



76 Broadway  
Sacramento, CA 95818  
phone 916.558.7676  
fax 916.558.7639

Ro 251

November 5, 2004

Mr. Don Hwang  
Alameda County Health Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Re: **Document Transmittal**  
Fuel Leak Case  
76 Station #3538  
411 West MacArthur  
Oakland, CA

Dear Mr. Hwang:

Please find attached TRC's *Quarterly Status Report*, dated 11/05/04, and TRC's *Quarterly Monitoring Report*, dated 10/18/04 for the above referenced site. I declare, under penalty of perjury, that to the best of my knowledge the information and/or recommendations contained in the attached proposal or report is true and correct.

If you have any questions or need additional information, please call me at (916) 558-7666.

Sincerely,

Thomas H. Kosel  
Site Manger, Risk Management and Remediation  
ConocoPhillips  
76 Broadway, Sacramento, CA 95818

Attachment

cc: Roger Batra, TRC



Customer-Focused Solutions

November 3, 2004

TRC Project No. 42014201

Mr. Don Hwang  
Alameda County Health Services  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577

**RE: Quarterly Status Report - Third Quarter 2004  
76 Service Station #3538, 411 W. MacArthur Boulevard, Oakland, California  
Alameda County**

Dear Mr. Hwang:

On behalf of ConocoPhillips Company (ConocoPhillips), TRC is submitting the Third Quarter 2004 Quarterly Status Report for the subject site, shown on Figures 3 through 5.

#### **PREVIOUS ASSESSMENTS**

The subject site was a former Tosco (76) service station, and is 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.

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.

### **SENSITIVE RECEPTORS**

A sensitive receptor survey performed by the California Department of Water Resources (DWR) identified no water supply wells located within 2,000 feet of the site. The nearest well identified is a private water well located approximately 2,500 feet east-southeast of the site.

### **MONITORING AND SAMPLING**

Currently, two wells (MW-2 and MW-3) are monitored semi-annually and four wells are monitored annually. Five wells were gauged and sampled this quarter. The groundwater gradient and flow direction were 0.002 foot/foot to the southwest.

### **CHARACTERIZATION STATUS**

TPH-g was not detected above the reporting limit in the five wells sampled.

Benzene was not detected above the reporting limit in the five wells sampled.

MTBE was detected in one of the five wells sampled at a concentration of 1.3 µg/l in onsite well MW-6.

### **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**

No correspondence this quarter.

### **CURRENT QUARTER ACTIVITIES**

July 29, 2004: TRC performed groundwater monitoring and sampling. Wastewater generated from well purging and equipment cleaning was stored at TRC's groundwater monitoring facility

QSR – Third Quarter 2004  
76 Service Station #3538, Oakland, California  
November 3, 2004  
Page 3

in Concord, California, and transported by Onyx to the ConocoPhillips Refinery in Rodeo, California, for treatment and disposal.

#### **NEXT QUARTER ACTIVITIES**

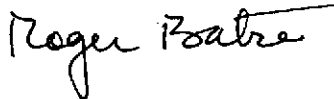
Await agency directives for additional assessment work, if any.

Continue semi-annual monitoring and sampling to assess plume stability and concentration trends at key wells.

If you have any questions regarding this report, please call me at (925) 688-2466.

Sincerely,

TRC



Roger Batra  
Senior Project Manager

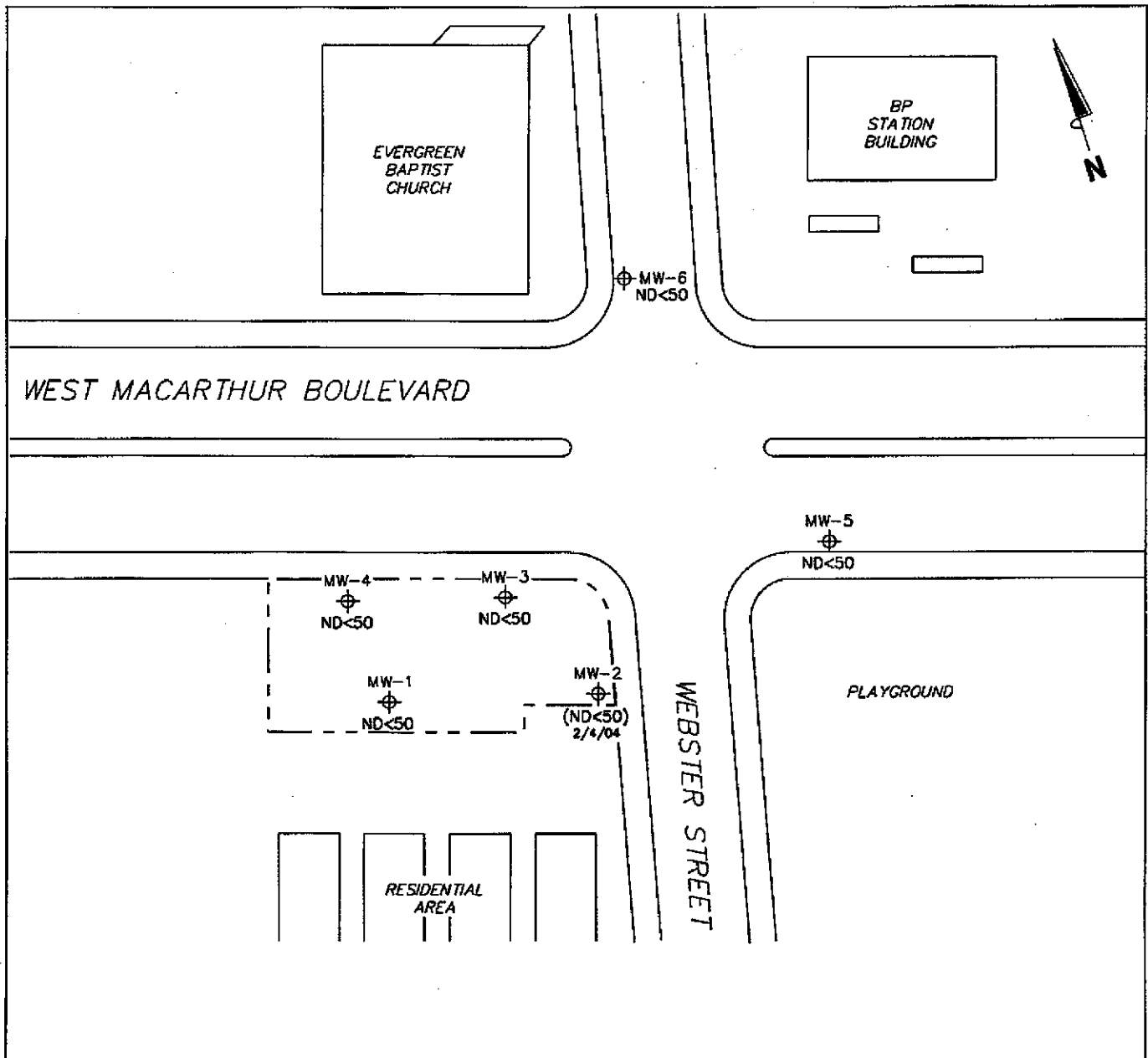
#### Attachments:

Figure 1 – Dissolved-Phase TPH-G Concentration Map, July 29, 2004, from Semi-Annual Monitoring Report, April through September 2004, dated October 18, 2004 by TRC.

Figure 2 – Dissolved-Phase Benzene Concentration Map, July 29, 2004, from Semi-Annual Monitoring Report, April through September 2004, dated October 18, 2004 by TRC.

Figure 3 – Dissolved-Phase MTBE Concentration Map, July 29, 2004, from Semi-Annual Monitoring Report, April through September 2004, dated October 18, 2004 by TRC.


cc: Thomas Kosel, ConocoPhillips (hard copy and electronic upload)



**NOTES:**

TPH-G = total petroleum hydrocarbons as gasoline.  $\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report. NA = not analyzed, measured, or collected. UST = underground storage tank. ( ) = representative of historical value. Results obtained using EPA Method 8015.

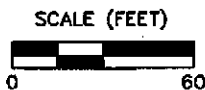
**LEGEND**

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

**DISSOLVED-PHASE TPH-G  
CONCENTRATION MAP  
July 29, 2004**

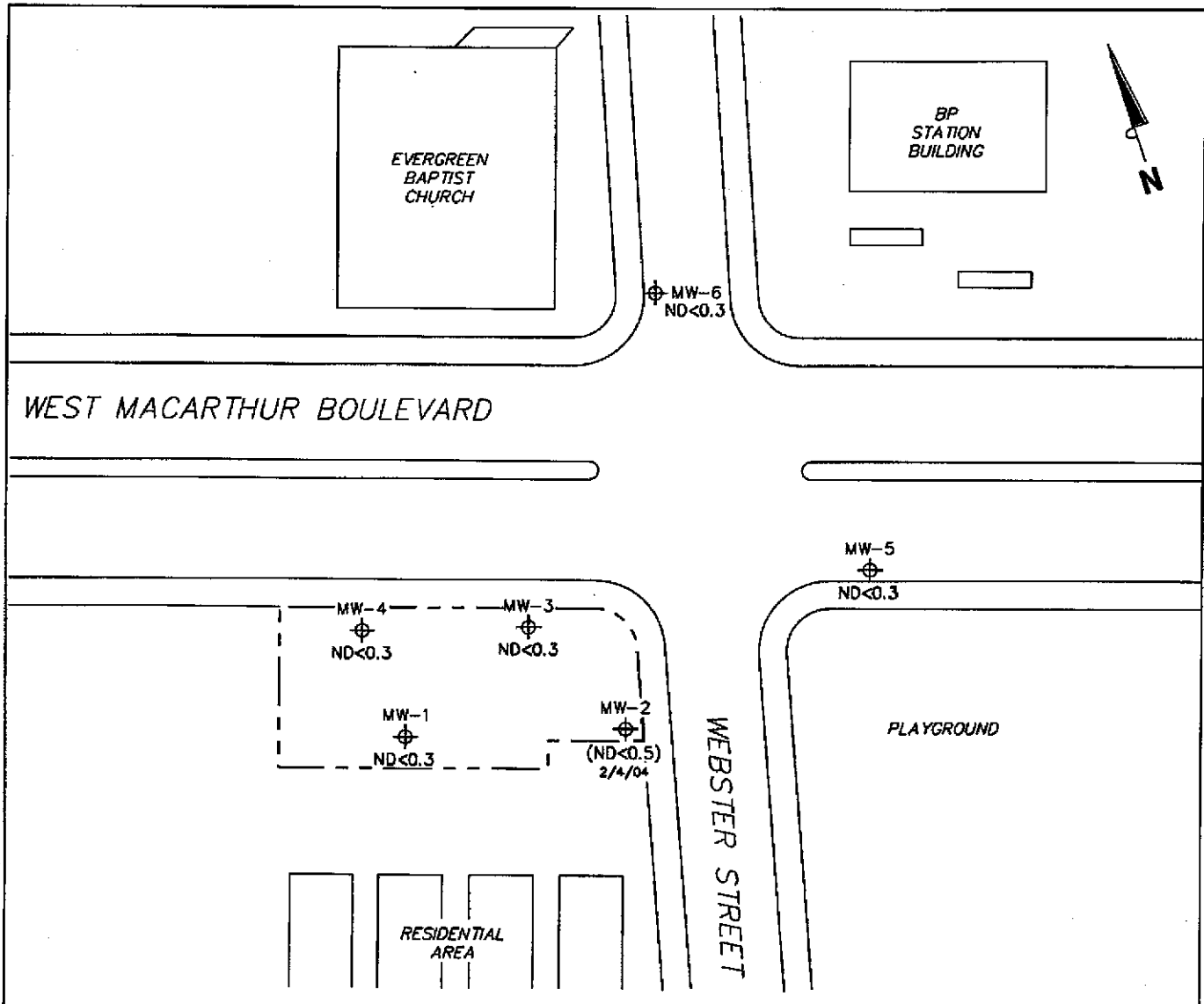
Former 76 Station 3538  
411 West MacArthur Boulevard  
Oakland, California

**TRC**



**FIGURE 3**


PS=1:1 3538-003



**NOTES:**

$\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 NA = not analyzed, measured, or collected.  
 UST = underground storage tank.  
 ( ) = representative of historical value.

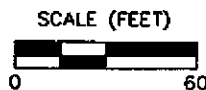
**LEGEND**

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

**DISSOLVED-PHASE BENZENE  
CONCENTRATION MAP  
July 29, 2004**

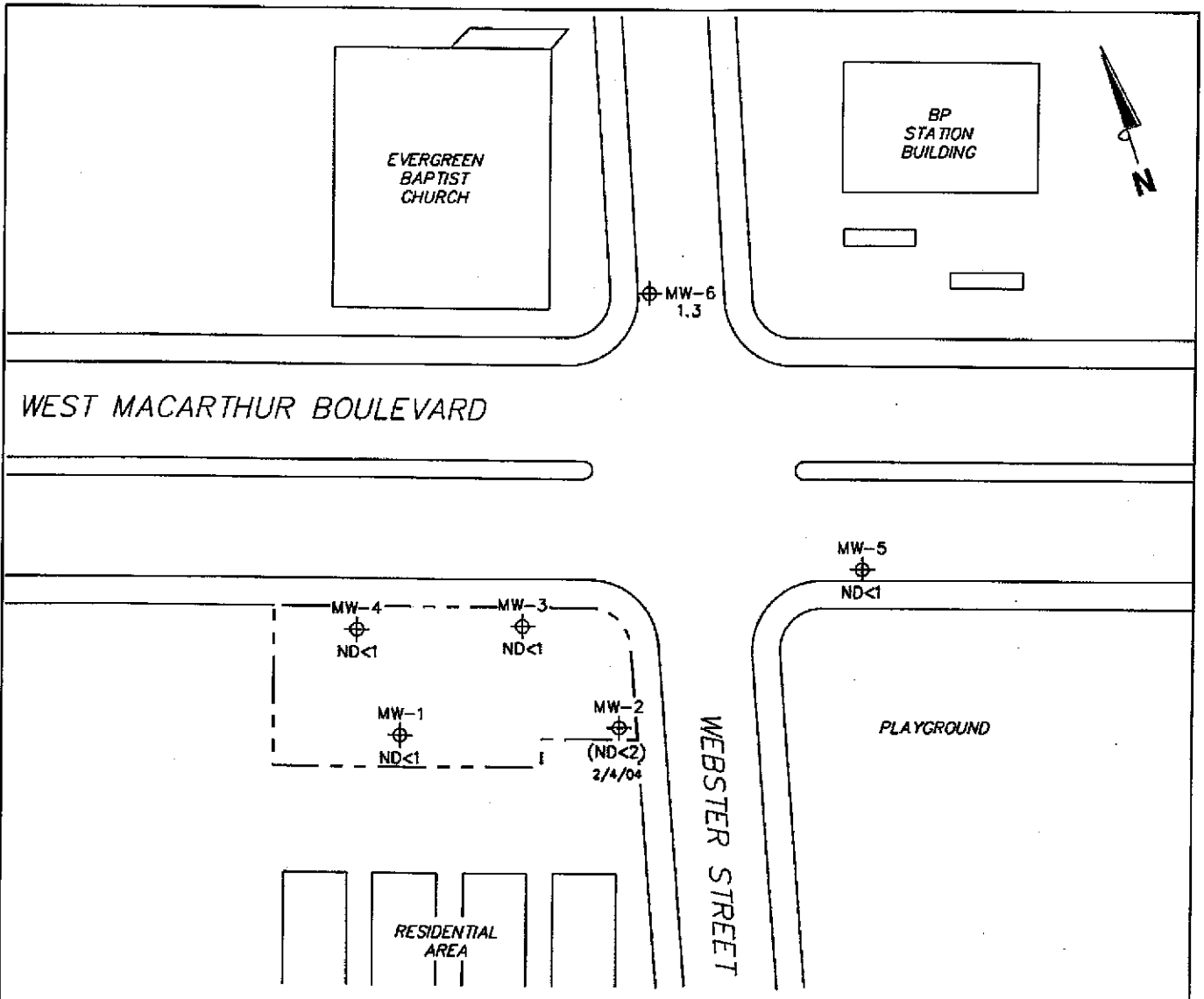
Former 76 Station 3538  
411 West MacArthur Boulevard  
Oakland, California

**TRC**



**FIGURE 4**

PS=1.1 3538-003



**NOTES:**

MTBE = methyl tertiary butyl ether.  
 µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. NA = not analyzed, measured, or collected. UST = underground storage tank. ( ) = representative of historical value. Results obtained using EPA Method 8260B.

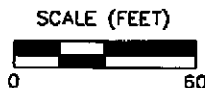
**LEGEND**

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

**DISSOLVED-PHASE MTBE  
 CONCENTRATION MAP  
 July 29, 2004**

Former 76 Station 3538  
 411 West MacArthur Boulevard  
 Oakland, California

**TRC**



**FIGURE 5**

PS=1:1 3538-003



Customer-Focused Solutions

October 18, 2004

ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

ATTN: MR. THOMAS H. KOSEL  
  
SITE: FORMER 76 STATION 3538  
411 WEST MACARTHUR BLVD.  
OAKLAND, CALIFORNIA  
  
RE: SEMI-ANNUAL MONITORING REPORT  
APRIL THROUGH SEPTEMBER 2004

Dear Mr. Kosel:

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) 753-0101.

Sincerely,

TRC

Anju Farfan  
QMS Operations Manager

CC: Ms. Roger Batra, TRC (2 copies)

Enclosures  
20-0400/3538R02.QMS





Customer-Focused Solutions

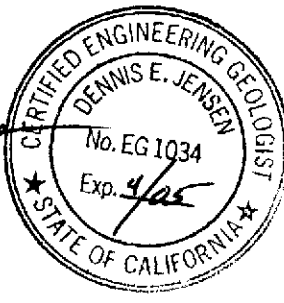
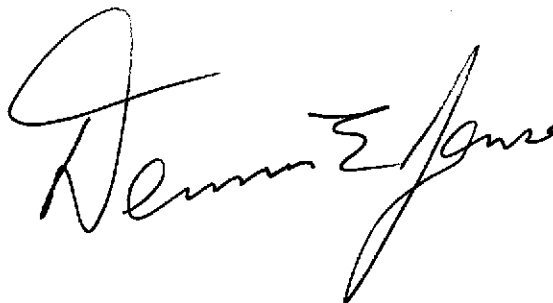
**SEMI-ANNUAL MONITORING REPORT  
APRIL THROUGH SEPTEMBER 2004**

Former 76 Station 3538  
411 West MacArthur Blvd.  
Oakland, California

Prepared For:

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

By:



Senior Project Geologist, Irvine Operations  
October 4, 2004

## SEMI-ANNUAL MONITORING REPORT

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

**Summary of Gauging and Sampling Activities**  
**July 2004 through December 2004**  
**Former 76 Station 3538**  
**411 West MacArthur Blvd.**  
**Oakland, CA**

Project Coordinator: **Thomas H. Kosel**  
Telephone: **916-588-7666**

Water Sampling Contractor: **TRC**  
Compiled by: **Valentina Tobon**

Date(s) of Gauging/Sampling Event: **07/29/04**

**Sample Points**

Groundwater wells: **6** onsite, **0** offsite      Wells gauged: **5**      Wells sampled: **5**  
Purging method: **Diaphragm pump**  
Purge water disposal: **Onyx/Rodeo Unit 100**  
Other Sample Points: **0**      Type: **n/a**

**Liquid Phase Hydrocarbons (LPH)**

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**

Depth to groundwater (below TOC):      Minimum: **14.98 feet**      Maximum: **18.12 feet**  
Average groundwater elevation (relative to available local datum): **54.57 feet**  
Average change in groundwater elevation since previous event: **-0.15 feet**  
Interpreted groundwater gradient and flow direction:  
    Current event: **0.02 ft/ft, sw**  
    Previous event: **0.0025 ft/ft, South (02/04/04)**

**Selected Laboratory Results**

Wells with detected **Benzene**: **0**      Wells above MCL (1.0 µg/l): **n/a**  
    Maximum reported benzene concentration: **n/a**  
  
Wells with **TPPH 8260B**      **0**  
Wells with **MTBE**      **1**      Maximum: **1.3 µg/l (MW-6)**

**Notes:**

MW-2=Inaccessible-car parked on well,

## 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-D	=	total petroleum hydrocarbons with diesel distinction
TPPH	=	total purgeable petroleum hydrocarbons
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 resurvey.
9. Historical data has been validated for this report. Values presented in the following tables supercede those from previous reports.

### 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.

**Table 1**  
**CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**July 29, 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-1</b>														
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	
<b>MW-2</b>														
07/29/04	71.34	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible-car parked on well
<b>MW-3</b>														
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	--	
<b>MW-4</b>														
07/29/04	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	--	
<b>MW-5</b>														
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	--	
<b>MW-6</b>														
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	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	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	--	--	--	--	--	--	--	--	--	
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	--	
01/17/97	72.10	16.54	0.00	55.56	1.49	--	--	--	--	--	--	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-1 continued</b>														
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	--	--	--	--	--	--	--	--	--	
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	
<b>MW-2</b>														
09/15/89	--	--	--	--	--	290	--	ND	12	ND	ND	--	--	
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	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
MW-2 continued														
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	--	--	
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	--	



**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-2 continued</b>														
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	--	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
<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	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl- benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
MW-3	continued													
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	--	--	--	--	--	--	--	--	
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	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
MW-3 continued														
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<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<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<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<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	23	--	
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	--	
MW-4														
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

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
MW-4 continued														
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	--	--	--	--	--	--	--	--	--	
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	--	--	--	--	--	--	--	--	
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	--	--	--	--	--	--	--	--	--	
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

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-4 continued</b>														
07/12/02	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	--	
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<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<50	--	ND<0.3	ND<0.3	ND<0.3	ND<0.6	ND<1	--	
<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	--	--	--	--	--	--	--	--	--	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 July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	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	--	--	--	--	--	--	--	--	--	
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	--	
<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	--	--	
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	--	--	--	--	--	--	--	--	--	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	--	--	--	--	--	--	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**September 1989 Through July 2004**  
**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 (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
MW-6 continued														
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	--	--	--	--	--	--	--	--	--	
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	--	
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	--	

**Table 3**  
**ADDITIONAL ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	TPH-D (µg/l)	cis-1,3-dichloro-propene (µg/l)	trans-1,3-Dichloro-propene (µg/l)	1,4-Dichloro-benzene (µg/l)	EDC (µg/l)	Chloro-benzene (µg/l)	DBCM (µg/l)	PCE (µg/l)	cis-1,2-DCE (µg/l)	trans-1,2-DCE (µg/l)	1,3-Dichloro-benzene (µg/l)	Carbon Tetra-chloride (µg/l)	Chloro-form (µg/l)	1,1,1-TCA (µg/l)	Bromo-methane (µg/l)	
<b>MW-1</b>																
09/15/89	ND	--	--	--	--	--	--	2.7	--	--	--	--	--	--	--	--
01/23/90	ND	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--
04/19/90	ND	--	--	--	--	--	--	2.2	--	--	--	--	--	--	--	--
07/17/90	ND	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--
10/16/90	ND	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	--
01/15/91	ND	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--
04/12/91	ND	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	--
07/15/91	ND	--	--	--	--	--	--	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	--	--	--	--	0.96	--	--	--
07/21/97	--	--	--	--	--	--	--	0.70	--	--	--	--	1.0	--	--	--
08/31/99	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--
07/16/01	--	--	--	--	--	--	--	ND	--	--	--	--	45	--	--	--
07/12/02	--	--	--	--	--	--	--	ND<0.60	--	--	--	--	--	--	--	--
07/10/03	--	--	--	--	--	--	--	ND<0.50	--	--	--	--	--	--	--	--
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	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<1
<b>MW-3</b>																
08/25/00	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	--	--
07/12/02	--	--	--	--	ND<2.0	--	--	--	--	--	--	--	--	--	--	--

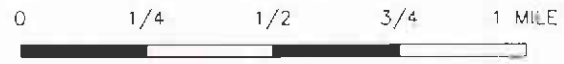
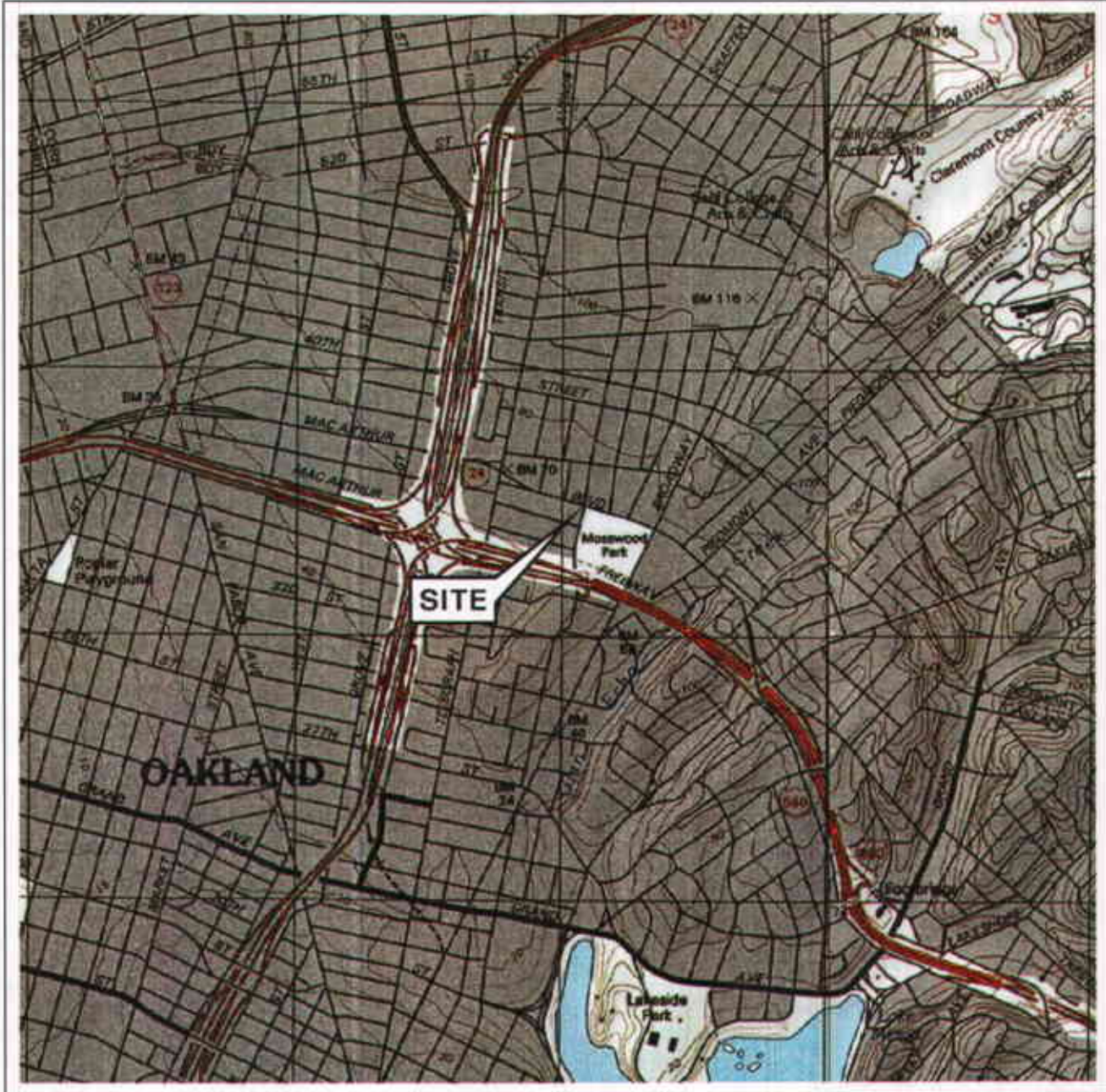


**Table 3b**  
**ADDITIONAL ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	Chloro-methane (µg/l)	Chloro-ethane (µg/l)	Vinyl chloride (µg/l)	Methylene chloride (µg/l)	Bromoform (µg/l)	BDCM (µg/l)	1,1-DCA (µg/l)	1,1-DCE (µg/l)	Trichloro-fluoro-methane (µg/l)	Trichloro-trifluoro-ethane (µg/l)	1,2-dichloro-propane (µg/l)	1,1,2-TCA (µg/l)	TCE (µg/l)	1,1,2,2-Tetrachloro-ethane (µg/l)	1,2-DCB (µg/l)
<b>MW-1</b>															
07/16/01	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	--
07/12/02	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--
07/10/03	--	--	--	--	--	--	--	0.89	--	--	--	--	--	--	--
07/29/04	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5	ND<0.5	1.2	ND<0.5	13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

**Table 3c**  
**ADDITIONAL ANALYTICAL RESULTS**  
**Former 76 Station 3538**

Date Sampled	Dichloro- difluoro- methane (µg/l)	EDB (µg/l)	TAME 8260B (µg/l)	TBA 8260B (µg/l)	DIPE 8260B (µg/l)	ETBE 8260B (µg/l)	Ethanol 8260B (µg/l)	TOG (mg/l)
<b>MW-1</b>								
09/15/89	--	--	--	--	--	--	--	ND
01/23/90	--	--	--	--	--	--	--	1.5
04/19/90	--	--	--	--	--	--	--	ND
07/17/90	--	--	--	--	--	--	--	ND
10/16/90	--	--	--	--	--	--	--	ND
01/15/91	--	--	--	--	--	--	--	ND
04/12/91	--	--	--	--	--	--	--	ND
07/15/91	--	--	--	--	--	--	--	ND
07/29/04	ND<0.5	--	--	--	--	--	--	--
<b>MW-3</b>								
08/25/00	--	ND	ND	ND	ND	ND	--	--
07/12/02	--	ND<2.0	ND<2.0	ND<20	ND<2.0	ND<2.0	ND<500	--



SCALE 1:24,000



**VICINITY MAP**

Former 76 Station 3538  
 411 West MacArthur Boulevard  
 Oakland, California

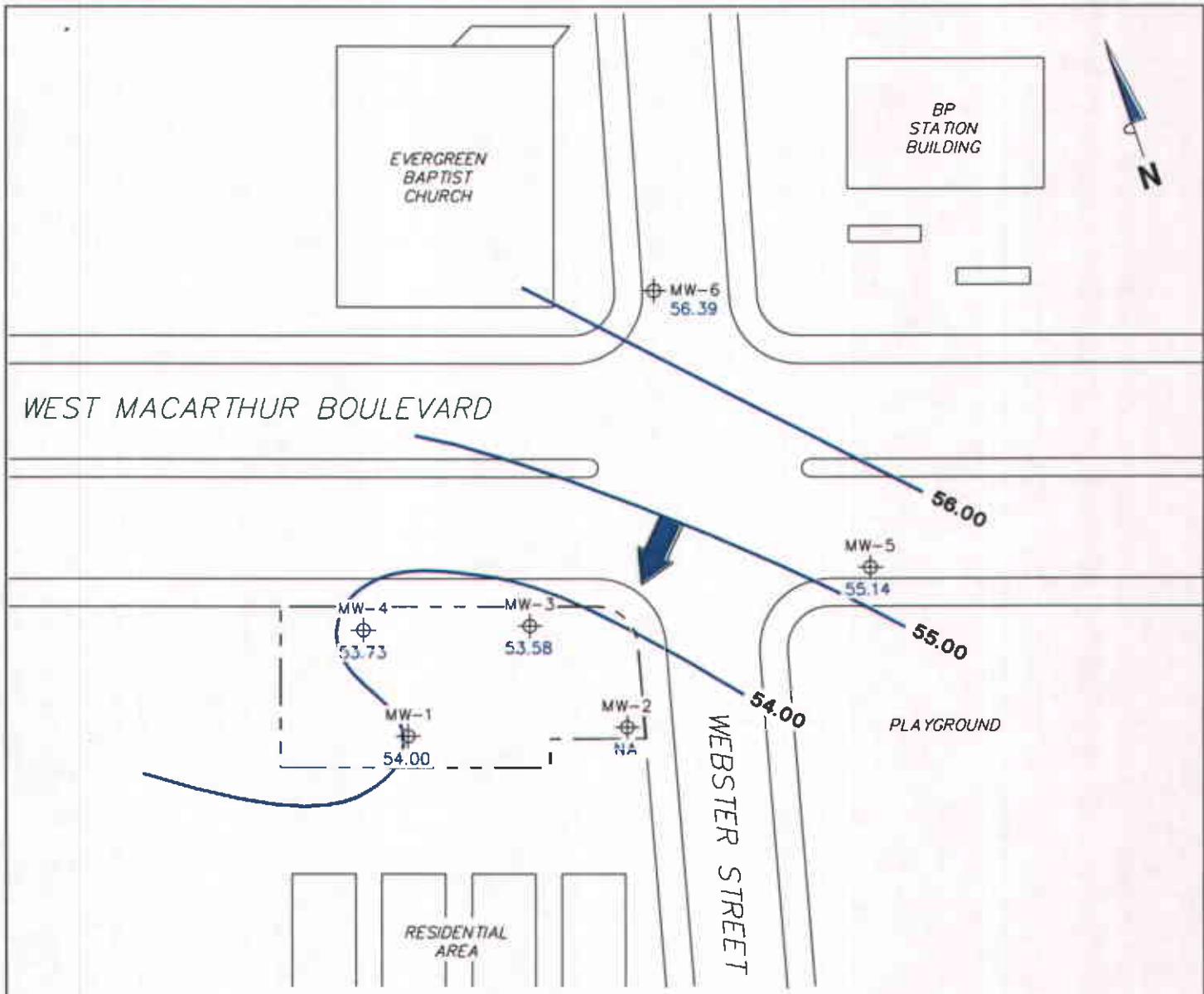
**SOURCE:**

United States Geological Survey  
 7.5 Minute Topographic Map:  
 Oakland East & Oakland West  
 Quadrangles

**FIGURE 1**



PS = 1:1



**NOTES:**

Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. UST = underground storage tank. NA = not analyzed, measured, or collected.

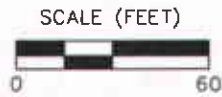
**LEGEND**

- MW-6 ⊕ Monitoring Well with Groundwater Elevation (feet)
- 56.00 — Groundwater Elevation Contour
- ➡ General Direction of Groundwater Flow

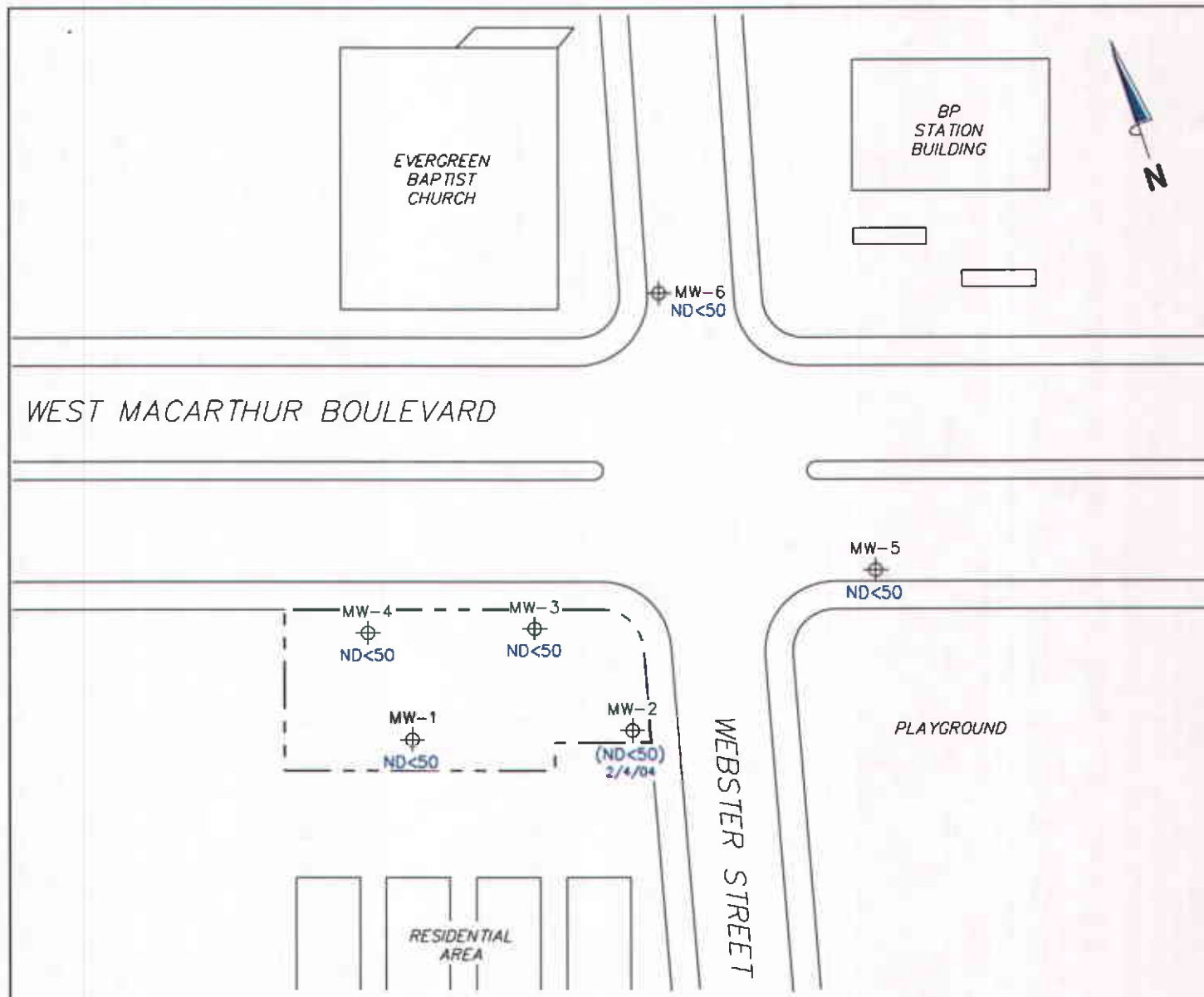
**GROUNDWATER ELEVATION  
CONTOUR MAP  
July 29, 2004**

Former 76 Station 3538  
411 West MacArthur Boulevard  
Oakland, California

**FIGURE 2**



PS=1:1 3538-003



**NOTES:**

TPH-G = total petroleum hydrocarbons as gasoline.  $\mu\text{g/l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report. NA = not analyzed, measured, or collected. UST = underground storage tank. ( ) = representative of historical value. Results obtained using EPA Method 8015.

**LEGEND**

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

**DISSOLVED-PHASE TPH-G CONCENTRATION MAP**  
July 29, 2004

Former 76 Station 3538  
411 West MacArthur Boulevard  
Oakland, California

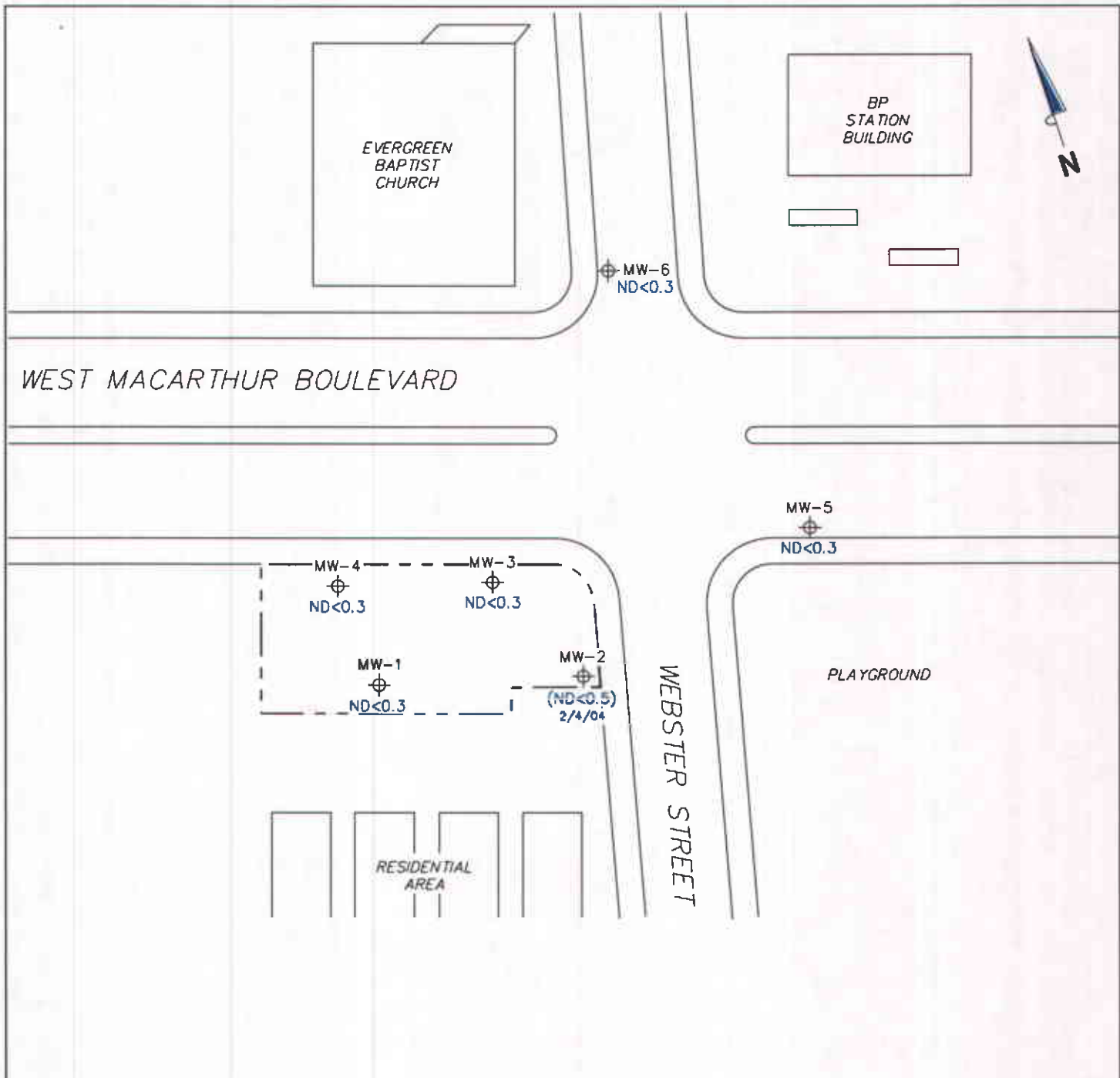


SCALE (FEET)



**FIGURE 3**

PS=1:1 3538-003



**NOTES:**

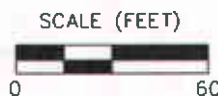
µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 NA = not analyzed, measured, or collected.  
 UST = underground storage tank.  
 ( ) = representative of historical value.

LEGEND

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

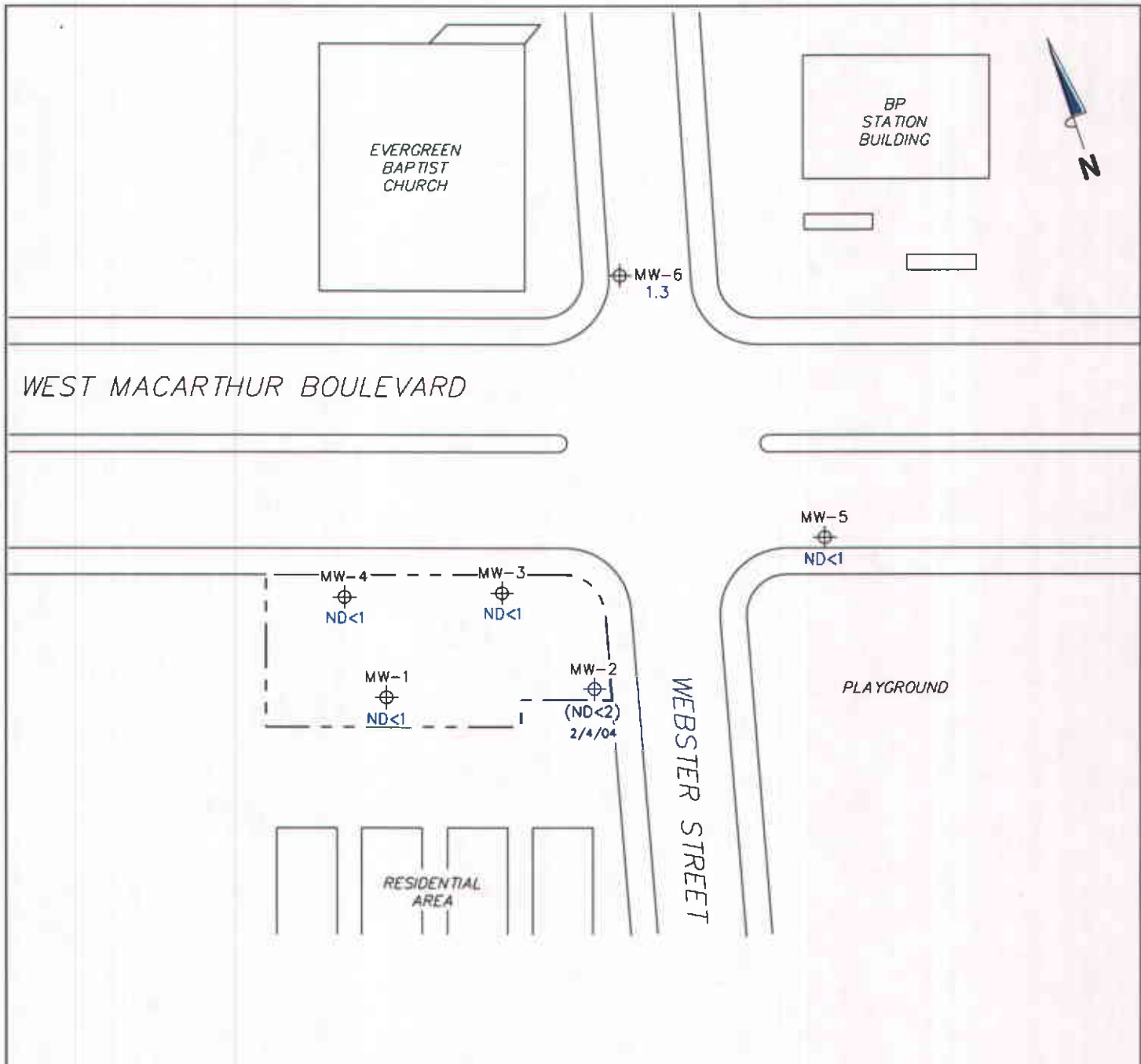
**DISSOLVED-PHASE BENZENE  
 CONCENTRATION MAP  
 July 29, 2004**

Former 76 Station 3538  
 411 West MacArthur Boulevard  
 Oakland, California



**FIGURE 4**

PS=1:1 3538-003



**NOTES:**

MTBE = methyl tertiary butyl ether.  
 µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. NA = not analyzed, measured, or collected. UST = underground storage tank.  
 ( ) = representative of historical value. Results obtained using EPA Method 8260B.

**LEGEND**

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

**DISSOLVED-PHASE MTBE CONCENTRATION MAP  
 July 29, 2004**

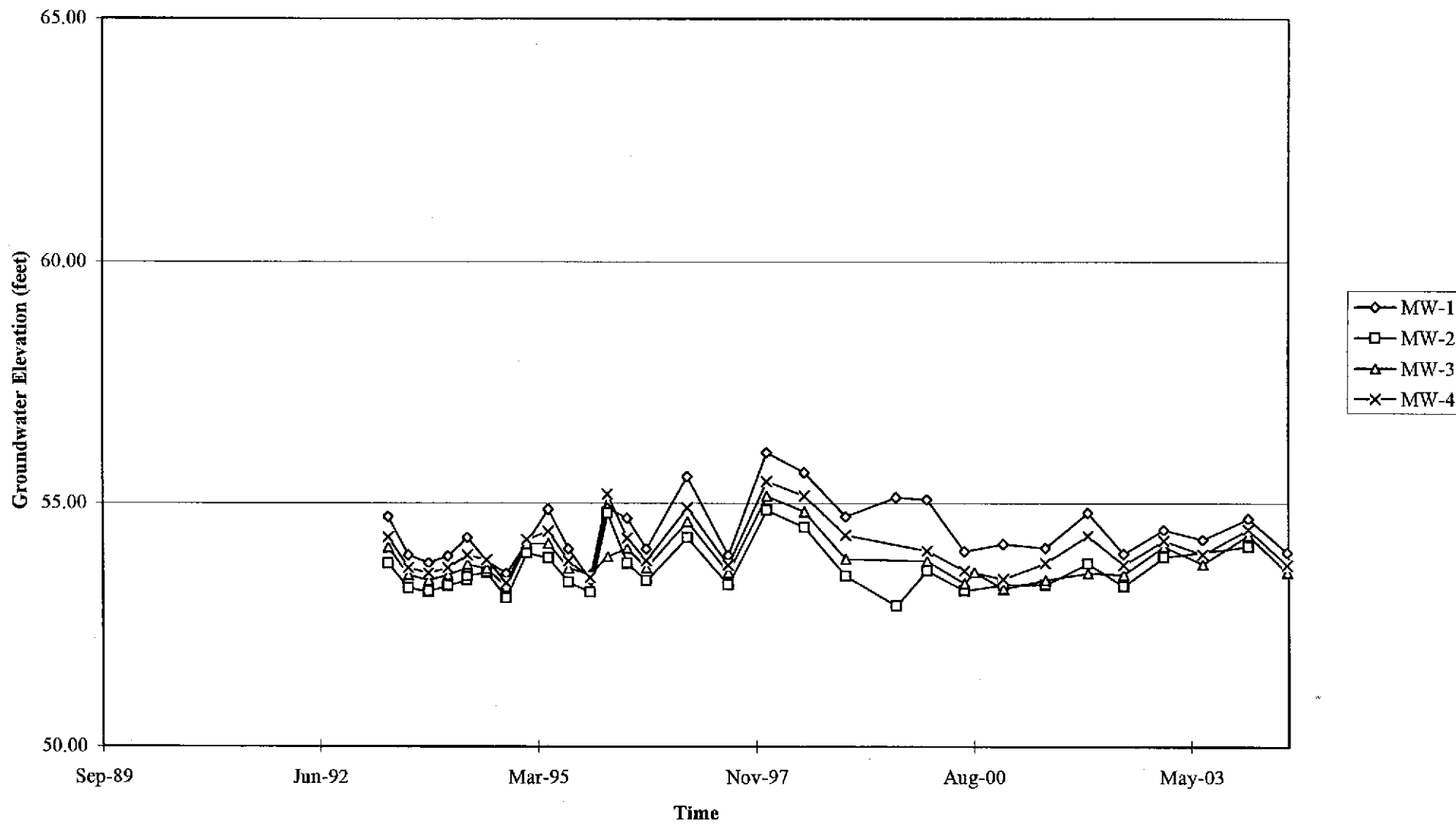
Former 76 Station 3538  
 411 West MacArthur Boulevard  
 Oakland, California

**FIGURE 5**



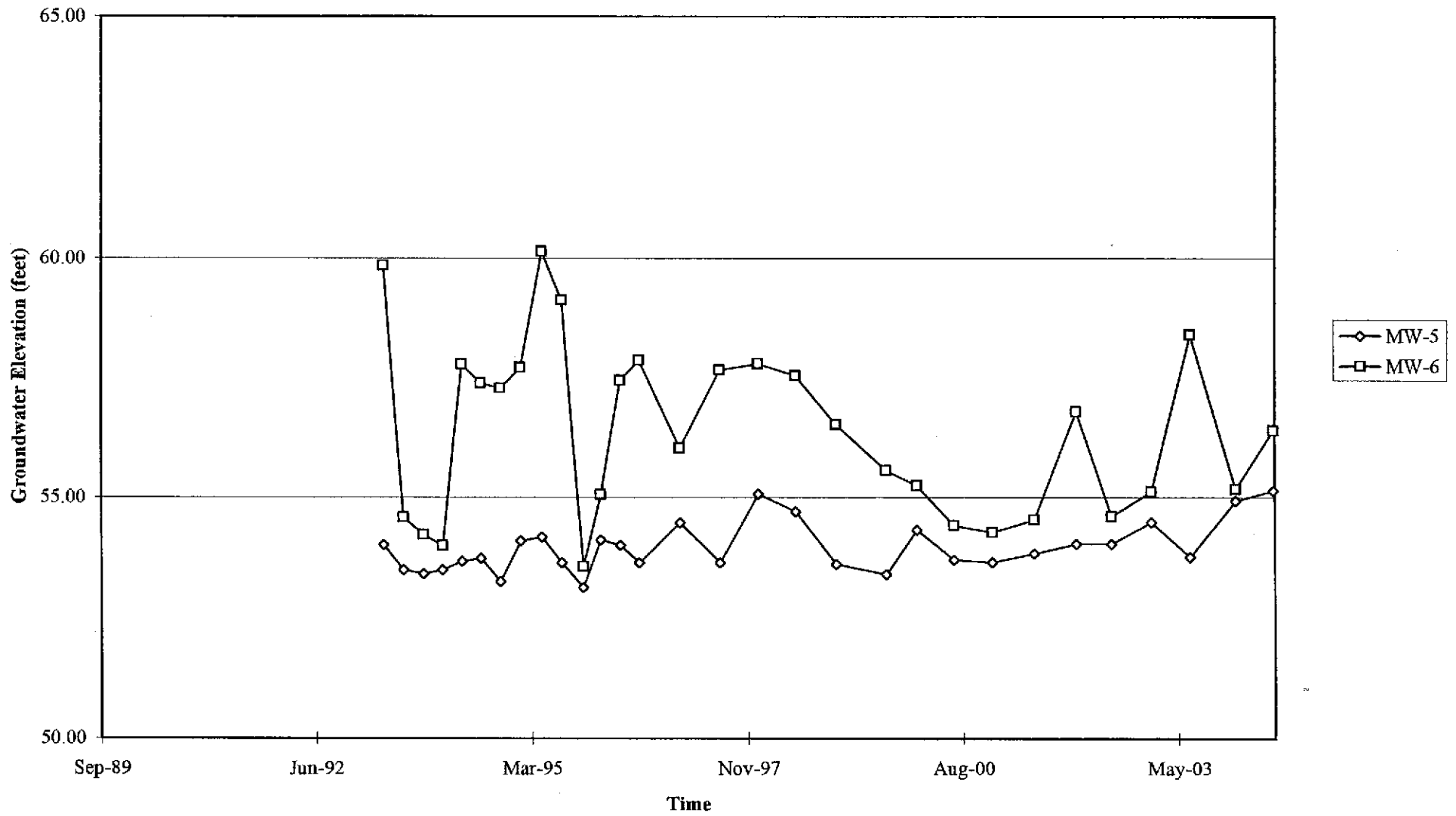
PS:1:1 3538-003

Groundwater Elevations vs. Time  
Former 76 Station 3538

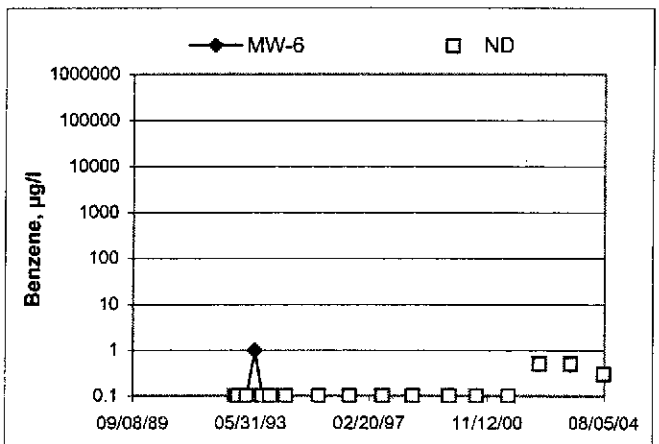
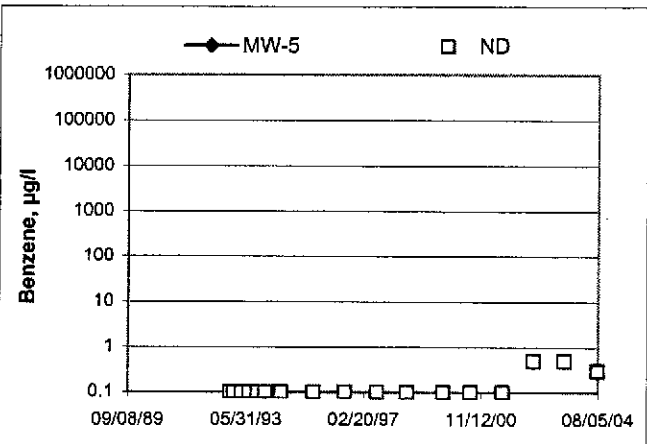
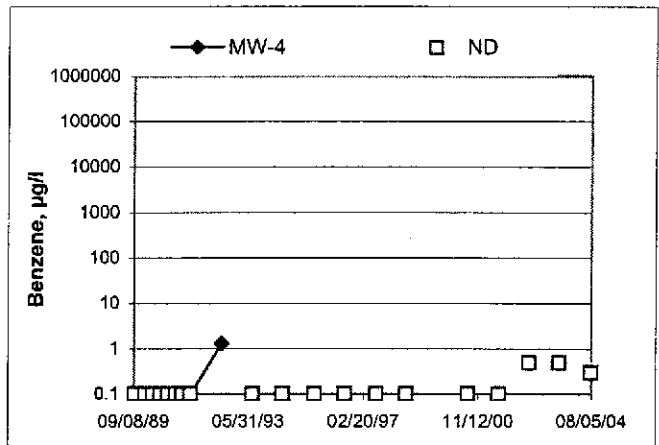
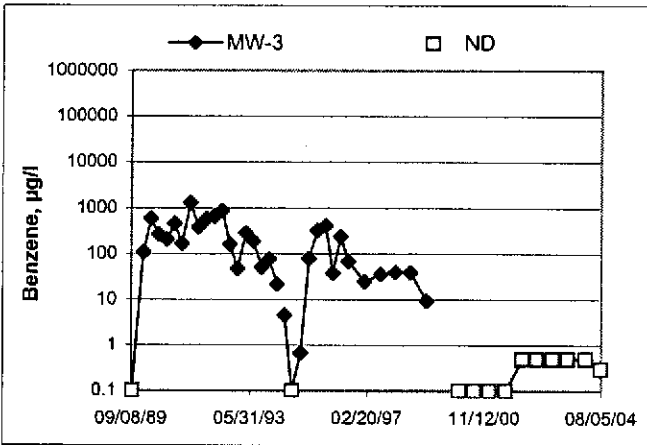
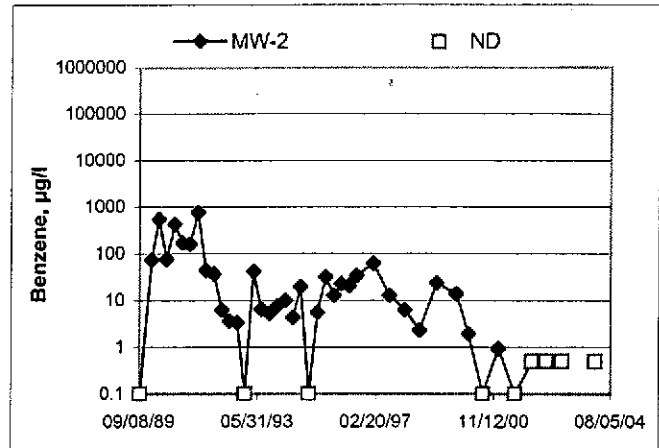
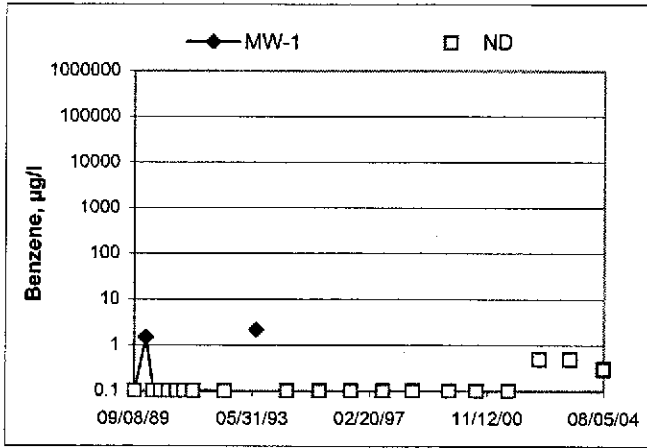




Groundwater Elevations vs. Time  
Former 76 Station 3538



### Benzene Concentrations vs Time Former 76 Station 3538



## FIELD MONITORING DATA SHEET

Technician: W. DEW      Job #/Task #: 41050001/F220      Date: 7/29/04  
 Site # 3538      Project Manager A. COLLINS      Page 1 of 1

Well #	TOC	Time Gauged	Total Depth	Depth to Water	Depth to Product	Product Thickness (feet)	Time Sampled	Misc. Well Notes
MW-6	✓	0947	29.08	14.98	0	0	1200	2"
MW-5	✓	1055	30.06	16.02	0	0	1250	2' 10ft added to gauging water depth 8/28
MW-3	✓	1002	27.18	17.82	0	0	1116	2"
MW-4	✓	1007	24.65	17.81	0	0	1136	2"
MW-1	✓	1010	23.73	14.12	0	0	1305	2"
MW-2	-	-	-	-	-	-	-	USE PUMP TO GET OFF WELL.

FIELD DATA COMPLETE	QA/QC	COC	WELL BOX CONDITION SHEETS
WTT CERTIFICATE	MANIFEST	DRUM INVENTORY	TRAFFIC CONTROL



## GROUNDWATER SAMPLING FIELD NOTES

Site: 3538

Technician: M. DELL

Project No.: 41052001

Date: 7/29/04

Well No.: MW-1

Purge Method: D19

Depth to Water (feet): 18.12

Depth to Product (feet): 0

Total Depth (feet): 23.73

LPH & Water Recovered (gallons): 0

Water Column (feet): 5.61

Casing Diameter (Inches): 21

80% Recharge Depth (feet): 19.24

1 Well Volume (gallons): 1

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
<u>1136</u>			<u>1</u>	<u>602</u>	<u>18.4</u>	<u>7.18</u>		
			<u>2</u>	<u>594</u>	<u>18.5</u>	<u>7.08</u>		
	<u>1140</u>		<u>3</u>	<u>593</u>	<u>18.4</u>	<u>6.96</u>		
Static at Time Sampled			Total Gallons Purged			Time Sampled		
<u>18:11</u>			<u>3</u>			<u>1305</u>		
Comments:								

Well No.: \_\_\_\_\_  
 Depth to Water (feet): \_\_\_\_\_  
 Total Depth (feet): \_\_\_\_\_  
 Water Column (feet): \_\_\_\_\_  
 80% Recharge Depth (feet): \_\_\_\_\_

Purge Method: \_\_\_\_\_  
 Depth to Product (feet): \_\_\_\_\_  
 LPH & Water Recovered (gallons): \_\_\_\_\_  
 Casing Diameter (Inches): \_\_\_\_\_  
 1 Well Volume (gallons): \_\_\_\_\_

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

### GROUNDWATER SAMPLING FIELD NOTES

Technician: LYNCH  
 Project No.: 4105D01 Date: 7/29/84  
 Site: 3535  
 Well No.: MW-3 Purge Method: OIA  
 Depth to Water (feet): 17.62 Depth to Product (feet): 0  
 Total Depth (feet): 27.13 LPH & Water Recovered (gallons): 0  
 Water Column (feet): 9.31 Casing Diameter (Inches): 2"  
 80% Recharge Depth (feet): 19.68 1 Well Volume (gallons): 1

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. C.)	pH	Turbidity	D.O.
1058			1	857	19.1	7.10		
			2	798	19.4	6.98		
	1101		3	784	19.4	6.89		
Static at Time Sampled			Total Gallons Purged		Time Sampled			
18.85			3		1110			
Comments:								

Well No.: MW-4 Purge Method: OIA  
 Depth to Water (feet): 17.81 Depth to Product (feet): 0  
 Total Depth (feet): 24.65 LPH & Water Recovered (gallons): 0  
 Water Column (feet): 6.84 Casing Diameter (Inches): 2"  
 80% Recharge Depth (feet): 19.17 1 Well Volume (gallons): 1

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F. C.)	pH	Turbidity	D.O.
1119			1	761	19.2	7.21		
			2	713	19.2	7.69		
	1123		3	729	19.3	6.97		
Static at Time Sampled			Total Gallons Purged		Time Sampled			
17.83			3		1130			
Comments:								

GROUNDWATER SAMPLING FIELD NOTES

Site: 3538 Technician: W. O'Connell  
 Project No.: 41050001 Date: 7/29/84

Well No.: MW-C Purge Method: DIA  
 Depth to Water (feet): 14.98 Depth to Product (feet): 0  
 Total Depth (feet): 29.98 LPH & Water Recovered (gallons): 0  
 Water Column (feet): 15 Casing Diameter (Inches): 2"  
 80% Recharge Depth (feet): 17.98 1 Well Volume (gallons): 2.58

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
1028			2	766	19.6	6.52		
			4	665	19.6	6.62		
	1032		6	670	19.7	6.69		
Static at Time Sampled		Total Gallons Purged		Time Sampled				
17.31		6		1200				
Comments:								

Well No.: MW-T Purge Method: DIA  
 Depth to Water (feet): 6.02 Depth to Product (feet): 0  
 Total Depth (feet): 30.06 LPH & Water Recovered (gallons): 0  
 Water Column (feet): 24.04 Casing Diameter (Inches): 2"  
 80% Recharge Depth (feet): 0.82 1 Well Volume (gallons): 1

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conductivity (uS/cm)	Temperature (F, C)	pH	Turbidity	D.O.
1041			4	935	19.6	6.95		
			8	950	19.6	6.76		
	1048		12	952	19.8	6.71		
Static at Time Sampled		Total Gallons Purged		Time Sampled				
18.60		12		1200				
Comments: <u>DID NOT RECOVER IN 2 HRS. (50%)</u>								

STATEMENT OF NON-COMPLETION OF JOB

DATE OF EVENT: 7/29/04 STATION NUMBER: 8588

NAME OF TECH: WDA CALLED GORDON: \_\_\_\_\_

CALLED PM: \_\_\_\_\_ NAME OF PM CALLED: \_\_\_\_\_

WELL NUMBER: MW-2 STATEMENT FROM PM \_\_\_\_\_ OR TECH \_\_\_\_\_

CAR PARK BW TDP OF WDA -

WELL NUMBER: \_\_\_\_\_ STATEMENT FROM PM \_\_\_\_\_ OR TECH \_\_\_\_\_

WELL NUMBER: \_\_\_\_\_ STATEMENT FROM PM \_\_\_\_\_ OR TECH \_\_\_\_\_

WELL NUMBER: \_\_\_\_\_ STATEMENT FROM PM \_\_\_\_\_ OR TECH \_\_\_\_\_

**Laboratories, Inc****Cover Report**

TRC ALTON GEOSCIENCE  
21 TECHNOLOGY DRIVE  
IRVINE, CA 92618-2302  
Attn: ANJU FARFAN

Project Number: 3538  
COC Number:  
BCL Number: 04-07815

Dear Anju Farfan:

This report contains the analytical results for the samples received under chain of custody by BC Laboratories, Inc. The samples were logged into the Laboratory Information Management System (LIMS) and BC Lab numbers were assigned to each sample. The result of the temperature check, condition of the samples and any other discrepancies were recorded on the cooler receipt form.

All applicable quality control procedures met method-specific acceptance criteria, except as noted on the following analytical and quality control reports.

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A handwritten signature in black ink, appearing to be "A. Farfan", is written over a horizontal line.

Authorized Signature





**BC Laboratories, Inc**

TRC ALTON GEOSCIENCE  
 21 TECHNOLOGY DRIVE  
 IRVINE, CA 92618-2302  
 Attn: ANJU FARFAN

## Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>COC Number</b>	---	<b>Receive Date/Time</b>	07/29/2004 @ 21:15
<b>Project Number</b>	3538	<b>Sampling Date/Time</b>	07/29/2004 @ 13:05
<b>Sampling Location</b>	---	<b>Sample Depth</b>	---
<b>Sampling Point</b>	MW-1	<b>Sample Matrix</b>	Groundwater
<b>Sampled By</b>	LYDELL	<b>BCL Sample ID</b>	04-07815-1

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	< PQL	ug/L	0.3	0.041	8021B	08/02/04	08/02/04	13:22	HKS	GC-V2	1	295-100420	ND	Q02
Toluene	0.38	ug/L	0.3	0.13	8021B	08/02/04	08/02/04	13:22	HKS	GC-V2	1	295-100420	ND	
Ethylbenzene	< PQL	ug/L	0.3	0.087	8021B	08/02/04	08/02/04	13:22	HKS	GC-V2	1	295-100420	ND	
Methyl t-butyl ether	< PQL	ug/L	1	0.041	8021B	08/02/04	08/02/04	13:22	HKS	GC-V2	1	295-100420	ND	
Total Xylenes	< PQL	ug/L	0.6	0.087	8021B	08/02/04	08/02/04	13:22	HKS	GC-V2	1	295-100420	ND	
Gasoline Range Organics (C4 - C12)	< PQL	ug/L	50	8.0	8015M		08/02/04	13:22	HKS	GC-V2	1	295-100420	ND	Q02
Surrogate Compounds	Result	Units	Control Limits		Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
a,a,a-Trifluorotoluene	100	%	70-130		8021B	08/02/04	08/02/04	13:22	HKS	GC-V2	1	295-100420		
a,a,a-Trifluorotoluene (8015 Surrogate)	114	%	70-130		8015M	08/02/04	08/02/04	13:22	HKS	GC-V2	1	295-100420		

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.

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04-07815-1



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 IRVINE, CA 92618-2302  
 Attn: ANJU FARFAN

## Volatile Organic Analysis (EPA Method 8260)

<b>COC Number</b>		---										<b>Receive Date/Time</b>		07/29/2004 @ 21:15	
<b>Project Number</b>		3538										<b>Sampling Date/Time</b>		07/29/2004 @ 13:05	
<b>Sampling Location</b>		---										<b>Sample Depth</b>		---	
<b>Sampling Point</b>		MW-1										<b>Sample Matrix</b>		Groundwater	
<b>Sampled By</b>		LYDELL										<b>BCL Sample ID</b>		04-07815-1	
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quails	
Bromodichloromethane	< PQL	ug/L	0.5	0.086	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Bromoform	< PQL	ug/L	0.5	0.062	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Bromomethane	< PQL	ug/L	1	0.35	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	v11	
Carbon tetrachloride	< PQL	ug/L	0.5	0.061	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Chlorobenzene	< PQL	ug/L	0.5	0.084	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Chloroethane	< PQL	ug/L	0.5	0.29	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Chloroform	< PQL	ug/L	0.5	0.19	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Chloromethane	< PQL	ug/L	0.5	0.040	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Dibromochloromethane	< PQL	ug/L	0.5	0.12	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
1,2-Dichlorobenzene	< PQL	ug/L	0.5	0.072	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
1,3-Dichlorobenzene	< PQL	ug/L	0.5	0.11	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
1,4-Dichlorobenzene	< PQL	ug/L	0.5	0.072	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Dichlorodifluoromethane	< PQL	ug/L	0.5	0.11	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
1,1-Dichloroethane	< PQL	ug/L	0.5	0.094	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
1,2-Dichloroethane	< PQL	ug/L	0.5	0.086	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
1,1-Dichloroethene	1.2	ug/L	0.5	0.054	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
cis-1,2-Dichloroethene	< PQL	ug/L	0.5	0.12	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
trans-1,2-Dichloroethene	< PQL	ug/L	0.5	0.081	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
1,2-Dichloropropane	< PQL	ug/L	0.5	0.083	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
cis-1,3-Dichloropropene	< PQL	ug/L	0.5	0.096	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
trans-1,3-Dichloropropene	< PQL	ug/L	0.5	0.066	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
Methylene chloride	< PQL	ug/L	1	0.17	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		
1,1,2,2-Tetrachloroethane	< PQL	ug/L	0.5	0.13	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND		

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## Volatile Organic Analysis (EPA Method 8260)

Sample Description		3538, MW-1, 07/29/2004 @ 13:05, LYDELL												
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quails
Tetrachloroethene	< PQL	ug/L	0.5	0.092	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	
1,1,1-Trichloroethane	< PQL	ug/L	0.5	0.061	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	
1,1,2-Trichloroethane	< PQL	ug/L	0.5	0.12	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	
Trichloroethene	< PQL	ug/L	0.5	0.070	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	
Trichlorofluoromethane	< PQL	ug/L	0.5	0.060	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	13	ug/L	0.5	0.13	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	
Vinyl chloride	< PQL	ug/L	0.5	0.057	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	
Methyl t-butyl ether	< PQL	ug/L	0.5	0.076	8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809	ND	
Surrogate Compounds	Result	Units	Control Limits		Method	Prep Date	Run Date	Run Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quails
1,2-Dichloroethane-d4	92	%	76-114		8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809		
Toluene-d8	101	%	88-110		8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809		
4-Bromofluorobenzene	100	%	86-115		8260	08/04/04	08/04/04	03:26	MGC	MS-V5	1	317-100809		

Flag	Explanations
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.

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04-07815-1



TRC ALTON GEOSCIENCE  
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 IRVINE, CA 92618-2302  
 Attn: ANJU FARFAN

## Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>COC Number</b>		---							<b>Receive Date/Time</b>		07/29/2004 @ 21:15			
<b>Project Number</b>		3538							<b>Sampling Date/Time</b>		07/29/2004 @ 12:00			
<b>Sampling Location</b>		---							<b>Sample Depth</b>		---			
<b>Sampling Point</b>		MW-6							<b>Sample Matrix</b>		Groundwater			
<b>Sampled By</b>		LYDELL							<b>BCL Sample ID</b>		04-07815-2			
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	GC Batch ID	MB Bias	Lab Quals
Benzene	< PQL	ug/L	0.3	0.041	8021B	08/02/04	08/02/04	13:48	HKS	GC-V2	1	295-100420	ND	Q02
Toluene	< PQL	ug/L	0.3	0.13	8021B	08/02/04	08/02/04	13:48	HKS	GC-V2	1	295-100420	ND	
Ethylbenzene	< PQL	ug/L	0.3	0.087	8021B	08/02/04	08/02/04	13:48	HKS	GC-V2	1	295-100420	ND	
Methyl t-butyl ether	1.3	ug/L	1	0.041	8021B	08/02/04	08/02/04	13:48	HKS	GC-V2	1	295-100420	ND	
Total Xylenes	< PQL	ug/L	0.6	0.087	8021B	08/02/04	08/02/04	13:48	HKS	GC-V2	1	295-100420	ND	
Gasoline Range Organics (C4 - C12)	< PQL	ug/L	50	8.0	8015M	08/02/04	08/02/04	13:48	HKS	GC-V2	1	295-100420	ND	Q02
Surrogate Compounds	Result	Units	Control Limits		Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	GC Batch ID	MB Bias	Lab Quals
a,a,a-Trifluorotoluene	107	%	70-130		8021B	08/02/04	08/02/04	13:48	HKS	GC-V2	1	295-100420		
a,a,a-Trifluorotoluene (8015 Surrogate)	120	%	70-130		8015M	08/02/04	08/02/04	13:48	HKS	GC-V2	1	295-100420		

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.

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04-07815-2



**BC Laboratories, Inc**

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 IRVINE, CA 92618-2302  
 Attn: ANJU FARFAN

## Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Receive Date/Time	07/29/2004 @ 21:15
Project Number	3538	Sampling Date/Time	07/29/2004 @ 12:50
Sampling Location	---	Sample Depth	---
Sampling Point	MW-5	Sample Matrix	Groundwater
Sampled By	LYDELL	BCL Sample ID	04-07815-3

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	< PQL	ug/L	0.3	0.041	8021B	08/02/04	08/02/04	14:14	HKS	GC-V2	1	295-100420	ND	Q02
Toluene	0.64	ug/L	0.3	0.13	8021B	08/02/04	08/02/04	14:14	HKS	GC-V2	1	295-100420	ND	
Ethylbenzene	< PQL	ug/L	0.3	0.087	8021B	08/02/04	08/02/04	14:14	HKS	GC-V2	1	295-100420	ND	
Methyl t-butyl ether	< PQL	ug/L	1	0.041	8021B	08/02/04	08/02/04	14:14	HKS	GC-V2	1	295-100420	ND	
Total Xylenes	0.79	ug/L	0.6	0.087	8021B	08/02/04	08/02/04	14:14	HKS	GC-V2	1	295-100420	ND	
Gasoline Range Organics (C4 - C12)	< PQL	ug/L	50	8.0	8015M	08/02/04	08/02/04	14:14	HKS	GC-V2	1	295-100420	ND	Q02
Surrogate Compounds	Result	Units	Control Limits		Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
a,a,a-Trifluorotoluene	100	%	70-130		8021B	08/02/04	08/02/04	14:14	HKS	GC-V2	1	295-100420		
a,a,a-Trifluorotoluene (8015 Surrogate)	108	%	70-130		8015M	08/02/04	08/02/04	14:14	HKS	GC-V2	1	295-100420		

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.

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04-07815-3



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 Attn: ANJU FARFAN

## Purgeable Aromatics and Total Petroleum Hydrocarbons

COC Number	---	Receive Date/Time	07/29/2004 @ 21:15
Project Number	3538	Sampling Date/Time	07/29/2004 @ 11:10
Sampling Location	---	Sample Depth	---
Sampling Point	MW-3	Sample Matrix	Groundwater
Sampled By	LYDELL	BCL Sample ID	04-07815-4

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	< PQL	ug/L	0.3	0.041	8021B	08/04/04	08/04/04	10:39	HKS	GC-V2	1	295-100420	ND	Q02
Toluene	< PQL	ug/L	0.3	0.13	8021B	08/04/04	08/04/04	10:39	HKS	GC-V2	1	295-100420	ND	
Ethylbenzene	< PQL	ug/L	0.3	0.087	8021B	08/04/04	08/04/04	10:39	HKS	GC-V2	1	295-100420	ND	
Methyl t-butyl ether	< PQL	ug/L	1	0.041	8021B	08/04/04	08/04/04	10:39	HKS	GC-V2	1	295-100420	ND	
Total Xylenes	< PQL	ug/L	0.6	0.087	8021B	08/04/04	08/04/04	10:39	HKS	GC-V2	1	295-100420	ND	
Gasoline Range Organics (C4 - C12)	< PQL	ug/L	50	8.0	8015M	08/04/04	08/04/04	10:39	HKS	GC-V2	1	295-100420	ND	Q02
Surrogate Compounds	Result	Units	Control Limits		Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
a,a,a-Trifluorotoluene	100	%	70-130		8021B	08/04/04	08/04/04	10:39	HKS	GC-V2	1	295-100420		
a,a,a-Trifluorotoluene (8015 Surrogate)	112	%	70-130		8015M	08/04/04	08/04/04	10:39	HKS	GC-V2	1	295-100420		

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.

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04-07815-4



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 Attn: ANJU FARFAN

## Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>COC Number</b>	---	<b>Receive Date/Time</b>	07/29/2004 @ 21:15
<b>Project Number</b>	3538	<b>Sampling Date/Time</b>	07/29/2004 @ 11:30
<b>Sampling Location</b>	---	<b>Sample Depth</b>	---
<b>Sampling Point</b>	MW-4	<b>Sample Matrix</b>	Groundwater
<b>Sampled By</b>	LYDELL	<b>BCL Sample ID</b>	04-07815-5

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	< PQL	ug/L	0.3	0.041	8021B	08/02/04	08/02/04	15:05	HKS	GC-V2	1	295-100420	ND	Q02
Toluene	< PQL	ug/L	0.3	0.13	8021B	08/02/04	08/02/04	15:05	HKS	GC-V2	1	295-100420	ND	
Ethylbenzene	< PQL	ug/L	0.3	0.087	8021B	08/02/04	08/02/04	15:05	HKS	GC-V2	1	295-100420	ND	
Methyl t-butyl ether	< PQL	ug/L	1	0.041	8021B	08/02/04	08/02/04	15:05	HKS	GC-V2	1	295-100420	ND	
Total Xylenes	< PQL	ug/L	0.6	0.087	8021B	08/02/04	08/02/04	15:05	HKS	GC-V2	1	295-100420	ND	
Gasoline Range Organics (C4 - C12)	< PQL	ug/L	50	8.0	8015M	08/02/04	08/02/04	15:05	HKS	GC-V2	1	295-100420	ND	Q02
Surrogate Compounds	Result	Units	Control Limits	Method	Prep Date	Run Date	Run Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals	
a,a,a-Trifluorotoluene	99	%	70-130	8021B	08/02/04	08/02/04	15:05	HKS	GC-V2	1	295-100420			
a,a,a-Trifluorotoluene (8015 Surrogate)	106	%	70-130	8015M	08/02/04	08/02/04	15:05	HKS	GC-V2	1	295-100420			

Flag	Explanations
Q02	Matrix spike precision is not within the control limits.

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04-07815-5

B C LABORATORIES  
QUALITY CONTROL REPORT

TRC ALTON GEOSCIENCE  
21 TECHNOLOGY DRIVE  
IRVINE, CA 92618-2302  
ANJU FARFAN

Date of Report: 08/18/2004  
Sample Matrix: Groundwater  
QC Batch ID: 200407815-1\*8020

Samples Affected: 04-07815-1 - 04-07815-5

Constituents	Method Blank Readings	Units	MS % Rec	MSD % Rec	Spike R.P.D.	LCS % Rec	Spike %Rec Control Limits	Precision Control Limits	LCS % Rec Control Limits
Benzene	< 0.3	µg/L	104.	92.	12.	103.	80 - 120	10	85 - 115
Toluene	< 0.3	µg/L	105.	97.	7.	103.	80 - 120	10	85 - 115
Ethyl Benzene	< 0.3	µg/L	113.	106.	6.	113.	80 - 120	10	85 - 115
Methyl-t-butylether	< 1.	µg/L	114.	105.	8.	110.	80 - 120	10	85 - 115
Total Xylenes	< 0.6	µg/L	100.	91.	9.	97.	80 - 120	10	85 - 115
Gasoline Range Organics (C4 - C12)	<50.	µg/L	108.	86.	22.	101.	70 - 130	20	85 - 115

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference  
LCS = Laboratory Control Sample

Quality Control Officer

*Sharen Maurer*  
Danette Bohm





BC Laboratories, Inc.

B C LABORATORIES  
QUALITY CONTROL REPORT

Method 8260

TRC ALTON GEOSCIENCE  
21 TECHNOLOGY DRIVE  
IRVINE, CA 92618-2302  
ANJU FARFAN

Date of Report: 08/05/2004  
Sample Matrix: Groundwater  
QC Batch ID: 200407815-1\*8260

Samples Affected: 04-07815-1

Constituents	Method Blank Readings	Units	MS % Rec	MSD % Rec	Spike R.P.D.	LCS % Rec	Spike %Rec Control Limits	Precision Control Limits	LCS % Rec Control Limits
Bromodichloromethane	< 0.5	µg/L	129.	129.	1.	126.	70 - 130	20	70 - 130
Chlorobenzene	< 0.5	µg/L	101.	101.	0.	100.	70 - 130	20	70 - 130
Chloroethane	< 0.5	µg/L	94.	98.	4.	94.	70 - 130	20	70 - 130
1,4-Dichlorobenzene	< 0.5	µg/L	101.	101.	0.	100.	70 - 130	20	70 - 130
1,1-Dichloroethane	< 0.5	µg/L	92.	92.	0.	93.	70 - 130	20	70 - 130
1,1-Dichloroethene	< 5.	µg/L	101.	96.	5.	96.	70 - 130	20	70 - 130
Trichloroethene	< 0.5	µg/L	94.	94.	0.	98.	70 - 130	20	70 - 130

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference  
LCS = Laboratory Control Sample

Quality Control Officer

*Sharon Maurer*  
Danette Bohm

Submission #: 04-07815

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                       
Temperature: 1.2 °C  
Thermometer ID: TH080

Emissivity 0.93  
Container QTA

Date/Time: 7/29/04  
2:15  
Analyst Init SIC

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	1.9	1.6	1.6	1.6	1.6					
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: KOM

Date/Time: 7/30/04 9:59



BC Laboratories, Inc.

# Chain of Custody Form

PLEASE COMPLETE:  
BCL QUOTE ID: \_\_\_\_\_

36543

Page 1 of 1

Report To: **TRC**  
 Client: **TRC**  
 Attn: **ADJL FARFAN**  
 Street Address: **21 DEHOLLY DR**  
 City, State, Zip: **IRVINE, CA 92614**  
 Phone: \_\_\_\_\_ Fax: **949-753-2111**  
 Email Address: \_\_\_\_\_  
 Submittal #: **04-07815**

Project #: **410J0001**  
 Project Name: \_\_\_\_\_  
 Project Code: **353P**  
 Sampler(s): **LYDELL**

### Analysis Requested

TPAG BY 8015 M  
 AFTER 1/1/02 BY 8021  
 HAVES (CANDIDATE) BY 8021

Comments:  
**TOL00101472**  
 per Peter  
 mm 8/3

Sample #	Description	Date Sampled	Time Sampled	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	TPAG	
-1	MW-1	7/29/04	1305	X	X	X															
-2	MW-6		1250																		
-3	MW-5		1250																		
-4	MW-3		1110																		
-5	MW-4 <del>Auto-2</del>		1130																		

Sample Matrix					Turnaround # of work days*
Soil	Sludge	Drinking Water	Ground Water	Waste Water	
			X		STD

Are there any tests with holding times less than or equal to 48 hours?  
 Yes  No

\* Standard Turnaround = 15 work days

### Notes

CHK BY DISTRIBUTION  
 010 58 [ ] [ ] [ ] [ ] [ ]  
 OUR OUT [ ]

**Billing**  Same as above  
 Client: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Attn: \_\_\_\_\_  
 PO#: \_\_\_\_\_

Report Drinking Waters on State Form?  
 Yes  No  
 Send Copy to State of CA?  
 Yes  No

Sample Disposal  
 Return to Client  Disposal by lab  Archive: Months \_\_\_\_\_

1. Relinquished By	Date	Time	1. Received By	Date	Time
<i>[Signature]</i>	7/29/04	1400	<i>[Signature]</i>	7-29-04	1545
2. Relinquished By	Date	Time	2. Received By	Date	Time
<i>[Signature]</i>	7-29-04	2115	<i>Shelley Carlson</i>	7-29-04	2115
3. Relinquished By	Date	Time	3. Received By	Date	Time

Special Reporting  
 QC  WIP  Raw Data

## **STATEMENTS**

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

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

### **Limitations**

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