



76 Broadway  
Sacramento, California 95818

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Alameda County  
Environmental Health

October 31, 2007

Ms. Donna Drogos  
Supervising Hazardous Materials Specialist  
Alameda County Health Agency  
1131 Harbor Bay Parkway  
Alameda, California 94502

Re: **Report Transmittal**  
**Quarterly Status Report – Third Quarter 2007**  
**76 Service Station #1871**  
**96 MacArthur Blvd.**  
**Oakland, CA**

Dear Ms. Drogos:

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please contact me at (916) 558-7612.

Sincerely,

*Bill Borgh*

Bill Borgh  
Site Manager – Risk Management and Remediation

Attachment



1590 Solano Way  
#A  
Concord, CA 94520

925.688.1200 PHONE  
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[www.TRCsolutions.com](http://www.TRCsolutions.com)

October 31, 2007

TRC Project No. 153700

Ms. Donna Drogos  
Supervising Hazardous Materials Specialist  
Alameda County Health Care Services  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577

**RE: Quarterly Status Report - Third Quarter 2007  
76 Service Station #1871, 96 MacArthur Boulevard, Oakland,  
California  
Alameda County**

Dear Ms. Drogos:

On behalf of ConocoPhillips Company (ConocoPhillips), TRC is submitting the Third Quarter 2007 Status Report for the subject site. The site is an operating service station located on the north corner of the intersection of MacArthur Boulevard and Harrison Street in Oakland, California.

#### **PREVIOUS ASSESSMENTS**

May 1992: Roux Associates (Roux) performed a dispenser and product piping modification project.

October 1992: Roux installed three 4-inch diameter groundwater monitoring wells onsite.

January 1993: Quarterly groundwater sampling and monitoring began.

August 1994: A 280-gallon single-wall steel waste oil underground storage tank (UST) was replaced with a 550-gallon double-wall fiberglass UST. Conformation sampling was performed.

February 1996: The Alameda County Health Care Service Agency (ACHCSA) approved Unocal's request to reduce the groundwater monitoring and sampling frequency from quarterly to semiannually (KEI, 1996).

March 1996: Two monitoring wells were installed at the site.

May 1998: John's Excavating of Santa Rosa, California removed all underground and aboveground equipment and facilities. Facilities included two 12,000-gallon double-wall steel gasoline USTs, one 550-gallon double-wall steel waste oil UST, two hydraulic lifts, two dispenser islands and related single-wall product piping, and one service station building.

Gettler-Ryan Inc. (GR) personnel performed soil and groundwater sampling activities in conjunction with the station demolition. A total of 1,252.78 tons of soil were removed from the site during demolition activities and transported to Forward Landfill for disposal.

**September 1998:** Two wells that were damaged during site demolition activities were drilled out and the boreholes backfilled with neat cement to grade. In addition, one soil boring was advanced onsite to a total depth of 16.5 feet below ground surface (bgs). Groundwater was encountered at approximately 10.5 feet bgs. Soil and groundwater samples were collected for development of a Risk Based Corrective Action (RBCA) evaluation for the site.

**February 1999:** GR performed a RBCA evaluation. The RBCA evaluation concluded that, since the site was scheduled for construction of a fuel dispensing facility covered with concrete and asphalt and no groundwater receptors were located within a 1/4 mile radius of the site, the potential threat to public health and environment was not of significant concern.

**June 1999:** GR installed three offsite monitoring wells, and advanced nine soil borings on and near the site. Depth-discrete soil and groundwater samples were collected.

**April 2002:** An ozone injection system was installed and activated at the site.

**September 2003:** Operations and maintenance responsibilities for the remediation system were transferred to SECOR International Inc. (SECOR).

**October 2003:** Site environmental consulting responsibilities were transferred to TRC.

**January 2006:** Operations and maintenance responsibilities for the remediation system were transferred to Environ Strategy Consultants, Inc. International Inc. (Environ Strategy).

## **SENSITIVE RECEPTORS**

No potential receptors for impacted groundwater were identified within a 1/4 mile radius of the site during the RBCA evaluation. No other sensitive receptor surveys have been conducted for the site.

## **MONITORING AND SAMPLING**

One onsite and six offsite wells are currently monitored quarterly. Seven wells were gauged and sampled this quarter. The groundwater flow this quarter was towards the southwest at a calculated hydraulic gradient of 0.03 feet per foot. The groundwater flow direction this quarter is consistent with historical trends as shown in the attached rose diagram of historical groundwater flow directions.

## **CHARACTERIZATION STATUS**

Total petroleum hydrocarbons as gasoline (TPH-g) were detected in three of the seven wells sampled at a maximum concentration of 390 micrograms per liter ( $\mu\text{g/l}$ ) in onsite well MW-9. Benzene was not detected above laboratory reporting limits in any of the seven sampled wells. Methyl tertiary butyl ether (MTBE) was detected in five of the seven wells sampled at a maximum concentration of 430  $\mu\text{g/l}$  in offsite well MW-9.

Hydrocarbon impacts are not fully delineated offsite. Groundwater samples from downgradient monitoring wells MW-9 and MW-10 contained MTBE at concentrations of 430 µg/l and 15 µg/l, respectively. Groundwater from downgradient well MW-11 did not contain benzene, MTBE, or TPH-g at concentrations above laboratory reporting limits.

## REMEDIATION STATUS

April 2002: GR installed an ozone sparging system utilizing 10 ozone sparge wells completed to maximum depths of 25 to 30 feet bgs. The system was activated on April 8, 2002. Since then approximately 129 pounds of ozone have been injected.

## RECENT CORRESPONDENCE

No correspondence this quarter.

## CURRENT QUARTER ACTIVITIES

September 28, 2007: TRC performed groundwater monitoring and sampling. Wastewater generated from well purging and equipment cleaning was stored at TRC's groundwater monitoring facility in Concord, California, and transported by Onyx to the ConocoPhillips Refinery in Rodeo, California, for treatment and disposal.

July 1 through August 30, 2007: Environ Strategy Consultants Inc. (ESCI) performed operations and maintenance activities on the ozone sparging system throughout the quarter. System downtime occurred during the quarter due to a tripped ozone sensor. During the Third Quarter the system operated for a total of 1.274 hours (76% runtime) and injected approximately 11.47 pounds of ozone. Since system startup on April 8, 2002, the system has operated for a total of 14,333 hours and injected approximately 129 pounds of ozone. No waste was generated this quarter.

## CONCLUSIONS AND RECOMMENDATIONS

TRC recommends continuing quarterly monitoring and sampling to assess plume stability and concentration trends and continuing operation of the ozone sparging system to reduce hydrocarbon mass in the subsurface.

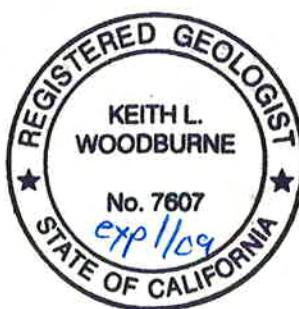
TRC will finalize and submit a Site Conceptual Model, per Alameda County Health Care Services (ACHCS) guidelines, to summarize site conditions and to determine if data gaps exist. The SCM will be submitted under separate cover during the fourth quarter 2007.

**Environmental consulting responsibilities for the Site are being transferred to Delta Consultants. Please direct all future questions regarding the Site to Delta Consultants project manager Daniel Davis at (916) 503-1260.**

Sincerely,



Keith Woodburne, P.G.  
Senior Project Manager

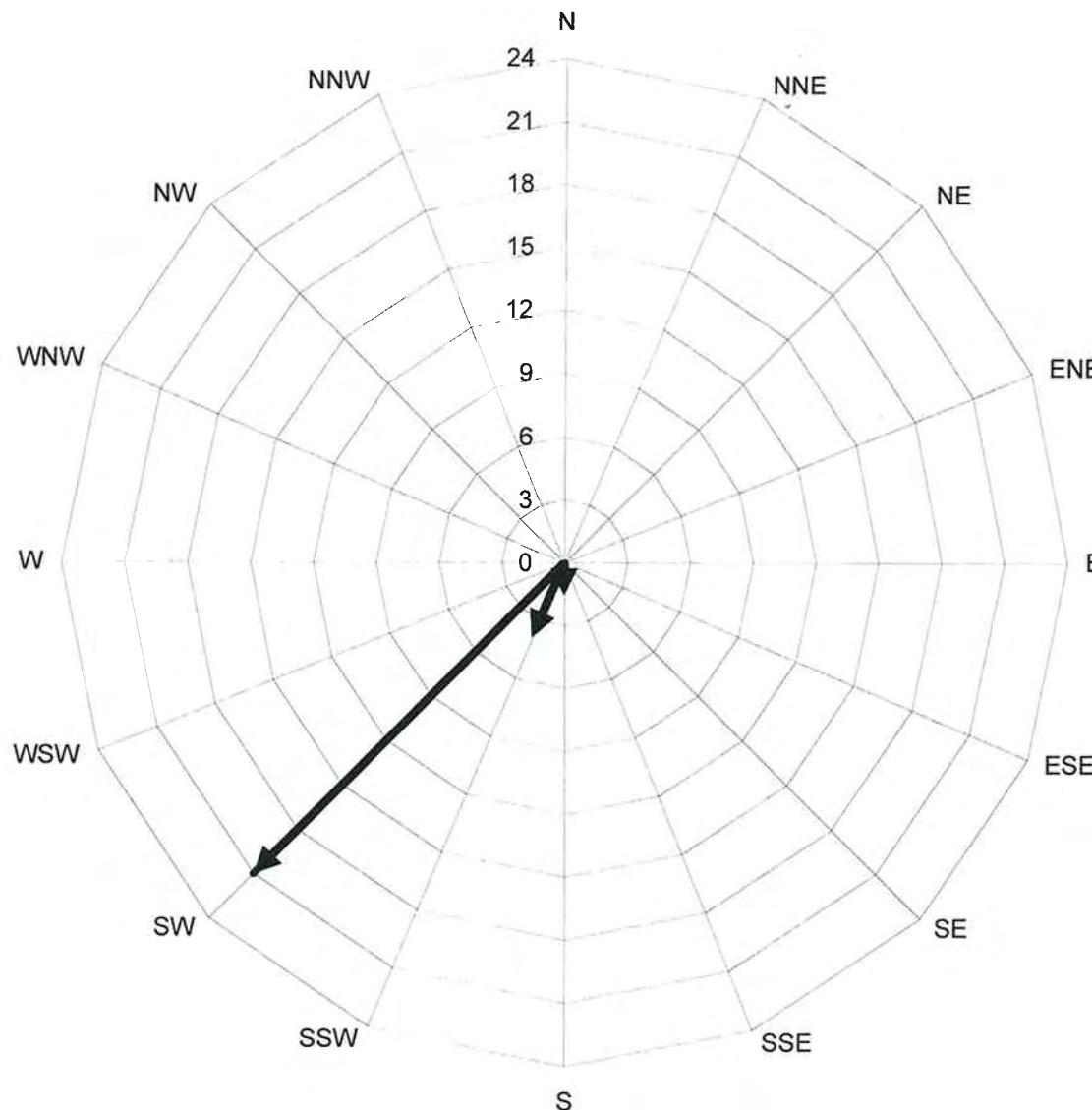


Attachments:

Historical Groundwater Flow Directions – January 2001 through September 2007  
Quarterly Monitoring Report, April through June 2007 (TRC, October 19, 2007)  
Third Quarter 2007, Ozone Injection System O&M Report (ESCI, September 18, 2007)

cc: - Bill Borgh, ConocoPhillips (via electronic upload, without attachments)

**Historical Groundwater Flow Directions  
for Tosco (76) Service Station No. 1871  
January 2001 through September 2007**





21 Technology Drive  
Irvine, CA 92618

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[www.TRCsolutions.com](http://www.TRCsolutions.com)

DATE: October 19, 2007

TO: ConocoPhillips Company  
76 Broadway  
Sacramento, California 95818

ATTN: MR. BILL BORGH

SITE: 76 STATION 1871  
96 MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

RE: QUARTERLY MONITORING REPORT  
JULY THROUGH SEPTEMBER 2007

Dear Mr. Borgh:

Please find enclosed our Quarterly Monitoring Report for 76 Station, located at 96 MacArthur Boulevard, Oakland, California. If you have any questions regarding this report, please call us at (949) 727-9336.

Sincerely,

TRC

Anju Farfan  
Groundwater Program Operations Manager

CC: Mr. Keith Woodburne, TRC (3 copies)

Enclosures  
20-0400/1871R16.QMS

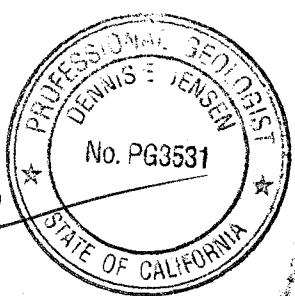
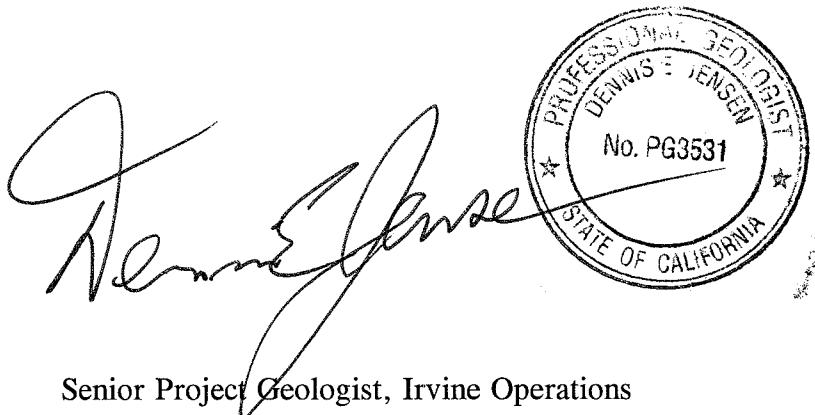
**QUARTERLY MONITORING REPORT  
JULY THROUGH SEPTEMBER 2007**

76 STATION 1871  
96 MacArthur Boulevard  
Oakland, California

Prepared For:

Mr. Bill Borgh  
CONOCOPHILLIPS COMPANY  
76 Broadway  
Sacramento, California 95818

By:



Dennis E. Jensen  
Senior Project Geologist, Irvine Operations

Date: 10/16/07

LIST OF ATTACHMENTS	
Summary Sheet	Summary of Gauging and Sampling Activities
Tables	Table Key Contents of Tables Table 1: Current Fluid Levels and Selected Analytical Results Table 1a: Additional Current Analytical Results Table 2: Historic Fluid Levels and Selected Analytical Results Table 2a: Additional Historic Analytical Results
Figures	Figure 1: Vicinity Map Figure 2: Groundwater Elevation Contour Map Figure 3: Dissolved-Phase TPH-G (GC/MS) Concentration Map Figure 4: Dissolved-Phase Benzene Concentration Map Figure 5: Dissolved-Phase MTBE Concentration Map
Graphs	Groundwater Elevations vs. Time Benzene Concentrations vs. Time
Field Activities	General Field Procedures Field Monitoring Data Sheet – 09/28/07 Groundwater Sampling Field Notes – 09/28/07
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations

**Summary of Gauging and Sampling Activities**  
**July 2007 through September 2007**  
**76 Station 1871**  
**96 MacArthur Boulevard**  
**Oakland, CA**

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Project Coordinator: **Bill Borgh**  
Telephone: **916-558-7612**

Water Sampling Contractor: **TRC**  
Compiled by: **Christina Carrillo**

Date(s) of Gauging/Sampling Event: **09/28/07**

**Sample Points**

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Groundwater wells: **1** onsite, **6** offsite      Wells gauged: **7**      Wells sampled: **7**

Purging method: **Submersible pump**

Purge water disposal: **Onyx/Rodeo Unit 100**

Other Sample Points: **0**      Type: **n/a**

**Liquid Phase Hydrocarbons (LPH)**

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Wells with LPH: **0**      Maximum thickness (feet): **n/a**

LPH removal frequency: **n/a**      Method: **n/a**

Treatment or disposal of water/LPH: **n/a**

**Hydrogeologic Parameters**

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Depth to groundwater (below TOC):      Minimum: **7.24 feet**      Maximum: **16.02 feet**

Average groundwater elevation (relative to available local datum): **68.88 feet**

Average change in groundwater elevation since previous event: **-0.56 feet**

Interpreted groundwater gradient and flow direction:

Current event: **0.03 ft/ft, southwest**

Previous event: **0.05 ft/ft, southwest (06/29/07)**

**Selected Laboratory Results**

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Wells with detected **Benzene**: **0**      Wells above MCL (1.0 µg/l): **n/a**  
Maximum reported benzene concentration: **n/a**

Wells with **TPH-G by GC/MS**      **3**      Maximum: **390 µg/l (MW-9)**  
Wells with **MTBE 8260B**      **5**      Maximum: **430 µg/l (MW-9)**

**Notes:**

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\*Analytical results for well MW-1 are not consistent with historical data and are not used on figures 3, 4 or 5.

# TABLES

## TABLE KEY

### STANDARD ABBREVIATIONS

--	=	not analyzed, measured, or collected
LPH	=	liquid-phase hydrocarbons
Trace	=	less than 0.01 foot of LPH in well
$\mu\text{g/l}$	=	micrograms per liter (approx. equivalent to parts per billion, ppb)
$\text{mg/l}$	=	milligrams per liter (approx. equivalent to parts per million, ppm)
ND <	=	not detected at or above laboratory detection limit
TOC	=	top of casing (surveyed reference elevation)

### ANALYTES

BTEX	=	benzene, toluene, ethylbenzene, and (total) xylenes
DIPE	=	di-isopropyl ether
ETBE	=	ethyl tertiary butyl ether
MTBE	=	methyl tertiary butyl ether
PCB	=	polychlorinated biphenyls
PCE	=	tetrachloroethene
TBA	=	tertiary butyl alcohol
TCA	=	trichloroethane
TCE	=	trichloroethene
TPH-G	=	total petroleum hydrocarbons with gasoline distinction
TPH-G (GC/MS)	=	total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B
TPH-D	=	total petroleum hydrocarbons with diesel distinction
TRPH	=	total recoverable petroleum hydrocarbons
TAME	=	tertiary amyl methyl ether
1,1-DCA	=	1,1-dichloroethane
1,2-DCA	=	1,2-dichloroethane (same as EDC, ethylene dichloride)
1,1-DCE	=	1,1-dichloroethene
1,2-DCE	=	1,2-dichloroethene (cis- and trans-)

### NOTES

1. Elevations are in feet above mean sea level. Depths are in feet below surveyed top-of-casing.
2. Groundwater elevations for wells with LPH are calculated as: Surface Elevation – Measured Depth to Water + (D<sub>p</sub> x LPH Thickness), where D<sub>p</sub> is the density of the LPH, if known. A value of 0.75 is used for gasoline and when the density is not known. A value of 0.83 is used for diesel.
3. Wells with LPH are generally not sampled for laboratory analysis (see General Field Procedures).
4. Comments shown on tables are general. Additional explanations may be included in field notes and laboratory reports, both of which are included as part of this report.
5. A "J" flag indicates that a reported analytical result is an estimated concentration value between the method detection limit (MDL) and the practical quantification limit (PQL) specified by the laboratory.
6. Other laboratory flags (qualifiers) may have been reported. See the official laboratory report (attached) for a complete list of laboratory flags.
7. Concentration graphs based on tables (presented following Figures) show non-detect results prior to the Second Quarter 2000 plotted at fixed values for graphical display. Non-detect results reported since that time are plotted at reporting limits stated in the official laboratory report.
8. Groundwater vs. Time graphs may be corrected for apparent level changes due to re-survey.

### REFERENCE

TRC began groundwater monitoring and sampling for 76 Station 1871 in October 2003. Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

## Contents of Tables 1 and 2

### Site: 76 Station 1871

#### Current Event

<b>Table 1</b>	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
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<b>Table 1a</b>	Well/ Date	Ethanol (8260B)	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP	Post-purge ORP								
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#### Historic Data

<b>Table 2</b>	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
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<b>Table 2a</b>	Well/ Date	TPH-D	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	pH	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP	Post-purge ORP
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**Table 1**  
**CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 28, 2007**  
**76 Station 1871**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	( $\mu\text{g/l}$ )								
<b>MW-1</b> (Screen Interval in feet: 9.5-24.5)														
9/28/2007	86.99	13.92	0.00	73.07	-0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	1.2	
<b>MW-6</b> (Screen Interval in feet: 5.0-25.0)														
9/28/2007	79.67	9.65	0.00	70.02	-0.63	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
<b>MW-7</b> (Screen Interval in feet: 5.0-25.0)														
9/28/2007	80.67	9.05	0.00	71.62	--	--	50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	37	
<b>MW-8</b> (Screen Interval in feet: 5.0-25.0)														
9/28/2007	81.71	9.89	0.00	71.82	-0.79	--	99	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	21	
<b>MW-9</b> (Screen Interval in feet: DNA)														
9/28/2007	82.07	15.48	0.00	66.59	-0.59	--	390	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	430	
<b>MW-10</b> (Screen Interval in feet: DNA)														
9/28/2007	74.98	7.24	0.00	67.74	-0.46	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	15	
<b>MW-11</b> (Screen Interval in feet: DNA)														
9/28/2007	77.31	16.02	0.00	61.29	-0.44	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	

**Table 1 a**  
**ADDITIONAL CURRENT ANALYTICAL RESULTS**  
**76 Station 1871**

Date Sampled	Ethanol (8260B)	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP	Post-purge ORP
	(µg/l)	(mg/l)	(mg/l)	(mV)	(mV)
<b>MW-1</b>					
9/28/2007	ND<250	--	7.84	-167	--
<b>MW-6</b>					
9/28/2007	ND<250	8.36	8.40	167	154
<b>MW-7</b>					
9/28/2007	ND<250	8.16	7.96	30	26
<b>MW-8</b>					
9/28/2007	ND<250	7.18	7.24	16	22
<b>MW-9</b>					
9/28/2007	ND<1200	7.17	7.04	30	30
<b>MW-10</b>					
9/28/2007	ND<250	8.34	8.21	124	126
<b>MW-11</b>					
9/28/2007	ND<250	7.24	7.30	280	244

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-1</b> <b>(Screen Interval in feet: 9.5-24.5)</b>														
11/3/1992	--	--	--	--	--	260000	--	2300	4600	3700	17000	--	--	
1/25/1993	81.18	--	0.00	--	--	120000	--	2100	4600	4900	22000	--	--	
4/29/1993	81.18	13.71	0.00	67.47	--	100000	--	850	2000	4300	19000	--	--	
7/16/1993	81.18	14.51	0.00	66.67	-0.80	29000	--	590	560	980	4200	--	--	
10/19/1993	81.18	15.20	0.00	65.98	-0.69	67000	--	1400	2600	2900	5000	--	--	
1/20/1994	81.18	15.17	0.00	66.01	0.03	92000	--	1200	3000	3400	17000	--	--	
4/13/1994	81.18	14.44	0.00	66.74	0.73	51000	--	1000	2600	3200	15000	--	--	
7/13/1994	81.18	14.88	0.00	66.30	-0.44	35000	--	550	150	1400	5700	--	--	
10/10/1994	81.18	15.55	0.00	65.63	-0.67	52000	--	1000	810	3300	12000	--	--	
1/10/1995	81.18	12.44	0.00	68.74	3.11	810	--	16	18	59	250	--	--	
4/17/1995	81.18	12.68	0.00	68.50	-0.24	48000	--	880	530	2500	11000	--	--	
7/24/1995	81.18	13.97	0.00	67.21	-1.29	48000	--	1500	420	2700	9700	--	--	
10/23/1995	81.18	14.85	0.00	66.33	-0.88	47000	--	780	210	2100	11000	270	--	
1/18/1996	81.18	14.21	0.00	66.97	0.64	30000	--	1500	500	3500	13000	2400	--	
4/18/1996	86.24	13.40	0.00	72.84	5.87	66000	--	2700	2200	3100	13000	57000	--	
7/24/1996	86.24	14.15	0.00	72.09	-0.75	5600	--	2100	ND	160	160	24000	--	
10/24/1996	86.24	14.85	0.00	71.39	-0.70	110000	--	7500	8000	3300	14000	58000	--	
1/28/1997	86.24	11.25	0.00	74.99	3.60	94000	--	7700	19000	3100	15000	120000	--	
7/29/1997	86.24	14.67	0.00	71.57	-3.42	ND	--	ND	ND	ND	ND	70000	--	
1/14/1998	86.24	12.27	0.00	73.97	2.40	85000	--	6100	10000	3000	17000	110000	--	
7/1/1998	86.24	14.32	0.00	71.92	-2.05	110000	--	8700	12000	2700	15000	110000	--	
6/18/1999	86.24	13.93	0.00	72.31	0.39	49000	--	6900	6500	380	12000	72000	47000	
1/21/2000	86.24	15.05	0.00	71.19	-1.12	63700	--	5520	2000	2640	13100	57100	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-1 continued</b>														
7/10/2000	86.24	13.97	0.00	72.27	1.08	67800	--	9910	4120	3330	16100	67400	54000	
1/4/2001	86.24	14.92	0.00	71.32	-0.95	63900	--	6270	784	2670	12900	--	38100	
7/16/2001	86.24	14.32	0.00	71.92	0.60	66000	--	7100	330	2300	9800	36000	41000	
1/31/2002	86.99	13.54	0.00	73.45	1.53	42000	--	5800	1800	2000	8200	26000	26000	
4/11/2002	86.99	13.64	0.00	73.35	-0.10	58000	--	2900	1200	1800	10000	19000	--	
7/11/2002	86.99	13.96	0.00	73.03	-0.32	--	5900	330	ND<10	230	600	--	3400	
10/15/2002	86.99	14.71	0.00	72.28	-0.75	--	470	16	ND<2.5	14	16	--	390	
1/14/2003	86.99	12.77	0.00	74.22	1.94	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	49	
4/16/2003	86.99	13.18	0.00	73.81	-0.41	--	510	57	0.62	29	61	--	160	
7/16/2003	86.99	14.26	0.00	72.73	-1.08	--	27000	260	23	730	3200	--	1200	
10/2/2003	86.99	14.95	0.00	72.04	-0.69	--	45000	1400	32	2900	7600	--	3200	
1/7/2004	86.99	12.30	0.00	74.69	2.65	--	34000	690	41	1600	5200	--	2600	
4/2/2004	86.99	13.18	0.00	73.81	-0.88	--	350	1.8	ND<0.50	6.2	30	--	19	
7/29/2004	86.99	14.61	0.00	72.38	-1.43	--	41000	550	ND<20	2000	6100	--	1200	
11/24/2004	86.99	14.98	0.00	72.01	-0.37	--	55000	910	28	3100	11000	--	1600	
1/24/2005	86.99	12.98	0.00	74.01	2.00	--	24000	240	ND<20	1100	3600	--	1800	
6/23/2005	86.99	13.39	0.00	73.60	-0.41	--	24000	140	ND<25	1100	2900	--	600	
9/28/2005	86.99	14.63	0.00	72.36	-1.24	--	8200	22	0.97	290	660	--	320	
12/20/2005	86.99	11.42	0.00	75.57	3.21	--	10000	17	29	180	840	--	2400	
3/10/2006	86.99	10.98	0.00	76.01	0.44	--	10000	35	ND<5.0	470	1300	--	960	
6/23/2006	86.99	11.85	0.00	75.14	-0.87	--	11000	110	ND<5.0	610	1600	--	780	
9/27/2006	86.99	14.11	0.00	72.88	-2.26	--	8500	22	ND<10	270	740	--	460	
12/22/2006	86.99	13.66	0.00	73.33	0.45	--	7300	35	ND<5.0	370	850	--	210	
3/23/2007	86.99	13.25	0.00	73.74	0.41	--	8800	28	ND<2.5	440	910	--	170	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-1 continued</b>														
6/29/2007	86.99	13.47	0.00	73.52	-0.22	--	6300	16	ND<2.5	300	650	--	50	
9/28/2007	86.99	13.92	0.00	73.07	-0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	1.2	
<b>MW-2 (Screen Interval in feet: DNA)</b>														
11/3/1992	76.61	--	--	--	--	140	--	2.2	ND	ND	2.0	--	--	
1/25/1993	76.61	--	--	--	--	2100	--	56	1.1	90	140	--	--	
4/29/1993	76.61	9.73	0.00	66.88	--	1500	--	290	ND	33	11	--	--	
7/16/1993	76.61	10.17	0.00	66.44	-0.44	510	--	17	0.60	3.2	2.5	--	--	
10/19/1993	76.61	11.18	0.00	65.43	-1.01	670	--	24	1.1	7.7	23	--	--	
1/20/1994	76.61	11.12	0.00	65.49	0.06	820	--	97	ND	12	ND	--	--	
4/13/1994	76.61	10.12	0.00	66.49	1.00	550	--	71	ND	5.1	1.3	--	--	
7/13/1994	76.61	10.86	0.00	65.75	-0.74	2000	--	490	ND	17	13	--	--	
10/10/1994	76.61	11.48	0.00	65.13	-0.62	2300	--	340	ND	25	ND	--	--	
1/10/1995	76.61	8.71	0.00	67.90	2.77	850	--	3.8	ND	8.5	1.3	--	--	
4/17/1995	76.61	8.90	0.00	67.71	-0.19	1300	--	4.7	ND	8.3	1.2	--	--	
7/24/1995	76.61	9.94	0.00	66.67	-1.04	960	--	20	ND	4.2	6.2	--	--	
10/23/1995	76.61	10.70	0.00	65.91	-0.76	ND	--	ND	ND	ND	ND	19	--	
1/18/1996	76.61	10.11	0.00	66.50	0.59	900	--	300	86	7.6	18	4300	--	
4/18/1996	81.66	9.27	0.00	72.39	5.89	18000	--	3600	680	890	4100	19000	--	
7/24/1996	81.66	10.02	0.00	71.64	-0.75	100000	--	13000	21000	2700	16000	120000	--	
10/24/1996	81.66	10.78	0.00	70.88	-0.76	800	--	110	17	11	20	20000	--	
1/28/1997	81.66	7.70	0.00	73.96	3.08	45000	--	2400	2900	2000	7600	29000	--	
7/29/1997	81.66	10.28	0.00	71.38	-2.58	ND	--	1.2	0.72	0.63	0.62	17000	--	
1/14/1998	81.66	8.63	0.00	73.03	1.65	14000	--	1000	150	790	3300	23000	--	
7/1/1998	81.66	9.53	0.00	72.13	-0.90	2700	--	100	ND	180	78	7100	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-2 continued</b>														
6/18/1999	--	--	--	--	--	--	--	--	--	--	--	--	--	Well was destroyed
<b>MW-3 (Screen Interval in feet: DNA)</b>														
11/3/1992	77.48	--	--	--	--	2100	--	120	15	38	200	--	--	
1/25/1993	77.48	--	--	--	--	2300	--	80	1	55	52	--	--	
4/29/1993	77.48	11.37	0.00	66.11	--	4500	--	1700	ND	200	140	--	--	
7/16/1993	77.48	12.09	0.00	65.39	-0.72	4000	--	1100	28	52	70	--	--	
10/19/1993	77.48	12.69	0.00	64.79	-0.60	3800	--	42	ND	50	56	--	--	
1/20/1994	77.48	12.65	0.00	64.83	0.04	4200	--	11	ND	21	15	--	--	
4/13/1994	77.48	12.02	0.00	65.46	0.63	4200	--	210	ND	36	53	--	--	
7/13/1994	77.48	12.46	0.00	65.02	-0.44	1800	--	16	16	ND	21	--	--	
10/10/1994	77.48	12.98	0.00	64.50	-0.52	4300	--	11	ND	12	ND	--	--	
1/10/1995	77.48	10.42	0.00	67.06	2.56	310	--	4.6	ND	3.5	2.1	--	--	
4/17/1995	77.48	10.42	0.00	67.06	0.00	7800	--	ND	4.6	300	450	--	--	
7/24/1995	77.48	11.76	0.00	65.72	-1.34	3200	--	170	ND	22	16	--	--	
10/23/1995	77.48	12.50	0.00	64.98	-0.74	3900	--	55	ND	19	11	4500	--	
1/18/1996	77.48	11.79	0.00	65.69	0.71	2200	--	270	33	26	18	5500	--	
4/18/1996	82.55	11.30	0.00	71.25	5.56	6000	--	1800	ND	100	230	48000	--	
7/24/1996	82.55	12.17	0.00	70.38	-0.87	ND	--	2500	ND	ND	ND	71000	--	
10/24/1996	82.55	12.65	0.00	69.90	-0.48	3800	--	660	ND	15	ND	65000	--	
1/28/1997	82.55	9.50	0.00	73.05	3.15	4400	--	250	13	87	47	54000	--	
7/29/1997	82.55	11.99	0.00	70.56	-2.49	ND	--	3500	ND	220	ND	75000	--	
1/14/1998	82.55	10.30	0.00	72.25	1.69	ND	--	430	ND	100	380	37000	--	
7/1/1998	82.55	11.70	0.00	70.85	-1.40	ND	--	430	ND	ND	ND	45000	--	
6/18/1999	--	--	--	--	--	--	--	--	--	--	--	--	--	Well was destroyed

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-4</b> <b>(Screen Interval in feet: DNA)</b>														
4/18/1996	82.04	9.83	0.00	72.21	--	ND	--	630	ND	ND	ND	18000	--	
7/24/1996	82.04	10.47	0.00	71.57	-0.64	ND	--	ND	ND	ND	5.2	3900	--	
10/24/1996	82.04	11.14	0.00	70.90	-0.67	ND	--	ND	ND	ND	ND	6300	--	
1/28/1997	82.04	7.94	0.00	74.10	3.20	1200	--	490	ND	17	6.8	16000	--	
7/29/1997	82.04	10.86	0.00	71.18	-2.92	50	--	1.5	0.61	0.73	0.78	15000	--	
1/14/1998	82.04	8.73	0.00	73.31	2.13	ND	--	ND	ND	ND	ND	5200	--	
7/1/1998	82.04	10.51	0.00	71.53	-1.78	ND	--	ND	ND	ND	ND	640	--	
6/18/1999	82.04	--	--	--	--	--	--	--	--	--	--	--	--	Well was destroyed
<b>MW-5</b> <b>(Screen Interval in feet: DNA)</b>														
4/18/1996	81.80	9.65	0.00	72.15	--	31000	--	5500	1400	1700	8100	66000	--	
7/24/1996	81.80	10.80	0.00	71.00	-1.15	32000	--	6400	ND	1600	6100	120000	--	
10/24/1996	81.80	11.40	0.00	70.40	-0.60	17000	--	6900	ND	970	130	84000	--	
1/28/1997	81.80	7.76	0.00	74.04	3.64	19000	--	6100	62	82	310	160000	--	
7/29/1997	81.80	11.58	0.00	70.22	-3.82	ND	--	ND	ND	ND	ND	71000	--	
1/14/1998	81.80	9.08	0.00	72.72	2.50	ND	--	3600	ND	ND	ND	80000	--	
7/1/1998	81.80	11.25	0.00	70.55	-2.17	6400	--	2100	21	120	330	61000	--	
6/18/1999	81.80	--	--	--	--	--	--	--	--	--	--	--	--	Well was destroyed
<b>MW-6</b> <b>(Screen Interval in feet: 5.0-25.0)</b>														
6/18/1999	78.91	9.30	0.00	69.61	--	2100	--	21	29	ND	47	97000	71000	
1/21/2000	78.91	9.37	0.00	69.54	-0.07	1880	--	143	31.2	106	196	41200	48800	
7/10/2000	78.91	8.94	0.00	69.97	0.43	5710	--	869	209	301	1430	22200	19500	
1/4/2001	78.91	9.21	0.00	69.70	-0.27	ND	--	ND	ND	ND	ND	--	9510	
7/16/2001	78.91	9.42	0.00	69.49	-0.21	4800	--	200	21	150	440	29000	34000	

**Table 2**  
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**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC Elevation	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) ( $\mu\text{g/l}$ )	TPH-G (GC/MS) ( $\mu\text{g/l}$ )	Benzene ( $\mu\text{g/l}$ )	Toluene ( $\mu\text{g/l}$ )	Ethyl-benzene ( $\mu\text{g/l}$ )	Total Xylenes ( $\mu\text{g/l}$ )	MTBE (8021B) ( $\mu\text{g/l}$ )	MTBE (8260B) ( $\mu\text{g/l}$ )	Comments
<b>MW-6 continued</b>														
1/31/2002	78.91	8.50	0.00	70.41	0.92	12000	--	250	92	500	1500	26000	31000	
4/11/2002	79.67	9.08	0.00	70.59	0.18	3600	--	42	32	39	280	120000	--	
7/11/2002	79.67	9.70	0.00	69.97	-0.62	--	12000	ND<100	ND<100	ND<100	ND<200	--	15000	
10/15/2002	79.67	9.96	0.00	69.71	-0.26	--	1300	ND<10	ND<10	ND<10	ND<20	--	3200	
1/14/2003	79.67	8.31	0.00	71.36	1.65	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	120	
4/16/2003	79.67	8.21	0.00	71.46	0.10	--	270	ND<0.50	ND<0.50	ND<0.50	1.3	--	15	
7/16/2003	79.67	9.43	0.00	70.24	-1.22	--	290	39	0.60	ND<0.50	15	--	150	
10/2/2003	79.67	9.92	0.00	69.75	-0.49	--	200	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	220	
1/7/2004	79.67	8.08	0.00	71.59	1.84	--	140	2.4	ND<1.0	8.6	13	--	86	
4/2/2004	79.67	8.63	0.00	71.04	-0.55	--	3200	ND<20	ND<20	ND<20	ND<40	--	5900	
7/29/2004	79.67	9.75	0.00	69.92	-1.12	--	170	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	160	
11/24/2004	79.67	9.59	0.00	70.08	0.16	--	80	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	45	
1/24/2005	79.67	8.33	0.00	71.34	1.26	--	100	1.1	ND<0.50	0.60	1.1	--	40	
6/23/2005	79.67	8.33	0.00	71.34	0.00	--	230	0.52	ND<0.50	3.6	9.6	--	200	
9/28/2005	79.67	9.56	0.00	70.11	-1.23	--	500	ND<0.50	ND<0.50	ND<0.50	1.2	--	980	
12/20/2005	79.67	7.82	0.00	71.85	1.74	--	640	0.79	ND<0.50	0.68	2.3	--	2400	
3/10/2006	79.67	6.83	0.00	72.84	0.99	--	970	1.2	ND<0.50	1.3	5.0	--	3600	
6/23/2006	79.67	8.13	0.00	71.54	-1.30	--	1700	ND<12	ND<12	ND<12	ND<25	--	1100	
9/27/2006	79.67	9.44	0.00	70.23	-1.31	--	ND<1200	ND<12	ND<12	ND<12	ND<12	--	620	
12/22/2006	79.67	8.60	0.00	71.07	0.84	--	9100	ND<10	ND<10	ND<10	ND<10	--	600	
3/23/2007	79.67	8.39	0.00	71.28	0.21	--	330	ND<0.50	ND<0.50	0.82	ND<0.50	--	680	
6/29/2007	79.67	9.02	0.00	70.65	-0.63	--	180	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	290	
9/28/2007	79.67	9.65	0.00	70.02	-0.63	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	

**MW-7**

(Screen Interval in feet: 5.0-25.0)

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) ( $\mu\text{g/l}$ )	TPH-G (GC/MS) ( $\mu\text{g/l}$ )	Benzene ( $\mu\text{g/l}$ )	Toluene ( $\mu\text{g/l}$ )	Ethyl-benzene ( $\mu\text{g/l}$ )	Total Xylenes ( $\mu\text{g/l}$ )	MTBE (8021B) ( $\mu\text{g/l}$ )	MTBE (8260B) ( $\mu\text{g/l}$ )	Comments
<b>MW-7 continued</b>														
6/18/1999	79.92	8.70	0.00	71.22	--	ND	--	ND	ND	ND	ND	16000	13000	
1/21/2000	79.92	9.30	0.00	70.62	-0.60	ND	--	ND	ND	ND	ND	12300	18200	
7/10/2000	79.92	8.72	0.00	71.20	0.58	ND	--	ND	ND	ND	ND	16900	13800	
1/4/2001	79.92	9.17	0.00	70.75	-0.45	ND	--	ND	ND	ND	0.719	--	37.3	
7/16/2001	79.92	9.02	0.00	70.90	0.15	ND	--	ND	ND	ND	ND	7200	4700	
1/31/2002	79.92	7.91	0.00	72.01	1.11	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	8900	9900	
4/11/2002	80.67	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible
7/11/2002	80.67	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible
10/15/2002	80.67	9.81	0.00	70.86	--	--	ND<5000	ND<50	ND<50	ND<50	ND<100	--	12000	
1/14/2003	80.67	7.89	0.00	72.78	1.92	--	ND<25000	ND<250	ND<250	ND<250	ND<500	--	33000	
4/16/2003	80.67	8.04	0.00	72.63	-0.15	--	ND<25000	ND<250	ND<250	ND<250	ND<500	--	37000	
7/16/2003	80.67	9.19	0.00	71.48	-1.15	--	25000	ND<250	ND<250	ND<250	ND<500	--	38000	
10/2/2003	80.67	9.89	0.00	70.78	-0.70	--	17000	ND<100	ND<100	ND<100	ND<200	--	22000	
1/7/2004	80.67	7.27	0.00	73.40	2.62	--	ND<20000	ND<200	460	ND<200	540	--	19000	
4/2/2004	80.67	8.09	0.00	72.58	-0.82	--	3400	ND<20	ND<20	ND<20	ND<40	--	5100	
7/29/2004	80.67	9.40	0.00	71.27	-1.31	--	7400	ND<50	ND<50	ND<50	ND<100	--	11000	
11/24/2004	80.67	9.65	0.00	71.02	-0.25	--	6200	ND<50	ND<50	ND<50	ND<100	--	6800	
1/24/2005	80.67	7.92	0.00	72.75	1.73	--	ND<5000	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	13000	
6/23/2005	80.67	8.56	0.00	72.11	-0.64	--	8700	ND<25	ND<25	ND<25	ND<50	--	12000	
9/28/2005	80.67	9.37	0.00	71.30	-0.81	--	1200	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5700	
12/20/2005	80.67	6.31	0.00	74.36	3.06	--	1100	0.90	ND<0.50	24	37	--	8200	
3/10/2006	80.67	5.84	0.00	74.83	0.47	--	1200	24	ND<0.50	3.6	ND<1.0	--	4700	
6/23/2006	80.67	6.83	0.00	73.84	-0.99	--	1800	21	ND<12	ND<12	ND<25	--	1500	
9/27/2006	80.67	8.95	0.00	71.72	-2.12	--	ND<1200	ND<12	ND<12	ND<12	ND<12	--	350	

**Table 2**  
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**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC Elevation	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) ( $\mu\text{g/l}$ )	TPH-G (GC/MS) ( $\mu\text{g/l}$ )	Benzene ( $\mu\text{g/l}$ )	Toluene ( $\mu\text{g/l}$ )	Ethyl-benzene ( $\mu\text{g/l}$ )	Total Xylenes ( $\mu\text{g/l}$ )	MTBE (8021B) ( $\mu\text{g/l}$ )	MTBE (8260B) ( $\mu\text{g/l}$ )	Comments
<b>MW-7 continued</b>														
12/22/2006	80.67	8.35	0.00	72.32	0.60	--	24000	ND<50	ND<50	ND<50	ND<50	--	190	
3/23/2007	80.67	8.01	0.00	72.66	0.34	--	85	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	92	
6/29/2007	80.67	--	--	--	--	--	--	--	--	--	--	--	--	Car parked over well
9/28/2007	80.67	9.05	0.00	71.62	--	--	50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	37	
<b>MW-8 (Screen Interval in feet: 5.0-25.0)</b>														
6/18/1999	80.96	9.10	0.00	71.86	--	ND	--	ND	ND	ND	ND	290	160	
1/21/2000	80.96	10.00	0.00	70.96	-0.90	ND	--	ND	ND	ND	1.09	224	221	
7/10/2000	80.96	7.94	0.00	73.02	2.06	ND	--	ND	ND	ND	ND	234	223	
1/4/2001	80.96	9.76	0.00	71.20	-1.82	3790	--	141	8.92	128	375	--	34200	
7/16/2001	80.96	9.15	0.00	71.81	0.61	ND	--	ND	ND	ND	ND	66	70	
1/31/2002	80.96	7.99	0.00	72.97	1.16	5900	--	86	ND<10	630	390	670	700	
4/11/2002	81.71	9.00	0.00	72.71	-0.26	250	--	2.0	ND<0.50	38	2.2	410	--	
7/11/2002	81.71	9.60	0.00	72.11	-0.60	--	110	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	120	
10/15/2002	81.71	10.60	0.00	71.11	-1.00	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	21	
1/14/2003	81.71	8.63	0.00	73.08	1.97	--	ND<250	2.6	ND<2.5	18	ND<5.0	--	430	
4/16/2003	81.71	8.98	0.00	72.73	-0.35	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	18	
7/16/2003	81.71	9.63	0.00	72.08	-0.65	--	110	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	140	
10/2/2003	81.71	10.41	0.00	71.30	-0.78	--	75	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	78	
1/7/2004	81.71	8.21	0.00	73.50	2.20	--	ND<5000	ND<50	ND<50	ND<50	340	--	3700	
4/2/2004	81.71	8.51	0.00	73.20	-0.30	--	3000	ND<20	ND<20	ND<20	ND<40	--	5200	
7/29/2004	81.71	9.78	0.00	71.93	-1.27	--	3200	ND<25	ND<25	ND<25	ND<50	--	5500	
11/24/2004	81.71	10.19	0.00	71.52	-0.41	--	2100	ND<10	ND<10	ND<10	ND<20	--	2400	
1/24/2005	81.71	8.49	0.00	73.22	1.70	--	ND<2500	4.0	0.52	ND<0.50	29	--	1800	
6/23/2005	81.71	8.34	0.00	73.37	0.15	--	490	ND<0.50	ND<0.50	1.5	ND<1.0	--	980	

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**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-8 continued</b>														
9/28/2005	81.71	9.61	0.00	72.10	-1.27	--	270	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	520	
12/20/2005	81.71	7.35	0.00	74.36	2.26	--	2700	ND<0.50	ND<0.50	78	82	--	86	
3/10/2006	81.71	6.63	0.00	75.08	0.72	--	190	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	51	
6/23/2006	81.71	6.56	0.00	75.15	0.07	--	3600	ND<0.50	ND<0.50	100	57	--	ND<0.50	
9/27/2006	81.71	9.64	0.00	72.07	-3.08	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	18	
12/22/2006	81.71	9.42	0.00	72.29	0.22	--	ND<50	ND<0.50	ND<0.50	ND<0.50	0.50	--	16	
3/23/2007	81.71	8.68	0.00	73.03	0.74	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	12	
6/29/2007	81.71	9.10	0.00	72.61	-0.42	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	17	
9/28/2007	81.71	9.89	0.00	71.82	-0.79	--	99	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	21	
<b>MW-9 (Screen Interval in feet: DNA)</b>														
1/31/2002	82.07	14.72	0.00	67.35	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	680	910	
4/11/2002	82.07	14.85	0.00	67.22	-0.13	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	620	--	
7/11/2002	82.07	15.39	0.00	66.68	-0.54	--	580	ND<5.0	ND<5.0	ND<5.0	ND<10	--	580	
10/15/2002	82.07	16.16	0.00	65.91	-0.77	--	570	ND<5.0	ND<5.0	ND<5.0	ND<10	--	1400	
1/14/2003	82.07	14.75	0.00	67.32	1.41	--	ND<200	ND<2.0	ND<2.0	ND<2.0	ND<4.0	--	220	
4/16/2003	82.07	14.51	0.00	67.56	0.24	--	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<10	--	860	
7/16/2003	82.07	15.54	0.00	66.53	-1.03	--	ND<2500	ND<25	ND<25	ND<25	ND<50	--	1300	
10/2/2003	82.07	16.28	0.00	65.79	-0.74	--	820	ND<5.0	ND<5.0	ND<5.0	ND<10	--	990	
1/7/2004	82.07	14.65	0.00	67.42	1.63	--	ND<1000	ND<10	ND<10	ND<10	ND<20	--	1200	
4/2/2004	82.07	15.08	0.00	66.99	-0.43	--	510	ND<5.0	ND<5.0	ND<5.0	ND<10	--	850	
7/29/2004	82.07	15.81	0.00	66.26	-0.73	--	ND<1000	ND<10	ND<10	ND<10	ND<20	--	1300	
11/24/2004	82.07	16.25	0.00	65.82	-0.44	--	1100	ND<5.0	ND<5.0	ND<5.0	ND<10	--	1300	
1/24/2005	82.07	14.96	0.00	67.11	1.29	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2300	
6/23/2005	82.07	14.40	0.00	67.67	0.56	--	1500	ND<5.0	ND<5.0	ND<5.0	ND<10	--	2000	

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**November 1992 Through September 2007**  
**76 Station 1871**

Date Sampled	TOC	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-9 continued</b>														
9/28/2005	82.07	15.67	0.00	66.40	-1.27	--	ND<2500	ND<25	ND<25	ND<25	ND<50	--	2400	
12/20/2005	82.07	14.61	0.00	67.46	1.06	--	560	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2800	
3/10/2006	82.07	13.39	0.00	68.68	1.22	--	1100	ND<5.0	ND<5.0	ND<5.0	ND<10	--	2100	
6/23/2006	82.07	13.68	0.00	68.39	-0.29	--	1700	ND<12	ND<12	ND<12	ND<25	--	1700	
9/27/2006	82.07	14.83	0.00	67.24	-1.15	--	ND<1200	ND<12	ND<12	ND<12	ND<12	--	1400	
12/22/2006	82.07	14.75	0.00	67.32	0.08	--	680	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	1100	
3/23/2007	82.07	14.52	0.00	67.55	0.23	--	240	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	660	
6/29/2007	82.07	14.89	0.00	67.18	-0.37	--	210	ND<0.50	ND<0.50	ND<0.50	0.52	--	410	
9/28/2007	82.07	15.48	0.00	66.59	-0.59	--	390	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	430	
<b>MW-10 (Screen Interval in feet: DNA)</b>														
1/31/2002	74.98	8.02	0.00	66.96	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	1.2	
4/11/2002	74.98	7.60	0.00	67.38	0.42	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
7/11/2002	74.98	8.91	0.00	66.07	-1.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.1	
10/15/2002	74.98	11.49	0.00	63.49	-2.58	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/14/2003	74.98	8.47	0.00	66.51	3.02	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
4/16/2003	74.98	7.92	0.00	67.06	0.55	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
7/16/2003	74.98	7.03	0.00	67.95	0.89	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
10/2/2003	74.98	7.63	0.00	67.35	-0.60	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/7/2004	74.98	6.22	0.00	68.76	1.41	--	54	ND<0.50	ND<0.50	1.3	4.5	--	ND<2.0	
4/2/2004	74.98	7.49	0.00	67.49	-1.27	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.0	
7/29/2004	74.98	7.41	0.00	67.57	0.08	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/24/2004	74.98	7.55	0.00	67.43	-0.14	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.5	
1/24/2005	74.98	6.40	0.00	68.58	1.15	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.71	
6/23/2005	74.98	6.46	0.00	68.52	-0.06	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	

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**76 Station 1871**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-10 continued</b>														
9/28/2005	74.98	7.52	0.00	67.46	-1.06	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/20/2005	74.98	6.04	0.00	68.94	1.48	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.57	
3/10/2006	74.98	5.86	0.00	69.12	0.18	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/23/2006	74.98	6.42	0.00	68.56	-0.56	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.50	
9/27/2006	74.98	6.92	0.00	68.06	-0.50	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	48	
12/22/2006	74.98	5.90	0.00	69.08	1.02	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	8.5	
3/23/2007	74.98	6.48	0.00	68.50	-0.58	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	0.54	
6/29/2007	74.98	6.78	0.00	68.20	-0.30	--	ND<50	ND<0.50	ND<0.50	0.76	1.6	--	5.6	
9/28/2007	74.98	7.24	0.00	67.74	-0.46	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	15	
<b>MW-11 (Screen Interval in feet: DNA)</b>														
1/31/2002	77.31	11.71	0.00	65.60	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	
4/11/2002	77.31	11.95	0.00	65.36	-0.24	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--
7/11/2002	77.31	12.79	0.00	64.52	-0.84	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
10/15/2002	77.31	13.67	0.00	63.64	-0.88	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/14/2003	77.31	13.31	0.00	64.00	0.36	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
4/16/2003	77.31	14.08	0.00	63.23	-0.77	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
7/16/2003	77.31	12.98	0.00	64.33	1.10	--	65	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
10/2/2003	77.31	12.96	0.00	64.35	0.02	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/7/2004	77.31	16.20	0.00	61.11	-3.24	--	63	ND<0.50	ND<0.50	0.68	2.2	--	ND<2.0	
4/2/2004	77.31	18.01	0.00	59.30	-1.81	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
7/29/2004	77.31	14.39	0.00	62.92	3.62	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/24/2004	77.31	16.72	0.00	60.59	-2.33	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
1/24/2005	77.31	17.44	0.00	59.87	-0.72	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/23/2005	77.31	12.37	0.00	64.94	5.07	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	

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**November 1992 Through September 2007**  
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Date Sampled	TOC	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
		(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-11 continued</b>														
9/28/2005	77.31	16.78	0.00	60.53	-4.41	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/20/2005	77.31	17.06	0.00	60.25	-0.28	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/10/2006	77.31	16.20	0.00	61.11	0.86	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/23/2006	77.31	12.65	0.00	64.66	3.55	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/27/2006	77.31	14.78	0.00	62.53	-2.13	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
12/22/2006	77.31	13.48	0.00	63.83	1.30	--	55	ND<0.50	ND<0.50	2.1	5.4	--	ND<0.50	
3/23/2007	77.31	13.78	0.00	63.53	-0.30	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
6/29/2007	77.31	15.58	0.00	61.73	-1.80	--	ND<50	ND<0.50	ND<0.50	ND<0.50	0.62	--	ND<0.50	
9/28/2007	77.31	16.02	0.00	61.29	-0.44	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 1871**

Date Sampled	TPH-D	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	pH	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP	Post-purge ORP
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)	(mV)
<b>MW-1</b>													
6/18/1999	--	ND	ND	ND	--	ND	ND	ND	--	--	--	--	--
7/16/2001	--	ND	ND	ND	--	ND	ND	ND	--	--	--	--	--
1/14/2003	--	ND<100	ND<500	ND<2.0	--	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--
7/16/2003	--	--	ND<10000	--	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<25000	--	--	--	--	--	--	25.1	45.7	80.1	21.0
1/7/2004	--	--	ND<20000	--	--	--	--	--	--	12.12	12.31	142	24
4/2/2004	--	--	ND<50	--	--	--	--	--	--	11.33	13.42	36	34
7/29/2004	--	--	ND<2000	--	--	--	--	--	--	5.37	5.51	-2	-4
11/24/2004	--	--	ND<2000	--	--	--	--	--	6.58	3.08	4.73	-43	-39
1/24/2005	--	--	ND<2000	--	--	--	--	--	--	14.3	17.0	100	96
6/23/2005	--	--	ND<50000	--	--	--	--	--	--	--	4.79	-103	--
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	3.45	4.73	-91	-94
12/20/2005	--	--	ND<250	--	--	--	--	--	--	4.16	2.76	-210	-328
3/10/2006	--	--	ND<2500	--	--	--	--	--	--	1.45	1.64	-511	-615
6/23/2006	--	--	ND<2500	--	--	--	--	--	--	--	4.31	-030	--
9/27/2006	--	--	ND<5000	--	--	--	--	--	--	4.50	4.72	-32	-25
12/22/2006	--	--	ND<2500	--	--	--	--	--	--	6.80	2.35	-121	-72
3/23/2007	--	--	ND<1200	--	--	--	--	--	--	3.22	3.45	-135	-141
6/29/2007	--	--	ND<1200	--	--	--	--	--	--	6.64	7.11	-131	-65
9/28/2007	--	--	ND<250	--	--	--	--	--	--	--	7.84	-167	--
<b>MW-4</b>													
4/18/1996	110	--	--	--	--	--	--	--	--	--	--	--	--
7/24/1996	ND	--	--	--	--	--	--	--	--	--	--	--	--
10/24/1996	ND	--	--	--	--	--	--	--	--	--	--	--	--
1/28/1997	210	--	--	--	--	--	--	--	--	--	--	--	--
7/29/1997	ND	--	--	--	--	--	--	--	--	--	--	--	--

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 1871**

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)	Post-purge ORP (mV)
<b>MW-4 continued</b>													
1/14/1998	ND	--	--	--	--	--	--	--	--	--	--	--	--
7/1/1998	ND	--	--	--	--	--	--	--	--	--	--	--	--
<b>MW-6</b>													
6/18/1999	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--
7/16/2001	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--
7/11/2002	--	ND<1000	ND<5000	ND<100	ND<100	ND<200	ND<100	ND<100	--	--	--	--	--
1/14/2003	--	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--
7/16/2003	--	--	ND<500	--	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<1000	--	--	--	--	--	--	15.5	26.2	139	175
1/7/2004	--	--	ND<1000	--	--	--	--	--	--	12.63	14.29	-12	24
4/2/2004	--	--	ND<2000	--	--	--	--	--	--	12.63	12.72	9	23
7/29/2004	--	--	ND<100	--	--	--	--	--	--	4.74	4.79	-19	-8
11/24/2004	--	--	ND<50	--	--	--	--	--	6.99	2.81	5.54	-29	-12
1/24/2005	--	--	ND<50	--	--	--	--	--	--	14.5	15.3	72	70
6/23/2005	--	--	ND<1000	--	--	--	--	--	--	1.86	1.73	70	71
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	2.63	2.57	-74	-80
12/20/2005	--	--	ND<250	--	--	--	--	--	--	1.52	2.30	-280	-217
3/10/2006	--	--	ND<250	--	--	--	--	--	--	5.25	0.80	173	224
6/23/2006	--	--	ND<6200	--	--	--	--	--	--	--	3.39	-105	--
9/27/2006	--	--	ND<6200	--	--	--	--	--	--	2.54	3.01	-109	-104
12/22/2006	--	--	ND<5000	--	--	--	--	--	--	1.22	4.03	-46	-67
3/23/2007	--	--	ND<250	--	--	--	--	--	--	3.64	3.62	-101	-92
6/29/2007	--	--	ND<250	--	--	--	--	--	--	8.49	6.78	171	84
9/28/2007	--	--	ND<250	--	--	--	--	--	--	8.36	8.40	167	154
<b>MW-7</b>													
6/18/1999	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 1871**

Date Sampled	TPH-D	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	pH	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP	Post-purge ORP
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)	(mV)
<b>MW-7 continued</b>													
7/16/2001	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--
1/14/2003	--	ND<50000	ND<250000	ND<1000	ND<1000	ND<1000	ND<1000	ND<1000	--	--	--	--	--
7/16/2003	--	--	ND<250000	--	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<100000	--	--	--	--	--	--	24.3	28.2	109	153
1/7/2004	--	--	ND<200000	--	--	--	--	--	--	10.79	10.85	23	5
4/2/2004	--	--	ND<2000	--	--	--	--	--	--	12.41	11.32	24	10
7/29/2004	--	--	ND<5000	--	--	--	--	--	--	4.10	3.96	17	18
11/24/2004	--	--	ND<5000	--	--	--	--	--	6.60	1.99	3.29	-43	-24
1/24/2005	--	--	ND<5000	--	--	--	--	--	--	17.2	14.5	71	48
6/23/2005	--	--	ND<50000	--	--	--	--	--	--	2.84	2.18	-37	-32
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	3.45	3.63	-81	-85
12/20/2005	--	--	ND<250	--	--	--	--	--	--	2.04	2.03	-263	-256
3/10/2006	--	--	ND<250	--	--	--	--	--	--	1.28	0.95	164	-179
6/23/2006	--	--	ND<6200	--	--	--	--	--	--	--	3.95	-119	--
9/27/2006	--	--	ND<6200	--	--	--	--	--	--	3.16	3.98	-107	-95
12/22/2006	--	--	ND<25000	--	--	--	--	--	--	2.25	2.03	-86	-101
3/23/2007	--	--	ND<250	--	--	--	--	--	--	3.38	3.75	-49	-47
9/28/2007	--	--	ND<250	--	--	--	--	--	--	8.16	7.96	30	26
<b>MW-8</b>													
6/18/1999	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--
7/16/2001	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--
1/14/2003	--	ND<500	ND<2500	ND<10	ND<10	ND<10	ND<10	ND<10	--	--	--	--	--
7/16/2003	--	--	ND<500	--	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<500	--	--	--	--	--	--	23.6	28.5	188	197
1/7/2004	--	--	ND<50000	--	--	--	--	--	--	9.94	13.13	-15	21
4/2/2004	--	--	ND<2000	--	--	--	--	--	--	13.37	12.82	-10	16

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 1871**

Date Sampled	TPH-D	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	pH	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP	Post-purge ORP
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)	(mV)
<b>MW-8 continued</b>													
7/29/2004	--	--	ND<2500	--	--	--	--	--	--	3.68	3.73	18	30
11/24/2004	--	--	ND<1000	--	--	--	--	--	6.67	3.97	2.71	-36	-20
1/24/2005	--	--	ND<2500	--	--	--	--	--	--	41.6	41.2	56	60
6/23/2005	--	--	ND<1000	--	--	--	--	--	--	2.05	2.13	58	56
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	2.12	1.98	-40	-26
12/20/2005	--	--	ND<250	--	--	--	--	--	--	2.02	3.72	-402	-326
3/10/2006	--	--	ND<250	--	--	--	--	--	--	1.51	0.99	-182	-181
6/23/2006	--	--	ND<250	--	--	--	--	--	--	--	2.81	-135	--
9/27/2006	--	--	ND<250	--	--	--	--	--	--	4.87	4.91	-155	-139
12/22/2006	--	--	ND<250	--	--	--	--	--	--	1.80	2.40	16	12
3/23/2007	--	--	ND<250	--	--	--	--	--	--	3.52	3.90	25	22
6/29/2007	--	--	ND<250	--	--	--	--	--	--	5.35	5.29	98	92
9/28/2007	--	--	ND<250	--	--	--	--	--	--	7.18	7.24	16	22
<b>MW-9</b>													
1/31/2002	--	ND<140	ND<3600	ND<7.1	ND<7.1	ND<7.1	ND<7.1	ND<7.1	--	--	--	--	--
1/14/2003	--	ND<400	ND<2000	ND<8.0	ND<8.0	ND<8.0	ND<8.0	ND<8.0	--	--	--	--	--
7/16/2003	--	--	ND<25000	--	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<5000	--	--	--	--	--	--	29.5	28.4	201	203
1/7/2004	--	--	ND<10000	--	--	--	--	--	--	10.45	12.00	9	27
4/2/2004	--	--	ND<500	--	--	--	--	--	--	16.37	13.21	12	32
7/29/2004	--	--	ND<1000	--	--	--	--	--	--	--	--	--	--
11/24/2004	--	--	ND<500	--	--	--	--	--	6.47	3.24	1.71	-68	-67
1/24/2005	--	--	ND<1000	--	--	--	--	--	--	26.0	22.5	-45	-45
6/23/2005	--	--	ND<10000	--	--	--	--	--	--	1.50	1.44	-136	-144
9/28/2005	--	--	ND<50000	--	--	--	--	--	--	2.51	1.67	-94	-119
12/20/2005	--	--	ND<250	--	--	--	--	--	--	5.05	4.67	-102	-42

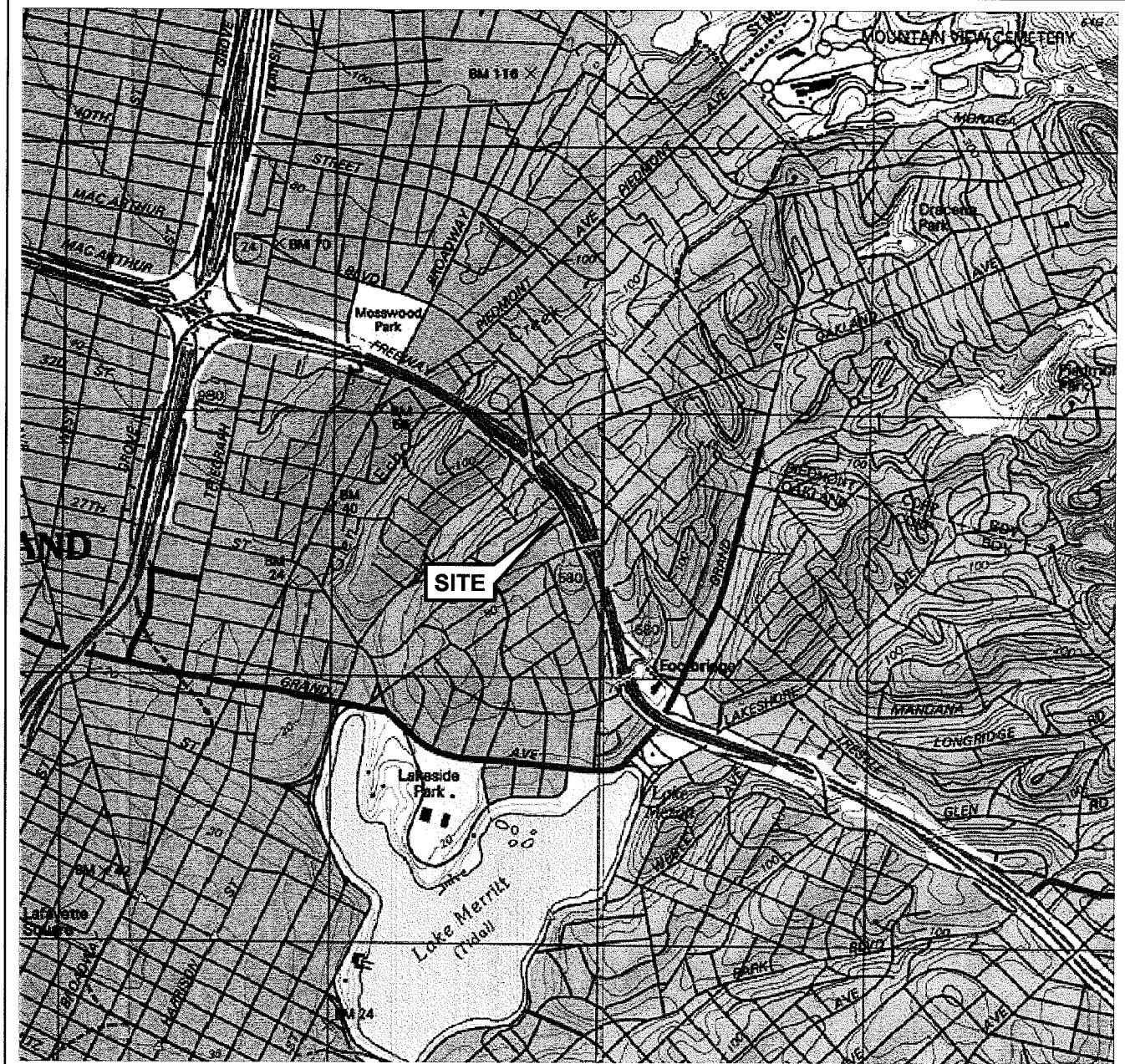
**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 1871**

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)	Post-purge ORP (mV)
<b>MW-9 continued</b>													
3/10/2006	--	--	ND<2500	--	--	--	--	--	--	2.82	2.13	160	161
6/23/2006	--	--	ND<6200	--	--	--	--	--	--	0.84	-65	--	--
9/27/2006	--	--	ND<6200	--	--	--	--	--	--	0.68	0.75	-61	-43
12/22/2006	--	--	ND<250	--	--	--	--	--	--	9.00	4.89	-44	-70
3/23/2007	--	--	ND<250	--	--	--	--	--	--	6.85	5.33	-114	-82
6/29/2007	--	--	ND<250	--	--	--	--	--	--	6.87	6.25	23	22
9/28/2007	--	--	ND<1200	--	--	--	--	--	--	7.17	7.04	30	30
<b>MW-10</b>													
1/31/2002	--	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	--	--	--	--
1/14/2003	--	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--
7/16/2003	--	--	ND<500	--	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<500	--	--	--	--	--	--	24.8	25.7	192	213
1/7/2004	--	--	ND<500	--	--	--	--	--	--	10.04	11.62	35	59
4/2/2004	--	--	ND<50	--	--	--	--	--	--	11.91	12.02	42	45
7/29/2004	--	--	ND<50	--	--	--	--	--	--	4.81	4.83	83	102
11/24/2004	--	--	ND<50	--	--	--	--	--	6.89	2.59	3.07	-39	-29
1/24/2005	--	--	ND<50	--	--	--	--	--	--	27.5	25.5	87	84
6/23/2005	--	--	ND<1000	--	--	--	--	--	--	7.83	176	40	44
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	6.95	2.37	-66	-64
12/20/2005	--	--	ND<250	--	--	--	--	--	--	3.85	3.45	59	58
3/10/2006	--	--	ND<250	--	--	--	--	--	--	2.52	4.48	87	83
6/23/2006	--	--	ND<250	--	--	--	--	--	--	1.49	-68	--	--
9/27/2006	--	--	ND<250	--	--	--	--	--	--	1.79	1.55	-85	-65
12/22/2006	--	--	ND<250	--	--	--	--	--	--	3.20	3.00	107	85
3/23/2007	--	--	ND<250	--	--	--	--	--	--	5.09	5.01	-60	--
6/29/2007	--	--	ND<250	--	--	--	--	--	--	9.12	6.27	165	172

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 1871**

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)	Post-purge ORP (mV)
<b>MW-10 continued</b>													
9/28/2007	--	--	ND<250	--	--	--	--	--	--	8.34	8.21	124	126
<b>MW-11</b>													
1/31/2002	--	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	--	--	--	--
1/14/2003	--	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--
7/16/2003	--	--	ND<500	--	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<500	--	--	--	--	--	--	33.7	23.2	202	255
1/7/2004	--	--	ND<500	--	--	--	--	--	--	11.69	13.82	99	103
4/2/2004	--	--	ND<50	--	--	--	--	--	--	11.94	14.08	-1	108
7/29/2004	--	--	ND<50	--	--	--	--	--	--	--	--	--	--
11/24/2004	--	--	ND<50	--	--	--	--	--	6.75	3.85	4.32	82	143
1/24/2005	--	--	ND<50	--	--	--	--	--	--	30.01	32.6	79	83
6/23/2005	--	--	ND<1000	--	--	--	--	--	--	2.17	2.16	76	82
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	4.97	4.59	-4	-1
12/20/2005	--	--	ND<250	--	--	--	--	--	--	5.16	4.77	35	070
3/10/2006	--	--	ND<250	--	--	--	--	--	--	5.11	9.99	68	97
6/23/2006	--	--	ND<250	--	--	--	--	--	--	--	7.74	-26	--
9/27/2006	--	--	ND<250	--	--	--	--	--	--	5.72	5.98	32	40
12/22/2006	--	--	ND<250	--	--	--	--	--	--	3.81	4.35	46	44
3/23/2007	--	--	ND<250	--	--	--	--	--	--	5.47	5.85	38	34
6/29/2007	--	--	ND<250	--	--	--	--	--	--	7.87	7.80	242	223
9/28/2007	--	--	ND<250	--	--	--	--	--	--	7.24	7.30	280	244

# FIGURES



0      1/4      1/2      3/4      1 MILE

SCALE 1: 24,000



SOURCE:

United States Geological Survey  
7.5 Minute Topographic Map:  
Oakland Quadrangle



VICINITY MAP



PROJECT: 125703

FACILITY:

76 STATION 1871  
96 MacARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

FIGURE 1

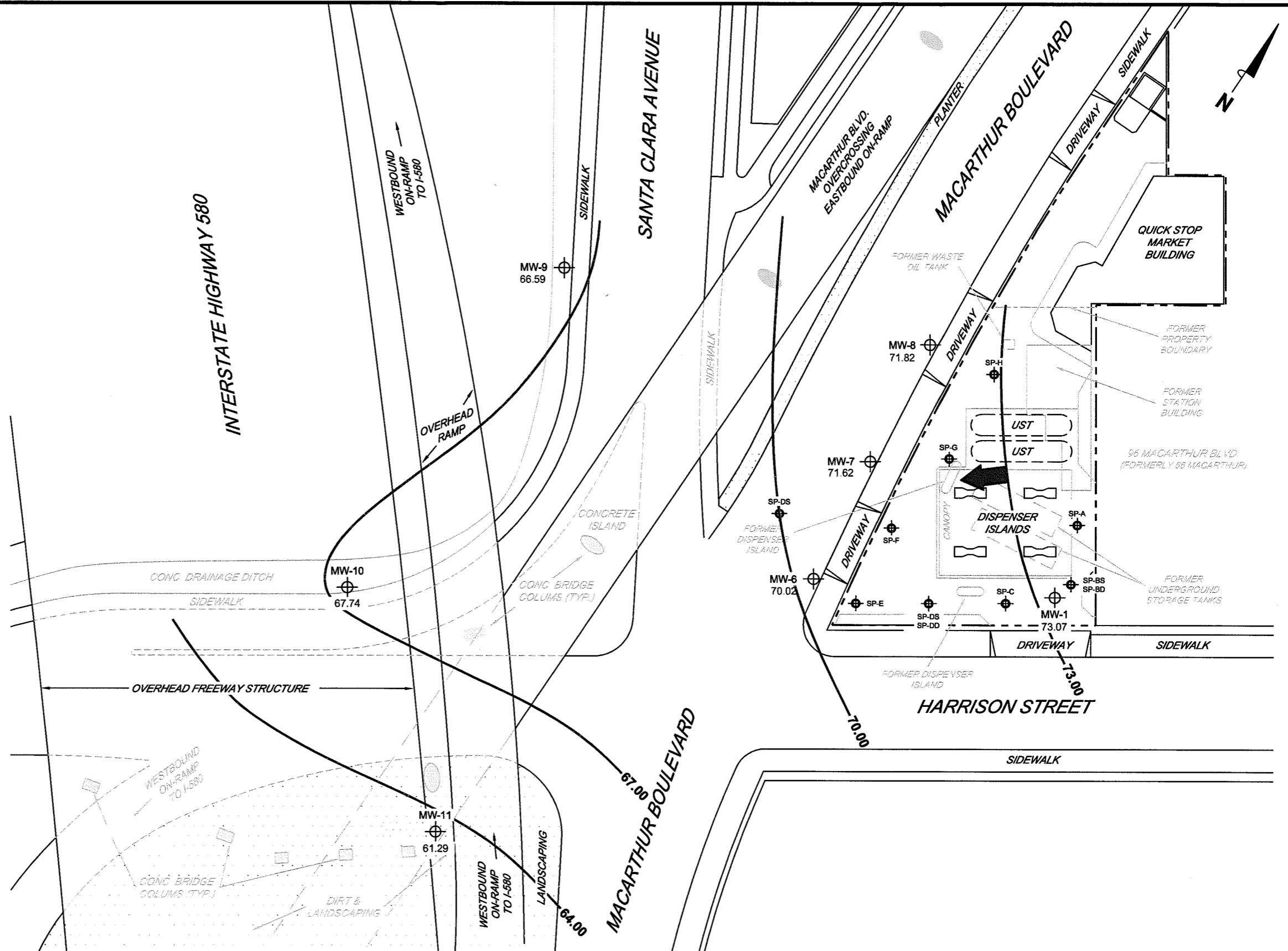
**LEGEND**

MW-11 Monitoring Well with Groundwater Elevation (feet)

SP-H Ozone Sarge Well

73.00—Groundwater Elevation Contour

General Direction of Groundwater Flow

**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.

SCALE (FEET)  
0 40



PROJECT: 125703

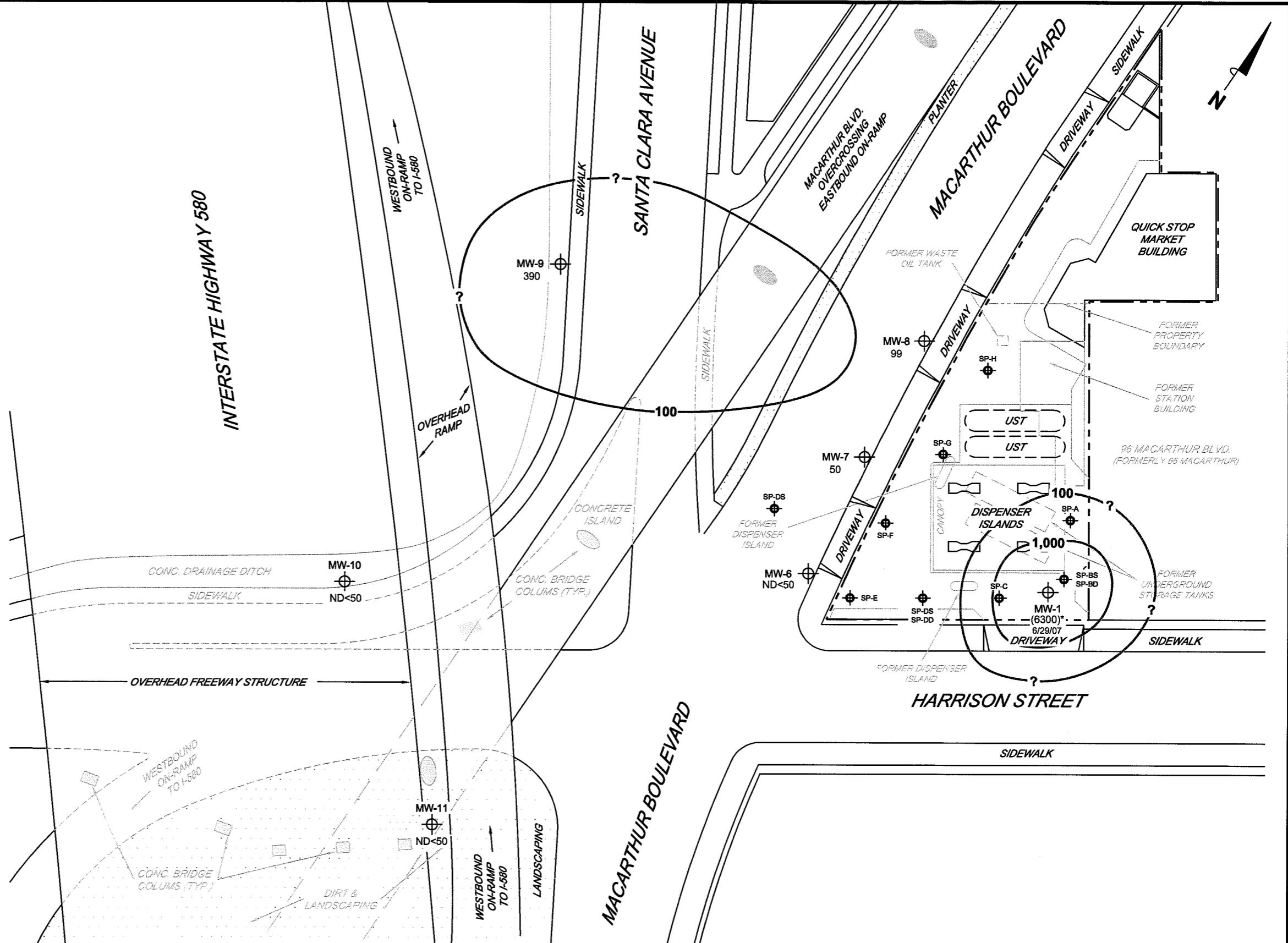
FACILITY:  
76 STATION 1871  
96 MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

**GROUNDWATER ELEVATION  
CONTOUR MAP**  
September 28, 2007

**FIGURE 2**

**LEGEND**

- MW-11 Monitoring Well with Dissolved-Phase TPH-G (GC/MS) Concentration ( $\mu\text{g/l}$ )
- SP-H Ozone Sparge Well
- 1,000 Dissolved-Phase TPH-G (GC/MS) Contour ( $\mu\text{g/l}$ )



**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples.  
TPH-G (GC/MS) = total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B.  
 $\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
UST = underground storage tank. (\*) = representative historical value. \* = Historical data used in lieu of questionable third quarter analytical results.

SCALE (FEET)  
0 40



PROJECT: 125703

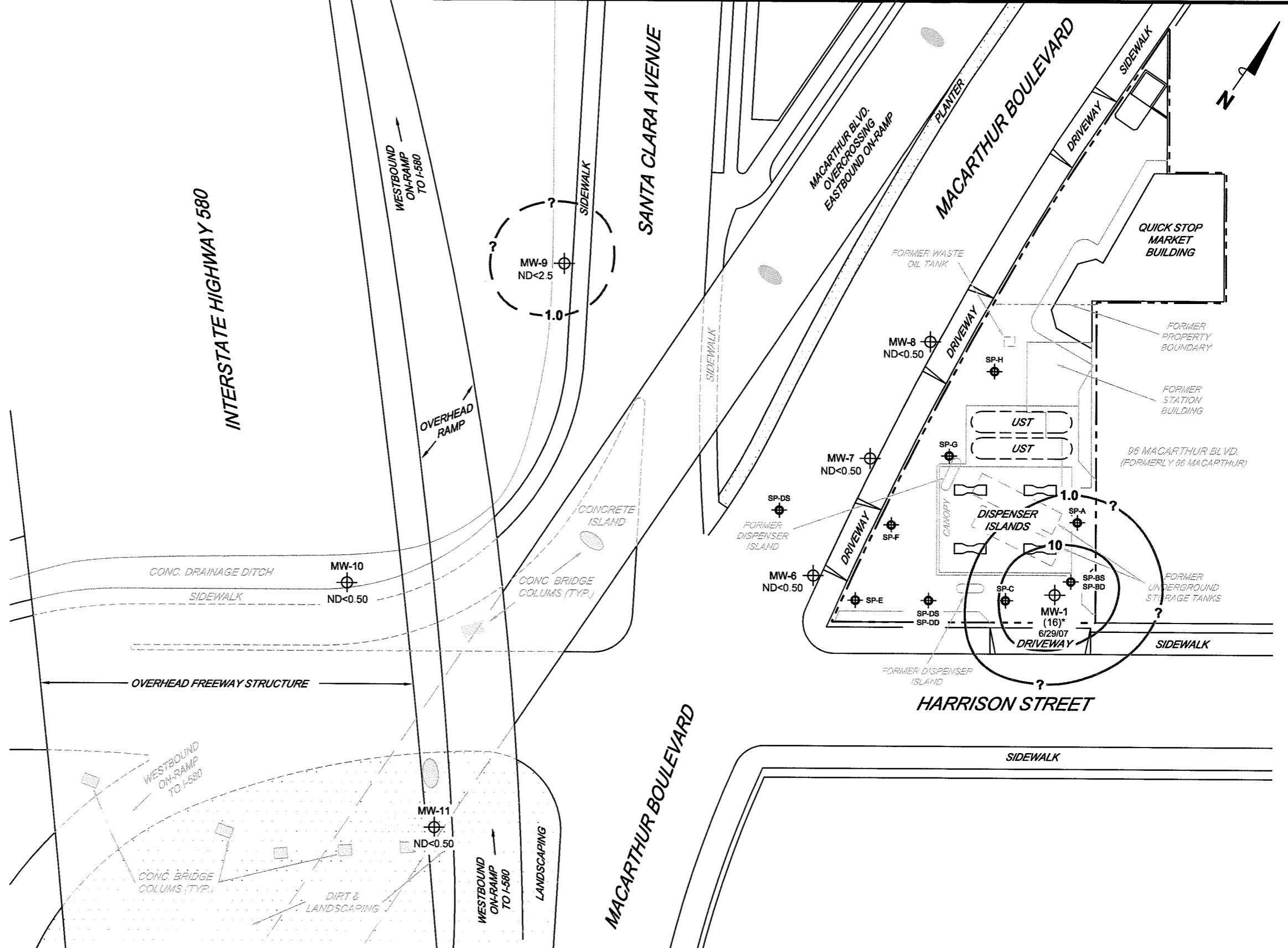
FACILITY:  
76 STATION 1871  
96 MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

**DISSOLVED-PHASE TPH-G (GC/MS)  
CONCENTRATION MAP**  
September 28, 2007

**FIGURE 3**

**LEGEND**

- MW-11 Monitoring Well with Dissolved-Phase Benzene Concentration ( $\mu\text{g/l}$ )
- SP-H Ozone Sparge Well
- 10 Dissolved-Phase Benzene Contour ( $\mu\text{g/l}$ )

**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples.  
 $\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 UST = underground storage tank. Dashes indicate contour based on non-detect at elevated detection limit. ( ) = representative historical value. \* = Historical data used in lieu of questionable third quarter analytical results.

SCALE (FEET)  
0 40

**TRC**

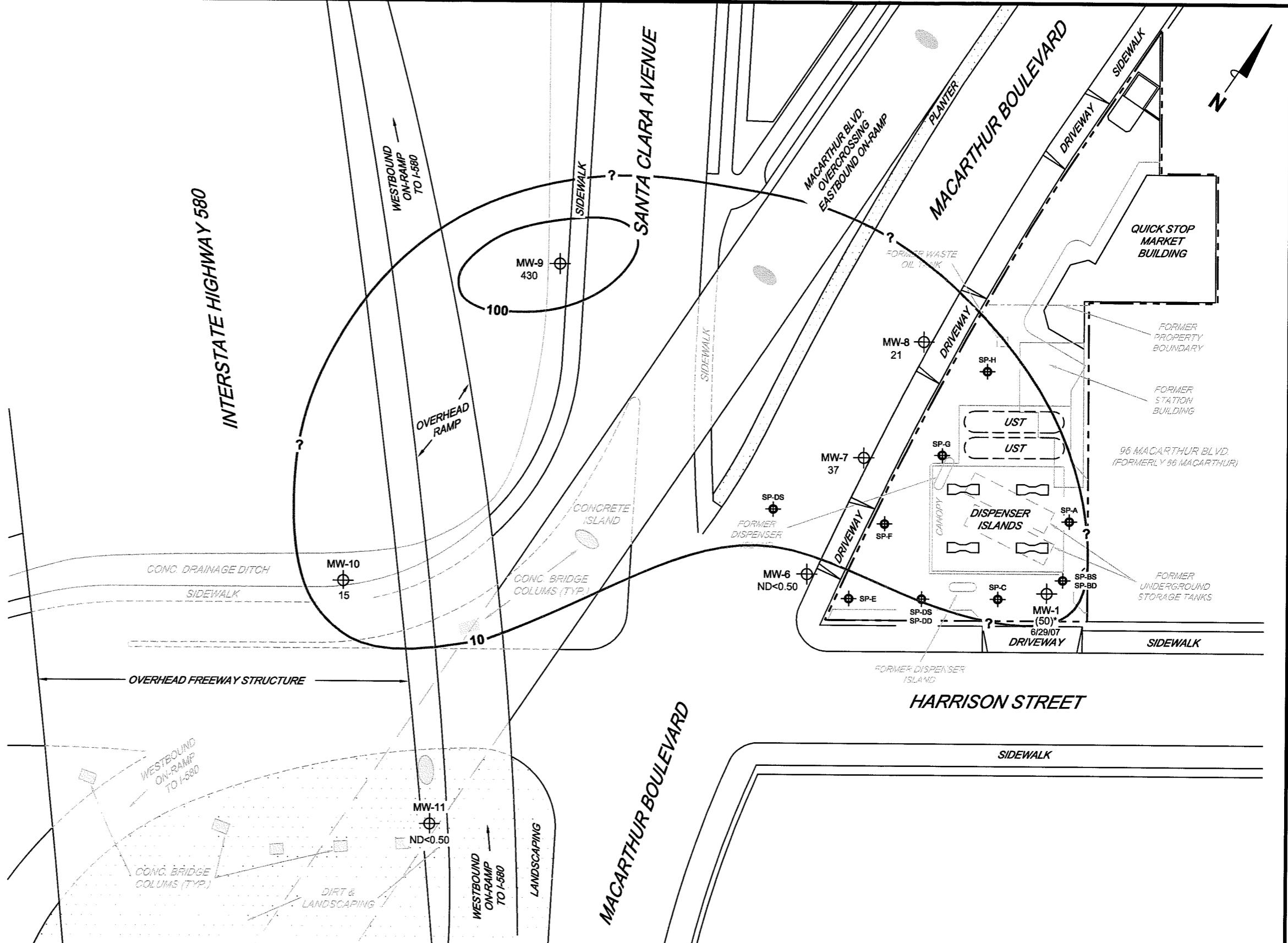
PROJECT: 125703
FACILITY: 76 STATION 1871 96 MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

**DISSOLVED-PHASE BENZENE CONCENTRATION MAP**  
September 28, 2007

**FIGURE 4**

**LEGEND**

- MW-11 Monitoring Well with Dissolved-Phase MTBE Concentration ( $\mu\text{g/l}$ )
- SP-H Ozone Sparge Well
- 100 Dissolved-Phase MTBE Contour ( $\mu\text{g/l}$ )



L:\Graphics\QMS\QMS NORTH-SOUTH\X-1000\1871+1871QMS(NEW).DWG Oct 19, 2007 - 12:13pm bschmidt

MS=1:40 1871-003

**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples.  
 MTBE = methyl tertiary butyl ether.  $\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report. UST = underground storage tank. ( ) = representative historical value. \* = Historical data used in lieu of questionable third quarter analytical results.  
 Results obtained using EPA Method 8260B.

SCALE (FEET)  
 0 40

**TRC**

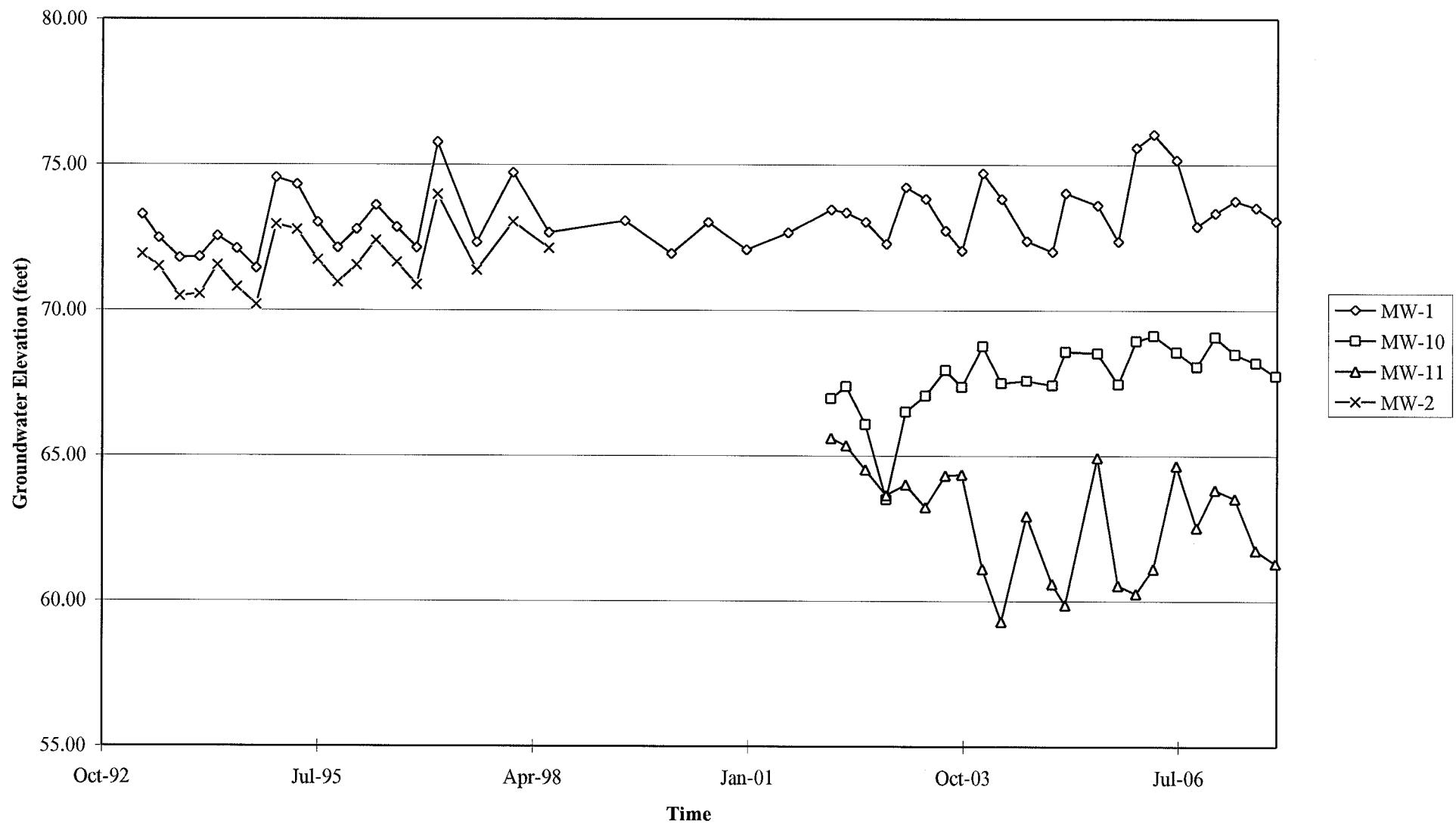
PROJECT: 125703  
 FACILITY:  
 76 STATION 1871  
 96 MACARTHUR BOULEVARD  
 OAKLAND, CALIFORNIA

**DISSOLVED-PHASE MTBE CONCENTRATION MAP**  
 September 28, 2007

**FIGURE 5**

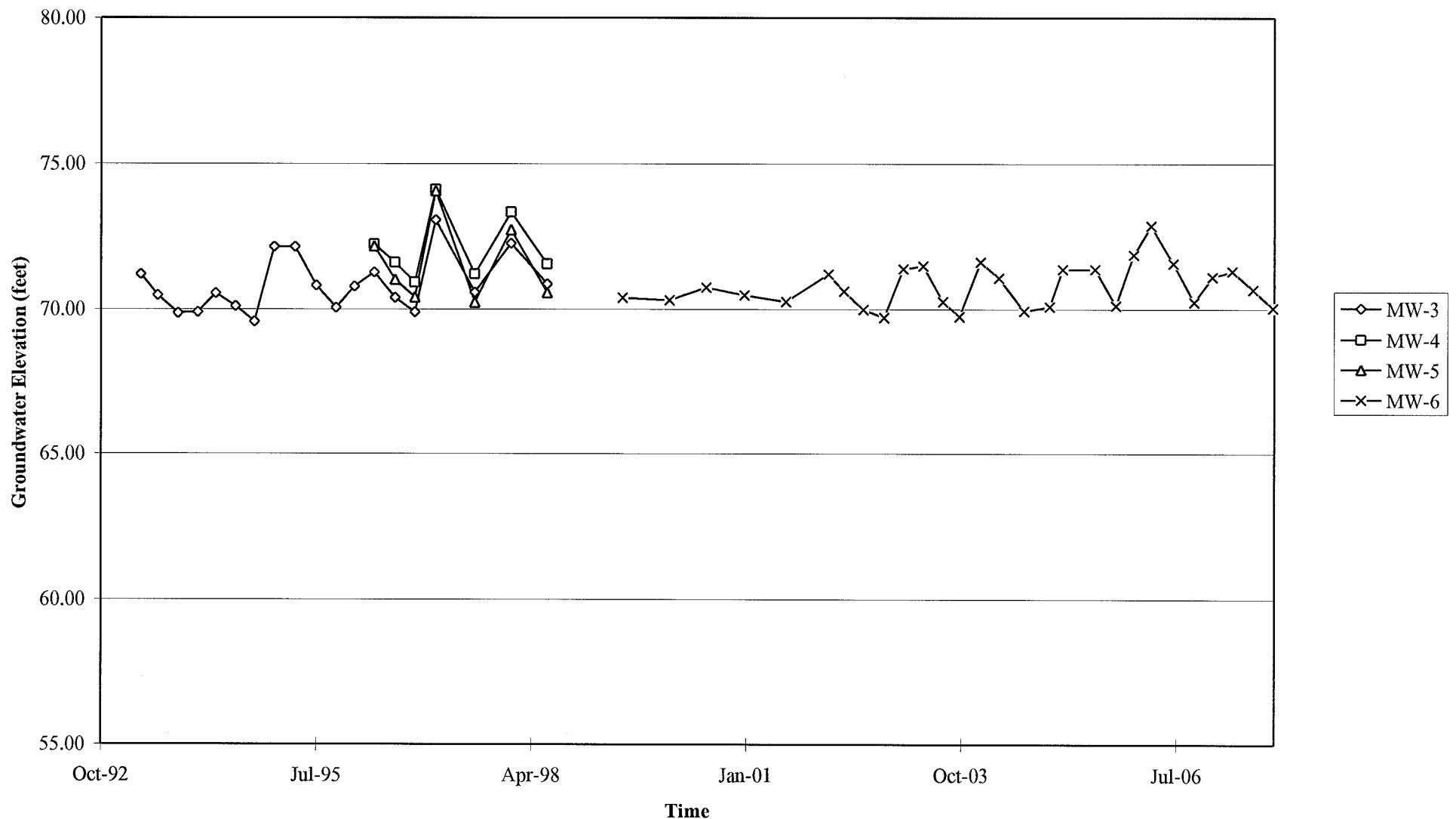
# GRAPHS

Groundwater Elevations vs. Time  
76 Station 1871



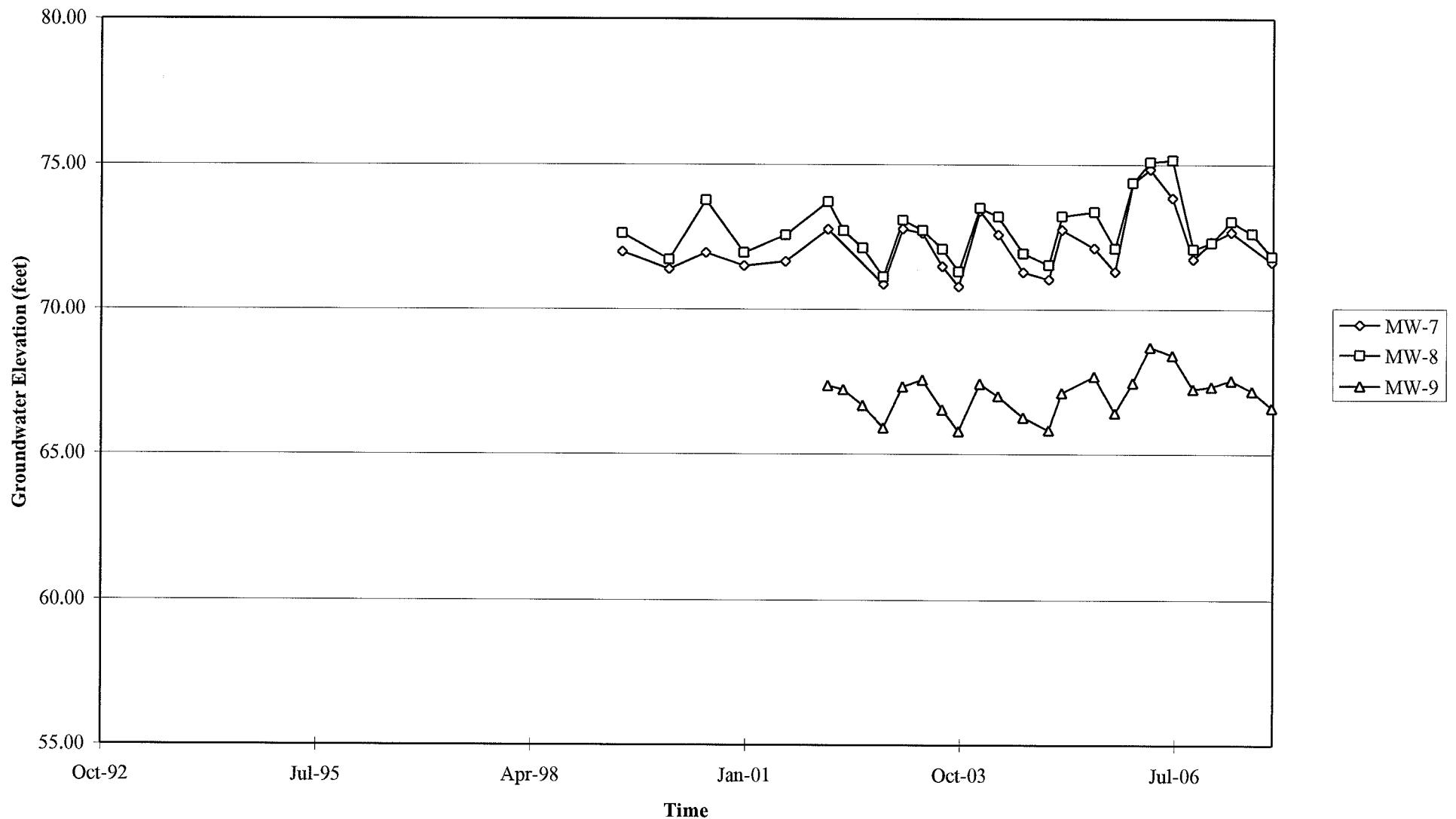
Elevations may have been corrected for apparent changes due to resurvey

Groundwater Elevations vs. Time  
76 Station 1871



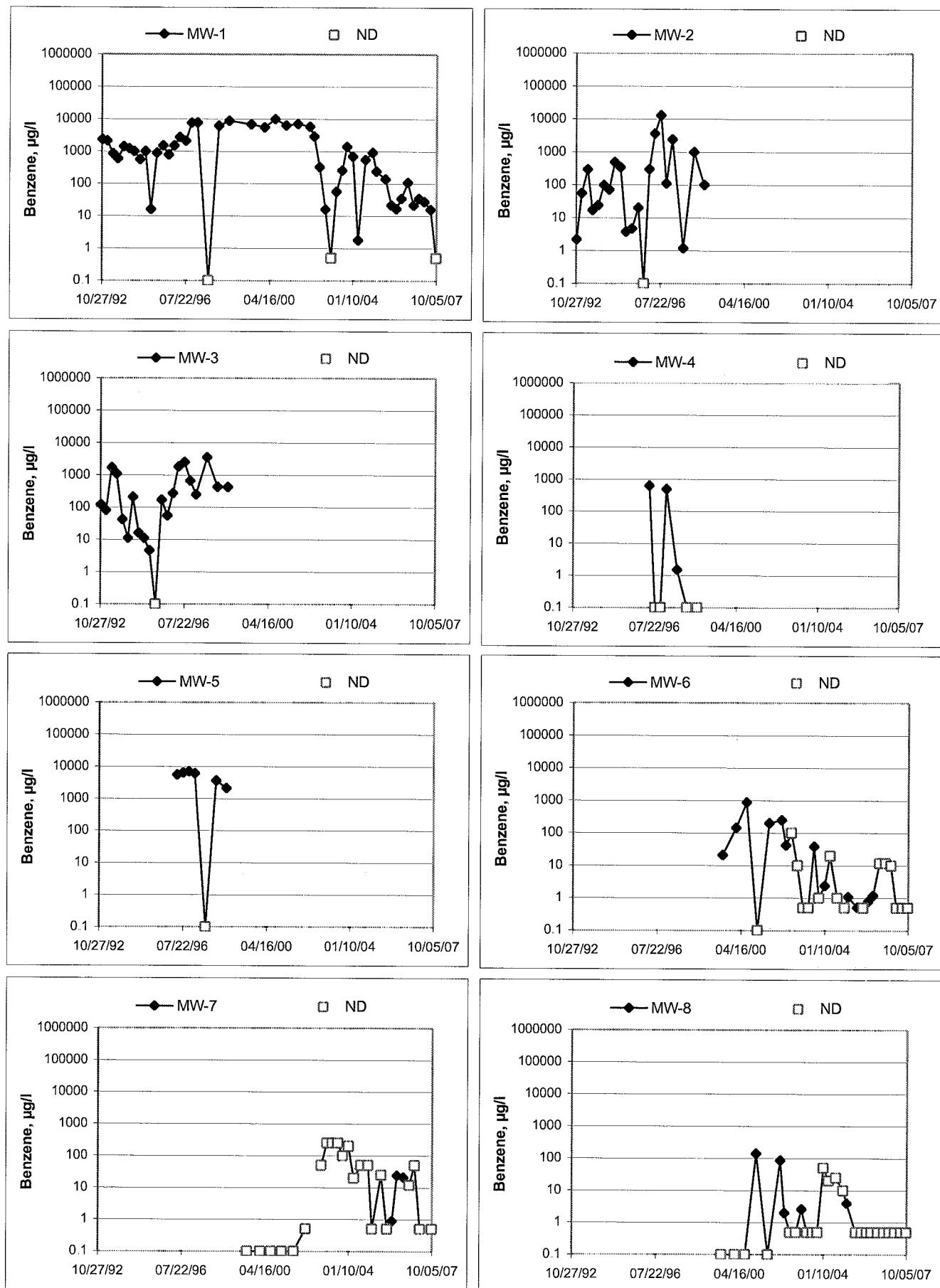
Elevations may have been corrected for apparent changes due to resurvey

Groundwater Elevations vs. Time  
76 Station 1871

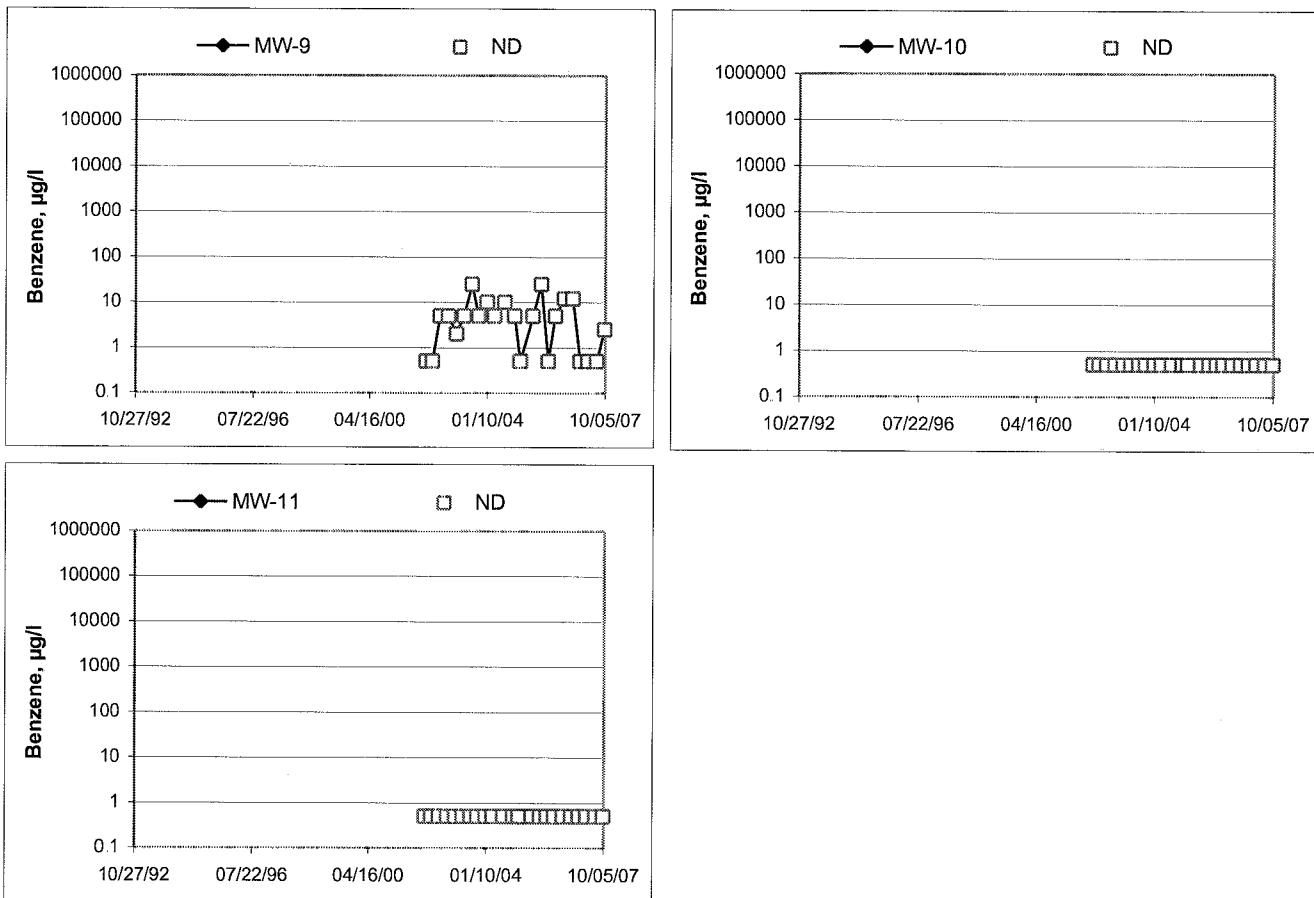


Elevations may have been corrected for apparent changes due to resurvey

**Benzene Concentrations vs Time**  
**76 Station 1871**



**Benzene Concentrations vs Time**  
76 Station 1871



## 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 measurements 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,  $\frac{1}{2}$ -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, sample time, and the sampler's 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 the 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 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 wells, 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.

## FIELD MONITORING DATA SHEET

Technician: BLAKE

**Job #/Task #:** 125703

Date: 9/28/07

Site # 1871

Project Manager A. COLLINS

Page 1 of 1

FIELD DATA COMPLETE

QA/QC

600

## WELL BOX CONDITION SHEETS

WTI CERTIFICATE

MANIFEST

DRUM INVENTORY

TRAFFIC CONTROL

# GROUNDWATER SAMPLING FIELD NOTES

Technician: BLAKE TANNER

Site: 1871

Project No.: 125763

Date: 9/28/07

Well No. M11-9

Purge Method: Sub

Depth to Water (feet): 15.48

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

Total Depth (feet) 19.82

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

Water Column (feet) 4.34

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 16.34

1 Well Volume (gallons): 1

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O.	ORP	Turbidity
0742		1	437	16.4	7.01	7.04	36		
		2	482	16.1	6.89	7.18	28		
0745		3	461	16.3	7.10	7.17	30		
Static at Time Sampled			Total Gallons Purged			Sample Time			
<u>16.34</u>			<u>3</u>			<u>0758</u>			
Comments:									

Well No. M11-8

Purge Method: Sub

Depth to Water (feet): 9.89

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

Total Depth (feet) 24.66

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

Water Column (feet) 14.77

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 12.84

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O.	ORP	Turbidity
0809		2	604	17.28	6.24	7.24	16		
		4	592	17.6	6.89	7.21	18		
0812		6	594	17.4	6.70	7.18	22		
Static at Time Sampled			Total Gallons Purged			Sample Time			
<u>10.89</u> <u>[REDACTED]</u>			<u>4</u>			<u>0814</u>			
Comments:									

# GROUNDWATER SAMPLING FIELD NOTES

Technician: B TANNER

Site: 1871

Project No.: 125703

Date: 9/28/07

Well No. M14-6

Purge Method: Sub

Depth to Water (feet): 9.65

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

Total Depth (feet) 24.80

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

Water Column (feet): 15.15

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 12.68

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O.	ORP	Turbidity
0822			2	742	19.2	6.95	8.40	167	
			4	734	19.1	6.97	8.21	181	
0826			6	745	19.1	6.95	8.36	154	
Static at Time Sampled			Total Gallons Purged			Sample Time			
12.54			6			1015			
Comments: <u>TAKES ALMOST 2 HOURS TO GET TO 80%.</u>									

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

Purge Method: Sub

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	D.O.	ORP	Turbidity
Static at Time Sampled			Total Gallons Purged			Sample Time			
Comments:									

# GROUNDWATER SAMPLING FIELD NOTES

Technician: B. Tanner

Site: 1671

Project No.: 125703

Date: 9/28/07

Well No. MIL-11

Purge Method: Sub

Depth to Water (feet): 16.02

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

Total Depth (feet) 30.22

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

Water Column (feet): 14.2

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 13.86

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O.	ORP	Turbidity
0836			2	1870	17.2	6.81	7.30	230	
			4	1824	17.4	6.74	7.21	247	
	0841		6	1881	17.4	6.74	7.24	244	
Static at Time Sampled			Total Gallons Purged			Sample Time			
				6			1041		
Comments: DID NOT RECHARGE IN TWO HOURS									

Well No. MIL-10

Purge Method: Sub

Depth to Water (feet): 7.24

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

Total Depth (feet) 19.98

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

Water Column (feet): 12.74

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 9.78

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O.	ORP	Turbidity
0849			2	502	17.8	7.02	8.21	124	
			4	510	17.1	7.10	8.26	130	
	0854		6	522	17.6	7.14	8.34	124	
Static at Time Sampled			Total Gallons Purged			Sample Time			
				6			1054		
Comments: DID NOT RECHARGE IN TWO HOURS									

# GROUNDWATER SAMPLING FIELD NOTES

Technician: B. TANNER

Site: 14571

Project No.: 125703

Date: 9/28/07

Well No. M1W-1

Purge Method: Sub

Depth to Water (feet): 13.92

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

Total Depth (feet) 24.02

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

Water Column (feet) 10.1

Casing Diameter (Inches): 4"

80% Recharge Depth(feet) 15.74

1 Well Volume (gallons): 7

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O.	ORP	Turbidity
0906		7	582	18.9	7.24	7.84	-167		
0920		14	564	19.2	7.21	7.80	-160		
		21	-	-	-	-	-		
Static at Time Sampled			Total Gallons Purged			Sample Time			
16.37			14			1120			
Comments: WENT DRY AT 14 GALLONS / DID NOT RECHARGE IN TWO HOURS									

Well No. M1W-7

Purge Method: Sub

Depth to Water (feet): 24.57

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

Total Depth (feet) 9.05

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

Water Column (feet) 15.52

Casing Diameter (Inches): 2"

80% Recharge Depth(feet) 12.15

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O.	ORP	Turbidity
1002		2	454	16.4	8.28	7.96	30		
		4	482	16.16	7.54	8.24	22		
1007		6	461	16.07	7.05	8.16	26		
Static at Time Sampled			Total Gallons Purged			Sample Time			
12.15			6			1020			
Comments:									



Date of Report: 10/11/2007

Anju Farfan

TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

RE: 1871  
BC Work Order: 0711399

Enclosed are the results of analyses for samples received by the laboratory on 09/28/2007 18:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that appears to read "Molly Meyers".

---

Contact Person: Molly Meyers  
Client Service Rep

A handwritten signature in black ink that appears to read "Molly Meyers". It is positioned above a horizontal line labeled "Authorized Signature".

---

Authorized Signature



LABORATORIES, INC.

TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0711399-01	COC Number: --- Project Number: 1871 Sampling Location: MW-9 Sampling Point: MW-9 Sampled By: TRCI	Receive Date: 09/28/2007 18:45 Sampling Date: 09/28/2007 07:58 Sample Depth: --- Sample Matrix: Water	Delivery Work Order: Global ID: T0600101493 Matrix: W Samle QC Type (SACode): CS Cooler ID:	
0711399-02	COC Number: --- Project Number: 1871 Sampling Location: MW-8 Sampling Point: MW-8 Sampled By: TRCI	Receive Date: 09/28/2007 18:45 Sampling Date: 09/28/2007 08:14 Sample Depth: --- Sample Matrix: Water	Delivery Work Order: Global ID: T0600101493 Matrix: W Samle QC Type (SACode): CS Cooler ID:	
0711399-03	COC Number: --- Project Number: 1871 Sampling Location: MW-6 Sampling Point: MW-6 Sampled By: TRCI	Receive Date: 09/28/2007 18:45 Sampling Date: 09/28/2007 10:15 Sample Depth: --- Sample Matrix: Water	Delivery Work Order: Global ID: T0600101493 Matrix: W Samle QC Type (SACode): CS Cooler ID:	
0711399-04	COC Number: --- Project Number: 1871 Sampling Location: MW-11 Sampling Point: MW-11 Sampled By: TRCI	Receive Date: 09/28/2007 18:45 Sampling Date: 09/28/2007 10:41 Sample Depth: --- Sample Matrix: Water	Delivery Work Order: Global ID: T0600101493 Matrix: W Samle QC Type (SACode): CS Cooler ID:	
0711399-05	COC Number: --- Project Number: 1871 Sampling Location: MW-10 Sampling Point: MW-10 Sampled By: TRCI	Receive Date: 09/28/2007 18:45 Sampling Date: 09/28/2007 10:54 Sample Depth: --- Sample Matrix: Water	Delivery Work Order: Global ID: T0600101493 Matrix: W Samle QC Type (SACode): CS Cooler ID:	



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21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0711399-06	COC Number: --- Project Number: 1871 Sampling Location: MW-1 Sampling Point: MW-1 Sampled By: TRCI	Receive Date: 09/28/2007 18:45 Sampling Date: 09/28/2007 11:20 Sample Depth: --- Sample Matrix: Water	Delivery Work Order: Global ID: T0600101493 Matrix: W Samle QC Type (SACode): CS Cooler ID:	
0711399-07	COC Number: --- Project Number: 1871 Sampling Location: MW-7 Sampling Point: MW-7 Sampled By: TRCI	Receive Date: 09/28/2007 18:45 Sampling Date: 09/28/2007 10:20 Sample Depth: --- Sample Matrix: Water	Delivery Work Order: Global ID: T0600101493 Matrix: W Samle QC Type (SACode): CS Cooler ID:	



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21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711399-01	Client Sample Name: 1871, MW-9, MW-9, 9/28/2007 7:58:00AM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC Dilution	MB Batch ID	Lab Bias	Quals
Benzene	ND	ug/L	2.5		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	ND A01
Ethylbenzene	ND	ug/L	2.5		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	ND A01
Methyl t-butyl ether	430	ug/L	5.0		EPA-8260	10/05/07	10/06/07 20:37	KEN	MS-V12	10	BQJ0322	ND A01
Toluene	ND	ug/L	2.5		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	ND A01
Total Xylenes	ND	ug/L	2.5		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	ND A01
Ethanol	ND	ug/L	1200		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	ND A01,V11
Total Purgeable Petroleum Hydrocarbons	390	ug/L	250		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	ND A01,A90
1,2-Dichloroethane-d4 (Surrogate)	90.2	%	76 - 114 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	
1,2-Dichloroethane-d4 (Surrogate)	101	%	76 - 114 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 20:37	KEN	MS-V12	10	BQJ0322	
Toluene-d8 (Surrogate)	97.2	%	88 - 110 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	
Toluene-d8 (Surrogate)	96.9	%	88 - 110 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 20:37	KEN	MS-V12	10	BQJ0322	
4-Bromofluorobenzene (Surrogate)	101	%	86 - 115 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 06:28	KEN	MS-V12	5	BQJ0322	
4-Bromofluorobenzene (Surrogate)	97.9	%	86 - 115 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 20:37	KEN	MS-V12	10	BQJ0322	



LABORATORIES, INC.

TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711399-02	Client Sample Name: 1871, MW-8, MW-8, 9/28/2007 8:14:00AM											
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322	ND	
Methyl t-butyl ether	21	ug/L	0.50		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322	ND	
Toluene	ND	ug/L	0.50		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322	ND	
Ethanol	ND	ug/L	250		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322	ND	V11
Total Purgeable Petroleum Hydrocarbons	99	ug/L	50		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322	ND	
1,2-Dichloroethane-d4 (Surrogate)	93.4	%	76 - 114 (LCL - UCL)		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322		
Toluene-d8 (Surrogate)	94.6	%	88 - 110 (LCL - UCL)		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322		
4-Bromofluorobenzene (Surrogate)	100	%	86 - 115 (LCL - UCL)		EPA-8260	10/05/07	10/05/07 22:49	KEN	MS-V12	1	BQJ0322		



LABORATORIES, INC.

TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711399-03	Client Sample Name: 1871, MW-6, MW-6, 9/28/2007 10:15:00AM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC Dilution	MB Batch ID	Lab Bias	Quals
Benzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	ND
Ethylbenzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	ND
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	ND
Toluene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	ND
Total Xylenes	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	ND
Ethanol	ND	ug/L	250		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	ND
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	ND
1,2-Dichloroethane-d4 (Surrogate)	102	%	76 - 114 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	
Toluene-d8 (Surrogate)	98.6	%	88 - 110 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	
4-Bromofluorobenzene (Surrogate)	99.0	%	86 - 115 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 19:48	KEN	MS-V12	1	BQJ0322	



LABORATORIES, INC.

TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711399-04	Client Sample Name: 1871, MW-11, MW-11, 9/28/2007 10:41:00AM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC Dilution	MB Batch ID	Lab Bias	Quals
Benzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	ND
Ethylbenzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	ND
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	ND
Toluene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	ND
Total Xylenes	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	ND
Ethanol	ND	ug/L	250		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	ND
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	ND
1,2-Dichloroethane-d4 (Surrogate)	94.0	%	76 - 114 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	
Toluene-d8 (Surrogate)	96.1	%	88 - 110 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	
4-Bromofluorobenzene (Surrogate)	101	%	86 - 115 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 00:26	KEN	MS-V12	1	BQJ0322	



LABORATORIES, INC.

TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711399-05	Client Sample Name: 1871, MW-10, MW-10, 9/28/2007 10:54:00AM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC Dilution	MB Batch ID	Lab Quals	
Benzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	ND
Ethylbenzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	ND
Methyl t-butyl ether	15	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	ND
Toluene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	ND
Total Xylenes	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	ND
Ethanol	ND	ug/L	250		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	ND
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	ND
1,2-Dichloroethane-d4 (Surrogate)	93.1	%	76 - 114 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	
Toluene-d8 (Surrogate)	97.7	%	88 - 110 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	
4-Bromofluorobenzene (Surrogate)	99.0	%	86 - 115 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 00:50	KEN	MS-V12	1	BQJ0322	



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TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711399-06	Client Sample Name: 1871, MW-1, MW-1, 9/28/2007 11:20:00AM											
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	QC Dilution	MB Batch ID	Lab Bias	Quals
Benzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322	ND	
Methyl t-butyl ether	1.2	ug/L	0.50		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322	ND	
Toluene	ND	ug/L	0.50		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322	ND	
Ethanol	ND	ug/L	250		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322	ND	
1,2-Dichloroethane-d4 (Surrogate)	95.6	%	76 - 114 (LCL - UCL)		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322		
Toluene-d8 (Surrogate)	97.1	%	88 - 110 (LCL - UCL)		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322		
4-Bromofluorobenzene (Surrogate)	97.0	%	86 - 115 (LCL - UCL)		EPA-8260	10/05/07	10/09/07 10:57	KEN	MS-V12	1	BQJ0322		



TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711399-07	Client Sample Name: 1871, MW-7, MW-7, 9/28/2007 10:20:00AM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC Dilution	MB Batch ID	Lab Bias	Quals
Benzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	ND
Ethylbenzene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	ND
Methyl t-butyl ether	37	ug/L	0.50		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	ND
Toluene	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	ND
Total Xylenes	ND	ug/L	0.50		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	ND
Ethanol	ND	ug/L	250		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	ND
Total Purgeable Petroleum Hydrocarbons	50	ug/L	50		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	ND
1,2-Dichloroethane-d4 (Surrogate)	90.7	%	76 - 114 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	
Toluene-d8 (Surrogate)	95.6	%	88 - 110 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	
4-Bromofluorobenzene (Surrogate)	100	%	86 - 115 (LCL - UCL)		EPA-8260	10/05/07	10/06/07 01:14	KEN	MS-V12	1	BQJ0322	



TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		
									Percent Recovery	RPD	Percent Recovery Lab Quals
Benzene	BQJ0322	Matrix Spike	0711415-01	0	33.030	25.000	ug/L	132	70 - 130	20	Q03
		Matrix Spike Duplicate	0711415-01	0	32.070	25.000	ug/L	3.1	128	20	70 - 130
Toluene	BQJ0322	Matrix Spike	0711415-01	0	28.820	25.000	ug/L	115	70 - 130	20	70 - 130
		Matrix Spike Duplicate	0711415-01	0	27.150	25.000	ug/L	5.4	109	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BQJ0322	Matrix Spike	0711415-01	ND	9.6700	10.000	ug/L	96.7	76 - 114		
		Matrix Spike Duplicate	0711415-01	ND	9.5600	10.000	ug/L	95.6	76 - 114		
Toluene-d8 (Surrogate)	BQJ0322	Matrix Spike	0711415-01	ND	10.340	10.000	ug/L	103	88 - 110		
		Matrix Spike Duplicate	0711415-01	ND	9.8000	10.000	ug/L	98.0	88 - 110		
4-Bromofluorobenzene (Surrogate)	BQJ0322	Matrix Spike	0711415-01	ND	10.000	10.000	ug/L	100	86 - 115		
		Matrix Spike Duplicate	0711415-01	ND	10.180	10.000	ug/L	102	86 - 115		



TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	Control Limits		
									Percent Recovery	RPD	Lab Quals
Benzene	BQJ0322	BQJ0322-BS1	LCS	31.980	25.000	0.50	ug/L	128	70 - 130		
Toluene	BQJ0322	BQJ0322-BS1	LCS	27.040	25.000	0.50	ug/L	108	70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BQJ0322	BQJ0322-BS1	LCS	9.2200	10.000		ug/L	92.2	76 - 114		
Toluene-d8 (Surrogate)	BQJ0322	BQJ0322-BS1	LCS	9.9200	10.000		ug/L	99.2	88 - 110		
4-Bromofluorobenzene (Surrogate)	BQJ0322	BQJ0322-BS1	LCS	10.240	10.000		ug/L	102	86 - 115		



LABORATORIES, INC.

TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BQJ0322	BQJ0322-BLK1	ND	ug/L	0.50		
Ethylbenzene	BQJ0322	BQJ0322-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BQJ0322	BQJ0322-BLK1	ND	ug/L	0.50		
Toluene	BQJ0322	BQJ0322-BLK1	ND	ug/L	0.50		
Total Xylenes	BQJ0322	BQJ0322-BLK1	ND	ug/L	1.0		
Ethanol	BQJ0322	BQJ0322-BLK1	ND	ug/L	1000		
Total Purgeable Petroleum Hydrocarbons	BQJ0322	BQJ0322-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BQJ0322	BQJ0322-BLK1	95.5	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BQJ0322	BQJ0322-BLK1	96.2	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BQJ0322	BQJ0322-BLK1	99.3	%	86 - 115 (LCL - UCL)		



LABORATORIES, INC.

TRC Alton Geoscience  
21 Technology Drive  
Irvine, CA 92618-2302

Project: 1871  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/11/2007 11:26

## Notes And Definitions

- MDL Method Detection Limit  
ND Analyte Not Detected at or above the reporting limit  
PQL Practical Quantitation Limit  
RPD Relative Percent Difference  
A01 PQL's and MDL's are raised due to sample dilution.  
A90 TPPH does not exhibit a "gasoline" pattern. TPPH is entirely due to MTBE.  
Q03 Matrix spike recovery(s) is(are) not within the control limits.  
V11 The Continuing Calibration Verification (CCV) recovery is not within established control limits.

BC LABORATORIES INC.

## SAMPLE RECEIPT FORM

Rev. No. 10 01/21/04 Page \_\_\_ Of \_\_\_

Submission #: 07-11399

Project Code:

TB Batch #

## SHIPPING INFORMATION

Federal Express  UPS  Hand Delivery   
 BC Lab Field Service  Other  (Specify) \_\_\_\_\_

## SHIPPING CONTAINER

Ice Chest  None   
 Box  Other  (Specify) \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Intact Yes  No  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received  
 YES  NO

Ice Chest ID: RLW  
 Temperature: 2.4 °C  
 Thermometer ID: #48

Emissivity  
 Container: 0.98  
 CTA

Date/Time 9/28/07  
 Analyst Init OTD

## SAMPLE CONTAINERS

## SAMPLE NUMBERS

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

QT GENERAL MINERAL/ GENERAL PHYSICAL

PT PE UNPRESERVED

QT INORGANIC CHEMICAL METALS

PT INORGANIC CHEMICAL METALS

PT CYANIDE

PT NITROGEN FORMS

PT TOTAL SULFIDE

2oz. NITRATE / NITRITE

100ml TOTAL ORGANIC CARBON

QT TOX

PT CHEMICAL OXYGEN DEMAND

PTA PHENOLICS

40ml VOA VIAL TRAVEL BLANK

40ml VOA VIAL

A 13 A 3 A 3 A 3 A 3 A 3 A 3 A 3

( ) ( ) ( )

QT EPA 413.1, 413.2, 418.1

PT ODOR

RADIOLOGICAL

BACTERIOLOGICAL

40 ml VOA VIAL - 504

QT EPA 508/608/8080

QT EPA 515.1/8150

QT EPA 525

QT EPA 525 TRAVEL BLANK

100ml EPA 547

100ml EPA 531.1

QT EPA 548

QT EPA 549

QT EPA 632

QT EPA 8015M

QT QA/QC

QT AMBER

8 OZ. JAR

32 OZ. JAR

SOIL SLEEVE

PCB VIAL

PLASTIC BAG

FERROUS IRON

ENCORE

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

Sample Numbering Completed By: OTD

Date/Time: 9/28/07 2000



# BC LABORATORIES, INC.

4100 Atlas Court □ Bakersfield, CA 93308  
 (661) 327-4911 □ FAX (661) 327-1918

## CHAIN OF CUSTODY

### Analysis Requested

Bill to: Conoco Phillips/ TRC		Consultant Firm: TRC		<b>MATRIX</b> (GW) Ground-water (S) Soil (WW) Waste-water (SL) Sludge	BTEX/MTBE by 8021B, Gas by 8015	TPH GAS by 8015M	8260 full list w/ oxygenates * Per Adrienne MC 9/29	BTEX/MTBE BY 8260B	ETHANOL by 8260B	TPH-G by GCMS	Turnaround Time Requested
Address:  96 MACARTHUR BLVD.		21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan									
City:  OAKLAND		4-digit site#: 1871									
State: CA Zip:		Workorder #: 01120-4507897416									
Conoco Phillips Mgr: BILL BOGERT		Sampler Name: BLAKE TANNER									
Lab#	Sample Description	Field Point Name	Date & Time Sampled								
-1	MW-9		9/28/07 0758			X	X	X			
-2	MW-8		0814								
-3	MW-6		1015								
-4	MW-11		1041								
-5	MW-10		1054								
-6	MW-1		1120								
-7	MW-7		1020								

Comments:	Relinquished by: (Signature)  <i>Ross Dickey</i>	Received by:  <i>Ross Dickey</i>	Date & Time 9/28/07 1250
GLOBAL ID:  T0600101493	Relinquished by: (Signature)  <i>Ross Dickey 9/28/07</i>	Received by:  <i>Plinyne</i>	Date & Time 9/28/07 1530
	Relinquished by: (Signature)  <i>Rikay 9/28/07 1805</i>	Received by:  <i>Toni Obrien'</i>	Date & Time 9/28/07 1845

(A) = ANALYSIS

(C) = CONTAINER

(P) = PRESERVATIVE

## **STATEMENTS**

### **Purge Water Disposal**

Non-hazardous groundwater produced during purging and sampling of monitoring wells was accumulated at TRC's groundwater monitoring facility at Concord, California, for transportation by a licensed carrier, 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 containing a significant amount of liquid-phase hydrocarbons was accumulated separately in drums for transportation and disposal by others.

### **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.



September 28, 2007

One Technology Drive, Ste. B-123  
Irvine, California 92618  
tel 949.486.0884  
fax 949.486.0885  
environstrategy.com

Mr. Keith Woodburne, R.G.  
Senior Project Geologist  
TRC Solutions, Inc.  
1590 Solano Way, Suite A  
Concord, CA 94520

Project No. 400-A

**Third Quarter 2007**  
**Ozone Injection System O&M Report**

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

Dear Mr. Woodburne:

Environ Strategy Consultants, Inc. is pleased to submit this ozone injection system operation and maintenance (O&M) report for 76 Service Station No. 1871, located at 96 MacArthur Boulevard, Oakland, California. An ozone injection system was started on June 23, 2003 to remediate hydrocarbon-impacted groundwater.

Type of Remediation System:	Ozone Injection System
Operation Data During: Reporting Period: July 1, 2007 – Aug. 31, 2007	Operated 62 days during the period Hours of Operation: 1,274
System Operation Data Since Startup: June 23, 2003	Total Hours of Operation: 14,333
<p>Note: This report includes data from July and August only, due to a change in the Quarterly schedule. The next Quarterly O&amp;M Report will include data from September-November.</p> <p>June 4, 2007 - Control Panel retrofit installed.</p>	

Environ Strategy appreciates the opportunity to be of service. If you have any questions or require additional information regarding this report, please do not hesitate to call us at (949) 486-0884.

Respectfully submitted,

Dane Nygaard  
Project Engineer

Jinghui Niu, P.E.  
Principal Engineer



**Third Quarter 2007 O&M Report**

**76 Service Station No. 1871**

September 28, 2007

Page 2

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Attachments: Figure - Site Plan

Table 1 - Ozone Injection - System Operation Data

Table 2 - Ozone Injection - Groundwater Monitoring Data

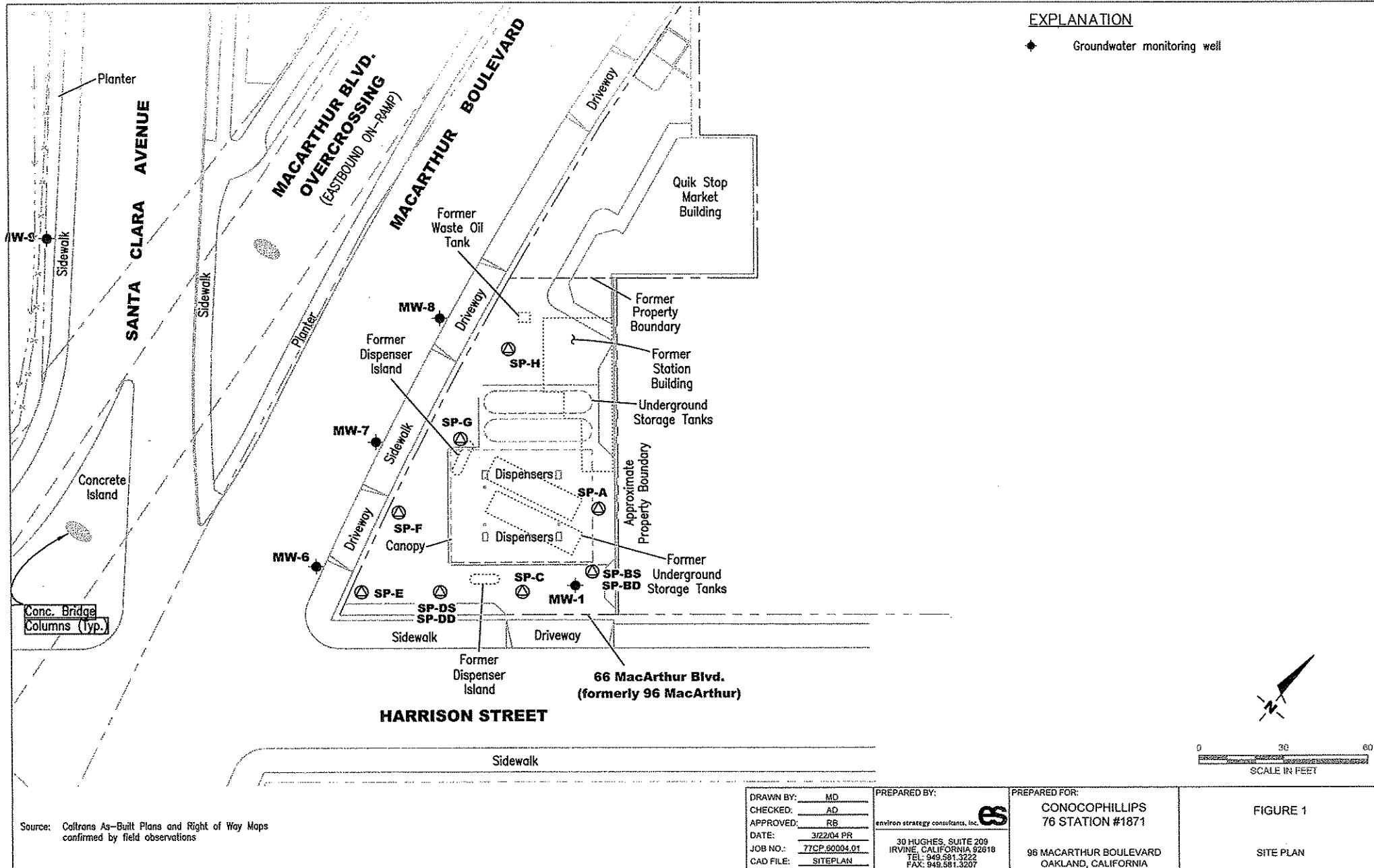
Graph 1 - MW-1 TPHg, Benzene, and MtBE Groundwater Concentrations

Graph 2 - MW-7 TPHg, Benzene, and MtBE Groundwater Concentrations

Appendix A – Field Notes

cc: Bill Borgh, ConocoPhillips Company (electronic copy)

## **Figure**



## **Tables**

**Table 1**  
**Ozone Injection - System Operation Data**  
76 Service Station No. 1871  
96 MacArthur Blvd., Oakland, California  
Page 1 of 3

Date	Notes	OZONE SPARGE SYSTEM					OZ-1	OZ-2	OZ-3	OZ-4	OZ-5	OZ-6	OZ-7	OZ-8	OZ-9	OZ-10	
		System Status (On/Off)		Hourmeter Reading	Period Online Factor	Cumulative Online Factor	Ozone Injected (lbs)	Pressure (psi)									
		Arrival	Departure														
6/23/03		On	On	8807.26	--	0.95	--	20	18	19	20	21	23	20	26	14	26
7/16/03		Off	On	8850.46	0.09	0.91	0.39	27	18	31	40	28	29	31	38	24	25
8/30/03		On	On	9180.61	0.35	0.86	2.97	17	15	17	19	19	19	20	26	19	26
9/18/03		On	On	9327.43	0.37	0.84	1.32	13.5	14.7	17.0	16.3	16.0	19.7	16.8	19.8	15.7	20
10/16/03		On	On	--	--	0.84	--	27.0	19.5	40.8	39.0	40.8	38.5	34.2	46.4	24.2	39.8
11/17/03		On	On	9696.55	0.29	0.81	--	11.0	20.0	17.0	18.0	17.5	17.0	16.0	21.0	51.0	22.0
12/5/03		On	On	9804.98	0.29	0.80	0.98	33.0	21.0	44.0	40.0	43.0	39.0	33.5	44.0	26.0	33.0
1/16/04		On	On	10471.28	0.76	0.79	6.00	12.5	11.0	18.5	16.5	17.5	17.0	16.0	20.0	16.0	20.0
2/3/04		On	On	10727.69	0.68	0.79	2.31	12.3	11.5	18.2	16.5	18.2	17.3	16.0	19.0	16.0	18.2
3/24/04		On	On	11424.95	0.66	0.78	6.28	31.0	18.3	37.5	26.0	34.0	33.2	32.3	41.5	23.0	31.0
4/14/04		On	On	11676.10	0.57	0.77	2.26	32.0	19.0	38.7	26.0	37.7	37.1	32.8	41.8	23.8	29.5
4/15/04	a	On	On	11685.29	0.44	0.77	0.08	--	--	--	--	--	--	--	--	--	--
4/16/04	a	On	On	11693.80	0.41	0.77	0.08	--	--	--	--	--	--	--	--	--	--
4/19/04	a	On	On	11742.90	0.78	0.77	0.44	--	--	--	--	--	--	--	--	--	--
4/23/04	a	On	On	11773.10	0.36	0.77	0.27	--	--	--	--	--	--	--	--	--	--
5/4/04		Off	On	11837.70	0.28	0.76	0.58	32.2	20.5	39.4	36.2	38.1	32.0	33.5	60.0	25.8	33.1
5/11/04		On	On	11950.51	0.77	0.76	1.02	32.5	20.0	38.5	29.8	38.8	39.5	34.8	60.0	23.5	35.9
6/14/04	b,c	On	On	12464.64	0.72	0.76	4.63	20.0	21.0	38.8	27.2	37.0	38.2	35.2	60.0	24.0	32.1
7/29/04	d	On	On	844.62	0.99	0.77	7.60	22	15	--	26	35	34	35	--	25	33
8/12/04	e	On	On	1075.97	0.98	0.78	2.08	--	--	--	--	--	--	--	--	--	--
9/10/04		On	On	1490.23	0.85	0.78	3.73	32	32	33	33	21	24	30	20	26	30
10/5/04		On	On	1868.83	0.90	0.78	3.41	31	32	33	31	22	23	31	21	26	28
11/6/04		On	On	2360.90	0.93	0.79	4.43	22	26	12	18	12	22	30	32	26	22
12/2/04	f	Off	Off	2802.02	0.97	0.79	3.97	--	--	--	--	--	--	--	--	--	--
1/13/05		Off	On	2802.07	0.00	0.76	0.00	23	27	15	20	15	23	31	34	28	25
2/25/05	g	Off	Off	2802.42	0.00	0.73	0.00	--	--	--	--	--	--	--	--	--	--
3/8/05	h,i	Off	Off	2802.42	0.00	0.72	0.00	--	--	--	--	--	--	--	--	--	--
4/5/05	i	Off	Off	2802.42	0.00	0.70	0.00	--	--	--	--	--	--	--	--	--	--
5/4/05	j	Off	On	2802.49	0.00	0.69	0.00	14	11	16	12	20	27	25	29	25	31
6/2/05	k	On	On	3407.97	1.00	0.69	5.45	35	25	Off	40	41	36	35	34	27	25
7/7/05	k,l,m	On	On	4067.42	1.29	0.71	5.94	31	23	Off	30	Off	26	32	28	25	Off
8/26/05	n	On	On	4665.98	0.81	0.72	5.39	13	13	Off	14	Off	13	12	12	13	Off
9/23/05	o	On	On	4947.97	0.69	0.71	2.54	16	15	Off	Off	Off	16	16	16	16	Off
10/23/05	p	On	On	5264.28	0.72	0.71	2.85	16	16	Off	Off	Off	16	16	16	16	Off
11/11/05	q,r	On	Off	0.90	--	0.71	--	--	--	--	--	--	--	--	--	--	--
11/15/05	s	Off	On	0.90	0.00	0.71	0.00	35	16	16	22	23	18	23	23	23	24
12/6/05	t	Off	On	2.49	0.00	0.70	0.01	22	20	19	24	24	22	26	23	24	25
1/4/06	u	Off	On	6	0.01	0.69	0.03	20	20	18	17	23	20	25	19	22	20
1/18/06	u	Off	On	203	0.67	0.69	1.77	22	19	19	20	19	18	21	22	22	23
2/1/06	v	Off	On	316	0.38	0.68	1.02	20	20	18	22	22	18	23	23	22	25
2/15/06	v	Off	On	344	0.10	0.68	0.25	20	19	18	17	19	20	23	19	22	20
3/1/06	v	Off	On	417	0.25	0.67	0.66	21	20	19	19	21	17	24	23	21	21
3/16/06	u	Off	On	501	0.27	0.67	0.76	20	19	18	17	19	20	23	20	22	20
3/29/06	u	Off	On	560	0.22	0.67	0.53	20	20	19	19	20	21	25	21	22	21
4/16/06	u	Off	On	624	0.17	0.66	0.58	20	19	18	17	19	20	23	20	23	21

**Table 1**  
**Ozone Injection - System Operation Data**  
 76 Service Station No. 1871  
 96 MacArthur Blvd., Oakland, California  
 Page 2 of 3

Date	Notes	OZONE SPARGE SYSTEM					OZ-1	OZ-2	OZ-3	OZ-4	OZ-5	OZ-6	OZ-7	OZ-8	OZ-9	OZ-10	
		System Status (On/Off)		Hourmeter Reading	Period Online Factor	Cumulative Online Factor	Ozone Injected (lbs)	Pressure (psi)									
		Arrival	Departure														
4/25/06	u	Off	On	718	0.50	0.66	0.85	20	20	19	18	20	22	24	21	22	20
5/9/06	u	Off	On	776	0.20	0.65	0.52	20	19	19	17	19	21	22	20	22	20
5/23/06	u	Off	On	834	0.20	0.65	0.52	19	20	18	18	20	20	23	20	23	21
6/6/06	u	Off	On	1042	0.71	0.65	1.87	20	19	18	17	19	20	23	20	22	20
6/20/06	w	Off	On	1206	0.56	0.65	1.48	19	20	18	18	19	20	25	21	23	21
7/7/06	x	Off	Off	1313	0.30	0.65	0.96	--	--	--	--	--	--	--	--	--	--
7/28/06	y	Off	On	1313	0.00	0.64	0.00	19	17	16	19	24	17	22	19	21	23
8/15/06	u	Off	On	1616	0.80	0.64	2.73	19	17	17	16	19	19	23	19	21	21
8/29/06	u	Off	On	1801	0.63	0.64	1.67	19	19	17	17	21	18	21	19	22	23
9/12/06	u	Off	On	2022	0.75	0.64	1.99	23	19	17	16	19	19	25	19	22	21
9/22/06	u	Off	On	2204	0.87	0.64	1.64	21	21	19	20	23	21	26	23	25	27
10/4/06	u	Off	On	2313	0.43	0.64	0.98	18	18	17	18	18	18	25	23	22	21
10/18/06	u	Off	On	2401	0.30	0.64	0.79	20	19	17	16	18	19	20	20	21	27
10/31/06	w	Off	On	2516	0.42	0.63	1.04	22	20	19	20	19	19	23	21	25	23
11/14/06	u	Off	On	2636	0.41	0.63	1.08	18	18	17	17	18	18	22	24	22	24
11/28/06	u	Off	On	2744	0.37	0.63	0.97	20	20	19	20	22	21	25	25	22	23
12/14/06	u	Off	On	2801	0.17	0.63	0.51	19	19	18	18	19	19	22	22	23	22
12/26/06	u	Off	On	2906	0.42	0.62	0.95	20	20	19	20	21	20	25	25	20	24
1/15/07	u	Off	On	2983	0.18	0.62	0.69	19	20	18	18	19	19	22	23	22	22
1/29/07	v	Off	On	3076	0.32	0.62	0.84	20	20	19	20	20	20	24	21	23	24
2/6/07	u	Off	On	3156	0.48	0.62	0.72	19	20	18	17	19	19	21	24	21	23
2/21/07	u	Off	On	3303	0.47	0.62	1.32	20	21	20	20	18	21	23	21	25	23
3/5/07	u	Off	On	3378	0.30	0.61	0.68	19	20	18	18	18	20	21	23	22	22
3/19/07	u	Off	On	3476	0.33	0.61	0.88	20	21	20	19	18	21	23	24	23	24
4/4/07	u	Off	On	3515	0.12	0.61	0.35	19	20	18	17	18	19	21	21	21	22
4/18/07	u	Off	On	3606	0.31	0.60	0.82	21	21	20	20	18	21	24	24	24	23
5/10/07	u	Off	On	3676	0.15	0.60	0.63	19	20	19	17	18	19	20	23	20	21
5/25/07	u	Off	On	3758	0.26	0.60	0.74	22	21	20	19	19	21	22	22	22	23
6/4/07	u	Off	On	3801	0.18	0.59	0.39	18	20	18	18	17	19	19	20	21	20
6/18/07		On	On	4137	1.00	0.60	3.02	20	20	19	19	19	20	22	22	20	22
7/2/07		On	On	4273	0.40	0.60	1.22	15	21	19	18	20	19	24	21	21	23
7/16/07		On	On	4409	0.40	0.59	1.22	18	20	20	19	21	20	26	23	22	25
8/8/07		On	On	4961	1.00	0.60	4.97	13	20	20	18	20	18	29	22	20	24
8/27/07		On	On	5411	0.99	0.60	4.05	14	21	19	20	21	19	30	20	21	21
Sparge time per cycle (min)								7	7	7	7	7	7	7	7	7	7
Number of Cycles per Day								18	18	18	18	18	18	18	18	18	18

**Reporting Period: Third Quarter 2007 (7/01/07 to 9/30/07)**

Total Hours Operational: 14,333

Total Pounds Ozone Injected: 129

Period Hours Operational: 1274

Period Percent Operational: 76%

Period Pounds Ozone Injected: 11.47

**Table 1**  
**Ozone Injection - System Operation Data**  
76 Service Station No. 1871  
96 MacArthur Blvd., Oakland, California  
Page 3 of 3

**Definitions:**

psi Pounds per square inch  
-- Data not available  
NA Not applicable  
lbs Pounds

**Notes:**

**June 4, 2007 - Control Panel retrofit installed.**

System cycles through program 18 times per day, for 53% utilization

- a Troubleshooting time counter
- b Hourmeter replaced
- c Solenoid 8 has high pressure, taken offline
- d Solenoid 3 leaking, taken off line
- e Pressures not properly recorded
- f Ozone generator hose ruptured on effluent side to solenoid manifold. No Readings.
- g System down due to bad GFI
- h New GFI was installed.
- i Fan in compressor broken and tubing from compressor to manifold needs to be replaced. System left off until repairs made.
- j Installed new motor fan and manifold fittings, restarted system.
- k OZ-3 turned off due to high pressure of over 60 psi.
- l OZ-5 too brittle. Left off until lines are replaced.
- m OZ-10 turned off due to leak in secondary containment
- n Hourmeter reading not correct, will check next visit
- o Hourmeter not working properly.
- p Pressure gauge stuck at 16 psi.
- q New hourmeter, panel fan, and GFCI installed
- r Fuse blown in ozone generator, system left off
- s Replaced tubing to all wells and replaced ozone generator circuit board and pressure gauge
- t System down due to tripped GFI; foam on door may have been pressing reset button. Foam removed.
- u Ozone sensor tripped; system restarted.
- v Rainbird meter malfunction.
- w System down time due to tripped GFI; system restarted.
- x System off due to bad compressor.
- y Compressor repaired; system restarted.

**Table 2**  
**Ozone Injection - Groundwater Monitoring Data**  
 76 Service Station No. 1871  
 96 MacArthur Blvd., Oakland, California  
 Page 1 of 1

Date	Notes	Monitoring Well: MW-1								Monitoring Well: MW-7							
		ORP (mV)	DO (mg/l)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (total) (µg/L)	MtBE (µg/L)	ORP (mV)	DO (mg/l)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (total) (µg/L)	MtBE (µg/L)
4/16/2003	a	NM	NM	510	57	0.62	29	61	160	NM	NM	<25,000	<250	<250	<250	<500	37,000
6/23/2003	a	NM	NM	75	<0.50	<0.50	<0.50	5.3	12	NM	NM	20,000	260	<0.50	<0.50	<1.0	20,000
8/29/2003	a	NM	NM	11,000	64	<10	330	1,400	440	NM	NM	<10,000	<100	<100	<100	<200	24,000
9/18/2003		NM	NM	390	2.3	<0.50	3.6	31	30	NM	NM	--	--	--	--	--	--
10/16/2003		NM	NM	2,100	6.0	<0.50	24.0	120	110	NM	NM	--	--	--	--	--	--
11/17/2003		NM	NM	130	0.51	<0.50	2.1	7.9	43	NM	NM	16,000	<130	<130	<130	<250	17,000
12/5/2003		NM	NM	<50	<0.50	<0.50	<0.50	<1.0	36	NM	NM	12,000	<100	<100	<100	<200	19,000
1/16/2004	b	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	<2.0	NM	NM	17,000	160	270	<130	<250	19,000
2/3/2004		238	NM	<50	<0.50	<0.50	<0.50	<1.0	<2.0	72	NM	10,000	<25	<25	<25	<50	15,000
3/24/2004	b	169	NM	55	<0.50	<0.50	0.80	2.9	7.8	56	NM	13,000	<100	<100	<100	<200	15,000
4/14/2004	b	0.4	NM	23,000	310	10	590	2400	1700	42	NM	9,000	<50	<50	<50	<100	11,000
5/11/2004	c	NM	7,800	160	<10	170	700	720	-3	NM	8,300	<50	<50	<50	<100	11,000	
6/14/2004		20	5.25	110	<0.50	<0.50	1.0	6.4	3.4	35	1.45	<5,000	<50	<50	<100	6,500	
7/26/2004		NM	NM	<50	<0.50	<0.50	<0.50	<1.0	3.2	NM	NM	<5,000	<50	<50	<50	<100	3,100
8/12/2004		171	0.07	<50	<0.50	<0.50	<0.50	<1.0	0.80	117	0.06	2,100	<10	<10	<10	<20	2,700
9/10/2004		180	0.08	<50	<0.50	<0.50	<0.50	<1.0	5.7	122	0.07	3,100	<13	<13	<13	<25	4,400
10/5/2004		175	0.09	<50	<0.50	<0.50	<0.50	<1.0	<0.50	117	0.08	<50	<0.50	<0.50	<0.50	<1.0	7.1
11/5/2004	d	117	0.05	<50	<0.50	<0.50	<0.50	<1.0	0.89	210	0.06	50	<0.50	<0.50	<0.50	<1.0	1.1
12/2/2004		109	0.03	83	0.83	<0.50	<0.50	1.2	44	214	0.03	180	1.6	<0.50	66	4.5	51
1/13/2005		105	0.04	1,100	26	1.2	2.10	70	630	201	0.05	1,000	25	1	1.9	68	460
2/25/2005	c,f	--	2.67	24,000	350	10	820	2,200	1,300	21	2.05	680	<2.0	<2.0	2.3	58	2,500
3/8/2005	g	-35	4.43	23,000	410	<10	1,100	2,300	1,300	NR	NR	--	--	--	--	--	--
4/5/2005		-30	4.56	34,000	300	<10	910	2,000	1,100	135	6.53	<5,000	<.50	<.50	<.50	<1.00	19,000
5/4/2005		-59	2.40	26,000	220	7.4	790	2,100	860	-24	1.13	<2,000	<0.50	<0.50	<0.50	<1.0	7,100
6/2/2005		-20	7.34	<50	<0.50	<0.50	<0.50	<1.0	3.5	-12	1.01	3500	<0.50	<0.50	<0.50	<1.0	4,000
7/7/2005	i,j	142	7.42	<50	<0.50	<0.50	<0.50	<1.0	0.61	154	1.40	5000	<0.50	<0.50	<0.50	<1.0	8,900
9/23/2005		16	7.77	<50	<0.50	<0.50	<0.50	<1.0	<0.50	56	1.39	<500	<5.0	<5.0	<5.0	<10	1,900
10/23/2005		154	7.13	<50	<0.50	<0.50	<0.50	<1.0	0.56	191	1.59	<250	<2.5	<2.5	<2.5	<5	680
11/1/2005	k	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

**Definitions:**

TPHg = Total petroleum hydrocarbons as gasoline

MtBE = Methyl tert-butyl ether

µg/L = Micrograms per liter

ORP = Oxidation Reduction Potential

DO = Dissolved Oxygen

mV = Millivolts

mg/l = Milligrams per liter

**Notes:**

-- Data not available

NM Not Measured

a Sampled by Gettler-Ryan, Inc.

b Hydrocarbon in gasoline range does not match laboratory gasoline standard.

c ORP reading under the range

d Quantity of unknown hydrocarbon(s) in sample based on gasoline.

e Data not available at time of reporting

f MW-7 Estimated value of MtBE; concentration exceeded the calibration of analysis

g Car parked on MW-7.

h Data not available at time of reporting

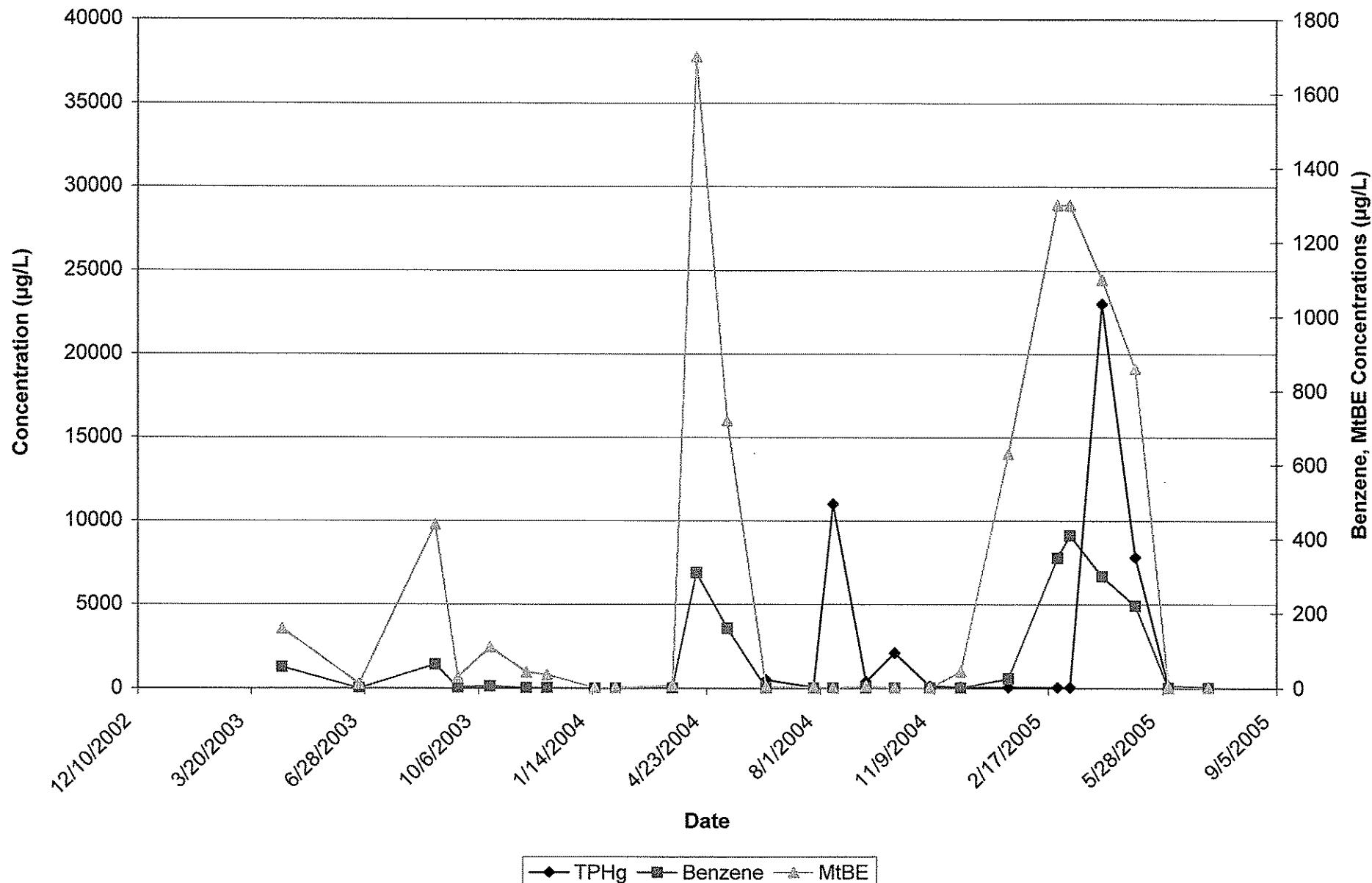
i Siloxane peaks were found in the sample which are not believed to be gasoline related. If they were to be quantified as gasoline, the concentration would be 58 µg/L. (MW-1).

j The concentration reported reflect(s) individual or discrete unidentified peaks not matching a typical fuel pattern. (MW-1)

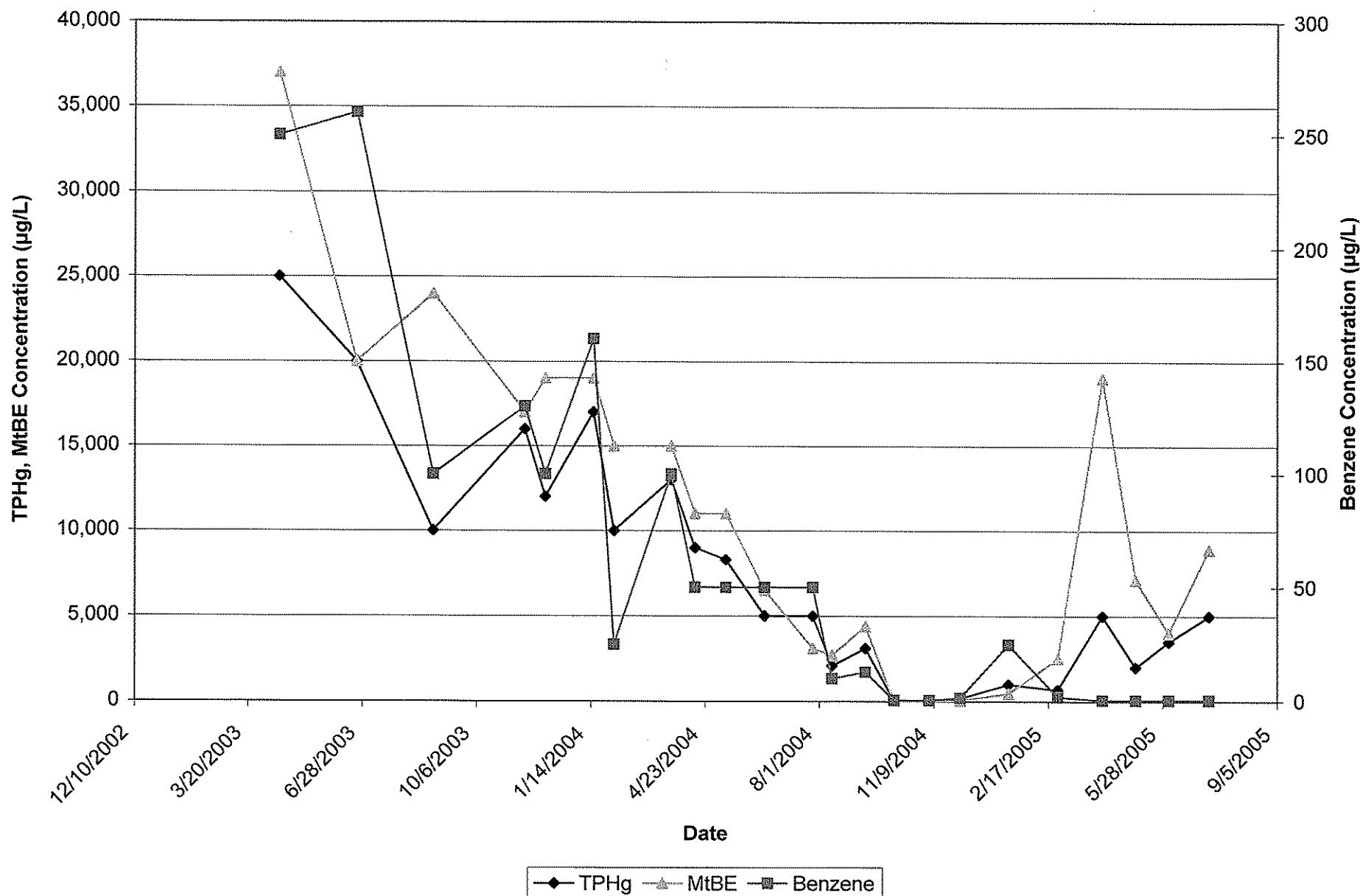
k Sampling discontinued at the request of ConocoPhillips

## **Graphs**

**Graph 1**  
**MW-1 TPHg, Benzene, and MtBE Groundwater Concentrations**  
76 Service Station No. 1871  
96 MacArthur Blvd., Oakland, California



**Graph 2**  
**MW-7 TPHg, Benzene, and MtBE Groundwater Concentrations**  
76 Service Station No. 1871  
96 MacArthur Blvd., Oakland, California



## **Appendix A**

### **Field Notes**

## **ConocoPhillips Ozone Injection System Data**

Station No. T-187

City: OAKLAND

					Well ID: 02-1			Well ID: 02-2			Well ID: 02-3					
Date	Notes	Status ON/OFF	Cycles/ Day	Hour Meter	Pressure	Temp.	Run Time	Flowrate	Pressure	Temp.	Run Time	Flowrate	Pressure	Temp.	Run Time	Flowrate
					(psi)	(°F)	(min)	(acfpm)	(psi)	(°F)	(min)	(acfpm)	(psi)	(°F)	(min)	(acfpm)
2 JULY 07		ON/ON	20	4073	15		7		21		7		19		7	
16 JULY 07		ON/ON	20	4469	18		7		20		7		20		7	
8 AUG 07		ON/ON	20	4961	13		7		20		7		20		7	
21 AUG 07		ON/ON	20	5411	14		7		21		7		19		7	

	Well ID: 02-4				Well ID: 02-5				Well ID: 02-6				Well ID: 02-7			
Date	Pressure	Temp.	Run Time	Flowrate	Pressure	Temp.	Run Time	Flowrate	Pressure	Temp.	Run Time	Flowrate	Pressure	Temp.	Run Time	Flowrate
	(psi)	(°F)	(min)	(acf m)	(psi)	(°F)	(min)	(acf m)	(psi)	(°F)	(min)	(acf m)	(psi)	(°F)	(min)	(acf m)
2 JULY07	18		7		20		7		19		7		24		7	
16 JULY07	19		7		21		7		20		7		26		7	
8 AUG07	18		7		20		7		18		7		29		7	
27 AUG07	20		7		21		7		19		7		30		7	

	Well ID: 02-8				Well ID: 02-9				Well ID: 02-10				Well ID:			
Date	Pressure	Temp.	Run Time	Flowrate	Pressure	Temp.	Run Time	Flowrate	Pressure	Temp.	Run Time	Flowrate	Pressure	Temp.	Run Time	Flowrate
	(psi)	(°F)	(min)	(acfpm)	(psi)	(°F)	(min)	(acfpm)	(psi)	(°F)	(min)	(acfpm)	(psi)	(°F)	(min)	(acfpm)
2 JULY07	21				21				23							
14 JULY07	23				22				25							
8 AUG07	22				20				24							
27 AUG07	20				21				21							

Notes: A = System down-breaker thrown

B = Hour meter not working

*C = New hour motor installed*

D = Programmed runtime increased to 100%

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