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Customer-Focused Solutions

April 19, 2004

ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

RECEIVED  
1001-04-20-04  
Environmental Services

ATTN: MR. THOMAS H. KOSEL

SITE: 76 STATION 6419  
6401 DUBLIN BOULEVARD  
DUBLIN, CALIFORNIA

RE: QUARTERLY MONITORING REPORT  
JANUARY THROUGH MARCH 2004

Dear Mr. Kosel:

Please find enclosed our Quarterly Monitoring Report for 76 Station 6419, located at 6401 Dublin Boulevard, Dublin, California. If you have any questions regarding this report, please call us at (949) 753-0101.

Sincerely,

TRC

Anju Farfan  
QMS Operations Manager

CC: Mr. Scott Seery, Alameda County Health Care Services  
Ms. Barbara Moed, TRC

Enclosures  
20-0400/6419R01.QMS





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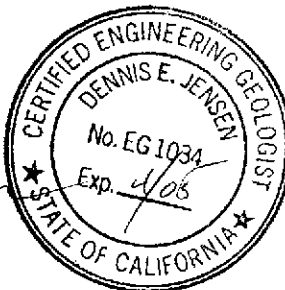
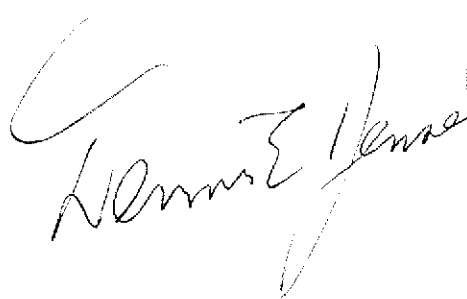
**FIRST QUARTER 2004  
FLUID LEVEL MONITORING AND  
GROUNDWATER SAMPLING REPORT**  
April 19, 2004

76 STATION 6419  
6401 Dublin Boulevard  
Dublin, California

Prepared For:

Mr. Thomas H. Kosel  
CONOCOPHILLIPS COMPANY  
76 Broadway  
Sacramento, California 95818

By:



Senior Project Geologist, Irvine Operations

## GROUNDWATER MONITORING REPORT

<b>LIST OF ATTACHMENTS</b>	
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Gettler-Ryan Historical Tables	Table 1: Groundwater Monitoring Data and Analytical Results Table 2: Groundwater Analytical Results - Oxygenate Compounds Table 3: Dissolved Oxygen Concentrations Table 4: Groundwater Analytical Data - Metals
Figures	Figure 1: Vicinity Map Figure 2: Groundwater Elevation Contour Map Figure 3: Dissolved-Phase TPPH Concentration Map Figure 4: Dissolved-Phase Benzene Concentration Map Figure 5: Dissolved-Phase MTBE Concentration Map
Graphs	Benzene Concentrations vs. Time Hydrographs
Field Activities	General Field Procedures Groundwater Sampling Field Notes
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Transport and Disposal Limitations

**Summary of Gauging and Sampling Activities**  
**January 2004 through March 2004**  
**76 Station 6419**  
**6401 Dublin Boulevard**  
**Dublin, CA**

**Site Information:**

Site:	76 Station 6401 Dublin Boulevard Dublin, CA
Project Coordinator/Phone Number:	Thomas H. Kosel/916-558-7666
Groundwater wells onsite:	9
Groundwater wells offsite:	0

**Field Activity:**

Sampling consultant:	TRC
Date(s) sampled:	02/24/04
Groundwater wells gauged:	9
Groundwater wells sampled:	9
Purging method:	diaphragm pump
Treatment/disposal method during sampling event:	Onyx/Rodeo Unit 100
Free product pumpouts other than sampling event:	No
Treatment/Disposal method during free product pumpouts:	N/A

**Site Hydrogeology:**

Minimum depth to groundwater (feet bgs):	5.27
Maximum depth to groundwater (feet bgs):	13.37
Average groundwater elevation (feet relative to mean sea level):	323.46
Average change in groundwater elevations since previous event (feet):	-0.20
Groundwater gradient and flow direction:	0.01 ft/ft, south

**Groundwater Condition (Benzene Maximum Contaminant Level [MCL] = 1.0 µg/l)**

Wells with benzene concentrations below MCL:	9
Wells with benzene concentrations at or above MCL:	0
Minimum benzene concentration (µg/l):	ND
Maximum benzene concentration (µg/l):	ND
Minimum MTBE concentration (µg/l):	ND
Maximum MTBE concentration (µg/l):	3000
Minimum TPH-G concentration (µg/l):	N/A
Maximum TPH-G concentration (µg/l):	N/A
Groundwater wells with free product:	0
Minimum free product thickness (feet):	0
Maximum free product thickness (feet):	0

**Additional Information:**

This report presents the results of groundwater monitoring and sampling activities performed by TRC. Please contact the primary consultant for other specific information on this site.

## TABLE KEY

### ABBREVIATIONS / SYMBOLS

LPH	=	liquid-phase hydrocarbons
µg/l	=	micrograms per liter
mg/l	=	milligrams per liter
ND	=	not detected at or above laboratory detection limit
DTSC	=	Department of Toxic Substances Control
N/A	=	not applicable
Trace	=	less than 0.01 foot of LPH in well
USTs	=	underground storage tanks
--	=	not analyzed, measured, or collected
TPH-G	=	total petroleum hydrocarbons with gasoline distinction
BTEX	=	benzene, toluene, ethylbenzene, and total xylenes
TPH-D	=	total petroleum hydrocarbons with diesel distinction
TRPH	=	total recoverable petroleum hydrocarbons
MTBE	=	methyl tertiary butyl ether
TAME	=	tertiary amyl methyl ether
ETBE	=	ethyl tertiary butyl ether
DIPE	=	di-isopropyl ether
TBA	=	tertiary butyl alcohol
1,1-DCA	=	1,1-Dichloroethane
1,2-DCA	=	1,2-Dichloroethane
1,1-DCE	=	1,1-Dichloroethene
1,2-DCE	=	cis- and trans-1,2-Dichloroethene
PCE	=	tetrachloroethene
TCA	=	trichloroethane
TCE	=	trichloroethene
PCB	=	polychlorinated biphenyls
TPPH	=	total purgeable petroleum hydrocarbons

### NOTES

Elevations are in feet above mean sea level.

Groundwater elevation for wells with LPH is calculated as follows:

$$\text{Surface elevation} - \text{depth to water} + (0.75 \times \text{LPH thickness}).$$

Concentration Graphs have been modified to plot non-detect results at the reporting limit stated in the official laboratory report. All non-detect results prior to the Second Quarter 2000 were plotted at 0.1 µg/l for graphical display.

J = estimated concentration, value is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL )

### REFERENCE

TRC began groundwater monitoring and sampling activities in October 2003. Historical data for 76 Station 6419 was provided by Gettler-Ryan Inc., Dublin, California, in an excel table received in September 2003.

**Table 1**  
**SUMMARY OF GROUNDWATER LEVELS AND CHEMICAL ANALYSIS RESULTS**  
**February 24, 2004**  
**76 Station 6419**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	TBA 8260B (µg/l)	Comments
<b>MW-1</b>		<b>(Screen Interval in feet: 4.0-19.0)</b>													
02/24/04	330.17	5.59	0.00	324.58	0.66	--	ND<1000	ND<10	ND<10	ND<10	ND<20	--	1400	ND<2000	
<b>MW-2</b>		<b>(Screen Interval in feet: 4.0-20.0)</b>													
02/24/04	330.24	5.87	0.00	324.37	0.49	--	ND<100	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	100	--	
<b>MW-3</b>		<b>(Screen Interval in feet: 4.0-20.0)</b>													
02/24/04	330.59	6.11	0.00	324.48	0.59	--	ND<2500	ND<25	ND<25	ND<25	ND<50	--	3000	--	
<b>MW-4</b>		<b>(Screen Interval in feet: 4.0-19.0)</b>													
02/24/04	330.35	6.55	0.00	323.80	0.75	--	ND<2000	ND<20	ND<20	ND<20	ND<40	--	2000	--	
<b>MW-5</b>		<b>(Screen Interval in feet: 4.0-19.0)</b>													
02/24/04	330.18	5.88	0.00	324.30	0.69	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.3	--	
<b>MW-6</b>		<b>(Screen Interval in feet: 4.0-19.0)</b>													
02/24/04	330.47	6.11	0.00	324.36	0.70	--	130	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	200	--	
<b>MW-7</b>		<b>(Screen Interval in feet: 4.0-19.0)</b>													
02/24/04	330.41	6.01	0.00	324.40	0.63	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	6.2	--	
<b>MW-8</b>		<b>(Screen Interval in feet: DNA)</b>													
02/24/04	329.97	13.37	0.00	316.60	-7.04	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	--	
<b>MW-9</b>		<b>(Screen Interval in feet: DNA)</b>													
02/24/04	329.51	5.27	0.00	324.24	0.72	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.6	--	

**Table 2**  
**HISTORIC GROUNDWATER LEVELS AND CHEMICAL ANALYSIS RESULTS**

February 24, 2004

76 Station 6419

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	TBA 8260B (µg/l)	Comments
<b>MW-1 (Screen Interval in feet: 4.0-19.0)</b>															
08/18/03	330.17	6.25	0.00	323.92	--	--	3900	ND<20	ND<20	ND<20	ND<40	--	2700	ND<4000	
02/24/04	330.17	5.59	0.00	324.58	0.66	--	ND<1000	ND<10	ND<10	ND<10	ND<20	--	1400	ND<2000	
<b>MW-2 (Screen Interval in feet: 4.0-20.0)</b>															
08/18/03	330.24	6.36	0.00	323.88	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1	--	ND<2	--	
02/24/04	330.24	5.87	0.00	324.37	0.49	--	ND<100	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	100	--	
<b>MW-3 (Screen Interval in feet: 4.0-20.0)</b>															
08/18/03	330.59	6.70	0.00	323.89	--	--	4400	ND<20	ND<20	ND<20	ND<40	--	3300	--	
02/24/04	330.59	6.11	0.00	324.48	0.59	--	ND<2500	ND<25	ND<25	ND<25	ND<50	--	3000	--	
<b>MW-4 (Screen Interval in feet: 4.0-19.0)</b>															
08/18/03	330.35	7.30	0.00	323.05	--	--	2000	ND<10	ND<10	ND<10	ND<20	--	1400	--	
02/24/04	330.35	6.55	0.00	323.80	0.75	--	ND<2000	ND<20	ND<20	ND<20	ND<40	--	2000	--	
<b>MW-5 (Screen Interval in feet: 4.0-19.0)</b>															
08/18/03	330.18	6.57	0.00	323.61	--	--	75	ND<0.50	ND<0.50	ND<0.50	ND<1	--	3.8	--	
02/24/04	330.18	5.88	0.00	324.30	0.69	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.3	--	
<b>MW-6 (Screen Interval in feet: 4.0-19.0)</b>															
08/18/03	330.47	6.81	0.00	323.66	--	--	320	ND<1	ND<1	ND<1	ND<2	--	280	--	
02/24/04	330.47	6.11	0.00	324.36	0.70	--	130	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	200	--	
<b>MW-7 (Screen Interval in feet: 4.0-19.0)</b>															
08/18/03	330.41	6.64	0.00	323.77	--	--	76	ND<0.50	ND<0.50	ND<0.50	ND<1	--	63	--	
02/24/04	330.41	6.01	0.00	324.40	0.63	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	6.2	--	
<b>MW-8 (Screen Interval in feet: DNA)</b>															
08/18/03	329.97	6.33	0.00	323.64	--	--	53	ND<0.50	ND<0.50	ND<0.50	ND<1	--	ND<2	--	
02/24/04	329.97	13.37	0.00	316.60	-7.04	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	--	
<b>MW-9 (Screen Interval in feet: DNA)</b>															
08/18/03	329.51	5.99	0.00	323.52	--	--	57	ND<0.50	ND<0.50	ND<0.50	ND<1	--	6.2	--	

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground- water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl- benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	TBA 8260B (µg/l)	Comments
MW-9 continued 02/24/04	329.51	5.27	0.00	324.24	0.72	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.6	--	



**Table 3**  
**SUMMARY OF ADDITIONAL CHEMICAL ANALYSIS RESULTS**  
**76 Station 6419**

Date Sampled	EDC (µg/l)	EDB (µg/l)	TAME 8260B (µg/l)	DIPE 8260B (µg/l)	ETBE 8260B (µg/l)	Ethanol 8260B (µg/l)	1,2 DCE (µg/l)
<b>MW-1</b>							
08/18/03	--	ND<80	ND<80	ND<80	ND<80	ND<20000	ND<80
02/24/04	ND<40	ND<40	ND<40	ND<40	ND<40	ND<10000	--
<b>MW-2</b>							
08/18/03	--	--	--	--	--	ND<500	--
02/24/04	--	--	--	--	--	ND<1000	--
<b>MW-3</b>							
08/18/03	--	--	--	--	--	ND<20000	--
02/24/04	--	--	--	--	--	ND<25000	--
<b>MW-4</b>							
08/18/03	--	--	--	--	--	ND<10000	--
02/24/04	--	--	--	--	--	ND<20000	--
<b>MW-5</b>							
08/18/03	--	--	--	--	--	ND<500	--
02/24/04	--	--	--	--	--	ND<500	--
<b>MW-6</b>							
08/18/03	--	--	--	--	--	ND<1000	--
02/24/04	--	--	--	--	--	ND<1000	--
<b>MW-7</b>							
08/18/03	--	--	--	--	--	ND<500	--
02/24/04	--	--	--	--	--	ND<500	--
<b>MW-8</b>							
08/18/03	--	--	--	--	--	ND<500	--
02/24/04	--	--	--	--	--	ND<500	--
<b>MW-9</b>							
08/18/03	--	--	--	--	--	ND<500	--

Date Sampled	EDC	EDB	TAME 8260B	DIPE 8260B	ETBE 8260B	Ethanol 8260B	1,2 DCE
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)

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MW-9 continued							
02/24/04	--	--	--	--	--	ND<500	--

**GETTLER-RYAN INC.  
HISTORICAL TABLES**

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.L. (ft.bgs)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
<b>MW-1</b>											
330.45	03/14/94	7.27	4.0-19.0	323.18	810 <sup>1</sup>	1,800 <sup>2</sup>	17	ND	ND	ND	--
	08/25/94	8.57		321.88	910 <sup>3</sup>	9,200 <sup>2</sup>	48	ND	540	ND	--
	09/30/94	8.78		321.67	--	--	--	--	--	--	--
	10/20/94	8.98		321.47	--	--	--	--	--	--	--
	11/18/94	7.69		322.76	910 <sup>3</sup>	5,100	33	ND	560	38	--
	12/20/94	7.58		322.87	--	--	--	--	--	--	--
	01/17/95	6.03		324.42	--	--	--	--	--	--	--
	02/15/95	6.29		324.16	660 <sup>1</sup>	3,300	13	ND	180	5.2	--
	03/13/95	5.64		324.81	--	--	--	--	--	--	--
	04/06/95	5.62		324.83	--	--	--	--	--	--	--
	05/17/95	6.26		324.19	200 <sup>3</sup>	130	0.75	ND	1.5	ND	--
	06/15/95	6.75		323.70	--	--	--	--	--	--	--
	08/25/95	7.91		322.54	--	490	9.1	ND	21	2.0	-- <sup>5</sup>
	11/28/95	9.03		321.42	--	1,400	18	3.0	98	3.6	-- <sup>5</sup>
	02/26/96	5.77		324.68	--	560	9.3	ND	22	ND	1,300
	08/23/96	7.78		322.67	--	ND	ND	ND	ND	ND	640
330.23	02/17/97	5.73		324.50	--	120 <sup>4</sup>	1.0	0.95	ND	ND	280
	08/18/97	7.38		322.85	--	ND	ND	ND	ND	ND	100
	02/02/98 <sup>6</sup>	5.10		325.13	--	ND <sup>7</sup>	130	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	32,000
	08/24/98	6.73		323.50	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	26,000/24,000 <sup>8</sup>
	02/10/99	5.46		324.77	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	84,000/100,000 <sup>8</sup>
	04/12/99	6.38		323.85	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	140,000/120,000 <sup>8</sup>
330.21	05/21/99	5.95		324.26	--	--	--	--	--	--	--
	08/02/99	6.75		323.46	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	91,000/140,000 <sup>10</sup>
	02/11/00	6.44		323.77	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	38,000/39,000 <sup>8</sup>
330.18	07/26/00 <sup>13</sup>	7.08		323.10	--	146 <sup>12</sup>	ND	ND	ND	ND	30,900/42,800 <sup>10</sup>
	02/02/01	6.99		323.19	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	5,380/6,430 <sup>8</sup>
	08/24/01	7.72		322.46	--	<50	8.3	<0.50	<0.50	<0.50	10,000/6,600 <sup>8</sup>
330.17	10/11/01	7.72		322.45	--	--	--	--	--	--	--
	02/06/02	6.43		323.74	--	<50	<0.50	<0.50	<0.50	<0.50	450/420 <sup>8</sup>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
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**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (mst)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-6	02/02/01	7.02	4.0-19.0	323.47	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	1,990
(cont)	08/24/01	7.84		322.65	--	<200	<2.0	<2.0	<2.0	<2.0	1,100
330.47	10/11/01	8.03		322.44	--	--	--	--	--	--	--
	02/06/02	6.78		323.69	--	<50	<0.50	<0.50	<0.50	<0.50	610/680 <sup>8</sup>
	07/30/02 <sup>14</sup>	7.40		323.07	--	180 <sup>15</sup>	<0.50	<0.50	<0.50	<1.0	160
	02/17/03 <sup>14</sup>	6.49		323.98	--	<250	<2.5	<2.5	<2.5	<5.0	400
<b>MW-7</b>											
330.43	05/21/99 <sup>9</sup>	6.13	4.0-19.0	324.30	--	ND	ND	ND	ND	ND	22/22 <sup>8</sup>
	08/02/99	6.92		323.51	--	ND	ND	ND	ND	ND	31
	02/11/00	6.50		323.93	--	ND	ND	ND	ND	ND	20
	07/26/00 <sup>13</sup>	7.18		323.25	--	ND	ND	ND	ND	ND	17.9
	02/02/01	6.95		323.48	--	ND	ND	ND	ND	ND	ND
	08/24/01	7.72		322.71	--	<50	<0.50	<0.50	<0.50	<0.50	4.4
330.41	10/11/01	7.87		322.54	--	--	--	--	--	--	--
	02/06/02	6.62		323.79	--	<50	<0.50	<0.50	<0.50	<0.50	3.9/3.2 <sup>8</sup>
	07/30/02 <sup>14</sup>	7.26		323.15	--	<50	<0.50	<0.50	<0.50	<1.0	4.3
	02/17/03 <sup>14</sup>	6.35		324.06	--	<50	<0.50	<0.50	<0.50	<1.0	4.7
<b>MW-8</b>											
329.97	10/11/01	7.57	--	322.40	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5/<2.0 <sup>8</sup>
	02/06/02	6.35		323.62	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5/<1.0 <sup>8</sup>
	07/30/02 <sup>14</sup>	6.95		323.02	--	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	02/17/03 <sup>14</sup>	6.11		323.86	--	<50	<0.50	<0.50	<0.50	<1.0	<2.0
<b>MW-9</b>											
329.51	10/11/01	7.12	--	322.39	--	<50	<0.50	<0.50	<0.50	<0.50	22/15 <sup>8</sup>
	02/06/02	5.94		323.57	--	<50	<0.50	<0.50	<0.50	<0.50	19/14 <sup>8</sup>
	07/30/02 <sup>14</sup>	6.53		322.98	--	<50	<0.50	<0.50	<0.50	<1.0	9.0

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #6419  
6401 Dublin Boulevard  
Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
<b>MW-4</b>											
330.36	05/21/99 <sup>9</sup>	6.43	4.0-19.0	323.93	--	ND	ND	ND	ND	ND	960/910 <sup>8</sup>
	08/02/99	7.34		323.02	--	ND	10	ND	13	11	ND
	02/11/00	6.92		323.44	--	ND	ND	ND	ND	ND	2,700
330.35	07/26/00 <sup>13</sup>	7.68		322.67	--	ND	ND	ND	ND	ND	3,710
	02/02/01	7.40		322.95	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	5,340
	08/24/01	8.14		322.21	--	<50	<0.50	<0.50	<0.50	<0.50	7,800
330.35	10/11/01	8.29		322.06	--	--	--	--	--	--	--
	02/06/02	7.28		323.07	--	<100	<1.0	<1.0	<1.0	<1.0	2,300/3,100 <sup>8</sup>
	07/30/02 <sup>14</sup>	7.76		322.59	--	<500	<5.0	<5.0	5.8	<10	1,600
	02/17/03 <sup>14</sup>	6.85		323.50	--	<1,000	<10	<10	<10	<20	2,200
<b>MW-5</b>											
330.20	05/21/99 <sup>9</sup>	5.99	4.0-19.0	324.21	--	ND	ND	ND	ND	ND	32/33 <sup>8</sup>
	08/02/99	6.83		323.37	--	ND	ND	ND	ND	ND	230
	02/11/00	6.34		323.86	--	ND	ND	ND	ND	ND	98
	07/26/00 <sup>13</sup>	7.06		323.14	--	ND	ND	ND	ND	ND	25.9
	02/02/01	6.81		323.39	--	ND	ND	ND	ND	ND	18.0
	08/24/01	7.60		322.60	--	<50	<0.50	<0.50	<0.50	<0.50	18
330.18	10/11/01	7.34		322.84	--	--	--	--	--	--	--
	02/06/02	6.55		323.63	--	<50	<0.50	<0.50	<0.50	<0.50	7.7/7.9 <sup>8</sup>
	07/30/02 <sup>14</sup>	7.15		323.03	--	<50	<0.50	<0.50	<0.50	<1.0	4.6
	02/17/03 <sup>14</sup>	6.27		323.91	--	<50	<0.50	<0.50	<0.50	<1.0	2.8
<b>MW-6</b>											
330.49	05/21/99 <sup>9</sup>	6.24	4.0-19.0	324.25	--	ND	ND	ND	ND	ND	2,200/2,300 <sup>8</sup>
	08/02/99	7.10		323.39	--	ND	ND	ND	ND	ND	ND
	02/11/00	6.60		323.89	--	ND	ND	ND	ND	ND	2,500
	07/26/00 <sup>13</sup>	7.31		323.18	--	ND	ND	ND	ND	ND	4,280

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
	08/02/99	6.95		323.54	--	ND	ND	ND	ND	ND	140
	02/11/00	6.71		-- <sup>11</sup>	--	ND	ND	ND	ND	ND	46
330.60	07/26/00 <sup>13</sup>	7.35		323.25	--	ND	ND	ND	ND	ND	927
	02/02/01	7.17		323.43	--	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	ND <sup>7</sup>	2,240
	08/24/01	7.88		322.72	--	<50	<0.50	<0.50	<0.50	<0.50	2,500
330.59	10/11/01	7.83		322.76	--	--	--	--	--	--	--
	02/06/02	6.73		323.86	--	<1,000	<10	<10	<10	<10	4,300/3,300 <sup>8</sup>
	07/30/02 <sup>14</sup>	7.38		323.21	--	<2,500	<25	<25	<25	<50	4,900
	02/17/03 <sup>14</sup>	6.49		324.10	--	<2,500	<25	<25	<25	<50	4,400



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (mst)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-2	02/02/01	6.81		323.43	--	ND	ND	ND	ND	ND	20.1
(cont)	08/24/01	7.57		322.67	--	<50	<0.50	<0.50	<0.50	<0.50	36
330.24	10/11/01	7.62		322.62	--	--	--	--	--	--	--
	02/06/02	6.40		323.84	--	<50	<0.50	<0.50	<0.50	<0.50	23/21 <sup>8</sup>
	07/30/02 <sup>14</sup>	7.12		323.12	--	<50	<0.50	<0.50	<0.50	<1.0	11
	02/17/03 <sup>14</sup>	6.17		324.07 - <sup>16</sup>	--	<50	<0.50	<0.50	<0.50	<1.0	25
<b>MW-3</b>											
331.11	03/14/94	7.93	4.0-20.0	323.18	--	150 <sup>4</sup>	ND	ND	ND	ND	--
	08/25/94	9.20		321.91	--	130 <sup>4</sup>	ND	ND	ND	ND	--
	09/30/94	9.43		321.68	--	--	--	--	--	--	--
	10/20/94	9.64		321.47	--	--	--	--	--	--	--
	11/18/94	8.39		322.72	--	130 <sup>4</sup>	ND	ND	ND	ND	--
	12/20/94	8.20		322.91	--	--	--	--	--	--	--
	01/17/95	6.72		324.39	--	--	--	--	--	--	--
	02/15/95	6.93		324.18	--	130 <sup>4</sup>	ND	ND	ND	ND	--
	03/13/95	6.30		324.81	--	--	--	--	--	--	--
	04/06/95	8.20		322.91	--	--	--	--	--	--	--
	05/17/95	6.88		324.23	--	99 <sup>4</sup>	ND	ND	ND	ND	--
	06/15/95	7.35		323.76	--	--	--	--	--	--	--
	08/25/95	8.20		322.91	--	ND	ND	ND	ND	ND	-- <sup>5</sup>
	11/28/95	9.52		321.59	--	ND	ND	ND	ND	ND	--
	02/26/96	6.25		324.86	--	ND	ND	ND	ND	ND	-- <sup>5</sup>
	08/23/96	7.98		323.13	SAMPLED ANNUALLY		--	--	--	--	--
330.68	02/17/97	6.07		324.61	--	ND	ND	ND	ND	ND	68
	08/18/97	7.82		322.86	--	--	--	--	--	--	--
	02/02/98	5.50		325.18	--	ND	ND	ND	ND	ND	100
	08/24/98	7.12		323.56	--	--	--	--	--	--	--
	02/10/99	5.80		324.88	--	ND	ND	ND	ND	ND	92
330.49	05/21/99	6.16		324.33	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1	07/30/02 <sup>14</sup>	7.45		322.72	--	<1,000	<10	<10	<10	<20	2,400
(cont)	02/17/03 <sup>14</sup>	6.18		323.99	--	<250	<2.5	<2.5	<2.5	<5.0	600
				-- <sup>16</sup>							
<b>MW-2</b>											
330.40	03/14/94	7.23	4.0-20.0	323.17	--	ND	ND	2.8	1.1	8.0	--
	08/25/94	8.41		321.99	--	ND	ND	ND	ND	ND	--
	09/30/94	8.73		321.67	--	--	--	--	--	--	--
	10/20/94	8.92		321.48	--	--	--	--	--	--	--
	11/18/94	7.67		322.73	--	ND	ND	ND	ND	ND	--
	12/20/94	7.48		322.92	--	--	--	--	--	--	--
	01/17/95	6.00		324.40	--	--	--	--	--	--	--
	02/15/95	6.16		324.24	--	ND	ND	ND	ND	ND	--
	03/13/95	5.59		324.81	--	--	--	--	--	--	--
	04/06/95	5.51		324.89	--	--	--	--	--	--	--
	05/17/95	6.15		324.25	--	ND	ND	ND	ND	ND	--
	06/15/95	6.61		323.79	--	--	--	--	--	--	--
	08/25/95	7.45		322.95	--	ND	ND	ND	ND	ND	--
	11/28/95	8.85		321.55	--	ND	ND	ND	ND	ND	--
	02/26/96	5.49		324.91	--	ND	ND	ND	ND	ND	--
	08/23/96	7.44		322.96	SAMPLED ANNUALLY		--	--	--	--	--
330.27	02/17/97	5.64		324.63	--	ND	ND	ND	ND	ND	ND
	08/18/97	7.40		322.87	--	--	--	--	--	--	--
	02/02/98	5.09		325.18	--	ND	ND	ND	ND	ND	62
	08/24/98	6.70		323.57	--	--	--	--	--	--	--
	02/10/99	5.56		324.71	--	ND	ND	ND	ND	ND	130
330.30	05/21/99	5.98		324.32	--	--	--	--	--	--	--
	08/02/99	6.72		323.58	--	ND	ND	ND	ND	ND	120
	02/11/00	6.43		323.87	--	ND	ND	ND	ND	ND	39
330.24	07/26/00 <sup>13</sup>	7.03		323.21	--	ND	ND	ND	ND	ND	89.9

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
	02/17/03 <sup>14</sup>	5.63		323.88	--	<50	<0.50	<0.50	<0.50	<1.0	4.9

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
<b>Trip Blank</b>											
TB-LB	02/02/98	--	--	--	--	ND	ND	ND	ND	ND	ND
	08/24/98	--	--	--	--	ND	ND	ND	ND	ND	ND
	02/10/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	04/12/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	05/21/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	08/02/99	--	--	--	--	ND	ND	ND	ND	ND	ND
	02/11/00	--	--	--	--	ND	ND	ND	ND	ND	ND
	07/26/00 <sup>13</sup>	--	--	--	--	ND	ND	ND	ND	ND	ND
	02/02/01	--	--	--	--	ND	ND	ND	ND	ND	ND
	08/24/01	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	02/06/02	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
QA	07/30/02 <sup>14</sup>	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<2.0
	02/17/03 <sup>14</sup>	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<2.0

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

**EXPLANATIONS:**

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

TOC = Top of Casing (ft.) = Feet	TPH-D = Total Petroleum Hydrocarbons as Diesel TPH-G = Total Petroleum Hydrocarbons as Gasoline	(ppb) = Parts per billion ND = Not Detected
DTW = Depth to Water	B = Benzene	-- = Not Measured/Not Analyzed
S.I. = Screen Interval (ft.bgs) = Feet Below Ground Surface	T = Toluene	QA = Quality Assurance/Trip Blank
GWE = Groundwater Elevation (msl) = Mean sea level	E = Ethylbenzene X = Xylenes MTBE = Methyl tertiary butyl ether	

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

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

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

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #6419  
6401 Dublin Boulevard  
Dublin, California

<sup>16</sup> Due to well repair the TOC has been altered; unable to accurately calculate GWE.

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-1	07/26/00	--	ND <sup>1</sup>	42,800	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>
	02/02/01	--	--	6,430	--	--	--	--	--
	08/24/01	<25,000	<1,000	6,600	<100	<100	<100	<100	<100
	02/06/02	<2,500	<100	420	<5.0	<5.0	<5.0	<5.0	<5.0
	07/30/02	<10,000	<2,000	2,400	<40	<40	<40	<40	<40
	<b>02/17/03</b>	<b>&lt;2,500</b>	<b>&lt;500</b>	<b>600</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>
MW-2	02/06/02	<500	<20	21	<1.0	<1.0	<1.0	<1.0	<1.0
	07/30/02	--	--	11	--	--	--	--	--
	<b>02/17/03</b>	--	--	<b>25</b>	--	--	--	--	--
MW-3	02/06/02	<17,000	<670	3,300	<33	<33	<33	<33	<33
	07/30/02	--	--	4,900	--	--	--	--	--
	<b>02/17/03</b>	--	--	<b>4,400</b>	--	--	--	--	--
MW-4	02/06/02	<12,000	<500	3,100	<25	<25	<25	<25	<25
	07/30/02	--	--	1,600	--	--	--	--	--
	<b>02/17/03</b>	--	--	<b>2,200</b>	--	--	--	--	--
MW-5	02/06/02	<500	<20	7.9	<1.0	<1.0	<1.0	<1.0	<1.0
	07/30/02	--	--	4.6	--	--	--	--	--
	<b>02/17/03</b>	--	--	<b>2.8</b>	--	--	--	--	--
MW-6	02/06/02	<4,200	<170	680	<8.3	<8.3	<8.3	<8.3	<8.3
	07/30/02	--	--	160	--	--	--	--	--
	<b>02/17/03</b>	--	--	<b>400</b>	--	--	--	--	--

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-7	02/06/02	<500	<20	3.2	1.4	<1.0	<1.0	<1.0	<1.0
	07/30/02	--	--	4.3	--	--	--	--	--
	02/17/03	--	--	4.7	--	--	--	--	--
MW-8	10/11/01	<500	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	02/06/02	<500	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	07/30/02	--	--	<2.0	--	--	--	--	--
	02/17/03	--	--	<2.0	--	--	--	--	--
MW-9	10/11/01	<500	<20	15	<2.0	<2.0	<2.0	<2.0	<2.0
	02/06/02	<500	<20	14	<1.0	<1.0	<1.0	<1.0	<1.0
	07/30/02	--	--	9.0	--	--	--	--	--
	02/17/03	--	--	4.9	--	--	--	--	--



**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
Tosco (Unocal) Service Station #6419  
6401 Dublin Boulevard  
Dublin, California

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**EXPLANATIONS:**

TBA = Tertiary butyl alcohol

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

1,2-DCA = 1,2-Dichloroethane

EDB = 1,2-Dibromoethane/Ethylene dibromide

(ppb) = Parts per billion

-- = Not Analyzed

ND = Not Detected

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

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

**Table 3**  
**Dissolved Oxygen Concentrations**  
Tosco (Unocal) Service Station #6419  
6401 Dublin Boulevard  
Dublin, California

WELL ID	DATE	Before Purging (mg/L)	After Purging (mg/L)
MW-1	02/15/95	--	4.30
	05/17/95	--	1.20
	08/25/95	--	2.71
	11/28/95	--	3.25
	02/26/96	5.23	1.41
	08/23/96	3.83	N/A
	02/17/97	0.82	0.78
	08/18/97	1.28	2.35
	05/16/01	1.54	--
	08/24/01	--	3.10
MW-2	02/15/95	--	1.90
	02/26/96	0.62	0.43
	08/23/96	2.04	N/A
	02/17/97	0.90	0.82
	08/18/97	1.16	--
	05/16/01	1.47	--
	08/24/01	--	2.60
MW-3	02/15/95	--	2.60
	05/17/95	--	1.13
	08/25/95	--	1.86
	11/28/95	--	6.81
	02/26/96	16.83	1.11
	08/23/96	3.29	N/A
	02/17/97	0.80	0.80
	08/18/97	1.43	--
	05/16/01	1.65	--
08/24/01	--	2.60	
MW-4	08/24/01	--	2.30
MW-5	08/24/01	--	2.10
MW-6	08/24/01	--	2.70

**Table 3**  
**Dissolved Oxygen Concentrations**  
Tosco (Unocal) Service Station #6419  
6401 Dublin Boulevard  
Dublin, California

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

**EXPLANATIONS:**

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

(mg/L) = Milligrams per liter

-- = Not Measured

N/A = Not Applicable

**Table 4**  
**Groundwater Analytical Data - Metals**  
 Tosco (Unocal) Service Station #6419  
 6401 Dublin Boulevard  
 Dublin, California

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

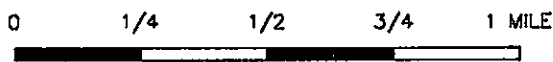
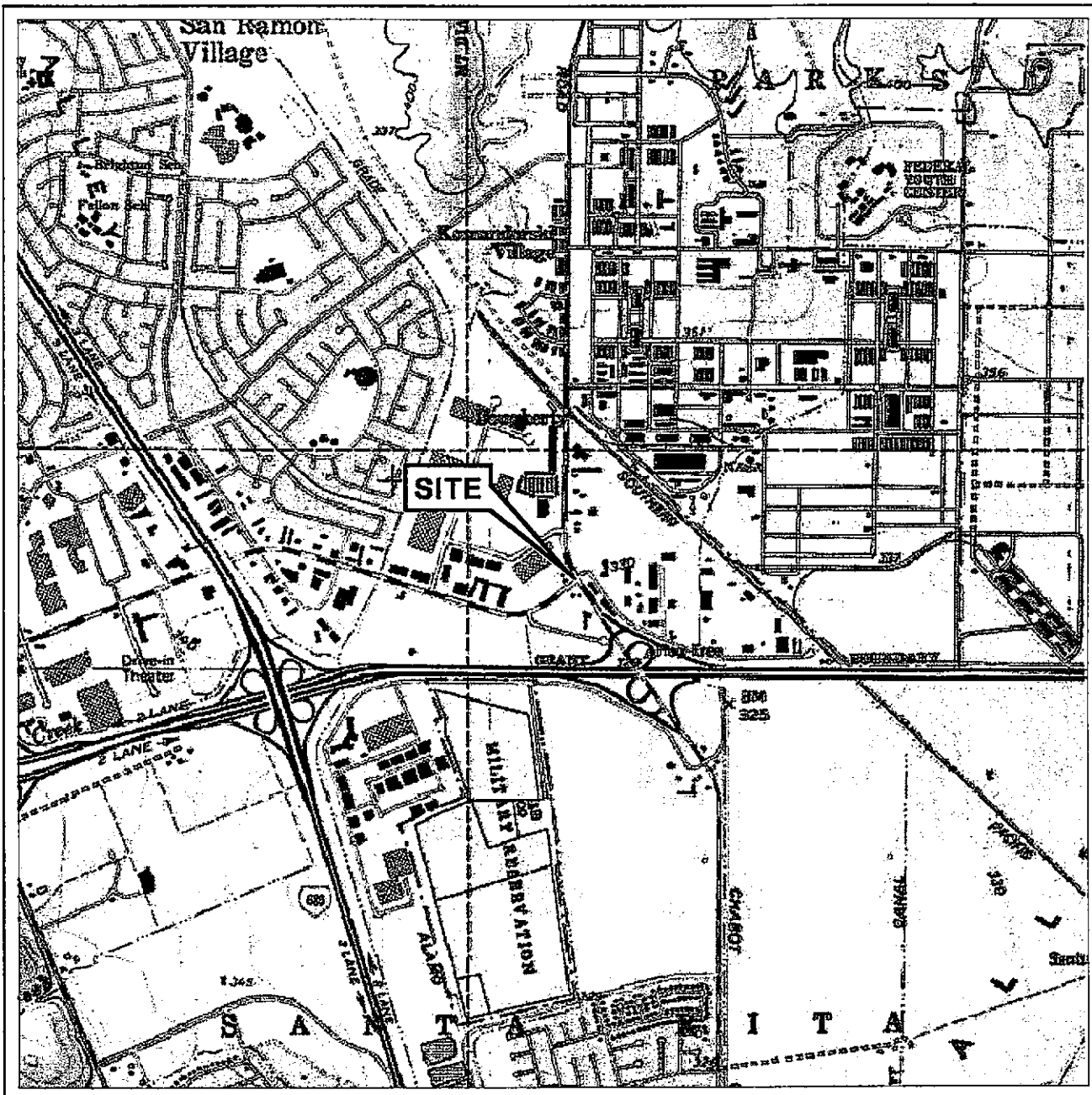
**EXPLANATIONS:**

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

(ppm) = Parts per million

ND = Not Detected

# FIGURES



SCALE 1:24,000

SOURCE:

United States Geological Survey  
7.5 Minute Topographic Map:  
Dublin Quadrangle



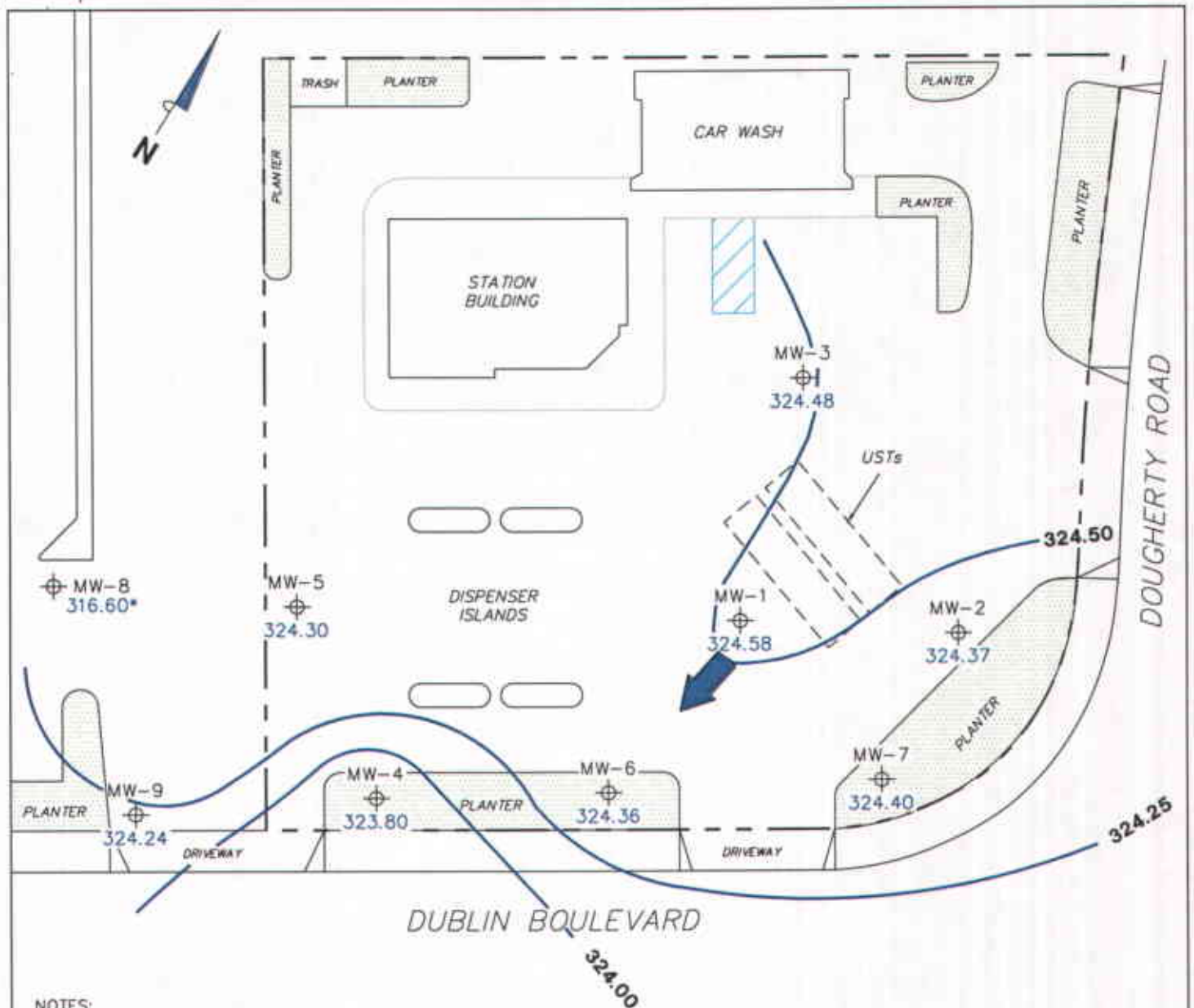
VICINITY MAP

76 Station 6419  
6401 Dublin Boulevard  
Dublin, California

FIGURE 1

PS = 1:1

**TRC**



**NOTES:**

Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. UST = underground storage tank. \* = not included in groundwater contour interpretation.

**LEGEND**

MW-9 ⊕ Monitoring Well with Groundwater Elevation (feet)

324.50 — Groundwater Elevation Contour

➔ General Direction of Groundwater Flow

**GROUNDWATER ELEVATION CONTOUR MAP  
February 24, 2004**

76 Station 6419  
6401 Dublin Boulevard  
Dublin, California

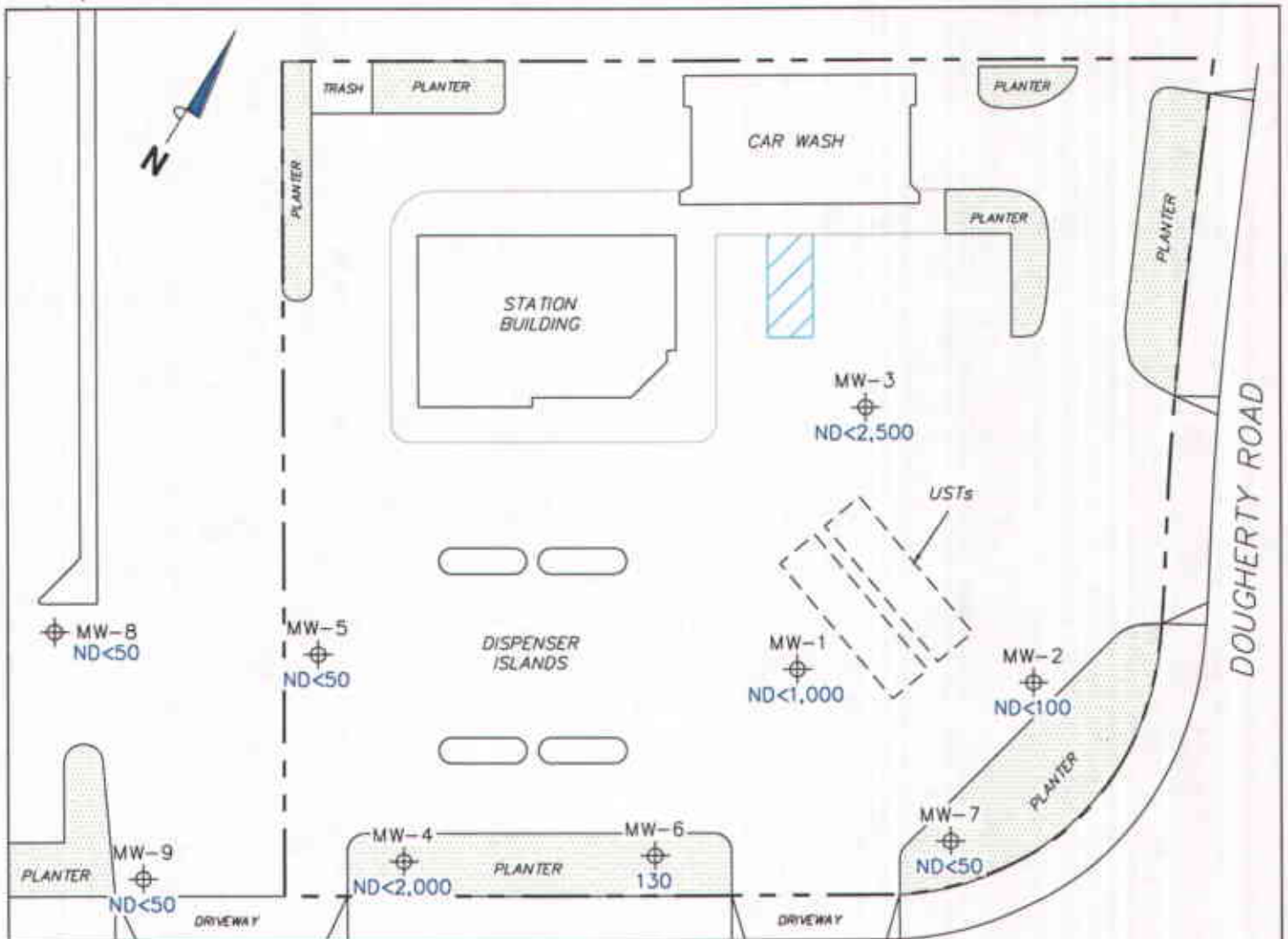
**TRC**

SCALE (FEET)



**FIGURE 2**


PS=1:1



**NOTES:**

TPPH = total purgeable petroleum hydrocarbons.  
 µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 UST = underground storage tank. Results obtained using EPA Method 8260B.

**LEGEND**

MW-9  Monitoring Well with Dissolved-Phase TPH Concentration (µg/l)

**DISSOLVED-PHASE TPPH CONCENTRATION MAP**  
**February 24, 2004**

76 Station 6419  
 6401 Dublin Boulevard  
 Dublin, California



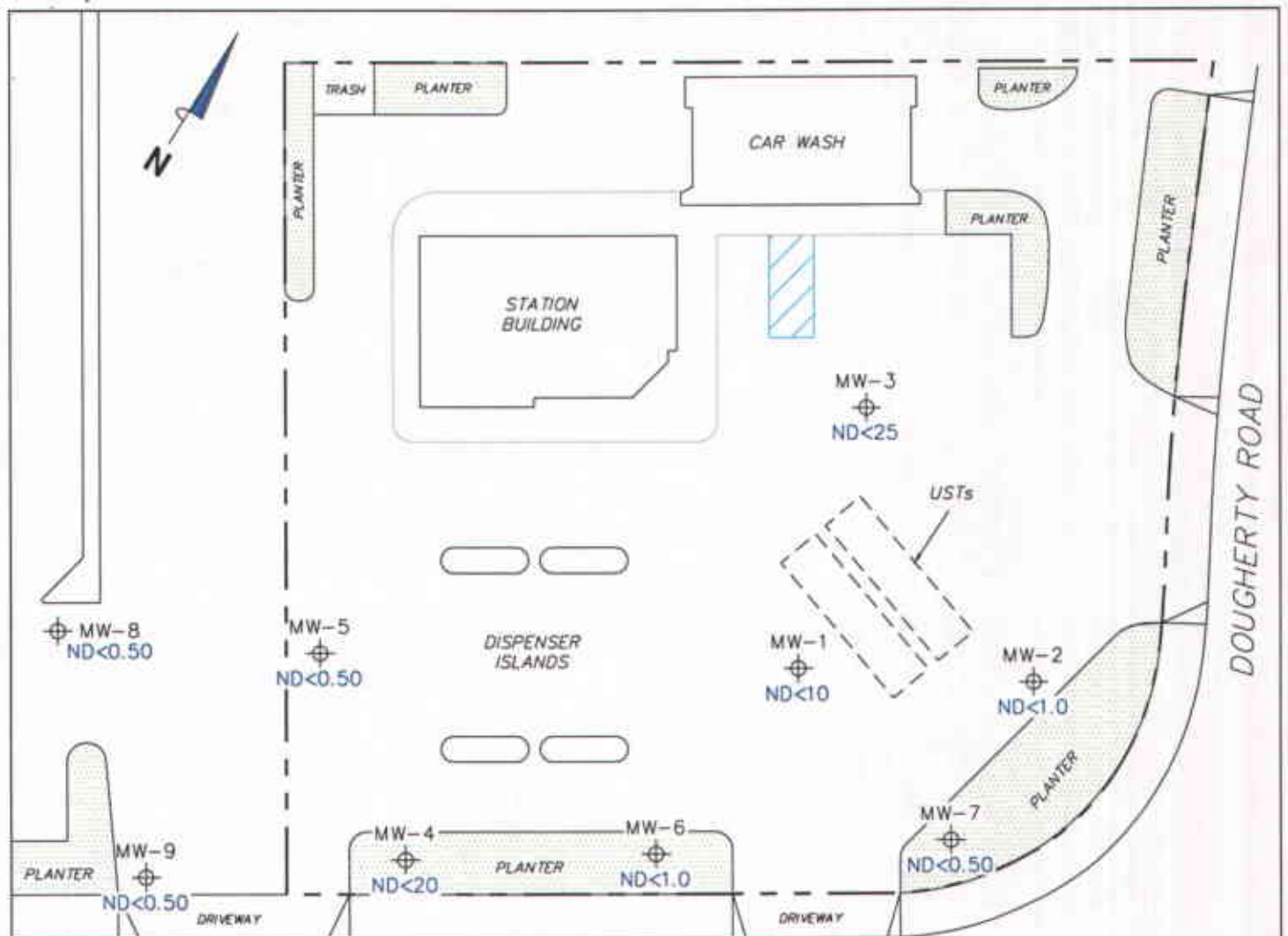
SCALE (FEET)



**FIGURE 3**

PS=1:1





DUBLIN BOULEVARD

**NOTES:**

µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 UST = underground storage tank.

**LEGEND**

MW-9 ⊕ Monitoring Well with Dissolved-Phase Benzene Concentration (µg/l)

**DISSOLVED-PHASE BENZENE CONCENTRATION MAP  
 February 24, 2004**

76 Station 6419  
 6401 Dublin Boulevard  
 Dublin, California

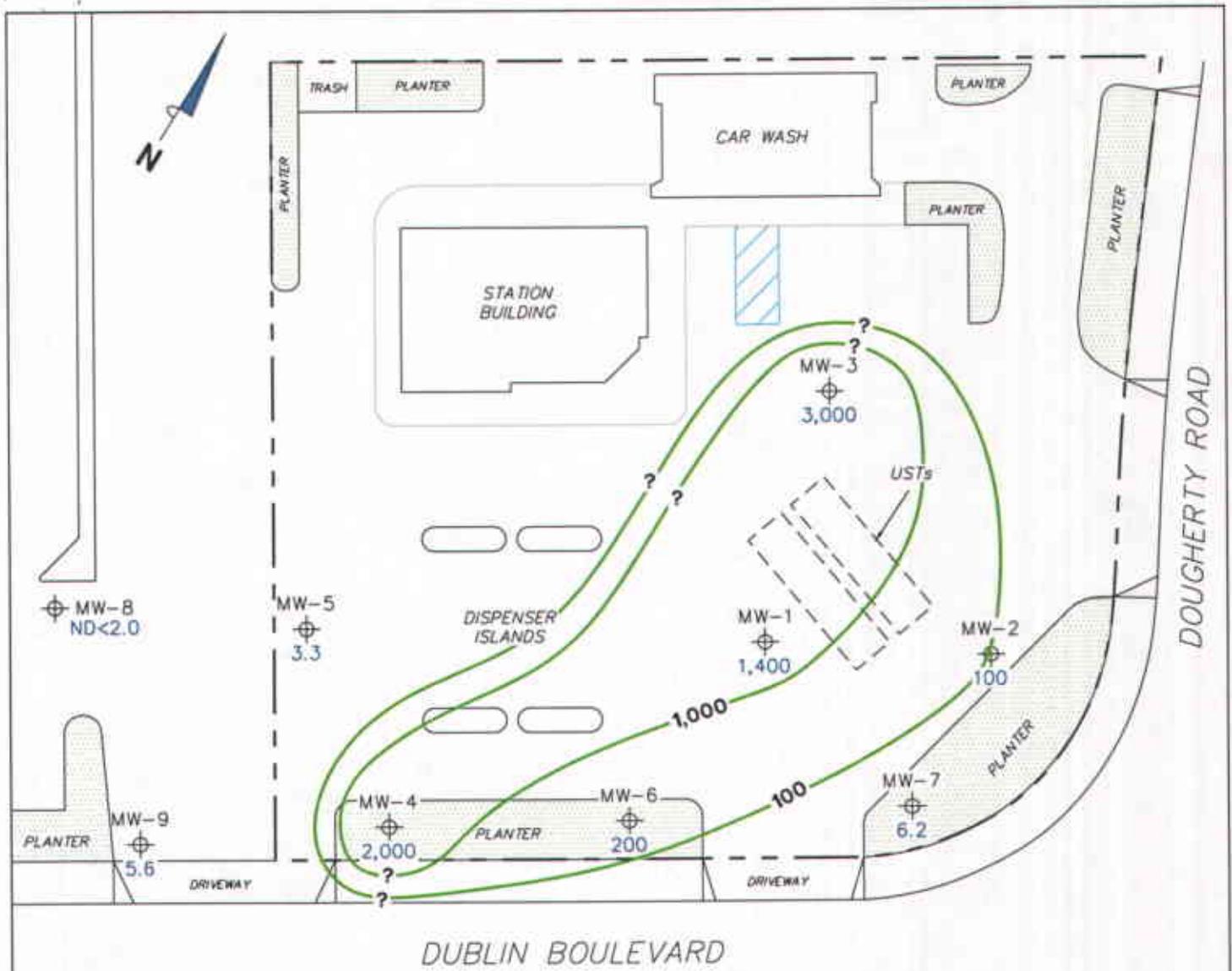
**TRC**

SCALE (FEET)



**FIGURE 4**

PS=1:1



**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples. MTBE = methyl tertiary butyl ether. µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. UST = underground storage tank. Results obtained using EPA Method 8260B.

**LEGEND**

MW-9 ⊕ Monitoring Well with Dissolved-Phase MTBE Concentration (µg/l)

1,000 — Dissolved-Phase MTBE Contour (µg/l)

**DISSOLVED-PHASE MTBE CONCENTRATION MAP**  
February 24, 2004

76 Station 6419  
6401 Dublin Boulevard  
Dublin, California

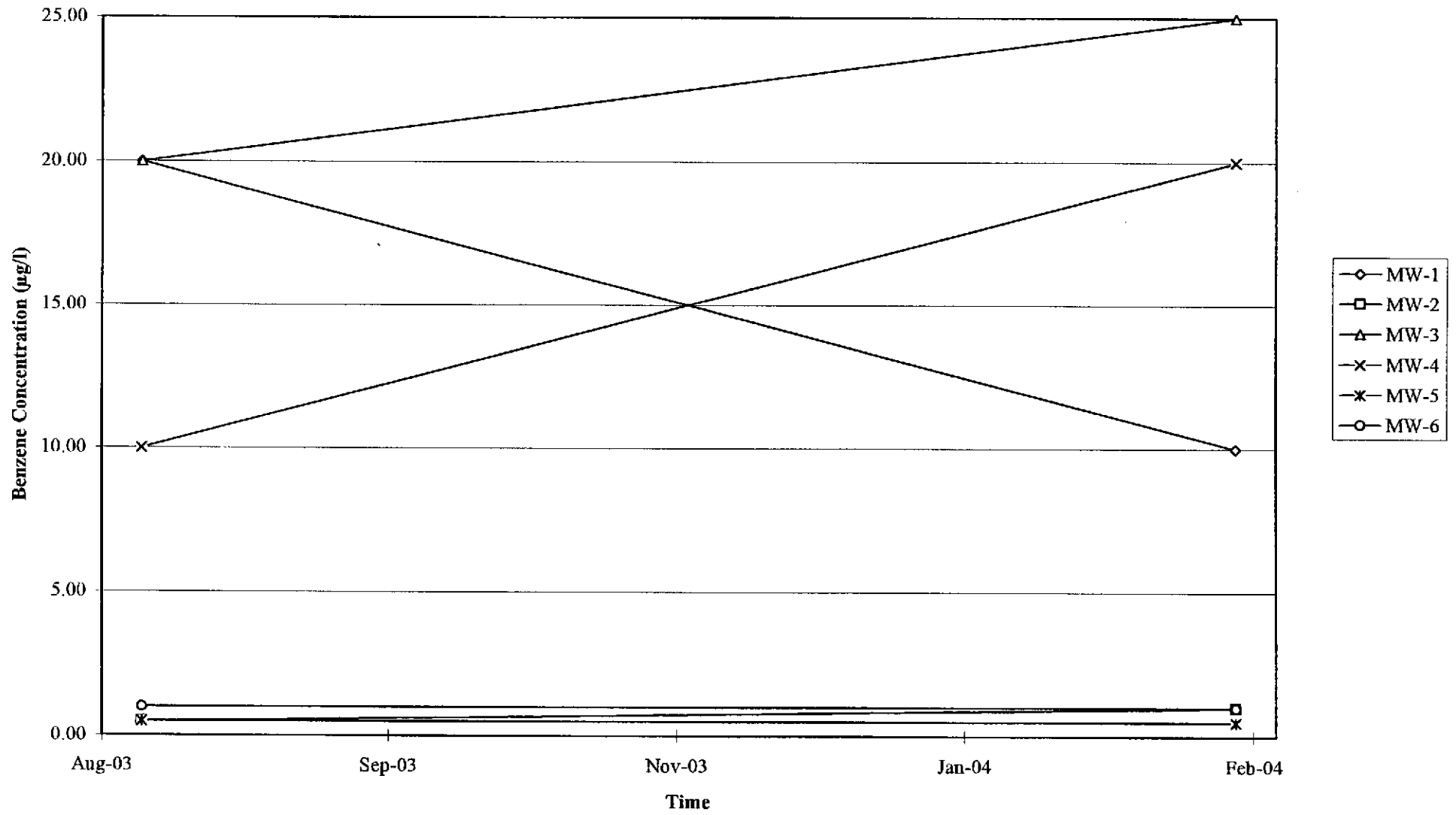


**FIGURE 5**

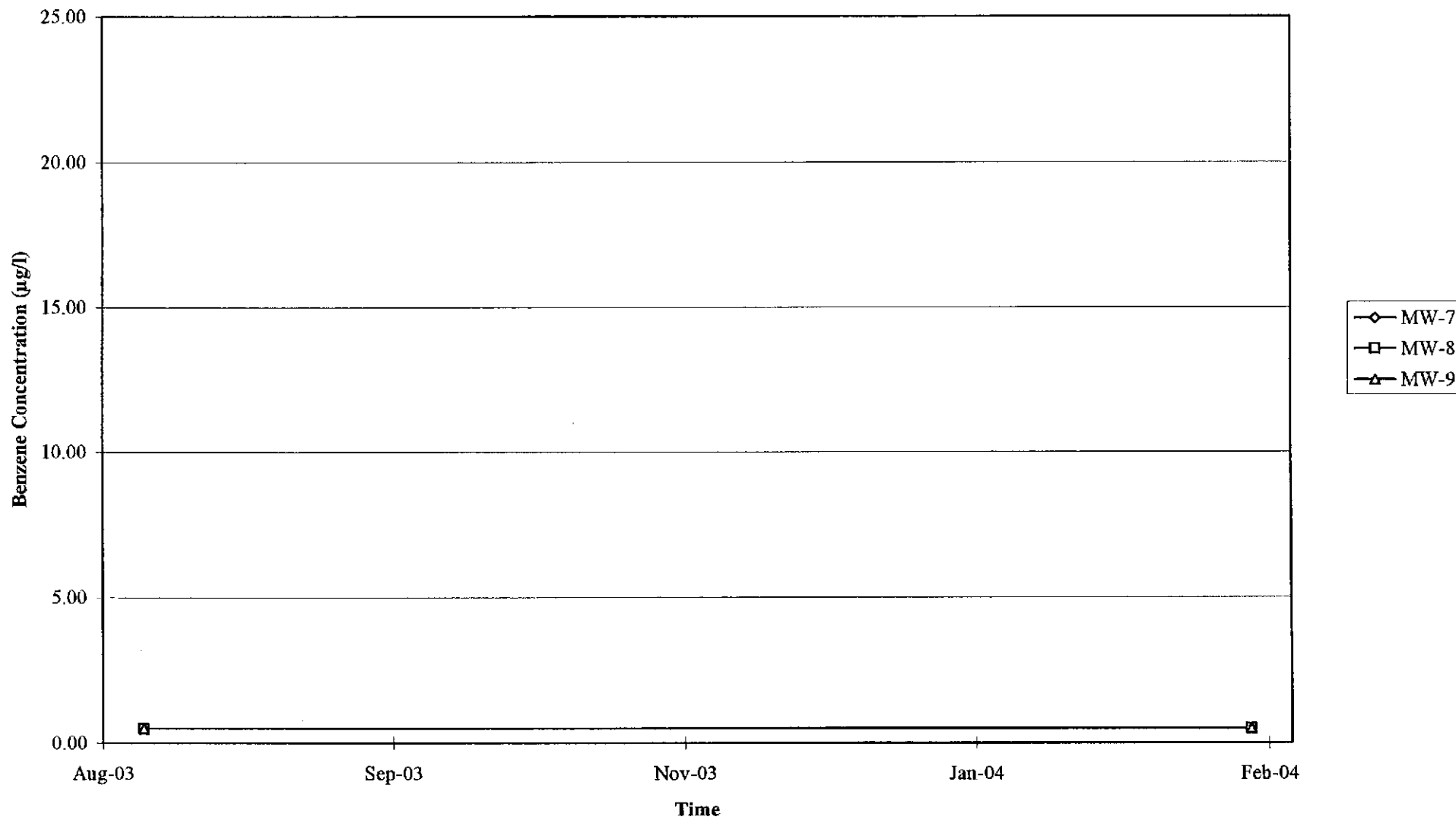
PS=1:1

# GRAPHS

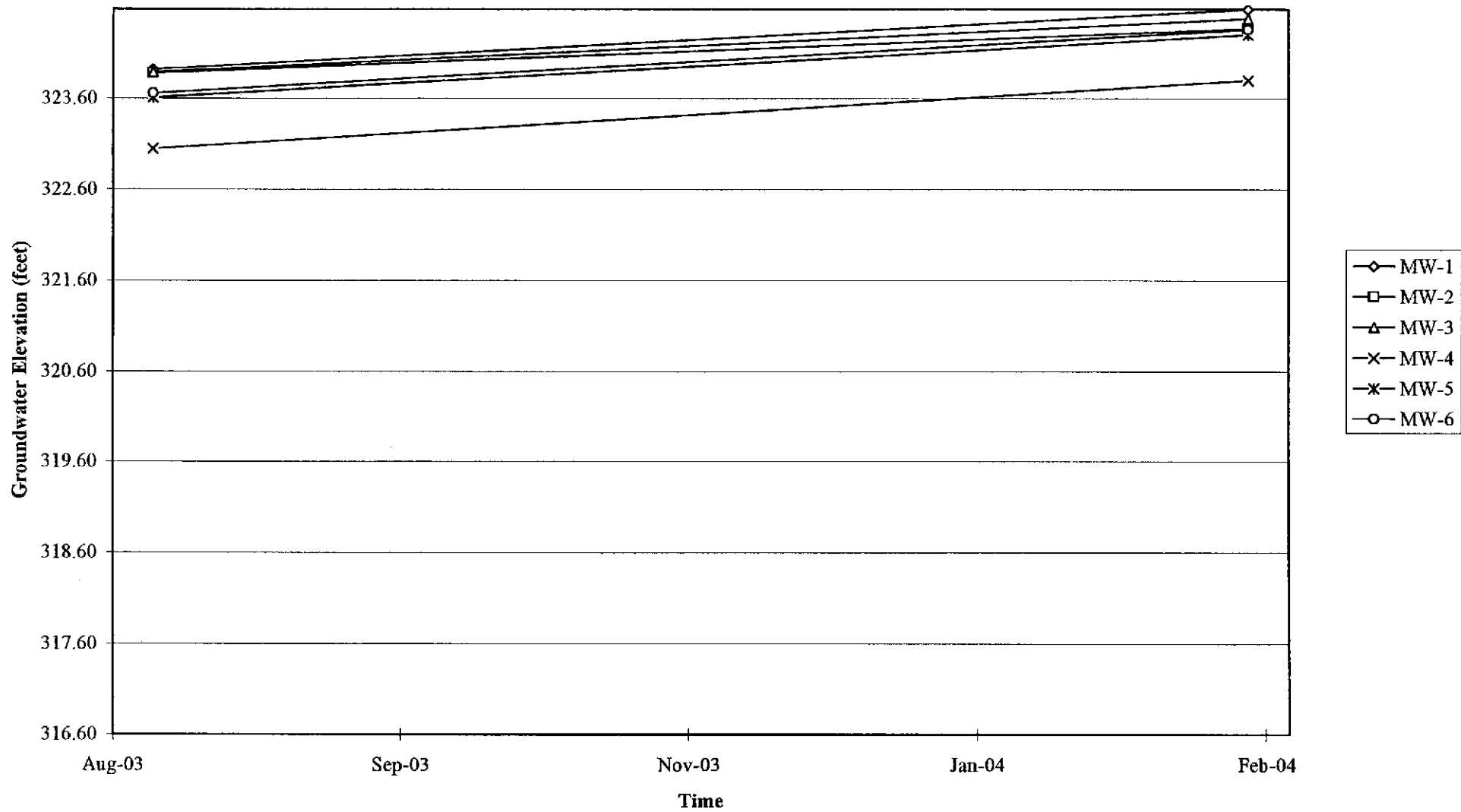
Graph 1  
Benzene Concentrations vs. Time  
76 Station 6419



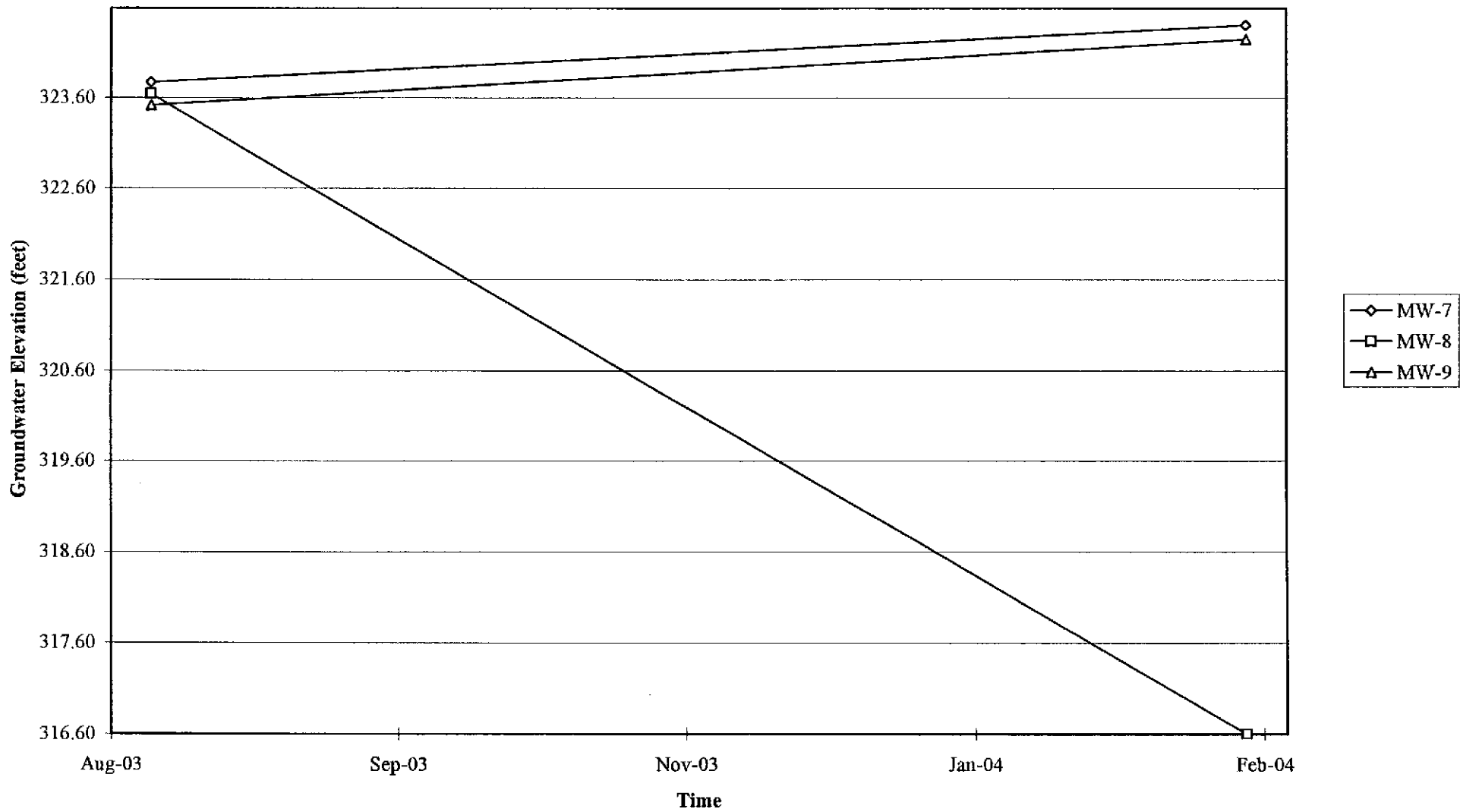
Graph 2  
Benzene Concentrations vs. Time  
76 Station 6419



Graph 3  
Hydrograph  
76 Station 6419



Graph 4  
Hydrograph  
76 Station 6419



## GENERAL FIELD PROCEDURES

### Groundwater Monitoring and Sampling Assignments

For each site, TRC technicians are provided with a Technical Service Request (TSR) that specifies activities required to complete the groundwater monitoring and sampling assignment for the site. TSRs are based on client directives, instructions from the primary environmental consultant for the site, regulatory requirements, and TRC's previous experience with the site.

### Fluid Level Measurements

Initial site activities include determination of well locations based on a site map provided with the TSR. Well boxes are opened and caps are removed. Indications of well or well box damage, or of pressure buildup in the well are noted.

Fluid levels in each well are measured using a coated cloth tape equipped with an electronic interface probe, which distinguishes between liquid phase hydrocarbon (LPH) and water. The depth to LPH (if it is present), to water, and to the bottom of the well are measured from the top of the well casing (surveyors mark or notch if present) to the nearest 0.01 foot. Unless otherwise instructed, a well with less than 0.67 foot between the measured top of water and the measured bottom of the well casing is considered dry, and is not sampled. If the well contains 0.67 foot or more of water, an attempt is made to bail and/or sample as specified on the TSR.

Wells that are found to contain LPH are not purged or sampled. Instead, one casing volume of fluid is bailed from the well and the well is re-sealed. Bailed fluids are placed in a container separate from normal purge water, and properly disposed.

### Purging and Groundwater Parameter Measurement

TSR instructions may specify that a well not be purged (no-purge sampling), be purged using low-flow methods, or be purged using conventional pump and/or bail methods. Conventional purging generally consists of pumping or bailing until a minimum of three casing volumes of water have been removed or until the well has been pumped dry. Pumping is generally accomplished using submersible electric or pneumatic diaphragm pumps.

During conventional purging, three groundwater parameters (temperature, pH, and conductivity) are measured after removal of each casing volume. Stabilization of these parameters, to within 10 percent, confirm that sufficient purging has been completed. In some cases, the TSR indicates that other parameters are also to be measured during purging. TRC commonly measures dissolved oxygen (DO), oxidation-reduction potential (ORP), and/or turbidity. Instruments used for groundwater parameter measurement are calibrated daily according to manufacturer's instructions.

Low-flow purging utilizes a bladder or peristaltic pump to remove water from the well at a low rate. Groundwater parameters specified by the TSR are measured continuously until they become stable in general accordance with EPA guidelines.

Purge water is generally collected in labeled drums for disposal. Drums may be left on site for disposal by others, or transported to a collection location for eventual transfer to a licensed treatment or recycling facility. In some cases, purge water may be collected directly from the site by a licensed vacuum truck company, or may be treated on site by an active remediation system, if so directed.



## **Groundwater Sample Collection**

After wells are purged, or not purged, according to TSR instructions, samples are collected for laboratory analysis. For wells that have been purged using conventional pump or bail methods, sampling is conducted after the well has recovered to 80 percent of its original volume or after two hours if the well does not recover to at least 80 percent. If there is insufficient recharge of water in the well after two hours, the well is not sampled.

Samples are collected by lowering a new, disposable, ½-inch to 4-inch polyethylene bottom-fill bailer to just below the water level in the well. The bailer is retrieved and the water sample is carefully transferred to containers specified for the laboratory analytical methods indicated by the TSR. Particular care is given to containers for volatile organic analysis (VOAs) which require filling to zero headspace and fitting with Teflon-sealed caps.

After filling, all containers are labeled with project number (or site number), well designation, sample date, and the samplers initials, and placed in an insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container descriptions and requested analyses are entered onto a chain-of-custody form in order to provide instructions to the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the field to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form.

For wells that have been purged using low-flow methods, sample containers are filled from the effluent stream of the bladder or peristaltic pump. In some cases, if so specified by the TSR, samples are taken from the sample ports of actively pumping remediation wells.

## **Sequence of Gauging, Purging, and Sampling**

The sequence in which monitoring activities are conducted are specified on the TSR. In general, wells are gauged beginning with the least-affected well and ending with the well that has highest concentration based on previous analytic results. After all gauging for the site is completed, wells are purged and/or sampled from the least-affected well to the most-affected well.

## **Decontamination**

In order to reduce the possibility of cross-contamination between wells, strict isolation and decontamination procedures are observed. Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that could come in contact with fluids are either dedicated to a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of washing in a solution of Liqui-nox and water and rinsing twice. The final rinse is in deionized water.

## **Exceptions**

Additional tasks or non-standard procedures, if any, that may be requested or required for a particular site, and noted on the site TSR, are documented in field notes on the following pages.



GROUNDWATER SAMPLING FIELD NOTES

Technician: JACK/DAVE

Site: 11192 6419

Project No.: 41050001/FAZS

Date: 2/24/04

Well No.: MW-8

Purge Method: DIA 0969

Depth to Water (feet): 13.37

Depth to Product (feet): 0

Total Depth (feet): 20.05

LPH & Water Recovered (gallons): 0

Water Column (feet): 6.68

Casing Diameter (Inches): 2"

80% Recharge Depth (feet): 14.70

1 Well Volume (gallons): 1

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. C)	pH	<del>pH</del> Turbidity	D.O.
0656			1	3.71m	19.2	6.83	6.48	
			2	3.71	18.1	6.77		
	0707		3	3.58	20.3	6.94		
Static at Time Sampled		Total Gallons Purged			Time Sampled			
7.76		3			0710			
Comments:								

Well No.: MW-5

Purge Method: DIA 0969

Depth to Water (feet): 5.88

Depth to Product (feet): 6

Total Depth (feet): 19.24

LPH & Water Recovered (gallons): 0

Water Column (feet): 13.36

Casing Diameter (Inches): 2"

80% Recharge Depth (feet): 8.55

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. C)	pH	Turbidity	D.O.
0726			2	<del>10.17</del> 19.0	19.0	7.16		
			4	19.93	20.3	7.11		
	0732		6	2.91m	20.3	7.14		
Static at Time Sampled		Total Gallons Purged			Time Sampled			
8.02		6			0737			
Comments:								

GROUNDWATER SAMPLING FIELD NOTES

Technician: David/Jack

Site: 6419

Project No.: 410500-01/FA20

Date: 2-24-04

Well No.: MW-3

Purge Method: diaphragm 0969

Depth to Water (feet): 6.11

Depth to Product (feet): 0

Total Depth (feet): 18.43

LPH & Water Recovered (gallons): 0

Water Column (feet): 12.32

Casing Diameter (Inches): 2

80% Recharge Depth (feet): 8.57

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
0953			2	1923	20.1	<del>7.74</del>		
			4	1911	20.5	7.43		
	0958		6	1968	20.6	7.41		
Static at Time Sampled		Total Gallons Purged			Time Sampled			
8.53		6			1018			
Comments:								

Well No.: \_\_\_\_\_

Purge Method: \_\_\_\_\_

Depth to Water (feet): \_\_\_\_\_

Depth to Product (feet): \_\_\_\_\_

Total Depth (feet): \_\_\_\_\_

LPH & Water Recovered (gallons): \_\_\_\_\_

Water Column (feet): \_\_\_\_\_

Casing Diameter (Inches): \_\_\_\_\_

80% Recharge Depth (feet): \_\_\_\_\_

1 Well Volume (gallons): \_\_\_\_\_

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
Static at Time Sampled		Total Gallons Purged			Time Sampled			
Comments:								

GROUNDWATER SAMPLING FIELD NOTES

Technician: JACK/DAVE  
 Project No.: 41050001/FA20

Site: ~~1192~~ 6419

Date: 2/24/04

Well No.: MW-7  
 Depth to Water (feet): 6.31  
 Total Depth (feet): 19.14  
 Water Column (feet): 13.13  
 80% Recharge Depth (feet): 8.64

Purge Method: diaphragm 0969  
 Depth to Product (feet): 0  
 LPH & Water Recovered (gallons): 0  
 Casing Diameter (Inches): 2  
 1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. C)	pH	Turbidity	D.O.
0755			2	2.97m	17.3	7.70		
			4	2.92	18.9	7.44		
	0801		6	2.96	18.7	7.41		
Static at Time Sampled		Total Gallons Purged			Time Sampled			
6.82		6			0804			
Comments:								

Well No.: MW-9  
 Depth to Water (feet): 5.27  
 Total Depth (feet): 20.00  
 Water Column (feet): 14.73  
 80% Recharge Depth (feet): 8.22

Purge Method: diaphragm 0969  
 Depth to Product (feet): 0  
 LPH & Water Recovered (gallons): 0  
 Casing Diameter (Inches): 2  
 1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. C)	pH	Turbidity	D.O.
0817			2	1789u	17.5	7.29		
			4	2.90m	18.9	7.15		
	0821		6	3.08	18.3	7.24		
Static at Time Sampled		Total Gallons Purged			Time Sampled			
8.01 5.37		6			0928			
Comments:								

GROUNDWATER SAMPLING FIELD NOTES

Technician: David/Jack

Site: 6419

Project No.: 410500-01/FA20

Date: 2-24-04

Well No.: MW-1

Purge Method: diaphragm 0969

Depth to Water (feet): 5.99

Depth to Product (feet): 0

Total Depth (feet): 9.38

LPH & Water Recovered (gallons): 0

Water Column (feet): 3.79

Casing Diameter (Inches): 2

80% Recharge Depth (feet): 6.35

1 Well Volume (gallons): 1

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. °C)	pH	Turbidity	D.O.
0909			1	1765 u	15.7	7.79		
			2	1803	15.8	7.80		
	0913		3	1803	15.5	7.98		
Static at Time Sampled			Total Gallons Purged			Time Sampled		
6.20			3			1002		
Comments:								

Well No.: MW-4

Purge Method: diaphragm 0969

Depth to Water (feet): 6.55

Depth to Product (feet): 0

Total Depth (feet): 18.93

LPH & Water Recovered (gallons): 0

Water Column (feet): 12.38

Casing Diameter (Inches): 2

80% Recharge Depth (feet): 9.03

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. °C)	pH	Turbidity	D.O.
0925			2	3.15 m	19.5	7.70		
			4	3.06	19.5	7.55		
	0933		6	2.99	19.1	7.51		
Static at Time Sampled			Total Gallons Purged			Time Sampled		
6.59			6			0938		
Comments:								

**GROUNDWATER SAMPLING FIELD NOTES**

Technician: JACK/DAVE

Site: HAZ 6419

Project No.: 4105001/FA20

Date: 2/24/04

Well No.: MW-2

Purge Method: diaphragm 0969

Depth to Water (feet): 5.87

Depth to Product (feet): Ø

Total Depth (feet): 17.48

LPH & Water Recovered (gallons): Ø

Water Column (feet): 11.61

Casing Diameter (Inches): 2

80% Recharge Depth (feet): 8.19

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
0833			2	3.31m	14.8	7.74		
			4	3.89	18.3	7.41		
	0841		6	3.95	19.2	7.19		

Static at Time Sampled	Total Gallons Purged	Time Sampled
7.45	6	0844

Comments: \_\_\_\_\_

Well No.: MW-6

Purge Method: diaphragm 0969

Depth to Water (feet): 6.11

Depth to Product (feet): Ø

Total Depth (feet): 19.08

LPH & Water Recovered (gallons): Ø

Water Column (feet): 12.97

Casing Diameter (Inches): 2

80% Recharge Depth (feet): 8.70

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
0851			2	3.69m	17.0	7.50		
			4	3.61	18.5	7.28		
	0855		6	3.56	18.8	7.24		

Static at Time Sampled	Total Gallons Purged	Time Sampled
6.17	6	0852

Comments: \_\_\_\_\_

TRC Alton Geoscience

March 09, 2004

21 Technology Drive  
Irvine, CA 92718

Attn.: Anju Farfan

Project#: 41050001FA20  
Project: Conoco Phillips #6419  
Site: 6401 Dublin Blvd.

Attached is our report for your samples received on 02/25/2004 16:56  
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  
04/10/2004 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: [dsharma@stl-inc.com](mailto:dsharma@stl-inc.com)

Sincerely,



Dimple Sharma  
Project Manager



**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
MW-8	02/24/2004 07:10	Water	1
MW-5	02/24/2004 07:37	Water	2
MW-7	02/24/2004 09:04	Water	3
MW-9	02/24/2004 09:28	Water	4
MW-2	02/24/2004 08:44	Water	5
MW-6	02/24/2004 09:52	Water	6
MW-1	02/24/2004 10:02	Water	7
MW-4	02/24/2004 09:38	Water	8
MW-3	02/24/2004 10:18	Water	9

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-8	Lab ID:	2004-02-0793 - 1
Sampled:	02/24/2004 07:10	Extracted:	3/3/2004 00:37
Matrix:	Water	QC Batch#:	2004/03/02-2A.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	03/03/2004 00:37	
Benzene	ND	0.50	ug/L	1.00	03/03/2004 00:37	
Toluene	ND	0.50	ug/L	1.00	03/03/2004 00:37	
Ethylbenzene	ND	0.50	ug/L	1.00	03/03/2004 00:37	
Total xylenes	ND	1.0	ug/L	1.00	03/03/2004 00:37	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	03/03/2004 00:37	
Ethanol	ND	500	ug/L	1.00	03/03/2004 00:37	
<b>Surrogate(s)</b>						
Toluene-d8	98.7	88-110	%	1.00	03/03/2004 00:37	
1,2-Dichloroethane-d4	86.3	76-114	%	1.00	03/03/2004 00:37	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s): 5030B	Test(s): 8260FAB
Sample ID: MW-5	Lab ID: 2004-02-0793 - 2
Sampled: 02/24/2004 07:37	Extracted: 3/3/2004 00:59
Matrix: Water	QC Batch#: 2004/03/02-2A.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	03/03/2004 00:59	
Benzene	ND	0.50	ug/L	1.00	03/03/2004 00:59	
Toluene	ND	0.50	ug/L	1.00	03/03/2004 00:59	
Ethylbenzene	ND	0.50	ug/L	1.00	03/03/2004 00:59	
Total xylenes	ND	1.0	ug/L	1.00	03/03/2004 00:59	
Methyl tert-butyl ether (MTBE)	3.3	2.0	ug/L	1.00	03/03/2004 00:59	
Ethanol	ND	500	ug/L	1.00	03/03/2004 00:59	
<b>Surrogate(s)</b>						
Toluene-d8	93.9	88-110	%	1.00	03/03/2004 00:59	
1,2-Dichloroethane-d4	87.9	76-114	%	1.00	03/03/2004 00:59	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-7	Lab ID:	2004-02-0793 - 3
Sampled:	02/24/2004 09:04	Extracted:	3/3/2004 01:22
Matrix:	Water	QC Batch#:	2004/03/02-2A.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	03/03/2004 01:22	
Benzene	ND	0.50	ug/L	1.00	03/03/2004 01:22	
Toluene	ND	0.50	ug/L	1.00	03/03/2004 01:22	
Ethylbenzene	ND	0.50	ug/L	1.00	03/03/2004 01:22	
Total xylenes	ND	1.0	ug/L	1.00	03/03/2004 01:22	
Methyl tert-butyl ether (MTBE)	6.2	2.0	ug/L	1.00	03/03/2004 01:22	
Ethanol	ND	500	ug/L	1.00	03/03/2004 01:22	
<b>Surrogate(s)</b>						
Toluene-d8	98.8	88-110	%	1.00	03/03/2004 01:22	
1,2-Dichloroethane-d4	89.5	76-114	%	1.00	03/03/2004 01:22	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s): 5030B

Test(s): 8260FAB

Sample ID: MW-9

Lab ID: 2004-02-0793 - 4

Sampled: 02/24/2004 09:28

Extracted: 3/3/2004 01:44

Matrix: Water

QC Batch#: 2004/03/02-2A.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	03/03/2004 01:44	
Benzene	ND	0.50	ug/L	1.00	03/03/2004 01:44	
Toluene	ND	0.50	ug/L	1.00	03/03/2004 01:44	
Ethylbenzene	ND	0.50	ug/L	1.00	03/03/2004 01:44	
Total xylenes	ND	1.0	ug/L	1.00	03/03/2004 01:44	
Methyl tert-butyl ether (MTBE)	5.6	2.0	ug/L	1.00	03/03/2004 01:44	
Ethanol	ND	500	ug/L	1.00	03/03/2004 01:44	
<b>Surrogate(s)</b>						
Toluene-d8	99.0	88-110	%	1.00	03/03/2004 01:44	
1,2-Dichloroethane-d4	89.8	76-114	%	1.00	03/03/2004 01:44	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

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Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-2	Lab ID:	2004-02-0793 - 5
Sampled:	02/24/2004 08:44	Extracted:	3/3/2004 02:06
Matrix:	Water	QC Batch#:	2004/03/02-2A.64
Analysis Flag: o ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	100	ug/L	2.00	03/03/2004 02:06	
Benzene	ND	1.0	ug/L	2.00	03/03/2004 02:06	
Toluene	ND	1.0	ug/L	2.00	03/03/2004 02:06	
Ethylbenzene	ND	1.0	ug/L	2.00	03/03/2004 02:06	
Total xylenes	ND	2.0	ug/L	2.00	03/03/2004 02:06	
Methyl tert-butyl ether (MTBE)	100	4.0	ug/L	2.00	03/03/2004 02:06	
Ethanol	ND	1000	ug/L	2.00	03/03/2004 02:06	
<b>Surrogate(s)</b>						
Toluene-d8	101.6	88-110	%	2.00	03/03/2004 02:06	
1,2-Dichloroethane-d4	85.8	76-114	%	2.00	03/03/2004 02:06	

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

03/05/2004 14:30

## Gas/BTEX Fuel Oxygenates by 8260B

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s): 5030B

Test(s): 8260FAB

Sample ID: MW-6

Lab ID: 2004-02-0793 - 6

Sampled: 02/24/2004 09:52

Extracted: 3/3/2004 02:29

Matrix: Water

QC Batch#: 2004/03/02-2A.64

Analysis Flag: o ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	130	100	ug/L	2.00	03/03/2004 02:29	g
Benzene	ND	1.0	ug/L	2.00	03/03/2004 02:29	
Toluene	ND	1.0	ug/L	2.00	03/03/2004 02:29	
Ethylbenzene	ND	1.0	ug/L	2.00	03/03/2004 02:29	
Total xylenes	ND	2.0	ug/L	2.00	03/03/2004 02:29	
Methyl tert-butyl ether (MTBE)	200	4.0	ug/L	2.00	03/03/2004 02:29	
Ethanol	ND	1000	ug/L	2.00	03/03/2004 02:29	
<b>Surrogate(s)</b>						
Toluene-d8	97.1	88-110	%	2.00	03/03/2004 02:29	
1,2-Dichloroethane-d4	88.2	76-114	%	2.00	03/03/2004 02:29	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s): 5030B Test(s): 8260FAB  
 Sample ID: MW-1 Lab ID: 2004-02-0793 - 7  
 Sampled: 02/24/2004 10:02 Extracted: 3/3/2004 02:51  
 Matrix: Water QC Batch#: 2004/03/02-2A.64  
 Analysis Flag: o ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1000	ug/L	20.00	03/03/2004 02:51	
Benzene	ND	10	ug/L	20.00	03/03/2004 02:51	
Toluene	ND	10	ug/L	20.00	03/03/2004 02:51	
Ethylbenzene	ND	10	ug/L	20.00	03/03/2004 02:51	
Total xylenes	ND	20	ug/L	20.00	03/03/2004 02:51	
tert-Butyl alcohol (TBA)	ND	2000	ug/L	20.00	03/03/2004 02:51	
Methyl tert-butyl ether (MTBE)	1400	40	ug/L	20.00	03/03/2004 02:51	
Di-isopropyl Ether (DIPE)	ND	40	ug/L	20.00	03/03/2004 02:51	
Ethyl tert-butyl ether (ETBE)	ND	40	ug/L	20.00	03/03/2004 02:51	
tert-Amyl methyl ether (TAME)	ND	40	ug/L	20.00	03/03/2004 02:51	
1,2-DCA	ND	40	ug/L	20.00	03/03/2004 02:51	
EDB	ND	40	ug/L	20.00	03/03/2004 02:51	
Ethanol	ND	10000	ug/L	20.00	03/03/2004 02:51	
Ethanol	ND	10000	ug/L	20.00	03/03/2004 02:51	
<b>Surrogate(s)</b>						
Toluene-d8	98.1	88-110	%	20.00	03/03/2004 02:51	
1,2-Dichloroethane-d4	83.3	76-114	%	20.00	03/03/2004 02:51	

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**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

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21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s): 5030B

Test(s): 8260FAB

Sample ID: MW-4

Lab ID: 2004-02-0793 - 8

Sampled: 02/24/2004 09:38

Extracted: 3/3/2004 03:13

Matrix: Water

QC Batch#: 2004/03/02-2A.64

Analysis Flag: o ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	2000	ug/L	40.00	03/03/2004 03:13	
Benzene	ND	20	ug/L	40.00	03/03/2004 03:13	
Toluene	ND	20	ug/L	40.00	03/03/2004 03:13	
Ethylbenzene	ND	20	ug/L	40.00	03/03/2004 03:13	
Total xylenes	ND	40	ug/L	40.00	03/03/2004 03:13	
Methyl tert-butyl ether (MTBE)	2000	80	ug/L	40.00	03/03/2004 03:13	
Ethanol	ND	20000	ug/L	40.00	03/03/2004 03:13	
<b>Surrogate(s)</b>						
Toluene-d8	99.8	88-110	%	40.00	03/03/2004 03:13	
1,2-Dichloroethane-d4	84.2	76-114	%	40.00	03/03/2004 03:13	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

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Irvine, CA 92718

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Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

Prep(s): 5030B Test(s): 8260FAB  
 Sample ID: MW-3 Lab ID: 2004-02-0793 - 9  
 Sampled: 02/24/2004 10:18 Extracted: 3/3/2004 23:48  
 Matrix: Water QC Batch#: 2004/03/03-2B.64  
 Analysis Flag: o ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	2500	ug/L	50.00	03/03/2004 23:48	
Benzene	ND	25	ug/L	50.00	03/03/2004 23:48	
Toluene	ND	25	ug/L	50.00	03/03/2004 23:48	
Ethylbenzene	ND	25	ug/L	50.00	03/03/2004 23:48	
Total xylenes	ND	50	ug/L	50.00	03/03/2004 23:48	
Methyl tert-butyl ether (MTBE)	3000	100	ug/L	50.00	03/03/2004 23:48	
Ethanol	ND	25000	ug/L	50.00	03/03/2004 23:48	
<b>Surrogate(s)</b>						
Toluene-d8	97.9	88-110	%	50.00	03/03/2004 23:48	
1,2-Dichloroethane-d4	91.3	76-114	%	50.00	03/03/2004 23:48	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience  
Attn.: Anju Farfan

21 Technology Drive  
Irvine, CA 92718  
Phone: (949) 341-7440 Fax: (949) 753-0111  
Project: 41050001FA20  
Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

**Batch QC Report**

Prep(s): 5030B  
Method Blank

Water

Test(s): 8260FAB  
QC Batch # 2004/03/02-2A.64

MB: 2004/03/02-2A.64-054

Date Extracted: 03/02/2004 18:54

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	03/02/2004 18:54	
tert-Butyl alcohol (TBA)	ND	100	ug/L	03/02/2004 18:54	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	03/02/2004 18:54	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	03/02/2004 18:54	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	03/02/2004 18:54	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	03/02/2004 18:54	
1,2-DCA	ND	2.0	ug/L	03/02/2004 18:54	
EDB	ND	2.0	ug/L	03/02/2004 18:54	
Benzene	ND	0.5	ug/L	03/02/2004 18:54	
Toluene	ND	0.5	ug/L	03/02/2004 18:54	
Ethylbenzene	ND	0.5	ug/L	03/02/2004 18:54	
Total xylenes	ND	1.0	ug/L	03/02/2004 18:54	
Ethanol	ND	500	ug/L	03/02/2004 18:54	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	82.4	76-114	%	03/02/2004 18:54	
Toluene-d8	96.2	88-110	%	03/02/2004 18:54	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

**Batch QC Report**

Prep(s): 5030B

Method Blank

MB: 2004/03/03-2B.64-005

Water

Test(s): 8260FAB

QC Batch # 2004/03/03-2B.64

Date Extracted: 03/03/2004 18:05

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	03/03/2004 18:05	
tert-Butyl alcohol (TBA)	ND	100	ug/L	03/03/2004 18:05	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	03/03/2004 18:05	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	03/03/2004 18:05	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	03/03/2004 18:05	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	03/03/2004 18:05	
1,2-DCA	ND	2.0	ug/L	03/03/2004 18:05	
EDB	ND	2.0	ug/L	03/03/2004 18:05	
Benzene	ND	0.5	ug/L	03/03/2004 18:05	
Toluene	ND	0.5	ug/L	03/03/2004 18:05	
Ethylbenzene	ND	0.5	ug/L	03/03/2004 18:05	
Total xylenes	ND	1.0	ug/L	03/03/2004 18:05	
Ethanol	ND	500	ug/L	03/03/2004 18:05	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	81.6	76-114	%	03/03/2004 18:05	
Toluene-d8	94.2	88-110	%	03/03/2004 18:05	

Sewer Trent Laboratories, Inc.

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03/05/2004 14:30

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260FAB

**Laboratory Control Spike**

**Water**

**QC Batch # 2004/03/02-2A.64**

LCS 2004/03/02-2A.64-009

Extracted: 03/02/2004

Analyzed: 03/02/2004 18:09

LCSD 2004/03/02-2A.64-032

Extracted: 03/02/2004

Analyzed: 03/02/2004 18:32

Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	22.6	23.0	25	90.4	92.0	1.8	65-165	20		
Benzene	22.8	23.2	25	91.2	92.8	1.7	69-129	20		
Toluene	25.0	24.5	25	100.0	98.0	2.0	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	417	419	500	83.4	83.8		76-114			
Toluene-d8	504	490	500	100.8	98.0		88-110			

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03/05/2004 14:30

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

Attn.: Anju Farfan

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Irvine, CA 92718  
Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20  
Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260FAB

**Laboratory Control Spike**

**Water**

**QC Batch # 2004/03/03-2B.64**

LCS 2004/03/03-2B.64-020

Extracted: 03/03/2004

Analyzed: 03/03/2004 17:20

LCSD 2004/03/03-2B.64-042

Extracted: 03/03/2004

Analyzed: 03/03/2004 17:42

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	24.1	21.4	25	96.4	85.6	11.9	65-165	20		
Benzene	23.5	22.8	25	94.0	91.2	3.0	69-129	20		
Toluene	25.8	24.6	25	103.2	98.4	4.8	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	400	395	500	80.0	79.0		76-114			
Toluene-d8	492	489	500	98.4	97.8		88-110			

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03/05/2004 14:30

Page 14 of 15

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience

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Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6419

Received: 02/25/2004 16:56

Site: 6401 Dublin Blvd.

---

**Legend and Notes**

---

**Analysis Flag**

o

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

**Result Flag**

g

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

STL San Francisco

### Sample Receipt Checklist

Submission #: 2004- 02 - 0793

Checklist completed by: (Initials) TL Date: 02/26/04

Courier name:  STL San Francisco  Client \_\_\_\_\_

Custody seals intact on shipping container/samples Yes \_\_\_\_\_ No \_\_\_\_\_ Not Present

Chain of custody present? Yes  No \_\_\_\_\_

Chain of custody signed when relinquished and received? Yes  No \_\_\_\_\_

Chain of custody agrees with sample labels? Yes  No \_\_\_\_\_

Samples in proper container/bottle? Yes  No \_\_\_\_\_

Sample containers intact? Yes  No \_\_\_\_\_

Sufficient sample volume for indicated test? Yes  No \_\_\_\_\_

All samples received within holding time? Yes  No \_\_\_\_\_

Container/Temp Blank temperature in compliance ( $4^{\circ}\text{C} \pm 2$ )? Temp: 3-5 °C Yes  No \_\_\_\_\_

Ice Present Yes  No \_\_\_\_\_

Water - VOA vials have zero headspace? No VOA vials submitted Yes  No \_\_\_\_\_

(if bubble is present, refer to approximate bubble size and itemize in comments as S (small -  $\circ$ ), M (medium -  $\bigcirc$ ) or L (large -  $\bigcirc$ ))

Water - pH acceptable upon receipt?  Yes  No

pH adjusted- Preservative used:  HNO<sub>3</sub>  HCl  H<sub>2</sub>SO<sub>4</sub>  NaOH  ZnOAc -Lot #(s) \_\_\_\_\_

For any item check-listed "No", provided detail of discrepancy in comment section below:

Comments: \_\_\_\_\_

#### Project Management [Routing for instruction of indicated discrepancy(ies)]

Project Manager: (Initials) \_\_\_\_\_ Date: \_\_\_\_\_ / \_\_\_\_\_ /04

Client contacted:  Yes  No

Summary of discussion: \_\_\_\_\_

Corrective Action (per PM/Client): \_\_\_\_\_



STL-San Francisco

2004-02-0793

ConocoPhillips Chain Of Custody Record

83305

1220 Quarry Lane  
Pleasanton, CA 94566  
(925) 484-1919 (925) 484-1096 fax

ConocoPhillips Site Manager:  
INVOICE REMITTANCE ADDRESS:  
CONOCOPHILLIPS  
Attn: Dee Hutchinson  
3611 South Harbor, Suite 200  
Santa Ana, CA. 92704

ConocoPhillips Work Order Number  
DATE: 2-24-04  
ConocoPhillips Cost Object  
PAGE: 1 of 1

SAMPLING COMPANY: TRC  
Valid Value ID:  
CONOCOPHILLIPS SITE NUMBER: 6419  
GLOBAL ID NO.: N/A  
ADDRESS: 21 Technology Drive, Irvine CA 92618  
SITE ADDRESS (Street and City): 6401 DUBLIN BLVD  
PROJECT CONTACT (Hardcopy or PDF Report to): Anju Farfan  
EDF DELIVERABLE TO (RP or Designee): Peter Thomson, TRC  
PHONE NO.: 949-341-7408  
E-MAIL: pthomson@trcsolutions.com  
LAB USE ONLY

SAMPLER NAME(S) (Print): JACK/DAVE  
CONSULTANT PROJECT NUMBER: 41050001/FA20  
REQUESTED ANALYSES

TURNAROUND TIME (CALENDAR DAYS):  
 14 DAYS  7 DAYS  72 HOURS  48 HOURS  24 HOURS  LESS THAN 24 HOURS

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NEEDED   
RUN 8 OXYS BY 8260 ON 8260  
MTBE HIT ON MW-1 ONLY  
FIELD NOTES:  
Container/Preservative or PID Readings or Laboratory Notes  
3.5 °C  
TEMPERATURE ON RECEIPT °C

Table with columns: Sample ID, Name, DATE, TIME, MATRIX, NO. OF CONT., and various chemical analysis codes (8015m, 8260B, etc.).

Relinquished by (Signature): [Signature]  
Received by (Signature): [Signature]  
Date: 2/25/04  
Time: 10:50

## **STATEMENTS**

### **Purge Water Transport and Disposal**

Non-hazardous groundwater produced during purging and sampling was accumulated at TRC's groundwater monitoring facility at Concord, California, for transportation by Onyx Transportation, Inc., to the ConocoPhillips Refinery at Rodeo, California. Disposal at the Rodeo facility was authorized by ConocoPhillips in accordance with "ESD Standard Operating Procedures – Water Quality and Compliance", as revised on February 7, 2003. Documentation of compliance with ConocoPhillips requirements is provided by an ESD Form R-149, which is on file at TRC's Concord Office. Purge water suspected of containing potentially hazardous material, such as liquid-phase hydrocarbons, was accumulated separately in a drum for transportation and disposal by Filter Recycling, Inc.

### **Limitations**

The fluid level monitoring and groundwater sampling activities summarized in this report have been performed under the responsible charge of a California Registered Geologist or Registered Civil Engineer and have been conducted in accordance with current practice and the standard of care exercised by geologists and engineers performing similar tasks in this area. No warranty, express or implied, is made regarding the conclusions and professional opinions presented in this report. The conclusions are based solely upon an analysis of the observed conditions. If actual conditions differ from those described in this report, our office should be notified.