



GETTLER-RYAN INC.

TRANSMITTAL
Alameda County

February 5, 2003
G-R #180181

FEB 26 2003

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

Environmental Health 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	February 4, 2003	Groundwater Monitoring and Sampling Report First Quarter - Event of December 30, 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 *February 20, 2003*, 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



GETTLER-RYAN INC.

February 4, 2003
G-R Job #180181

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

RE: First Quarter Event of December 30, 2002
Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #4186
1771 First Street
Livermore, California

Dear Mr. De Witt:

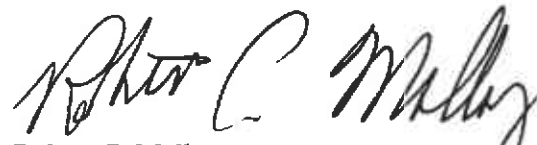
This report documents the most recent groundwater monitoring and sampling events performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

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


Robert C. Mallory
Registered Geologist, No. 7285

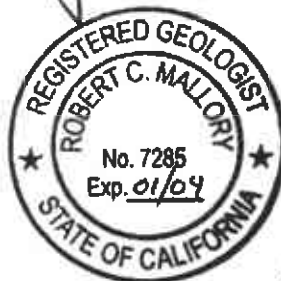
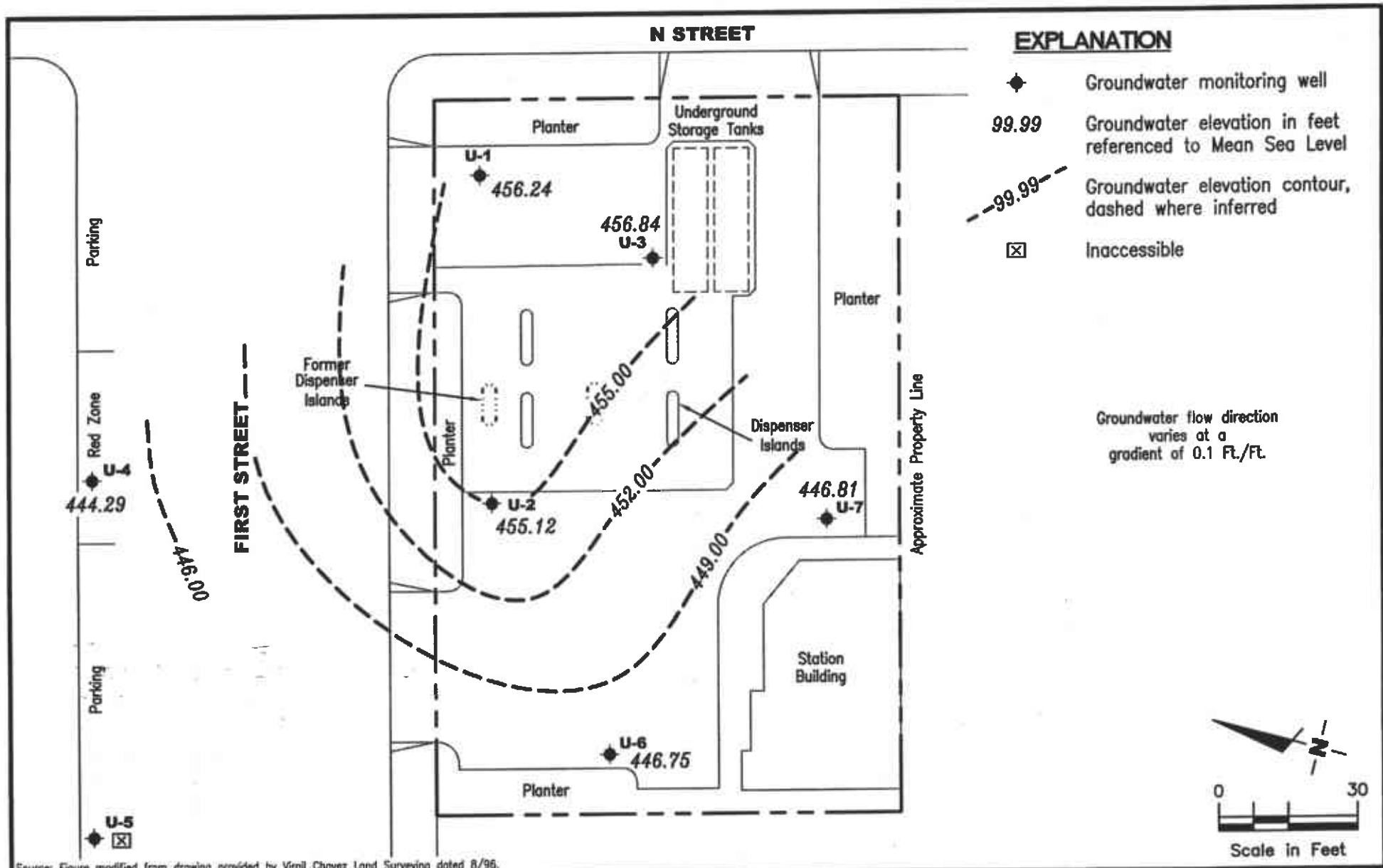


Figure 1: Potentiometric Map
Figure 2: Concentration Map
Table 1: Groundwater Monitoring Data and Analytical Results
Table 2: Groundwater Analytical Results - Oxygenate Compounds
Table 3: Field Measurements
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

4186.qml



Source: Figure modified from drawing provided by Virgil Chavez Land Surveying dated 8/96.

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

FIGURE
1

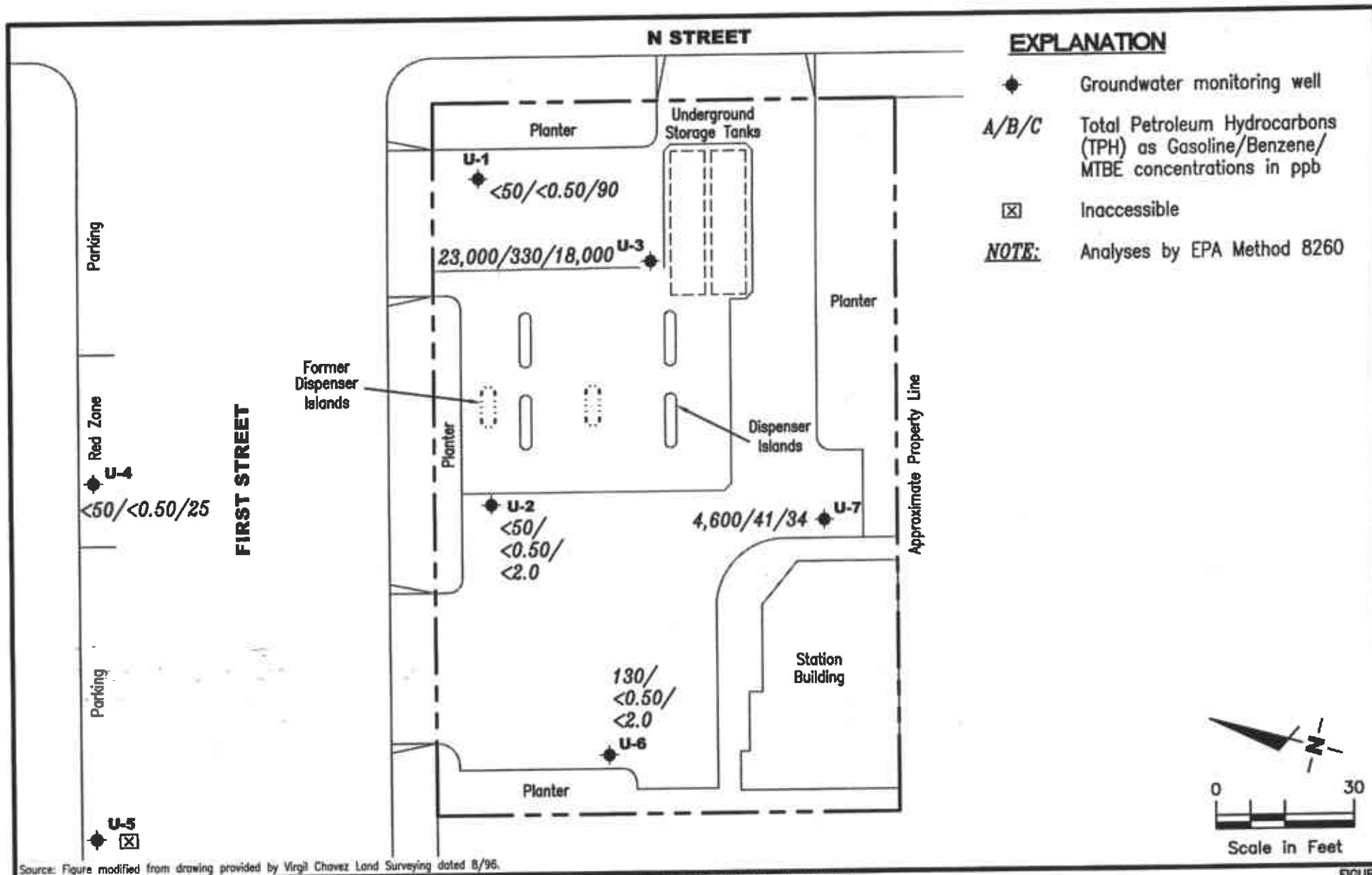
PROJECT NUMBER
 180181

REVIEWED BY

DATE
 December 30, 2002

REVISED DATE

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EXPLANATION

- ◆ Groundwater monitoring well
- A/B/C Total Petroleum Hydrocarbons (TPH) as Gasoline/Benzene/MTBE concentrations in ppb
- ☒ Inaccessible
- NOTE:** Analyses by EPA Method 8260

Source: Figure modified from drawing provided by Virgil Chavez Land Surveying dated 8/96.

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

FIGURE
2

PROJECT NUMBER
180181

REVIEWED BY

DATE
 December 30, 2002

REVISED DATE

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 ⁹	<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 ¹⁰	31.17		447.10	1,100	<0.50	1.7	0.73	130	35
	10/01/02 ¹⁰	33.00		445.27	120	<0.50	<0.50	<0.50	8.8	28
	12/30/02 ¹⁰	22.03		456.24	<50	<0.50	<0.50	<0.50	1.2	90
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

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-2 (cont)	10/02/00	28.72	13.0-33.0	448.72	ND	ND	ND	ND	ND	52
	01/08/01	29.11		448.33	ND	ND	ND	ND	ND	57.3
	04/03/01	25.95		451.49	ND	ND	ND	ND	ND	30.2
	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 ⁴	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 ¹⁰	31.23		446.21	<50	<0.50	<0.50	<0.50	<1.0	<0.50
	10/01/02 ¹⁰	32.00		445.44	<50	<0.50	0.62	<0.50	<1.0	<2.0
	12/30/02 ¹⁰	22.32		455.12	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	U-3 478.46	07/13/98		23.82	14.0-34.0	454.64	70,000	3,100	5,500	2,700
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 ¹		3,100	ND ²	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 ³
10/12/99		30.39	448.07	35,000 ⁴		4,200	ND ²	2,300	1,800	22,000/8,300 ⁵
01/24/00		23.43	455.03	13,000 ⁴		260	ND ²	770	3,200	53,000/42,000 ³
04/10/00		23.31	455.15	35,200 ⁴		1,070	241	2,820	8,850	35,600/40,900 ³
07/17/00		27.53	450.93	29,000 ⁴		3,570	525	3,180	5,660	22,500/21,000 ³
10/02/00		28.19	450.27	11,000 ⁴		2,100	31	2,000	780	25,000/28,000 ^{3,6}
01/08/01		29.85	448.61	33,600 ⁴		3,060	427	3,040	4,190	24,700/30,900 ³
04/03/01		24.98	453.48	5,390 ⁴		660	10.8	304	356	15,200/19,300 ⁵
07/02/01		31.35	447.11	13,000 ⁴		1,200	58	1,300	930	25,000/26,000 ³
NP 10/08/01		32.69	445.77	6,100 ⁴		500	<10	570	130	23,000/22,000 ³
01/03/02		23.73	454.73	9,900 ⁴		700	130	24	1,000	14,000/12,000 ³
04/05/02		28.27	450.19	9,800		1,100	180	220	1,400	16,000/30,000 ³
07/02/02 ¹⁰		29.71	448.75	<25,000		<250	<250	<250	<500	12,000
10/01/02 ¹⁰	31.18	447.28	<25,000	<250	<250	<250	<500	12,000		
12/30/02 ¹⁰	21.62	456.84	23,000	330	170	870	4,900	18,000		

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-4 476.93	04/03/01 ⁷	31.63	35.0-45.0	445.30	ND	ND	ND	ND	ND	37.8/38.2 ³
	07/02/01	37.96		438.97	ND	ND	ND	ND	ND	ND/5.3 ³
	10/08/01	44.24		432.69	NOT SAMPLED DUE TO INSUFFICIENT WATER					--
	01/03/02	36.15		440.78	100 ⁹	<0.50	<0.50	<0.50	<0.50	10/8.5 ³
	04/05/02	37.64		439.29	<50	0.50	<0.50	<0.50	<0.50	4.1
	07/02/02 ¹⁰	36.85		440.08	67 ¹¹	<0.50	<0.50	<0.50	<1.0	12
	10/01/02 ¹⁰	38.54		438.39	<50	<0.50	<0.50	<0.50	<1.0	9.8
	12/30/02 ¹⁰	32.64		444.29	<50	<0.50	<0.50	<0.50	<1.0	25
U-5 476.51	04/03/01 ⁷	31.75	37.0-47.0	444.76	ND	ND	0.728	ND	0.993	54.8/55.4 ³
	07/02/01	38.68		437.83	ND	ND	ND	ND	ND	88/94 ³
	NP 10/08/01	46.31		430.20	<50	<0.50	<0.50	<0.50	<0.50	37/54 ³
	01/03/02	36.55		439.96	<50	<0.50	0.59	<0.50	0.91	51/53 ³
	04/05/02	37.83		438.68	<50	<0.50	<0.50	<0.50	<0.50	37
	07/02/02 ¹⁰	36.92		439.59	<50	<0.50	<0.50	<0.50	<1.0	43
	10/01/02	INACCESSIBLE - TRUCK PARKED OVER WELL				--	--	--	--	--
	12/30/02	INACCESSIBLE - VEHICLE PARKED OVER WELL				--	--	--	--	--
U-6 478.38	01/03/02 ⁷	33.99	--	444.39	5,000 ⁸	36	<25	260	450	<250/<10 ³
	04/05/02	36.18		442.20	1,300	16	<5.0	54	<5.0	<25
	07/02/02 ¹⁰	36.33		442.05	1,100	1.4	<0.50	16	<1.0	0.94
	10/01/02 ¹⁰	37.70		440.68	2,000	5.4	<0.50	62	<1.0	2.6
	12/30/02 ¹⁰	31.63		446.75	130	<0.50	<0.50	2.3	<1.0	<2.0

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-7										
478.74	01/03/02 ⁷	32.43	--	446.31	3,100 ⁸	93	<10	35	73	140/130 ³
	04/05/02	34.06		444.68	630	22	0.53	2.6	<0.50	45
	07/02/02 ¹⁰	35.28		443.46	1,100	21	<0.50	6.9	<1.0	60
	10/01/02 ¹⁰	37.70		441.04	1,700	11	<0.50	3.1	<1.0	25
	12/30/02 ¹⁰	31.93		446.81	4,600	41	5.3	32	13	34
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
	10/12/99	--	--	--	ND	ND	ND	ND	ND	ND
	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 ¹⁰	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<0.50
	10/01/02 ¹⁰	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	12/30/02 ¹⁰	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<2.0

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

EXPLANATIONS:

TOC = Top of Casing (ft.) = Feet	TPH-G = Total Petroleum Hydrocarbons as Gasoline	ND = Not Detected
DTW = Depth to Water	B = Benzene	-- = Not Measured/Not Analyzed
S. I. = Screen Interval	T = Toluene	NP = No Purge
(ft.bgs) = Feet Below Ground Surface	E = Ethylbenzene	QA = Quality Assurance/Trip Blank
GWE = Groundwater Elevation	X = Xylenes	
(msl) = Mean sea level	MTBE = Methyl tertiary butyl ether	
	(ppb) = Parts per billion	

- * 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.
- 1 Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.
- 2 Detection limit raised. Refer to analytical reports.
- 3 MTBE by EPA Method 8260.
- 4 Laboratory report indicates gasoline C6-C12.
- 5 MTBE by EPA Method 8260 analyzed past EPA recommended holding time.
- 6 Laboratory report indicates the sample was analyzed within holding time. Re-analysis for confirmation or dilution was performed past the recommend holding time.
- 7 Well development performed.
- 8 Laboratory report indicates weathered gasoline C6-C12.
- 9 Laboratory report indicates unidentified hydrocarbons C6-C12.
- 10 TPH-G, BTEX and MTBE by EPA Method 8260.
- 11 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)	1,2-DCA (ppb)	EDB (ppb)
U-1	10/02/00	--	ND	--	--	--	--	--	--
	07/02/02	--	--	35	--	--	--	--	--
	10/01/02	--	--	28	--	--	--	--	--
	12/30/02	--	--	90	--	--	--	--	--
U-2	10/02/00	--	ND	--	--	--	--	--	--
	07/02/02	--	--	<0.50	--	--	--	--	--
	10/01/02	--	--	<2.0	--	--	--	--	--
	12/30/02	--	--	<2.0	--	--	--	--	--
U-3	07/19/99	--	--	16,000	--	--	--	--	--
	10/12/1999	--	--	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 ¹	49,300	30,900	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
	04/03/01 ²	ND ¹	22,200	19,300	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
	07/02/01	ND ¹	27,000	26,000	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
	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
	10/01/02	<250,000	<50,000	12,000	<1,000	<1,000	<1,000	<1,000	<1,000
12/30/02	<100,000	23,000	18,000	<400	<400	<400	<400	<400	

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)	1,2-DCA (ppb)	EDB (ppb)
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	--	--	--	--	--
	10/01/02	--	--	9.8	--	--	--	--	--
	12/30/02	--	--	25	--	--	--	--	--
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	--	--	--	--	--
	10/01/02	INACCESSIBLE - TRUCK PARKED OVER WELL				--	--	--	--
	12/30/02	INACCESSIBLE - VEHICLE PAEKED OVER WELL				--	--	--	--
U-6	01/03/02	<5,000	<200	<10	<10	<10	<10	<10	<10
	07/02/02	--	--	0.94	--	--	--	--	--
	10/01/02	--	--	2.6	--	--	--	--	--
	12/30/02	--	--	<2.0	--	--	--	--	--
U-7	01/03/02	<500	30	130	<1.0	<1.0	<1.0	<1.0	<1.0
	07/02/02	--	--	60	--	--	--	--	--
	10/01/02	--	--	25	--	--	--	--	--
	12/30/02	--	--	34	--	--	--	--	--

Table 2
Groundwater Analytical Results - Oxygenate Compounds
Tosco (Unocal) Service Station #4186
1771 First Street
Livermore, 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
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
(ppb) = Parts per billion
ND = Not Detected
-- = Not Analyzed

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

- ¹ Detection limit raised. Refer to analytical reports.
² Laboratory report indicates this sample was analyzed outside of the EPA recommended holding time.

Table 3
Field Measurements
 Tosco (Unocal) Service Station #4186
 1771 First Street
 Livermore, California

WELL ID	DATE	Time (2400 hr)	pH	Conductivity (umhos/cm)	Temp. (°C/°F)	DO (mg/L)	ORP (mV)	
U-1	10/01/02	NOT MEASURED DUE TO INSUFFICIENT WATER.					--	--
	12/30/02	1024	7.29	808	20.4/--	0.80	96	
		1027	7.26	810	20.1/--	0.90	98	
		1031	7.21	812	20.2/--	0.60	91	
U-2	10/01/02	1558	7.26	1249	20.4/--	1.40	--	
	12/30/02	0940	7.16	808	20.1/--	3.80	110	
		0943	7.10	810	20.2/--	3.10	118	
		0946	7.16	812	20.0/--	2.80	120	
U-3	10/01/02	1710	6.98	1262	19.8/--	0.80	-40	
		1712	6.82	1227	20.1/--	0.50	-47	
	12/30/02	1145	7.05	699	19.7/--	0.30	97	
		1148	7.00	689	19.5/--	0.30	110	
		1151	6.91	688	19.7/--	0.20	106	
U-4	10/01/02	1738	7.45	784	19.6/--	0.60	58	
		1742	7.35	793	19.7/--	0.60	63	
		1745	7.34	846	19.5/--	1.00	83	
	12/30/02	1000	7.38	663	19.4/--	0.40	150	
		1003	7.31	667	19.3/--	0.30	130	
		1005	7.28	666	19.3/--	0.40	126	
U-5	10/01/02	INACCESSIBLE - TRUCK PARKED OVER WELL				--	--	
	12/30/02	INACCESSIBLE - VEHICLE PARKED OVER WELL				--	--	
U-6	10/01/02	1533	6.92	1315	19.9/--	0.70	--	
		1535	6.88	1277	19.5/--	0.70	--	
		1537	6.91	1266	19.3/--	0.90	--	
	12/30/02	1115	7.21	832	18.9/--	0.60	91	
		1118	7.26	840	18.6/--	0.40	86	
		1121	7.21	841	18.5/--	0.20	88	
U-7	10/01/02	1640	7.26	1146	19.6/--	1.70	-43	
		1642	7.18	1143	19.4/--	1.10	-69	
		1645	7.19	1132	19.1/--	1.80	-60	
	12/30/02	1048	7.32	831	19.4/--	0.10	116	
		1050	7.28	830	19.1/--	0.20	120	
		1053	7.21	833	19.3/--	0.10	121	

Table 3
Field Measurements
Tosco (Unocal) Service Station #4186
1771 First Street
Livermore, California

EXPLANATIONS:

(μ mhos/cm) = Micromhos per centimeter

($^{\circ}$ C/ $^{\circ}$ F) = Degrees Celsius/Degrees Fahrenheit

DO = Dissolved Oxygen

(mg/L) = Milligrams per liter

ORP = Oxidation Reduction Potential

(mV) = Millivolts

-- = Not Measured

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, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

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 disposable 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 and is labeled as QA. 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: 12/30/02 (inclusive)
 City: Livermore, CA Sampler: BG

Well ID: U-1
 Well Diameter: 2 in.
 Total Depth: 37.00 ft.
 Depth to Water: 22.03 ft.

Date Monitored: 12/30/02 Well Condition: OK

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

11.97 x VF .17 = 2 x3 (case volume) = Estimated Purge Volume: 6 gal.

Purge Equipment:
 Disposable Bailor
 Stainless Steel Bailor _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:
 Disposable Bailor
 Pressure Bailor _____
 Discrete Bailor _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: _____ ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 1021 Weather Conditions: Cloudy
 Sample Time/Date: 1039 1/12/30/02 Water Color: Brown Odor: NC
 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>1024</u>	<u>2</u>	<u>7.29</u>	<u>908</u>	<u>20.4</u>	<u>0.8</u>	<u>96</u>
<u>1027</u>	<u>4</u>	<u>7.26</u>	<u>910</u>	<u>20.1</u>	<u>0.7</u>	<u>99</u>
<u>1031</u>	<u>6</u>	<u>7.21</u>	<u>912</u>	<u>20.2</u>	<u>0.6</u>	<u>91</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-1</u>	<u>3</u> x vov vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G/BTEX/MTBE(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: 12/30/02 (inclusive)
 City: Livermore, CA Sampler: B6

Well ID: U-2 Date Monitored: 12/30/02 Well Condition: OK
 Well Diameter: 2 in.
 Total Depth: 33.25 ft.
 Depth to Water: 22.32 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

 $16.95 \times VF .17 = 2 \times 3 \text{ (case volume)} = \text{Estimated Purge Volume: } 6 \text{ gal.}$

Purge Equipment:	Sampling Equipment:	Time Started: _____ (2400 hrs)
Disposable Bailer <input checked="" type="checkbox"/>	Disposable Bailer <input checked="" type="checkbox"/>	Time Bailed: _____ (2400 hrs)
Stainless Steel Bailer _____	Pressure Bailer _____	Depth to Product: _____ ft
Stack Pump _____	Discrete Bailer _____	Depth to Water: _____ ft
Suction Pump _____	Other: _____	Hydrocarbon Thickness: _____ ft
Grundfos _____		Visual Confirmation/Description:
Other: _____		Skimmer / Absorbant Sock (circle one)
		Amt Removed from Skimmer: _____ gal
		Amt Removed from Well: _____ gal
		Product Transferred to: _____

Start Time (purge): 0938 Weather Conditions: Cloudy
 Sample Time/Date: 0752 12/30/02 Water Color: Brown Odor: N2
 Purging Flow Rate: - gpm. Sediment Description: _____
 Did well de-water? N If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
0940	2	7.16	868	20.1	3.9	110
0943	4	7.10	810	20.2	3.1	119
0946	6	7.16	812	20.0	2.9	120

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
U-2	3 x voa vial	YES	HCL	STL Pleasanton	TPH-G/BTEX/MTBE(8260)

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: 12/30/02 (inclusive)
 City: Livermore, CA Sampler: 86

Well ID: U-3 Date Monitored: 12/30/02 Well Condition: OK

Well Diameter: 2 in.
 Total Depth: 32.68 ft.
 Depth to Water: 21.62 ft.

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.86	5" = 1.02	6" = 1.50	12" = 5.80

12.06 x VF 17 = 2 x3 (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: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: _____ ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 1142 Weather Conditions: Cloudy
 Sample Time/Date: 1153 12/30/02 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>1145</u>	<u>2</u>	<u>7.05</u>	<u>699</u>	<u>17.7</u>	<u>0.3</u>	<u>97</u>
<u>1148</u>	<u>4</u>	<u>7.00</u>	<u>659</u>	<u>19.5</u>	<u>0.3</u>	<u>110</u>
<u>1151</u>	<u>6</u>	<u>6.91</u>	<u>655</u>	<u>19.2</u>	<u>0.2</u>	<u>106</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-3</u>	<u>3</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G/BTEX/MTBE(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: 12/30/02 (inclusive)
 City: Livermore, CA Sampler: BC

Well ID: U-4 Date Monitored: 12/30/02 Well Condition: OK
 Well Diameter: 2 in.
 Total Depth: 45.28 ft.
 Depth to Water: 33.04 ft.
 $12.64 \times VF .17 = 2 \times 3$ (case volume) = Estimated Purge Volume: 6 gal.

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

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

Sampling Equipment:
 Disposable Bailer
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: _____ ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbent Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 0957 Weather Conditions: Cloudy
 Sample Time/Date: 1013 12/30/02 Water Color: Brown Odor: No
 Purging Flow Rate: 2 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>1000</u>	<u>2</u>	<u>7.38</u>	<u>663</u>	<u>19.4</u>	<u>0.4</u>	<u>150</u>
<u>1003</u>	<u>4</u>	<u>7.21</u>	<u>667</u>	<u>19.3</u>	<u>0.3</u>	<u>170</u>
<u>1005</u>	<u>6</u>	<u>7.28</u>	<u>666</u>	<u>19.3</u>	<u>0.4</u>	<u>126</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-4</u>	<u>3</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G/BTEX/MTBE(8260)</u>

COMMENTS: located across the street in the Red zone

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: 12/30/02 (inclusive)
 City: Livermore, CA Sampler: BO

Well ID: U-5 Date Monitored: _____ Well Condition: (Inaccessible)
 Well Diameter: 2 in.
 Total Depth: 47.20 ft.
 Depth to Water: _____ 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

xVF _____ = _____ x3 (case volume) = Estimated Purge Volume: _____ gal.

Purge Equipment:

Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:

Disposable Bailer _____
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: _____ ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbent Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): _____ Weather Conditions: _____
 Sample Time/Date: 1 Water Color: _____ Odor: _____
 Purging Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)

LABORATORY INFORMATION

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

COMMENTS: Construction on that side of the streets. I asked the construction workers if they knew where car it was. They said they didn't know.

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: 12/30/02 (inclusive)
 City: Livermore, CA Sampler: B6

Well ID: U-6 Date Monitored: 12/30/02 Well Condition: OK

Well Diameter: 2 in.

Total Depth: 44.63 ft.

Depth to Water: 31.63 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

13 xVF .17 = 2 x3 (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: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: _____ ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 1112 Weather Conditions: Cloudy
 Sample Time/Date: 1135 11/2/30/02 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>1115</u>	<u>2</u>	<u>7.51</u>	<u>837</u>	<u>18.9</u>	<u>0.6</u>	<u>91</u>
<u>1118</u>	<u>4</u>	<u>7.26</u>	<u>840</u>	<u>18.6</u>	<u>0.4</u>	<u>86</u>
<u>1121</u>	<u>6</u>	<u>7.21</u>	<u>841</u>	<u>18.5</u>	<u>0.2</u>	<u>89</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-6</u>	<u>3</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G/BTEX/MTBE(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: 12/30/02 (inclusive)
 City: Livermore, CA Sampler: B6

Well ID: U-7 Date Monitored: 12/30/02 Well Condition: OK

Well Diameter: 2 in.
 Total Depth: 44.45 ft.
 Depth to Water: 31.93 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

12.52 x VF .12 = 2 x3 (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:

Time Started:	_____ (2400 hrs)
Time Bailed:	_____ (2400 hrs)
Depth to Product:	_____ ft
Depth to Water:	_____ ft
Hydrocarbon Thickness:	_____ ft
Visual Confirmation/Description:	_____
Skimmer / Absorbant Sock (circle one)	
Amt Removed from Skimmer:	_____ gal
Amt Removed from Well:	_____ gal
Product Transferred to:	_____

Start Time (purge): 1045 Weather Conditions: Cloudy
 Sample Time/Date: 1102 12/30/02 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>1048</u>	<u>2</u>	<u>7.32</u>	<u>931</u>	<u>19.4</u>	<u>0.1</u>	<u>116</u>
<u>1050</u>	<u>4</u>	<u>7.29</u>	<u>930</u>	<u>19.1</u>	<u>0.2</u>	<u>120</u>
<u>1055</u>	<u>6</u>	<u>7.21</u>	<u>833</u>	<u>19.3</u>	<u>0.1</u>	<u>121</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>U-7</u>	<u>3</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G/BTEX/MTBE(8260)</u>

COMMENTS:

Add/Replaced Lock:

Add/Replaced Plug: Size: _____

2002-12-06006

Gettler-Ryan Inc., Chain-of-Custody

P.3

Toaco Corp./
Phillips 66 Co.
2000 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 Brian Gan

92560030002

st10nsite

Jan 14 03 06:32p

FILE NAME: P:\ENVIRO\X-CHEMICALS\ST01\STD-COC.DWG | Layout Tab: Model

SAMPLE ID	Number of Containers Matrix	S = Soil A = Air W = Water 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 9020	METALS Cd, Cr, Pb, Zn, Ni	NITRATE/SULFATE/ALKALINITY EPA 300 SERIES	HYDROCARBONS (B010) EPA 9021B	VOC'S (0240) EPA 8260	SVOC'S EPA 8270	Remarks
GA	1	W	W	12/30/02					X									Run 8 Oxy's 1 8260 on 8260 MTBE hit, U- Only.
U-1	3			1039					X									
U-2	3			0952					X									
U-3	3			1158					X									
U-4	3			1013					X									
U-6	3			1135					X									
U-7	3			1102					X									

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

Relinquished By (Signature) <i>[Signature]</i>	Organization <u>GP</u>	Date/Time <u>12/30/02</u>	Received By (Signature) <i>[Signature]</i>	Organization	Date/Time	Iced Y/N	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 72 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced Y/N	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <i>[Signature]</i>		Date/Time <u>12-30-02</u>	Iced Y/N <u>N</u>	

4.500

Gettler Ryan

January 14, 2003

6747 Sierra Court Suite J
Dublin, CA 94568

Attn.: Deanna Harding

Project#: 1800181.80

Project: Tosco # 4186

Site: 1711 First Street
Livermore, CA

Dear Ms. Harding,

Attached is our report for your samples received on 12/30/2002 14:10

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 02/13/2003 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@stl-inc.com

Sincerely,



Tod Granicher
Project Manager

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: 1800181.80
Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
QA	12/30/2002	Water	1
U-1	12/30/2002 10:39	Water	2
U-2	12/30/2002 09:52	Water	3
U-3	12/30/2002 11:58	Water	4
U-4	12/30/2002 10:13	Water	5
U-6	12/30/2002 11:35	Water	6
U-7	12/30/2002 11:02	Water	7

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: 1800181.80
Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	QA	Lab ID:	2002-12-0606 - 1
Sampled:	12/30/2002	Extracted:	1/8/2003 12:03
Matrix:	Water	QC Batch#:	2003/01/08-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	01/08/2003 12:03	
Benzene	ND	0.50	ug/L	1.00	01/08/2003 12:03	
Toluene	ND	0.50	ug/L	1.00	01/08/2003 12:03	
Ethylbenzene	ND	0.50	ug/L	1.00	01/08/2003 12:03	
Total xylenes	ND	1.0	ug/L	1.00	01/08/2003 12:03	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	01/08/2003 12:03	
Surrogates(s)						
1,2-Dichloroethane-d4	95.0	76-114	%	1.00	01/08/2003 12:03	
Toluene-d8	95.7	88-110	%	1.00	01/08/2003 12:03	

Gas/BTEX Fuel Oxygenates by 8260B

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Dublin, CA 94568

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Project: 1800181.80

Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-1	Lab ID: 2002-12-0606 - 2
Sampled: 12/30/2002 10:39	Extracted: 1/8/2003 15:17
Matrix: Water	QC Batch#: 2003/01/08-01 27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	01/08/2003 15:17	
Benzene	ND	0.50	ug/L	1.00	01/08/2003 15:17	
Toluene	ND	0.50	ug/L	1.00	01/08/2003 15:17	
Ethylbenzene	ND	0.50	ug/L	1.00	01/08/2003 15:17	
Total xylenes	1.2	1.0	ug/L	1.00	01/08/2003 15:17	
Methyl tert-butyl ether (MTBE)	90	2.0	ug/L	1.00	01/08/2003 15:17	
Surrogates(s)						
1,2-Dichloroethane-d4	99.3	76-114	%	1.00	01/08/2003 15:17	
Toluene-d8	95.7	88-110	%	1.00	01/08/2003 15:17	

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

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Dublin, CA 94568

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

Project: 1800181.80

Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street

Livermore, CA

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-2	Lab ID: 2002-12-0606 - 3
Sampled: 12/30/2002 09:52	Extracted: 1/8/2003 16:22
Matrix: Water	QC Batch#: 2003/01/08-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	01/08/2003 16:22	
Benzene	ND	0.50	ug/L	1.00	01/08/2003 16:22	
Toluene	ND	0.50	ug/L	1.00	01/08/2003 16:22	
Ethylbenzene	ND	0.50	ug/L	1.00	01/08/2003 16:22	
Total xylenes	ND	1.0	ug/L	1.00	01/08/2003 16:22	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	01/08/2003 16:22	
Surrogates(s)						
1,2-Dichloroethane-d4	93.9	76-114	%	1.00	01/08/2003 16:22	
Toluene-d8	93.3	88-110	%	1.00	01/08/2003 16:22	

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 1800181.80

Tosco # 4186

Received: 12/30/2002 14:10

 Site: 1711 First Street
Livermore, CA

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-3	Lab ID: 2002-12-0606 -4
Sampled: 12/30/2002 11:58	Extracted: 1/9/2003 12:01
Matrix: Water	QC Batch#: 2003/01/09-01.27
Analysis Flag: o (See Legend and Note Section)	

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	23000	10000	ug/L	200.00	01/09/2003 12:01	
Benzene	330	100	ug/L	200.00	01/09/2003 12:01	
Toluene	170	100	ug/L	200.00	01/09/2003 12:01	
Ethylbenzene	870	100	ug/L	200.00	01/09/2003 12:01	
Total xylenes	4900	200	ug/L	200.00	01/09/2003 12:01	
tert-Butyl alcohol (TBA)	23000	20000	ug/L	200.00	01/09/2003 12:01	
Methyl tert-butyl ether (MTBE)	18000	400	ug/L	200.00	01/09/2003 12:01	
Di-isopropyl Ether (DIPE)	ND	400	ug/L	200.00	01/09/2003 12:01	
Ethyl tert-butyl ether (ETBE)	ND	400	ug/L	200.00	01/09/2003 12:01	
tert-Amyl methyl ether (TAME)	ND	400	ug/L	200.00	01/09/2003 12:01	
1,2-DCA	ND	400	ug/L	200.00	01/09/2003 12:01	
EDB	ND	400	ug/L	200.00	01/09/2003 12:01	
Ethanol	ND	100000	ug/L	200.00	01/09/2003 12:01	
Surrogates(s)						
1,2-Dichloroethane-d4	92.4	76-114	%	200.00	01/09/2003 12:01	
Toluene-d8	92.2	88-110	%	200.00	01/09/2003 12:01	

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 1800181.80

Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	U-4	Lab ID:	2002-12-0606 - 5
Sampled:	12/30/2002 10:13	Extracted:	1/8/2003 17:05
Matrix:	Water	QC Batch#:	2003/01/08-01 27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	01/08/2003 17:05	
Benzene	ND	0.50	ug/L	1.00	01/08/2003 17:05	
Toluene	ND	0.50	ug/L	1.00	01/08/2003 17:05	
Ethylbenzene	ND	0.50	ug/L	1.00	01/08/2003 17:05	
Total xylenes	ND	1.0	ug/L	1.00	01/08/2003 17:05	
Methyl tert-butyl ether (MTBE)	25	2.0	ug/L	1.00	01/08/2003 17:05	
Surrogates(s)						
1,2-Dichloroethane-d4	98.7	76-114	%	1.00	01/08/2003 17:05	
Toluene-d8	97.9	88-110	%	1.00	01/08/2003 17:05	

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 1800181.80

Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street

Livermore, CA

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: U-6	Lab ID: 2002-12-0606 - 6
Sampled: 12/30/2002 11:35	Extracted: 1/8/2003 17:27
Matrix: Water	QC Batch#: 2003/01/08-01:27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	130	50	ug/L	1.00	01/08/2003 17:27	
Benzene	ND	0.50	ug/L	1.00	01/08/2003 17:27	
Toluene	ND	0.50	ug/L	1.00	01/08/2003 17:27	
Ethylbenzene	2.3	0.50	ug/L	1.00	01/08/2003 17:27	
Total xylenes	ND	1.0	ug/L	1.00	01/08/2003 17:27	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	01/08/2003 17:27	
Surrogates(s)						
1,2-Dichloroethane-d4	99.9	76-114	%	1.00	01/08/2003 17:27	
Toluene-d8	96.0	88-110	%	1.00	01/08/2003 17:27	

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

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Dublin, CA 94568

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Project: 1800181.80

Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street

Livermore, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	U-7	Lab ID:	2002-12-0606 - 7
Sampled:	12/30/2002 11:02	Extracted:	1/9/2003 12:23
Matrix:	Water	QC Batch#:	2003/01/09-01.27
Analysis Flag: o (See Legend and Note Section)			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	4600	500	ug/L	10.00	01/09/2003 12:23	
Benzene	41	5.0	ug/L	10.00	01/09/2003 12:23	
Toluene	5.3	5.0	ug/L	10.00	01/09/2003 12:23	
Ethylbenzene	32	5.0	ug/L	10.00	01/09/2003 12:23	
Total xylenes	13	10	ug/L	10.00	01/09/2003 12:23	
Methyl tert-butyl ether (MTBE)	34	20	ug/L	10.00	01/09/2003 12:23	
Surrogates(s)						
1,2-Dichloroethane-d4	96.2	76-114	%	10.00	01/09/2003 12:23	
Toluene-d8	97.0	88-110	%	10.00	01/09/2003 12:23	

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

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Project: 1800181.80
Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA

Batch QC Report			
Prep(s): 5030B			Test(s): 8260FAB
Method Blank	Water		QC Batch # 2003/01/08-01.27
MB: 2003/01/08-01.27-006			Date Extracted: 01/08/2003 11:02

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	01/08/2003 11:02	
Benzene	ND	0.5	ug/L	01/08/2003 11:02	
Toluene	ND	0.5	ug/L	01/08/2003 11:02	
Ethylbenzene	ND	0.5	ug/L	01/08/2003 11:02	
Total xylenes	ND	1.0	ug/L	01/08/2003 11:02	
tert-Butyl alcohol (TBA)	ND	100	ug/L	01/08/2003 11:02	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	01/08/2003 11:02	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	01/08/2003 11:02	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	01/08/2003 11:02	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	01/08/2003 11:02	
1,2-DCA	ND	2.0	ug/L	01/08/2003 11:02	
EDB	ND	2.0	ug/L	01/08/2003 11:02	
Ethanol	ND	500	ug/L	01/08/2003 11:02	
Surrogates(s)					
1,2-Dichloroethane-d4	96.8	76-114	%	01/08/2003 11:02	
Toluene-d8	94.8	88-110	%	01/08/2003 11:02	

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Deanna Harding

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Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 1800181.80
Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA

Batch QC Report					
Prep(s): 5030B				Test(s): 8260FAB	
Method Blank		Water		QC Batch # 2003/01/09-01.27	
MB: 2003/01/09-01.27-005				Date Extracted: 01/09/2003 11:11	

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	01/09/2003 11:11	
Benzene	ND	0.5	ug/L	01/09/2003 11:11	
Toluene	ND	0.5	ug/L	01/09/2003 11:11	
Ethylbenzene	ND	0.5	ug/L	01/09/2003 11:11	
Total xylenes	ND	1.0	ug/L	01/09/2003 11:11	
tert-Butyl alcohol (TBA)	ND	100	ug/L	01/09/2003 11:11	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	01/09/2003 11:11	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	01/09/2003 11:11	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	01/09/2003 11:11	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	01/09/2003 11:11	
1,2-DCA	ND	2.0	ug/L	01/09/2003 11:11	
EDB	ND	2.0	ug/L	01/09/2003 11:11	
Ethanol	ND	500	ug/L	01/09/2003 11:11	
Surrogates(s)					
1,2-Dichloroethane-d4	96.0	76-114	%	01/09/2003 11:11	
Toluene-d8	96.6	88-110	%	01/09/2003 11:11	

Gas/BTEX Fuel Oxygenates by 8260B

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

Project: 1800181.80
Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA

Batch QC Report										
Prep(s): 5030B							Test(s): 8260B			
Laboratory Control Spike				Water			QC Batch # 2003/01/08-01.27			
LCS	2003/01/08-01.27-003			Extracted: 01/08/2003			Analyzed: 01/08/2003 10:12			
LCSD	2003/01/08-01.27-004			Extracted: 01/08/2003			Analyzed: 01/08/2003 10:41			
Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	31.5	29.6	25.0	126.0	118.4	6.2	65-165	20		
Benzene	26.1	26.0	25.0	104.4	104.0	0.4	69-129	20		
Toluene	24.6	24.9	25.0	98.4	99.6	1.2	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	487	452	500	97.4	90.4		76-114			
Toluene-d8	474	478	500	94.8	95.6		88-110			

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 1800181.80
Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA

Batch QC Report										
Prep(s): 5030B							Test(s): 8260FAB			
Laboratory Control Spike			Water			QC Batch # 2003/01/09-01.27				
LGS	2003/01/09-01.27-003		Extracted: 01/09/2003			Analyzed: 01/09/2003 10:21				
LCSD	2003/01/09-01.27-004		Extracted: 01/09/2003			Analyzed: 01/09/2003 10:49				
Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	25.4	24.8	25.0	101.6	99.2	2.4	69-129	20		
Toluene	25.1	24.9	25.0	100.4	99.6	0.8	70-130	20		
Methyl tert-butyl ether (MTBE)	30.3	31.7	25.0	121.2	126.8	4.5	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	466	490	500	93.2	98.0		76-114			
Toluene-d8	477	473	500	95.4	94.6		88-110			

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan
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Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7899
Project: 1800181.80
Tosco # 4186

Received: 12/30/2002 14:10

Site: 1711 First Street
Livermore, CA

Batch QC Report			
Prep(s): 5030B			Test(s): 8260FAB
Matrix Spike (MS / MSD)	Water		QC Batch # 2003/01/08-01.27
U-1 >> MS			Lab ID: 2002-12-0606-002
MS: 2003/01/08-01.27-028	Extracted: 01/08/2003		Analyzed: 01/08/2003 19:36
			Dilution: 1.00
MSD: 2003/01/08-01.27-029	Extracted: 01/08/2003		Analyzed: 01/08/2003 19:58
			Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	25.7	24.4	ND	25.0	102.8	97.6	5.2	69-129	20		
Toluene	25.0	24.2	ND	25.0	100.0	96.8	3.3	70-130	20		
Methyl tert-butyl ether	120	119	90.5	25.0	118.0	114.0	3.4	65-165	20		
Surrogate(s)											
1,2-Dichloroethane-d4	466	462		500	93.3	92.4		76-114			
Toluene-d8	481	470		500	96.2	94.1		88-110			

Gas/BTEX Fuel Oxygenates by 8260B

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Livermore, CA

Legend and Notes

Analysis Flag

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Reporting limits were raised due to high level of analyte present in the sample.