RO 455

GETTLER-RYAN INC.
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TRANSMITTAL

TO: Mr. Dave DeWitt
ConocoPhillips
76 Broadway
Sacramento, CA 95818

DATE: August 25, 2003
PROJECT NO. 140165.12
SUBJECT: ConocoPhillips (76) Station 1871
Oakland, California

From: Jeremy Smith

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	8/25/03	Ozone Microsparge System Semi-Annual Status Report

THESE ARE TRANSMITTED as checked below:

- ☐ For review and comment
- ☐ As Requested
- ☐ For Approval
- ☐ Approved as submitted
- ☐ Approved as noted
- ☐ Returned for corrections
- ☒ For your files
- ☐ For your use
- ☐ As noted below

COMMENTS:
Dave- Here is the System Status Report for Station 1871.

Signed: _____

COPIES TO:

Mr. Don Hwang, Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Alameda, CA 94502

Mr. Mike Karvelot, Quik Stop Markets, Inc.
4567 Enterprise Street, Fremont, CA 94538

GETTLER-RYAN INC.

August 25, 2003

Mr. David DeWitt
ConocoPhillips
76 Broadway
Sacramento, CA 95818

RE: Ozone Microsparge System Semi-Annual Status Report
ConocoPhillips (76) Service Station No. 1871
96 MacArthur Boulevard, Oakland, California

At the request of ConocoPhillips, Gettler-Ryan Inc. (GR), has prepared this report documenting the status of the previous six months of operation of an ozone microsparge remedial system, installed at the site to address hydrocarbon impacted groundwater (Figure 1). The remedial system was placed into operation on April 8, 2002. The system cycles ozone/air injection between the ten sparge points (Figure 2). The schedule is currently set to cycle through each point 16 times per day, for 8 minutes per point per cycle. The schedule can be varied as part of the system evaluation process. A description of the installation and startup of the remedial system can be found in GR's report *Ozone Microsparge Well and System Installation Report*, dated May 20, 2002.

The primary concerns at this site are Total Petroleum Hydrocarbons as gasoline (TPHg), benzene, and methyl tertiary butyl ether (MtBE). Groundwater monitoring and sampling has been performed quarterly or semi-annually at the site since November 1992, following the October 1992 installation of groundwater monitoring wells MW-1, MW-2, and MW-3. In March 1996, wells MW-4 and MW-5 were installed at the site. The top of casing on monitoring wells MW-2 through MW-5 were damaged during site demolition activities, subsequently, on September 14, 1998, these wells were drilled out and the boreholes backfilled with neat cement to grade. In June 1999, three off-site groundwater monitoring wells (MW-6, MW-7, MW-8) were installed adjacent to the site. Three additional off-site downgradient groundwater monitoring wells (MW-9, MW-10, MW-11) were installed in the California Department of Transportation (CalTrans) right-of-way by GR in December 2001. The quarterly sampling event before beginning the ozone sparge system was in January 2002, while the last quarterly sampling event used in this evaluation was in April 2003. A summary table of historical analytical results is presented in Appendix A.

Ozone Micro Sparging – System Overview

The C-Sparge™ ozone microsparging system, manufactured by K-V Associates, was placed into operation on April 8, 2002. Ozone microsparging is a process where ozone in air is introduced into the groundwater at low flow rates (2-6 cubic feet per minute) through specially designed microporous plastic spargers to create "microbubbles." As these microbubbles rise within the column of water, the dissolved volatile organic compounds (VOCs) are rapidly oxidized.

The system is designed to cycle the ozone/oxygen injection between the 10-points (Figure 2). A typical injection schedule through each point is 18 times a day, for between 5 and 15 minutes per point per cycle. The sparge wells are constructed with 2-inch diameter ozone sparge points attached to ¾-inch blank Schedule 80 PVC casing. The ozone sparge points are composed of 30-inch long microporous plastic. Lonestar #2/16 sand is placed in the annular space from the bottom of the boring (ranging from 27 to 30 feet below ground surface) to 1.5 feet above the top of each sparge point. The two feet of annular space above the sand is filled with bentonite, hydrated by the groundwater in the boring, and the remainder of the annular space in each boring is sealed with neat cement. Two of the sparge points (SP-BS/BD and SP-DS/DD) were completed as dual completion wells and were constructed with an air ozone microsparge point (SP-BD and SP-DD), sand to 2 feet above the top of the well screen, a 6.5-foot thick hydrated bentonite transition seal, the second air ozone microsparge point (SP-BS and SP-DS) on top of the seal, sand to 1 foot above the top of the well screen, a 2-foot thick hydrated bentonite transition seal, and neat cement to the surface. Sparge points are located approximately 17 feet below the surface of the groundwater.

The ozone microsparge control panel is mounted on the face of a retaining wall in the eastern corner of the site. The panel includes an ozone generator, air compressor, the added oxygen generator and a programmable timer/controller. Sparge points are connected to the panel by 3/8" HDPE tubing. Each sparge point has a dedicated line. The tubing was pulled through Schedule 80 PVC conveyance piping for added protection. The process flow diagram is presented on Figure 3.

Groundwater Sampling

In order to evaluate system effectiveness, quarterly sampling of the groundwater monitoring wells (MW-1 and MW-6 through MW-11) has been performed at the site. Monthly groundwater sampling was initiated in February 2003 and MW-1 and MW-6 were selected to be sampled on a monthly basis. Because of the location of well MW-6, two people were required to safely sample the well. Therefore, the wells were not sampled in March or May, and in June well MW-7 was selected to replace well MW-6. Wells MW-1 and MW-7 are currently scheduled to be sampled on a monthly basis. Well MW-1 is located near the former underground storage tanks (USTs) and MW-7 is downgradient of the site. Well MW-1 is within the treatment area and the zone of influence of one or more sparge points. These wells are approximately 90 feet apart. Both wells MW-1 and MW-7 have extensive historical sampling data prior to the system activation. Well MW-1 was installed in 1992 and well MW-7 was installed in 1999, and the wells are currently sampled quarterly. A historical sampling data table for the monitoring well network is attached as Appendix A.

Groundwater samples from the wells were analyzed for TPHg, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MtBE by EPA Method 8260. Groundwater analytical results for select

wells are presented in Table 1. The complete laboratory analytical reports and chain of custody records for the monthly groundwater sampling are attached in Appendix B.

OBSERVATIONS

TPHg Concentrations

Figures 3, 4, and 5 illustrate the TPHg concentrations from quarterly and monthly sampling from select wells (MW-1, MW-6, and MW-7) from January 2002 through June 2003. The TPHg concentration in MW-1 on January 31, 2002, was 42,000 ppb and 75 ppb on June 23, 2003. This represents a 99% decrease in concentration since the system began operating. The TPHg concentration on January 31, 2002 in MW-6 was 12,000 ppb and 270 ppb on April 16, 2003. This represents an 98% decrease in concentration since the system began. Laboratory notes indicated that the majority of reported TPHg values for well MW-6 are either weathered gasolines or that the hydrocarbon pattern, while present in the fuel quantification range, did not resemble the pattern of TPHg. The TPHg concentration in MW-7 on January 31, 2002 was not detected above the laboratory detection limits and reported as 20,000 ppb on June 23, 2003. However, the laboratory reported that the 20,000 ppb concentration did not match their standard for gasoline.

Benzene Concentrations

Figures 3, 4, and 5 illustrate the benzene concentrations from quarterly and monthly sampling from select wells (MW-1, MW-6, and MW-7) from January 2002 through June 2003. The benzene concentration reported in MW-1 on January 31, 2002 was 5,800 ppb, and <0.50 ppb on June 23, 2003. This represents a decrease of more than 99%. The benzene concentration in MW-6 has declined from 250 ppb on January 31, 2002 to below laboratory detection limits (0.50 ppb) on April 16, 2003. This also represents a decrease of over 99%. The benzene concentration in MW-7 has increased from <0.50 ppb on January 31, 2002 to 260 ppb on June 23, 2003.

MtBE Concentrations

Figures 3, 4, and 5 illustrate the MtBE concentrations from quarterly and monthly sampling from select wells (MW-1, MW-6, and MW-7) from January 2002 through June 2003. The MtBE concentration reported in MW-1 on January 31, 2002 was 26,000 ppb and 12 ppb on June 23, 2003. The MtBE concentration has decreased by 99% over the time period for MW-1. The MtBE concentration in MW-6 was reported as 31,000 ppb on January 31, 2002, and 15 ppb on April 16, 2003. This also represents a decrease of 99%. The MtBE concentration in MW-7 was reported as 9,900 ppb on January 31, 2002 and has increased to 20,000 ppb on June 23, 2003.

DISCUSSION OF RESULTS

Initially, there were increases in petroleum hydrocarbon concentrations in the groundwater at the site. This is believed to be due to the desorption of hydrocarbons from soil caused by the aggressive mechanical scrubbing action of the microbubbles. In terms of overall treatment, this desorption is necessary to achieve effective, long-term treatment.

The ozone treatment appears to be effective at decreasing TPHg, benzene and MtBE concentrations in the groundwater beneath the site. All three constituents have decreased in MW-1 and MW-6 by over 98% in these wells. Although TPHg, BTEX, and MtBE concentrations have increased in MW-7, MtBE concentrations appear to be have peaked and have declined. It is believed that these increases are due to accelerated desorption as described above. Although hydrocarbon concentrations initially increase, overall this process will accelerate the long term remediation of the site.

The other monitoring wells at the site have demonstrated similar results during the operation of the groundwater remedial treatment system. Analytical results from well MW-8 indicates TPHg, benzene, and MtBE reductions of over 99%, 99%, and 97%, respectively. Analytical results from well MW-9 indicate a MtBE reduction of 5%.

CONCLUSIONS AND RECOMMENDATIONS

The results of the concentration versus time charts show that hydrocarbon concentrations have declined in the immediate site vicinity during the operation of the remedial system, with the exception of well MW-7. The ozone sparging system is demonstrating to be successful in reducing petroleum concentrations in the groundwater at this site. This includes TPHg, benzene, and MtBE, which are the compounds of primary concern. The initial increases in petroleum concentrations which have been observed, primarily in impacted soil areas, have been and are expected to be short term followed by continuous concentration decreases.

The current ozone injection addresses the dissolved impact onsite and will also act as a barrier to mitigate any continuing migration of dissolved hydrocarbons offsite. Treatment directly offsite is not feasible due to the proximity of several intersecting streets, however, three offsite wells (MW-9, MW-10, and MW-11) exist offsite downgradient across MacArthur Boulevard and Santa Clara Avenue and will continue to be sampled. Well MW-10 has been below detection limits for all constituents with the exception of MtBE on January 31, 2002 and July 11, 2002 at concentrations of 1.2 and 1.1 ppb, respectively. MW-11 has historically been below laboratory detection limits for all constituents. The MtBE concentration in well MW-9 has fluctuated but appears to be relatively stable.

The ozone microsparge system will continue to operate for at least the next year, and wells MW-1 and MW-7 will continue to be sampled on a monthly basis. An additional semi-annual status report will be prepared after receipt and review of the additional groundwater data.

System Information

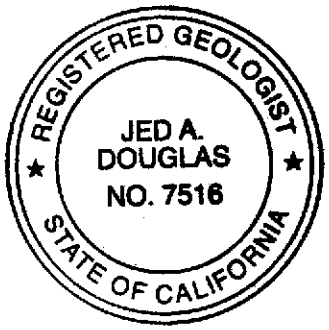
Startup Date:	April 8, 2002
Months of Operation:	14
Number of ozone injection points:	10 (SP-A, SP-BS/BD, SP-C, SP-DS/DD, SP-E, SP-F, SP-G, and SP-H)
Quarterly groundwater sampling:	MW-1 and MW-7

If you have any questions or comments concerning the contents of the report, please feel free to contact either of us at 707.789.3255.

Sincerely,
Gettler-Ryan Inc.

Jeremy A. Smith
Staff Geologist

Jed A. Douglas
Senior Geologist
R.G. 7516



Attachments:
- Table 1: Groundwater Chemical Analytical Data
- Figure 1: Vicinity Map
- Figure 2: Site Plan
- Figure 3: Chart of Groundwater Concentration versus Time, MW-1
- Figure 4: Chart of Groundwater Concentration versus Time, MW-6
- Figure 5: Chart of Groundwater Concentration versus Time, MW-7
- Appendix A: Historical Groundwater Monitoring and Sampling Data
- Appendix B: Laboratory Analytical Reports and Chain of Custody Records

TABLE 1 - GROUNDWATER SAMPLE CHEMICAL ANALYTICAL DATA

ConocoPhillips (76) Service Station No. 1871
96 MacArthur Boulevard
Oakland, California

Sample No.	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)
MW-1	1/31/2002 [1]	42,000 [2]	5,800	1,800	2,000	8,200	26,000 [3]
MW-1	4/11/2002 [1]	58,000	2,900	1,200	1,800	10,000	19,000
MW-1	7/11/2002	5,900	330	<10	230	600	3,400
MW-1	10/15/2002	470	16	<2.5	14	16	390
MW-1	1/14/2003	<50	<0.50	<0.50	<0.50	<1.0	49
MW-1	2/12/2003	120	4.9	<1.0	5.4	2.3	180
MW-1	4/16/2003	510	57	0.62	29	61	160
MW-1	6/3/2003	460	1.3	<0.50	2.9	41	52
MW-1	6/23/2003	75	<0.50	<0.50	<0.50	5.3	12
MW-6	1/31/2002 [1]	12,000 [4]	250	92	500	1,500	31,000 [3]
MW-6	4/11/2002 [1]	3,600	42	32	39	280	120,000
MW-6	7/11/2002	12,000 [5]	<100	<100	<100	<200	15,000
MW-6	10/15/2002	1,300 [5]	<10	<10	<10	<20	3,200
MW-6	1/14/2003	<50	<0.50	<0.50	<0.50	<1.0	120
MW-6	2/12/2003	<50	<0.50	<0.50	<0.50	<1.0	3.7
MW-6	4/16/2003	270	<0.50	<0.50	<0.50	1.3	15
MW-7	1/31/2002 [1]	<50	<0.50	<0.50	<0.50	<0.50	9,900 [3]
MW-7	4/11/2002	NA	NA	NA	NA	NA	NA
MW-7	7/11/2002	NA	NA	NA	NA	NA	NA
MW-7	10/15/2002	<5,000 [5]	<50	<50	<50	<100	12,000
MW-7	1/14/2003	<25,000	<250	<250	<250	<500	33,000
MW-7	4/16/2003	<25,000	<250	<250	<250	<500	37,000
MW-7	6/23/2003	20,000 [6]	260	<0.50	<0.50	<1.0	20,000

EXPLANATION:

ppb = parts per billion

[1] = Samples analyzed using EPA Method 8015 or 8021B

[2] = Laboratory report indicates gasoline C6-C12

[3] = Samples analyzed using EPA Method 8260B

[4] = Laboratory report indicates weathered gasoline C6-C12

[5] = Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.

[6] = Hydrocarbon reported in the gasoline range does not match our gasoline standard.

ANALYTICAL LABORATORY:

Sequoia Analytical Walnut Creek California (ELAP #1271)

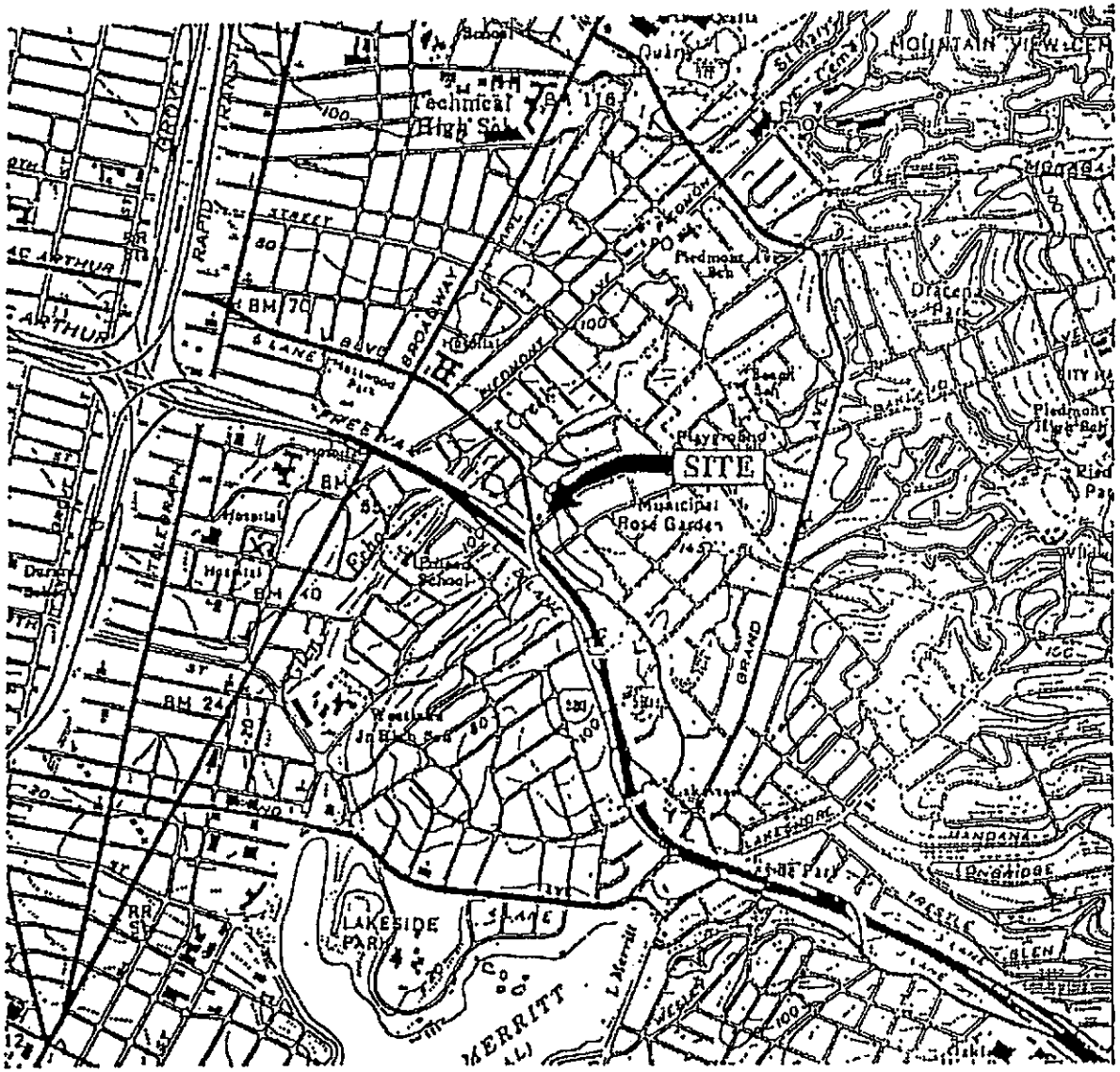
Severn Trent Laboratory, Pleasanton, California (ELAP #2496)

ANALYTICAL METHOD:

TPHg = Total Petroleum Hydrocarbons as gasoline by EPA Method 8015 or 8260B

Benzene, Toluene, Ethylbenzene and Total Xylenes by EPA method 8021 or 8260B

MTBE = Methyl tert-butyl ether by EPA Method 8260B



Base Map: USGS Topographic Map

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

VICINITY MAP
Former Tosco 76 Branded Facility No. 1871
96 MacArthur Boulevard
Oakland, California

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
40165		July, 1998	

EXPLANATION

- Groundwater monitoring well
- Destroyed groundwater monitoring well
- Ozone Sparge Point

INTERSTATE HIGHWAY 580

SANTA CLARA AVENUE

MACARTHUR BLVD. OVERCROSSING (EASTBOUND ON-RAMP)

MACARTHUR BOULEVARD

MACARTHUR BLVD.

HARRISON STREET

Planter
MW-9
Sidewalk
Sidewalk
Planter
Driveway
Quik Stop Market Building
Former Waste Oil Tank
MW-8
Driveway
MW-4
SP-H
Former Property Boundary
Former Dispenser Island
MW-2
Former Station Building
Underground Storage Tanks
MW-7
SP-G
Sidewalk
Dispensers
SP-A
Approximate Property Boundary
MW-5
SP-F
Canopy
Dispensers
Driveway
MW-6
MW-3
SP-C
SP-BS
SP-BD
Former Underground Storage Tanks
SP-E
MW-1
SP-DS
SP-DD
Sidewalk
Driveway
Former Dispenser Island
66 MacArthur Blvd. (formerly 96 MacArthur)
Sidewalk
Bridge Abutment
Concrete Island
Bridge Abutment
Dirt
Conc. Drainage Ditch
MW-10
Sidewalk
Conc. Bridge Columns (Typ.)
Overhead Freeway Structure
Overhead Ramp
WESTBOUND ON-RAMP
MW-11
Conc. Bridge Columns (Typ.)
Bridge Abutment
Dirt and Landscaping
WESTBOUND ON-RAMP
Landscaping

Source: Caltrans As-Built Plans and Right of Way Maps confirmed by field observations

N

0 40

Scale in Feet

FIGURE 2

SITE PLAN
ConocoPhillips (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

REVISED DATE

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(925) 551-7555

PROJECT NUMBER 140165.12
REVIEWED BY
DATE 8/03

FILE NAME: \\Gpst-w2kserver\Enviro\Tasco\1871 Oakland\Drawings\0305-1871.DWG | Layout Tab: Site Plan

Figure 3 - ConocoPhillips (76) Service Station No. 1871
Groundwater Concentrations vs. Time
MW-1

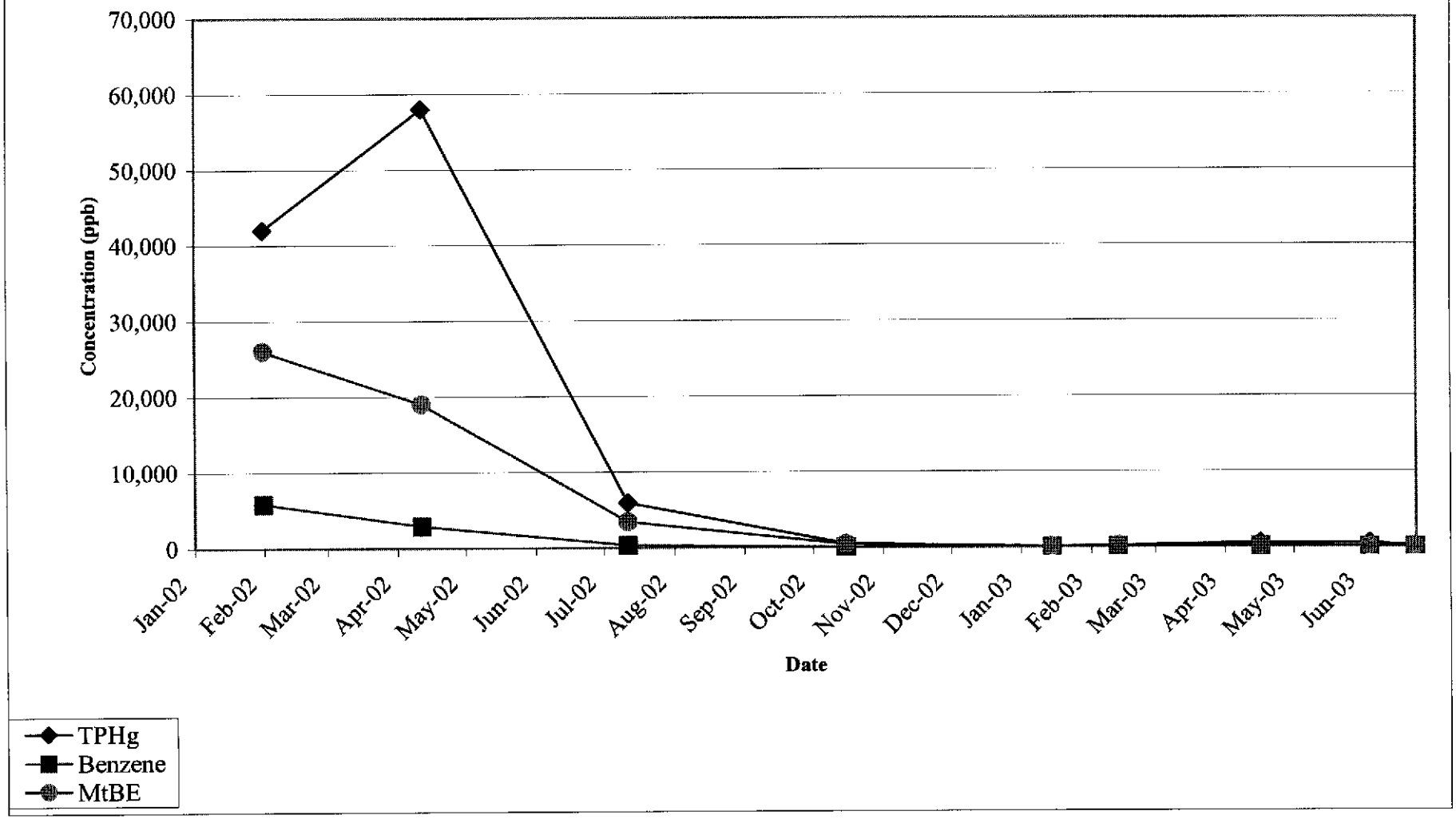


Figure 4 - ConocoPhillips (76) Service Station No. 1871
Groundwater Concentrations vs. Time
MW-6

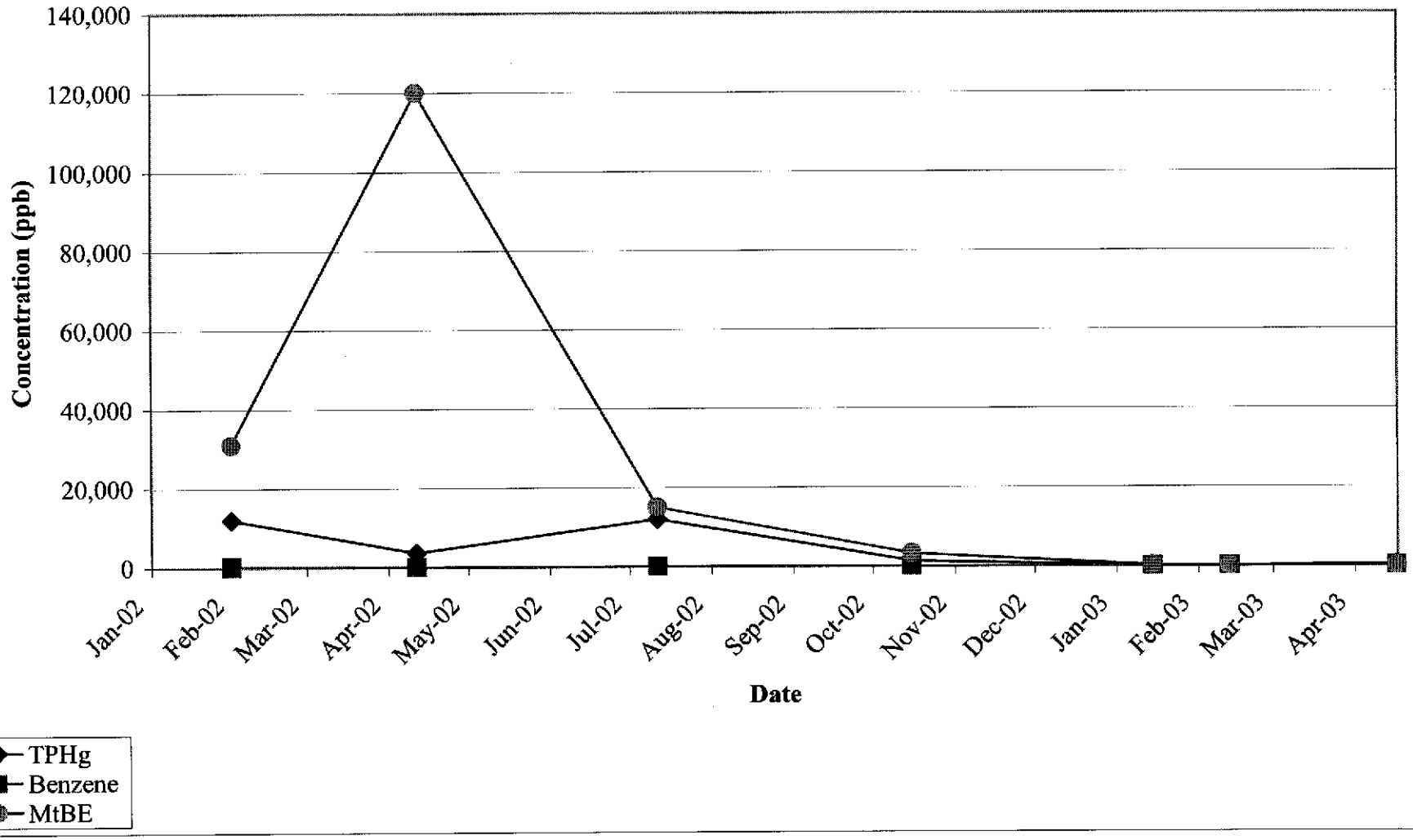
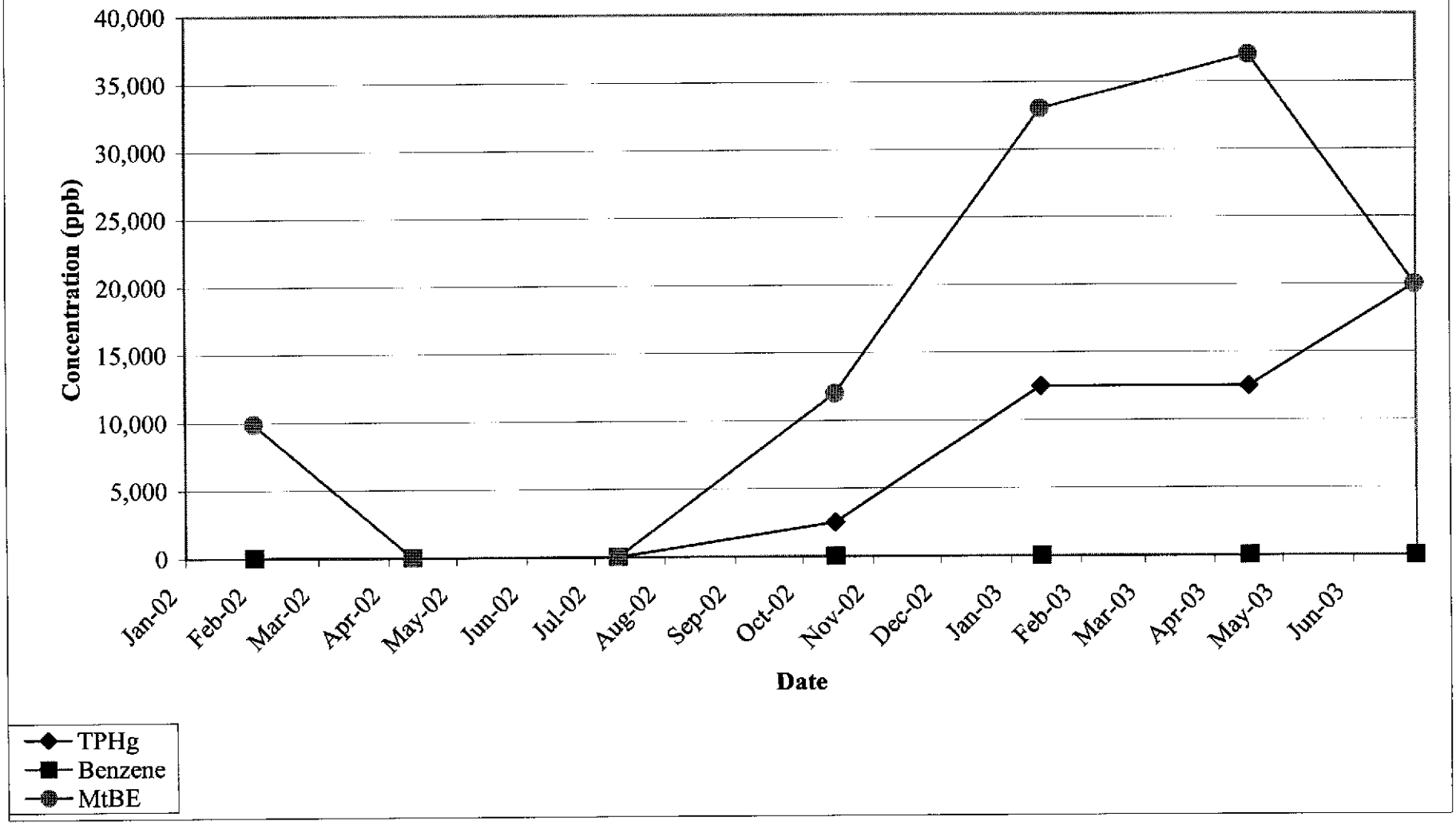


Figure 5 - ConocoPhillips (76) Service Station No. 1871
Groundwater Concentrations vs. Time
MW-7



APPENDIX A

HISTORICAL GROUNDWATER MONITORING AND SAMPLING DATA

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, 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)
MW-1		11/03/92	--	9.5-24.5	--	260,000	2,300	4,600	3,700	17,000	--
		01/25/93	--		--	120,000	2,100	4,600	4,900	22,000	--
81.18		04/29/93	13.71		67.47	100,000	850	2,000	4,300	19,000	--
		07/16/93	14.51		66.67	29,000	590	560	980	4,200	--
		10/19/93	15.20		65.98	67,000	1,400	2,600	2,900	5,000	--
		01/20/94	15.17		66.01	92,000	1,200	3,000	3,400	17,000	--
		04/13/94	14.44		66.74	51,000	1,000	2,600	3,200	15,000	--
		07/13/94	14.88		66.30	35,000	550	150	1,400	5,700	--
		10/10/94	15.55		65.63	52,000	1,000	810	3,300	12,000	--
		01/10/95	12.44		68.74	810	16	18	59	250	--
		04/17/95	12.68		68.50	48,000	880	530	2,500	11,000	--
		07/24/95	13.97		67.21	48,000	1,500	420	2,700	9,700	--
		10/23/95	14.85		66.33	47,000	780	210	2,100	11,000	270
		01/18/96	14.21		66.97	30,000	1,500	500	3,500	13,000	2,400
86.24		04/18/96	13.40		72.84	66,000	2,700	2,200	3,100	13,000	57,000
		07/24/96	14.15		72.09	5,600	2,100	ND	160	160	24,000
		10/24/96	14.85		71.39	110,000	7,500	8,000	3,300	14,000	58,000
		01/28/97	11.25		74.99	94,000	7,700	19,000	3,100	15,000	120,000
		07/29/97	14.67		71.57	ND	ND	ND	ND	ND	70,000
		01/14/98	12.27		73.97	85,000	6,100	10,000	3,000	17,000	110,000
		07/01/98	14.32		71.92	110,000	8,700	12,000	2,700	15,000	110,000
		06/18/99	13.93		72.31	49,000	6,900	6,500	380	12,000	72,000/47,000[4]
		01/21/00	15.05		71.19	63,700[5]	5,520	2,000	2,640	13,100	57,100
		07/10/00	13.97		72.27	67,800[5]	9,910	4,120	3,330	16,100	67,400/54,000[4]
		01/04/01	14.92		71.32	63,900[5]	6,270	784	2,670	12,900	--/38,100[4]
		07/16/01	14.32		71.92	66,000[5]	7,100	330	2,300	9,800	36,000/41,000[4]
86.99	♦	01/31/02	13.54		73.45	42,000[5]	5,800	1,800	2,000	8,200	26,000/26,000[4]
		04/11/02	13.64		73.35	58,000	2,900	1,200	1,800	10,000	19,000
		07/11/02[8]	13.96		73.03	5,900	330	<10	230	600	3,400
		10/15/02[8]	14.71		72.28	470	16	<2.5	14	16	390
		01/14/03[8]	12.77		74.22	<50	<0.50	<0.50	<0.50	<1.0	49
		04/16/03[8]	**13.18**		**73.81**	**510**	**57**	**0.62**	**29**	**61**	**160**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, 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)
MW-2	11/03/92	--	--	--	140	2.2	ND	ND	2.0	--
	01/25/93	--		--	2,100	56	1.1	90	140	--
76.61	04/29/93	9.73		66.88	1,500	290	ND	33	11	--
	07/16/93	10.17		66.44	510[1]	17	0.60	3.2	2.5	--
	10/19/93	11.18		65.43	670	24	1.1	7.7	23	--
	01/20/94	11.12		65.49	820	97	ND	12	ND	--
	04/13/94	10.12		66.49	550	71	ND	5.1	1.3	--
	07/13/94	10.86		65.75	2,000	490	ND	17	13	--
	10/10/94	11.48		65.13	2,300	340	ND	25	ND	--
	01/10/95	8.71		67.90	850	3.8	ND	8.5	1.3	--
	04/17/95	8.90		67.71	1,300	4.7	ND	8.3	1.2	--
	07/24/95	9.94		66.67	960	20	ND	4.2	6.2	--
	10/23/95	10.70		65.91	ND	ND	ND	ND	ND	19
	01/18/96	10.11		66.50	900	300	86	7.6	18	4,300
81.66	04/18/96	9.27		72.39	18,000	3,600	680	890	4,100	19,000
	07/24/96	10.02		71.64	100,000	13,000	21,000	2,700	16,000	120,000
	10/24/96	10.78		70.88	800	110	17	11	20	20,000
	01/28/97	7.70		73.96	45,000	2,400	2,900	2,000	7,600	29,000
	07/29/97	10.28		71.38	ND	1.2	0.72	0.63	0.62	17,000
	01/14/98	8.63		73.03	14,000	1,000	150	790	3,300	23,000
	07/01/98	9.53		72.13	2,700	100	ND[3]	180	78	7,100
	DESTROYED									
MW-3	11/03/92	--	--	--	2,100	120	15	38	200	--
	01/25/93	--		--	2,300	80	1	55	52	-
77.48	04/29/93	11.37		66.11	4,500	1,700	ND	200	140	--
	07/16/93	12.09		65.39	4,000[1]	1,100	28	52	70	--
	10/19/93	12.69		64.79	3,800	42	ND	50	56	--
	01/20/94	12.65		64.83	4,200	11	ND	21	15	--
	04/13/94	12.02		65.46	4,200	210	ND	36	53	--
	07/13/94	12.46		65.02	1,800[2]	16	16	ND	21	--
	10/10/94	12.98		64.50	4,300	11	ND	12	ND	--

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, 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)
MW-3	01/10/95	10.42	--	67.06	310	4.6	ND	3.5	2.1	--
(cont)	04/17/95	10.42		67.06	7,800	ND	4.6	300	450	--
	07/24/95	11.76		65.72	3,200	170	ND	22	16	--
	10/23/95	12.50		64.98	3,900	55	ND	19	11	4,500
	01/18/96	11.79		65.69	2,200	270	33	26	18	5,500
82.55	04/18/96	11.30		71.25	6,000	1,800	ND	100	230	48,000
	07/24/96	12.17		70.38	ND	2,500	ND	ND	ND	71,000
	10/24/96	12.65		69.90	3,800	660	ND	15	ND	65,000
	01/28/97	9.50		73.05	4,400	250	13	87	47	54,000
	07/29/97	11.99		70.56	ND	3,500	ND	220	ND	75,000
	01/14/98	10.30		72.25	ND[3]	430	ND[3]	100	380	37,000
	07/01/98	11.70		70.85	ND[3]	430	ND[3]	ND[3]	ND[3]	45,000
	DESTROYED									
MW-4										
82.04	04/18/96	9.83	--	72.21	ND	630	ND	ND	ND	18,000
	07/24/96	10.47		71.57	ND	ND	ND	ND	5.2	3,900
	10/24/96	11.14		70.90	ND	ND	ND	ND	ND	6,300
	01/28/97	7.94		74.10	1,200	490	ND	17	6.8	16,000
	07/29/97	10.86		71.18	50	1.5	0.61	0.73	0.78	15,000
	01/14/98	8.73		73.31	ND[3]	ND[3]	ND[3]	ND[3]	ND[3]	5,200
	07/01/98	10.51		71.53	ND	ND	ND	ND	ND	640
	DESTROYED									
MW-5										
81.80	04/18/96	9.65	--	72.15	31,000	5,500	1,400	1,700	8,100	66,000
	07/24/96	10.80		71.00	32,000	6,400	ND	1,600	6,100	120,000
	10/24/96	11.40		70.40	17,000	6,900	ND	970	130	84,000
	01/28/97	7.76		74.04	19,000	6,100	62	82	310	160,000
	07/29/97	11.58		70.22	ND	ND	ND	ND	ND	71,000

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, 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)
MW-5	01/14/98	9.08	--	72.72	ND[3]	3,600	ND[3]	ND[3]	ND[3]	80,000
(cont)	07/01/98	11.25		70.55	6,400	2,100	21	120	330	61,000
	DESTROYED									
MW-6										
78.91	06/18/99	9.30	5.0-25.0	69.61	2,100	21	29	ND[3]	47	97,000/71,000[4]
	01/21/00	9.37		69.54	1,880[5]	143	31.2	106	196	41,200/48,800[4]
	07/10/00	8.94		69.97	5,710[5]	869	209	301	1,430	22,200/19,500[4]
	01/04/01	9.21		69.70	ND	ND	ND	ND	ND	--/9,510[4]
	07/16/01	9.42		69.49	4,800[5]	200	21	150	440	29,000/34,000[4]
	01/31/02	8.50		70.41	12,000[7]	250	92	500	1,500	26,000/31,000[4]
	04/11/02	9.08		70.59	3,600	42	32	39	280	120,000
79.67	07/11/02[8]	9.70		69.97	12,000[9]	<100	<100	<100	<200	15,000
	10/15/02[8]	9.96		69.71	1,300[9]	<10	<10	<10	<20	3,200
	01/14/03[8]	8.31		71.36	<50	<0.50	<0.50	<0.50	<1.0	120
	04/16/03[8]	**8.21**		**71.46**	**270**	**<0.50**	**<0.50**	**<0.50**	**1.3**	**15**
MW-7										
79.92	06/18/99	8.70	5.0-25.0	71.22	ND	ND	ND	ND	ND	16,000/13,000[4]
	01/21/00	9.30		70.62	ND[3]	ND[3]	ND[3]	ND[3]	ND[3]	12,300/18,200[4]
	07/10/00	8.72		71.20	ND[3]	ND[3]	ND[3]	ND[3]	ND[3]	16,900/13,800[4]
	01/04/01	9.17		70.75	ND	ND	ND	ND	0.719	--/37.3[4]
	07/16/01	9.02		70.90	ND	ND	ND	ND	ND	7,200/4,700[4]
	01/31/02	7.91		72.01	<50	<0.50	<0.50	<0.50	<0.50	8,900/9,900[4]
80.67	04/11/02	INACCESSIBLE - CAR PARKED OVER WELL				--	--	--	--	--
	07/11/02	INACCESSIBLE - TRUCK PARKED OVER WELL				--	--	--	--	--
	10/15/02[8]	9.81		70.86	<5,000[9]	<50	<50	<50	<100	12,000
	01/14/03[8]	7.89		72.78	<25,000	<250	<250	<250	<500	33,000
	04/16/03[8]	**8.04**		**72.63**	**<25,000**	**<250**	**<250**	**<250**	**<500**	**37,000**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, 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)
MW-8										
80.96	06/18/99	9.10	5.0-25.0	71.86	ND	ND	ND	ND	ND	290/160[4]
	01/21/00	10.00		70.96	ND	ND	ND	ND	1.09	224/221[4]
	07/10/00	7.94		73.02	ND	ND	ND	ND	ND	234/223[4]
	01/04/01	9.76		71.20	3,790[5]	141	8.92	128	375	--/34,200[4]
	07/16/01	9.15		71.81	ND	ND	ND	ND	ND	66/70[4]
	01/31/02	7.99		72.97	5,900[7]	86	<10	630	390	670/700[4]
81.71	04/11/02	9.00		72.71	250	2.0	<0.50	38	2.2	410
	07/11/02[8]	9.60		72.11	110[9]	<0.50	<0.50	<0.50	<1.0	120
	10/15/02[8]	10.60		71.11	<50	<0.50	<0.50	<0.50	<1.0	21
	01/14/03[8]	8.63		73.08	<250	2.6	<2.5	18	<5.0	430
	04/16/03[8]	**8.98**		**72.73**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**18**
MW-9										
82.07	01/31/02[6]	14.72	--	67.35	<50	<0.50	<0.50	<0.50	<0.50	680/910[4]
	04/11/02	14.85		67.22	<50	<0.50	<0.50	<0.50	<0.50	620
	07/11/02[8]	15.39		66.68	580[9]	<5.0	<5.0	<5.0	<10	580
	10/15/02[8]	16.16		65.91	570[9]	<5.0	<5.0	<5.0	<10	1,400
	01/14/03[8]	14.75		67.32	<200	<2.0	<2.0	<2.0	<4.0	220
	04/16/03[8]	**14.51**		**67.56**	**<500**	**<5.0**	**<5.0**	**<5.0**	**<10**	**860**
MW-10										
74.98	01/31/02[6]	8.02	--	66.96	<50	<0.50	<0.50	<0.50	<0.50	<5.0/1.2[4]
	04/11/02	7.60		67.38	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/11/02[8]	8.91		66.07	<50	<0.50	<0.50	<0.50	<1.0	1.1
	10/15/02[8]	11.49		63.49	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	01/14/03[8]	8.47		66.51	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	04/16/03[8]	**7.92**		**67.06**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<2.0**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, 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)
MW-11										
77.31	01/31/02[6]	11.71	--	65.60	<50	<0.50	<0.50	<0.50	<0.50	<5.0/<1.0[4]
	04/11/02	11.95		65.36	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/11/02[8]	12.79		64.52	<50	<0.50	<0.50	<0.50	<1.0	<0.50
	10/15/02[8]	13.67		63.64	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	01/14/03[8]	13.31		64.00	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	04/16/03[8]	**14.08**		**63.23**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<2.0**
Trip Blank										
TB-LB	01/14/98	--	--	--	ND	ND	ND	ND	ND	ND
	07/01/98	--		--	ND	ND	ND	ND	ND	ND
	06/18/99	--		--	ND	ND	ND	ND	ND	ND
	01/21/00	--		--	ND	ND	ND	ND	ND	14.6
	07/10/00	--		--	ND	ND	ND	ND	ND	ND
	01/04/01	--		--	ND	ND	ND	ND	ND	ND
	07/16/01	--		--	ND	ND	ND	ND	ND	ND
	01/31/02	--		--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	04/11/02	--		--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
QA	07/11/02[8]	--		--	<50	<0.50	<0.50	<0.50	<1.0	<0.50
	10/15/02[8]	--		--	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	01/14/03[8]	--		--	<50	<0.50	2.1[10]	<0.50	1.1[10]	<2.0
	04/16/03[8]	--		--	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<2.0**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing
(ft.) = Feet
DTW = Depth to Water
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
QA = Quality Assurance/Trip Blank

* TOC elevation were surveyed by Virgil Chaves Land Surveying on January 15, 2002. Elevations were based on a USGS bronze disc located near the north end of the curb return at the northwest corner of 38th Street and Broadway, Oakland, California, (Benchmark = 85.41 feet NGVD 29).
TOC elevations were re-surveyed by Kier & Wright in May, 1996, per City of Oakland Benchmark No. 2310, a cut square in concrete curb at mid point of return at the northeast corner of El Dorado and Fairmont Street. (Elevation = 77.53 feet msl).

♦ Well elevation has been adjusted up 0.75 feet based on Virgil Chavez Land Survey dated March 5, 2002.

1 Laboratory report indicates the presence of discrete peaks not indicative of gasoline.
2 Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
3 Detection limit raised. Refer to analytical reports.
4 MTBE by EPA Method 8260.
5 Laboratory report indicates gasoline C6-C12.
6 Well development performed.
7 Laboratory report indicates weathered gasoline C6-C12.
8 TPH-G, BTEX and MTBE by EPA Method 8260.
9 Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
10 Laboratory report indicates the trip blank for this set of samples contained detectable levels of Toluene and Xylene. These results were confirmed by the laboratory. Since many of the samples in this set were Not Detect for these compounds, it is not likely that this contamination was introduced in the field.

Table 2

Field Measurements

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, California

WELL ID	DATE	POST FIRST CASING VOLUME PURGE		POST SECOND CASING VOLUME PURGE		POST THIRD CASING VOLUME PURGE	
		D.O. *(mg/L)*	ORP *(mV)*	D.O. *(mg/L)*	ORP *(mV)*	D.O. *(mg/L)*	ORP *(mV)*
MW-1	07/11/02	5.0	122	3.1	118	2.9	116
	10/15/02	6.65	132	5.76	147	5.35	152
	01/14/03	4.64	125	4.66	112	4.71	138
	04/16/03	**3.48**	**1.67**	**3.64**	**180**	**3.70**	**177**
MW-6	07/11/02	0.7	-17	3.4	13	2.4	12
	10/15/02	7.92	114	6.38	111	5.94	129
	01/14/03	5.51	95	5.50	107	5.11	116
	04/16/03	**3.95**	**133**	**4.05**	**147**	**4.11**	**142**
MW-7	10/15/02	3.88	121	3.90	156	4.04	152
	01/14/03	2.95	137	2.92	130	3.16	124
	04/16/03	**2.65**	**174**	**2.80**	**190**	**2.78**	**197**
MW-8	07/11/02	1.1	26	1.6	10	2.4	13
	10/15/02	4.65	218	4.53	241	4.57	231
	01/14/03	5.19	210	4.85	187	4.96	184
	04/16/03	**3.12**	**265**	**3.23**	**260**	**3.30**	**285**
MW-9	07/11/02	1.1	10	1.0	11	1.2	15
	10/15/02	2.95	154	2.89	161	3.08	166
	01/14/03	3.81	144	3.47	136	3.53	128
	04/16/03	**2.48**	**97**	**2.37**	**104**	**2.54**	**101**

Table 2

Field Measurements

Tosco (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

WELL ID	DATE	POST FIRST CASING VOLUME PURGE		POST SECOND CASING VOLUME PURGE		POST THIRD CASING VOLUME PURGE	
		D.O. *(mg/L)*	ORP *(mV)*	D.O. *(mg/L)*	ORP *(mV)*	D.O. *(mg/L)*	ORP *(mV)*
MW-10	07/11/02	1.1	36	1.0	31	1.2	24
	10/15/02	6.80	158	6.70	161	6.73	148
	01/14/03	5.54	178	5.18	171	5.21	163
	04/16/03	**2.74**	**123**	**2.83**	**116**	**2.79**	**130**
MW-11	07/11/02	1.8	419	1.4	400	1.1	391
	10/15/02	4.39	98	4.20	110	4.27	96
	01/14/03	5.42	120	5.31	147	5.36	138
	04/16/03	**3.37**	**184**	**3.50**	**191**	**3.48**	**190**

EXPLANATIONS:

D.O. = Dissolved Oxygen
(mg/L) = Milligrams per liter
ORP = Oxidation Reduction Potential
(mV) = Millivolts

Table 2

Field Measurements

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, California

WELL ID	DATE	POST FIRST CASING VOLUME PURGE		POST SECOND CASING VOLUME PURGE		POST THIRD CASING VOLUME PURGE	
		D.O. *(mg/L)*	ORP *(mV)*	D.O. *(mg/L)*	ORP *(mV)*	D.O. *(mg/L)*	ORP *(mV)*
MW-1	07/11/02	5.0	122	3.1	118	2.9	116
	10/15/02	6.65	132	5.76	147	5.35	152
	01/14/03	4.64	125	4.66	112	4.71	138
	04/16/03	**3.48**	**1.67**	**3.64**	**180**	**3.70**	**177**
MW-6	07/11/02	0.7	-17	3.4	13	2.4	12
	10/15/02	7.92	114	6.38	111	5.94	129
	01/14/03	5.51	95	5.50	107	5.11	116
	04/16/03	**3.95**	**133**	**4.05**	**147**	**4.11**	**142**
MW-7	10/15/02	3.88	121	3.90	156	4.04	152
	01/14/03	2.95	137	2.92	130	3.16	124
	04/16/03	**2.65**	**174**	**2.80**	**190**	**2.78**	**197**
MW-8	07/11/02	1.1	26	1.6	10	2.4	13
	10/15/02	4.65	218	4.53	241	4.57	231
	01/14/03	5.19	210	4.85	187	4.96	184
	04/16/03	**3.12**	**265**	**3.23**	**260**	**3.30**	**285**
MW-9	07/11/02	1.1	10	1.0	11	1.2	15
	10/15/02	2.95	154	2.89	161	3.08	166
	01/14/03	3.81	144	3.47	136	3.53	128
	04/16/03	**2.48**	**97**	**2.37**	**104**	**2.54**	**101**

Table 2

Field Measurements

Tosco (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

WELL ID	DATE	POST FIRST CASING VOLUME PURGE		POST SECOND CASING VOLUME PURGE		POST THIRD CASING VOLUME PURGE	
		D.O. *(mg/L)*	ORP *(mV)*	D.O. *(mg/L)*	ORP *(mV)*	D.O. *(mg/L)*	ORP *(mV)*
MW-10	07/11/02	1.1	36	1.0	31	1.2	24
	10/15/02	6.80	158	6.70	161	6.73	148
	01/14/03	5.54	178	5.18	171	5.21	163
	04/16/03	**2.74**	**123**	**2.83**	**116**	**2.79**	**130**
MW-11	07/11/02	1.8	419	1.4	400	1.1	391
	10/15/02	4.39	98	4.20	110	4.27	96
	01/14/03	5.42	120	5.31	147	5.36	138
	04/16/03	**3.37**	**184**	**3.50**	**191**	**3.48**	**190**

EXPLANATIONS:

D.O. = Dissolved Oxygen
(mg/L) = Milligrams per liter
ORP = Oxidation Reduction Potential
(mV) = Millivolts

Table 3

Groundwater Analytical Results - Oxygenate Compounds

Tosco (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	EDB (ppb)	1,2-DCA (ppb)
MW-1	06/18/99	ND[1]	ND[1]	47,000	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	07/10/00	--	--	54,000	--	--	--	--	--
	01/04/01	--	--	38,100	--	--	--	--	--
	07/16/01	ND[1]	ND[1]	41,000	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	01/31/02	--	--	26,000	--	--	--	--	--
	07/11/02	--	--	3,400	--	--	--	--	--
	10/15/02	--	--	390	--	--	--	--	--
	01/14/03	<500	<100	49	<2.0	<2.0	<2.0	<2.0	<2.0
	04/16/03	--	--	**160**	--	--	--	--	--
MW-6	06/18/99	ND[1]	ND[1]	71,000	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	01/21/00	--	--	48,800	--	--	--	--	--
	07/10/00	--	--	19,500	--	--	--	--	--
	01/04/01	--	--	9,510	--	--	--	--	--
	07/16/01	ND[1]	ND[1]	34,000	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	01/31/02	--	--	31,000	--	--	--	--	--
	07/11/02	<5,000	<1,000	15,000	<200	<100	<100	<100	<100
	10/15/02	--	--	3,200	--	--	--	--	--
	01/14/03	<500	<100	120	<2.0	<2.0	<2.0	<2.0	<2.0
	04/16/03	--	--	**15**	--	--	--	--	--
MW-7	06/18/99	ND[1]	ND[1]	13,000	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	01/21/00	--	--	18,200	--	--	--	--	--
	07/10/00	--	--	13,800	--	--	--	--	--
	01/04/01	--	--	37.3	--	--	--	--	--
	07/16/01	ND[1]	ND[1]	4,700	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	01/31/02	--	--	9,900	--	--	--	--	--
	07/11/02	INACCESSIBLE - TRUCK PARKED OVER WELL				--	--	--	--
	10/15/02	--	--	12,000	--	--	--	--	--
	01/14/03	<250,000	<50,000	33,000	<1,000	<1,000	<1,000	<1,000	<1,000
	04/16/03	--	--	**37,000**	--	--	--	--	--

As of 04/16/03

Table 3

Groundwater Analytical Results - Oxygenate Compounds

Tosco (Former Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	EDB (ppb)	1,2-DCA (ppb)
MW-8	06/18/99	ND[1]	ND[1]	160	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	01/21/00	--	--	221	--	--	--	--	--
	07/10/00	--	--	223	--	--	--	--	--
	01/04/01	--	--	34,200	--	--	--	--	--
	07/16/01	ND	ND	70	ND	ND	ND	ND	ND
	01/31/02	--	--	700	--	--	--	--	--
	07/11/02	--	--	120	--	--	--	--	--
	10/15/02	--	--	21	--	--	--	--	--
	01/14/03	<2,500	<500	430	<10	<10	<10	<10	<10
	04/16/03	--	--	**18**	--	--	--	--	--
MW-9	01/31/02	<3,600	<140	910	<7.1	<7.1	<7.1	<7.1	<7.1
	07/11/02	--	--	580	--	--	--	--	--
	10/15/02	--	--	1,400	--	--	--	--	--
	01/14/03	<2,000	<400	220	<8.0	<8.0	<8.0	<8.0	<8.0
	04/16/03	--	--	**860**	--	--	--	--	--
MW-10	01/31/02	<500	<20	1.2	<1.0	<1.0	<1.0	<1.0	<1.0
	07/11/02	--	--	1.1	--	--	--	--	--
	10/15/02	--	--	<2.0	--	--	--	--	--
	01/14/03	<500	<100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	04/16/03	--	--	**<2.0**	--	--	--	--	--
MW-11	01/31/02	<500	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	07/11/02	--	--	<0.50	--	--	--	--	--
	10/15/02	--	--	<2.0	--	--	--	--	--
	01/14/03	<500	<100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	04/16/03	--	--	**<2.0**	--	--	--	--	--

Table 3

Groundwater Analytical Results - Oxygenate Compounds

Tosco (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

EXPLANATIONS:

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

[1] Detection limit raised. Refer to analytical reports.

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

Table 4

Groundwater Analytical Results

Tosco (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

WELL ID	DATE	TPH-D (ppb)	TOG (ppb)	HVOC (ppb)	SVOC (ppb)
MW-1	06/18/99	--	--	ND	--
MW-4	04/18/96	110[1]	ND	ND	--
	07/24/96	ND	ND	ND	ND
	10/24/96	ND	ND	ND	ND[2]
	01/28/97	210[3]	ND	ND	ND[4]
	07/29/97	ND	ND	ND	ND
	01/14/98	ND	ND	ND	ND
	07/01/98	ND	ND	ND	ND
	DESTROYED				
MW-6	06/18/99	--	--	ND	--
MW-7	06/18/99	--	--	ND	--
MW-8	06/18/99	--	--	ND	ND[5]

EXPLANATIONS:

Groundwater analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TPH-D = Total Petroleum Hydrocarbons as Diesel
TOG = Total Oil and Grease
HVOC = Halogenated Volatile Organic Compounds by EPA Method 8010
SVOC = Semi-Volatile Organic Compounds by EPA Method 8270
(ppb) = Parts per billion
-- = Not Analyzed
ND = Not Detected

1 Laboratory report indicates the hydrocarbons detected did not appear to contain diesel.
2 Bis (2-ethylhexyl) phthalate was detected at a concentration of 14 ppb.
3 Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
4 Naphthalene was detected at a concentration of 17 ppb.
5 All SVOCs were ND except for Bis(2-ethylhexy)phthalate at 11 ppb.

All EPA Method 8010 and 8270 constituents were ND, unless noted.

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.

APPENDIX B

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY RECORDS

SEVERN TRENT STL

Submission#: 2003-02-0243

Gettler Ryan

February 25, 2003

1364 North McDowell Road
Petaluma, CA 94954

Attn.: Dave Vossler
Project: Tosco #1871
Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Dear Mr. Vossler,

Attached is our report for your samples received on 02/13/2003 11:30
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 03/30/2003 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

SEVERN TRENT STL

Submission #: 2003-02-0243

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Dave Vossler

1364 North McDowell Road
Petaluma, CA 94954
Phone: (707) 789-3252 Fax: (707) 789-3218

Project: Tosco #1871

Received: 02/13/2003 11:30

Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	02/12/2003 16:35	Water	1
MW-6	02/12/2003 16:38	Water	2

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Dave Vossler

1364 North McDowell Road
Petaluma, CA 94954
Phone: (707) 789-3252 Fax: (707) 789-3218

Project: Tosco #1871

Received: 02/13/2003 11:30

Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Prep(s): 5030B
Sample ID: **MW-1**
Sampled: 02/12/2003 16:35
Matrix: Water
Analysis Flag: o (See Legend and Note Section)

Test(s): 8260B
Lab ID: 2003-02-0243 - 1
Extracted: 2/19/2003 14:28
QC Batch#: 2003/02/19-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	120	100	ug/L	2.00	02/19/2003 14:28	
Methyl tert-butyl ether (MTBE)	180	1.0	ug/L	2.00	02/19/2003 14:28	
Benzene	4.9	1.0	ug/L	2.00	02/19/2003 14:28	
Toluene	ND	1.0	ug/L	2.00	02/19/2003 14:28	
Ethylbenzene	5.4	1.0	ug/L	2.00	02/19/2003 14:28	
Total xylenes	2.3	2.0	ug/L	2.00	02/19/2003 14:28	
Surrogates(s)						
1,2-Dichloroethane-d4	108.1	76-114	%	2.00	02/19/2003 14:28	
Toluene-d8	99.2	88-110	%	2.00	02/19/2003 14:28	

SEVERN TRENT STL

Submission #: 2003-02-0243

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Dave Vossler

1364 North McDowell Road
Petaluma, CA 94954
Phone: (707) 789-3252 Fax: (707) 789-3218

Project: Tosco #1871

Received: 02/13/2003 11:30

Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-6**	Lab ID:	2003-02-0243 - 2
Sampled:	02/12/2003 16:38	Extracted:	2/18/2003 13:36
Matrix:	Water	QC Batch#:	2003/02/18-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	02/18/2003 13:36	
Methyl tert-butyl ether (MTBE)	3.7	0.50	ug/L	1.00	02/18/2003 13:36	
Benzene	ND	0.50	ug/L	1.00	02/18/2003 13:36	
Toluene	ND	0.50	ug/L	1.00	02/18/2003 13:36	
Ethylbenzene	ND	0.50	ug/L	1.00	02/18/2003 13:36	
Total xylenes	ND	1.0	ug/L	1.00	02/18/2003 13:36	
Surrogates(s)						
1,2-Dichloroethane-d4	109.8	76-114	%	1.00	02/18/2003 13:36	
Toluene-d8	97.9	88-110	%	1.00	02/18/2003 13:36	

Fuel Oxygenates by 8260B

Gettler Ryan

Attn.: Dave Vossler

1364 North McDowell Road
Petaluma, CA 94954
Phone: (707) 789-3252 Fax: (707) 789-3218

Project: Tosco #1871

Received: 02/13/2003 11:30

Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2003/02/18-01.27-007

Water

Test(s): 8260B
QC Batch # 2003/02/18-01.27
Date Extracted: 02/18/2003 11:34

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	02/18/2003 11:34	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	02/18/2003 11:34	
Benzene	ND	0.5	ug/L	02/18/2003 11:34	
Toluene	ND	0.5	ug/L	02/18/2003 11:34	
Ethylbenzene	ND	0.5	ug/L	02/18/2003 11:34	
Total xylenes	ND	1.0	ug/L	02/18/2003 11:34	
Surrogates(s)					
1,2-Dichloroethane-d4	102.0	76-114	%	02/18/2003 11:34	
Toluene-d8	98.8	88-110	%	02/18/2003 11:34	

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Dave Vossler

1364 North McDowell Road
Petaluma, CA 94954
Phone: (707) 789-3252 Fax: (707) 789-3218

Project: Tosco #1871

Received: 02/13/2003 11:30

Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2003/02/19-01.27-020

Water

Test(s): 8260B
QC Batch # 2003/02/19-01.27
Date Extracted: 02/19/2003 12:01

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	02/19/2003 12:01	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	02/19/2003 12:01	
Benzene	ND	0.5	ug/L	02/19/2003 12:01	
Toluene	ND	0.5	ug/L	02/19/2003 12:01	
Ethylbenzene	ND	0.5	ug/L	02/19/2003 12:01	
Total xylenes	ND	1.0	ug/L	02/19/2003 12:01	
Surrogates(s)					
1,2-Dichloroethane-d4	106.2	76-114	%	02/19/2003 12:01	
Toluene-d8	99.6	88-110	%	02/19/2003 12:01	

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Dave Vossler

1364 North McDowell Road
Petaluma, CA 94954
Phone: (707) 789-3252 Fax: (707) 789-3218

Project: Tosco #1871

Received: 02/13/2003 11:30

Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike | **Water** | **QC Batch # 2003/02/18-01.27**

LCS 2003/02/18-01.27-003 Extracted: 02/18/2003 Analyzed: 02/18/2003 10:43

LCSD 2003/02/18-01.27-004 Extracted: 02/18/2003 Analyzed: 02/18/2003 11:13

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	21.1	22.4	25.0	84.4	89.6	6.0	69-129	20		
Toluene	20.7	22.6	25.0	82.8	90.4	8.8	70-130	20		
Methyl tert-butyl ether (MTBE)	24.8	27.7	25.0	99.2	110.8	11.0	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	532	536	500	106.4	107.2		76-114			
Toluene-d8	498	490	500	99.6	98.0		88-110			

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Dave Vossler

1364 North McDowell Road
Petaluma, CA 94954
Phone: (707) 789-3252 Fax: (707) 789-3218

Project: Tosco #1871

Received: 02/13/2003 11:30

Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike **Water** **QC Batch # 2003/02/19-01.27**

LCS 2003/02/19-01.27-004 Extracted: 02/19/2003 Analyzed: 02/19/2003 11:11

LCSD 2003/02/19-01.27-005 Extracted: 02/19/2003 Analyzed: 02/19/2003 11:39

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	24.1	24.0	25.0	96.4	96.0	0.4	69-129	20		
Toluene	24.7	24.9	25.0	98.8	99.6	0.8	70-130	20		
Methyl tert-butyl ether (MTBE)	27.0	27.7	25.0	108.0	110.8	2.6	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	517	533	500	103.4	106.6		76-114			
Toluene-d8	499	489	500	99.8	97.8		88-110			

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Dave Vossler

1364 North McDowell Road
Petaluma, CA 94954
Phone: (707) 789-3252 Fax: (707) 789-3218

Project: Tosco #1871

Received: 02/13/2003 11:30

Site: 66 Mac Arthur Blvd.
1871 Oakland, CA

Legend and Notes

Analysis Flag

o

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

SEVERN TRENT STL

Submission#: 2003-06-0266

June 29, 2003

Gettler Ryan

6747 Sierra Court Suite J
Dublin, CA 94568

Attn.: Scott Polston

Project#: 1871
Project: 66 MacArthur Boulevard
Site: Oakland, CA

Attached is our report for your samples received on 06/06/2003 18:33
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 07/21/2003 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

SEVERN TRENT STL

Submission #: 2003-06-0266

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Scott Polston

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7899

Project: 1871
66 MacArthur Boulevard

Received: 06/06/2003 18:33

Site: Oakland, CA

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
1871 MW1	06/03/2003 16:50	Water	1

Severn Trent Laboratories, Inc.
STL San Francisco * 1220 Quarry Lane, Pleasanton, CA 94566
Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

SEVERN TRENT STL

Submission #: 2003-06-0266

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Scott Polston

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7899

Project: 1871
66 MacArthur Boulevard

Received: 06/06/2003 18:33

Site: Oakland, CA

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**1871 MW1**	Lab ID:	2003-06-0266 - 1
Sampled:	06/03/2003 16:50	Extracted:	6/17/2003 11:32
Matrix:	Water	QC Batch#:	2003/06/17-1F.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	460	50	ug/L	1.00	06/17/2003 11:32	
Methyl tert-butyl ether (MTBE)	52	0.50	ug/L	1.00	06/17/2003 11:32	
Benzene	1.3	0.50	ug/L	1.00	06/17/2003 11:32	
Toluene	ND	0.50	ug/L	1.00	06/17/2003 11:32	
Ethylbenzene	2.9	0.50	ug/L	1.00	06/17/2003 11:32	
Total xylenes	41	1.0	ug/L	1.00	06/17/2003 11:32	
Surrogates(s)						
1,2-Dichloroethane-d4	101.2	76-114	%	1.00	06/17/2003 11:32	
Toluene-d8	102.0	88-110	%	1.00	06/17/2003 11:32	

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Scott Polston

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7899

Project: 1871
66 MacArthur Boulevard

Received: 06/06/2003 18:33

Site: Oakland, CA

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2003/06/17-1F.64-003

Water

Test(s): 8260B
QC Batch # 2003/06/17-1F.64
Date Extracted: 06/17/2003 10:44

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	06/17/2003 10:21	
Benzene	ND	0.5	ug/L	06/17/2003 10:21	
Toluene	ND	0.5	ug/L	06/17/2003 10:21	
Ethylbenzene	ND	0.5	ug/L	06/17/2003 10:21	
Total xylenes	ND	1.0	ug/L	06/17/2003 10:21	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	06/17/2003 10:21	
Surrogates(s)					
1,2-Dichloroethane-d4	97.6	76-114	%	06/17/2003 10:21	
Toluene-d8	101.6	88-110	%	06/17/2003 10:21	

SEVERN TRENT STL

Submission #: 2003-06-0266

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Scott Polston

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7899

Project: 1871
66 MacArthur Boulevard

Received: 06/06/2003 16:33

Site: Oakland, CA

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2003/06/17-1F.64**

LCS 2003/06/17-1F.64-002 Extracted: 06/17/2003 Analyzed: 06/17/2003 09:59
LCSD 2003/06/17-1F.64-001 Extracted: 06/17/2003 Analyzed: 06/17/2003 10:21

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	23.3	23.8	25	93.2	95.2	2.1	69-129	20		
Toluene	23.8	24.6	25	95.2	98.4	3.3	70-130	20		
Methyl tert-butyl ether (MTBE)	24.3	23.7	25	97.2	94.8	2.5	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	478	480	500	95.6	96.0		76-114			
Toluene-d8	500	525	500	100.0	105.0		88-110			

74924

2003-06-0266

ConocoPhillips

Chain-of-Custody-Record

Consultant Name:	GETTLER-RYAN INC.
Address:	6747 SIERRA COURT, SUITE J, DUBLIN, CA 94568
Project Contact:	Scott Polston spolston@grinc.com
(Phone)	925-551-7555 (Fax) 925-551-7888
Sampler:	E. Jantzen
Turnaround Time	☐ 10 Work Days ☐ 5 Work Days ☐ 3 Work Days ☐ 2 Work Days ☐ 1 Work Day ☐ 24 Hours

ConocoPhillips Project Manager:	David DeWitt
Site # 1871	Project Name: 66 MacArthur Boulevard, Oakland, California
Laboratory Name:	STL
Laboratory Service Order:	
Laboratory Service Code:	
QC Data:	☐ Level D ☐ Level C ☐ Level B ☐ Level A

State Method: ☐ CA ☐ OR ☐ WA ☐ NW ☐ NV Series ☐ CO ☐ UT ☐ ID

Sample ID	Date/Time	Matrix (S = Soil, A=Air, GW=groundwater, W=Water, C=Charcoal)	Number of Containers	Container Type	Laboratory Sample ID	Analyses Requested: TPH-G, BTEX, MTBE (8015+8021)	TPH-G/BTEX (8015 + 8021)	TPH Diesel (8015)	EPA 8260B limited run TPHg, BTEX, MTBE								Comments
1871 MW1	6/6/03 1150	GW	3	VOA					X								Results due on or before 19 June 2003 by 1700. No EDF

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
	GTC	6 June 03 1000		STL-SF	6/6/03 1016	
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)		Date/Time	Iced (Y/N)
	STL-SF	1833 6/6/03			6/6/03 1833	

~~5.0°~~ NR 6/6/03
2.2°C

SEVERN TRENT STL

Submission#: 2003-06-0777

Gettler Ryan

July 18, 2003

6747 Sierra Court Suite J
Dublin, CA 94568

Attn.: Eric Janzen
Project: Conoco #1871
Site: 66 MacArthur Boulevard Oakland

Dear Mr. Janzen:

Attached is our report for your samples received on 06/25/2003 09:32
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 08/09/2003 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

SEVERN TRENT STL

Submission #: 2003-06-0777

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Eric Janzen

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7888

Project: Conoco #1871

Received: 06/25/2003 09:32

Site: 66 MacArthur Boulevard Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
1871 MW1	06/23/2003 15:25	Water	1
1871 MW7	06/23/2003 15:30	Water	2

Severn Trent Laboratories, Inc.
STL San Francisco * 1220 Quarry Lane, Pleasanton, CA 94566
Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

Fuel Oxygenates by 8260B

Gettler Ryan

Attn.: Eric Janzen

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7888

Project: Conoco #1871

Received: 06/25/2003 09:32

Site: 66 MacArthur Boulevard Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**1871 MW1**	Lab ID:	2003-06-0777 - 1
Sampled:	06/23/2003 15:25	Extracted:	6/28/2003 11:33
Matrix:	Water	QC Batch#:	2003/06/28-1c.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	75	50	ug/L	1.00	06/28/2003 11:33	
Methyl tert-butyl ether (MTBE)	12	0.50	ug/L	1.00	06/28/2003 11:33	
Benzene	ND	0.50	ug/L	1.00	06/28/2003 11:33	
Toluene	ND	0.50	ug/L	1.00	06/28/2003 11:33	
Ethylbenzene	ND	0.50	ug/L	1.00	06/28/2003 11:33	
Total xylenes	5.3	1.0	ug/L	1.00	06/28/2003 11:33	
Surrogates(s)						
1,2-Dichloroethane-d4	109.5	76-114	%	1.00	06/28/2003 11:33	
Toluene-d8	102.4	88-110	%	1.00	06/28/2003 11:33	

SEVERN TRENT STL

Submission #: 2003-06-0777

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Eric Janzen

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7888

Project: Conoco #1871

Received: 06/25/2003 09:32

Site: 66 MacArthur Boulevard Oakland

Prep(s): 5030B
Sample ID: **1871 MW7**
Sampled: 06/23/2003 15:30
Matrix: Water

Test(s): 8260B
Lab ID: 2003-06-0777 - 2
Extracted: 6/28/2003 11:55
QC Batch#: 2003/06/28-1c.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	20000	50	ug/L	1.00	06/28/2003 11:55	g
Methyl tert-butyl ether (MTBE)	20000	0.50	ug/L	1.00	06/28/2003 11:55	
Benzene	260	0.50	ug/L	1.00	06/28/2003 11:55	
Toluene	ND	0.50	ug/L	1.00	06/28/2003 11:55	
Ethylbenzene	ND	0.50	ug/L	1.00	06/28/2003 11:55	
Total xylenes	ND	1.0	ug/L	1.00	06/28/2003 11:55	
Surrogates(s)						
1,2-Dichloroethane-d4	113.8	76-114	%	1.00	06/28/2003 11:55	
Toluene-d8	102.3	88-110	%	1.00	06/28/2003 11:55	

Fuel Oxygenates by 8260B

Gettler Ryan

Attn.: Eric Janzen

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7888

Project: Conoco #1871

Received: 06/25/2003 09:32

Site: 66 MacArthur Boulevard Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2003/06/28-1c.64**

MB: 2003/06/28-1c.64-040 — Date Extracted: 06/28/2003 09:42

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	06/28/2003 09:42	
Benzene	ND	0.5	ug/L	06/28/2003 09:42	
Toluene	ND	0.5	ug/L	06/28/2003 09:42	
Ethylbenzene	ND	0.5	ug/L	06/28/2003 09:42	
Total xylenes	ND	1.0	ug/L	06/28/2003 09:42	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	06/28/2003 09:42	
Surrogates(s)					
1,2-Dichloroethane-d4	104.6	76-114	%	06/28/2003 09:42	
Toluene-d8	97.4	88-110	%	06/28/2003 09:42	

SEVERN TRENT STL

Submission #: 2003-06-0777

Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Eric Janzen

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7888

Project: Conoco #1871

Received: 06/25/2003 09:32

Site: 66 MacArthur Boulevard Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike | **Water** | **QC Batch # 2003/06/28-1c.64**

LCS 2003/06/28-1c.64-039 Extracted: 06/28/2003 Analyzed: 06/28/2003 08:58

LCSD 2003/06/28-1c.64-001 Extracted: 06/28/2003 Analyzed: 06/28/2003 09:20

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	23.1	23.0	25	92.4	92.0	0.4	69-129	20		
Toluene	23.2	23.3	25	92.8	93.2	0.4	70-130	20		
Methyl tert-butyl ether (MTBE)	25.7	25.9	25	102.8	103.6	0.8	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	515	507	500	103.0	101.4		76-114			
Toluene-d8	500	508	500	100.0	101.6		88-110			

Fuel Oxygenates by 8260B

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Attn.: Eric Janzen

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Dublin, CA 94568
Phone: (925) 551-7555 Fax: (925) 551-7888

Project: Conoco #1871

Received: 06/25/2003 09:32

Site: 66 MacArthur Boulevard Oakland

Legend and Notes

Result Flag

g

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

2003-06-0777

754419

ConocoPhillips

Chain-of-Custody-Record

Consultant Name:	GETTLER-RYAN INC.
Address:	6747 SIERRA COURT, SUITE J, DUBLIN, CA 94568
Project Contact:	Eric Janzen ejanzen@grinc.com
(Phone) 925-551-7555	(Fax) 925-551-7888
Sampler:	Eric Janzen

Turnaround Time: ☐ 10 Work Days ☐ 5 Work Days ☐ 3 Work Days ☐ 2 Work Days ☐ 1 Work Day ☐ 2-8 Hours

ConocoPhillips Project Manager:	David DeWitt
Site # 1871	Project Name: 66 MacArthur Boulevard, Oakland, California
Laboratory Name:	STL
Laboratory Service Order:	
Laboratory Service Code:	

QC Data: ☐ Level D ☐ Level C ☐ Level B ☐ Level A

State Method: ☐ CA ☐ OR ☐ WA ☐ NV ☐ NV Series ☐ CO ☐ UT ☐ ID

Analyses Requested

Sample ID	Date/Time	Matrix (S = Soil, A = Air, GW = groundwater, W = Water, C = Charcoal)	Number of Containers	Container Type	Laboratory Sample ID	TPH-G, BTEX, MTBE (8015+8021)	TPH-G/BTEX (8015 + 8021)	TPH Diesel (8015)	EPA 8260B limited run TPHg, BTEX, MTBE									Comments
1871 MW1	23 June 03 1525	GW	3	VOA					X									Results due on or before
1871 MW7	23 June 03 1530	GW	3	VOA					X									by 1700.
																		No EDF

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
[signature]	GR	25 June 03 0932				
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) [signature]		Date/Time 6/25/03 0932	Iced (Y/N)