

120-436



# GETTLER-RYAN INC.

## TRANSMITTAL

Alameda County August 19, 2002  
SEP 06 2002 G-R #180181

Environmental Health

TO: Mr. David B. De Witt  
Phillips 66 Company  
2000 Crow Canyon Place, Suite 4000  
San Ramon, California 94583

CC: Mr. David Vossler  
Gettler-Ryan Inc.  
Petaluma, California

FROM: Deanna L. Harding  
Project Coordinator  
Gettler-Ryan Inc.  
6747 Sierra Court, Suite J  
Dublin, California 94568

RE: Tosco (Unocal) Service Station  
#4186  
1771 First Street  
Livermore, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	August 15, 2002	Groundwater Monitoring and Sampling Report Third Quarter - Event of July 2, 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 *September 3, 2002*, this report will be distributed to the following:

cc: Ms. Eva Chu, Alameda County Health Care Services, 1131 Harbor Bay Pkwy., Alameda, CA 94502  
Ms. Carol Mahoney, Zone 7 Water Zone, 5997 Parkside Drive, Pleasanton, CA 94588

Enclosures

trans/4186-dbd



# GETTLER-RYAN Inc.

August 15, 2002  
G-R Job #180181

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

**RE: Third Quarter Event of July 2, 2002**  
Groundwater Monitoring & Sampling Report  
Tosco (Unocal) Service Station #4186  
1771 First Street  
Livermore, California

Dear Mr. De Witt:

This report documents the most recent groundwater monitoring and sampling events 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.

Sincerely,

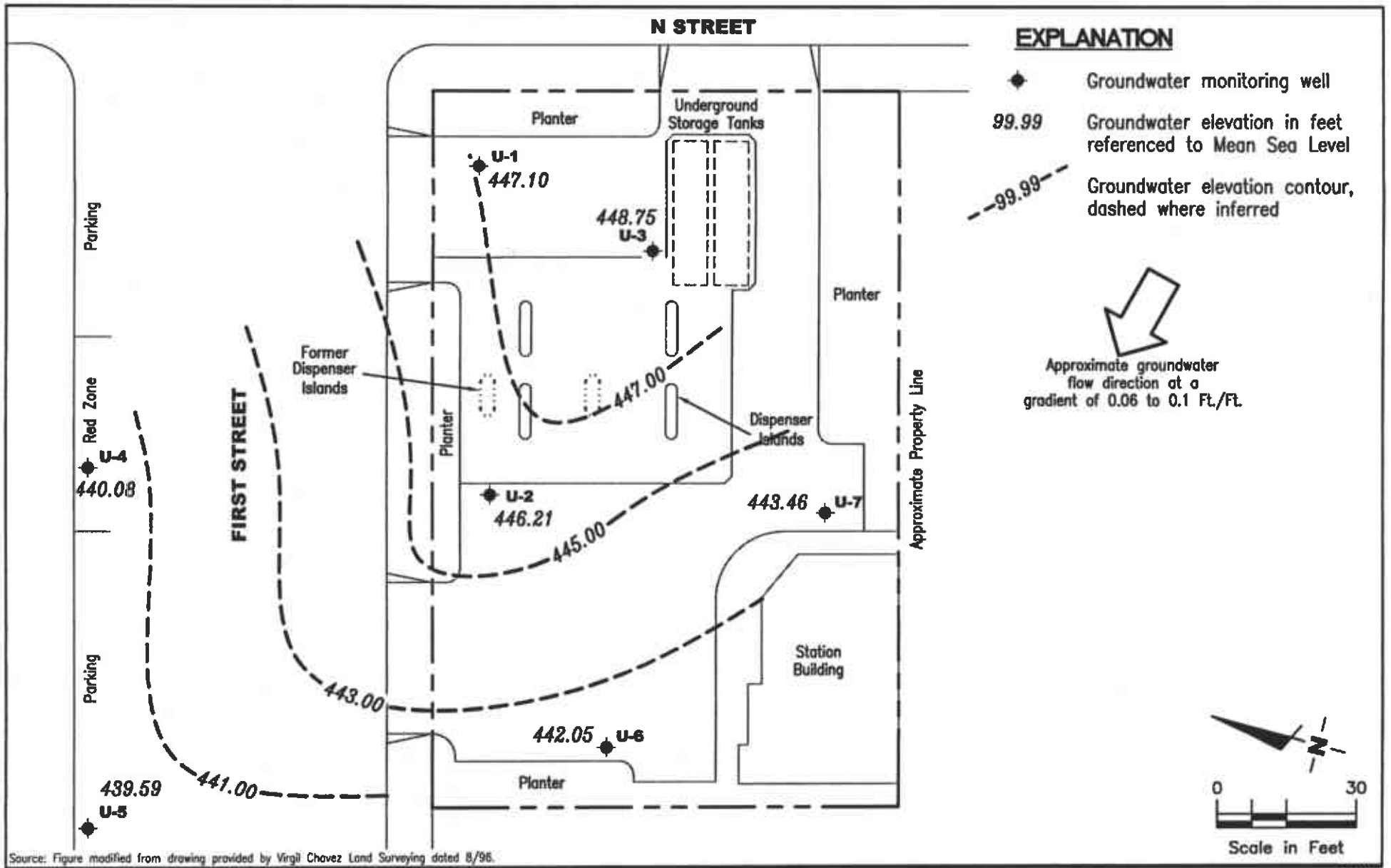
Deanna L. Harding  
Project Coordinator

Hagop Kevork  
P.E. No. C55734



Figure 1: Potentiometric Map  
Figure 2: Concentration Map  
Table 1: Groundwater Monitoring Data and Analytical Results  
Table 2: Groundwater Analytical Results - Oxygenate Compounds  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical Reports

4186.qml

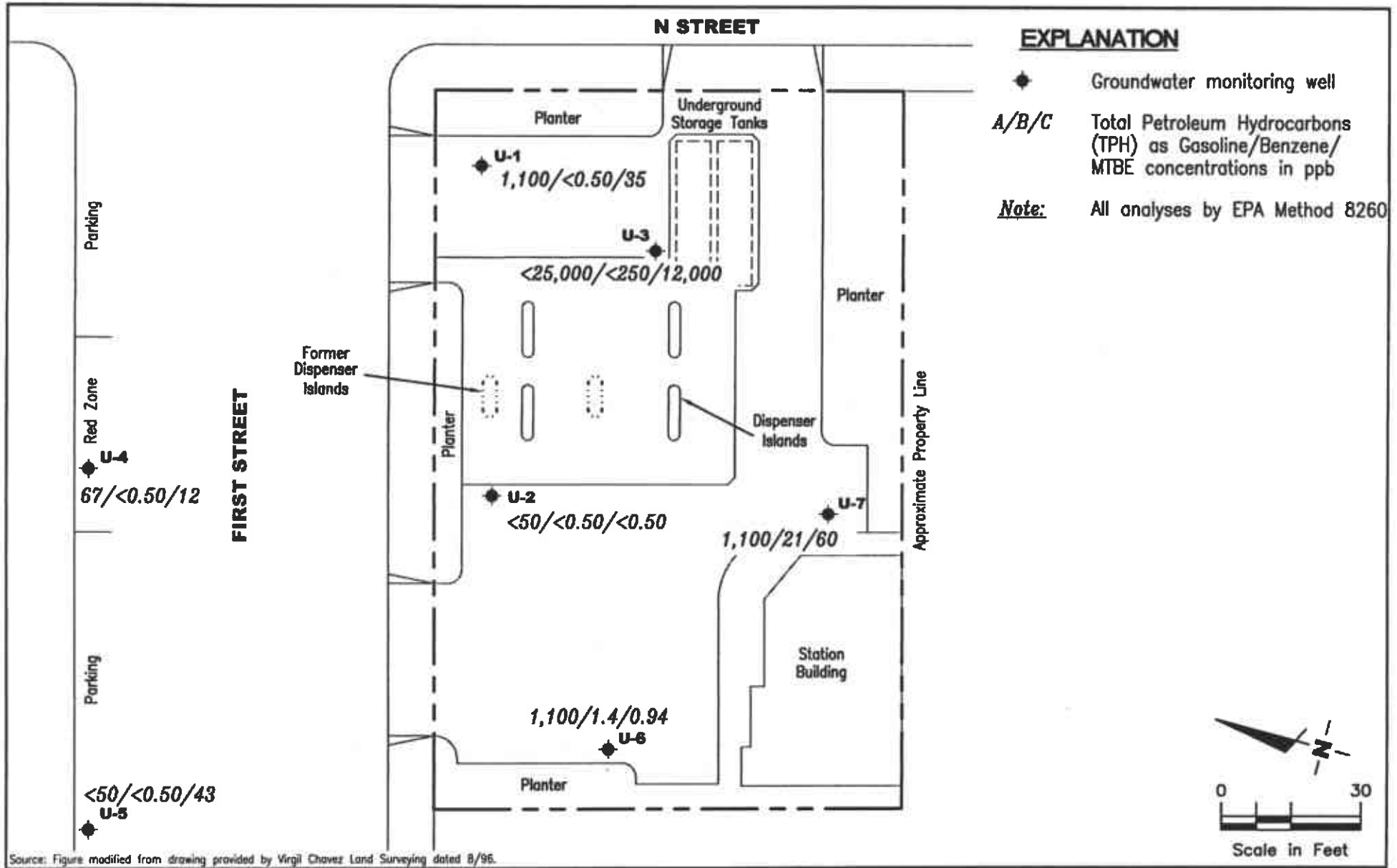


**GETTLER - RYAN INC.**  
 6747 Sierra Ct., Suite J  
 Dublin, CA 94568 (925) 551-7555

**POTENTIOMETRIC MAP**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

FIGURE  
**1**

PROJECT NUMBER 180181	REVIEWED BY	DATE July 2, 2002	REVISED DATE
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Source: Figure modified from drawing provided by Virgil Chavez Land Surveying dated 8/96.

**GETTLER - RYAN INC.**  
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**CONCENTRATION MAP**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

FIGURE

2

PROJECT NUMBER 180181	REVIEWED BY	DATE July 2, 2002	REVISED DATE
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**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.L. (ft.bgs)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-1										
478.27	07/13/98	23.28	14.0-34.0	454.99	ND	ND	ND	ND	ND	ND
	10/07/98	26.43		451.84	ND	ND	ND	ND	ND	ND
	01/15/99	30.42		447.85	ND	ND	ND	ND	1.1	7.3
	04/14/99	24.21		454.06	ND	ND	ND	ND	ND	160
	07/19/99	27.10		451.17	ND	ND	ND	ND	ND	92
	10/12/99	29.40		448.87	ND	ND	ND	ND	ND	37
	01/24/00	27.90		450.37	ND	ND	ND	ND	ND	28
	04/10/00	26.16		452.11	ND	ND	0.930	ND	ND	ND
	07/17/00	28.04		450.23	ND	ND	ND	ND	ND	160
	10/02/00	28.41		449.86	ND	ND	ND	ND	ND	120
	01/08/01	28.68		449.59	ND	ND	ND	ND	ND	103
	04/03/01	25.74		452.53	ND	ND	ND	ND	ND	55.1
	07/02/01	30.67		447.60	ND	ND	ND	ND	ND	ND
NP	10/08/01	33.13		445.14	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	01/03/02	27.67		450.60	160 <sup>o</sup>	<0.50	0.51	<0.50	0.69	31
	04/05/02	29.40		448.87	<50	<0.50	<0.50	<0.50	<0.50	60
	07/02/02 <sup>10</sup>	31.17		447.10	1,100	<0.50	1.7	0.73	130	35
U-2										
477.44	07/13/98	23.52	13.0-33.0	453.92	1,200	130	12	62	180	1,100
	10/07/98	25.31		452.13	ND	ND	ND	ND	ND	160
	01/15/99	30.22		447.22	ND	ND	ND	ND	ND	280
	04/14/99	24.50		452.94	ND	ND	ND	ND	ND	460
	07/19/99	28.54		448.90	ND	ND	ND	ND	ND	220
	10/12/99	30.48		446.96	ND	ND	ND	ND	ND	160
	01/24/00	24.52		452.92	ND	ND	ND	ND	ND	150
	04/10/00	23.68		453.76	ND	ND	ND	ND	ND	177
	07/17/00	28.35		449.09	ND	ND	ND	ND	ND	62.7
	10/02/00	28.72		448.72	ND	ND	ND	ND	ND	52
	01/08/01	29.11		448.33	ND	ND	ND	ND	ND	57.3

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-2	04/03/01	25.95	13.0-33.0	451.49	ND	ND	ND	ND	ND	30.2
(cont)	07/02/01	29.01		448.43	ND	ND	ND	ND	ND	16
	10/08/01	30.94		446.50	<50	<0.50	<0.50	<0.50	<0.50	82
	01/03/02	27.33		450.11	260 <sup>d</sup>	7.7	11	1.7	15	42
	04/05/02	30.02		447.42	<50	<0.50	<0.50	<0.50	<0.50	25
	07/02/02 <sup>10</sup>	31.23		446.21	<50	<0.50	<0.50	<0.50	<1.0	<0.50
U-3										
478.46	07/13/98	23.82	14.0-34.0	454.64	70,000	3,100	5,500	2,700	16,000	7,500
	10/07/98	25.64		452.82	54,000	5,000	1,100	3,100	14,000	6,100
	01/15/99	30.92		447.54	41,000 <sup>1</sup>	3,100	ND <sup>2</sup>	1,800	3,800	15,000
	04/14/99	24.48		453.98	33,000	86	290	2,200	7,800	39,000
	07/19/99	28.46		450.00	48,000	3,900	2,500	3,600	14,000	12,000/16,000 <sup>3</sup>
	10/12/99	30.39		448.07	35,000 <sup>d</sup>	4,200	ND <sup>2</sup>	2,300	1,800	22,000/8,300 <sup>5</sup>
	01/24/00	23.43		455.03	13,000 <sup>d</sup>	260	ND <sup>2</sup>	770	3,200	53,000/42,000 <sup>3</sup>
	04/10/00	23.31		455.15	35,200 <sup>d</sup>	1,070	241	2,820	8,850	35,600/40,900 <sup>3</sup>
	07/17/00	27.53		450.93	29,000 <sup>d</sup>	3,570	525	3,180	5,660	22,500/21,000 <sup>3</sup>
	10/02/00	28.19		450.27	11,000 <sup>d</sup>	2,100	31	2,000	780	25,000/28,000 <sup>3,6</sup>
	01/08/01	29.85		448.61	33,600 <sup>d</sup>	3,060	427	3,040	4,190	24,700/30,900 <sup>3</sup>
	04/03/01	24.98		453.48	5,390 <sup>d</sup>	660	10.8	304	356	15,200/19,300 <sup>5</sup>
	07/02/01	31.35		447.11	13,000 <sup>d</sup>	1,200	58	1,300	930	25,000/26,000 <sup>3</sup>
	NP 10/08/01	32.69		445.77	6,100 <sup>d</sup>	500	<10	570	130	23,000/22,000 <sup>3</sup>
	01/03/02	23.73		454.73	9,900 <sup>d</sup>	700	130	24	1,000	14,000/12,000 <sup>3</sup>
	04/05/02	28.27		450.19	9,800	1,100	180	220	1,400	16,000/30,000 <sup>3</sup>
	07/02/02 <sup>10</sup>	29.71		448.75	<25,000	<250	<250	<250	<500	12,000
U-4										
476.93	04/03/01 <sup>7</sup>	31.63	35.0-45.0	445.30	ND	ND	ND	ND	ND	37.8/38.2 <sup>3</sup>
	07/02/01	37.96		438.97	ND	ND	ND	ND	ND	ND/5.3 <sup>3</sup>
	10/08/01	44.24		432.69	NOT SAMPLED DUE TO INSUFFICIENT WATER				--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.L. (ft.bgs)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-4 (cont)	01/03/02	36.15	35.0-45.0	440.78	100 <sup>9</sup>	<0.50	<0.50	<0.50	<0.50	10/8.5 <sup>3</sup>
	04/05/02	37.64		439.29	<50	0.50	<0.50	<0.50	<0.50	4.1
	07/02/02 <sup>10</sup>	36.85		440.08	67 <sup>11</sup>	<0.50	<0.50	<0.50	<1.0	12
U-5 476.51	04/03/01 <sup>7</sup>	31.75	37.0-47.0	444.76	ND	ND	0.728	ND	0.993	54.8/55.4 <sup>3</sup>
	07/02/01	38.68		437.83	ND	ND	ND	ND	ND	88/94 <sup>3</sup>
	NP 10/08/01	46.31		430.20	<50	<0.50	<0.50	<0.50	<0.50	37/54 <sup>3</sup>
	01/03/02	36.55		439.96	<50	<0.50	0.59	<0.50	0.91	51/53 <sup>3</sup>
	04/05/02	37.83		438.68	<50	<0.50	<0.50	<0.50	<0.50	37
	07/02/02 <sup>10</sup>	36.92		439.59	<50	<0.50	<0.50	<0.50	<1.0	43
U-6 478.38	01/03/02 <sup>7</sup>	33.99	--	444.39	5,000 <sup>8</sup>	36	<25	260	450	<250/<10 <sup>3</sup>
	04/05/02	36.18		442.20	1,300	16	<5.0	54	<5.0	<25
	07/02/02 <sup>10</sup>	36.33		442.05	1,100	1.4	<0.50	16	<1.0	0.94
U-7 478.74	01/03/02 <sup>7</sup>	32.43	--	446.31	3,100 <sup>8</sup>	93	<10	35	73	140/130 <sup>3</sup>
	04/05/02	34.06		444.68	630	22	0.53	2.6	<0.50	45
	07/02/02 <sup>10</sup>	35.28		443.46	1,100	21	<0.50	6.9	<1.0	60
TRIP BLANK	07/13/98	--	--	--	ND	ND	ND	ND	ND	ND
	10/07/98	--	--	--	ND	ND	ND	ND	ND	ND
	01/15/99	--	--	--	ND	ND	ND	ND	ND	ND
	04/14/99	--	--	--	ND	ND	ND	ND	ND	ND
	07/19/99	--	--	--	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

WELL ID/ TOC*(%)	DATE	DTW (ft.)	S.L. (ft.bgs)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
TRIP BLANK	10/12/99	--	--	--	ND	ND	ND	ND	ND	ND
(cont)	01/24/00	--	--	--	ND	ND	ND	ND	ND	ND
	04/10/00	--	--	--	ND	ND	ND	ND	ND	ND
	07/17/00	--	--	--	ND	ND	ND	ND	ND	ND
	10/02/00	--	--	--	ND	ND	ND	ND	ND	ND
	01/08/01	--	--	--	ND	ND	ND	ND	ND	ND
	04/03/01	--	--	--	ND	ND	ND	ND	ND	ND
	07/02/01	--	--	--	ND	ND	ND	ND	ND	ND
	10/08/01	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	01/03/02	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	04/05/02	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
QA	07/02/02 <sup>10</sup>	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

**EXPLANATIONS:**

TOC = Top of Casing  
 DTW = Depth to Water  
 (ft.) = Feet  
 S. I. = Screen Interval  
 (ft.bgs) = Feet Below Ground Surface  
 GWE = Groundwater Elevation  
 (msl) = Mean sea level

TPH-G = Total Petroleum Hydrocarbons as Gasoline  
 B = Benzene  
 T = Toluene  
 E = Ethylbenzene  
 X = Xylenes  
 MTBE = Methyl tertiary butyl ether  
 (ppb) = Parts per billion

ND = Not Detected  
 -- = Not Measured/Not Analyzed  
 NP = No Purge  
 QA = Quality Assurance

- \* TOC elevations are relative to msl in feet. The benchmark used was a City of Livermore survey monument at First & "Q" Streets, (Benchmark Elevation = 469.246 feet, msl). Wells U-6 and U-7 were surveyed on January 16, 2002, using the previous benchmark.
- <sup>1</sup> Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.
- <sup>2</sup> Detection limit raised. Refer to analytical reports.
- <sup>3</sup> MTBE by EPA Method 8260.
- <sup>4</sup> Laboratory report indicates gasoline C6-C12.
- <sup>5</sup> MTBE by EPA Method 8260 analyzed past EPA recommended holding time.
- <sup>6</sup> Laboratory report indicates the sample was analyzed within holding time. Re-analysis for confirmation or dilution was performed past the recommend holding time.
- <sup>7</sup> Well development performed.
- <sup>8</sup> Laboratory report indicates weathered gasoline C6-C12.
- <sup>9</sup> Laboratory report indicates unidentified hydrocarbons C6-C12.
- <sup>10</sup> TPH-G, BTEX and MTBE by EPA Method 8260.
- <sup>11</sup> Laboratory report indicates hydrocarbon reported in the gasoline range does not match our gasoline standard.

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	EDB (ppb)	1,2-DCA (ppb)
U-1	10/02/00	--	ND	--	--	--	--	--	--
	07/02/02	--	--	35	--	--	--	--	--
U-2	10/02/00	--	ND	--	--	--	--	--	--
	07/02/02	--	--	<0.50	--	--	--	--	--
U-3	07/19/99	--	--	16,000	--	--	--	--	--
	10/12/99	--	--	8,300	--	--	--	--	--
	01/24/00	--	--	42,000	--	--	--	--	--
	04/10/00	--	--	40,900	--	--	--	--	--
	07/17/00	--	--	21,000	--	--	--	--	--
	10/02/00	--	63,000	28,000	--	--	--	--	--
	01/08/01	ND <sup>1</sup>	49,300	30,900	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>
	04/03/01 <sup>2</sup>	ND <sup>1</sup>	22,200	19,300	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>
	07/02/01	ND <sup>1</sup>	27,000	26,000	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>
	10/08/01	<140,000	33,000	22,000	<290	<290	<290	<290	<290
	01/03/02	<50,000	17,000	12,000	<100	<100	<100	<100	<100
	04/05/02	<25,000	66,000	30,000	<100	<100	<100	<100	<100
	07/02/02	<13,000	47,000	12,000	<500	<250	<250	<250	<250
U-4	04/03/01	ND	ND	38.2	ND	ND	ND	ND	ND
	07/02/01	ND	ND	5.3	ND	ND	ND	ND	ND
	01/03/02	<500	<20	8.5	<1.0	<1.0	<1.0	<1.0	<1.0
	07/02/02	--	--	12	--	--	--	--	--

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Tosco (Unocal) Service Station #4186  
 1771 First Street  
 Livermore, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	EDB (ppb)	1,2-DCA (ppb)
U-5	04/03/01	ND	ND	55.4	ND	ND	ND	ND	ND
	07/02/01	ND	ND	94	ND	ND	ND	ND	ND
	10/08/01	<1,000	<100	54	<2.0	<2.0	<2.0	<2.0	<2.0
	01/03/02	<500	<20	53	<1.0	<1.0	<1.0	<1.0	<1.0
	07/02/02	--	--	43	--	--	--	--	--
U-6	01/03/02	<5,000	<200	<10	<10	<10	<10	<10	<10
	07/02/02	--	--	0.94	--	--	--	--	--
U-7	01/03/02	<500	30	130	<1.0	<1.0	<1.0	<1.0	<1.0
	07/02/02	--	--	60	--	--	--	--	--
<b>TRIP BLANK</b>									
QA	07/02/02	--	--	<0.50	--	--	--	--	--

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
Tosco (Unocal) Service Station #4186  
1771 First Street  
Livermore, California

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**EXPLANATIONS:**

TBA = Tertiary butyl alcohol  
MTBE = Methyl tertiary butyl ether  
DIPE = Di-isopropyl ether  
ETBE = Ethyl tertiary butyl ether  
TAME = Tertiary amyl methyl ether  
EDB = 1,2-Dibromoethane  
1,2-DCA = 1,2-Dichloroethane  
(ppb) = Parts per billion  
ND = Not Detected  
-- = Not Analyzed  
QA = Quality Assurance

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

<sup>1</sup> Detection limit raised. Refer to analytical reports.

<sup>2</sup> Laboratory report indicates this sample was analyzed outside of the EPA recommended holding time.

## 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.



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #4186 Job Number: 180181  
 Site Address: 1771 First Street Event Date: 7-02-02  
 City: Livermore, CA Sampler: BG

Well ID: U-1 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Thickness: 0 ft. Amount Bailed (product/water): 0 gal.  
 Total Depth: 34.05 ft. Volume Factor (VF):  
 Depth to Water: 31.17 ft. 

3/4"	0.02	1"	0.04	2"	0.17	3"	0.38
4"	0.66	5"	1.02	6"	1.50	12"	5.80

2.88 xVF .17 = .50 x3 (case volume) = Estimated Purge Volume: 1.5 gal.

Purge Equipment: Disposable Bailer  Stainless Steel Bailer \_\_\_\_\_ Stack Pump \_\_\_\_\_ Suction Pump \_\_\_\_\_ Grundfos \_\_\_\_\_ Other: \_\_\_\_\_  
 Sampling Equipment: Disposable Bailer  Pressure Bailer \_\_\_\_\_ Discrete Bailer \_\_\_\_\_ Other: \_\_\_\_\_

Start Time (purge): 0847 Weather Conditions: Sunny  
 Sample Time/Date: 0856 / 7-02-02 Water Color: Brown Odor: NO  
 Purging Flow Rate: - gpm. Sediment Description: Silty  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0849</u>	<u>.50</u>	<u>7.06</u>	<u>855</u>	<u>70.8</u>	<u>6.5</u>	<u>31</u>
<u>0850</u>	<u>1.0</u>	<u>6.88</u>	<u>851</u>	<u>70.6</u>	<u>5.1</u>	<u>33</u>
<u>0851</u>	<u>1.5</u>	<u>6.71</u>	<u>846</u>	<u>70.2</u>	<u>5.0</u>	<u>33</u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-1</u>	<u>5</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G,BTEX,MTBE by 8260</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #4186 Job Number: 180181  
 Site Address: 1771 First Street Event Date: 7-02-02  
 City: Livermore, CA Sampler: BG

Well ID: U-2 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Amount Bailed  
 Total Depth: 33.20 ft. Thickness: 6 ft. (product/water): 6 gal.  
 Depth to Water: 31.23 ft.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

1.97 xVF .17 = .30 x3 (case volume) = Estimated Purge Volume: .90 gal.

Purge Equipment: Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 0901 Weather Conditions: Sunny  
 Sample Time/Date: 0909 17-02-02 Water Color: Brown Odor: yes  
 Purging Flow Rate: — gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0902</u>	<u>.30</u>	<u>7.00</u>	<u>1039</u>	<u>73.9</u>	<u>3.4</u>	<u>-88</u>
<u>0903</u>	<u>.60</u>	<u>6.91</u>	<u>1031</u>	<u>73.8</u>	<u>3.1</u>	<u>-89</u>
<u>0904</u>	<u>.90</u>	<u>6.99</u>	<u>1033</u>	<u>73.7</u>	<u>3.0</u>	<u>-96</u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-2</u>	<u>5</u> x vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G,BTEX,MTBE by 8260</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #4186 Job Number: 180181  
 Site Address: 1771 First Street Event Date: 7-02-02  
 City: Livermore, CA Sampler: B6

Well ID: U-3 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Thickness: 8 ft. Amount Bailed (product/water): 8 gal.  
 Total Depth: 33.40 ft.  
 Depth to Water: 29.71 ft.  
 Volume Factor (VF):  

3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

3.69 x VF .17 = .66 x 3 (case volume) = Estimated Purge Volume: 1.8 gal.

Purge Equipment: Disposable Bailer  Stainless Steel Bailer \_\_\_\_\_ Stack Pump \_\_\_\_\_ Suction Pump \_\_\_\_\_ Grundfos \_\_\_\_\_ Other: \_\_\_\_\_  
 Sampling Equipment: Disposable Bailer  Pressure Bailer \_\_\_\_\_ Discrete Bailer \_\_\_\_\_ Other: \_\_\_\_\_

Start Time (purge): 0938 Weather Conditions: Sunny  
 Sample Time/Date: 0941 / 7-2-02 Water Color: Clear Odor: yes  
 Purging Flow Rate: - gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0939</u>	<u>.60</u>	<u>6.92</u>	<u>810</u>	<u>71.5</u>	<u>1.8</u>	<u>-56</u>
<u>0941</u>	<u>1.2</u>	<u>6.96</u>	<u>808</u>	<u>71.4</u>	<u>1.4</u>	<u>-58</u>
<u>0942</u>	<u>1.8</u>	<u>6.80</u>	<u>811</u>	<u>71.4</u>	<u>1.5</u>	<u>-66</u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-3</u>	<u>5</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G,BTEX,MTBE by 8260</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: - Add/Replaced Plug: - Size: -





# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #4186 Job Number: 180181  
 Site Address: 1771 First Street Event Date: 7-02-02  
 City: Livermore, CA Sampler: BC

Well ID: U-4 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Amount Bailed  
 Total Depth: 45.30 ft. Thickness: 0 ft. (product/water): 0 gal.  
 Depth to Water: 36.85 ft.  
 Volume 3/4"= 0.02 1"= 0.04 2"= 0.17 3"= 0.38  
 Factor (VF) 4"= 0.66 5"= 1.02 6"= 1.50 12"= 5.80  
8.45 xVF .17 = 1 x3 (case volume) = Estimated Purge Volume: 3 gal.

Purge Equipment: Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_  
 Sampling Equipment: Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 1031 Weather Conditions: Sunny  
 Sample Time/Date: 1048 7-02-02 Water Color: Brown Odor: No  
 Purging Flow Rate: - gpm. Sediment Description: Silt  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>1033</u>	<u>1</u>	<u>6.11</u>	<u>617</u>	<u>70.2</u>	<u>1.5</u>	<u>5</u>
<u>1037</u>	<u>2</u>	<u>6.09</u>	<u>645</u>	<u>72.1</u>	<u>1.3</u>	<u>15</u>
<u>1041</u>	<u>3</u>	<u>6.02</u>	<u>615</u>	<u>71.8</u>	<u>1.4</u>	<u>01</u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-4</u>	<u>5</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G,BTEX,MTBE by 8260</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_

Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #4186 Job Number: 180181  
 Site Address: 1771 First Street Event Date: 7-02-02  
 City: Livermore, CA Sampler: BG

Well ID: U-5 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Thickness: 0 ft. Amount Bailed (product/water): 0 gal.  
 Total Depth: 47.20 ft.  
 Depth to Water: 36.92 ft.  
 Volume Factor (VF) table:  

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

 Calculation:  $10.28 \times VF .17 = 2 \times 3$  (case volume) = Estimated Purge Volume: 6 gal.

Purge Equipment: Disposable Bailer  Stainless Steel Bailer \_\_\_\_\_ Stack Pump \_\_\_\_\_ Suction Pump \_\_\_\_\_ Grundfos \_\_\_\_\_ Other: \_\_\_\_\_  
 Sampling Equipment: Disposable Bailer  Pressure Bailer \_\_\_\_\_ Discrete Bailer \_\_\_\_\_ Other: \_\_\_\_\_

Start Time (purge): 1055 Weather Conditions: Sunny  
 Sample Time/Date: 1112 17-02-02 Water Color: blow Odor: No  
 Purging Flow Rate: - gpm. Sediment Description: light silt  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>1059</u>	<u>2</u>	<u>6.13</u>	<u>679</u>	<u>71.7</u>	<u>1.5</u>	<u>37</u>
<u>1107</u>	<u>4</u>	<u>5.96</u>	<u>630</u>	<u>75.1</u>	<u>1.3</u>	<u>33</u>
<u>1112</u>	<u>6</u>	<u>6.11</u>	<u>631</u>	<u>73.1</u>	<u>1.2</u>	<u>30</u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-5</u>	<u>5</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G,BTEX,MTBE by 8260</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #4186 Job Number: 180181  
 Site Address: 1771 First Street Event Date: 7-02-07  
 City: Livermore, CA Sampler: RK

Well ID: U-6 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Amount Bailed: 0 gal.  
 Total Depth: 44.65 ft. Thickness: 0 ft. (product/water): 0 gal.  
 Depth to Water: 36.33 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

8.32 xVF .17 = 1 x3 (case volume) = Estimated Purge Volume: 3 gal.

Purge Equipment: Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 0918 Weather Conditions: Sunny  
 Sample Time/Date: 0927 17-02-07 Water Color: Clear Odor: Slight  
 Purging Flow Rate: - gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0920</u>	<u>1</u>	<u>7.11</u>	<u>1107</u>	<u>71.2</u>	<u>1.8</u>	<u>-91</u>
<u>0922</u>	<u>2</u>	<u>7.10</u>	<u>1109</u>	<u>71.3</u>	<u>1.5</u>	<u>-89</u>
<u>0924</u>	<u>3</u>	<u>7.06</u>	<u>1112</u>	<u>71.0</u>	<u>1.5</u>	<u>-86</u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-6</u>	<u>5</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G,BTEX,MTBE by 8260</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_

Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #4186 Job Number: 180181  
 Site Address: 1771 First Street Event Date: 7-02-07  
 City: Livermore, CA Sampler: Bc

Well ID: U-7 Well Condition: OK  
 Well Diameter: 2 in. Hydrocarbon Amount Bailed  
 Total Depth: 44.45 ft. Thickness: 0 ft. (product/water): 0 gal.  
 Depth to Water: 35.29 ft.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

9.17 xVF .17 = 1 x3 (case volume) = Estimated Purge Volume: 3 gal.

Purge Equipment: Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment: Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 1005 Weather Conditions: SUN  
 Sample Time/Date: 1024 12-02-07 Water Color: Clear Odor: yes  
 Purging Flow Rate: - gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>1007</u>	<u>1</u>	<u>6.84</u>	<u>836</u>	<u>72.9</u>	<u>1.6</u>	<u>-76</u>
<u>1011</u>	<u>2</u>	<u>6.59</u>	<u>836</u>	<u>69.8</u>	<u>1.8</u>	<u>-75</u>
<u>1017</u>	<u>3</u>	<u>6.66</u>	<u>821</u>	<u>68.5</u>	<u>1.7</u>	<u>-81</u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-7</u>	<u>5</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G,BTEX,MTBE by 8260</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_

Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_

2002-07-0042

6/25/01

Gettler-Ryan Inc., Chain-of-Custody

Tosco Corp./  
Phillips 66 Co.  
000 Crow Canyon Place  
Suite 400  
San Ramon, CA 94583

Facility Number 4186  
Facility Address 1711 FIRST STREET, LIVERMORE, CA  
Global ID T0600101777 Project 180181.80  
Client Contact MR. DAVID B. DEWITT  
Phone (925) 277-2384

Laboratory Name STL - PLEASANTON, CA  
Consultant GETTLER-RYAN, INC. DEANNA L. HARDING  
Address 6747 SIERRA CT., SUITE J, DUBLIN CA 94568  
Phone (925) 551-7555 Fax (925) 551-7899  
Samples Collected by \_\_\_\_\_

SAMPLE ID	Number of Containers Matrix	S = Soil W = Water A = Air C = Charcoal	Sample Preservation	Date/Time (2400 Hrs)	TPH-GAS/BTEX/MTBE EPA 8015/8021B	TPH-DIESEL EPA 8015	TPH-DIESEL w/Silica gel EPA 8015	TPH-GAS EPA 8015	TPH-GAS/BTEX/MTBE EPA 8260	OXYGENATES EPA 8260	METHANOL EPA 8015	TOTAL OIL & GREASE EPA 5520	METALS Cd, Cr, Pb, Zn, Ni	NITRATE/SULFATE/ALKALINITY EPA 300 SERIES	HYDROCARBONS (B010) EPA 8021B	VOC'S (8240) EPA 8260	SVOC'S EPA 8270	Remarks
DA	1	W	KL	7-2-02					X									Run 8 Oxy's by 8260 on 8260 MTBE hit on U-3 only.
0-1	5			0856					X									20.7°C
1-2	5			0909					X									
1-3	5			0946					X									
1-4	5			1048					X									
1-5	5			1118					X									
1-6	5			0927					X									
1-7	5	V	V	1024					X									

- OXYGENATES 8260
- 1 - MTBE
  - 2 - TBA
  - 3 - TAME
  - 4 - DIPE
  - 5 - ETBE
  - 6 - 1,2-DCA
  - 7 - EDB
  - 8 - ETHANOL

Collected By (Signature) <i>Wan Dan</i>	Organization <i>A-R</i>	Date/Time <i>7-2-02</i>	Received By (Signature)	Organization	Date/Time	Iced Y/N	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 72 Hrs. 5 Days 10 Days As Contracted
Collected By (Signature)	Organization	Date/Time <i>07/02/02 1240</i>	Received By (Signature) <i>C. Rowley</i>	Organization	Date/Time	Iced Y/N	
Collected By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <i>31</i>	Organization	Date/Time <i>7-2-02 000</i>	Iced Y/N	

JUL 19 02 11:45a ST10nsite 9256003002 P.4

Submission#: 2002-07-0042

July 19, 2002

**SEVERN**

**TRENT**

**LABORATORY**

**Gettler Ryan**  
6747 Sierra Court Suite J  
Dublin, CA 94568

Attn.: Deanna Harding  
Project#: 180181.80  
Project: Tosco # 4186  
Site: 1711 First Street  
Livermore, CA

STL San Francisco  
1220 Quarry Ln  
Pleasanton CA 94566

Tel.: (925) 484-1919  
Fax: (925) 484-1096  
www.stl-inc.com  
www.chromalab.com

CA DHS ELAP#:2496

Dear Ms. Harding,

Attached is our report for your samples received on 07/02/2002 12:40

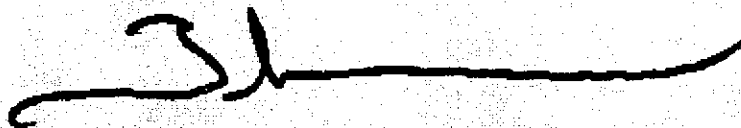
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 08/16/2002 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: [tgranicher@chromalab.com](mailto:tgranicher@chromalab.com)

Sincerely,



---

Tod Granicher  
Project Manager

Submission #: 2002-07-0042

Gas/BTEXFuel Oxygenates by 8260B

Gettler Ryan

Attn.: Deanna Harding  
6747 Sierra Court Suite J  
Dublin, CA 94568

Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180181.80  
Tosco # 4186

Received: 07/02/2002 12:40

Site: 1711 First Street  
Livermore, CA

SEVERN

TRENT

LABORATORY

STL San Francisco  
1220 Quarry Lane  
Pleasanton, CA 94566

Tel: (925) 484-1919  
Fax: (925) 484-1096  
www.stl-inc.com  
www.chromalab.com

CA DHS ELAP# 2496

### Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
QA	07/02/2002	Water	1
U-1	07/02/2002 08:56	Water	2
U-2	07/02/2002 09:09	Water	3
U-3	07/02/2002 09:46	Water	4
U-4	07/02/2002 10:48	Water	5
U-5	07/02/2002 11:18	Water	6
U-6	07/02/2002 09:27	Water	7
U-7	07/02/2002 10:24	Water	8

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

Attn.: Deanna Harding  
 6747 Sierra Court Suite J  
 Dublin, CA 94568

Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180181.80  
 ...Tosco # 4186

Received: 07/02/2002 12:40

Site: 1711 First Street  
 Livermore, CA

STL San Francisco  
 1220 Quarry Lane  
 Pleasanton, CA 94566

Tel: (925) 484-1919  
 Fax: (925) 484-1096  
 www.stl-inc.com  
 www.chromalab.com

CA DHS ELAP# 2496

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	QA	Lab ID:	2002-07-0042 - 1
Sampled:	07/02/2002	Extracted:	7/10/2002 20:23
Matrix:	Water	QC Batch#:	2002/07/10-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	07/10/2002 20:23	
Benzene	ND	0.50	ug/L	1.00	07/10/2002 20:23	
Toluene	ND	0.50	ug/L	1.00	07/10/2002 20:23	
Ethylbenzene	ND	0.50	ug/L	1.00	07/10/2002 20:23	
Total xylenes	ND	1.0	ug/L	1.00	07/10/2002 20:23	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	07/10/2002 20:23	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	113.9	76-114	%	1.00	07/10/2002 20:23	
Toluene-d8	101.4	88-110	%	1.00	07/10/2002 20:23	



Submission #: 2002-07-0042

Gas/BTEXFuel Oxygenates by 8260B

Gettler Ryan

Attn.: Deanna Harding  
6747 Sierra Court Suite J  
Dublin, CA 94568

Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180181.80  
Tosco # 4186

Received: 07/02/2002 12:40

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CA DHS ELAP# 2496

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	U-1	Lab ID:	2002-07-0042 - 2
Sampled:	07/02/2002 08:56	Extracted:	7/9/2002 02:44
Matrix:	Water	QC Batch#:	2002/07/08-01.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1100	50	ug/L	1.00	07/09/2002 02:44	
Benzene	ND	0.50	ug/L	1.00	07/09/2002 02:44	
Toluene	1.7	0.50	ug/L	1.00	07/09/2002 02:44	
Ethylbenzene	0.73	0.50	ug/L	1.00	07/09/2002 02:44	
Total xylenes	130	1.0	ug/L	1.00	07/09/2002 02:44	
Methyl tert-butyl ether (MTBE)	35	0.50	ug/L	1.00	07/09/2002 02:44	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	90.4	76-114	%	1.00	07/09/2002 02:44	
Toluene-d8	100.5	88-110	%	1.00	07/09/2002 02:44	

Gas/BTEXFuel Oxygenates by 8260B

Gettler Ryan

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Tosco # 4186

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CA DHS ELAP# 2496

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	U-2	Lab ID:	2002-07-0042 - 3
Sampled:	07/02/2002 09:09	Extracted:	7/9/2002 15:44
Matrix:	Water	QC Batch#:	2002/07/09-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	07/09/2002 15:44	
Benzene	ND	0.50	ug/L	1.00	07/09/2002 15:44	
Toluene	ND	0.50	ug/L	1.00	07/09/2002 15:44	
Ethylbenzene	ND	0.50	ug/L	1.00	07/09/2002 15:44	
Total xylenes	ND	1.0	ug/L	1.00	07/09/2002 15:44	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	07/09/2002 15:44	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	105.0	76-114	%	1.00	07/09/2002 15:44	
Toluene-d8	101.9	88-110	%	1.00	07/09/2002 15:44	

Submission #: 2002-07-0042

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CA DHS ELAP# 2496

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-3	Lab ID: 2002-07-0042 -- 4
Sampled: 07/02/2002 09:46	Extracted: 7/9/2002 16:07
Matrix: Water	QC Batch#: 2002/07/09-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	25000	ug/L	500.00	07/09/2002 16:07	
Benzene	ND	250	ug/L	500.00	07/09/2002 16:07	
Toluene	ND	250	ug/L	500.00	07/09/2002 16:07	
Ethylbenzene	ND	250	ug/L	500.00	07/09/2002 16:07	
Total xylenes	ND	500	ug/L	500.00	07/09/2002 16:07	
tert-Butyl alcohol (TBA)	47000	2500	ug/L	500.00	07/09/2002 16:07	
Methyl tert-butyl ether (MTBE)	12000	250	ug/L	500.00	07/09/2002 16:07	
Di-isopropyl Ether (DIPE)	ND	500	ug/L	500.00	07/09/2002 16:07	
Ethyl tert-butyl ether (ETBE)	ND	250	ug/L	500.00	07/09/2002 16:07	
tert-Amyl methyl ether (TAME)	ND	250	ug/L	500.00	07/09/2002 16:07	
1,2-DCA	ND	250	ug/L	500.00	07/09/2002 16:07	
EDB	ND	250	ug/L	500.00	07/09/2002 16:07	
Ethanol	ND	13000	ug/L	500.00	07/09/2002 16:07	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	114.0	76-114	%	500.00	07/09/2002 16:07	
Toluene-d8	100.5	88-110	%	500.00	07/09/2002 16:07	

Submission #: 2002-07-0042

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CA DHS ELAP# 2496

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	U-4	Lab ID:	2002-07-0042 - 5
Sampled:	07/02/2002 10:48	Extracted:	7/11/2002 12:29
Matrix:	Water	QC Batch#:	2002/07/11-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	67	50	ug/L	1.00	07/11/2002 12:29	g
Benzene	ND	0.50	ug/L	1.00	07/11/2002 12:29	
Toluene	ND	0.50	ug/L	1.00	07/11/2002 12:29	
Ethylbenzene	ND	0.50	ug/L	1.00	07/11/2002 12:29	
Total xylenes	ND	1.0	ug/L	1.00	07/11/2002 12:29	
Methyl tert-butyl ether (MTBE)	12	0.50	ug/L	1.00	07/11/2002 12:29	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	108.0	76-114	%	1.00	07/11/2002 12:29	
Toluene-d8	102.9	88-110	%	1.00	07/11/2002 12:29	

Submission #: 2002-07-0042

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CA DHS ELAP# 2496

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-5	Lab ID: 2002-07-0042 - 6
Sampled: 07/02/2002 11:18	Extracted: 7/9/2002 16:52
Matrix: Water	QC Batch#: 2002/07/09-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	07/09/2002 16:52	
Benzene	ND	0.50	ug/L	1.00	07/09/2002 16:52	
Toluene	ND	0.50	ug/L	1.00	07/09/2002 16:52	
Ethylbenzene	ND	0.50	ug/L	1.00	07/09/2002 16:52	
Total xylenes	ND	1.0	ug/L	1.00	07/09/2002 16:52	
Methyl tert-butyl ether (MTBE)	43	0.50	ug/L	1.00	07/09/2002 16:52	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	112.9	76-114	%	1.00	07/09/2002 16:52	
Toluene-d8	101.5	88-110	%	1.00	07/09/2002 16:52	

Submission #: 2002-07-0042

Gas/BTEX Fuel Oxygenates by 8260B

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CA DHS ELAP# 2496

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-6	Lab ID: 2002-07-0042 - 7
Sampled: 07/02/2002 09:27	Extracted: 7/9/2002 18:00
Matrix: Water	QC Batch#: 2002/07/09-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1100	50	ug/L	1.00	07/09/2002 18:00	
Benzene	1.4	0.50	ug/L	1.00	07/09/2002 18:00	
Toluene	ND	0.50	ug/L	1.00	07/09/2002 18:00	
Ethylbenzene	16	0.50	ug/L	1.00	07/09/2002 18:00	
Total xylenes	ND	1.0	ug/L	1.00	07/09/2002 18:00	
Methyl tert-butyl ether (MTBE)	0.94	0.50	ug/L	1.00	07/09/2002 18:00	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	113.8	76-114	%	1.00	07/09/2002 18:00	
Toluene-d8	102.8	88-110	%	1.00	07/09/2002 18:00	

Submission #: 2002-07-0042

Gas/BTEX Fuel Oxygenates by 8260B

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CA DHS ELAP# 2496

Prep(s): 5030B Test(s): 8260FAB  
Sample ID: U-7 Lab ID: 2002-07-0042 - 8  
Sampled: 07/02/2002 10:24 Extracted: 7/9/2002 18:22  
Matrix: Water QC Batch#: 2002/07/09-01 27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1100	50	ug/L	1.00	07/09/2002 18:22	
Benzene	21	0.50	ug/L	1.00	07/09/2002 18:22	
Toluene	ND	0.50	ug/L	1.00	07/09/2002 18:22	
Ethylbenzene	6.9	0.50	ug/L	1.00	07/09/2002 18:22	
Total xylenes	ND	1.0	ug/L	1.00	07/09/2002 18:22	
Methyl tert-butyl ether (MTBE)	60	0.50	ug/L	1.00	07/09/2002 18:22	
<b>Surrogates(s)</b>						
1,2-Dichloroethane-d4	113.0	76-114	%	1.00	07/09/2002 18:22	
Toluene-d8	100.0	88-110	%	1.00	07/09/2002 18:22	

## Gas/BTEXFuel Oxygenates by 8260B

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Project: 180181.80

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CA DHS ELAP# 2496

## Batch QC Report

Prep(s): 5030B

Method Blank

MB: 2002/07/08-01.62-001

Water

Test(s): 8260B

QC Batch # 2002/07/08-01.62

Date Extracted: 07/08/2002 18:02

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/08/2002 18:02	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	07/08/2002 18:02	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	07/08/2002 18:02	
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L	07/08/2002 18:02	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	07/08/2002 18:02	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	07/08/2002 18:02	
1,2-DCA	ND	0.5	ug/L	07/08/2002 18:02	
EDB	ND	0.5	ug/L	07/08/2002 18:02	
Benzene	ND	0.5	ug/L	07/08/2002 18:02	
Toluene	ND	0.5	ug/L	07/08/2002 18:02	
Ethylbenzene	ND	0.5	ug/L	07/08/2002 18:02	
Total xylenes	ND	1.0	ug/L	07/08/2002 18:02	
Ethanol	ND	25	ug/L	07/08/2002 18:02	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	90.0	76-114	%	07/08/2002 18:02	
Toluene-d8	104.4	88-110	%	07/08/2002 18:02	



## Gas/BTEX Fuel Oxygenates by 8260B

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CA DHS ELAP# 2496

## Batch QC Report

Prep(s): 5030B

Method Blank

MB: 2002/07/09-01.27-007

Water

Test(s): 8260FAB

QC Batch # 2002/07/09-01.27

Date Extracted: 07/09/2002 13:40

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/09/2002 13:40	
Benzene	ND	0.5	ug/L	07/09/2002 13:40	
Toluene	ND	0.5	ug/L	07/09/2002 13:40	
Ethylbenzene	ND	0.5	ug/L	07/09/2002 13:40	
Total xylenes	ND	1.0	ug/L	07/09/2002 13:40	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	07/09/2002 13:40	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	07/09/2002 13:40	
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L	07/09/2002 13:40	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	07/09/2002 13:40	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	07/09/2002 13:40	
1,2-DCA	ND	0.5	ug/L	07/09/2002 13:40	
EDB	ND	0.5	ug/L	07/09/2002 13:40	
Ethanol	ND	25	ug/L	07/09/2002 13:40	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	114.0	76-114	%	07/09/2002 13:40	
Toluene-d8	105.0	88-110	%	07/09/2002 13:40	

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CA DHS ELAP# 2496

## Batch QC Report

Prep(s): 5030B

Method Blank

MB: 2002/07/10-01.27-007

Water

Test(s): 8260FAB

QC Batch # 2002/07/10-01.27

Date Extracted: 07/10/2002 12:08

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/10/2002 12:08	
Benzene	ND	0.5	ug/L	07/10/2002 12:08	
Toluene	ND	0.5	ug/L	07/10/2002 12:08	
Ethylbenzene	ND	0.5	ug/L	07/10/2002 12:08	
Total xylenes	ND	1.0	ug/L	07/10/2002 12:08	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	07/10/2002 12:08	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	07/10/2002 12:08	
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L	07/10/2002 12:08	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	07/10/2002 12:08	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	07/10/2002 12:08	
1,2-DCA	ND	0.5	ug/L	07/10/2002 12:08	
EDB	ND	0.5	ug/L	07/10/2002 12:08	
Ethanol	ND	25	ug/L	07/10/2002 12:08	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	112.8	76-114	%	07/10/2002 12:08	
Toluene-d8	104.2	88-110	%	07/10/2002 12:08	

Submission #: 2002-07-0042

Gas/BTEXFuel Oxygenates by 8260B

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CA DHS ELAP# 2496

**Batch QC Report**

Prep(s): 5030B

Method Blank

MB: 2002/07/11-01.27-005

Water

Test(s): 8260B

QC Batch # 2002/07/11-01.27

Date Extracted: 07/11/2002 11:24

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/11/2002 11:24	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	07/11/2002 11:24	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	07/11/2002 11:24	
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L	07/11/2002 11:24	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	07/11/2002 11:24	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	07/11/2002 11:24	
1,2-DCA	ND	0.5	ug/L	07/11/2002 11:24	
EDB	ND	0.5	ug/L	07/11/2002 11:24	
Benzene	ND	0.5	ug/L	07/11/2002 11:24	
Toluene	ND	0.5	ug/L	07/11/2002 11:24	
Ethylbenzene	ND	0.5	ug/L	07/11/2002 11:24	
Total xylenes	ND	1.0	ug/L	07/11/2002 11:24	
Ethanol	ND	25	ug/L	07/11/2002 11:24	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	110.7	76-114	%	07/11/2002 11:24	
Toluene-d8	100.5	88-110	%	07/11/2002 11:24	

Gas/BTEXFuel Oxygenates by 8260B

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CA DHS ELAP# 2496

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike**

**Water**

**QC Batch # 2002/07/08-01.62**

LCS 2002/07/08-01.62-002

Extracted: 07/08/2002

Analyzed: 07/08/2002 17:09

LCSD 2002/07/08-01.62-003

Extracted: 07/08/2002

Analyzed: 07/08/2002 17:35

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	25.1	24.6	25.0	100.4	98.4	2.0	65-165	20		
Benzene	22.2	21.9	25.0	88.8	87.6	1.4	69-129	20		
Toluene	24.2	23.7	25.0	96.8	94.8	2.1	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	490	497	500	98.0	99.4		76-114	0		
Toluene-d8	523	505	500	104.6	101.0		88-110	0		

Gas/BTEXFuel Oxygenates by 8260B

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CA DHS ELAP# 2496

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260FAB

**Laboratory Control Spike**

**Water**

QC Batch # 2002/07/09-01.27

LCS 2002/07/09-01.27-005

Extracted: 07/09/2002

Analyzed: 07/09/2002 12:51

LCSD 2002/07/09-01.27-028

Extracted: 07/09/2002

Analyzed: 07/09/2002 14:06

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD %	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		Rec.	RPD	LCS	LCSD
Benzene	19.9	19.6	25.0	79.6	78.4	1.5	69-129	20		
Toluene	23.5	23.4	25.0	94.0	93.6	0.4	70-130	20		
Methyl tert-butyl ether (MTBE)	19.1	16.6	25.0	76.4	66.4	14.0	65-165	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	547	544	500	109.4	108.8		76-114			
Toluene-d8	524	526	500	104.8	105.2		88-110			

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

Attn.: Deanna Harding  
 6747 Sierra Court Suite J  
 Dublin, CA 94568  
 Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180181.80  
 Tosco # 4186

Received: 07/02/2002 12:40

Site: 1711 First Street  
 Livermore, CA

**SEVERN**  
**TRENT**  
**LABORATORY**

STL San Francisco  
 1220 Quarry Lane  
 Pleasanton, CA 94566

Tel: (925) 484-1919  
 Fax: (925) 484-1096  
 www.stl-inc.com  
 www.chromalab.com

CA DHS ELAP# 2496

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260FAB

**Laboratory Control Spike**

**Water**

**QC Batch # 2002/07/10-01.27**

LCS 2002/07/10-01.27-008

Extracted: 07/10/2002

Analyzed: 07/10/2002 12:30

LCSD 2002/07/10-01.27-009

Extracted: 07/10/2002

Analyzed: 07/10/2002 12:53

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	24.3	24.9	25.0	97.2	99.6	2.4	69-129	20		
Toluene	25.7	25.8	25.0	102.8	103.2	0.4	70-130	20		
Methyl tert-butyl ether (MTBE)	18.6	20.0	25.0	74.4	80.0	7.3	65-165	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	541	559	500	108.2	111.8		76-114			
Toluene-d8	523	488	500	104.6	97.6		88-110			

Gas/BTEXFuel Oxygenates by 8260B

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Received: 07/02/2002 12:40

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CA DHS ELAP# 2496

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike

Water

QC Batch # 2002/07/11-01.27

LCS 2002/07/11-01.27-003

Extracted: 07/11/2002

Analyzed: 07/11/2002 10:39

LCSD 2002/07/11-01.27-004

Extracted: 07/11/2002

Analyzed: 07/11/2002 11:02

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	24.5	24.9	25.0	98.0	99.6	1.6	69-129	20		
Toluene	25.3	25.9	25.0	101.2	103.6	2.3	70-130	20		
Methyl tert-butyl ether (MTBE)	20.2	19.6	25.0	80.8	78.4	3.0	65-165	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	550	550	500	110.0	110.0		76-114			
Toluene-d8	513	536	500	102.6	107.2		88-110			

Submission #: 2002-07-0042

Gas/BTEXFuel Oxygenates by 8260B

Gettler Ryan

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Dublin, CA 94568

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Project: 180181.80  
Tosco # 4186

Received: 07/02/2002 12:40

Site: 1711 First Street  
Livermore, CA

SEVERN

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CA DHS ELAP# 2496

### Legend and Notes

#### Result Flag

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.