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Alameda County  
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76 Broadway  
Sacramento, California 95818

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 #3538**  
**411 West 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

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

October 31, 2007

TRC Project No. 153701

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  
Former 76 Service Station #3538, 411 W. 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, a former Tosco (76) service station located on the southwest corner of MacArthur Boulevard and Webster Street in Oakland, California. The site is currently a used car sales lot. All petroleum storage and dispensing equipment were removed in September of 1998 during station demolition activities. Six groundwater-monitoring wells have been installed at and in the site vicinity.

#### **PREVIOUS ASSESSMENTS**

**July 1989:** One 10,000-gallon and one 12,000-gallon gasoline underground storage tanks (USTs) were removed and replaced with two new 12,000-gallon USTs. One 550-gallon waste oil UST and associated piping for all three tanks were also removed. No holes or cracks were observed in the gasoline USTs; however, holes were observed in the waste oil UST. Groundwater was encountered in the former UST pit at a depth of approximately 10.5 feet below ground surface (bgs), which prohibited the collection of soil samples below the former gasoline tanks. Confirmation soil samples from the sidewalls contained moderate maximum concentrations of total petroleum hydrocarbons as gasoline (TPH-g), and low maximum concentrations of benzene. These sample areas were subsequently removed during overexcavation. Soil samples from the base of the waste oil UST pit were non-detect for TPH-g and benzene, toluene, ethylbenzene, and xylenes (BTEX).

**September 1989:** Karpealian Engineering, Inc. (KEI) installed four groundwater monitoring wells at the site. The four wells were installed to depths of approximately 30 feet bgs.

**November 1992:** Two additional groundwater monitoring wells were installed offsite to a depth of 30 feet bgs.

September 1998: Two 12,000-gallon gasoline USTs and associated product piping and dispensers were removed from the site during station demolition activities. No holes or cracks were observed in the tanks. Confirmation soil samples contained low maximum concentrations of TPH-g and benzene, and methyl tertiary butyl ether (MTBE) was not detected.

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

March 27 and 28, 2006: TRC conducted additional soil and groundwater assessment at the Site. The investigation involved the advancement of three onsite soil boring (SB-3, SB-4, and SB5) and two offsite soil borings (SB-1 and SB-2) to sufficient depth to obtain representative groundwater samples (approximately 16 feet bgs)

## **SENSITIVE RECEPTORS**

A sensitive receptor survey has been conducted for the site. According to the California Department of Water Resources (DWR) records, no water supply wells located within 2,000 feet of the site. The nearest well identified was a private water well located approximately 2,500 feet east-southeast of the site.

## **MONITORING AND SAMPLING**

Currently, the two onsite monitoring wells MW-2 and MW-3 are monitored semi-annually during the first and third quarters and the remaining four wells are monitored annually. Six wells were gauged and sampled this quarter. The groundwater gradient flow direction during this third quarter 2007 was toward the south at a calculated hydraulic gradient of 0.03 feet per foot. A graph of historical groundwater flow directions is included in this report.

## **CHARACTERIZATION STATUS**

All six wells were sampled during this Third Quarter 2007. TPH-g, benzene, toluene, ethyl-benzene, total xylenes (BTEX), and MTBE were not detected in any of the six sampled wells, with the exception of MTBE which was detected in one well (MW-3) at a concentration of 20 µg/L. Currently, the dissolved-phase plume is defined.

## **REMEDIATION STATUS**

October 1998: A total of 516.44 tons (approximately 380 cubic yards) of soil generated during station demolition was transported from the site to Forward Landfill in Manteca, California for disposal.

Remediation is not currently being conducted at the site.

## **RECENT CORRESPONDENCE**

March 7, 2007: TRC submitted the Offsite Groundwater Investigation Work Plan to the Alameda County Health Care Services (ACHCS). The work plan proposed installation of two offsite monitoring wells recommended in the April 28, 2006 Additional Soil and Groundwater Investigation Report. To date, TRC has still not received a response from the ACHCS regarding the work plan submittal.



## CURRENT QUARTER ACTIVITIES

September 27, 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.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the results presented in the April 28, 2006 Additional Soil and Groundwater Investigation Report, TRC recommended installation of two offsite monitoring wells along the east and west side of Webster Street in the vicinity and slightly downgradient of boring SB-1 to monitor the current dissolved-phase plume and to provide a monitoring point for evaluating plume stability. TRC submitted an Offsite Groundwater Investigation Work Plan proposing installation of the two recommended offsite groundwater monitoring wells. TRC also recommends preparation of a Site Conceptual Model (SCM), per Alameda County guidance for electronic report submittal, to summarize site conditions and evaluate path forward.

**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

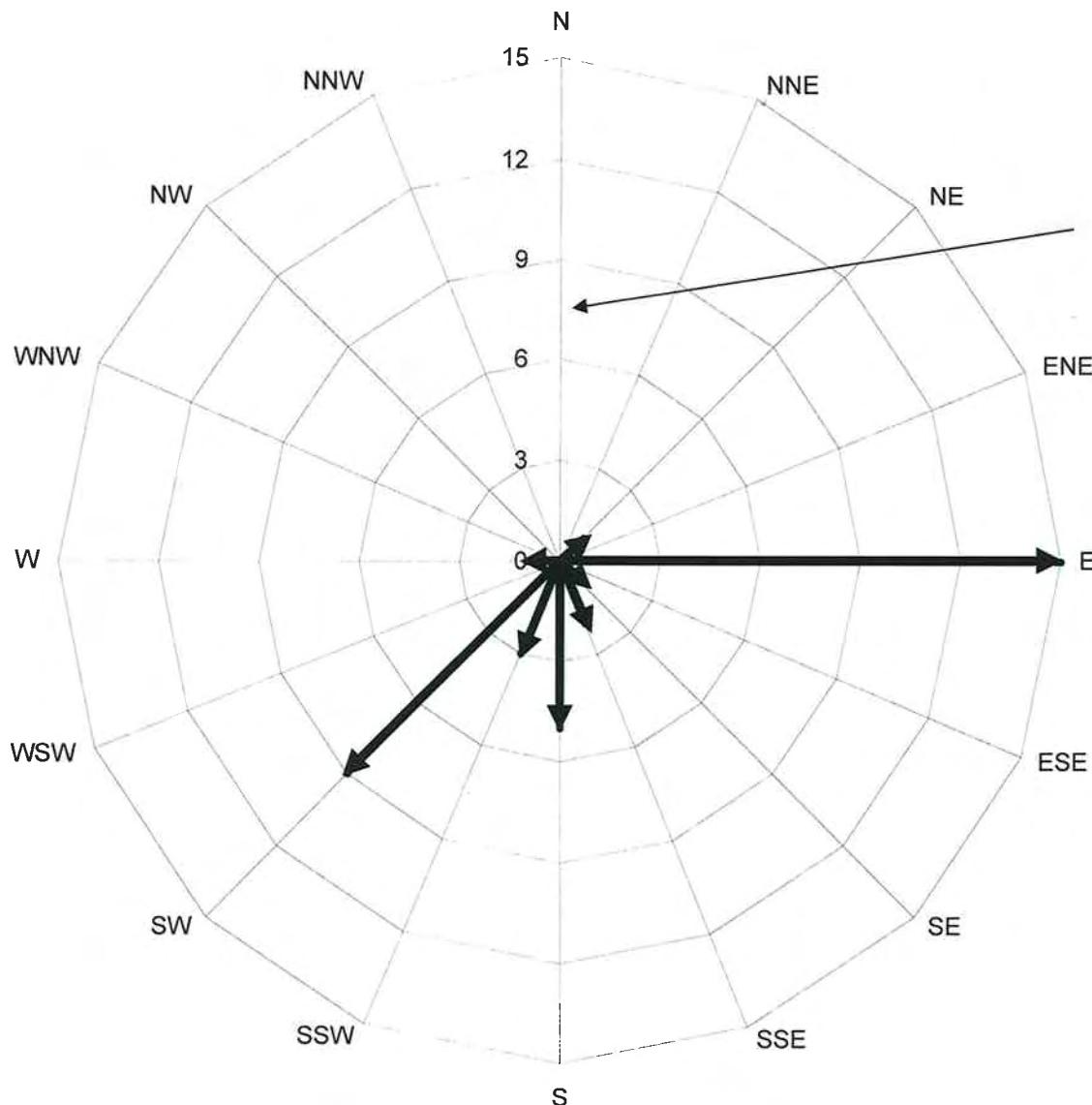


Attachment:

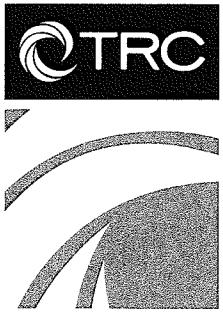
Semi-Annual Monitoring Report, April through September 2007 (TRC, October 18, 2007)  
Historical Groundwater Flow Directions – February 1990 through September 2007

cc: Bill Borgh, ConocoPhillips (electronic upload only)

## **Historical Groundwater Flow Directions for Tosco (76) Service Station No. 3538**



Number of monitoring events in which groundwater was reported to flow in a particular direction.



21 Technology Drive  
Irvine, CA 92618

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DATE: October 18, 2007

TO: ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

ATTN: MR. BILL BORGH

SITE: FORMER 76 STATION 3538  
411 WEST MACARTHUR BLVD.  
OAKLAND, CALIFORNIA

RE: SEMI-ANNUAL MONITORING REPORT  
APRIL THROUGH SEPTEMBER 2007

Dear Mr. Borgh:

Please find enclosed our Semi-Annual Monitoring Report for Former 76 Station 3538, located at 411 West MacArthur Blvd, 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 (2 copies)

Enclosures  
20-0400/3538R08.QMS

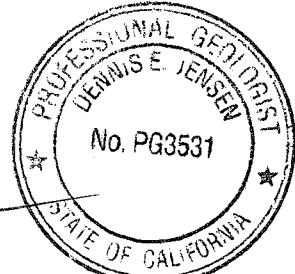
**SEMI-ANNUAL MONITORING REPORT  
APRIL THROUGH SEPTEMBER 2007**

FORMER 76 STATION 3538  
411 West MacArthur Blvd.  
Oakland, California

Prepared For:

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

By:



The stamp is circular with the following text:  
PROFESSIONAL GEOLOGIST  
DENNIS E. JENSEN  
No. PG3531  
STATE OF CALIFORNIA

Senior Project Geologist, Irvine Operations

Date: 10/16/07

<b>LIST OF ATTACHMENTS</b>	
Summary Sheet	Summary of Gauging and Sampling Activities
Tables	<p>Table Key          Contents of Tables</p> <p>Table 1: Current Fluid Levels and Selected Analytical Results          Table 2: Historic Fluid Levels and Selected Analytical Results          Table 2a: Additional Historic Analytical Results          Table 2b: Additional Historic Analytical Results          Table 2c: Additional Historic Analytical Results</p>
Figures	<p>Figure 1: Vicinity Map          Figure 2: Groundwater Elevation Contour Map          Figure 3: Dissolved-Phase TPH-G Concentration Map          Figure 4: Dissolved-Phase Benzene Concentration Map          Figure 5: Dissolved-Phase MTBE Concentration Map</p>
Graphs	<p>Groundwater Elevations vs. Time          Benzene Concentrations vs. Time</p>
Field Activities	<p>General Field Procedures          Field Monitoring Data Sheet – 09/27/07          Groundwater Sampling Field Notes – 09/27/07</p>
Laboratory Reports	<p>Official Laboratory Reports          Quality Control Reports          Chain of Custody Records</p>
Statements	<p>Purge Water Disposal          Limitations</p>

**Summary of Gauging and Sampling Activities**  
**April 2007 through September 2007**  
**Former 76 Station 3538**  
**411 West MacArthur Blvd.**  
**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: **09/27/07**

**Sample Points**

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Groundwater wells: **4** onsite, **2** offsite      Wells gauged: **6**      Wells sampled: **6**

Purging method: **Bailer**

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: **14.18 feet**      Maximum: **18.49 feet**

Average groundwater elevation (relative to available local datum): **53.90 feet**

Average change in groundwater elevation since previous event: **-0.85 feet**

Interpreted groundwater gradient and flow direction:

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

Previous event: **0.02 ft/ft, southwest (03/15/07)**

**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**      **0**

Wells with **MTBE 8260B**      **0**

**Notes:**

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# 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)
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 Former 76 Station 3538 in October 2003. Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

## Contents of Tables 1 and 2

### Site: Former 76 Station 3538

#### Current Event

Table 1	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)		Comments		
Table 1a	Well/ Date	1,2-DCA (EDC)	Bromo- dichloro- methane	Bromo- form	Bromo- methane	Carbon Tertra- chloride	Chloro- benzene	Chloro- ethane	Chloroform	Chloro- methane	Dibromo- chloro- methane	1,2- Dichloro- benzene	1,3- Dichloro- benzene	1,4- Dichloro- benzene	Dichloro- difluoro- methane	1,1-DCA
Table 1b	Well/ Date	1,1-DCE	cis- 1,2- DCE	trans- 1,2- DCE	1,2- Dichloro- propane	cis-1,3- Dichloro- propene	trans-1,3- Dichloro- propene	Methylene chloride	1,1,2,2- Tetrachloro- - ethane	Tetrachloro - ethene (PCE)	Trichloro- trifluoro- ethane	1,1,1- Trichloro- ethane	1,1,2- Trichloro- ethane	Trichloro- ethene (TCE)	Trichloro- fluoro- methane	Vinyl chloride

#### Historic Data

Table 2	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)		Comments		
Table 2a	Well/ Date	TPH-D	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Total Oil and Grease	Bromo- dichloro- methane	Bromo- form	Bromo- methane	Carbon Tertra- chloride	Chloro- benzene	Chloro- ethane
Table 2b	Well/ Date	Chloroform	Chloro- methane	Dibromo- chloro- methane	1,2- Dichloro- benzene	1,3- Dichloro- benzene	1,4- Dichloro- benzene	Dichloro- difluoro- methane	1,1-DCA	1,1-DCE	cis- 1,2- DCE	trans- 1,2- DCE	1,2- Dichloro- propane	cis-1,3- Dichloro- propene	trans-1,3- Dichloro- propene	Methylene chloride
Table 2c	Well/ Date	1,1,2,2- Tetrachloro- - ethane	Tetrachloro- - ethene (PCE)	Trichloro- trifluoro- ethane	1,1,1- Trichloro- ethane	1,1,2- Trichloro- ethane	Trichloro- ethene (TCE)	Trichloro- fluoro- methane	Vinyl chloride							

**Table 1**  
**CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 27, 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-1</b>													
9/27/2007	72.12	18.49	0.00	53.63	-1.27	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
<b>MW-2</b>													
9/27/2007	71.34	18.23	0.00	53.11	-0.78	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
<b>MW-3</b>													
9/27/2007	71.40	18.48	0.00	52.92	-1.21	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	20	--	
<b>MW-4</b>													
9/27/2007	71.54	18.16	0.00	53.38	-0.60	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
<b>MW-5</b>													
9/27/2007	71.16	18.01	0.00	53.15	-0.81	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
<b>MW-6</b>													
9/27/2007	71.37	14.18	0.00	57.19	-0.46	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	

**Table 1 a**  
**ADDITIONAL CURRENT ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	1,2-DCA (EDC)	Bromo-dichloromethane	Bromo-form	Bromo-methane	Carbon Tertrachloride	Chloro-benzene	Chloro-ethane	Chloroform	Chloro-methane	Dibromo-chloro-methane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichloro-difluoromethane	1,1-DCA
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
<b>MW-1</b> 9/27/2007	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

**Table 1 b**  
**ADDITIONAL CURRENT ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	1,1-DCE (µg/l)	cis- 1,2-DCE (µg/l)	trans- 1,2-DCE (µg/l)	1,2-Dichloro-propane (µg/l)	cis-1,3-Dichloro-propene (µg/l)	trans-1,3-Dichloro-propene (µg/l)	Methylene chloride (µg/l)	1,1,2,2-Tetrachloroethane (µg/l)	Tetrachloroethene (PCE) (µg/l)	Trichlorotrifluoroethane (µg/l)	1,1,1-Trichloroethane (µg/l)	1,1,2-Trichloroethane (µg/l)	Trichloroethene (TCE) (µg/l)	Trichlorofluoromethane (µg/l)	Vinyl chloride (µg/l)
<b>MW-1</b> 9/27/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	4.3	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-1</b>													
9/15/1989	--	--	--	--	--	ND	ND	0.61	ND	ND	--	--	
1/23/1990	--	--	--	--	--	ND	1.5	2.3	ND	4.3	--	--	
4/19/1990	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
7/17/1990	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
10/16/1990	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
1/15/1991	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
4/12/1991	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
7/15/1991	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
7/14/1992	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
4/13/1993	72.43	17.70	0.00	54.73	--	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/14/1993	72.43	18.49	0.00	53.94	-0.79	ND	2.2	2.1	1.1	6.2	--	--	
10/14/1993	72.10	18.32	0.00	53.78	-0.16	--	--	--	--	--	--	--	
1/12/1994	72.10	18.18	0.00	53.92	0.14	--	--	--	--	--	--	--	
4/11/1994	72.10	17.80	0.00	54.30	0.38	--	--	--	--	--	--	--	
7/7/1994	72.10	18.28	0.00	53.82	-0.48	ND	ND	ND	ND	ND	--	--	
10/5/1994	72.10	18.55	0.00	53.55	-0.27	--	--	--	--	--	--	--	
1/9/1995	72.10	17.90	0.00	54.20	0.65	--	--	--	--	--	--	--	
4/17/1995	72.10	17.22	0.00	54.88	0.68	--	--	--	--	--	--	--	
7/19/1995	72.10	18.03	0.00	54.07	-0.81	ND	ND	ND	ND	ND	--	--	
10/26/1995	72.10	18.67	0.00	53.43	-0.64	--	--	--	--	--	--	--	
1/16/1996	72.10	17.20	0.00	54.90	1.47	--	--	--	--	--	--	--	
4/15/1996	72.10	17.40	0.00	54.70	-0.20	--	--	--	--	--	--	--	
7/11/1996	72.10	18.03	0.00	54.07	-0.63	ND	ND	ND	ND	ND	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-1 continued</b>													
1/17/1997	72.10	16.54	0.00	55.56	1.49	--	--	--	--	--	--	--	
7/21/1997	72.10	18.16	0.00	53.94	-1.62	ND	ND	ND	ND	ND	ND	--	
1/14/1998	72.10	16.05	0.00	56.05	2.11	--	--	--	--	--	--	--	
7/6/1998	72.10	16.46	0.00	55.64	-0.41	ND	ND	ND	ND	ND	ND	--	
1/13/1999	72.10	17.37	0.00	54.73	-0.91	--	--	--	--	--	--	--	
8/31/1999	72.12	17.00	0.00	55.12	0.39	ND	ND	ND	ND	ND	ND	--	
1/21/2000	72.12	17.04	0.00	55.08	-0.04	--	--	--	--	--	--	--	
7/10/2000	72.12	18.10	0.00	54.02	-1.06	ND	ND	ND	ND	ND	ND	--	
1/4/2001	72.12	17.95	0.00	54.17	0.15	--	--	--	--	--	--	--	
7/16/2001	72.12	18.03	0.00	54.09	-0.08	ND	ND	ND	ND	ND	ND	--	
1/28/2002	72.12	17.31	0.00	54.81	0.72	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/12/2002	72.12	18.15	0.00	53.97	-0.84	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
1/14/2003	72.12	17.66	0.00	54.46	0.49	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/10/2003	72.12	17.86	0.00	54.26	-0.20	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	--	
2/4/2004	72.12	17.43	0.00	54.69	0.43	--	--	--	--	--	--	--	Monitored Only
7/29/2004	72.12	18.12	0.00	54.00	-0.69	ND<50	ND<0.3	0.38	ND<0.3	ND<0.6	ND<1	ND<0.5	
3/2/2005	72.12	16.15	0.00	55.97	1.97	--	--	--	--	--	--	--	Sampled Annually
9/30/2005	72.12	18.04	0.00	54.08	-1.89	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
3/23/2006	72.12	--	--	--	--	--	--	--	--	--	--	--	Inaccessible due to gate, Sampled Q3 only
9/26/2006	72.12	17.90	0.00	54.22	--	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
3/15/2007	72.12	17.22	0.00	54.90	0.68	--	--	--	--	--	--	--	Sampled Q3 only
9/27/2007	72.12	18.49	0.00	53.63	-1.27	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	

**MW-2**

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-2 continued</b>													
9/15/1989	--	--	--	--	--	290	ND	12	ND	ND	--	--	
1/23/1990	--	--	--	--	--	400	73	36	10	40	--	--	
4/19/1990	--	--	--	--	--	3900	550	5.1	91	390	--	--	
7/17/1990	--	--	--	--	--	490	76	0.59	11	46	--	--	
10/16/1990	--	--	--	--	--	1400	430	2.0	48	240	--	--	
1/15/1991	--	--	--	--	--	680	170	0.7	19	81	--	--	
4/12/1991	--	--	--	--	--	2200	160	4.3	23	62	--	--	
7/15/1991	--	--	--	--	--	2200	770	12	72	370	--	--	
10/15/1991	--	--	--	--	--	140	44	0.56	1.5	12	--	--	
1/15/1992	--	--	--	--	--	220	37	0.52	1.1	7	--	--	
4/14/1992	--	--	--	--	--	150	6.2	ND	ND	1.4	--	--	
7/14/1992	--	--	--	--	--	130	3.7	ND	ND	ND	--	--	
10/12/1992	--	--	--	--	--	370	3.4	0.56	ND	11	--	--	
1/8/1993	--	--	--	--	--	510	ND	ND	ND	ND	--	--	
4/13/1993	71.63	17.86	0.00	53.77	--	410	42	7.7	6.4	28	200	--	
7/14/1993	71.63	18.38	0.00	53.25	-0.52	110	6.5	ND	ND	1.1	250	--	
10/14/1993	71.38	18.20	0.00	53.18	-0.07	230	5.3	ND	ND	2.1	--	--	
1/12/1994	71.38	18.08	0.00	53.30	0.12	300	7.8	3.8	1.8	10	--	--	
4/9/1994	71.38	17.97	0.00	53.41	0.11	120	10	0.88	1.1	4.9	--	--	
4/11/1994	71.38	17.88	0.00	53.50	0.09	--	--	--	--	--	--	--	
7/7/1994	71.38	17.81	0.00	53.57	0.07	110	4.4	ND	ND	ND	--	--	
10/5/1994	71.38	18.33	0.00	53.05	-0.52	720	20	ND	ND	3.1	--	--	
1/9/1995	71.38	17.40	0.00	53.98	0.93	ND	ND	ND	ND	ND	--	--	
4/17/1995	71.38	17.50	0.00	53.88	-0.10	93	5.6	0.62	1.7	5.5	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-2 continued</b>													
7/19/1995	71.38	18.01	0.00	53.37	-0.51	77	32	0.58	1.7	4.1	--	--	
10/26/1995	71.38	18.21	0.00	53.17	-0.20	54	13	ND	ND	0.72	220	--	
1/16/1996	71.38	16.58	0.00	54.80	1.63	120	23	ND	ND	0.99	--	--	
4/15/1996	71.38	17.61	0.00	53.77	-1.03	340	21	ND	2.2	3.7	45	--	
7/11/1996	71.38	17.98	0.00	53.40	-0.37	540	34	ND	4.3	12	150	--	
1/17/1997	71.38	17.08	0.00	54.30	0.90	320	63	2.4	9.4	26	260	--	
7/21/1997	71.38	18.06	0.00	53.32	-0.98	160	13	ND	1.3	1.6	180	--	
1/14/1998	71.38	16.52	0.00	54.86	1.54	66	6.3	ND	ND	0.98	100	--	
7/6/1998	71.38	16.87	0.00	54.51	-0.35	ND	2.3	ND	ND	ND	11	--	
1/13/1999	71.38	17.88	0.00	53.50	-1.01	53	24	ND	0.52	0.98	120	--	
8/31/1999	71.34	18.45	0.00	52.89	-0.61	86	14	ND	0.63	ND	21	--	
1/21/2000	71.34	17.73	0.00	53.61	0.72	ND	1.94	ND	ND	ND	10.1	--	
7/10/2000	71.34	18.14	0.00	53.20	-0.41	ND	ND	ND	ND	ND	46.6	--	
1/4/2001	71.34	18.02	0.00	53.32	0.12	ND	0.925	ND	ND	ND	ND	--	
7/16/2001	71.34	18.02	0.00	53.32	0.00	ND	ND	ND	ND	ND	ND	--	
1/28/2002	71.34	17.57	0.00	53.77	0.45	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--
7/12/2002	71.34	18.05	0.00	53.29	-0.48	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--
1/14/2003	71.34	17.44	0.00	53.90	0.61	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	--
7/10/2003	71.34	--	--	--	--	--	--	--	--	--	--	--	INACCESSIBLE - VEHICLE PARKED OVER WELL
2/4/2004	71.34	17.22	0.00	54.12	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
7/29/2004	71.34	--	--	--	--	--	--	--	--	--	--	--	Inaccessible-car parked on well
3/2/2005	71.34	16.63	0.00	54.71	--	99	26	ND<0.50	3.5	2.8	ND<5.0	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-2 continued</b>													
9/30/2005	71.34	17.94	0.00	53.40	-1.31	ND<50	1.2	ND<0.30	ND<0.30	ND<0.60	1.6	--	
3/23/2006	71.34	16.74	0.00	54.60	1.20	ND<50	3.6	ND<0.30	0.35	ND<0.60	2.5	--	
9/26/2006	71.34	17.91	0.00	53.43	-1.17	ND<50	1.2	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
3/15/2007	71.34	17.45	0.00	53.89	0.46	110	6.5	ND<0.30	0.70	ND<0.60	1.7	--	
9/27/2007	71.34	18.23	0.00	53.11	-0.78	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
<b>MW-3</b>													
9/15/1989	--	--	--	--	--	32	ND	ND	ND	ND	--	--	
1/23/1990	--	--	--	--	--	450	110	1.2	4.4	11	--	--	
4/19/1990	--	--	--	--	--	3100	600	27	54	220	--	--	
7/17/1990	--	--	--	--	--	4000	270	48	130	250	--	--	
10/16/1990	--	--	--	--	--	740	210	1.4	2.5	82	--	--	
1/15/1991	--	--	--	--	--	3200	460	1.5	120	270	--	--	
4/12/1991	--	--	--	--	--	880	170	1.1	34	110	--	--	
7/15/1991	--	--	--	--	--	9200	1300	230	490	1900	--	--	
10/15/1991	--	--	--	--	--	3100	390	34	150	390	--	--	
1/15/1992	--	--	--	--	--	3000	590	14	310	750	--	--	
4/14/1992	--	--	--	--	--	14000	660	48	560	2000	--	--	
7/14/1992	--	--	--	--	--	21000	890	200	1200	4300	--	--	
10/12/1992	--	--	--	--	--	3200	160	10	230	540	--	--	
1/8/1993	--	--	--	--	--	1100	48	0.99	0.9	93	--	--	
4/13/1993	72.06	17.96	0.00	54.10	--	12000	290	38	760	2300	1400	--	
7/14/1993	72.06	18.54	0.00	53.52	-0.58	6300	190	ND	430	1000	860	--	
10/14/1993	71.86	18.45	0.00	53.41	-0.11	2500	52	ND	110	250	--	--	
1/12/1994	71.86	18.34	0.00	53.52	0.11	3800	78	ND	180	390	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-3 continued</b>													
4/9/1994	71.86	18.19	0.00	53.67	0.15	1800	22	ND	140	280	--	--	
4/11/1994	71.86	18.12	0.00	53.74	0.07	--	--	--	--	--	--	--	
7/7/1994	71.86	18.21	0.00	53.65	-0.09	110	4.5	ND	ND	ND	--	--	
10/5/1994	71.86	18.58	0.00	53.28	-0.37	ND	ND	ND	ND	ND	--	--	
1/9/1995	71.86	17.69	0.00	54.17	0.89	ND	0.68	ND	ND	ND	--	--	
4/17/1995	71.86	17.68	0.00	54.18	0.01	3700	80	10	270	510	--	--	
7/19/1995	71.86	18.20	0.00	53.66	-0.52	15000	330	27	990	2400	--	--	
10/26/1995	71.86	18.32	0.00	53.54	-0.12	14000	420	180	750	1600	4800	--	
1/16/1996	71.86	17.95	0.00	53.91	0.37	920	38	ND	30	57	--	--	
4/15/1996	71.86	17.78	0.00	54.08	0.17	9700	240	ND	570	860	3200	--	
7/11/1996	71.86	18.19	0.00	53.67	-0.41	13000	69	5.5	430	900	740	--	
1/17/1997	71.86	17.23	0.00	54.63	0.96	4400	25	ND	270	580	1600	--	
7/21/1997	71.86	18.29	0.00	53.57	-1.06	9000	36	ND	450	800	950	--	
1/14/1998	71.86	16.71	0.00	55.15	1.58	7100	40	ND	380	360	930	--	
7/6/1998	71.86	17.03	0.00	54.83	-0.32	6800	39	ND	320	360	370	--	
1/13/1999	71.86	18.00	0.00	53.86	-0.97	1800	9.4	ND	58	36	180	--	
8/31/1999	71.40	--	0.00	--	--	--	--	--	--	--	--	--	Well obstructed at 0.5 feet.
1/21/2000	71.40	17.58	0.00	53.82	--	ND	ND	ND	ND	ND	21.4	--	
7/10/2000	71.40	18.05	0.00	53.35	-0.47	ND	ND	ND	ND	ND	162	--	
8/25/2000	71.40	17.82	0.00	53.58	0.23	--	--	--	--	--	--	180	
1/4/2001	71.40	18.16	0.00	53.24	-0.34	ND	ND	ND	ND	ND	193	--	
7/16/2001	71.40	17.98	0.00	53.42	0.18	ND	ND	ND	ND	ND	660	--	
1/28/2002	71.40	17.84	0.00	53.56	0.14	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	34	--	
7/12/2002	71.40	17.87	0.00	53.53	-0.03	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	11	19	

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Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-3 continued</b>													
1/14/2003	71.40	17.28	0.00	54.12	0.59	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	12	--	
7/10/2003	71.40	17.64	0.00	53.76	-0.36	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	23	--	
2/4/2004	71.40	17.05	0.00	54.35	0.59	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	26	--	
7/29/2004	71.40	17.82	0.00	53.58	-0.77	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.6	ND<1	--	
3/2/2005	71.40	16.47	0.00	54.93	1.35	93	ND<0.50	ND<0.50	ND<0.50	ND<0.50	140	--	
9/30/2005	71.40	17.79	0.00	53.61	-1.32	65	ND<0.30	ND<0.30	ND<0.30	ND<0.60	61	--	
3/23/2006	71.40	16.61	0.00	54.79	1.18	54	ND<0.30	0.41	ND<0.30	0.98	63	--	
9/26/2006	71.40	17.77	0.00	53.63	-1.16	51	ND<0.30	ND<0.30	ND<0.30	ND<0.60	41	--	
3/15/2007	71.40	17.27	0.00	54.13	0.50	140	ND<0.30	ND<0.30	ND<0.30	ND<0.60	110	--	
9/27/2007	71.40	18.48	0.00	52.92	-1.21	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	20	--	
<b>MW-4</b>													
9/15/1989	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
1/23/1990	--	--	--	--	--	ND	ND	0.4	ND	ND	--	--	
4/19/1990	--	--	--	--	--	ND	ND	0.48	ND	ND	--	--	
7/17/1990	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
10/16/1990	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
1/15/1991	--	--	--	--	--	ND	ND	ND	--	ND	--	--	
4/12/1991	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
7/15/1991	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
7/14/1992	--	--	--	--	--	ND	1.3	2.5	ND	1.0	--	--	
4/13/1993	71.98	17.67	0.00	54.31	--	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/14/1993	71.98	18.31	0.00	53.67	-0.64	ND	ND	ND	ND	ND	--	--	
10/14/1993	71.64	18.08	0.00	53.56	-0.11	--	--	--	--	--	--	--	
1/12/1994	71.64	17.97	0.00	53.67	0.11	--	--	--	--	--	--	--	

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**Former 76 Station 3538**

Date Sampled	TOC	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	Benzene	Toluene	Ethylbenzene	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)	
<b>MW-4 continued</b>													
4/11/1994	71.64	17.70	0.00	53.94	0.27	--	--	--	--	--	--	--	
7/7/1994	71.64	17.80	0.00	53.84	-0.10	ND	ND	ND	ND	ND	--	--	
10/5/1994	71.64	18.28	0.00	53.36	-0.48	--	--	--	--	--	--	--	
1/9/1995	71.64	17.38	0.00	54.26	0.90	--	--	--	--	--	--	--	
4/17/1995	71.64	17.21	0.00	54.43	0.17	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/19/1995	71.64	17.82	0.00	53.82	-0.61	ND	ND	ND	ND	ND	--	--	
10/26/1995	71.64	18.17	0.00	53.47	-0.35	--	--	--	--	--	--	--	
1/16/1996	71.64	16.45	0.00	55.19	1.72	--	--	--	--	--	--	--	
4/15/1996	71.64	17.35	0.00	54.29	-0.90	--	--	--	--	--	--	--	
7/11/1996	71.64	17.81	0.00	53.83	-0.46	ND	ND	ND	ND	ND	ND	--	
1/17/1997	71.64	16.73	0.00	54.91	1.08	--	--	--	--	--	--	--	
7/21/1997	71.64	17.91	0.00	53.73	-1.18	ND	ND	ND	ND	ND	ND	--	
1/14/1998	71.64	16.18	0.00	55.46	1.73	--	--	--	--	--	--	--	
7/6/1998	71.64	16.49	0.00	55.15	-0.31	ND	ND	ND	ND	ND	ND	--	
1/13/1999	71.64	17.29	0.00	54.35	-0.80	--	--	--	--	--	--	--	
8/31/1999	71.54	--	0.00	--	--	--	--	--	--	--	--	--	Well obstructed at 10.4 feet.
1/21/2000	71.54	17.51	0.00	54.03	--	--	--	--	--	--	--	--	
7/10/2000	71.54	17.93	0.00	53.61	-0.42	ND	ND	ND	ND	ND	ND	--	
1/4/2001	71.54	18.10	0.00	53.44	-0.17	--	--	--	--	--	--	--	
7/16/2001	71.54	17.76	0.00	53.78	0.34	ND	ND	ND	ND	ND	ND	--	
1/28/2002	71.54	17.20	0.00	54.34	0.56	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/12/2002	71.54	17.81	0.00	53.73	-0.61	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
1/14/2003	71.54	17.30	0.00	54.24	0.51	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/10/2003	71.54	17.58	0.00	53.96	-0.28	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-4 continued</b>													
2/4/2004	71.54	17.07	0.00	54.47	0.51	--	--	--	--	--	--	--	Monitored Only
7/29/2004	71.54	17.81	0.00	53.73	-0.74	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.6	ND<1	--	
3/2/2005	71.54	16.25	0.00	55.29	1.56	--	--	--	--	--	--	--	Sampled Annually
9/30/2005	71.54	17.74	0.00	53.80	-1.49	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
3/23/2006	71.54	--	--	--	--	--	--	--	--	--	--	--	Inaccessible due to gate, Sampled Q3 only
9/26/2006	71.54	17.71	0.00	53.83	--	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
3/15/2007	71.54	17.56	0.00	53.98	0.15	--	--	--	--	--	--	--	Sampled Q3 only
9/27/2007	71.54	18.16	0.00	53.38	-0.60	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
<b>MW-5</b>													
11/30/1992	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
1/8/1993	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
4/13/1993	71.51	17.49	0.00	54.02	--	ND	ND	ND	ND	ND	--	--	
7/14/1993	71.51	18.02	0.00	53.49	-0.53	ND	ND	0.57	ND	ND	--	--	
10/14/1993	71.23	17.82	0.00	53.41	-0.08	ND	ND	ND	ND	ND	--	--	
1/12/1994	71.23	17.74	0.00	53.49	0.08	ND	ND	0.84	ND	1.6	--	--	
4/11/1994	71.23	17.56	0.00	53.67	0.18	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/7/1994	71.23	17.50	0.00	53.73	0.06	ND	ND	ND	ND	ND	--	--	
10/5/1994	71.23	17.98	0.00	53.25	-0.48	--	--	--	--	--	--	--	
1/9/1995	71.23	17.13	0.00	54.10	0.85	--	--	--	--	--	--	--	
4/17/1995	71.23	17.05	0.00	54.18	0.08	--	--	--	--	--	--	--	
7/19/1995	71.23	17.59	0.00	53.64	-0.54	ND	ND	ND	ND	ND	--	--	
10/26/1995	71.23	18.10	0.00	53.13	-0.51	--	--	--	--	--	--	--	
1/16/1996	71.23	17.11	0.00	54.12	0.99	--	--	--	--	--	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-5 continued</b>													
4/15/1996	71.23	17.22	0.00	54.01	-0.11	--	--	--	--	--	--	--	
7/11/1996	71.23	17.59	0.00	53.64	-0.37	ND	ND	ND	ND	ND	ND	--	
1/17/1997	71.23	16.75	0.00	54.48	0.84	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/21/1997	71.23	17.59	0.00	53.64	-0.84	ND	ND	ND	ND	ND	ND	--	
1/14/1998	71.23	16.16	0.00	55.07	1.43	--	--	--	--	--	--	--	
7/6/1998	71.23	16.52	0.00	54.71	-0.36	ND	ND	ND	ND	ND	ND	--	
1/13/1999	71.23	17.62	0.00	53.61	-1.10	--	--	--	--	--	--	--	
8/31/1999	71.16	17.76	0.00	53.40	-0.21	ND	ND	ND	ND	ND	ND	--	
1/21/2000	71.16	16.83	0.00	54.33	0.93	--	--	--	--	--	--	--	
7/10/2000	71.16	17.46	0.00	53.70	-0.63	ND	ND	ND	ND	ND	ND	--	
1/4/2001	71.16	17.51	0.00	53.65	-0.05	--	--	--	--	--	--	--	
7/16/2001	71.16	17.32	0.00	53.84	0.19	ND	ND	ND	ND	ND	ND	--	
1/28/2002	71.16	17.12	0.00	54.04	0.20	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/12/2002	71.16	17.12	0.00	54.04	0.00	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	
1/14/2003	71.16	16.67	0.00	54.49	0.45	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/10/2003	71.16	17.39	0.00	53.77	-0.72	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	
2/4/2004	71.16	16.23	0.00	54.93	1.16	--	--	--	--	--	--	--	Monitored Only
7/29/2004	71.16	16.02	0.00	55.14	0.21	ND<50	ND<0.3	0.64	ND<0.3	0.79	ND<1	--	
3/2/2005	71.16	16.43	0.00	54.73	-0.41	--	--	--	--	--	--	--	Sampled Annually
9/30/2005	71.16	17.41	0.00	53.75	-0.98	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
3/23/2006	71.16	16.37	0.00	54.79	1.04	--	--	--	--	--	--	--	Sampled Q3 only
9/26/2006	71.16	15.54	0.00	55.62	0.83	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
3/15/2007	71.16	17.20	0.00	53.96	-1.66	--	--	--	--	--	--	--	Sampled Q3 only
9/27/2007	71.16	18.01	0.00	53.15	-0.81	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-6</b>													
11/30/1992	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
1/8/1993	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
4/13/1993	71.79	11.94	0.00	59.85	--	ND	ND	ND	ND	ND	--	--	
7/14/1993	71.79	17.20	0.00	54.59	-5.26	ND	0.99	2.4	ND	1.9	--	--	
10/14/1993	71.44	17.21	0.00	54.23	-0.36	ND	ND	0.64	ND	ND	--	--	
1/12/1994	71.44	17.44	0.00	54.00	-0.23	ND	ND	1.2	ND	2.9	--	--	
4/11/1994	71.44	13.66	0.00	57.78	3.78	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/7/1994	71.44	14.05	0.00	57.39	-0.39	ND	ND	ND	ND	ND	--	--	
10/5/1994	71.44	14.16	0.00	57.28	-0.11	--	--	--	--	--	--	--	
1/9/1995	71.44	13.73	0.00	57.71	0.43	--	--	--	--	--	--	--	
4/17/1995	71.44	11.30	0.00	60.14	2.43	--	--	--	--	--	--	--	
7/19/1995	71.44	12.32	0.00	59.12	-1.02	ND	ND	ND	ND	ND	--	--	
10/26/1995	71.44	17.88	0.00	53.56	-5.56	--	--	--	--	--	--	--	
1/16/1996	71.44	16.38	0.00	55.06	1.50	--	--	--	--	--	--	--	
4/15/1996	71.44	14.00	0.00	57.44	2.38	--	--	--	--	--	--	--	
7/11/1996	71.44	13.58	0.00	57.86	0.42	ND	ND	ND	ND	ND	ND	--	
1/17/1997	71.44	15.42	0.00	56.02	-1.84	--	--	--	--	--	--	--	
7/21/1997	71.44	13.78	0.00	57.66	1.64	ND	ND	ND	ND	ND	ND	--	
1/14/1998	71.44	13.65	0.00	57.79	0.13	--	--	--	--	--	--	--	
7/6/1998	71.44	13.90	0.00	57.54	-0.25	ND	ND	ND	ND	ND	ND	--	
1/13/1999	71.44	14.93	0.00	56.51	-1.03	--	--	--	--	--	--	--	
8/31/1999	71.37	15.81	0.00	55.56	-0.95	ND	ND	ND	ND	ND	ND	--	
1/21/2000	71.37	16.13	0.00	55.24	-0.32	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/10/2000	71.37	16.95	0.00	54.42	-0.82	ND	ND	ND	ND	ND	ND	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through September 2007**  
**Former 76 Station 3538**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	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)	
<b>MW-6 continued</b>													
1/4/2001	71.37	17.09	0.00	54.28	-0.14	--	--	--	--	--	--	--	
7/16/2001	71.37	16.83	0.00	54.54	0.26	ND	ND	ND	ND	ND	ND	--	
1/28/2002	71.37	14.58	0.00	56.79	2.25	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/12/2002	71.37	16.76	0.00	54.61	-2.18	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
1/14/2003	71.37	16.25	0.00	55.12	0.51	--	--	--	--	--	--	--	SAMPLED ANNUALLY
7/10/2003	71.37	12.97	0.00	58.40	3.28	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	--	
2/4/2004	71.37	16.20	0.00	55.17	-3.23	--	--	--	--	--	--	--	Monitored Only
7/29/2004	71.37	14.98	0.00	56.39	1.22	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.6	1.3	--	
3/2/2005	71.37	14.51	0.00	56.86	0.47	--	--	--	--	--	--	--	Sampled Annually
9/30/2005	71.37	14.45	0.00	56.92	0.06	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	1.7	--	
3/23/2006	71.37	16.55	0.00	54.82	-2.10	--	--	--	--	--	--	--	Sampled Q3 only
9/26/2006	71.37	17.58	0.00	53.79	-1.03	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	
3/15/2007	71.37	13.72	0.00	57.65	3.86	--	--	--	--	--	--	--	Sampled Q3 only
9/27/2007	71.37	14.18	0.00	57.19	-0.46	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	--	

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	TPH-D	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Total Oil and Grease	Bromo-dichloromethane	Bromo-form	Bromo-methane	Carbon Tetrachloride	Chlorobenzene	Chloro-ethane
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
<b>MW-1</b>															
9/15/1989	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
1/23/1990	ND	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--
4/19/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
7/17/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
10/16/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
1/15/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
4/12/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
7/15/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
7/16/2001	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--
7/29/2004	--	--	--	--	ND<0.5	--	--	--	--	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5	ND<0.5
9/30/2005	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50
9/26/2006	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50
9/27/2007	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50
<b>MW-3</b>															
8/25/2000	--	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--
7/12/2002	--	ND<20	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--	--

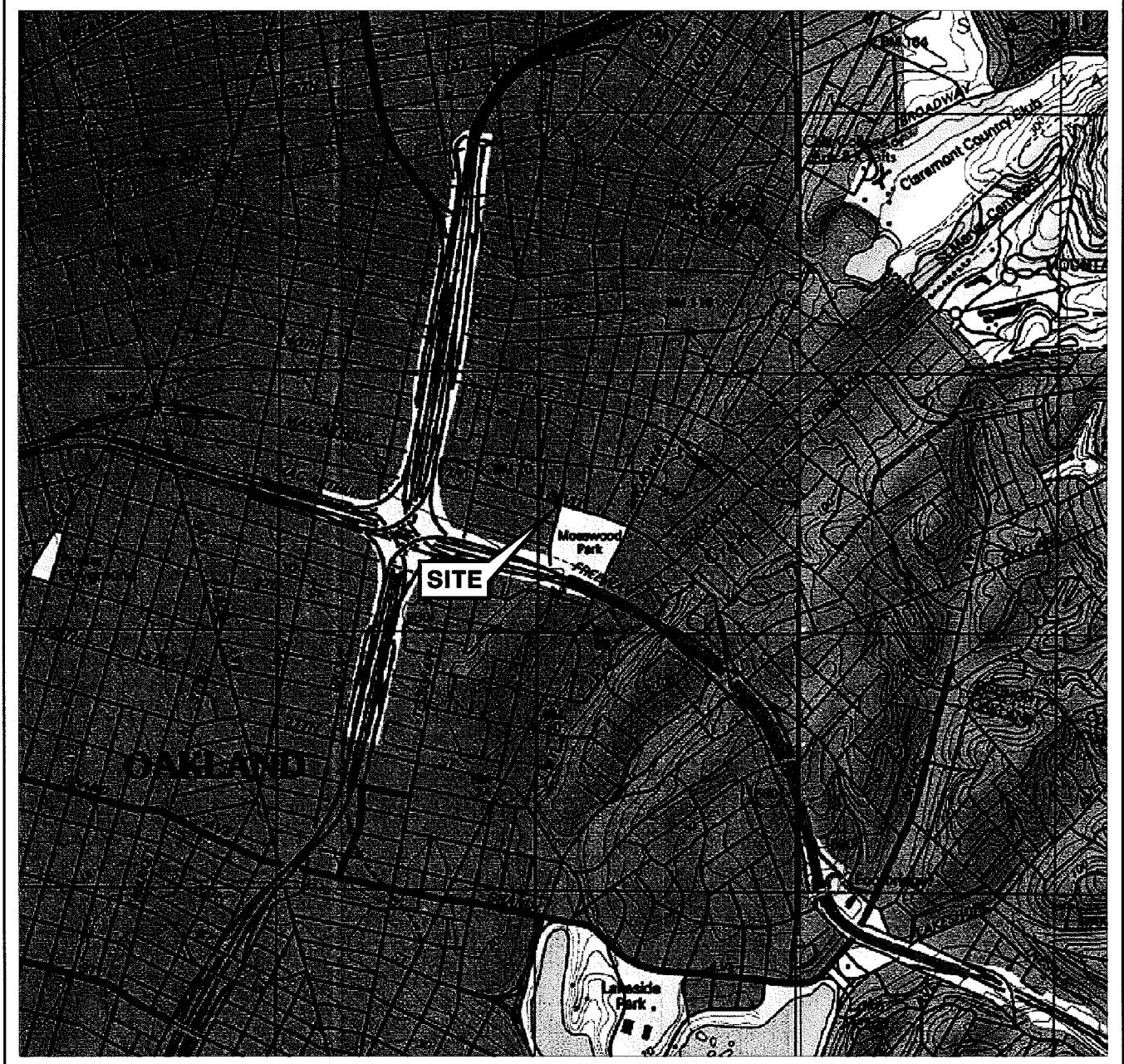
**Table 2 b**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	Chloroform (µg/l)	Chloro-methane (µg/l)	Dibromo-chloro-methane (µg/l)	1,2-Dichloro-benzene (µg/l)	1,3-Dichloro-benzene (µg/l)	1,4-Dichloro-benzene (µg/l)	Dichloro-difluoro-methane (µg/l)	1,1-DCA (µg/l)	1,1-DCE (µg/l)	cis- 1,2-DCE (µg/l)	trans- 1,2-DCE (µg/l)	1,2-Dichloro-propane (µg/l)	cis-1,3-Dichloro-propene (µg/l)	trans-1,3-Dichloro-propene (µg/l)	Methylene chloride (µg/l)
<b>MW-1</b>															
7/11/1996	0.96	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/21/1997	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/16/2001	45	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	
7/10/2003	--	--	--	--	--	--	--	--	0.89	--	--	--	--	--	
7/29/2004	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.2	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	
9/30/2005	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.52	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
9/26/2006	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.60	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
9/27/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	

**Table 2 c**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	1,1,2,2-Tetrachloro-ethane (μg/l)	Tetrachloro-ethene (PCE) (μg/l)	Trichloro-trifluoro-ethane (μg/l)	1,1,1-Trichloro-ethane (μg/l)	1,1,2-Trichloro-ethane (μg/l)	Trichloro-ethene (TCE) (μg/l)	Trichloro-fluoro-methane (μg/l)	Vinyl chloride (μg/l)
<b>MW-1</b>								
9/15/1989	--	2.7	--	--	--	--	--	--
1/23/1990	--	2.1	--	--	--	--	--	--
4/19/1990	--	2.2	--	--	--	--	--	--
7/17/1990	--	1.7	--	--	--	--	--	--
10/16/1990	--	2.0	--	--	--	--	--	--
1/15/1991	--	2.1	--	--	--	--	--	--
4/12/1991	--	2.0	--	--	--	--	--	--
7/15/1991	--	1.8	--	--	--	--	--	--
7/14/1992	--	1.4	--	--	--	--	--	--
7/14/1993	--	0.95	--	--	--	--	--	--
7/7/1994	--	0.83	--	--	--	--	--	--
7/19/1995	--	0.52	--	--	--	--	--	--
7/11/1996	--	0.73	--	--	--	--	--	--
7/21/1997	--	0.70	--	--	--	--	--	--
8/31/1999	--	ND	--	--	--	--	--	--
7/16/2001	--	ND	--	--	--	--	--	--
7/12/2002	--	ND<0.60	--	--	--	--	--	--
7/10/2003	--	ND<0.50	--	--	--	--	--	--
7/29/2004	ND<0.5	ND<0.5	13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
9/30/2005	ND<0.50	ND<0.50	9.1	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
9/26/2006	ND<0.50	ND<0.50	7.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
9/27/2007	ND<0.50	ND<0.50	4.3	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

# 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 East & Oakland West  
Quadrangle



PROJECT:	125703
FACILITY:	
FORMER 76 STATION 3538 411 WEST MacARTHUR BOULEVARD OAKLAND, CALIFORNIA	

VICINITY MAP

FIGURE 1

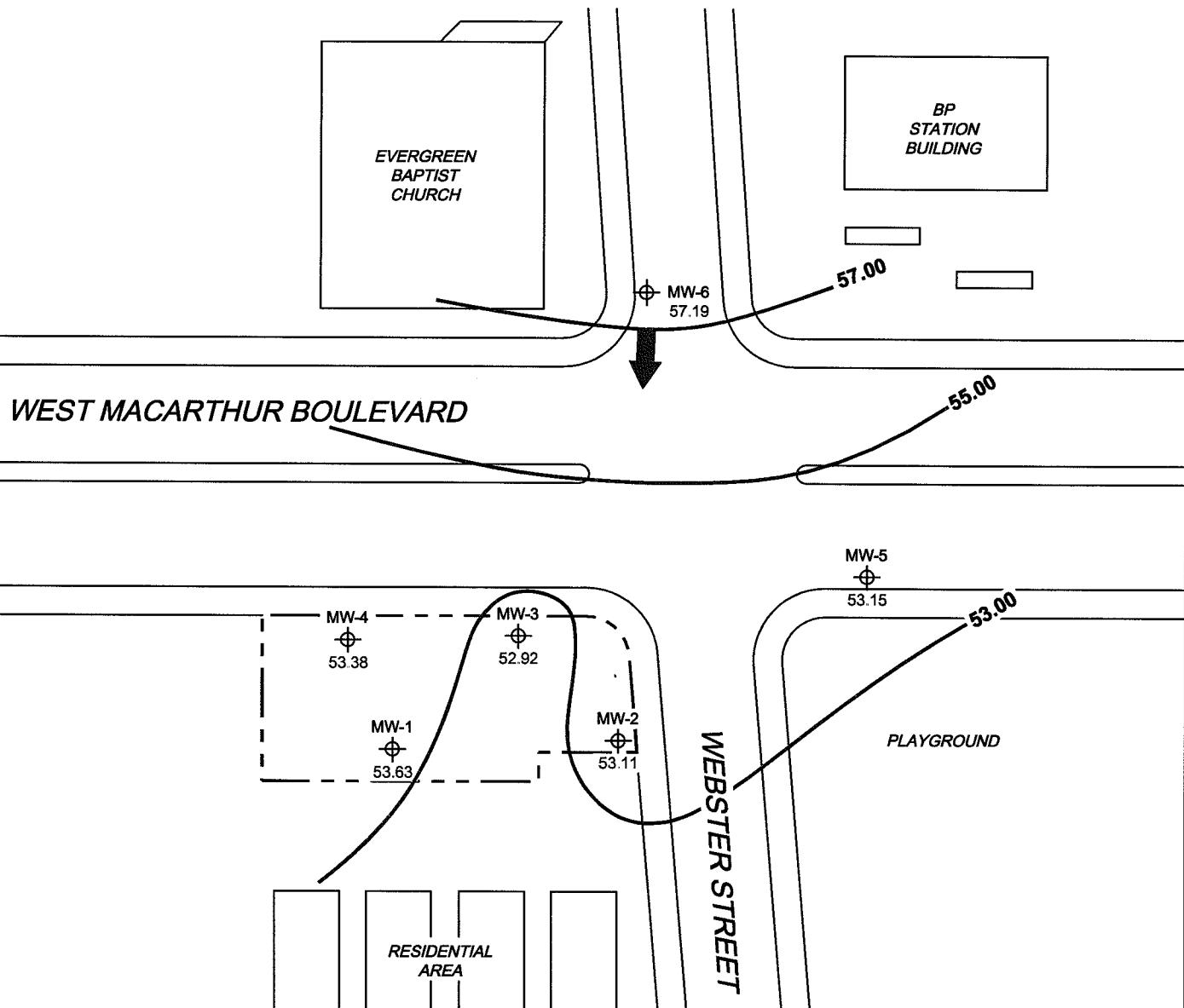


### LEGEND

MW-6 Monitoring Well with Groundwater Elevation (feet)

57.00 — 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.

SCALE (FEET)



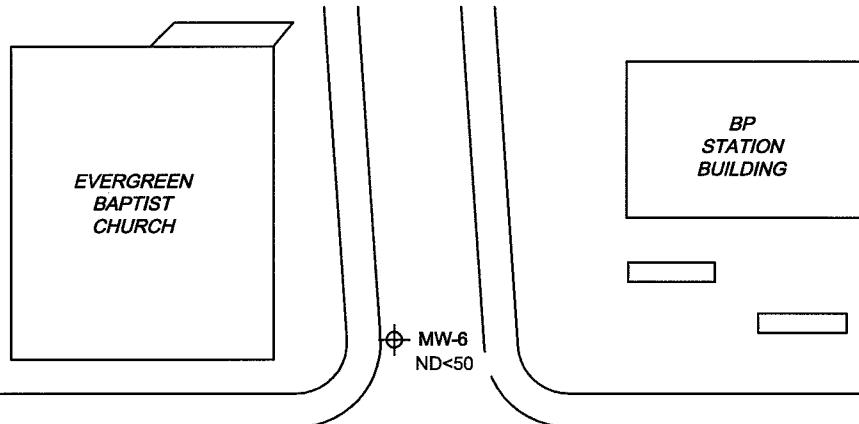
PROJECT: 125703  
FACILITY:  
FORMER 76 STATION 3538  
411 WEST MACARTHUR BLVD.  
OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION  
CONTOUR MAP  
September 27, 2007

**FIGURE 2**

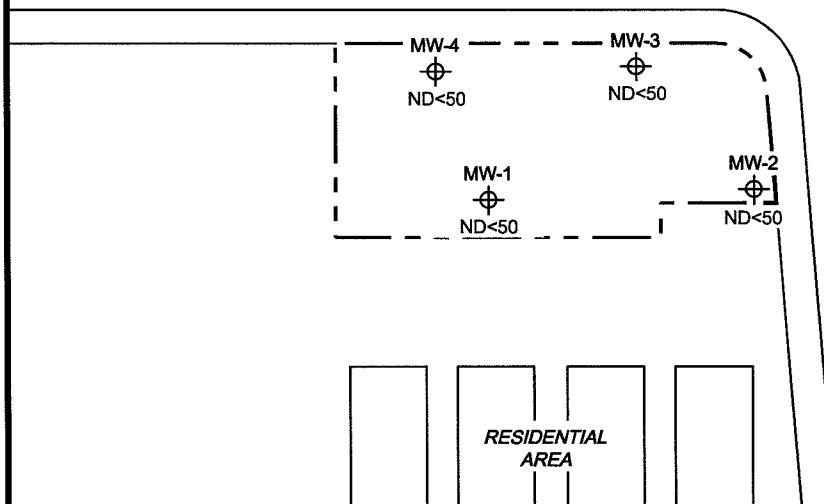
## LEGEND

MW-6 Monitoring Well with Dissolved-Phase  
TPH-G (GC/MS) Concentration ( $\mu\text{g/l}$ )

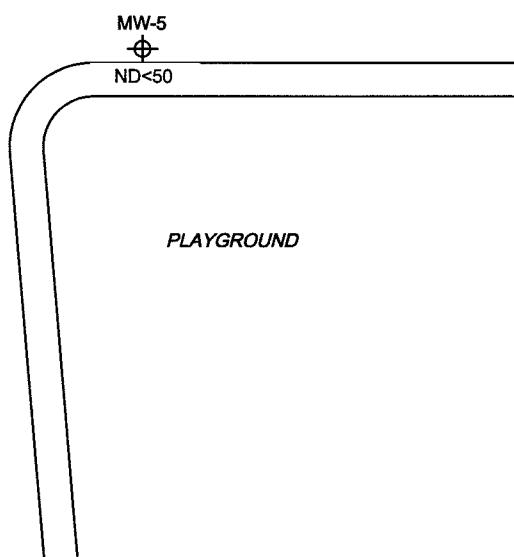


**WEST MACARTHUR BOULEVARD**

L:\Graphics\QMS\NORTH-SOUTH\DX-3000\DX-3538-QMS-(NEW).dwg Oct 10, 2007 - 5:41 pm bschmit



**WEBSTER STREET**



## NOTES:

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.

SCALE (FEET)



**DISSOLVED-PHASE TPH-G (GC/MS)  
CONCENTRATION MAP  
September 27, 2007**

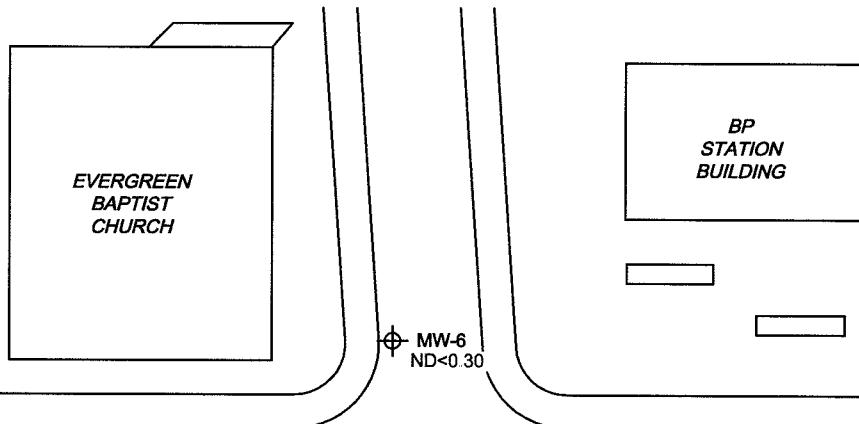


PROJECT: 125703  
FACILITY:  
FORMER 76 STATION 3538  
411 WEST MACARTHUR BLVD.  
OAKLAND, CALIFORNIA

**FIGURE 3**

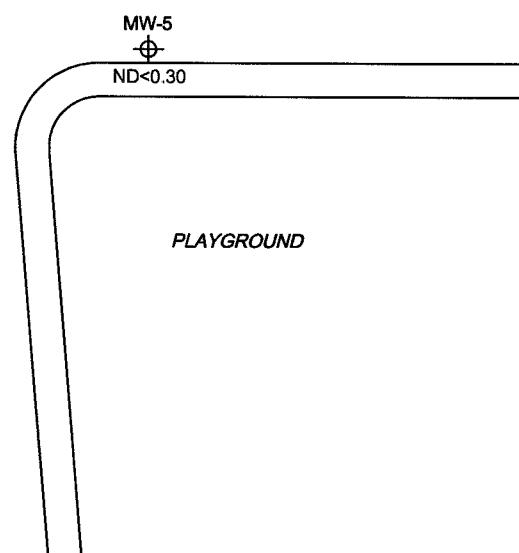
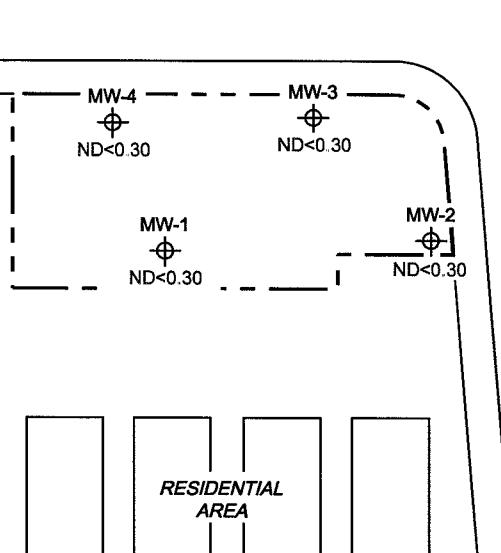
## LEGEND

MW-6 Monitoring Well with  
Dissolved-Phase Benzene  
Concentration ( $\mu\text{g/l}$ )



**WEST MACARTHUR BOULEVARD**

L:\Graphics\QMS NORTH-SOUTH\FX~3000\FX3538\FX3538-QMS-(NEW).dwg Oct 10, 2007 - 5:41pm bschmid



## NOTES:

$\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report.

SCALE (FEET)



**DISSOLVED-PHASE BENZENE  
CONCENTRATION MAP  
September 27, 2007**



PROJECT: 125703

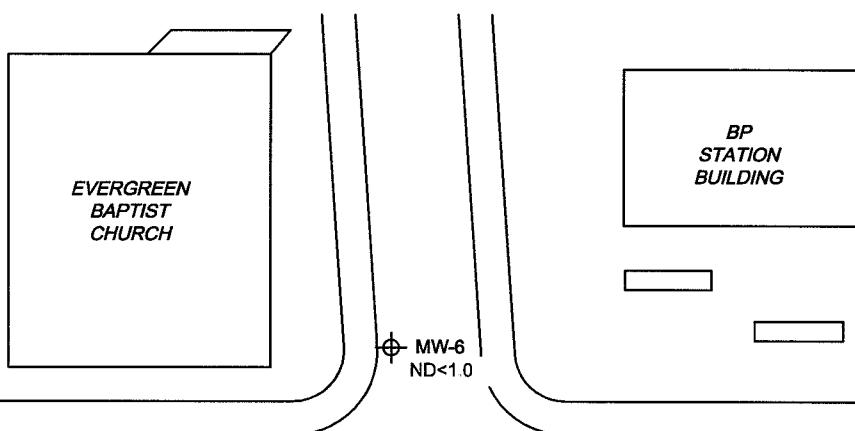
FACILITY:

FORMER 76 STATION 3538  
411 WEST MACARTHUR BLVD.  
OAKLAND, CALIFORNIA

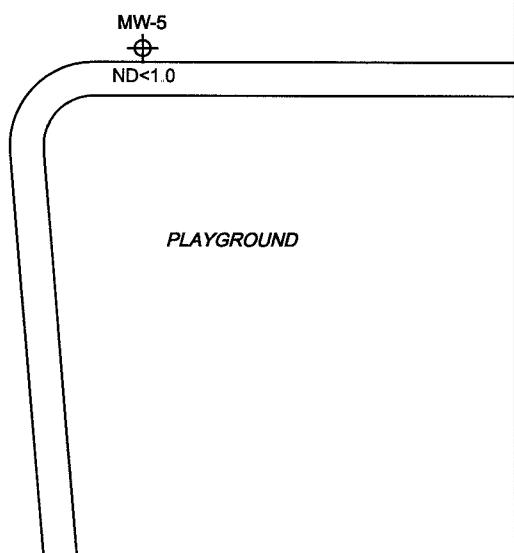
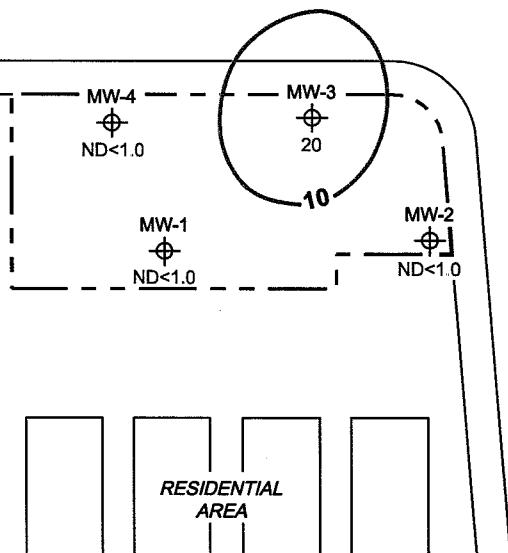
**FIGURE 4**

## LEGEND

- MW-6 Monitoring Well with Dissolved-Phase MTBE Concentration ( $\mu\text{g/l}$ )
- 10 — Dissolved-Phase MTBE Contour ( $\mu\text{g/l}$ )



**WEST MACARTHUR BOULEVARD**



## 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. Results obtained using EPA Method 8260B.

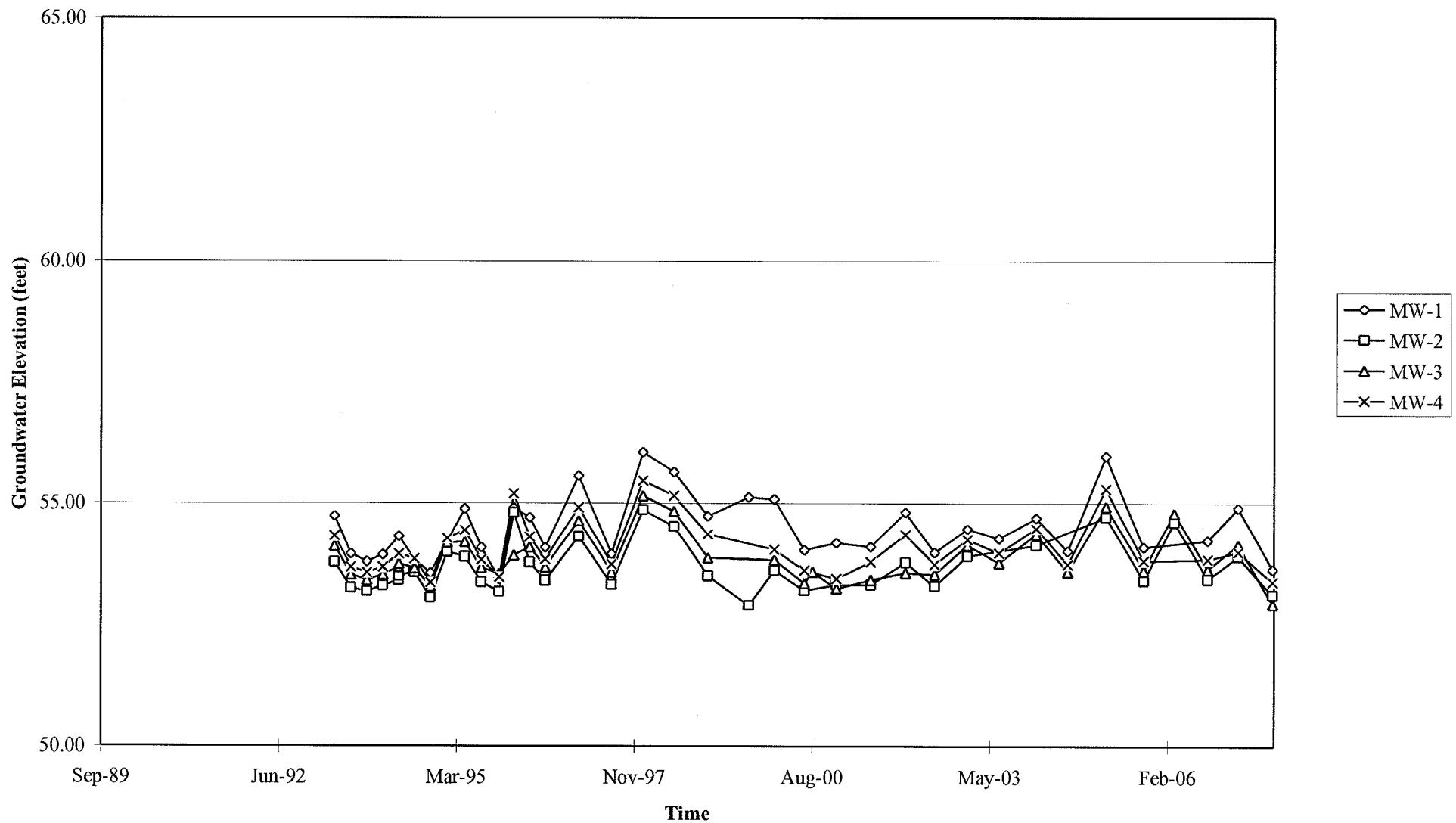
SCALE (FEET)



DISSOLVED-PHASE MTBE CONCENTRATION MAP  
September 27, 2007

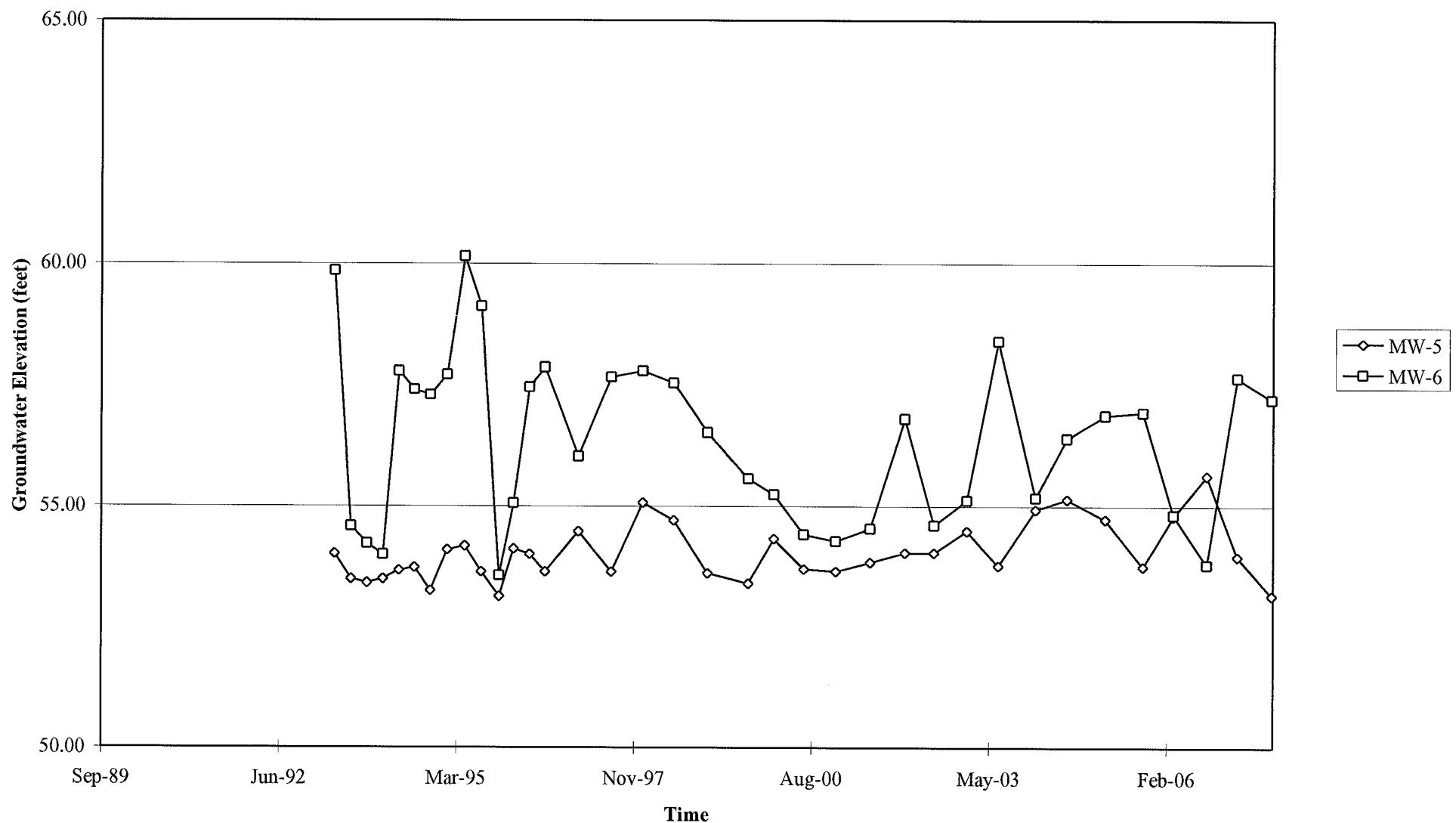
# GRAPHS

Groundwater Elevations vs. Time  
Former 76 Station 3538

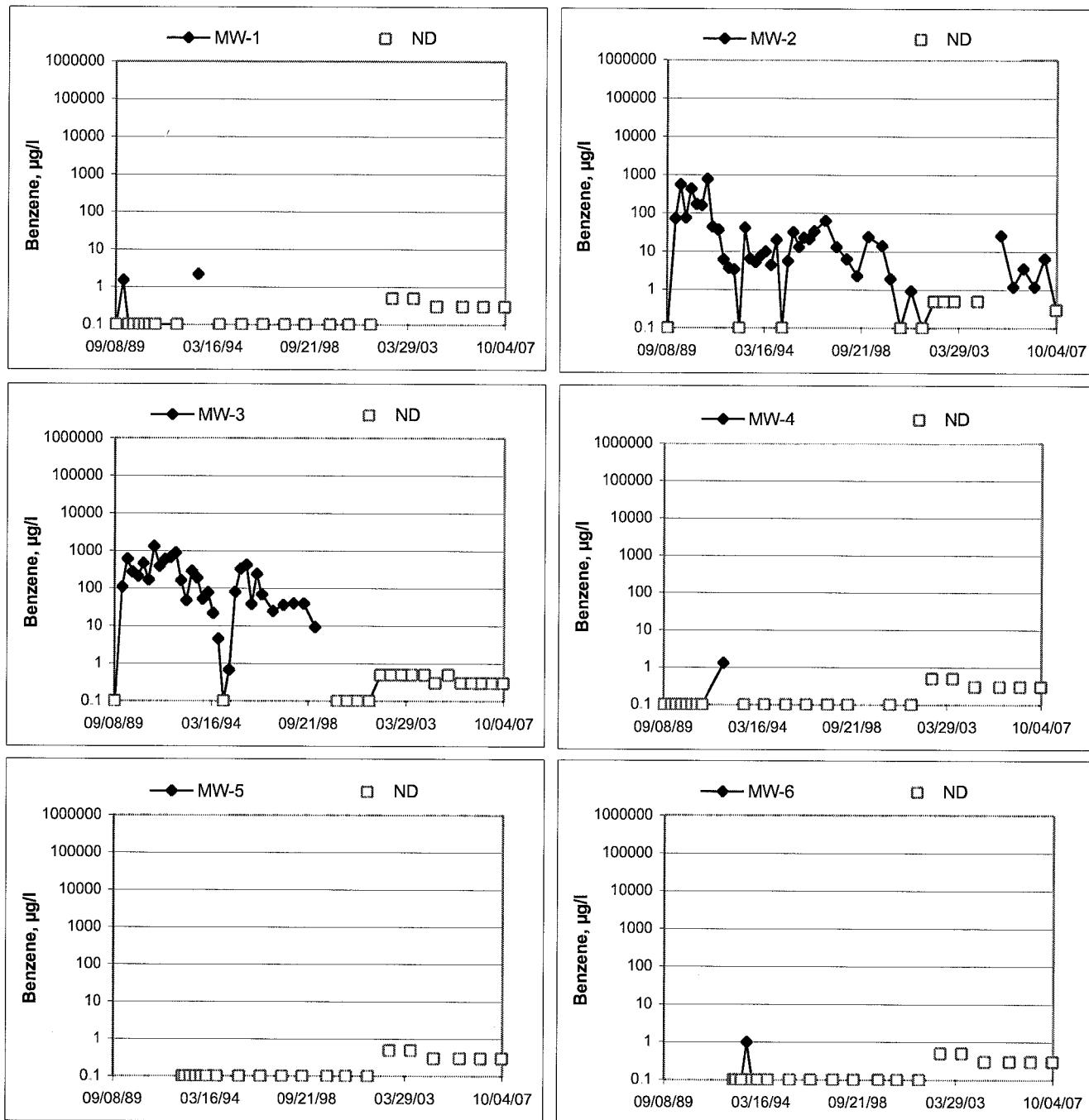


Elevations may have been corrected for apparent changes due to resurvey

Groundwater Elevations vs. Time  
Former 76 Station 3538



**Benzene Concentrations vs Time**  
Former 76 Station 3538



## 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, Purgung 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: STEPHEN

**Job #/Task #:** 125703

Date: 9-27-07

**Site #** 3538

Project Manager B. Boog

Page    of

FIELD DATA COMPLETE

QA/QC

COC

## WELL BOX CONDITION SHEETS

WTT CERTIFICATE

**MANIFEST**

## DRUM INVENTORY

## TRAFFIC CONTROL

# GROUNDWATER SAMPLING FIELD NOTES

Technician: STEPHEN R.

Site: 3538

Project No.: 125703

Date: 9-27-07

Well No. MW-6

Purge Method: HB

Depth to Water (feet): 141.18

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

Total Depth (feet) 30.02

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

Water Column (feet): 15.84

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 17.34

1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	D.O.	ORP	Turbidity
1220		3	578	21.8	7.47				
		6	581	21.6	7.32				
1235		9	584	21.2	7.21				
Static at Time Sampled			Total Gallons Purged			Sample Time			
16.19			9			1246			
Comments:									

Well No. MW-5

Purge Method: HB

Depth to Water (feet): 18.01

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

Total Depth (feet) 30.12

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

Water Column (feet): 12.11

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 20.43

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
1254		2	1170	20.1	7.05				
		4	1166	20.4	6.95				
1304		6	1160	20.2	6.79				
Static at Time Sampled			Total Gallons Purged			Sample Time			
20.11			6			1312			
Comments:									

## GROUNDWATER SAMPLING FIELD NOTES

Technician: STEPHEN R.Site: 3538Project No.: 125703Date: 7-27Well No. MW-4Purge Method: HBDepth to Water (feet): 18.16

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

Total Depth (feet) 24.69

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

Water Column (feet) 6.53Casing Diameter (Inches): 2"80% Recharge Depth(feet): 19.461 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
1320			1	679	20.7	6.73			
			2	702	20.2	6.74			
1324			3	729	20.0	6.72			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.84			3			1330			
Comments:									

Well No. MW-1Purge Method: HBDepth to Water (feet): 18.49

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

Total Depth (feet) 23.91

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

Water Column (feet) 5.42Casing Diameter (Inches): 2"80% Recharge Depth(feet): 19.571 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
1334			1	608	18.5	6.70			
			2	602	18.9	6.68			
1337			3	592	19.0	6.73			
Static at Time Sampled			Total Gallons Purged			Sample Time			
19.07			3			1343			
Comments:									

## GROUNDWATER SAMPLING FIELD NOTES

Technician: STEPHEN R.Site: 3538Project No.: 125703Date: 9-27-07Well No. MW-3Purge Method: HBDepth to Water (feet): 18.48Depth to Product (feet): —Total Depth (feet) 27.14LPH & Water Recovered (gallons): —Water Column (feet) 8.66Casing Diameter (Inches): 2"80% Recharge Depth(feet) 20.211 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
1350			1	764	21.5	6.65			
			2	780	21.2	6.61			
1354			3	784	21.4	6.63			
Static at Time Sampled			Total Gallons Purged			Sample Time			
19.46			3			1400			
Comments:									

Well No. MW-2Purge Method: HBDepth to Water (feet) 18.23Depth to Product (feet): —Total Depth (feet) 24.41LPH & Water Recovered (gallons): —Water Column (feet) 6.18Casing Diameter (Inches): 2"80% Recharge Depth(feet) 19.461 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
1408			1	818	19.9	6.62			
			2	810	19.6	6.59			
1413			3	821	19.1	6.64			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.77			3			1419			
Comments:									



Date of Report: 10/03/2007

Anju Farfan

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

RE: 3538  
BC Work Order: 0711364

Enclosed are the results of analyses for samples received by the laboratory on 09/27/2007 20:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Molly Meyers".

---

Contact Person: Molly Meyers  
Client Service Rep

A handwritten signature in black ink, appearing to read "Anju Farfan".

---

Authorized Signature



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

Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/03/2007 17:24

## Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information				
0711364-01	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	--- 3538 MW-6 MW-6 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	09/27/2007 20:55 09/27/2007 12:46 --- Water	Delivery Work Order: Global ID: T0600101472 Matrix: W Samle QC Type (SACode): CS Cooler ID:
0711364-02	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	--- 3538 MW-5 MW-5 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	09/27/2007 20:55 09/27/2007 13:12 --- Water	Delivery Work Order: Global ID: T0600101472 Matrix: W Samle QC Type (SACode): CS Cooler ID:
0711364-03	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	--- 3538 MW-4 MW-4 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	09/27/2007 20:55 09/27/2007 13:30 --- Water	Delivery Work Order: Global ID: T0600101472 Matrix: W Samle QC Type (SACode): CS Cooler ID:
0711364-04	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	--- 3538 MW-1 MW-1 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	09/27/2007 20:55 09/27/2007 13:43 --- Water	Delivery Work Order: Global ID: T0600101472 Matrix: W Samle QC Type (SACode): CS Cooler ID:
0711364-05	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	--- 3538 MW-3 MW-3 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	09/27/2007 20:55 09/27/2007 14:00 --- Water	Delivery Work Order: Global ID: T0600101472 Matrix: W Samle QC Type (SACode): CS Cooler ID:



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

Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/03/2007 17:24

## Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0711364-06	COC Number: --- Project Number: 3538 Sampling Location: MW-2 Sampling Point: MW-2 Sampled By: TRCI	Receive Date: 09/27/2007 20:55 Sampling Date: 09/27/2007 14:19 Sample Depth: --- Sample Matrix: Water	Delivery Work Order: Global ID: T0600101472 Matrix: W Samle QC Type (SACode): CS Cooler ID:	



LABORATORIES, INC.

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

Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/03/2007 17:24

## Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0711364-01	Client Sample Name: 3538, MW-6, MW-6, 9/27/2007 12:46:00PM										
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	0.30		EPA-8021	09/28/07	09/28/07 12:01	JCC	GC-V4	1	BQI1447	ND
Toluene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 12:01	JCC	GC-V4	1	BQI1447	ND
Ethylbenzene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 12:01	JCC	GC-V4	1	BQI1447	ND
Methyl t-butyl ether	ND	ug/L	1.0		EPA-8021	09/28/07	09/28/07 12:01	JCC	GC-V4	1	BQI1447	ND
Total Xylenes	ND	ug/L	0.60		EPA-8021	09/28/07	09/28/07 12:01	JCC	GC-V4	1	BQI1447	ND
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		Luft	09/28/07	09/28/07 12:01	JCC	GC-V4	1	BQI1447	ND
a,a,a-Trifluorotoluene (PID Surrogate)	84.2	%	70 - 130 (LCL - UCL)	EPA-8021	09/28/07	09/28/07 12:01	JCC	GC-V4	1	BQI1447		
a,a,a-Trifluorotoluene (FID Surrogate)	86.7	%	70 - 130 (LCL - UCL)	Luft	09/28/07	09/28/07 12:01	JCC	GC-V4	1	BQI1447		



LABORATORIES, INC.

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

Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/03/2007 17:24

## Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0711364-02	Client Sample Name: 3538, MW-5, MW-5, 9/27/2007 1:12:00PM										
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	0.30		EPA-8021	09/28/07	09/28/07 12:19	JCC	GC-V4	1	BQI1447	ND
Toluene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 12:19	JCC	GC-V4	1	BQI1447	ND
Ethylbenzene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 12:19	JCC	GC-V4	1	BQI1447	ND
Methyl t-butyl ether	ND	ug/L	1.0		EPA-8021	09/28/07	09/28/07 12:19	JCC	GC-V4	1	BQI1447	ND
Total Xylenes	ND	ug/L	0.60		EPA-8021	09/28/07	09/28/07 12:19	JCC	GC-V4	1	BQI1447	ND
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		Luft	09/28/07	09/28/07 12:19	JCC	GC-V4	1	BQI1447	ND
a,a,a-Trifluorotoluene (PID Surrogate)	84.9	%	70 - 130 (LCL - UCL)		EPA-8021	09/28/07	09/28/07 12:19	JCC	GC-V4	1	BQI1447	
a,a,a-Trifluorotoluene (FID Surrogate)	89.9	%	70 - 130 (LCL - UCL)		Luft	09/28/07	09/28/07 12:19	JCC	GC-V4	1	BQI1447	



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

Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/03/2007 17:24

## Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0711364-03	Client Sample Name: 3538, MW-4, MW-4, 9/27/2007 1:30:00PM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC	MB	Lab Quals	
								Dilution	Batch ID	Bias		
Benzene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 13:51	JCC	GC-V4	1	BQI1447	ND
Toluene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 13:51	JCC	GC-V4	1	BQI1447	ND
Ethylbenzene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 13:51	JCC	GC-V4	1	BQI1447	ND
Methyl t-butyl ether	ND	ug/L	1.0		EPA-8021	09/28/07	09/28/07 13:51	JCC	GC-V4	1	BQI1447	ND
Total Xylenes	ND	ug/L	0.60		EPA-8021	09/28/07	09/28/07 13:51	JCC	GC-V4	1	BQI1447	ND
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		Luft	09/28/07	09/28/07 13:51	JCC	GC-V4	1	BQI1447	ND
a,a,a-Trifluorotoluene (PID Surrogate)	83.8	%	70 - 130 (LCL - UCL)		EPA-8021	09/28/07	09/28/07 13:51	JCC	GC-V4	1	BQI1447	
a,a,a-Trifluorotoluene (FID Surrogate)	86.5	%	70 - 130 (LCL - UCL)	Luft		09/28/07	09/28/07 13:51	JCC	GC-V4	1	BQI1447	



LABORATORIES, INC.

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

Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/03/2007 17:24

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711364-04	Client Sample Name: 3538, MW-1, MW-1, 9/27/2007 1:43:00PM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC Dilution	Batch ID	MB Bias	Lab Quals
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Bromoform	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Bromomethane	ND	ug/L	1.0		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Chlorobenzene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Chloroethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Chloroform	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Chloromethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Methylene chloride	ND	ug/L	1.0		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39

BC Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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LABORATORIES, INC.

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

Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/03/2007 17:24

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0711364-04	Client Sample Name: 3538, MW-1, MW-1, 9/27/2007 1:43:00PM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC Dilution	Batch ID	MB Bias	Lab Quals
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Trichloroethene	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,1,2-Trichloro-1,2,2-trifluoroethane	4.3	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
Vinyl chloride	ND	ug/L	0.50		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	ND A39
1,2-Dichloroethane-d4 (Surrogate)	109	%	76 - 114 (LCL - UCL)		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	
Toluene-d8 (Surrogate)	100	%	88 - 110 (LCL - UCL)		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260	10/01/07	10/02/07 13:51	MGC	MS-V5	1	BQJ0053	



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## Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	Client Sample Name: 3538, MW-1, MW-1, 9/27/2007 1:43:00PM											
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	0.30		EPA-8021	09/28/07	09/28/07 14:09	JCC	GC-V4	1	BQI1447	ND
Toluene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 14:09	JCC	GC-V4	1	BQI1447	ND
Ethylbenzene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 14:09	JCC	GC-V4	1	BQI1447	ND
Methyl t-butyl ether	ND	ug/L	1.0		EPA-8021	09/28/07	09/28/07 14:09	JCC	GC-V4	1	BQI1447	ND
Total Xylenes	ND	ug/L	0.60		EPA-8021	09/28/07	09/28/07 14:09	JCC	GC-V4	1	BQI1447	ND
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		Luft	09/28/07	09/28/07 14:09	JCC	GC-V4	1	BQI1447	ND
a,a,a-Trifluorotoluene (PID Surrogate)	84.1	%	70 - 130 (LCL - UCL)	EPA-8021	09/28/07	09/28/07 14:09	JCC	GC-V4	1	BQI1447		
a,a,a-Trifluorotoluene (FID Surrogate)	88.7	%	70 - 130 (LCL - UCL)	Luft	09/28/07	09/28/07 14:09	JCC	GC-V4	1	BQI1447		



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## Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0711364-05	Client Sample Name: 3538, MW-3, MW-3, 9/27/2007 2:00:00PM										
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	0.30		EPA-8021	09/28/07	09/28/07 15:41	JCC	GC-V4	1	BQI1447	ND
Toluene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 15:41	JCC	GC-V4	1	BQI1447	ND
Ethylbenzene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 15:41	JCC	GC-V4	1	BQI1447	ND
Methyl t-butyl ether	20	ug/L	1.0		EPA-8021	09/28/07	09/28/07 15:41	JCC	GC-V4	1	BQI1447	ND
Total Xylenes	ND	ug/L	0.60		EPA-8021	09/28/07	09/28/07 15:41	JCC	GC-V4	1	BQI1447	ND
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		Luft	09/28/07	09/28/07 15:41	JCC	GC-V4	1	BQI1447	ND
a,a,a-Trifluorotoluene (PID Surrogate)	82.2	%	70 - 130 (LCL - UCL)		EPA-8021	09/28/07	09/28/07 15:41	JCC	GC-V4	1	BQI1447	
a,a,a-Trifluorotoluene (FID Surrogate)	87.7	%	70 - 130 (LCL - UCL)		Luft	09/28/07	09/28/07 15:41	JCC	GC-V4	1	BQI1447	



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## Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0711364-06	Client Sample Name: 3538, MW-2, MW-2, 9/27/2007 2:19:00PM										
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Instrument ID	QC Dilution	Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 15:23	JCC	GC-V4	1	BQI1447	ND
Toluene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 15:23	JCC	GC-V4	1	BQI1447	ND
Ethylbenzene	ND	ug/L	0.30		EPA-8021	09/28/07	09/28/07 15:23	JCC	GC-V4	1	BQI1447	ND
Methyl t-butyl ether	ND	ug/L	1.0		EPA-8021	09/28/07	09/28/07 15:23	JCC	GC-V4	1	BQI1447	ND
Total Xylenes	ND	ug/L	0.60		EPA-8021	09/28/07	09/28/07 15:23	JCC	GC-V4	1	BQI1447	ND
Gasoline Range Organics (C4 - C12)	ND	ug/L	50		Luft	09/28/07	09/28/07 15:23	JCC	GC-V4	1	BQI1447	ND
a,a,a-Trifluorotoluene (PID Surrogate)	83.4	%	70 - 130 (LCL - UCL)	EPA-8021	09/28/07	09/28/07 15:23	JCC	GC-V4	1	BQI1447		
a,a,a-Trifluorotoluene (FID Surrogate)	85.6	%	70 - 130 (LCL - UCL)	Luft	09/28/07	09/28/07 15:23	JCC	GC-V4	1	BQI1447		



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## 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	Control Limits			
								RPD	Percent Recovery	RPD	Percent Recovery Lab Quals
Bromodichloromethane	BQJ0053	Matrix Spike	0711276-05	0	29.050	25.000	ug/L	0	116	20	70 - 130
		Matrix Spike Duplicate	0711276-05	0	28.890	25.000	ug/L		116		70 - 130
Chlorobenzene	BQJ0053	Matrix Spike	0711276-05	0	27.350	25.000	ug/L	6.6	109	20	70 - 130
		Matrix Spike Duplicate	0711276-05	0	25.510	25.000	ug/L		102		70 - 130
Chloroethane	BQJ0053	Matrix Spike	0711276-05	0	22.490	25.000	ug/L	2.6	90.0	20	70 - 130
		Matrix Spike Duplicate	0711276-05	0	23.110	25.000	ug/L		92.4		70 - 130
1,4-Dichlorobenzene	BQJ0053	Matrix Spike	0711276-05	0	28.390	25.000	ug/L	4.5	114	20	70 - 130
		Matrix Spike Duplicate	0711276-05	0	27.180	25.000	ug/L		109		70 - 130
1,1-Dichloroethane	BQJ0053	Matrix Spike	0711276-05	0	24.150	25.000	ug/L	1.3	96.6	20	70 - 130
		Matrix Spike Duplicate	0711276-05	0	24.480	25.000	ug/L		97.9		70 - 130
1,1-Dichloroethene	BQJ0053	Matrix Spike	0711276-05	0	25.800	25.000	ug/L	1.9	103	20	70 - 130
		Matrix Spike Duplicate	0711276-05	0	26.250	25.000	ug/L		105		70 - 130
Trichloroethene	BQJ0053	Matrix Spike	0711276-05	0.17000	26.990	25.000	ug/L	0.9	107	20	70 - 130
		Matrix Spike Duplicate	0711276-05	0.17000	26.730	25.000	ug/L		106		70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BQJ0053	Matrix Spike	0711276-05	ND	10.160	10.000	ug/L	10.000	102	20	76 - 114
		Matrix Spike Duplicate	0711276-05	ND	10.970	10.000	ug/L		110		76 - 114
Toluene-d8 (Surrogate)	BQJ0053	Matrix Spike	0711276-05	ND	10.130	10.000	ug/L	10.000	101	20	88 - 110
		Matrix Spike Duplicate	0711276-05	ND	10.030	10.000	ug/L		100		88 - 110
4-Bromofluorobenzene (Surrogate)	BQJ0053	Matrix Spike	0711276-05	ND	10.880	10.000	ug/L	10.000	109	20	86 - 115
		Matrix Spike Duplicate	0711276-05	ND	10.370	10.000	ug/L		104		86 - 115



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## Purgeable Aromatics and Total Petroleum Hydrocarbons

### Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	Control Limits		
								RPD	Percent Recovery	RPD
Benzene	BQI1447	Matrix Spike	0710826-06	0	40.101	40.000	ug/L	100	70 - 130	20
		Matrix Spike Duplicate	0710826-06	0	38.012	40.000	ug/L	5.1	95.0	
Toluene	BQI1447	Matrix Spike	0710826-06	0	40.308	40.000	ug/L	101	70 - 130	20
		Matrix Spike Duplicate	0710826-06	0	38.037	40.000	ug/L	6.0	95.1	
Ethylbenzene	BQI1447	Matrix Spike	0710826-06	0	39.836	40.000	ug/L	99.6	70 - 130	20
		Matrix Spike Duplicate	0710826-06	0	37.606	40.000	ug/L	5.8	94.0	
Methyl t-butyl ether	BQI1447	Matrix Spike	0710826-06	0	36.905	40.000	ug/L	92.3	70 - 130	20
		Matrix Spike Duplicate	0710826-06	0	35.972	40.000	ug/L	2.6	89.9	
Total Xylenes	BQI1447	Matrix Spike	0710826-06	0	118.44	120.00	ug/L	98.7	70 - 130	20
		Matrix Spike Duplicate	0710826-06	0	111.94	120.00	ug/L	5.6	93.3	
Gasoline Range Organics (C4 - C12)	BQI1447	Matrix Spike	0710826-06	0	959.25	1000.0	ug/L	95.9	70 - 130	20
		Matrix Spike Duplicate	0710826-06	0	1021.9	1000.0	ug/L	6.2	102	
a,a,a-Trifluorotoluene (PID Surrogate)	BQI1447	Matrix Spike	0710826-06	ND	36.589	40.000	ug/L	91.5	70 - 130	20
		Matrix Spike Duplicate	0710826-06	ND	36.934	40.000	ug/L	92.3	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	BQI1447	Matrix Spike	0710826-06	ND	34.015	40.000	ug/L	85.0	70 - 130	20
		Matrix Spike Duplicate	0710826-06	ND	34.228	40.000	ug/L	85.6	70 - 130	



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Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

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## 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	Control Limits				
								Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
Bromodichloromethane	BQJ0053	BQJ0053-BS1	LCS	27.000	25.000	0.50	ug/L	108		70 - 130		
Chlorobenzene	BQJ0053	BQJ0053-BS1	LCS	23.860	25.000	0.50	ug/L	95.4		70 - 130		
Chloroethane	BQJ0053	BQJ0053-BS1	LCS	21.170	25.000	0.50	ug/L	84.7		70 - 130		
1,4-Dichlorobenzene	BQJ0053	BQJ0053-BS1	LCS	25.220	25.000	0.50	ug/L	101		70 - 130		
1,1-Dichloroethane	BQJ0053	BQJ0053-BS1	LCS	22.730	25.000	0.50	ug/L	90.9		70 - 130		
1,1-Dichloroethene	BQJ0053	BQJ0053-BS1	LCS	24.360	25.000	0.50	ug/L	97.4		70 - 130		
Trichloroethene	BQJ0053	BQJ0053-BS1	LCS	25.620	25.000	0.50	ug/L	102		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BQJ0053	BQJ0053-BS1	LCS	10.710	10.000		ug/L	107		76 - 114		
Toluene-d8 (Surrogate)	BQJ0053	BQJ0053-BS1	LCS	10.140	10.000		ug/L	101		88 - 110		
4-Bromofluorobenzene (Surrogate)	BQJ0053	BQJ0053-BS1	LCS	10.120	10.000		ug/L	101		86 - 115		



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Project: 3538  
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## Purgeable Aromatics and Total Petroleum Hydrocarbons

### Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Control Limits			
								Percent Recovery	RPD	Percent Recovery	RPD
Benzene	BQI1447	BQI1447-BS1	LCS	38.928	40.000	0.30	ug/L	97.3		85 - 115	
Toluene	BQI1447	BQI1447-BS1	LCS	39.027	40.000	0.30	ug/L	97.6		85 - 115	
Ethylbenzene	BQI1447	BQI1447-BS1	LCS	38.677	40.000	0.30	ug/L	96.7		85 - 115	
Methyl t-butyl ether	BQI1447	BQI1447-BS1	LCS	36.845	40.000	1.0	ug/L	92.1		85 - 115	
Total Xylenes	BQI1447	BQI1447-BS1	LCS	114.67	120.00	0.60	ug/L	95.6		85 - 115	
Gasoline Range Organics (C4 - C12)	BQI1447	BQI1447-BS1	LCS	998.76	1000.0	50	ug/L	99.9		85 - 115	
a,a,a-Trifluorotoluene (PID Surrogate)	BQI1447	BQI1447-BS1	LCS	37.381	40.000		ug/L	93.5		70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	BQI1447	BQI1447-BS1	LCS	35.662	40.000		ug/L	89.2		70 - 130	



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Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

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## 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
Bromodichloromethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Bromoform	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Bromomethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	1.0		
Carbon tetrachloride	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Chlorobenzene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Chloroethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Chloroform	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Chloromethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Dibromochloromethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,2-Dichlorobenzene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,3-Dichlorobenzene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,4-Dichlorobenzene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Dichlorodifluoromethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,1-Dichloroethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,1-Dichloroethene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
cis-1,2-Dichloroethene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
trans-1,2-Dichloroethene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,2-Dichloropropane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
cis-1,3-Dichloropropene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
trans-1,3-Dichloropropene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Methylene chloride	BQJ0053	BQJ0053-BLK1	ND	ug/L	1.0		
Methyl t-butyl ether	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,1,2,2-Tetrachloroethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		



LABORATORIES, INC.

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

Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 10/03/2007 17:24

## 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
Tetrachloroethene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,1,1-Trichloroethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,1,2-Trichloroethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Trichloroethene	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Trichlorofluoromethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,1,2-Trichloro-1,2,2-trifluoroethane	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
Vinyl chloride	BQJ0053	BQJ0053-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	BQJ0053	BQJ0053-BLK1	113	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BQJ0053	BQJ0053-BLK1	102	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BQJ0053	BQJ0053-BLK1	105	%	86 - 115 (LCL - UCL)		



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## Purgeable Aromatics and Total Petroleum Hydrocarbons

### Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BQI1447	BQI1447-BLK1	ND	ug/L	0.30		
Toluene	BQI1447	BQI1447-BLK1	ND	ug/L	0.30		
Ethylbenzene	BQI1447	BQI1447-BLK1	ND	ug/L	0.30		
Methyl t-butyl ether	BQI1447	BQI1447-BLK1	ND	ug/L	1.0		
Total Xylenes	BQI1447	BQI1447-BLK1	ND	ug/L	0.60		
Gasoline Range Organics (C4 - C12)	BQI1447	BQI1447-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (PID Surrogate)	BQI1447	BQI1447-BLK1	87.8	%	70 - 130 (LCL - UCL)		
a,a,a-Trifluorotoluene (FID Surrogate)	BQI1447	BQI1447-BLK1	84.4	%	70 - 130 (LCL - UCL)		



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Reported: 10/03/2007 17:24

### 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
A39	Sample received at pH greater than 2.

Submission #: 07-11364

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  Containers  None  Comments: \_\_\_\_\_  
 Intact? Yes  No

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

COC Received  
 YES  NO

Ice Chest ID: R1W  
 Temperature: 3.1 °C  
 Thermometer ID: H-18

Emissivity 0.95  
 Container QTA

Date/Time 9/27/07  
 Analyst Init QTO

## 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

A3 A3 A3 A3 A3 A3 ( ) ( ) ( ) ( )

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: 070 Date/Time: 9/28/07 0100

## BC LABORATORIES, INC.

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

CHK BY Meme	DISTRIBUTION JW
	<input type="checkbox"/>
	<input type="checkbox"/>
	SUB-OUT <input type="checkbox"/>

## CHAIN OF CUSTODY

07-11364

## Analysis Requested

Bill to: Conoco Phillips/ TRC		Consultant Firm: TRC	MATRIX (GW) Ground-water (S) Soil (WW) Waste-water (SL) Sludge	BTEX/MTBE by 8021B, Gas by 8015	TPH GAS by 8015M	TPH DIESEL by 8015	8260 full list w/ oxygenates	BTEX/MTBE by 8021B, Gas by 8015M	ETHANOL by 8260B	TPH-G by GC/MS	Turnaround Time Requested
Address:		21 Techology Drive Irvine, CA 92618-2302 Attn: Anju Farfan									
City: OAKLAND		4-digit site#: 3538									
State: CA Zip:		Project #: 125703									
Conoco Phillips Mgr: R. W. Borgh		Sampler Name: STEPHEN R.									
Lab#	Sample Description	Field Point Name		Date & Time Sampled							
-1	MW - 6	9-27/1246		6W	X			X			SD
-2	MW - 5			1312		X		X		R	
-3	MW - 4			1330		X		X			
-4	MW - 1			1343		X		X		X	
-5	MW - 3			1400		X		X			
-6	MW - 2			1419		X		X			

Comments: <i>Vials are unpressured</i>	Relinquished by: (Signature) <i>Ross Dickey 9/27/07</i>	Received by: <i>Ross Dickey</i>	Date & Time 9-27-07 1500
GLOBAL ID: T0600101472	Relinquished by: (Signature) <i>R. Riley 9-27-07 2055</i>	Received by: <i>R. Riley</i>	Date & Time 9-27-07 1800
(A) = ANALYSIS	(C) = CONTAINER	(P) = PRESERVATIVE	Received by: <i>Terri Obafemi</i>

## **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.