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8:10 am, May 03, 2007

Alameda County  
Environmental Health

  
**ConocoPhillips**

76 Broadway  
Sacramento, California 95818

May 1, 2007

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

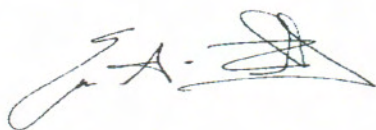
Re: **Quarterly Report Transmittal  
First Quarter – 2007  
76 Service Station #3538  
411 West MacArthur Blvd.  
Oakland, Alameda County, CA**

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 call me at (916) 558-7604.

Sincerely,



Eric G. Hetrick  
Site Manager  
Risk Management & Remediation



1590 Solano Way  
#A  
Concord, CA 94520

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

April 26, 2007

TRC Project No. 42014214

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

**RE: Quarterly Status Report - First 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 First 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 and is entirely fenced. All petroleum storage and dispensing equipment were removed in September of 1998 during station demolition activities. Six groundwater-monitoring wells are present 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 and the remaining four wells are monitored annually. Six wells were gauged and two wells were sampled this quarter. The groundwater gradient flow direction is toward the southwest at a calculated hydraulic gradient of 0.02 feet per foot. A graph of historical groundwater flow directions is included in this report.

### **CHARACTERIZATION STATUS**

TPH-g was detected in both wells sampled at a maximum concentration of 140 micrograms per liter ( $\mu\text{g}/\text{l}$ ) in onsite well MW-3. Benzene was detected in one of two wells sampled at a concentration of 6.5  $\mu\text{g}/\text{l}$  in onsite well MW-2. MTBE was detected in both wells sampled at a maximum concentration of 110  $\mu\text{g}/\text{l}$  in onsite well MW-3. Currently, the dissolved-phase plume is not defined to the south-southeast.

### **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.





## CURRENT QUARTER ACTIVITIES

March 15, 2007: TRC performed groundwater monitoring and sampling this quarter. 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 two offsite groundwater monitoring wells. TRC will prepare a Site Conceptual Model (SCM), per Alameda County guidance for electronic report submittal, to summarize site conditions and evaluate path forward.

Based on information presented in the upcoming SCM, and on subsequent groundwater monitoring data from the proposed offsite wells, TRC may recommend site closure after several quarters of monitoring if the plume appears stable and remains defined within the monitoring well network.

If you have any questions regarding this report, please call me at (925) 688-2488.

Sincerely,



Keith Woodburne, P.G.  
Senior Project Manager

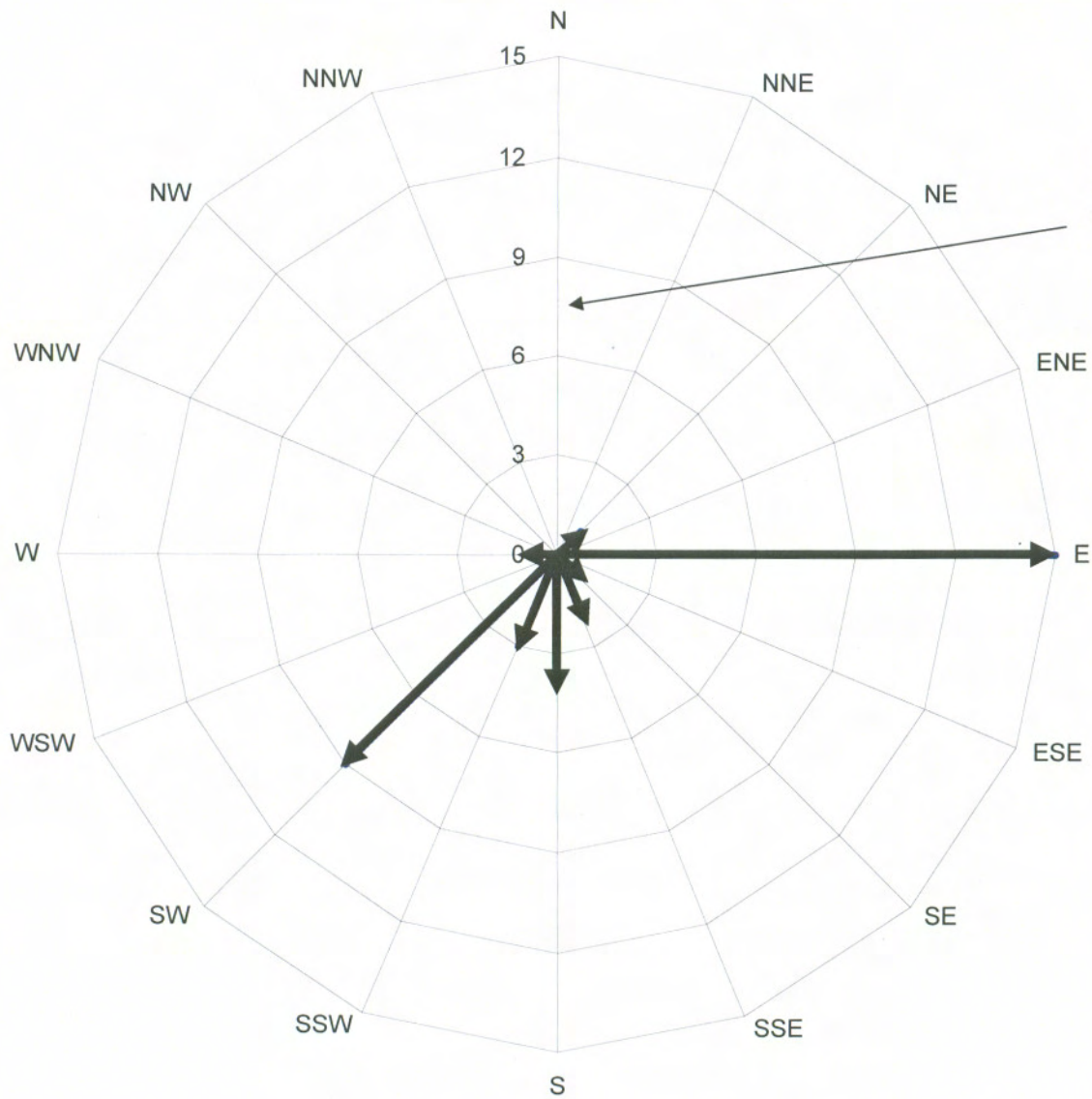


### Attachments:

Semi-Annual Monitoring Report, October 2006 through March 2007 (TRC, April 12, 2007)  
Historical Groundwater Flow Directions – February 1990 through March 2007

cc: Eric Hetrick, ConocoPhillips (electronic upload only)

**Historical Groundwater Flow Directions  
for Tosco (76) Service Station No. 3538  
February 1990 through March 2007**



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





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Irvine, CA 92618

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DATE: April 12, 2007

TO: ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

ATTN: MR. ERIC HETRICK

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

RE: SEMI-ANNUAL MONITORING REPORT  
OCTOBER 2006 THROUGH MARCH 2007

Dear Mr. Hetrick,

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

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

Anju Farfan  
Groundwater Program Operations Manager

CC: Mr. Keith Woodburne, TRC (2 copies)

Enclosures  
20-0400/3538R07.QMS

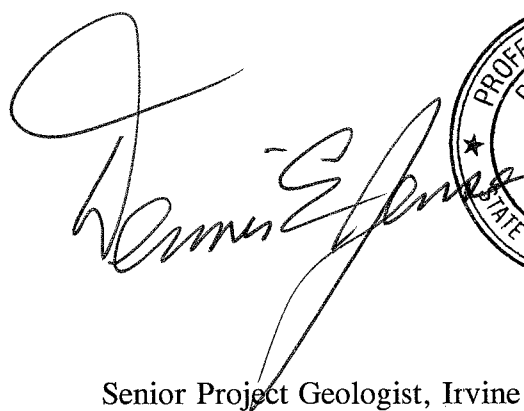

**SEMI-ANNUAL MONITORING REPORT  
OCTOBER 2006 THROUGH MARCH 2007**

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

Prepared For:

Mr. Eric Hetrick  
CONOCOPHILLIPS COMPANY  
76 Broadway  
Sacramento, California 95818

By:

Senior Project Geologist, Irvine Operations  
April 11, 2007



## 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 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
Figures	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
Graphs	Groundwater Elevations vs. Time Benzene Concentrations vs. Time
Field Activities	General Field Procedures Field Monitoring Data Sheet – 03/15/07 Groundwater Sampling Field Notes – 03/15/07
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations





# TABLES

## TABLE KEY

### STANDARD ABBREVIATIONS

--	=	not analyzed, measured, or collected
LPH	=	liquid-phase hydrocarbons
Trace	=	less than 0.01 foot of LPH in well
µg/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:  $\text{Surface Elevation} - \text{Measured Depth to Water} + (\text{Dp} \times \text{LPH Thickness})$ , where Dp 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			
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### 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			
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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 Tetra- 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**  
**March 15, 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>													
03/15/07	72.12	17.22	0.00	54.90	0.68	--	--	--	--	--	--	--	Sampled Q3 only
<b>MW-2</b>													
03/15/07	71.34	17.45	0.00	53.89	0.46	110	6.5	ND<0.30	0.70	ND<0.60	1.7	--	
<b>MW-3</b>													
03/15/07	71.40	17.27	0.00	54.13	0.50	140	ND<0.30	ND<0.30	ND<0.30	ND<0.60	110	--	
<b>MW-4</b>													
03/15/07	71.54	17.56	0.00	53.98	0.15	--	--	--	--	--	--	--	Sampled Q3 only
<b>MW-5</b>													
03/15/07	71.16	17.20	0.00	53.96	-1.66	--	--	--	--	--	--	--	Sampled Q3 only
<b>MW-6</b>													
03/15/07	71.37	13.72	0.00	57.65	3.86	--	--	--	--	--	--	--	Sampled Q3 only

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-1</b>													
09/15/89	--	--	--	--	--	ND	ND	0.61	ND	ND	--	--	
01/23/90	--	--	--	--	--	ND	1.5	2.3	ND	4.3	--	--	
04/19/90	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
07/17/90	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
10/16/90	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
01/15/91	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
04/12/91	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
07/15/91	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
07/14/92	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
04/13/93	72.43	17.70	0.00	54.73	--	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/14/93	72.43	18.49	0.00	53.94	-0.79	ND	2.2	2.1	1.1	6.2	--	--	
10/14/93	72.10	18.32	0.00	53.78	-0.16	--	--	--	--	--	--	--	
01/12/94	72.10	18.18	0.00	53.92	0.14	--	--	--	--	--	--	--	
04/11/94	72.10	17.80	0.00	54.30	0.38	--	--	--	--	--	--	--	
07/07/94	72.10	18.28	0.00	53.82	-0.48	ND	ND	ND	ND	ND	--	--	
10/05/94	72.10	18.55	0.00	53.55	-0.27	--	--	--	--	--	--	--	
01/09/95	72.10	17.90	0.00	54.20	0.65	--	--	--	--	--	--	--	
04/17/95	72.10	17.22	0.00	54.88	0.68	--	--	--	--	--	--	--	
07/19/95	72.10	18.03	0.00	54.07	-0.81	ND	ND	ND	ND	ND	--	--	
10/26/95	72.10	18.67	0.00	53.43	-0.64	--	--	--	--	--	--	--	
01/16/96	72.10	17.20	0.00	54.90	1.47	--	--	--	--	--	--	--	
04/15/96	72.10	17.40	0.00	54.70	-0.20	--	--	--	--	--	--	--	
07/11/96	72.10	18.03	0.00	54.07	-0.63	ND	ND	ND	ND	ND	ND	--	



**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-1 continued</b>													
01/17/97	72.10	16.54	0.00	55.56	1.49	--	--	--	--	--	--	--	
07/21/97	72.10	18.16	0.00	53.94	-1.62	ND	ND	ND	ND	ND	ND	--	
01/14/98	72.10	16.05	0.00	56.05	2.11	--	--	--	--	--	--	--	
07/06/98	72.10	16.46	0.00	55.64	-0.41	ND	ND	ND	ND	ND	ND	--	
01/13/99	72.10	17.37	0.00	54.73	-0.91	--	--	--	--	--	--	--	
08/31/99	72.12	17.00	0.00	55.12	0.39	ND	ND	ND	ND	ND	ND	--	
01/21/00	72.12	17.04	0.00	55.08	-0.04	--	--	--	--	--	--	--	
07/10/00	72.12	18.10	0.00	54.02	-1.06	ND	ND	ND	ND	ND	ND	--	
01/04/01	72.12	17.95	0.00	54.17	0.15	--	--	--	--	--	--	--	
07/16/01	72.12	18.03	0.00	54.09	-0.08	ND	ND	ND	ND	ND	ND	--	
01/28/02	72.12	17.31	0.00	54.81	0.72	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/12/02	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	--	
01/14/03	72.12	17.66	0.00	54.46	0.49	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/10/03	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	--	
02/04/04	72.12	17.43	0.00	54.69	0.43	--	--	--	--	--	--	--	Monitored Only
07/29/04	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	
03/02/05	72.12	16.15	0.00	55.97	1.97	--	--	--	--	--	--	--	Sampled Annually
09/30/05	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	
03/23/06	72.12	--	--	--	--	--	--	--	--	--	--	--	Inaccessible due to gate, Sampled Q3 only
09/26/06	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	
03/15/07	72.12	17.22	0.00	54.90	0.68	--	--	--	--	--	--	--	Sampled Q3 only
<b>MW-2</b>													
09/15/89	--	--	--	--	--	290	ND	12	ND	ND	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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>													
01/23/90	--	--	--	--	--	400	73	36	10	40	--	--	
04/19/90	--	--	--	--	--	3900	550	5.1	91	390	--	--	
07/17/90	--	--	--	--	--	490	76	0.59	11	46	--	--	
10/16/90	--	--	--	--	--	1400	430	2.0	48	240	--	--	
01/15/91	--	--	--	--	--	680	170	0.7	19	81	--	--	
04/12/91	--	--	--	--	--	2200	160	4.3	23	62	--	--	
07/15/91	--	--	--	--	--	2200	770	12	72	370	--	--	
10/15/91	--	--	--	--	--	140	44	0.56	1.5	12	--	--	
01/15/92	--	--	--	--	--	220	37	0.52	1.1	7	--	--	
04/14/92	--	--	--	--	--	150	6.2	ND	ND	1.4	--	--	
07/14/92	--	--	--	--	--	130	3.7	ND	ND	ND	--	--	
10/12/92	--	--	--	--	--	370	3.4	0.56	ND	11	--	--	
01/08/93	--	--	--	--	--	510	ND	ND	ND	ND	--	--	
04/13/93	71.63	17.86	0.00	53.77	--	410	42	7.7	6.4	28	200	--	
07/14/93	71.63	18.38	0.00	53.25	-0.52	110	6.5	ND	ND	1.1	250	--	
10/14/93	71.38	18.20	0.00	53.18	-0.07	230	5.3	ND	ND	2.1	--	--	
01/12/94	71.38	18.08	0.00	53.30	0.12	300	7.8	3.8	1.8	10	--	--	
04/09/94	71.38	17.97	0.00	53.41	0.11	120	10	0.88	1.1	4.9	--	--	
04/11/94	71.38	17.88	0.00	53.50	0.09	--	--	--	--	--	--	--	
07/07/94	71.38	17.81	0.00	53.57	0.07	110	4.4	ND	ND	ND	--	--	
10/05/94	71.38	18.33	0.00	53.05	-0.52	720	20	ND	ND	3.1	--	--	
01/09/95	71.38	17.40	0.00	53.98	0.93	ND	ND	ND	ND	ND	--	--	
04/17/95	71.38	17.50	0.00	53.88	-0.10	93	5.6	0.62	1.7	5.5	--	--	
07/19/95	71.38	18.01	0.00	53.37	-0.51	77	32	0.58	1.7	4.1	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-2 continued</b>													
10/26/95	71.38	18.21	0.00	53.17	-0.20	54	13	ND	ND	0.72	220	--	
01/16/96	71.38	16.58	0.00	54.80	1.63	120	23	ND	ND	0.99	--	--	
04/15/96	71.38	17.61	0.00	53.77	-1.03	340	21	ND	2.2	3.7	45	--	
07/11/96	71.38	17.98	0.00	53.40	-0.37	540	34	ND	4.3	12	150	--	
01/17/97	71.38	17.08	0.00	54.30	0.90	320	63	2.4	9.4	26	260	--	
07/21/97	71.38	18.06	0.00	53.32	-0.98	160	13	ND	1.3	1.6	180	--	
01/14/98	71.38	16.52	0.00	54.86	1.54	66	6.3	ND	ND	0.98	100	--	
07/06/98	71.38	16.87	0.00	54.51	-0.35	ND	2.3	ND	ND	ND	11	--	
01/13/99	71.38	17.88	0.00	53.50	-1.01	53	24	ND	0.52	0.98	120	--	
08/31/99	71.34	18.45	0.00	52.89	-0.61	86	14	ND	0.63	ND	21	--	
01/21/00	71.34	17.73	0.00	53.61	0.72	ND	1.94	ND	ND	ND	10.1	--	
07/10/00	71.34	18.14	0.00	53.20	-0.41	ND	ND	ND	ND	ND	46.6	--	
01/04/01	71.34	18.02	0.00	53.32	0.12	ND	0.925	ND	ND	ND	ND	--	
07/16/01	71.34	18.02	0.00	53.32	0.00	ND	ND	ND	ND	ND	ND	--	
01/28/02	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<2.5	--	
07/12/02	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<2.5	--	
01/14/03	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<2.0	--	
07/10/03	71.34	--	--	--	--	--	--	--	--	--	--	--	INACCESSIBLE - VEHICLE PARKED OVER WELL
02/04/04	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	--	
07/29/04	71.34	--	--	--	--	--	--	--	--	--	--	--	Inaccessible-car parked on well
03/02/05	71.34	16.63	0.00	54.71	--	99	26	ND<0.50	3.5	2.8	ND<5.0	--	
09/30/05	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	--	



**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-2 continued</b>													
03/23/06	71.34	16.74	0.00	54.60	1.20	ND<50	3.6	ND<0.30	0.35	ND<0.60	2.5	--	
09/26/06	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	--	
03/15/07	71.34	17.45	0.00	53.89	0.46	110	6.5	ND<0.30	0.70	ND<0.60	1.7	--	
<b>MW-3</b>													
09/15/89	--	--	--	--	--	32	ND	ND	ND	ND	--	--	
01/23/90	--	--	--	--	--	450	110	1.2	4.4	11	--	--	
04/19/90	--	--	--	--	--	3100	600	27	54	220	--	--	
07/17/90	--	--	--	--	--	4000	270	48	130	250	--	--	
10/16/90	--	--	--	--	--	740	210	1.4	2.5	82	--	--	
01/15/91	--	--	--	--	--	3200	460	1.5	120	270	--	--	
04/12/91	--	--	--	--	--	880	170	1.1	34	110	--	--	
07/15/91	--	--	--	--	--	9200	1300	230	490	1900	--	--	
10/15/91	--	--	--	--	--	3100	390	34	150	390	--	--	
01/15/92	--	--	--	--	--	3000	590	14	310	750	--	--	
04/14/92	--	--	--	--	--	14000	660	48	560	2000	--	--	
07/14/92	--	--	--	--	--	21000	890	200	1200	4300	--	--	
10/12/92	--	--	--	--	--	3200	160	10	230	540	--	--	
01/08/93	--	--	--	--	--	1100	48	0.99	0.9	93	--	--	
04/13/93	72.06	17.96	0.00	54.10	--	12000	290	38	760	2300	1400	--	
07/14/93	72.06	18.54	0.00	53.52	-0.58	6300	190	ND	430	1000	860	--	
10/14/93	71.86	18.45	0.00	53.41	-0.11	2500	52	ND	110	250	--	--	
01/12/94	71.86	18.34	0.00	53.52	0.11	3800	78	ND	180	390	--	--	
04/09/94	71.86	18.19	0.00	53.67	0.15	1800	22	ND	140	280	--	--	
04/11/94	71.86	18.12	0.00	53.74	0.07	--	--	--	--	--	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-3 continued</b>													
07/07/94	71.86	18.21	0.00	53.65	-0.09	110	4.5	ND	ND	ND	--	--	
10/05/94	71.86	18.58	0.00	53.28	-0.37	ND	ND	ND	ND	ND	--	--	
01/09/95	71.86	17.69	0.00	54.17	0.89	ND	0.68	ND	ND	ND	--	--	
04/17/95	71.86	17.68	0.00	54.18	0.01	3700	80	10	270	510	--	--	
07/19/95	71.86	18.20	0.00	53.66	-0.52	15000	330	27	990	2400	--	--	
10/26/95	71.86	18.32	0.00	53.54	-0.12	14000	420	180	750	1600	4800	--	
01/16/96	71.86	17.95	0.00	53.91	0.37	920	38	ND	30	57	--	--	
04/15/96	71.86	17.78	0.00	54.08	0.17	9700	240	ND	570	860	3200	--	
07/11/96	71.86	18.19	0.00	53.67	-0.41	13000	69	5.5	430	900	740	--	
01/17/97	71.86	17.23	0.00	54.63	0.96	4400	25	ND	270	580	1600	--	
07/21/97	71.86	18.29	0.00	53.57	-1.06	9000	36	ND	450	800	950	--	
01/14/98	71.86	16.71	0.00	55.15	1.58	7100	40	ND	380	360	930	--	
07/06/98	71.86	17.03	0.00	54.83	-0.32	6800	39	ND	320	360	370	--	
01/13/99	71.86	18.00	0.00	53.86	-0.97	1800	9.4	ND	58	36	180	--	
08/31/99	71.40	--	0.00	--	--	--	--	--	--	--	--	--	Well obstructed at 0.5 feet.
01/21/00	71.40	17.58	0.00	53.82	--	ND	ND	ND	ND	ND	21.4	--	
07/10/00	71.40	18.05	0.00	53.35	-0.47	ND	ND	ND	ND	ND	162	--	
08/25/00	71.40	17.82	0.00	53.58	0.23	--	--	--	--	--	--	180	
01/04/01	71.40	18.16	0.00	53.24	-0.34	ND	ND	ND	ND	ND	193	--	
07/16/01	71.40	17.98	0.00	53.42	0.18	ND	ND	ND	ND	ND	660	--	
01/28/02	71.40	17.84	0.00	53.56	0.14	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	34	--	
07/12/02	71.40	17.87	0.00	53.53	-0.03	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	11	19	
01/14/03	71.40	17.28	0.00	54.12	0.59	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	12	--	
07/10/03	71.40	17.64	0.00	53.76	-0.36	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	23	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-3 continued</b>													
02/04/04	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	--	
07/29/04	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	--	
03/02/05	71.40	16.47	0.00	54.93	1.35	93	ND<0.50	ND<0.50	ND<0.50	ND<0.50	140	--	
09/30/05	71.40	17.79	0.00	53.61	-1.32	65	ND<0.30	ND<0.30	ND<0.30	ND<0.60	61	--	
03/23/06	71.40	16.61	0.00	54.79	1.18	54	ND<0.30	0.41	ND<0.30	0.98	63	--	
09/26/06	71.40	17.77	0.00	53.63	-1.16	51	ND<0.30	ND<0.30	ND<0.30	ND<0.60	41	--	
03/15/07	71.40	17.27	0.00	54.13	0.50	140	ND<0.30	ND<0.30	ND<0.30	ND<0.60	110	--	
<b>MW-4</b>													
09/15/89	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
01/23/90	--	--	--	--	--	ND	ND	0.4	ND	ND	--	--	
04/19/90	--	--	--	--	--	ND	ND	0.48	ND	ND	--	--	
07/17/90	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
10/16/90	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
01/15/91	--	--	--	--	--	ND	ND	ND	--	ND	--	--	
04/12/91	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
07/15/91	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
07/14/92	--	--	--	--	--	ND	1.3	2.5	ND	1.0	--	--	
04/13/93	71.98	17.67	0.00	54.31	--	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/14/93	71.98	18.31	0.00	53.67	-0.64	ND	ND	ND	ND	ND	--	--	
10/14/93	71.64	18.08	0.00	53.56	-0.11	--	--	--	--	--	--	--	
01/12/94	71.64	17.97	0.00	53.67	0.11	--	--	--	--	--	--	--	
04/11/94	71.64	17.70	0.00	53.94	0.27	--	--	--	--	--	--	--	
07/07/94	71.64	17.80	0.00	53.84	-0.10	ND	ND	ND	ND	ND	--	--	
10/05/94	71.64	18.28	0.00	53.36	-0.48	--	--	--	--	--	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-4 continued</b>													
01/09/95	71.64	17.38	0.00	54.26	0.90	--	--	--	--	--	--	--	
04/17/95	71.64	17.21	0.00	54.43	0.17	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/19/95	71.64	17.82	0.00	53.82	-0.61	ND	ND	ND	ND	ND	--	--	
10/26/95	71.64	18.17	0.00	53.47	-0.35	--	--	--	--	--	--	--	
01/16/96	71.64	16.45	0.00	55.19	1.72	--	--	--	--	--	--	--	
04/15/96	71.64	17.35	0.00	54.29	-0.90	--	--	--	--	--	--	--	
07/11/96	71.64	17.81	0.00	53.83	-0.46	ND	ND	ND	ND	ND	ND	--	
01/17/97	71.64	16.73	0.00	54.91	1.08	--	--	--	--	--	--	--	
07/21/97	71.64	17.91	0.00	53.73	-1.18	ND	ND	ND	ND	ND	ND	--	
01/14/98	71.64	16.18	0.00	55.46	1.73	--	--	--	--	--	--	--	
07/06/98	71.64	16.49	0.00	55.15	-0.31	ND	ND	ND	ND	ND	ND	--	
01/13/99	71.64	17.29	0.00	54.35	-0.80	--	--	--	--	--	--	--	
08/31/99	71.54	--	0.00	--	--	--	--	--	--	--	--	--	Well obstructed at 10.4 feet.
01/21/00	71.54	17.51	0.00	54.03	--	--	--	--	--	--	--	--	
07/10/00	71.54	17.93	0.00	53.61	-0.42	ND	ND	ND	ND	ND	ND	--	
01/04/01	71.54	18.10	0.00	53.44	-0.17	--	--	--	--	--	--	--	
07/16/01	71.54	17.76	0.00	53.78	0.34	ND	ND	ND	ND	ND	ND	--	
01/28/02	71.54	17.20	0.00	54.34	0.56	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/12/02	71.54	17.81	0.00	53.73	-0.61	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
01/14/03	71.54	17.30	0.00	54.24	0.51	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/10/03	71.54	17.58	0.00	53.96	-0.28	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	--	
02/04/04	71.54	17.07	0.00	54.47	0.51	--	--	--	--	--	--	--	Monitored Only
07/29/04	71.54	17.81	0.00	53.73	-0.74	ND<0.50	ND<0.3	ND<0.3	ND<0.3	ND<0.6	ND<1	--	
03/02/05	71.54	16.25	0.00	55.29	1.56	--	--	--	--	--	--	--	Sampled Annually

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-4 continued</b>													
09/30/05	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	--	
03/23/06	71.54	--	--	--	--	--	--	--	--	--	--	--	Inaccessible due to gate, Sampled Q3 only
09/26/06	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	--	
03/15/07	71.54	17.56	0.00	53.98	0.15	--	--	--	--	--	--	--	Sampled Q3 only
<b>MW-5</b>													
11/30/92	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
01/08/93	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
04/13/93	71.51	17.49	0.00	54.02	--	ND	ND	ND	ND	ND	--	--	
07/14/93	71.51	18.02	0.00	53.49	-0.53	ND	ND	0.57	ND	ND	--	--	
10/14/93	71.23	17.82	0.00	53.41	-0.08	ND	ND	ND	ND	ND	--	--	
01/12/94	71.23	17.74	0.00	53.49	0.08	ND	ND	0.84	ND	1.6	--	--	
04/11/94	71.23	17.56	0.00	53.67	0.18	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/07/94	71.23	17.50	0.00	53.73	0.06	ND	ND	ND	ND	ND	--	--	
10/05/94	71.23	17.98	0.00	53.25	-0.48	--	--	--	--	--	--	--	
01/09/95	71.23	17.13	0.00	54.10	0.85	--	--	--	--	--	--	--	
04/17/95	71.23	17.05	0.00	54.18	0.08	--	--	--	--	--	--	--	
07/19/95	71.23	17.59	0.00	53.64	-0.54	ND	ND	ND	ND	ND	--	--	
10/26/95	71.23	18.10	0.00	53.13	-0.51	--	--	--	--	--	--	--	
01/16/96	71.23	17.11	0.00	54.12	0.99	--	--	--	--	--	--	--	
04/15/96	71.23	17.22	0.00	54.01	-0.11	--	--	--	--	--	--	--	
07/11/96	71.23	17.59	0.00	53.64	-0.37	ND	ND	ND	ND	ND	ND	--	
01/17/97	71.23	16.75	0.00	54.48	0.84	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/21/97	71.23	17.59	0.00	53.64	-0.84	ND	ND	ND	ND	ND	ND	--	

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**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-5 continued</b>													
01/14/98	71.23	16.16	0.00	55.07	1.43	--	--	--	--	--	--	--	
07/06/98	71.23	16.52	0.00	54.71	-0.36	ND	ND	ND	ND	ND	ND	--	
01/13/99	71.23	17.62	0.00	53.61	-1.10	--	--	--	--	--	--	--	
08/31/99	71.16	17.76	0.00	53.40	-0.21	ND	ND	ND	ND	ND	ND	--	
01/21/00	71.16	16.83	0.00	54.33	0.93	--	--	--	--	--	--	--	
07/10/00	71.16	17.46	0.00	53.70	-0.63	ND	ND	ND	ND	ND	ND	--	
01/04/01	71.16	17.51	0.00	53.65	-0.05	--	--	--	--	--	--	--	
07/16/01	71.16	17.32	0.00	53.84	0.19	ND	ND	ND	ND	ND	ND	--	
01/28/02	71.16	17.12	0.00	54.04	0.20	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/12/02	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<2.5	--	
01/14/03	71.16	16.67	0.00	54.49	0.45	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/10/03	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<2.0	--	
02/04/04	71.16	16.23	0.00	54.93	1.16	--	--	--	--	--	--	--	Monitored Only
07/29/04	71.16	16.02	0.00	55.14	0.21	ND<50	ND<0.3	0.64	ND<0.3	0.79	ND<1	--	
03/02/05	71.16	16.43	0.00	54.73	-0.41	--	--	--	--	--	--	--	Sampled Annually
09/30/05	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	--	
03/23/06	71.16	16.37	0.00	54.79	1.04	--	--	--	--	--	--	--	Sampled Q3 only
09/26/06	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	--	
03/15/07	71.16	17.20	0.00	53.96	-1.66	--	--	--	--	--	--	--	Sampled Q3 only
<b>MW-6</b>													
11/30/92	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
01/08/93	--	--	--	--	--	ND	ND	ND	ND	ND	--	--	
04/13/93	71.79	11.94	0.00	59.85	--	ND	ND	ND	ND	ND	--	--	
07/14/93	71.79	17.20	0.00	54.59	-5.26	ND	0.99	2.4	ND	1.9	--	--	



**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-6 continued</b>													
10/14/93	71.44	17.21	0.00	54.23	-0.36	ND	ND	0.64	ND	ND	--	--	
01/12/94	71.44	17.44	0.00	54.00	-0.23	ND	ND	1.2	ND	2.9	--	--	
04/11/94	71.44	13.66	0.00	57.78	3.78	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/07/94	71.44	14.05	0.00	57.39	-0.39	ND	ND	ND	ND	ND	--	--	
10/05/94	71.44	14.16	0.00	57.28	-0.11	--	--	--	--	--	--	--	
01/09/95	71.44	13.73	0.00	57.71	0.43	--	--	--	--	--	--	--	
04/17/95	71.44	11.30	0.00	60.14	2.43	--	--	--	--	--	--	--	
07/19/95	71.44	12.32	0.00	59.12	-1.02	ND	ND	ND	ND	ND	--	--	
10/26/95	71.44	17.88	0.00	53.56	-5.56	--	--	--	--	--	--	--	
01/16/96	71.44	16.38	0.00	55.06	1.50	--	--	--	--	--	--	--	
04/15/96	71.44	14.00	0.00	57.44	2.38	--	--	--	--	--	--	--	
07/11/96	71.44	13.58	0.00	57.86	0.42	ND	ND	ND	ND	ND	ND	--	
01/17/97	71.44	15.42	0.00	56.02	-1.84	--	--	--	--	--	--	--	
07/21/97	71.44	13.78	0.00	57.66	1.64	ND	ND	ND	ND	ND	ND	--	
01/14/98	71.44	13.65	0.00	57.79	0.13	--	--	--	--	--	--	--	
07/06/98	71.44	13.90	0.00	57.54	-0.25	ND	ND	ND	ND	ND	ND	--	
01/13/99	71.44	14.93	0.00	56.51	-1.03	--	--	--	--	--	--	--	
08/31/99	71.37	15.81	0.00	55.56	-0.95	ND	ND	ND	ND	ND	ND	--	
01/21/00	71.37	16.13	0.00	55.24	-0.32	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/10/00	71.37	16.95	0.00	54.42	-0.82	ND	ND	ND	ND	ND	ND	--	
01/04/01	71.37	17.09	0.00	54.28	-0.14	--	--	--	--	--	--	--	
07/16/01	71.37	16.83	0.00	54.54	0.26	ND	ND	ND	ND	ND	ND	--	
01/28/02	71.37	14.58	0.00	56.79	2.25	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/12/02	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	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through March 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)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-6 continued</b>													
01/14/03	71.37	16.25	0.00	55.12	0.51	--	--	--	--	--	--	--	SAMPLED ANNUALLY
07/10/03	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	--	
02/04/04	71.37	16.20	0.00	55.17	-3.23	--	--	--	--	--	--	--	Monitored Only
07/29/04	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	--	
03/02/05	71.37	14.51	0.00	56.86	0.47	--	--	--	--	--	--	--	Sampled Annually
09/30/05	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	--	
03/23/06	71.37	16.55	0.00	54.82	-2.10	--	--	--	--	--	--	--	Sampled Q3 only
09/26/06	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	--	
03/15/07	71.37	13.72	0.00	57.65	3.86	--	--	--	--	--	--	--	Sampled Q3 only

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

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)	Total Oil and Grease (mg/l)	Bromo- dichloro- methane (µg/l)	Bromo- form (µg/l)	Bromo- methane (µg/l)	Carbon Tetra- chloride (µg/l)	Chloro- benzene (µg/l)	Chloro- ethane (µg/l)
<b>MW-1</b>															
09/15/89	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
01/23/90	ND	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--
04/19/90	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
07/17/90	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
10/16/90	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
01/15/91	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
04/12/91	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
07/15/91	ND	--	--	--	--	--	--	--	ND	--	--	--	--	--	--
07/16/01	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--
07/29/04	--	--	--	--	ND<0.5	--	--	--	--	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5	ND<0.5
09/30/05	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50
09/26/06	--	--	--	--	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>															
08/25/00	--	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--
07/12/02	--	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>															
07/11/96	0.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07/21/97	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07/16/01	45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07/12/02	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--
07/10/03	--	--	--	--	--	--	--	--	0.89	--	--	--	--	--	--
07/29/04	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	ND<1
09/30/05	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	ND<1.0
09/26/06	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	ND<1.0

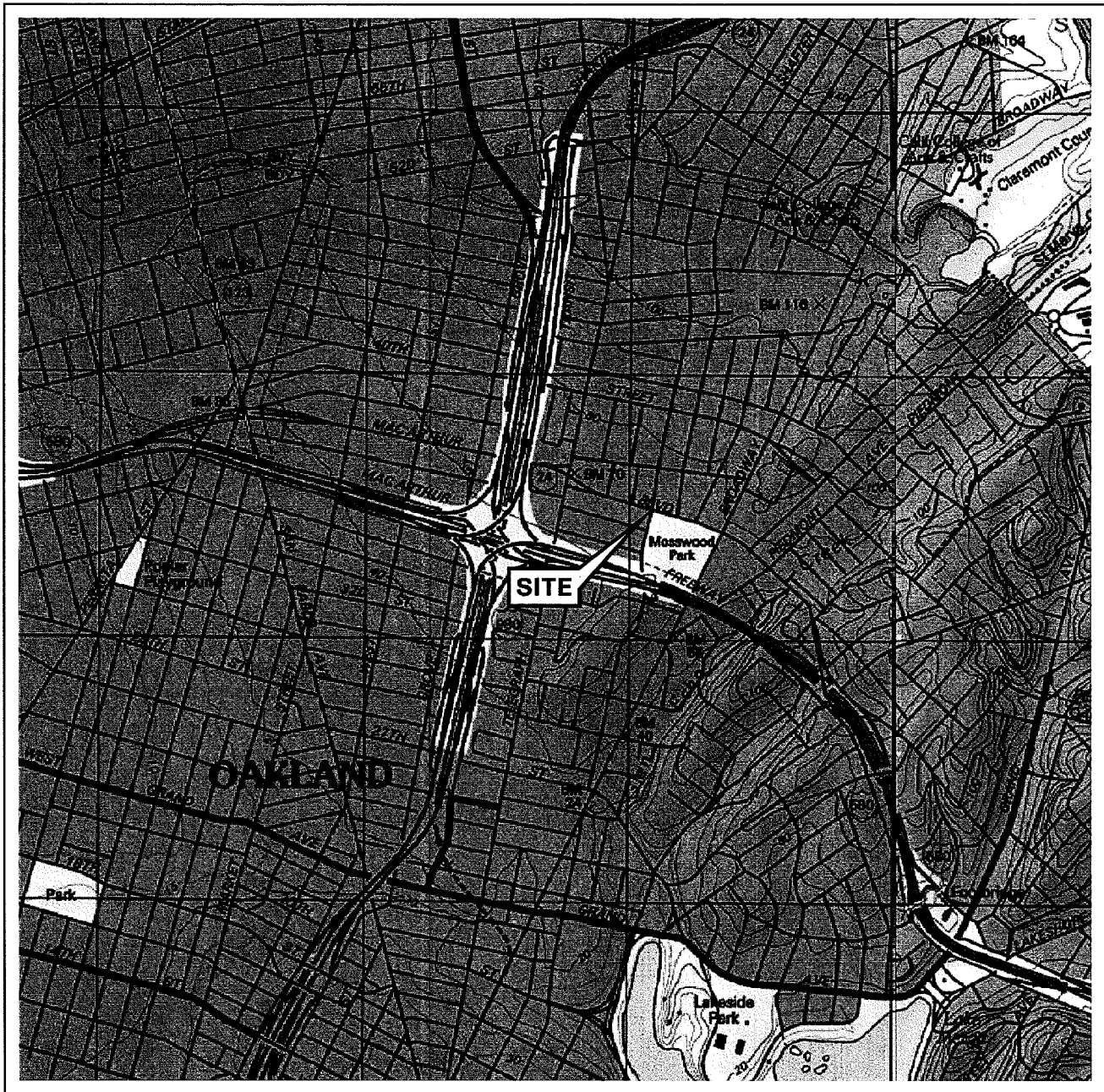
**Table 2 c**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	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>								
09/15/89	--	2.7	--	--	--	--	--	--
01/23/90	--	2.1	--	--	--	--	--	--
04/19/90	--	2.2	--	--	--	--	--	--
07/17/90	--	1.7	--	--	--	--	--	--
10/16/90	--	2.0	--	--	--	--	--	--
01/15/91	--	2.1	--	--	--	--	--	--
04/12/91	--	2.0	--	--	--	--	--	--
07/15/91	--	1.8	--	--	--	--	--	--
07/14/92	--	1.4	--	--	--	--	--	--
07/14/93	--	0.95	--	--	--	--	--	--
07/07/94	--	0.83	--	--	--	--	--	--
07/19/95	--	0.52	--	--	--	--	--	--
07/11/96	--	0.73	--	--	--	--	--	--
07/21/97	--	0.70	--	--	--	--	--	--
08/31/99	--	ND	--	--	--	--	--	--
07/16/01	--	ND	--	--	--	--	--	--
07/12/02	--	ND<0.60	--	--	--	--	--	--
07/10/03	--	ND<0.50	--	--	--	--	--	--
07/29/04	ND<0.5	ND<0.5	13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
09/30/05	ND<0.50	ND<0.50	9.1	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/26/06	ND<0.50	ND<0.50	7.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

# FIGURES



PS = 1:1.L: \VICINITY M.A.P.S\3538vm.dwg Feb 26, 2007 - 3:26pm bschmidt



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  
Quadrangles



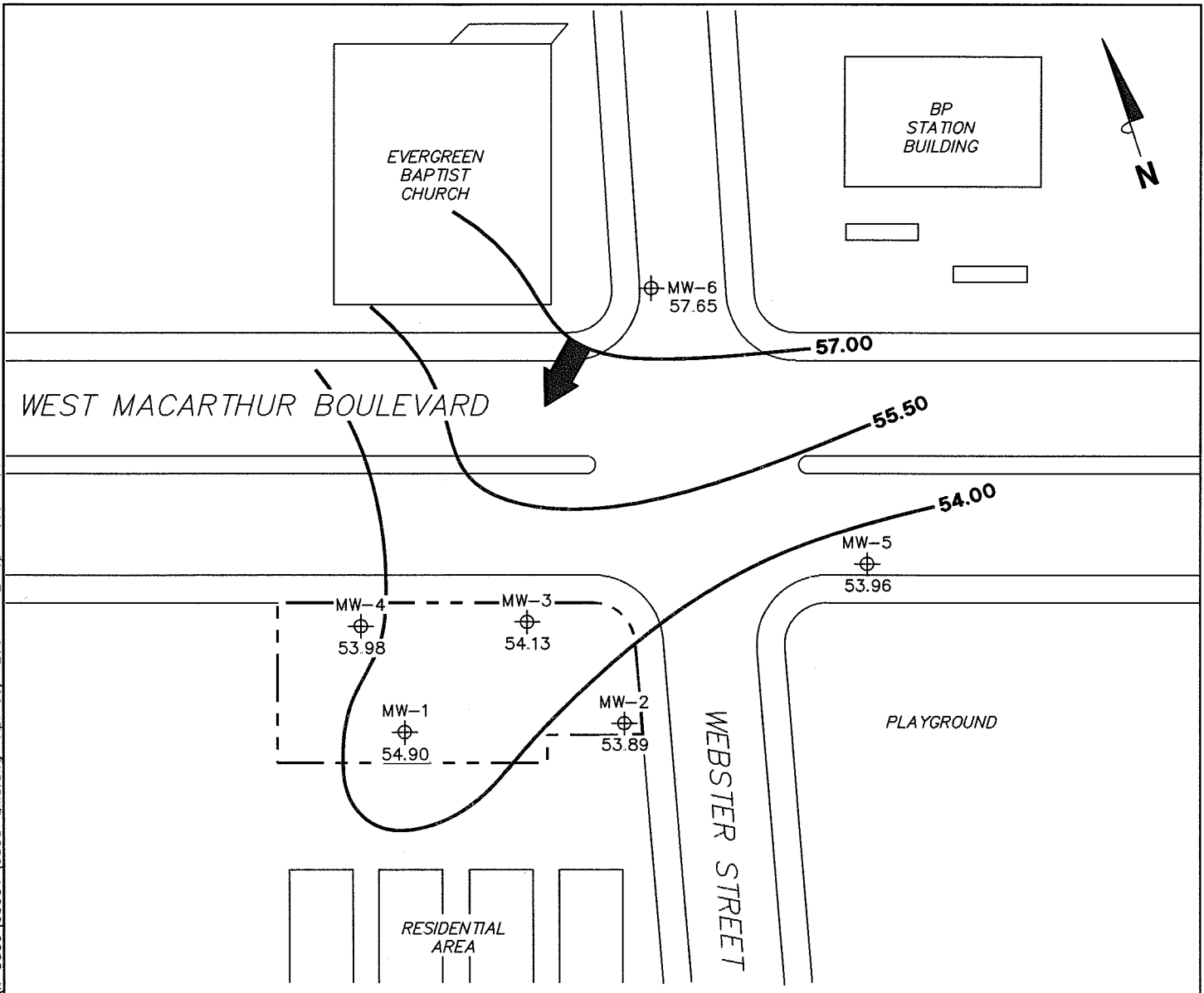
**VICINITY MAP**

Former 76 Station 3538  
411 West MacArthur Boulevard  
Oakland, California



**FIGURE 1**




PS=1:1 3538-003 L:\Graphics\Projects\Number\20-xxx\20-0400(Unocad\MS)\x-3000\3538+ \3538-QMS.dwg Apr 05, 2007 - 12:15pm bschmidt



**NOTES:**

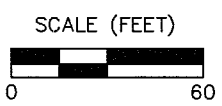
Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level.

**LEGEND**

- MW-6  Monitoring Well with Groundwater Elevation (feet)
- 57.00  Groundwater Elevation Contour
-  General Direction of Groundwater Flow

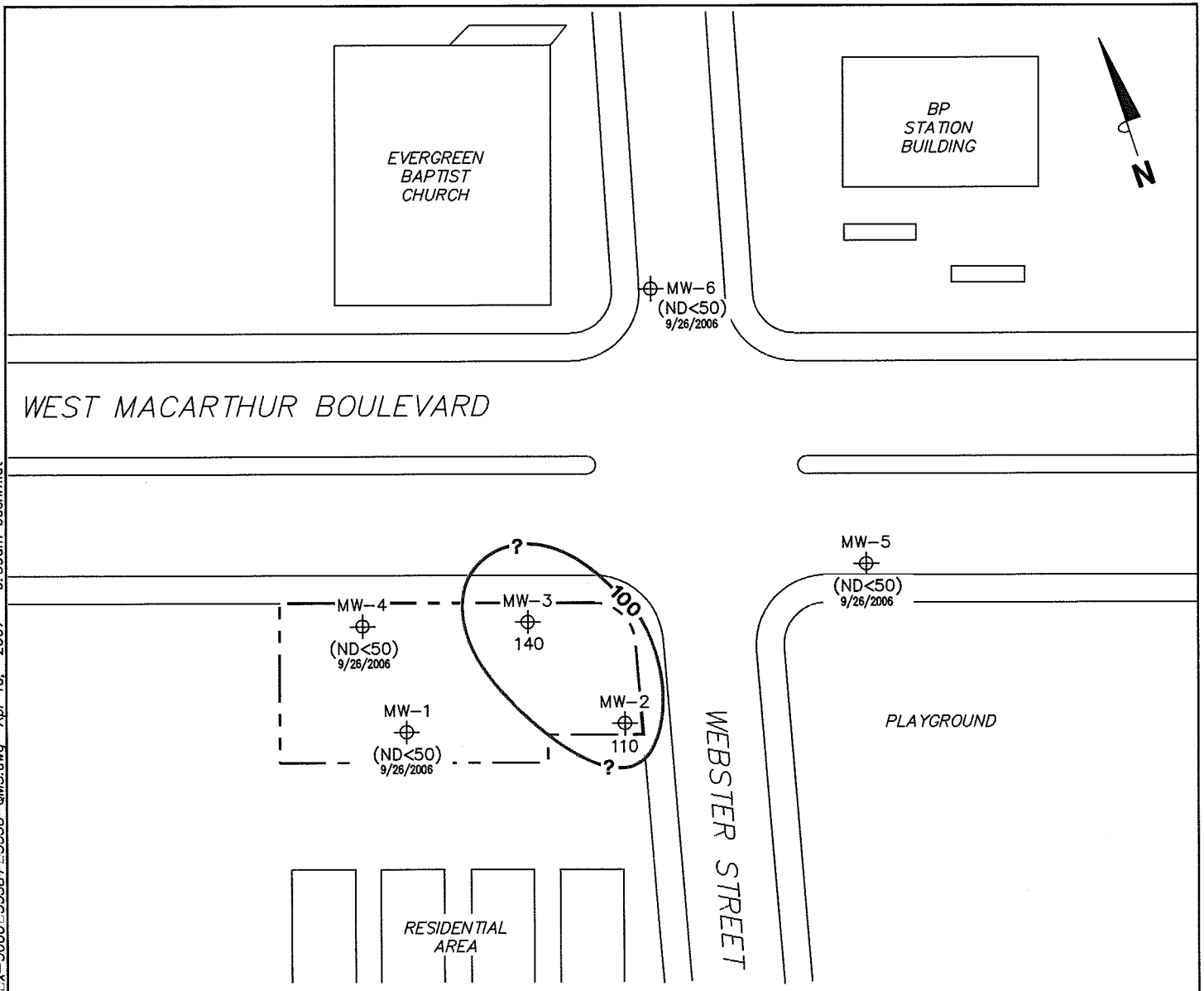
**GROUNDWATER ELEVATION CONTOUR MAP  
March 15, 2007**

Former 76 Station 3538  
411 West MacArthur Boulevard  
Oakland, California



**FIGURE 2**

PS:1:1 3538-003 L:Graphics\Projects\Number\20-0400(Unocal\MS)EX-3000\3538+3538-QMS.dwg Apr 10, 2007 - 9:39am bschmidt



**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples.  
 TPH-G = total petroleum hydrocarbons as gasoline.  
 µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 ( ) = representative historical value.  
 Results obtained using EPA Method 8015M.

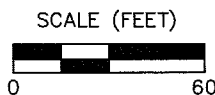
**LEGEND**

MW-6 ⊕ Monitoring Well with Dissolved-Phase TPH-G Concentration (µg/l)

-100- Dissolved-Phase TPH-G Contour (µg/l)

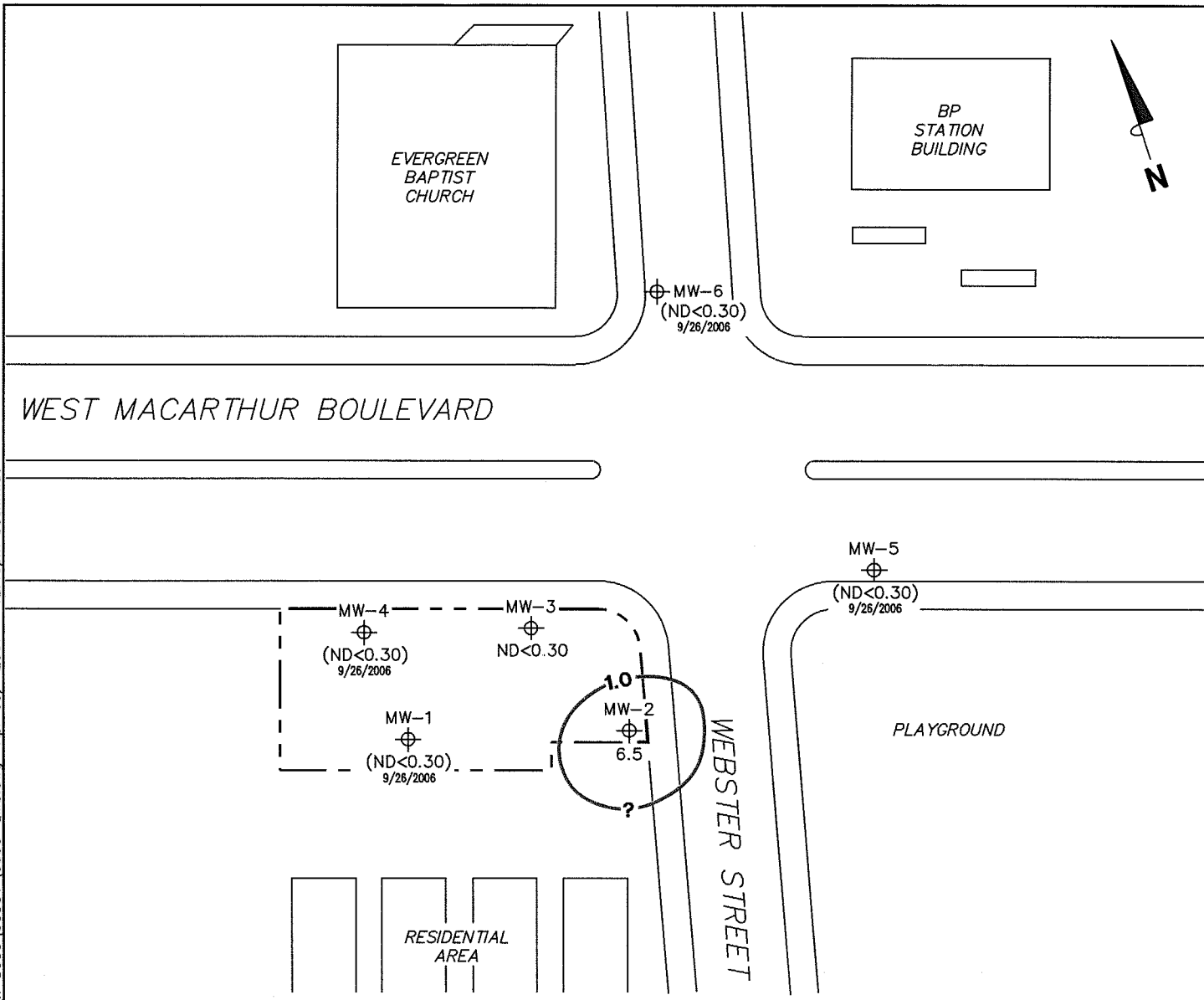
**DISSOLVED-PHASE TPH-G  
 CONCENTRATION MAP  
 March 15, 2007**

Former 76 Station 3538  
 411 West MacArthur Boulevard  
 Oakland, California



**FIGURE 3**

PS=1:1 3538-003 L: \Graphics\Projects\Number\20-xxxx\20-0400(Unocad\QMS)\x-3000\3538+ \3538-QMS.dwg Apr 05 2007 12:16pm bschmidt



**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples.  
 µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 ( ) = representative historical value.

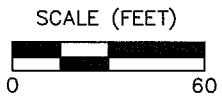
**LEGEND**

MW-6 ⊕ Monitoring Well with Dissolved-Phase Benzene Concentration (µg/l)

—1.0— Dissolved-Phase Benzene Contour (µg/l)

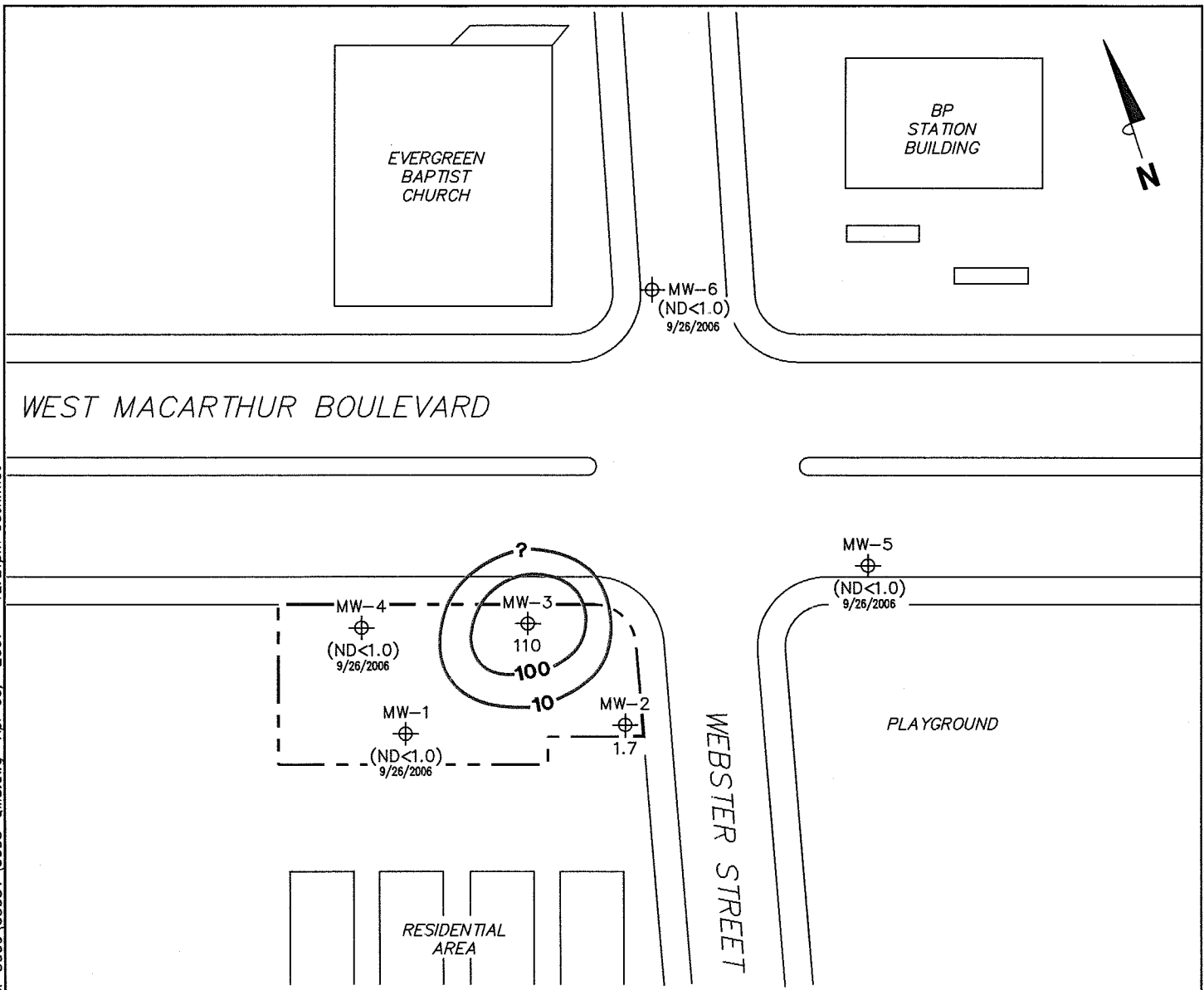
**DISSOLVED-PHASE BENZENE  
 CONCENTRATION MAP  
 March 15, 2007**

Former 76 Station 3538  
 411 West MacArthur Boulevard  
 Oakland, California



**FIGURE 4**

PS=1:1.3538-003.L:\Graphics\Projects\ByNumber\20-xxxx\20-0400(UnocalQMS)\x-3000\3538+ \3538-QMS.dwg Apr 05, 2007 - 12:21pm bschmidt



**NOTES:**

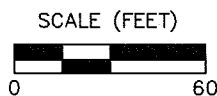
Contour lines are interpretive and based on laboratory analysis results of groundwater samples. MTBE = methyl tertiary butyl ether.  $\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report. ( ) = representative historical value. Results obtained using EPA Method 8021B.

**LEGEND**

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

**DISSOLVED-PHASE MTBE CONCENTRATION MAP  
March 15, 2007**

Former 76 Station 3538  
411 West MacArthur Boulevard  
Oakland, California

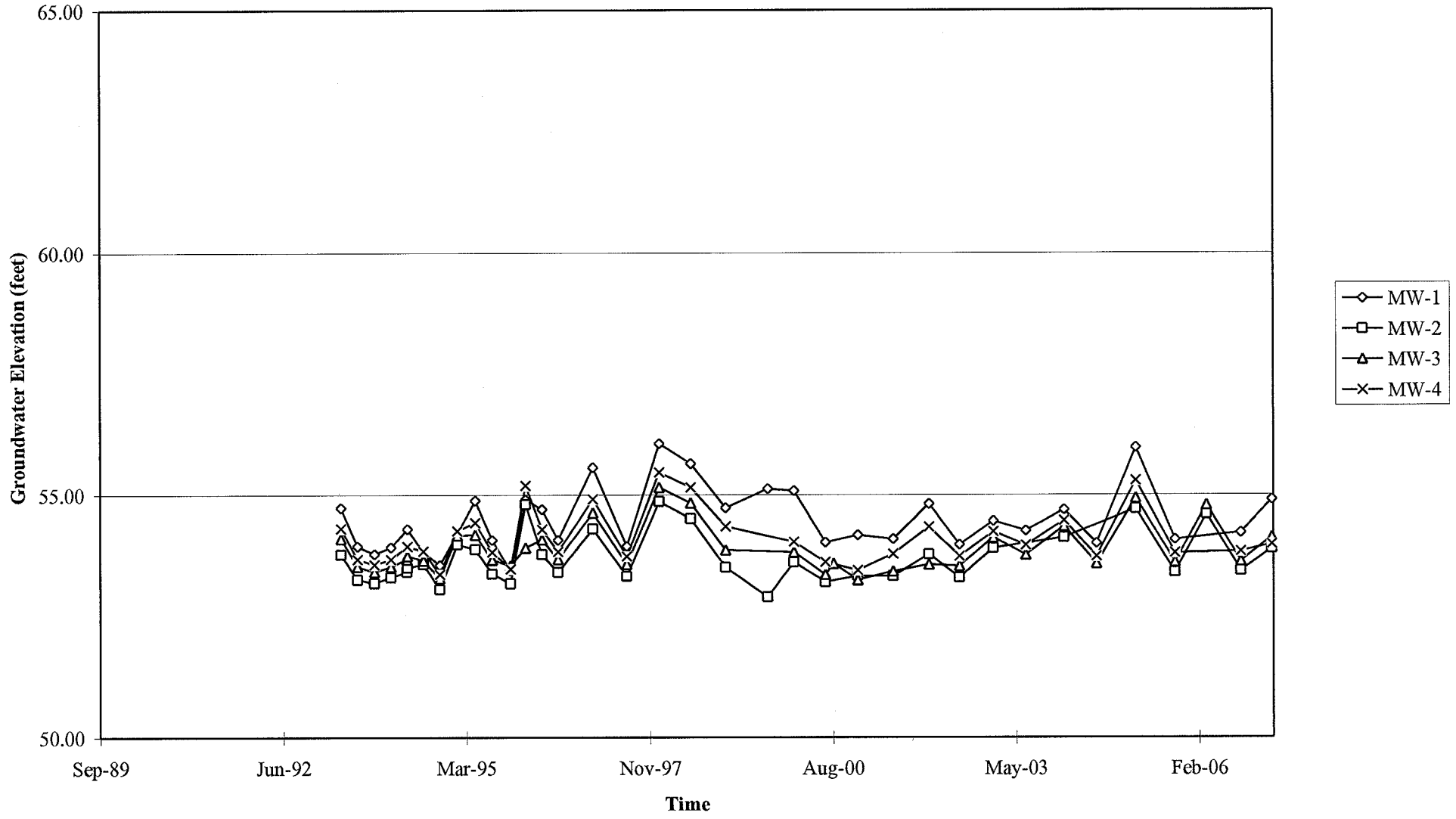


**FIGURE 5**

# GRAPHS

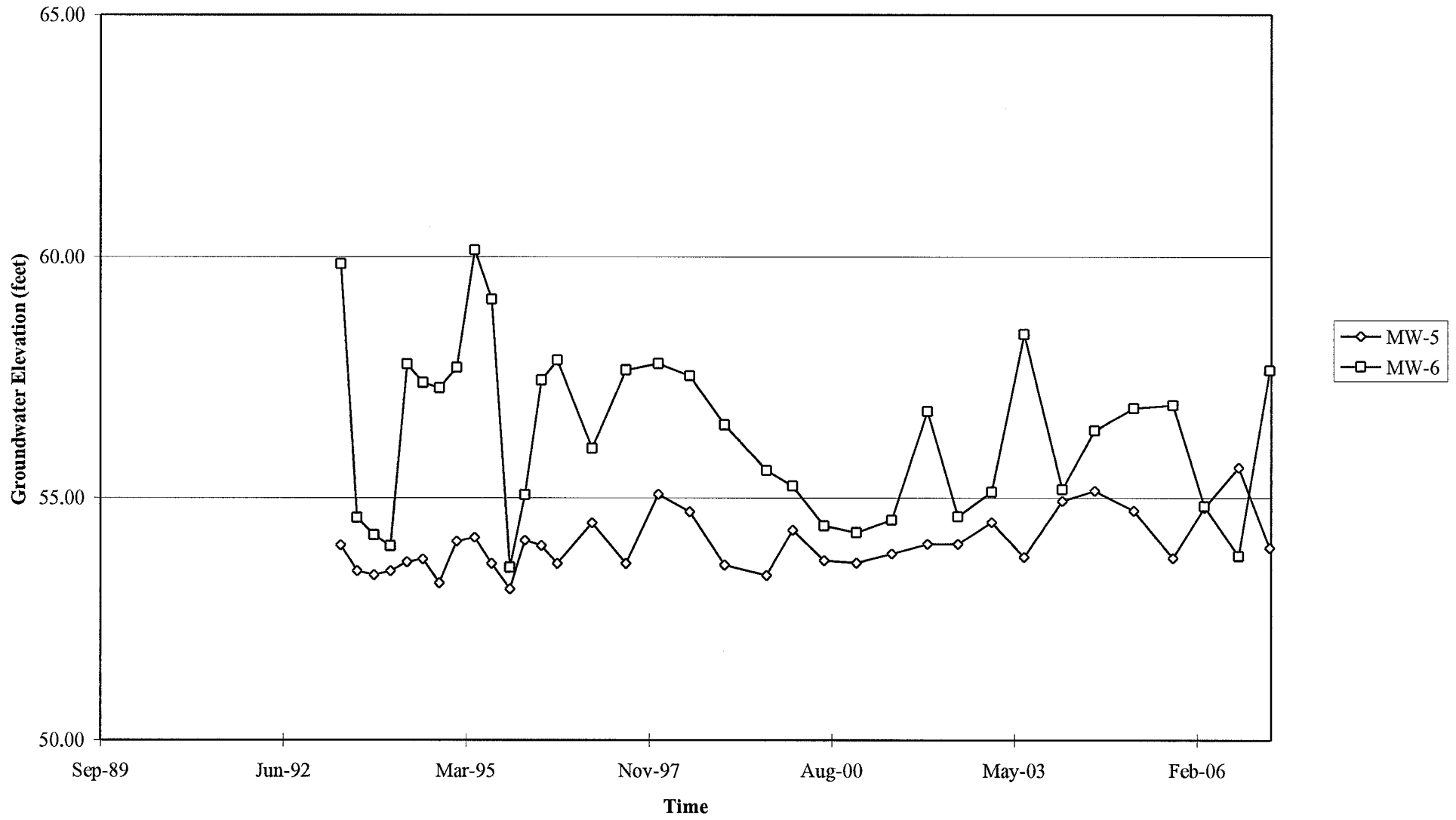


Groundwater Elevations vs. Time  
Former 76 Station 3538



Elevations may have been corrected for apparent changes due to resurvey

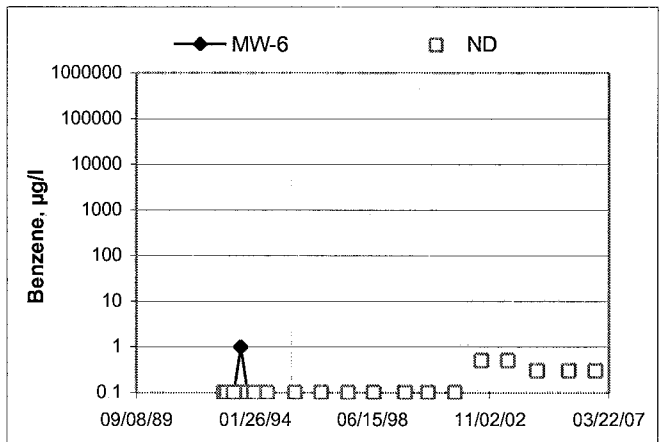
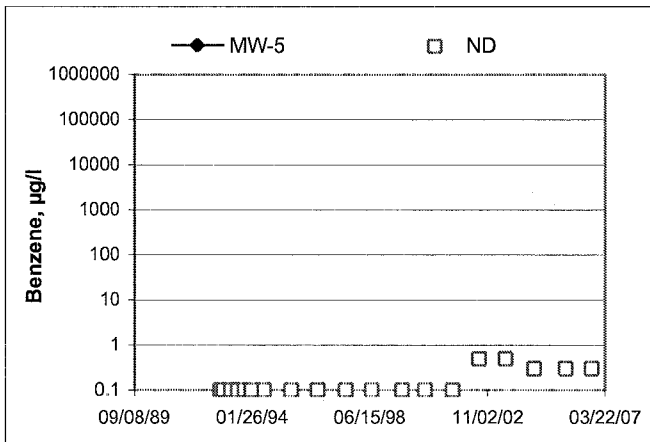
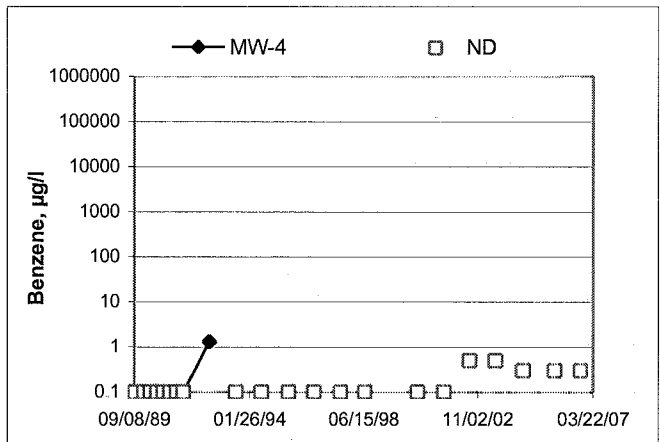
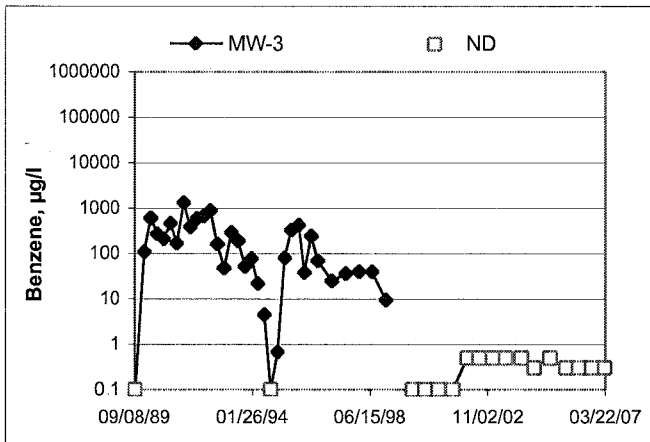
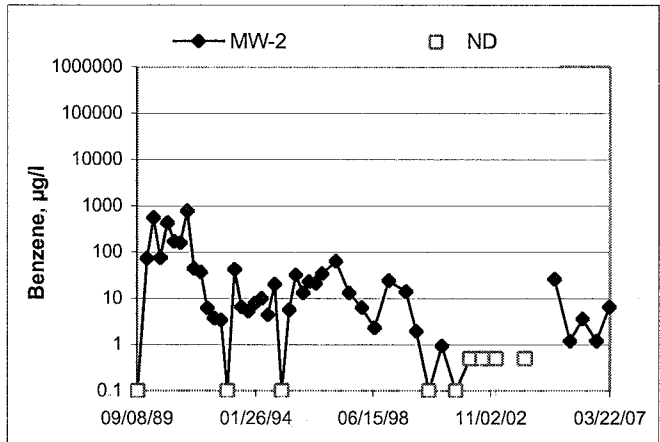
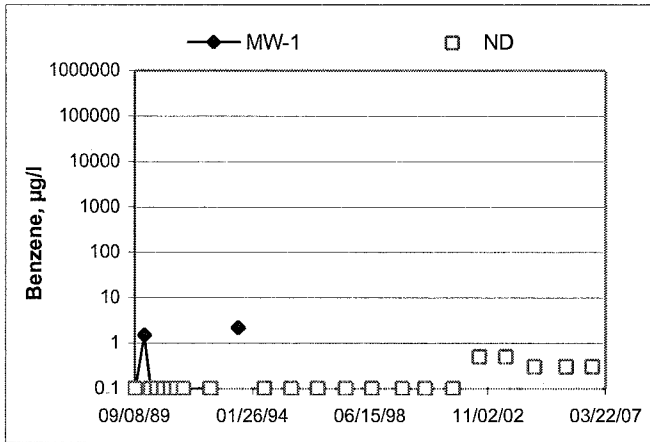
Groundwater Elevations vs. Time  
Former 76 Station 3538



Elevations may have been corrected for apparent changes due to resurvey

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

After filling, all containers are labeled with project number (or site number), well designation, sample date, 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.



# GROUNDWATER SAMPLING FIELD NOTES

Technician: STEPHEN R

Site: 3538

Project No.: 411060001

Date: 3-15-07

Well No. MW-2

Purge Method: HB

Depth to Water (feet): 17.45

Depth to Product (feet):     

Total Depth (feet): 24.37

LPH & Water Recovered (gallons):     

Water Column (feet): 6.92

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 18.83

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
<del>1400</del> 1500	<del>1415</del> 1515		1	801.9	21.6	7.34			
			2	803.4	19.8	7.05			
			3	804.9	19.5	6.92			
Static at Time Sampled			Total Gallons Purged		Sample Time				
17.45			3		<del>1520</del> 1520				
Comments:									

Well No. MW-3

Purge Method: HB

Depth to Water (feet): 17.27

Depth to Product (feet):     

Total Depth (feet): 27.15

LPH & Water Recovered (gallons):     

Water Column (feet): 9.88

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 19.24

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
1530			2	751.2	20.9	7.55			
			4	792.6	20.0	7.13			
	1545		6	805.4	19.5	6.99			
Static at Time Sampled			Total Gallons Purged		Sample Time				
17.30			6		1555				
Comments:									



Date of Report: 03/28/2007

Anju Farfan

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

RE: 3538  
BC Work Order: 0703226

Enclosed are the results of analyses for samples received by the laboratory on 03/16/2007 18:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Vanessa Hooker", written over a horizontal line.

Contact Person: Vanessa Hooker  
Client Service Rep

A handwritten signature in black ink, consisting of a large, stylized loop followed by several horizontal strokes, written over a horizontal line.

Authorized Signature





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

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

Reported: 03/28/2007 15:14

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			Receive Date:	Sampling Date:	Sample Depth:	Sample Matrix:	Delivery Work Order:	Global ID:	Matrix:	Sample QC Type (SACode):	Cooler ID:
0703226-01	COC Number:	---		03/16/2007 18:40	03/15/2007 15:20	---	Water		T0600101472	W	CS	
	Project Number:	3538										
	Sampling Location:	MW-2										
	Sampling Point:	MW-2										
	Sampled By:	Stephen of TRCI										
0703226-02	COC Number:	---		03/16/2007 18:40	03/15/2007 15:55	---	Water		T0600101472	W	CS	
	Project Number:	3538										
	Sampling Location:	MW-3										
	Sampling Point:	MW-3										
	Sampled By:	Stephen of TRCI										



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

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

Reported: 03/28/2007 15:14

## Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 0703226-01		Client Sample Name: 3538, MW-2, MW-2, 3/15/2007 3:20:00PM, Stephen											
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	6.5	ug/L	0.30		EPA-8021	03/23/07	03/23/07 22:33	CAW	GC-V4	1	BQC1386	ND	
Toluene	ND	ug/L	0.30		EPA-8021	03/23/07	03/23/07 22:33	CAW	GC-V4	1	BQC1386	ND	
Ethylbenzene	0.70	ug/L	0.30		EPA-8021	03/23/07	03/23/07 22:33	CAW	GC-V4	1	BQC1386	ND	
Methyl t-butyl ether	1.7	ug/L	1.0		EPA-8021	03/23/07	03/23/07 22:33	CAW	GC-V4	1	BQC1386	ND	
Total Xylenes	ND	ug/L	0.60		EPA-8021	03/23/07	03/23/07 22:33	CAW	GC-V4	1	BQC1386	ND	
Gasoline Range Organics (C4 - C12)	110	ug/L	50		Luft	03/23/07	03/23/07 22:33	CAW	GC-V4	1	BQC1386	ND	
a,a,a-Trifluorotoluene (PID Surrogate)	101	%	70 - 130 (LCL - UCL)		EPA-8021	03/23/07	03/23/07 22:33	CAW	GC-V4	1	BQC1386		
a,a,a-Trifluorotoluene (FID Surrogate)	98.9	%	70 - 130 (LCL - UCL)		Luft	03/23/07	03/23/07 22:33	CAW	GC-V4	1	BQC1386		

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

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

Reported: 03/28/2007 15:14

## Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0703226-02												
Client Sample Name:	3538, MW-3, MW-3, 3/15/2007 3:55:00PM, Stephen												
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	0.30		EPA-8021	03/23/07	03/23/07 22:59	CAW	GC-V4	1	BQC1386	ND	
Toluene	ND	ug/L	0.30		EPA-8021	03/23/07	03/23/07 22:59	CAW	GC-V4	1	BQC1386	ND	
Ethylbenzene	ND	ug/L	0.30		EPA-8021	03/23/07	03/23/07 22:59	CAW	GC-V4	1	BQC1386	ND	
Methyl t-butyl ether	110	ug/L	4.0		EPA-8021	03/23/07	03/26/07 16:04	CAW	GC-V4	4	BQC1386	ND	A01
Total Xylenes	ND	ug/L	0.60		EPA-8021	03/23/07	03/23/07 22:59	CAW	GC-V4	1	BQC1386	ND	
Gasoline Range Organics (C4 - C12)	140	ug/L	50		Luft	03/23/07	03/23/07 22:59	CAW	GC-V4	1	BQC1386	ND	A53
a,a,a-Trifluorotoluene (PID Surrogate)	94.1	%	70 - 130 (LCL - UCL)		EPA-8021	03/23/07	03/26/07 16:04	CAW	GC-V4	4	BQC1386		
a,a,a-Trifluorotoluene (PID Surrogate)	97.7	%	70 - 130 (LCL - UCL)		EPA-8021	03/23/07	03/23/07 22:59	CAW	GC-V4	1	BQC1386		
a,a,a-Trifluorotoluene (FID Surrogate)	100	%	70 - 130 (LCL - UCL)		Luft	03/23/07	03/23/07 22:59	CAW	GC-V4	1	BQC1386		
a,a,a-Trifluorotoluene (FID Surrogate)	99.4	%	70 - 130 (LCL - UCL)		Luft	03/23/07	03/26/07 16:04	CAW	GC-V4	1	BQC1386		

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 Irvine, CA 92618-2302

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

Reported: 03/28/2007 15:14

## 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	RPD	Control Limits		
									Percent Recovery	RPD	Percent Recovery Lab Quals
Benzene	BQC1386	Matrix Spike	0701337-76	0	39.206	40.000	ug/L		98.0		70 - 130
		Matrix Spike Duplicate	0701337-76	0	38.164	40.000	ug/L	2.7	95.4	20	70 - 130
Toluene	BQC1386	Matrix Spike	0701337-76	0	40.297	40.000	ug/L		101		70 - 130
		Matrix Spike Duplicate	0701337-76	0	39.454	40.000	ug/L	2.4	98.6	20	70 - 130
Ethylbenzene	BQC1386	Matrix Spike	0701337-76	0	40.159	40.000	ug/L		100		70 - 130
		Matrix Spike Duplicate	0701337-76	0	39.256	40.000	ug/L	1.9	98.1	20	70 - 130
Methyl t-butyl ether	BQC1386	Matrix Spike	0701337-76	0	39.277	40.000	ug/L		98.2		70 - 130
		Matrix Spike Duplicate	0701337-76	0	38.466	40.000	ug/L	2.1	96.2	20	70 - 130
Total Xylenes	BQC1386	Matrix Spike	0701337-76	0	117.53	120.00	ug/L		97.9		70 - 130
		Matrix Spike Duplicate	0701337-76	0	114.99	120.00	ug/L	2.2	95.8	20	70 - 130
Gasoline Range Organics (C4 - C12)	BQC1386	Matrix Spike	0701337-76	0	928.42	1000.0	ug/L		92.8		70 - 130
		Matrix Spike Duplicate	0701337-76	0	950.50	1000.0	ug/L	2.3	95.0	20	70 - 130
a,a,a-Trifluorotoluene (PID Surrogate)	BQC1386	Matrix Spike	0701337-76	ND	41.020	40.000	ug/L		103		70 - 130
		Matrix Spike Duplicate	0701337-76	ND	40.728	40.000	ug/L		102		70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	BQC1386	Matrix Spike	0701337-76	ND	39.284	40.000	ug/L		98.2		70 - 130
		Matrix Spike Duplicate	0701337-76	ND	39.513	40.000	ug/L		98.8		70 - 130



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Irvine, CA 92618-2302

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

Reported: 03/28/2007 15:14

## 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	Percent Recovery	RPD	Control Limits		Lab Quals
										Percent Recovery	RPD	
Benzene	BQC1386	BQC1386-BS1	LCS	38.768	40.000	0.30	ug/L	96.9		85 - 115		
Toluene	BQC1386	BQC1386-BS1	LCS	39.991	40.000	0.30	ug/L	100		85 - 115		
Ethylbenzene	BQC1386	BQC1386-BS1	LCS	39.857	40.000	0.30	ug/L	99.6		85 - 115		
Methyl t-butyl ether	BQC1386	BQC1386-BS1	LCS	38.377	40.000	1.0	ug/L	95.9		85 - 115		
Total Xylenes	BQC1386	BQC1386-BS1	LCS	116.38	120.00	0.60	ug/L	97.0		85 - 115		
Gasoline Range Organics (C4 - C12)	BQC1386	BQC1386-BS1	LCS	937.49	1000.0	50	ug/L	93.7		85 - 115		
a,a,a-Trifluorotoluene (PID Surrogate)	BQC1386	BQC1386-BS1	LCS	40.535	40.000		ug/L	101		70 - 130		
a,a,a-Trifluorotoluene (FID Surrogate)	BQC1386	BQC1386-BS1	LCS	39.187	40.000		ug/L	98.0		70 - 130		



TRC Alton Geoscience  
21 Technology Drive  
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Project: 3538  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 03/28/2007 15:14

## 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	BQC1386	BQC1386-BLK1	ND	ug/L	0.30		
Toluene	BQC1386	BQC1386-BLK1	ND	ug/L	0.30		
Ethylbenzene	BQC1386	BQC1386-BLK1	ND	ug/L	0.30		
Methyl t-butyl ether	BQC1386	BQC1386-BLK1	ND	ug/L	1.0		
Total Xylenes	BQC1386	BQC1386-BLK1	ND	ug/L	0.60		
Gasoline Range Organics (C4 - C12)	BQC1386	BQC1386-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (PID Surrogate)	BQC1386	BQC1386-BLK1	98.3	%	70 - 130 (LCL - UCL)		
a,a,a-Trifluorotoluene (FID Surrogate)	BQC1386	BQC1386-BLK1	99.8	%	70 - 130 (LCL - UCL)		



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

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

Reported: 03/28/2007 15:14

### 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.  
A53 Chromatogram not typical of gasoline.

Submission #: 07-03226

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  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: 3.8 °C  
 Thermometer ID: 48

Emissivity 0.95  
 Container VOA

Date/Time 3/16/17  
 Analyst Init Amk

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										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A (b)	A (b)								
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: Amk Date/Time: 3/16/17 2230



#07-03226

**BC LABORATORIES, INC.**

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

**CHAIN OF CUSTODY**

**Analysis Requested**

Circle one: Phillips 66 / Unocal		Consultant Firm: TRC		<b>MATRIX</b> (GW) Ground-water (S) Soil (WW) Waste-water (SL) Sludge	BTEX/MTBE by 8021B, TPH-g by 8015  TPH -g by 8015M TPH -D by 8015 TPH-g by GC/MS BTEX/MTBE/OXYs BY 8260B EDB/EDC by 8260B ETHANOL by 8260B BTEX/MTBE by 8021	Turnaround Time Requested	
Address: 4111 West MacArthur Blvd		21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan					
City: Oakland		4-digit site#: 3538					
State: CA   Zip:		Work Order# 01178-4506962978					
COP Manager: Shelby Lathrop		Project #: 41060001					
Lab#		Sample Description		Field Point Name		Date & Time Sampled	
		-1	mw-2			3-15-07 / 1520	GW
		-2	mw-3			3-15-07 / 1555	GW

CHK BY DISTRIBUTION  
 OTO JKR  
 SUB-OUT

Comments:  Global ID: T0600101472	Relinquished by: <i>[Signature]</i>	Received by: Refrigerator	Date & Time: 0415 / 03-16-07
	Relinquished by (Signature): <i>[Signature]</i>	Received by: Ross Dickey	Date & Time: 3/16/07 1320
	Relinquished by (Signature): Ross Dickey 3/16/07	Received by: R. Ruynd	Date & Time: 3-16-07 1535

(A) = ANALYSIS      (C) = CONTAINER      (P) = PRESERVATIVE  
 R. Ruynd 3-16-07 1840 *[Signature]* 3/16/07 1840

## **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.