater Monitoring & Sampling Report

Tosco (Unocal) Service Station #6419

6401 Dublin Boulevard Dublin, 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. Dissolved Oxygen Concentrations are summarized in Table 3. 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, 2 and 4. 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 Rroject Coordinator

Senior Geologist, R.G. No. 6882

Figure 1: Figure 2: Potentiometric Map Concentration Map

Table 1: Table 2: Groundwater Monitoring Data and Analytical Results
Groundwater Analytical Results - Oxygenate Compounds

Table 3:

**Dissolved Oxygen Concentrations** 

Table 4:

Groundwater Analytical Results - Metals

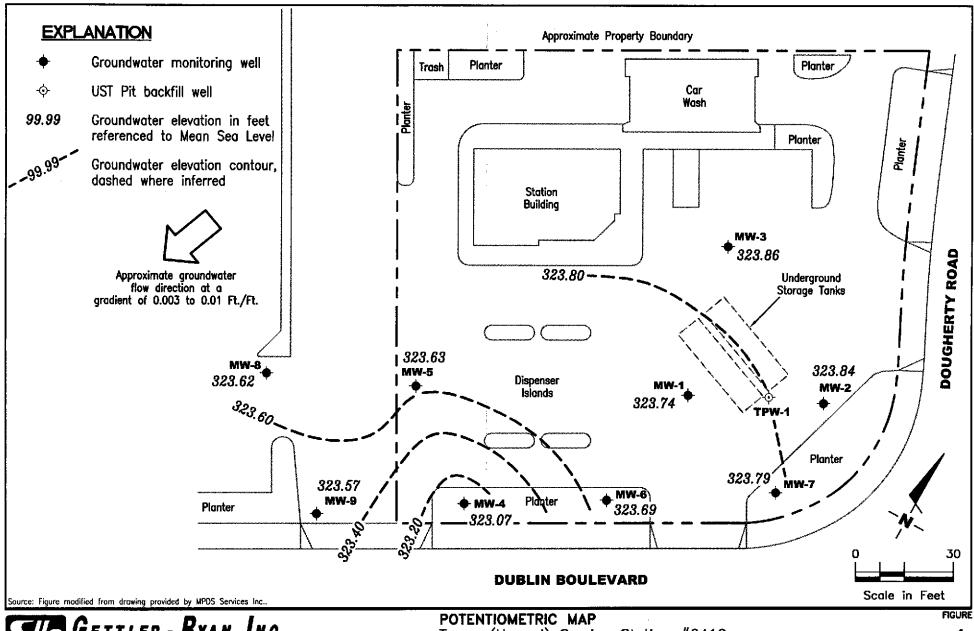
Attachments:

Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

6419.qml

Chain of Custody Document and Laboratory Analytical Reports

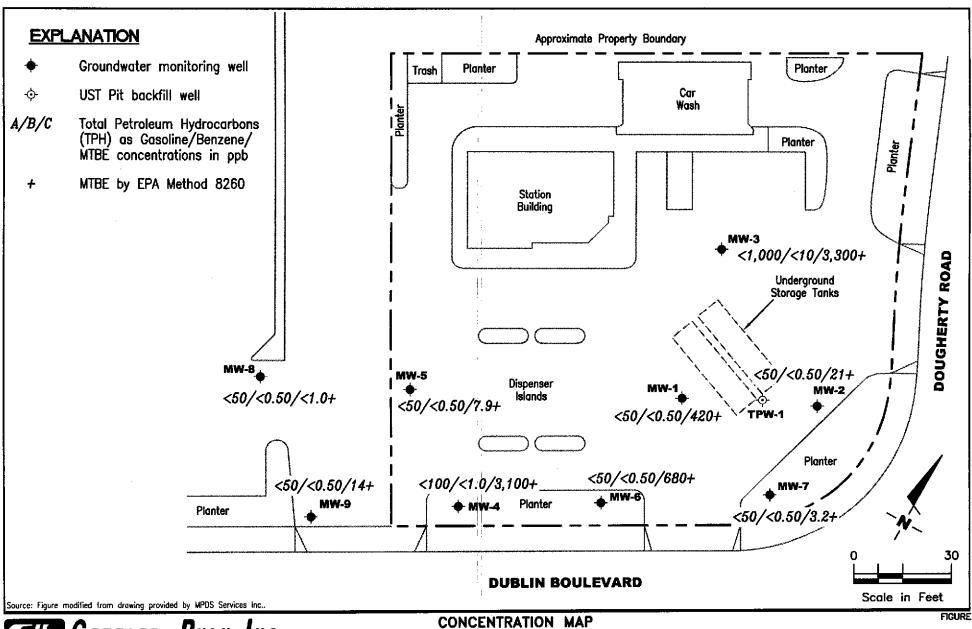




REVISED DATE

PROJECT NUMBER REVIEWED BY 180021

DATE February 6, 2002





REVIEWED BY

Tosco (Unocal) Service Station #6419

6401 Dublin Boulevard Dublin, California

DATE

REVISED DATE February 6, 2002

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PROJECT NUMBER

Table 1
Groundwater Monitoring Data and Analytical Results

						Dubin, Californ	ua.				
WELL ID/	DATE	DTW	S.I.	GWE	TPH-D	TPH-G	В	T	E	X	MTBE
TOC*(ft)		(fL)	(ft.bgs)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(pph)	(ppb)
MW-1											
330.45	03/14/94	7.27	4.0-19.0	323.18	810 <sup>1</sup>	1,800 <sup>2</sup>	17	ND	ND	ND	
	08/25/94	8.57		321.88	910 <sup>3</sup>	$9,200^{2}$	48	ND	540	ND	
	09/30/94	8.78		321.67			<u></u>				
	10/20/94	8.98		321.47	••	**					
	11/18/94	7.69		322.76	910 <sup>3</sup>	5,100	33	ND	560	38	
	12/20/94	7.58		322.87							
	01/17/95	6.03		324.42						· <b></b>	
	02/15/95	6.29		324.16	660¹	3,300	13	ND	180	5.2	
	03/13/95	5.64		324.81							
	04/06/95	5.62		324.83							
	05/17/95	6.26		324.19	$200^{3}$	130	0.75	ND	1.5	ND	
	06/15/95	6.75		323.70							
	08/25/95	7.91		322.54	_	490	9.1	ND	21	2.0	<sup>5</sup>
	11/28/95	9.03		321.42		1,400	18	3.0	98	3.6	5
	02/26/96	5.77		324.68		560	9.3	ND	22	ND	1,300
	08/23/96	7.78		322.67	_	ND	ND	ND	ND	ND	640
330.23	02/17/97	5.73		324.50		120 <sup>4</sup>	1.0	0.95	ND	ND	280
	08/18/97	7.38		322.85		ND	ND	ND	ND	ND	100
	02/02/98 <sup>6</sup>	5.10		325.13		ND <sup>7</sup>	130	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>1</sup>	32,000
	08/24/98	6.73		323.50		$ND^7$	$ND^7$	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	26,000/24,000 <sup>8</sup>
	02/10/99	5.46		324.77		NID <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	$ND^7$	$ND^7$	84,000/100,000 <sup>8</sup>
	04/12/99	6.38		323.85		ND7	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	140,000/120,000
330.21	05/21/99	5.95		324.26			••				
	08/02/99	6.75		323.46		ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	$ND^7$	91,000/140,000 <sup>10</sup>
	02/11/00	6.44		323.77		ND <sup>7</sup>	$ND^7$	ND <sup>7</sup>	$ND^7$	ND <sup>7</sup>	38,000/39,000
330.18	07/26/00 <sup>13</sup>	7.08		323.10		146 <sup>12</sup>	ND	ND	ND	ND	30,900/42,800 <sup>10</sup>
	02/02/01	6.99		323.19		ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	$ND^7$	5,380/6,430 <sup>8</sup>
	08/24/01	7.72		322.46		<50	8.3	< 0.50	< 0.50	<0.50	10,000/6,600 <sup>8</sup>
330.17	10/11/01	7.72		322.45							
= 2	02/06/02	6.43		323.74		<50	<0.50	<0.50	<0.50	< 0.50	450/420 <sup>8</sup>

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	S.I.	GWE	TPH-D	TPH-G	В	T	E	X	3 / 4 1 1
TOC*(f)		(ft.)	(ft.bgs)	(msl)	(ppb)	(ppb)	(ppb)	1 (ppb)	e (ppb)	(ppb)	MTBE (ppb)
				The state of the s		9.		NATA-A	**************************************	лрро)	(VPU)
MW-2											
330.40	03/14/94	7.23	4.0-20.0	323.17		ND	ND	2.8	1.1	8.0	
	08/25/94	8.41		321.99		ND	ND	ND	ND	ND	 
	09/30/94	8.73		321.67							
	10/20/94	8.92		321.48			<del></del>				
	11/18/94	7.67		322.73		ND	ND	ND	ND	ND:	
	12/20/94	7.48		322.92							
	01/17/95	6.00		324.40							
	02/15/95	6.16		324.24	**	ND	ND	ND	ND	ND	
	03/13/95	5.59		324.81			_		<del></del>		
	04/06/95	5.51		324.89				·			
	05/17/95	6.15		324.25		ND	ND	ND	ND	ND	
	06/15/95	6.61		323.79							
	08/25/95	7.45		322.95		ND	ND	ND	ND	ND	
	11/28/95	8.85		321.55		ND	ND	ND	ND	ND	
	02/26/96	5.49		324.91		ND	ND	ND	ND	ND	
	08/23/96	7.44		322.96	SAMPLED AND	NUALLY					
330.27	02/17/97	5.64		324.63	·	· ND	ND	ND	ND	ND	ND
	08/18/97	7.40		322.87							
	02/02/98	5.09		325.18		ND	ND	ND	ND	ND	62
	08/24/98	6.70		323.57							
	02/10/99	5.56		324.71		ND	ND	ND	ND	ND	130
30.30	05/21/99	5.98		324.32							
	08/02/99	6.72		323.58		ND	ND	ND	ND	ND	120
	02/11/00	6.43		323.87		ND	ND	ND	ND	ND	39
30.24	07/26/0013	7.03		323.21		ND	ND	ND	ND	ND	89.9
	02/02/01	6.81		323.43	· 	ND	ND	ND	ND	ND	20.1
	08/24/01	7.57		322.67	••	<50	< 0.50	< 0.50	< 0.50	<0.50	36
330.24	10/11/01	7.62		322.62					·		
	02/06/02	6.40		323.84		<50	< 0.50	<0.50	< 0.50	< 0.50	23/218

Table 1
Groundwater Monitoring Data and Analytical Results

						<b>,</b>					
WELL ID/	DATE	DTW	S.I.	GWE	TPH-D	TPH-G	В	T	E	X	MTBE
roc* <i>(ft)</i>		(ft.)	(ft.bgs)	(msl)	(ррв)	(ppb)	(ppb)	(ppb)	(ррв)	(ppb)	(ppb)
MW-3											
331.11	03/14/94	7.93	4.0-20.0	323.18		150 <sup>4</sup>	ND	ND	ND	ND	·
	08/25/94	9.20		321.91		130 <sup>4</sup>	ND	ND	ND	ND	u
	09/30/94	9.43		321.68							
	10/20/94	9.64		321.47				·			
	11/18/94	8.39		322.72		130 <sup>4</sup>	ND	ND	ND	ND	
	12/20/94	8.20		322.91							
	01/17/95	6.72		324.39							
	02/15/95	6.93		324.18		130 <sup>4</sup>	ND	ND	ND	ND	
	03/13/95	6.30		324.81							
	04/06/95	8.20		322.91							<del></del>
	05/17/95	6.88		324.23		99 <sup>4</sup>	ND	ND	ND	ND	
	06/15/95	7.35		323.76							
	08/25/95	8.20		322.91		ND	ND	ND	ND	ND	5
	11/28/95	9.52		321.59		ND	ND	ND	ND	ND	
	02/26/96	6.25		324.86		ND	ND	ND	ND	ND	5
	08/23/96	7.98		323.13	SAMPLED AN	NUALLY					
330.68	02/17/97	6.07		324.61		ND	ND	ND	ND	ND	68
	08/18/97	7.82		322.86							
	02/02/98	5.50		325.18		ND	ND	ND	ND	ND	100
	08/24/98	7.12		323.56		lj:					
	02/10/99	5.80		324.88		ND	ND	ND	ND	ND	92
330.49	05/21/99	6.16		324.33							
	08/02/99	6.95		323.54		ND	ND	ND	ND	ND	140
	02/11/00	6.71		_11		ND	ND	ND	ND	ND	46
330.60	07/26/00 <sup>13</sup>	7.35		323.25		ND	ND	ND	ND	ND	927
=- = -	02/02/01	7.17		323.43		ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	$ND^7$	2,240
	08/24/01	7.88		322.72		<50	<0.50	<0.50	< 0.50	<0.50	2,500
330.59	10/11/01	7.83		322.76			-				
	02/06/02	6.73		323.86		<1,000	<10	<10	<10	<10	4,300/3,300

Table 1
Groundwater Monitoring Data and Analytical Results

Description of the second						Dubin, Cambi	11144				
WELL ID/	DATE	DTW	S.I.	GWE	TPH-D	TPH-G	В	T	E	X	MTBE
ГОС* <i>(ft)</i>		<u>(fi.)</u>	(ft.bgs)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-4											
330.36	05/21/99 <sup>9</sup>	6.43	4.0-19.0	323.93	_	ND	ND	ND	ND	ND	960/910 <sup>8</sup>
	08/02/99	7.34		323.02	<b>194</b>	ND	10	ND	13	טא 11	
	02/11/00	6.92		323.44		ND	ND	ND	ND		ND
330.35	07/26/0013	7.68		322.67		ND	ND	ND	ND	ND	2,700
	02/02/01	7.40		322.95	<u></u>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND ND <sup>7</sup>	3,710
	08/24/01	8.14		322.21		<50	<0.50	<0.50	<0.50	<0.50	5,340
330.35	10/11/01	8.29		322.06					~0.50	~0.30 	7,800
	02/06/02	7.28		323.07		<100	<1.0	<1.0	<1.0	<1.0	2,300/3,100 <sup>8</sup>
MW-5											
30.20	05/21/99 <sup>9</sup>	5.99	4.0-19.0	324.21		ND	ND	ND	ND	ND	32/33 <sup>8</sup>
	08/02/99	6.83		323.37		ND	ND	ND	ND	ND	230
	02/11/00	6.34		323.86		ND	ND	ND	ND	ND	98
	07/26/0013	7.06		323,14		ND	ND	ND	ND	ND	25.9
	02/02/01	6.81		323.39		ND	ND	ND	ND	ND	18.0
	08/24/01	7.60		322.60		<50	< 0.50	< 0.50	<0.50	< 0.50	18
30.18	10/11/01	7.34		322.84							
	02/06/02	6.55		323.63		<50	<0.50	<0.50	<0.50	<0.50	7.7/7.9 <sup>8</sup>
MW-6											
30.49	05/21/99 <sup>9</sup>	6.24	4.0-19.0	324.25	••	ND	ND	ND	ND	ND	2,200/2,3008
	08/02/99	7.10	110 1210	323.39		ND	ND	ND	ND	ND	ND
	02/11/00	6.60		323.89	••	ND	ND	ND	ND	ND	2,500
	07/26/00 <sup>13</sup>	7.31		323.18		ND	ND	ND	ND	ND	4,280
	02/02/01	7.02		323.47		ND <sup>7</sup>	1,990				
	08/24/01	7.84		322.65		<200	<2.0	<2.0	<2.0	<2.0	1,100
30.47	10/11/01	8.03		322.44							.,
	02/06/02	6.78		323.69		<50	<0.50	< 0.50	<0.50	<0.50	610/680 <sup>8</sup>

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	S.I.	GWE	TPH-D	TPH-G	В	T	E	X	MTBE
TOC*(ff)	50.14	(ft.)	(ft.bgs)	(msl)	(ppb)	(ppb)	(pph)	(ppb)	(ppb)	(ppb)	(ppb)
					V			(PP	N. Z.	11.	WPS
MW-7											
330.43	05/21/99 <sup>9</sup>	6.13	4.0-19.0	324.30		ND	ND	ND	ND	ND	22/228
	08/02/99	6.92		323.51		ND	ND	ND	ND	ND	31
	02/11/00	6.50		323.93		ND	ND	ND	ND	ND	20
	07/26/0013	7.18		323.25		ND	ND	ND	ND	ND	17.9
	02/02/01	6.95		323.48		ND	ND	ND	ND	ND	ND
	08/24/01	7.72		322,71		<50	< 0.50	< 0.50	< 0.50	< 0.50	4.4
30.41	10/11/01	7.87		322.54							
	02/06/02	6.62		323.79		<50	< 0.50	< 0.50	< 0.50	< 0.50	$3.9/3.2^8$
MW-8											
29.97	10/11/01	7.57		322.40	~-	<50	<0.50	< 0.50	< 0.50	< 0.50	<2.5/<2.08
	02/06/02	6.35		323.62		<50	< 0.50	<0.50	<0.50	<0.50	<2.5/<1.08
	v=. v u. v=	V		V-V-V-			10,000			4000	
MW-9											
329.51	10/11/01	7.12		322.39		<50	<0.50	<0.50	<0.50	<0.50	22/15 <sup>8</sup>
329.31	02/06/02	5.94		323.57		<50	<0.50	<0.50	<0.50	<0.50	19/14 <sup>8</sup>
	02/00/02	5.94		343 <i>3</i> 1		<b>C30</b>	XII.50	<b>10.50</b>	70.50	70120	27.2
rip Biank											
rb-lb	02/02/98					ND	ND	ND	ND	ND	ND
	08/24/98					ND	ND	ND	ND	ND	ND
	02/10/99	<del></del>			**	ND	ND	ND	ND	ND	ND
	04/12/99					ND	ND	ND	ND	ND	ND
	05/21/99					ND	ND	ND	ND	ND	ND
	08/02/99	<b></b> .				ND	ND	ND	ND	ND	ND
	02/11/00					ND	ND	ND	ND	ND	ND
	07/26/0013			••		ND	ND	ND	ND	ND	ND

# Table 1

# Groundwater Monitoring Data and Analytical Results

WELL ID/ TOC*(ft)	ou con social de la caracter de la constant d	DTW	S.I. GWE	TPH-D	TPH-G	В	Т	000000000000000000000000000000000000000		900000000000000000000000000000000000000
noc m		(fi.)	(ft.bgs) (msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
TB-LB	02/02/01				ND	ND	ND	ND	ND	ND
(cont)	08/24/01				<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5
	02/06/02			••	<50	<0.50	<0.50	< 0.50	< 0.50	<2.5

#### Table 1

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

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, California

#### **EXPLANATIONS:**

Groundwater monitoring data and laboratory results prior to February 2, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing

TPH-D = Total Petroleum Hydrocarbons as Diesel

(ppb) = Parts per billion

-- = Not Measured/Not Analyzed

DTW = Depth to Water

TPH-G = Total Petroleum Hydrocarbons as Gasoline

ND = Not Detected

(ft.) = Feet

B = Benzene

S.I. = Screen Interval

T = Toluene E = Ethylbenzene

(ft.bgs) = Feet Below Ground Surface

X = Xylenes

GWE = Groundwater Elevation (msl) = Mean sea level

MTBE = Methyl tertiary butyl ether

TOC elevations were resurveyed on November 1, 2001, by Virgil Chavez Land Surveying. The benchmark for the survey was a chiseled square on top center of the concrete curb at the north curb return at the northwest corner of the intersection of Dougherty Road and Dublin Boulevard, (Benchmark Elevation = 330.60 ft., NGVD 1929).

TOC elevations have been surveyed relative to msl, per the benchmark on the northwest corner of Dougherty Road and Sierra Way, (Elevation = 331.728 feet, msl). These TOC elevations have been used prior to the February 17, 1997 monitoring event. TOC elevations have been resurveyed (after station rebuilding) relative to msl, per the Benchmark on the northwest corner of Dougherty Road and Sierra Way, (Elevation = 331.728 feet, msl). TOC elevations were surveyed on August 18, 2000.

- Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 ppb in the sample collected from this well.
- Well appears to be obstructed at approximately 9 feet.
- Detection limit raised. Refer to analytical reports.
- MTBE by EPA Method 8260.
- Ethanol, t-butanol (TBA), di-isopropyl ether (DIPE), ethyl t-butyl ether (ETBE), and t-amyl methyl ether (TAME) by EPA Method 8260 were all ND.
- MTBE by EPA Method 8260, was analyzed past EPA recommended hold time. t0
- п TOC has been damaged. Cannot accurately calculate GWE.
- Laboratory report indicates unidentified hydrocarbons C6-C12. 12
- Laboratory report indicates insufficient preservative to reduce ample pH to less than 2. Sample was analyzed within 14 days, but beyond the seventh 13 day recommended for Benzene, Toluene, Xylene and Ethylbenzene.

Table 2
Groundwater Analytical Results - Oxygenate Compounds

Dublin, California													
WELLID	DATE	ETHANOL	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB				
		(ррб)	(ppb)	(ppb)	(ppb)	(ррб)	(ppb)	(ppb)	(ppb)				
fW-1	07/26/00	••	ND <sup>1</sup>	42,800	ND <sup>1</sup>	ND <sup>1</sup>	ami	1					
	02/02/01		-	6,430	,		ND¹	ND <sup>1</sup>	ND				
	08/24/01	<25,000	<1,000	6,600	<100								
	02/06/02	<2,500	<100	420		<100	<100	<100	<100				
		-,500	~100	420	<5.0	<5.0	<5.0	<5.0	<5.0				
/IW-2	02/06/02	<500	<20	21	<1.0	<1.0	<1.0	<1.0	<1.0				
1W-3	02/06/02	<17,000	<670	3,300	<33	<33	<33	<33	<33				
IW-4	02/06/02	<12,000	<500	3,100	<25	<25	<25	<25	<25				
IW-5	02/06/02	<500	<20	7.9	<1.0	<1.0	<1.0	<1.0	<1.0				
IW-6	02/06/02	<4,200	<170	680	<8.3	<8.3	<8.3	<8.3	<8.3				
W-7	02/06/02	<500	<20	3.2	1.4	<1.0	<1.0	<1.0	<1.0				
(W-8	10/11/01	<500	-20	~0		-0.0	-0.0		•				
. ++ -* <i>O</i>	02/06/02	<500 <500	<20 <20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0				
	02/00/02	<b>\300</b>	~20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
W-9	10/11/01	<500	<20	15	<2.0	<2.0	<2.0	<2.0	<2.0				
	02/06/02	<500	<20	14	<1.0	<1.0	<1.0	<1.0	<1.0				

#### Table 2

#### Groundwater Analytical Results - Oxygenate Compounds

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, 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-Dichloroethane

EDB = 1,2-Dibromoethane/Ethylene dibromide

(ppb) = Parts per billion

- = Not Analyzed

ND = Not Detected

#### **ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

Detection limit raised. Refer to analytical reports.

# Table 3 Dissolved Oxygen Concentrations

Dubin, California											
WELL ID	DATE	Before Purging (mg/L)	After Purging (mg/L)								
MW-1	02/15/95		4.30								
	05/17/95	<del></del>	1.20								
	08/25/95	<del></del>	2.71								
	11/28/95		3.25								
	02/26/96	5.23	1.41								
	08/23/96	3.83	N/A								
	02/17/97	0.82	0.78								
	08/18/97	1.28	2.35								
	05/16/01	1.54	2.33								
	08/24/01	1.57 be	3.10								
	002 1101	<del>-</del>	3.10								
MW-2	02/15/95		1.90								
	02/26/96	0.62	0.43								
	08/23/96	2.04	N/A								
	02/17/97	0.90	0.82								
	08/18/97	1.16									
	05/16/01	1.47									
	08/24/01		2.60								
	.i.w = =		<u>.</u> :								
MW-3	02/15/95		2.60								
	05/17/95		1.13								
	08/25/95		1.86								
	11/28/95		6.81								
	02/26/96	16.83	1.11								
	08/23/96	3.29	N/A								
	<b>02</b> /1 <b>7/</b> 97	0.80	0.80								
	08/18/97	1.43									
	05/16/01	1.65									
	08/24/01		2.60								
MW-4	08/24/01	<b></b>	2.30								
MW-5	08/24/01		2.10								
MW-6	08/24/01	. <del></del>	2.70								

#### Table 3

#### Dissolved Oxygen Concentrations

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, California

WELL ID	DATE	Before Purging (mg/L)	After Purging (mg/L)
MW-7	08/24/01		2.70

#### EXPLANATIONS:

Dissolved oxygen concentrations were compiled from reports prepared by MPDS Services, Inc.

(mg/L) = Milligrams per liter

-- = Not Measured

N/A = Not Applicable

# Table 4 Groundwater Analytical Data - Metals

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, California

WELLID	DATE	Cadmium	Chromium	Lead	Nickel	Zinc
		(ррт)	(ppm)	(ppm)	(ppm)	(ррт)
MW-1	03/14/94	ND	0.012	ND	0.030	0.039
	08/25/94	ND	ND	0.024	ND	ND
	11/18/94	ND	0.076	ND	0.067	ND
	02/15/95	ND	ND	ND	ND	ND
	05/17/95	ND	ND	ND	0.021	ND

#### **EXPLANATIONS:**

Groundwater laboratory analytical results were compiled from reports prepared by MPDS Services, Inc.

(ppm) = Parts per million

ND = Not Detected

# 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.

Client/ - Teacility# 1	<u> </u>				Job#:		5008	21.85	
Address: 6	401D	ublin	<u> 131</u>	W.	Date:	7	16/02		
City:	مناطد	<u>, C</u>	٩		Samp	oler:	arthes		
Well ID	MW	-1	We	ell Conditio	on:	8k		-	
Well Diameter	3	in.		drocarbon	ກ`ດ	D	Amount Bail	ed D	
Total Depth	9.	25 n.		ickness: _ olume		17	product/water	• .	(Gallons) = 0.66
Depth to Water	6	+3 n.	-	actor (VF)		6" = 1.5		12" = 5.80	
Purge Equipment:	Disposal Bailer		F <u>0.17</u>	Si	X3 (case amp <b>ling</b> quipm <b>ent</b>		Estimated Purg	_	I. S igal.
Ефиричени	Stack Suction Grundfo	s -	_	_		Bail Pre: Gra			
Starting Time: Sampling Time: Purging Flow Ra		28		Weather Water C Sedimen	olor:	n		Odor:m	ild
Did well de-wat			_		-	-	Volum	9:	(Lso)
Time \	Volume (gal.)	рН <i>7.63</i>	μπ	ductivity hos/cm 783	_6	erature D. 5	D.O. (mg/L)	ORP (mV)	· Alkalinity (ppm)
1621 -	1.5	7.48		782		0.4		<del></del> -	•
1623	<u> </u>	775		780	6	0.2		<del></del>	
				·					
		<del></del> -		<del> </del>		•			**************************************
SAMPLE ID	(#) - CONTA		LABOR	ATORY II	NFORMA	TION LABOR	RATORY	·ANA	YSES
MW-1	S X VOA	VIAL	Υ	HCL		SEQUOI	Α	TPH(G)/btex/	mtbe 1 8 344
				<del></del>					
ļ	<u></u> _	<del> </del> -		<u> </u>					
COMMENTS:				,				/	
									·····

Client/ Facility#	asco #		Jobi	#: <u> </u>	5008	£8.16	) 
Address: 6	401 Dub	I'm Blue	<u>)                                    </u>	:	16/02		· · · · · · · · · · · · · · · · · · ·
City:	5 Å.	CA	Sam	pler: <b>√</b>	arthe,	<del></del>	
Well ID	mw-	) Well C	Condition: _	on			
Well Diameter		<u>in.</u> Hydro Thickr	carbon .		Amount Bail		
Total Depth	17.60				3" = 0.38		(Gallons) = 0.66
Depth to Water	6.40		(VF)	6° = 1.5	50	12" = 5.80	- 0.00
Purge Equipment:	Disposable Ba Bailer Stack Suction Grundfos Other:	X VF <u>0.1}</u> =	). 90 X 3 (cas Sampling Equipmen	nt: Disi Bail Pre: Gra	posable Bail	<b>e</b> r	<u>(gal.)</u>
	1415 1430 er?no	W gpm. Se	eather Condit ater Color: ediment Descr yes; Time:	iption:		Odor:n_	
Time	Volume pH (gal.) 7.6	Conduction purpose 174 179	/cm	perature F F F F F F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u> </u>	<i>\( \begin{aligned}                                     </i>			669 			
SAMPLE ID	(#) - CONTAINER		ORY INFORM		ATORY	ANAL	YSES
Mw-2	S X VOA VIAI	, Y	HCL	SEQUOI	A	TPH(G)/btex/	mathe + 8 0 xy
		<u> </u>		1	<u> </u>		
				<del> </del>			
COMMENTS: _				· · ·		4	

Client/ Facility#	asca #6	419_	Job#:	18.18008	5
Address: 64	DI Dublin	131vd.	Date: 2	16/02	
City: Du	blin, CF		Sampler: <u>Ja</u>	nthe	<del></del>
Well ID	mw-3	Well Condition	on: <u>OW</u>		
Well Diameter	<u>a</u> in,	Hydrocarbon Thickness: _	O. O (feet) (p	mount Bailed product/water):	(Gallons)
Total Depth	18.50 ft.	Volume	2* = 0.17	3" = 0.38	4" = 0.66
Depth to Water	6.73 tt.	Factor (VF)		0 12" = 5.80	
	11.72 x ve	0.17=2.00	X 3 (case volume) = E	stimated Purge Volume:	6 Igal
Purge	Disposable Bailer Bailer		am <b>pling</b> quip <b>ment: Dis</b> p	osable Baile	
Equipment:	Stack Suction		Baile		
•	Grundfos -		Gral	b Sample er:	
	Other:	<del>-</del>	-		
Starting Time:	1575		Conditions:		
Sampling Time:	1530		olor: <i>clea</i> nt Description:	i	<del></del>
Purging Flow Rate	7.1	-	Time:		(.lsp)
Time Vo	olume pH gal.) I.51	Conductivity  µmhos/cm  1 (1) 9	Temperature	D.O. ORP (mg/L) (mV)	
1218 -	4 7.42	1923	68-2		
1521	6 7.39	1900	68.5		
					* * · <u>**</u>
		<u> </u>	• •		
SAMPLE ID		LABORATORY   FRIG. PRESER	INFORMATION V. TYPE - LABOR	RATORY A	ALYSES
mw-3	S X VOA VIAL	Y HCI	SEQUOI	A_ TPH(G)/bt	ex/mtbe + 8047
<u> </u>				-	
COMMENTS:		· · · · · · · · · · · · · · · · · · ·			
•					

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,	<u>asco#</u>		Job#	: _1	2003	21.85	<u>)                                    </u>
Address: <u>6</u> 버	OI Dubli	<u>~ Bird</u>	_ Date:		2/6/02		
City: Du	blin, c	A		oler: <u>V</u> a	wthen	- <del></del>	
Well ID	mw-4	Well Co	ndition: _	OK			
Well Diameter	in	•			Amount Bai	_	
Total Depth	19.10 tt	Thickne Volume			(product/water	-	[Gallons]   = 0.66
Depth to Water	7.28 n	Factor (		6" = 1		12" = 5.80	
	11.82 x	VF <u>0-17</u> =2	<u>,00</u> х з (case	volume} =	Estimated Purg	e Volume: _	6 (Jep)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	·	Sampling Equipment	Bail Pre Gra	posable Bail ler ssure Bailer ab Sample her:		
Starting Time: Sampling Time: Purging Flow Rate	1545	Wat	ether Conditions of Color: iment Descri	br		Odor: 4	
Did well de-water	no no		es; Time: _			e:	(gal.)
	hume pH (al.) 7.61 7.43 6 7.41		m' _63	6.6 7.0 1.7	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
		LABORATO	RY INFORMA	TION	<u></u>	·	
0,	#) - CONTAINER	REFRIG. PRE	SERV. TYPE		<del></del>		YSES
MW-4	5 X VOA VIAL	Y	HCL_	SEQUOI	.A	TPH(G)/btex/	mibe + 80 kg
					·		
		<del>.</del>					

Client/ Tacility# 1	<u>asco #6</u>		Job#:	18002	11.85	
Address: 6	101 Dublin	131vd.	Date: _	2/6/02	<u></u>	ı
City:	blin, CA		Sampler: _	Varthy		<del></del>
Well ID	mw-5	Well Condition	on: <u>01</u>	<u>u</u>		
Well Diameter	in.	Hydrocarbon Thickness: _	6, 60 (feet	Amount Bail (product/water		ns)
Total Depth	19.40 t.	Volume	2" = 0.17	3" = 0.38	4" = 0.66	٦
Depth to Water	6.55 n	Factor (VF)	6" =	: 1.50	12* = 5.80	
	12.85 x VF	0.17=2.18	X 3 (case volu <b>me)</b>	≡ Estimated Purg	ge Volume: 7 (gr	a <u>l.)</u>
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:		1	Disposable Bail Bailer Pressure Bailer Grab Sample Other:		
Starting Time: Sampling Time: Purging Flow Rate Did well de-wate	1340 1358 te: 1 apr	Water C Sedimer	Conditions: color:  t Description: Time:		Odor: 100	igal)
Time V	70lume pH (gal.) 7.70 7.57	Conductivity	Temperature 70.5 69.4	D.O. (mg/L)	ORP Alkali (mV) (pp	. •
		LABORATORY	NFORMATION	DOD'S TODY	**************************************	
SAMPLE ID	(#) - CONTAINER RE	FRIG. PRESER Y HCI	v. TYPE SEQ	UOIA .	ANALYSES  TPH(G)/btex/mtbe + 2	8044
				· · · · · · · · · · · · · · · · · · ·		
COMMENTS:						
					9/97-1	lieidet.frm

Client/ Facility#	osco # 1	0419	Job#	:	E003	1.85	· !
Address: 64	DI Dublin	BIND	Date:		16/02		
	blin, c		Samı	oler: <u>//</u>	enther		
Well ID	mw-6	Well Co	ndition:	OW			<del></del>
Well Diameter	<u>ain.</u>	•	rbon	77) 4	Amount Baile product/water)	ed 🚓	10 11 1
Total Depth	19.35 ft.	Thicknes Volume			3" = 0.38		(Gallons) = 0.66
Depth to Water	6-78 ft.	Factor (		6* = 1.5		2" = 5.80	
	12.57x	VF 8.17=2	.) 3 x 3 (case	volume) = E	Estimated Purg	⊵ Volume: _⊴	S. 5 (081.)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:		Sampling Equipment	Baile Pres Gra	posable Baile er ssure Bailer b Sample er:		
Starting Time: Sampling Time: Purging Flow Rat	14+5 1500 e:1	Wat	ather Conditions of Color: iment Descri	<u>da</u> ption:		Odor:	· - · · - · · -
Did-well-de-wate	r? <del>VD</del>	#.lfye	es; Time: _		Volume		lgal.)
1447	olume pH (gal.)  7.67  7.49  6.5  7.40	Conductive supposed 16 7	<u> </u>	5-6 6.8 6.4	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
							- He's
SAMPLE ID	(#) - CONTAINER	LABORATO	RY INFORMA	ATION LABOR	ATORY	·ANAL	YSES -
mW.6	X VOA VIAL	Y	HCL	SEQUOI	Α .	TPH(G)/btex/	mtbe + 8 0 kg
						·	
				<del> </del>			<u> </u>
COMMENTS:	1					· · · · · · · · · · · · · · · · · · ·	
			·				<del></del>

Client/ — — Facility# —	asco #6	419	Job#:	8008	28.16	
Address: 64	DI Dublin	Blud.	Date:2	16/02	<u> </u>	
City: Do	blin, CA		Sampler: <u>V</u>	settle,		
Well ID	mw-7	Well Conditio	n: <u>Jk</u>		<del></del>	
Well Diameter	in.	Hydrocarbon Thickness:	D. DD ffeet)	Amount Bai		<u>Gallons)</u>
Total Depth	19.35 tt.	Volume	2* = 0.17	3" = 0.38	4" = 0.	
Depth to Water	6.62 n.	Factor (VF)	6° = 1.5	50	12" = 5.80	
	12.73 x VF	0.17 = 2.16	X 3 (case volume) =	Estimated Purg	ge Volume: 6-9	S (gal.)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	Eq	Bai Pre Gra	posable Bai ler ssure Bailer ab Sample her:		
Starting Time: Sampling Time: Purging Flow Rat Did well de-wate	1225 1245 te:	Water Co	Conditions:	55/4	Odor: <u>nv</u>	(gal.)
<u>1227</u> -	folume pH (gal.) 7.65 7.53 6.5 7.49	Conductivity  µmhos/cm  1380  1360	Temperature  67.6  68.8  69.7	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
	· · · · · · · · · · · · · · · · · · ·		<u></u>			tua" -
		ABORATORY II	NFORMATION TYPE LABO	RATORY	ANALYSE	is.
SAMPLE ID  MW-7	(#) - CONTAINER RE	FRIG. PRESERV		*****	TPH(G)/btex/mtb	
COMMENTS:					· · · · · · · · · · · · · · · · · · ·	
						9/97-fieldat.tm

Address: 6401 Dublin Blvd. Date: 216102  City: Dublin, CA Sampler: Verthe,  Well ID MW-8 Well Condition: 02	_
City: Dublin, CA Sampler: Vauthe,	
Well ID MW-8 Well Condition: 0 N	<b>—</b>
Well ID MW-8 Well Condition: 0 N	
	<del></del>
Well Diameter din. Hydrocarbon Amount Bailed Thickness: 5. 673 (feet) (product/water): 4 (6.	allons)
Total Depth 20,10 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66	
Depth to Water 6.35 ft. Factor (VF) 6" = 1.50 12" = 5.80	
$13.7 \times VF$ $0.17 = 233 \times 3$ (case volume) = Estimated Purge Volume: $7$	- <u>(gal.)</u>
Purge Disposable Bailer Sampling Equipment: Bailer Equipment: Disposable Bailer Stack Bailer Suction Pressure Bailer Grundfos Grab Sample Other:	•
Starting Time: 145 Weather Conditions: Official Water Color: Odor: NO Purging Flow Rate: Sediment Description: Sit Volume: Volume:	("Jeo)
	kalinity (ppm)
LABORATORY INFORMATION  SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY ANALYSES	-
MW-8 5 X VOA VIAL Y HCL SEQUOIA TPH(G)/btex/mtbe	-80xy
COMMENTS:	

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Client/ Tacility# 1	asco # 60	419	Job#:	<u> 6008</u>	1.85
Address: 6	101 Dublin	Blud.	Date:	16/02	<del>:</del>
	ablin, CA		Sampler:	esthes	
Well ID	MW-9	Well Conditio	n: OK		
Well Diameter	in.	Hydrocarbon Thickness:	O. O (feet)	mount Bailed	
Total Depth	20.15 tt.	Volume	2" = 0.17	3" = 0.38	4" = 0.66
Depth to Water	5.94 t	Factor (VF)	6* = 1.50		= 5.80
	14.21 x VF	0,17=241	X 3 (case volume) = E	stimated Purge '	Volume: 7-5 (gel.)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	Ec	Baild Pres Grai	osable Bailer er ssure Bailer b Sample er:	
Starting Time:	1300	Weather	Conditions:	dian	·
Sampling Time:	í		olor: <u>bry</u>	. , , ,	dor:
Purging Flow Ra	er?		t Description: _ <u>S</u> Time:		(gal.)
Time 1302.	Volume pH  (gal.) 7-64	Conductivity  µmhos/gm  1213	Temperature 6 \$ - 9 - 6 7 - 9	D.O. (mg/L)	ORP Alkalinity (mV) (ppm)
1305	7.5 7.46	1230	67.1		
		ABORATORY II	NEODMATION		,
SAMPLE ID		FRIG PRESERV	TYPE LABOR		ANALYSES
mw-9	X VOA VIAL	Y HCL	SEQUOI	AT	PH(G)/btex/mtbe+ 8 CV
	l				
COMMENTS: _			· · .		

	<u> የተለ</u> ው	AT. TD	ን ጥበፍ <u>ነ</u>	01014	43	tep	(C)	V	Ker.	ጉደ_	· /	كفالسوا							4-51,	141 11221
	PINIT			70000	46619		- بياد سخم		4			Co	antest (I	Noras)	_m.	DAVE	<u>nen</u>	<u>itt</u>		*
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N TOSCO	Constill	ent Hom	. 1åpf	r iet-x	yan Ing. RA COURT	(G-) 	Line	nan i	# CA	4456		bosalasy 	Republication Republication	tu N	kons). No	2)://	-5	Tas	ila	2
CO Committee Company Service Committee Committee Company Company Committee C		ircep						nnhr	Tron	<del>7.1.70</del>	1	Teellon Teellon	•	2/6	6/03	٠			4	<u>, ,</u>
Eig Partury California MCHCI -	Pri	gect Con	teel (Her	<u>اقعال (در،</u> غرف ک	<u>wa L. H</u> 1551÷755	2 /c	1kimbar	925-	551-7	899	<b>-</b>	nobev.	<i>A</i> 1	<b>烘</b> _	IbL	2	<u> </u>			
· · · · · · · · · · · · · · · · · · ·	<del>                                     </del>	<del></del> -	- Phi	37 T. Z.S.J.	1221-173	y ay un	, rainea,	1			-	Actor	e Yo Be	Park	Dirine Directing	· .			}	DO NOT BILL
1202051	<b>\</b>	75.00 10.00	2				<u>.                                    </u>	Γ-		E	<u> </u>						•		· ]	TB-LB ANALYS
DOCUM !		40	Section of the Control of the Contro	1	<b>∦</b> Ì	<b>E</b>	C with TDE	}		8		Organica	Organic	_	ē					 
¥ ₹	8	₹υ		ļ	<b>1</b>	2. 3	Įį×			뢒	<b>£</b>		1	3	3.3	A.		<u> </u>		BOLY'S MTBB,
and	6	3	000		- <u>r</u> i 22	£		15.5 25.5 25.5 25.5 25.5 25.5 25.5 25.5	\$ (F)	1900	Purpedble (3020)	eggyada (Gyza)	A COURT	90 90		_		1		TAME, 1,2DCA 1 200, Bilianol
Serial Fig.		7 C	<u>\$</u>		Scorpl	1	15 XE	ξš	58	) <b>E</b> e	<u>₹</u> &	7.00 P	235	32	8 00 c	\ -				
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e Lilly back. B	<u> </u>		C-R I		2/6/02 Data/19mb	<del></del>			gas Wita			<del></del>	tollos	•	Date/Circ	14 !	1.	ī,	-	48 film. 8 Dayo
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20 February, 2002

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

RE: Tosco(1)

Sequoia Report: L202051

RECEIVED

FEB > 0 2002

GETTLEK-KYAN INC.

Enclosed are the results of analyses for samples received by the laboratory on 02/06/02 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

S-J-WYNO!

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 #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L202051-01	Water	02/06/02 00:00	02/06/02 17:45
MW-1	L202051-02	Water	02/06/02 16:28	02/06/02 17:45
MW-2	L202051-03	Water	02/06/02 14:30	02/06/02 17:45
MW-3	L202051-04	Water	02/06/02 15:30	02/06/02 17:45
MW-4	L202051-05	Water	02/06/02 16:00	02/06/02 17:45
MW-5	L202051-06	Water	02/06/02 13:58	02/06/02 17:45
MW-6	L202051-07	Water	02/06/02 15:00	02/06/02 17:45
MW-7	L202051-08	Water	02/06/02 12:45	02/06/02 17:45
MW-8	L202051-09	Water	02/06/02 12:05	02/06/02 17:45
MW-9	L202051-10	Water	02/06/02 13:20	02/06/02 17:45

Sequoia Analytical - San Carlos

ARL

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 #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

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

		Juora Am							
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (L202051-02) Water	Sampled: 02/06/02 16:28	Received: 6	2/06/02	17:45					
Ethanol	ND	2500	ug/l	5	2020030	02/11/02	02/11/02	EPA 8260B	
1,2-Dibromoethane	ND	5.0	**	н	17	**	n	п	
1,2-Dichloroethane	ND	5.0	n	Ħ	н	н	u	*	
Di-isopropyl ether	ND	5.0	"	H	11	"	**	н	
Ethyl tert-butyl ether	ND	5.0	**		11	11	11		
Methyl tert-butyl ether	420	5.0	**	n	n	II	н	11	
Tert-amyl methyl ether	ND	5.0	11	Rt.	*	H	11	H	
Tert-butyl alcohol	ND	100	11	11 .	41	91	π	H	
Surrogate: 1,2-Dichloroethan	e-d4	111 %	70-	-130	"	"	"	"	
Surrogate: Toluene-d8		97.6 %	70	-130	•	"	"	"	
MW-2 (L202051-03) Water	Sampled: 02/06/02 14:30	Received: (	02/06/02	17:45					
Ethanol	ND	500	ug/l	1	2020029	02/11/02	02/11/02	EPA 8260B	
1,2-Dibromoethane	ND	1.0	"	**	*	11	**	u u	
1,2-Dichloroethane	ND	1.0	**		"	n	"	'n	
Di-isopropyl ether	ND	1.0	31	n	Ħ	11	H	er	
	ND	1.0	. 11	II	R	n	n	" _	<u>-</u>
Methyl tert-butyl ether	21	1.0	11	n	**	"		77	
Tert-amyl methyl ether	ND	1.0	Ħ	н	*	**	11	u	
Tert-butyl alcohol	ND	20	"	ŧ1	n	*1	11	11	
Surrogate: 1,2-Dichloroethan	e-d4	101 %	70	-130	#	,,	"	"	
Surrogate: Toluene-d8		104 %	70	-130	u	n	"	11	
MW-3 (L202051-04) Water	Sampled: 02/06/02 15:30	Received:	02/06/02	17:45					
Ethanol	ND	17000	ug/l	33.33	2020030	02/11/02	02/11/02	EPA 8260B	
1,2-Dibromoethane	ND	33	11	•		н	"		
1,2-Dichloroethane	ND	33	n	,,	11		Ħ	**	
Di-isopropyl ether	ND	33	**	71	Ħ	н	**	"	
Ethyl tert-butyl ether	ND	33	ır	11	11	11		11	
Methyl tert-butyl ether	3300	33	tt	я	n	н	"	11	
Tert-amyl methyl ether	ND	33	"	4	W	71	11	n	
Tert-butyl alcohol	ND	670	И	11		11	H		
Surrogate: 1,2-Dichloroethan	e-d4	108 %	70	-130	н	"	n	п	
Surrogate: Toluene-d8		99.0 %	70	-130	"	n	"	"	



Project Number: Tosco #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

# Volatile Organic 8 Oxygenated Compounds by EPA Method 8260B

Sequoia Analytical - San Carlos

	560	Tuosa Ana		- ~					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (L202051-05) Water	Sampled: 02/06/02 16:00	Received: (	02/06/02	17:45				,	
Ethanol	ND	12000	ug/l	25	2020030	02/11/02	02/11/02	EPA 8260B	
1,2-Dibromoethane	ND	25		61	"	1(	11	**	
1,2-Dichloroethane	ND	25	**	**	H	н	Ħ	"	
Di-isopropyl ether	ND	25	**	"	**	77	"	11	
Ethyl tert-butyl ether	ND	25	"	11	"	"	H	tt	
Methyl tert-butyl ether	3100	25	*1	п	11	II	11	Ħ	
Tert-amyl methyl ether	ND	25	11	**	II	,,	II	**	
Tert-butyl alcohol	ND	500	H	"			H		
Surrogate: 1,2-Dichloroethan	e-d4	110 %	70	-130	11	#	"	**	
Surrogate: Toluene-d8		98.4 %	70	-130	rr	*	"	rr	
~	Sampled: 02/06/02 13:58	Deceived:	02/06/02	17-45					
MW-5 (L202051-06) Water	ND	500		1	2020029	02/11/02	02/11/02	EPA 8260B	<del> </del>
Ethanol	ND ND	1.0	ug/l	1 11	2020029 H	UZ/11/UZ	11702	#	
1,2-Dibromoethane	ND ND	1.0	n	**	71		п	. 0	
1,2-Dichloroethane	ND	1.0	U	**		n	"	11	
Di-isopropyl ether	ND	1.0	**	11	п	"		"	
Ethyl tert-butyl ether	7.9	1.0	•	н	n	н	"	**	
Methyl tert-butyl ether	ND	1.0	#	n		Ħ	11	11	
Tert-amyl methyl ether	ND	20	**		71	14	,,	11	
Tert-butyl alcohol			70	-130		<i>"</i>	"	,,	
Surrogate: 1,2-Dichloroethan	e-d4	97.2 %		-130 -130	,,	,,	"	n	
Surrogate: Toluene-d8		105 %							
MW-6 (L202051-07) Water	Sampled: 02/06/02 15:00	Received:	02/06/02	17:45	-	<del></del>			
Ethanol	ND	4200	ug/l	8.33	2020030	02/11/02	02/11/02	EPA 8260B	
1,2-Dibromoethane	ND	8.3	"	**	"	11	11		
1,2-Dichloroethane	ND	8.3	**	77	11	II	11	Ħ	
Di-isopropyl ether	ND	8.3	11	**	"	H	ii	"	
Ethyl tert-butyl ether	ND	8.3	#1	"	10	**	n	11	
Methyl tert-butyl ether	680	8.3	u	•	н	81	111	11	
Tert-amyl methyl ether	ND	8.3	*1	11	**	n	**	н	
Tert-butyl alcohol	ND_	170	11	n	**	**	11		
Surrogate: 1,2-Dichloroethan	ne-d4	113 %	70	)-130	*	"	*	rt	
Surrogate: Toluene-d8		95.0 %	70	)-130	"	n	"	•	
DM. OPTIO. TOWOUR TO									



Dublin CA, 94568

Project Number: Tosco #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

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

	Bec	juota Ana	arytica	- San C	-μ1103				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (L202051-08) Water	Sampled: 02/06/02 12:45	Received: 0	2/06/02	17:45					
Ethanol	ND	500	ug/l	1	2020029	02/11/02	02/11/02	EPA 8260B	
1,2-Dibromoethane	ND	1.0	"	II	"	U	π	**	
1,2-Dichloroethane	ND	1.0	19	н	11	W	11	Ħ	
Di-isopropyl ether	1.4	1.0	н	. 11	н	"	11	11	
Ethyl tert-butyl ether	ND	1.0	п	47	H		n	н	
Methyl tert-butyl ether	3.2	1.0	н	н	**	11	H	н .	
Tert-amyl methyl ether	ND	1.0	,,	**	#	п	n	11	
Tert-butyl alcohol	ND	. 20	**	11	"	tt	#		
Surrogate: 1,2-Dichloroethan	e-d4	97.0 %	70-	130	"	rr'	"	"	
Surrogate: Toluene-d8		103 %	70-	130	,,	"	"	n	
MW-8 (L202051-09) Water	Sampled: 02/06/02 12:05	Received: (	02/06/02	17:45					
Ethanol	ND	500	ug/i	i	2020029	02/11/02	02/11/02	EPA 8260B	
1,2-Dibromoethane	ND	1.0	н	11	n	m	ti	* #	
1,2-Dichloroethane	ND	1.0	H	11	11	n	"	.,,	
Di-isopropyl ether	ND	1.0	**	Ħ	n	#1	H	**	
Ethyl tert-butyl ether	ND	1.0	***	*	•	U	"	n	
Methyl tert-butyl ether	ND	1.0	n	"	"	#	"	11	
Tert-amyl methyl ether	ND	1.0	11	17	*	**	11	H .	
Tert-butyl alcohol	ND	20	" -	"	"	11	"	. "	
Surrogate: 1,2-Dichloroethan	ne-d4	94.2 %	70	-130	"	"	"	**	
Surrogate: Toluene-d8		103 %	70	-130	н	я	"	"	
MW-9 (L202051-10) Water	Sampled: 02/06/02 13:20	Received:	02/06/02	17:45					
Ethanol	ND	500	ug/l	}	2020029	02/11/02	02/11/02	EPA 8260B	
1,2-Dibromoethane	ND	1.0	"	•	11	11	**	11	
1,2-Dichloroethane	ND	1.0	n	11	Ц	н	"	11	
Di-isopropyl ether	ND	1.0	**	п	"	Ħ	н	rr	
Ethyl tert-butyl ether	ND	1.0	"	п	**	"	H		
Methyl tert-butyl ether	14	1.0	"	II	11	п	n	10	
Tert-amyl methyl ether	ND	1.0	**	**	17	**		n	
Tert-butyl alcohol	ND	20	11	**	**	n	**	II.	
Surrogate: 1,2-Dichloroethan	re-d4	98.8 %	70	-130		"	"	**	
Surrogate: Toluene-d8	W W !	104 %		-130	,,	#	"	"	
Durrogaie. Admene-ad		10,70	, ,						



Project: Tosco(1)
Project Number: Tosco #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

# 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 (L202051-01) Water Sai	mpled: 02/06/02 00:00	Received:	02/06/02	17:45					
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	n	н	11	Ħ	17	**	
Toluene	ND	0.50 " " "		11	11	**			
Ethylbenzene	ND	0.50 "		п	"	11	u	II	
Xylenes (total)	ND	0.50 " " " "		11	ft .				
Methyl tert-butyl ether (MTBE)	ND	2.5	н		**	н	Ħ		
Surrogate: a,a,a-Trifluorotoluene		118 %	70-	130	<b>"</b>	u	#	п	
MW-1 (L202051-02) Water San	npled: 02/06/02 16:28	Received: 0	02/06/02_1	17:45					··
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2B14002	02/18/02	02/18/02	EPA 8015M/8021	
Benzene	ND	0.50	π	**	n	. н	**	"	
Toluene	ND	0.50	#	11	77	**	**		
Ethylbenzene	ND	0.50	**	11	•	11	H	Ħ	
Xylenes (total)	ND	0.50	**	H	**	**		*	
Surrogate: a,a,a-Trifluorotoluene		107 %	70-	130	n	"	"	"	
MW-1 (L202051-02RE1) Water	Sampled: 02/06/02 16	:28 Receiv	ed: 02/06	6/02 17:45					
Methyl tert-butyl ether (MTBE)	450	25	ug/l	10	2B14002	02/15/02	02/15/02	EPA 8015M/8021	Q-28a
Surrogate: a,a,a-Trifluorotoluene		100 %	70-	130	rr	#	n	ŧŧ	
MW-2 (L202051-03) Water San	npled: 02/06/02 14:30	Received: (	02/06/02	17:45					
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	u	11	11	Ħ	**	II	Q-28
Toluene	ND	0.50	н	41	н	11	**	н	
Ethylbenzene	ND	0.50	și.	11	н	**	**	н	
Xylenes (total)	ND	0.50	н	11	"	**	11	"	
Methyl tert-butyl ether (MTBE)	23	2.5		11	11	11	**		Q-28
Surrogate: a,a,a-Trifluorotoluene		103 %	70-	130	h	m	**	#	





Project: Tosco(1)
Project Number: Tosco #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

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 (L202051-04) Water Sam	pled: 02/06/02 15:30	Received: 0	2/06/02 1	17:45					
Purgeable Hydrocarbons (C6-C12)	ND	1000	ug/l	20	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	10	Ħ		Ħ	**	Ħ	"	
Toluene	ND	10	"	11	Ħ	It	#	н	
Ethylbenzene	ND	10	11		•	**	11	**	
Xylenes (total)	ND	10	н	a	П	"	11	11	
Methyl tert-butyl ether (MTBE)	4300	50	#		"	H			Q-28b
Surrogate: a,a,a-Trifluorotoluene		98 %	70-	-130	"	Ħ	H	Ħ	
MW-4 (L202051-05) Water San	npled: 02/06/02 16:00	Received: (	2/06/02	17:45					<del></del>
Purgeable Hydrocarbons (C6-C12)	ND	100	ug/l	2	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	1.0	"	Ħ	н	tt	**	11	
Toluene	ND	1.0	Ħ	**	n	11	n	¥	
Ethylbenzene	ND	1.0		н	**	11	Ħ	н	
Xylenes (total)	ND	1.0	**	•	н	**	"	"	
Surrogate: a,a,a-Trifluorotoluene	±.	100 %	70	-130	n n	"	и	"	
MW-4 (L202051-05RE1) Water	Sampled: 02/06/02 1	6:00 Receiv	ed: 02/0	6/02 <u>17:45</u>	<u> </u>			<u></u>	
Methyl tert-butyl ether (MTBE)	2300	500	ug/l	200	2B14002	02/18/02	02/18/02	EPA 8015M/8021	
Surrogate: a,a,a-Trifluorotoluene		98 %	70	-130	"	"	"	π	
MW-5 (L202051-06) Water Sar	npled: 02/06/02 13:58	Received:	02/06/02	17:45					
Purgeable Hydrocarbons (C6-C12)		50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Damana	ND	0.50	n	**	17	11	**	<b>19</b>	Q-28
Benzene	ND	0.50	**	**	#	H	11	*1	
Toluene	ND	0.50	н	Ħ	H	Ħ	n	н	
Ethylbenzene	ND	0.50		**	11	11	**	•	
Xylenes (total)	7.7	2.5		u	n	tí		7	Q-28
Methyl tert-butyl ether (MTBE) Surrogate: a,a,a-Trifluorotoluene		98 %	70	0-130	"	"	n	"	



Project: Tosco(1)
Project Number: Tosco #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

## 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-6 (L202051-07) Water Sampl	ed: 02/06/02 15:00	Received: (	2/06/02	17:45					
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	i	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	**	n	rr	*	Ш	n	Q-28
Toluene	ND	0.50	31		"	"	Ħ	n	•
Ethylbenzene	ND	0.50	**	••	**	#	tt	**	
Xylenes (total)	ND	0.50	**	u	**	,,		Ħ	
Surrogate: a,a,a-Trifluorotoluene		95 %	70-	-130	n	"	n	tr .	
MW-6 (L202051-07RE1) Water Sa	ampled: 02/06/02 15	:00 Receiv	ed: 02/0	6/02 17:45	<del></del>	··· <del>-</del>			
Methyl tert-butyl ether (MTBE)	610	120	ug/l	50	2B14002	02/18/02	02/18/02	EPA 8015M/8021	
Surrogate: a,a,a-Trifluorotoluene		110 %	70-	-130	"	n	"	"	
MW-7 (L202051-08) Water Sampl	ed: 02/06/02 12:45	Received: (	2/06/02	17:45		·			
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	н	11	н	"	II .	**	Q-28
Toluene	ND	0.50	н	**	н	11	**	**	
Ethylbenzene	ND	0.50	Ħ	**	n	11	77	11	
Xylenes (total)	ND	0.50	11	Ħ	n	II	#	Ħ	
Methyl tert-butyl ether (MTBE)	3.9	2.5	11	11	n	н	11	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		95 %	70-	-130	"	n	*	*	
MW-8 (L202051-09) Water Sampl	ed: 02/06/02 12:05	Received: (	2/06/02	17:45					
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	II	n	**	**	"	н	Q-28
Toluene	ND	0.50	н	w	11	11	11	Ħ	
Ethylbenzene	ND	0.50	н	π	n	•	117	**	
Xylenes (total)	ND	0.50	н	n	"	**	n	*	
Methyl tert-butyl ether (MTBE)	ND	2.5			#	n	.,	tr .	_
Surrogate: a,a,a-Trifluorotoluene		95 %	70-	-130	п	"	11	п	



Dublin CA, 94568

Project: Tosco(1)

Project Number: Tosco #6419 Project Manager: Deanna Harding Reported: 02/20/02 10:30

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-9 (L202051-10) Water Sa	mpled: 02/06/02 13:20	Received: 0	2/06/02 1	17:45					
Purgeable Hydrocarbons (C6-C12	ND	50	ug/l	1	2B14002	02/15/02	02/15/02	EPA 8015M/8021	
Benzene	ND	0.50	11	tı	Ħ	*	**	π	Q-28
Toluene	ND	0.50	11	**	**	11	11	ti	
Ethylbenzene	ND	0.50	п	**	**	II	H	П	
Xylenes (total)	ND	0.50	"	**	11	11	#	*	
Methyl tert-butyl ether (MTBE	) 19	2.5	**	"	H	т	- 11	**	Q-28a
Surrogate: a,a,a-Trifluorotoluene		112 %	70-	-130	"	"	"	**	



Project: Tosco(1)

Project Number: Tosco #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 2020029 - EPA 5030B [P/T]		<u></u>						.,		
Blank (2020029-BLK1)				Prepared	& Analyze	ed: 02/08/0	)2			
Ethanol	ND	500	ug/l						•	
1,2-Dibromoethane	ŅD	1.0	11							
1,2-Dichloroethane	ND	1.0	11							
Di-isopropyl ether	ND	1.0	11							
Ethyl tert-butyl ether	ND	1.0	н							
Methyl tert-butyl ether	ND	1.0	n							
Tert-amyl methyl ether	ND	1.0	**							
Tert-butyl alcohol	ND	20	- H							
Surrogate: 1,2-Dichloroethane-d4	47.6		n	50.0		95.2	70-130			•
Surrogate: Toluene-d8	52.0		m	50.0		104	70-130			
Blank (2020029-BLK2)				Prepared	& Analyz	ed: 02/11/	02			
Ethanol	ND	500	ug/l							
1,2-Dibromoethane	ND	1.0	11							
1,2-Dichloroethane	ND	1.0	Ħ							
Di-isopropyl ether	ND	1.0	п							
Ethyl tert-butyl ether	ND	1.0	H							
Methyl tert-butyl ether	ND	1.0	н							
Tert-amyl methyl ether	ND	1.0	**							
Tert-butyl alcohol	ND	20	"							
Surrogate: 1,2-Dichloroethane-d4	50.4		rr	50.0	-	101	70-130			
Surrogate: Toluene-d8	51.6		"	50.0		103	70-130			
LCS (2020029-BS1)				Prepared	& Analyz	ed: 02/08/	02			
Methyl tert-butyl ether	35.9	1.0	ug/l	50.0		71.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	48.8		77	50.0		97.6	70-130			
Surrogate: Toluene-d8	54.2		rr	50.0		108	70-130			



Dublin CA, 94568

Project: Tosco(1)

Project Number: Tosco #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

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

	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Result	Limit	Units	Level	Result	AIREC	Lillins	- KID	Dillin	110003
Batch 2020029 - EPA 5030B [P/T]		<del> </del>			<u> </u>	<u></u>				
LCS (2020029-BS2)				Prepared of	& Analyz	ed: <b>02/1</b> 1/	02			
Methyl tert-butyl ether	46,2	1.0	ug/l	50.0		92.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	48.7		n	50.0		97.4	70-130			
Surrogate: Toluene-d8	<i>50.8</i>		"	50.0		102	70-130			
Matrix Spike (2020029-MS1)	So	urce: L20205	1-03	Prepared:	02/08/02	Analyzed	1: 02/11/02			
Methyl tert-butyl ether	76.3	1.0	ug/l	50.0	21	111	60-140			
Surrogate: 1,2-Dichloroethane-d4	49.8		rr	50.0		99.6	70-130			
Surrogate: Toluene-d8	51.6		u	50.0		103	70-130			
Matrix Spike Dup (2020029-MSD1)	So	urce: L20205	51-03	Prepared:	02/08/02	Analyze	1: 02/11/02			
Methyl tert-butyl ether	74.8	1.0	ug/i	50.0	21	108	60-140	1.99	25	
Surrogate: 1,2-Dichloroethane-d4	49.2		ı,	50.0		98.4	70-130			
Surrogate: Toluene-d8	51.0		n	50.0		102	70-130		•	
Batch 2020030 - EPA 5030B [P/T]										
Blank (2020030-BLK1)	_			Prepared	& Analyz	ed: 02/08	/02			
Ethanol	ND	500	ug/l							
1,2-Dibromoethane	ND	1.0								
1,2-Dichloroethane	ND	1.0	11							
Di-isopropyl ether	ND	1.0	"							
Ethyl tert-butyl ether	ND	1.0	11							
Methyl tert-butyl ether	ND	1.0	Ħ							
Tert-amyl methyl ether	ND	1.0	**							
Tert-butyl alcohol	ND	20	**							
Surrogate: 1,2-Dichloroethane-d4	53.1		n	50.0		106	70-130			
Surrogate: Toluene-d8	49.6		*	50.0		99.2	7 <b>0-130</b>			



Gettler-Ryan/Geostrategies(1)

6747 Sierra Court, Suite J

**Dublin CA, 94568** 

Project: Tosco(1)

Project Number: Tosco #6419

Project Manager: Deanna Harding

Reported: 02/20/02 10:30

# 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]										
Blank (2020030-BLK2)				Prepared	& Analyz	ed: 02/11/0	)2			
Ethanol	ND	500	ug/l							
1,2-Dibromoethane	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	**							
Di-isopropyl ether	ND	1.0	**							
Ethyl tert-butyl ether	ND	1. <b>0</b>	11							
Methyl tert-butyl ether	ND	1.0	п							
Tert-amyl methyl ether	ND	1.0	Ħ							
Tert-butyl alcohol	ND	20	"							
Surrogate: 1,2-Dichloroethane-d4	50.5		"	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> -	
1,2-Dibromoethane	ND	1.0	11						÷	
1,2-Dichloroethane	ND	1.0	ч.							
Di-isopropyl ether	ND	1.0	li							
Ethyl tert-butyl ether	ND	1.0	n							
Methyl tert-butyl ether	ND	1.0	Ħ							
Tert-amyl methyl ether	ND	1.0	n							
Tert-butyl alcohol	ND	20	н							
Surrogate: 1,2-Dichloroethane-d4	53.3		rr	50.0		107	70-130			
Surrogate: Toluene-d8	50.0		"	50.0		100	70-130			
LCS (2020030-BS1)				Prepared	& Analyz	ed: 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		"	50.0		106	70-130			
Surrogate: Toluene-d8	47.3		"	50.0		94.6	70-130			



Project: Tosco(1)

Project Number: Tosco #6419
Project Manager: Deanna Harding

Reported: 02/20/02 10:30

# 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-BS2)				Prepared	& Analyze	ed: 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	& Analyz	ed: 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		**	50.0		94.8	70-130			
Matrix Spike (2020030-MS1)	So	urce: L2020:	58-07	Prepared	& Analyz	ed: 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		,,	50.0		112	70-130			
Surrogate: Toluene-d8	46.3		**	50.0		92.6	70-130			
Matrix Spike Dup (2020030-MSD1)	So	urce: L2020	58-07	Prepared	& Analyz	ed: 02/08	/02			
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		ır	50.0		116	70-130			
Surrogate: Toluene-d8	<b>45</b> .8		*	50.0		91.6	70-130			

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

Project Number: Tosco #6419 Project Manager: Deanna Harding Reported: 02/20/02 10:30

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
	110000									
Batch 2B14002 - EPA 5030B P/T								<del></del>		
Blank (2B14002-BLK2)				Prepared	& Analyze	ed: 02/15/0	02			
Purgeable Hydrocarbons (C6-C12)	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 (MTBE)	ND	2.5	н			<u>-</u>				
Surrogate: a,a,a-Trifluorotoluene	31.0		а	30.0		103	70-130			
Blank (2B14002-BLK3)				Prepared	& Analyz	ed: 02/18/	02			
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	Ħ							
Ethylbenzene	ND	0.50	n							
Xylenes (total)	ND	0.50	11							
Methyl tert-butyl ether (MTBE)	ND	2.5	"	_						
Surrogate: a,a,a-Trifluorotoluene	33.3		"	30.0		111	70-130			
LCS (2B14002-BS2)				Prepared	& Analyz	ed: 02/15				
Benzene	20.9	0.50	ug/l	20.0		104	70-130			
Toluene	21.1	0.50	11	20.0		106	70-130			
Ethylbenzene	22.4	0.50	н	20.0		112	70-130			
Xylenes (total)	66.0	0.50	*	60.0		110	70-130			
Surrogate: a,a,a-Trifluorotoluene	34.6		"	30.0		115	70-130			
LCS (2B14002-BS3)				Prepared	& Analyz	zed: 02/18				
Benzene	18.4	0.50	ug/l	20.0		92	70-130			
Toluene	18.6	0.50	n	20.0		93	70-130			
Ethylbenzene	19.2	0.50	"	20.0		96	70-130			
Xylenes (total)	58.7	0.50	**	60.0		98	70-130			
Surrogate: a,a,a-Trifluorotoluene	32.2		"	30.0		107	70-130			

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

· Project: Tosco(1)

Project Number: Tosco #6419

Reported: 02/20/02 10:30 Project Manager: Deanna Harding

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> ;			
Matrix Spike (2B14002-MS1)	So	urce: W2021	56-03	Prepared	& Analyz	ed: 02/15/	02			
Benzene	18.3	0.50	ug/l	20.0	ND	92	70-130			
Toluene	18.5	0.50	**	20.0	ND	92	70-130		•	
Ethylbenzene	19.1	0.50	"	20.0	ND	96	70-130			
Xylenes (total)	57.6	0.50	11	60.0	ND	96	70-130			
Surrogate: a,a,a-Trifluorotoluene	34.5		Ħ	30.0		115	70-130			
Matrix Spike Dup (2B14002-MSD1)	So	urce: W2021	56-03	Prepared	& Analyz	ed: 02/15/	02			
Benzene	16.1	0.50	ug/l	20.0	ND	80	70-130	13	20	
Toluene	17.4	0.50	**	20.0	ND	87	70-130	6	20	
Ethylbenzene	17.3	0.50	**	20.0	ND	86	70-130	10	20	
Xylenes (total)	55.6	0.50	Ħ	60.0	ND	93	70-130	4	20	
Surrogate: a,a,a-Trifluorotoluene	31.2		н	30.0		104	70-130			



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Project Manager: Deanna Harding

Reported: 02/20/02 10:30

#### 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.
Q-28b	The opening calibration verification standard was outside acceptance criteria by 5%. 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