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Alameda County  
Environmental Health



76 Broadway  
Sacramento, California 95818

April 29, 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 #0018  
6201 Claremont Avenue  
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,

A handwritten signature in black ink, appearing to read "Eric G. Hetrick".

Eric G. Hetrick  
Site Manager  
Risk Management & Remediation



1590 Solano Way  
#A  
Concord, CA 94520

925.688.1200 PHONE  
925.688.0388 FAX

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

April 29, 2007

TRC Project No. 42016511

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

**RE: Quarterly Status Report – First Quarter 2007 and  
Additional Request for Closure Status  
Site Closure Requested January 2006  
76 Service Station #0018, 6201 Claremont Avenue, Oakland, California  
Alameda County**

Dear Ms. Drogos:

On behalf of ConocoPhillips Company (ConocoPhillips), TRC is submitting the First Quarter 2007 Status Report and Request for Closure Status for the subject site. The subject site is an active service station located on the northern corner of the intersection of Claremont and College Avenues in Oakland, California. The nearest surface water is Harwood (Claremont) Creek, located approximately 0.25 miles northeast of the site.

Site closure was requested in January 2006. Please advise if additional information is required in order for a review of closure applicability to be made.

#### **PREVIOUS ASSESSMENTS**

March 1997: Kaprealian Engineering Inc. (KEI) collected soil and grab groundwater samples during underground storage tank (UST) and product line replacement activities. A groundwater sample collected from the former gasoline UST excavation contained 6,100 parts per billion (ppb) total petroleum hydrocarbons as gasoline and 54 ppb benzene.

March 1998: Tosco was issued a Notice of Responsibility by the Alameda County Health Care Services (ACHCS).

December 2000: Gettler-Ryan Inc. installed three groundwater-monitoring wells to depths of 30 to 30.5 feet below ground surface (bgs). Groundwater samples contained low concentrations of total petroleum hydrocarbons as gasoline (TPH-g), benzene, and methyl tertiary butyl ether (MTBE).

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

## **SENSITIVE RECEPTORS**

April 24, 2006: TRC completed a sensitive receptor survey for the site. According to the Department of Water Resources (DWR) records, no water supply wells are located within a one-half mile radius of the site.

## **MONITORING AND SAMPLING**

Three onsite wells are currently monitored quarterly. All three wells were gauged and sampled this quarter. The groundwater flow direction is toward the southwest at a calculated hydraulic gradient of 0.01 feet per foot.

## **CHARACTERIZATION STATUS**

Total petroleum hydrocarbons as gasoline (TPH-g) were only detected in site well MW-1 at a concentration of 190 micrograms per liter ( $\mu\text{g}/\text{l}$ ).

Benzene was not detected above laboratory reporting limits in the three wells sampled.

MTBE was only detected in well MW-1 at a concentration of 18  $\mu\text{g}/\text{l}$ .

## **REMEDIATION STATUS**

Remediation is not currently being conducted at the site.

## **RECENT CORRESPONDENCE**

No correspondence this quarter.

## **CURRENT QUARTER ACTIVITIES**

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

## **CONCLUSIONS AND RECOMMENDATIONS**

Based on the low residual TPH-g and MTBE concentrations in groundwater in MW-1 and on the non-detect concentrations reported in site wells MW-2 and MW-3 over the past several years, and on the absence of any water supply wells within a one-half mile radius of the Site, TRC requested that the site be approved for no further action in January 2006.

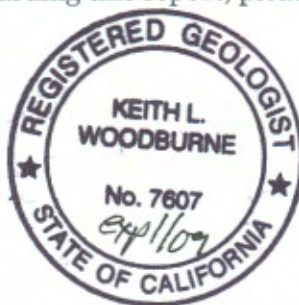
TRC requests a reply from the ACHCS regarding the January 2006 recommendation for no further action and closure review.

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

Sincerely,



Keith Woodburne, P.G.  
Senior Project Manager



Attachment:

Quarterly Monitoring Report, January through March 2007 (TRC, April 13, 2007)  
Historical Groundwater Flow Directions – October 2000 through March 2007

cc: Eric Hetrick, ConocoPhillips (electronic upload only)



21 Technology Drive  
Irvine, CA 92618

949.727.9336 PHONE  
949.727.7399 FAX

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DATE: April 13, 2007

TO: ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

ATTN: MR. ERIC HETRICK

SITE: 76 STATION 0018  
6201 CLAREMONT AVENUE  
OAKLAND, CALIFORNIA

RE: QUARTERLY MONITORING REPORT  
JANUARY THROUGH MARCH 2007

Dear Mr. Hetrick,

Please find enclosed our Quarterly Monitoring Report for 76 Station 0018, located at 6201 Claremont Avenue, 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 (4 copies)

Enclosures  
20-0400/0018R14.QMS

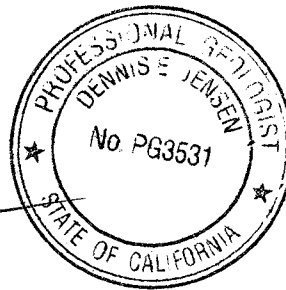
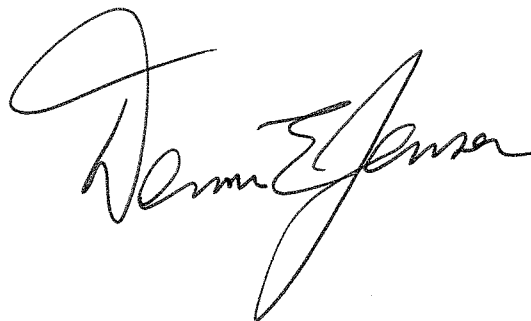
**QUARTERLY MONITORING REPORT  
JANUARY THROUGH MARCH 2007**

76 STATION 0018  
6201 Claremont Avenue  
Oakland, California

Prepared For:

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

By:



Senior Project Geologist, Irvine Operations  
April 12, 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 1a: Additional Current Analytical Results Table 2: Historic Fluid Levels and Selected Analytical Results Table 2a: Additional Historic Analytical Results
Figures	Figure 1: Vicinity Map Figure 2: Groundwater Elevation Contour Map Figure 3: Dissolved-Phase TPH-G (GC/MS) Concentration Map Figure 4: Dissolved-Phase Benzene Concentration Map Figure 5: Dissolved-Phase MTBE Concentration Map
Graphs	Groundwater Elevations vs. Time Benzene Concentrations vs. Time
Field Activities	General Field Procedures Field Monitoring Data Sheet – 03/28/07 Groundwater Sampling Field Notes – 03/28/07
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations

**Summary of Gauging and Sampling Activities**  
**January 2007 through March 2007**  
**76 Station 0018**  
**6201 Claremont Avenue**  
**Oakland, CA**

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Project Coordinator: **Eric Hetrick**                      Water Sampling Contractor: **TRC**  
Telephone: **916-558-7604**                      Compiled by: **Christina Carrillo**  
Date(s) of Gauging/Sampling Event: **03/28/07**

**Sample Points**

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Groundwater wells:        **3** onsite,    **0** offsite        Wells gauged: **3**        Wells sampled: **3**  
Purging method: **Diaphragm pump**  
Purge water disposal: **Onyx/Rodeo Unit 100**  
Other Sample Points: **0**        Type: **n/a**

**Liquid Phase Hydrocarbons (LPH)**

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Wells with LPH: **0**        Maximum thickness (feet): **n/a**  
LPH removal frequency: **n/a**                      Method: **n/a**  
Treatment or disposal of water/LPH: **n/a**

**Hydrogeologic Parameters**

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Depth to groundwater (below TOC):        Minimum: **18.4 feet**                      Maximum: **19.6 feet**  
Average groundwater elevation (relative to available local datum): **190.27 feet**  
Average change in groundwater elevation since previous event: **0.40 feet**  
Interpreted groundwater gradient and flow direction:  
Current event: **0.01 ft/ft, southwest**  
Previous event: **0.01 ft/ft, southwest (12/22/06)**

**Selected Laboratory Results**

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Wells with detected **Benzene**:    **0**                      Wells above MCL (1.0 µg/l): **n/a**  
Maximum reported benzene concentration: **n/a**  
  
Wells with **TPH-G by GC/MS**    **1**                      Maximum: **190 µg/l (MW-1)**  
Wells with **MTBE 8260B**        **1**                      Maximum: **18 µg/l (MW-1)**

**Notes:**

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# TABLES

## TABLE KEY

### STANDARD ABBREVIATIONS

--	=	not analyzed, measured, or collected
LPH	=	liquid-phase hydrocarbons
Trace	=	less than 0.01 foot of LPH in well
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 76 Station 0018 in October 2003. Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

## Contents of Tables 1 and 2

### Site: 76 Station 0018

#### Current Event

Table 1	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
Table 1a	Well/ Date	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME						

#### Historic Data

Table 2	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
Table 2a	Well/ Date	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME						

**Table 1**  
**CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**March 28, 2007**  
**76 Station 0018**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-1</b>		<b>(Screen Interval in feet: 10.0-30.0)</b>												
03/28/07	208.15	18.40	0.00	189.75	0.28	--	190	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	18	
<b>MW-2</b>		<b>(Screen Interval in feet: 10.0-30.0)</b>												
03/28/07	210.27	19.60	0.00	190.67	0.41	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
<b>MW-3</b>		<b>(Screen Interval in feet: 10.0-30.0)</b>												
03/28/07	208.98	18.60	0.00	190.38	0.50	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	

**Table 1 a**  
**ADDITIONAL CURRENT ANALYTICAL RESULTS**  
**76 Station 0018**

Date Sampled	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
<b>MW-1</b>							
03/28/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-2</b>							
03/28/07	--	ND<250	--	--	--	--	--
<b>MW-3</b>							
03/28/07	--	ND<250	--	--	--	--	--

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**August 2000 Through March 2007**  
**76 Station 0018**

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
(feet)	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
<b>MW-1 (Screen Interval in feet: 10.0-30.0)</b>														
08/24/00	208.15	18.55	0.00	189.60	--	120	--	0.67	ND	0.86	1.4	54	54	
11/16/00	208.15	20.30	0.00	187.85	-1.75	169	--	ND	1.20	1.74	0.629	68.6	97.7	
02/09/01	208.15	20.16	0.00	187.99	0.14	330	--	1.3	ND	1.0	4.6	140	150	
05/11/01	208.15	17.68	0.00	190.47	2.48	1250	--	ND	ND	ND	ND	145	122	
08/10/01	208.15	20.38	0.00	187.77	-2.70	580	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	110	150	
11/07/01	208.15	22.68	0.00	185.47	-2.30	250	--	ND<0.50	1.5	ND<0.50	ND<0.50	120	100	
02/06/02	208.15	16.20	0.00	191.95	6.48	790	--	ND<2.5	12	8.8	ND<2.5	90	72	
05/08/02	208.15	17.54	0.00	190.61	-1.34	890	--	ND<2.5	ND<2.5	ND<2.5	ND<2.5	78	81	
08/09/02	208.15	20.21	0.00	187.94	-2.67	--	450	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	100	
11/29/02	208.15	22.33	0.00	185.82	-2.12	--	110	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	72	
02/03/03	208.15	16.41	0.00	191.74	5.92	--	540	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	40	
05/05/03	208.15	16.09	0.00	192.06	0.32	--	670	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	57	
09/04/03	208.15	21.46	0.00	186.69	-5.37	--	--	--	--	--	--	--	--	No analysis; past holding time
11/13/03	208.15	21.52	0.00	186.63	-0.06	--	97	ND<0.50	5.0	0.82	3.5	--	29	
01/29/04	208.15	17.51	0.00	190.64	4.01	--	520	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	44	
05/07/04	208.15	16.74	0.00	191.41	0.77	--	180	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	25	
08/27/04	208.15	19.40	0.00	188.75	-2.66	--	100	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	21	
11/23/04	208.15	19.82	0.00	188.33	-0.42	--	410	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	45	
02/09/05	208.15	15.81	0.00	192.34	4.01	--	5700	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	40	
06/16/05	208.15	15.85	0.00	192.30	-0.04	--	200	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	24	
09/27/05	208.15	19.15	0.00	189.00	-3.30	--	300	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	19	
12/30/05	208.15	14.62	0.00	193.53	4.53	--	68	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	12	
03/08/06	208.15	11.69	0.00	196.46	2.93	--	130	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	21	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**August 2000 Through March 2007**  
**76 Station 0018**

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)	TPH-G (GC/MS) (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>														
06/08/06	208.15	14.28	0.00	193.87	-2.59	--	66	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	16	
09/15/06	208.15	17.49	0.00	190.66	-3.21	--	96	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	6.1	
12/22/06	208.15	18.68	0.00	189.47	-1.19	--	570	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	18	
03/28/07	208.15	18.40	0.00	189.75	0.28	--	190	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	18	
<b>MW-2 (Screen Interval in feet: 10.0-30.0)</b>														
08/24/00	210.27	19.69	0.00	190.58	--	ND	--	ND	ND	ND	ND	ND	ND	
11/16/00	210.27	21.61	0.00	188.66	-1.92	ND	--	ND	ND	ND	ND	ND	ND	
02/09/01	210.27	21.52	0.00	188.75	0.09	ND	--	ND	ND	ND	ND	ND	ND	
05/11/01	210.27	18.76	0.00	191.51	2.76	ND	--	ND	ND	ND	ND	ND	ND	
08/10/01	210.27	21.65	0.00	188.62	-2.89	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<2.0	
11/07/01	210.27	24.25	0.00	186.02	-2.60	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	
02/06/02	210.27	18.22	0.00	192.05	6.03	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
05/08/02	210.27	18.63	0.00	191.64	-0.41	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
08/09/02	210.27	21.53	0.00	188.74	-2.90	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
11/29/02	210.27	23.73	0.00	186.54	-2.20	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
02/03/03	210.27	17.43	0.00	192.84	6.30	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
05/05/03	210.27	17.15	0.00	193.12	0.28	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
09/04/03	210.27	22.75	0.00	187.52	-5.60	--	--	--	--	--	--	--	--	No analysis; past holding time
11/13/03	210.27	23.02	0.00	187.25	-0.27	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
01/29/04	210.27	18.73	0.00	191.54	4.29	--	ND<50	0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
05/07/04	210.27	17.79	0.00	192.48	0.94	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
08/27/04	210.27	19.66	0.00	190.61	-1.87	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/23/04	210.27	21.20	0.00	189.07	-1.54	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
02/09/05	210.27	16.72	0.00	193.55	4.48	--	ND<50	0.69	1.5	ND<0.50	1.4	--	ND<0.50	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**August 2000 Through March 2007**  
**76 Station 0018**

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)	TPH-G (GC/MS) (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>														
06/16/05	210.27	16.73	0.00	193.54	-0.01	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
09/27/05	210.27	20.41	0.00	189.86	-3.68	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/30/05	210.27	14.79	0.00	195.48	5.62	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
03/08/06	210.27	13.25	0.00	197.02	1.54	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
06/08/06	210.27	15.36	0.00	194.91	-2.11	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
09/15/06	210.27	18.61	0.00	191.66	-3.25	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
12/22/06	210.27	20.01	0.00	190.26	-1.40	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
03/28/07	210.27	19.60	0.00	190.67	0.41	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
<b>MW-3 (Screen Interval in feet: 10.0-30.0)</b>														
08/24/00	208.98	18.68	0.00	190.30	--	ND	--	ND	ND	ND	ND	4.7	2.3	
11/16/00	208.98	20.56	0.00	188.42	-1.88	ND	--	ND	ND	ND	ND	ND	ND	
02/09/01	208.98	20.45	0.00	188.53	0.11	ND	--	ND	ND	ND	ND	ND	ND	
05/11/01	208.98	17.75	0.00	191.23	2.70	ND	--	ND	ND	ND	ND	ND	ND	
08/10/01	208.98	20.70	0.00	188.28	-2.95	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<2.0	
11/07/01	208.98	23.02	0.00	185.96	-2.32	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	1.5	
02/06/02	208.98	17.19	0.00	191.79	5.83	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
05/08/02	208.98	17.59	0.00	191.39	-0.40	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
08/09/02	208.98	20.48	0.00	188.50	-2.89	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
11/29/02	208.98	22.64	0.00	186.34	-2.16	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
02/03/03	208.98	16.46	0.00	192.52	6.18	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
05/05/03	208.98	16.16	0.00	192.82	0.30	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.6	
09/04/03	208.98	21.71	0.00	187.27	-5.55	--	--	--	--	--	--	--	--	No analysis; past holding time
11/13/03	208.98	21.93	0.00	187.05	-0.22	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
01/29/04	208.98	17.79	0.00	191.19	4.14	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	



**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**August 2000 Through March 2007**  
**76 Station 0018**

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)	TPH-G (GC/MS) (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>														
05/07/04	208.98	16.79	0.00	192.19	1.00	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.55	
08/27/04	208.98	19.70	0.00	189.28	-2.91	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/23/04	208.98	20.30	0.00	188.68	-0.60	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
02/09/05	208.98	15.72	0.00	193.26	4.58	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.6	
06/16/05	208.98	15.67	0.00	193.31	0.05	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
09/30/05	208.98	19.47	0.00	189.51	-3.80	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	9/27/05 samples broke during shipment.
12/30/05	208.98	15.84	0.00	193.14	3.63	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
03/08/06	208.98	12.06	0.00	196.92	3.78	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
06/08/06	208.98	13.82	0.00	195.16	-1.76	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
09/15/06	208.98	17.67	0.00	191.31	-3.85	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	3.4	
12/22/06	208.98	19.10	0.00	189.88	-1.43	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
03/28/07	208.98	18.60	0.00	190.38	0.50	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 0018**

Date Sampled	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
<b>MW-1</b>							
08/24/00	ND	ND	--	--	ND	ND	ND
11/16/00	ND	ND	--	--	ND	ND	ND
02/09/01	ND	ND	ND	ND	ND	ND	ND
05/11/01	ND	ND	ND	ND	ND	ND	ND
08/10/01	ND<100	ND<1000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
11/07/01	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
02/06/02	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
05/08/02	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
08/09/02	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
11/29/02	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
02/03/03	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
05/05/03	ND<500	ND<2500	ND<10	ND<10	ND<10	ND<10	ND<10
11/13/03	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
01/29/04	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
05/07/04	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
08/27/04	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
11/23/04	7.5	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
02/09/05	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
06/16/05	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/27/05	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/30/05	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
03/08/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
06/08/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/15/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/22/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
03/28/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 0018**

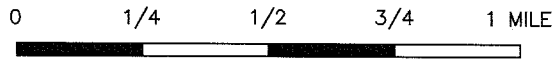
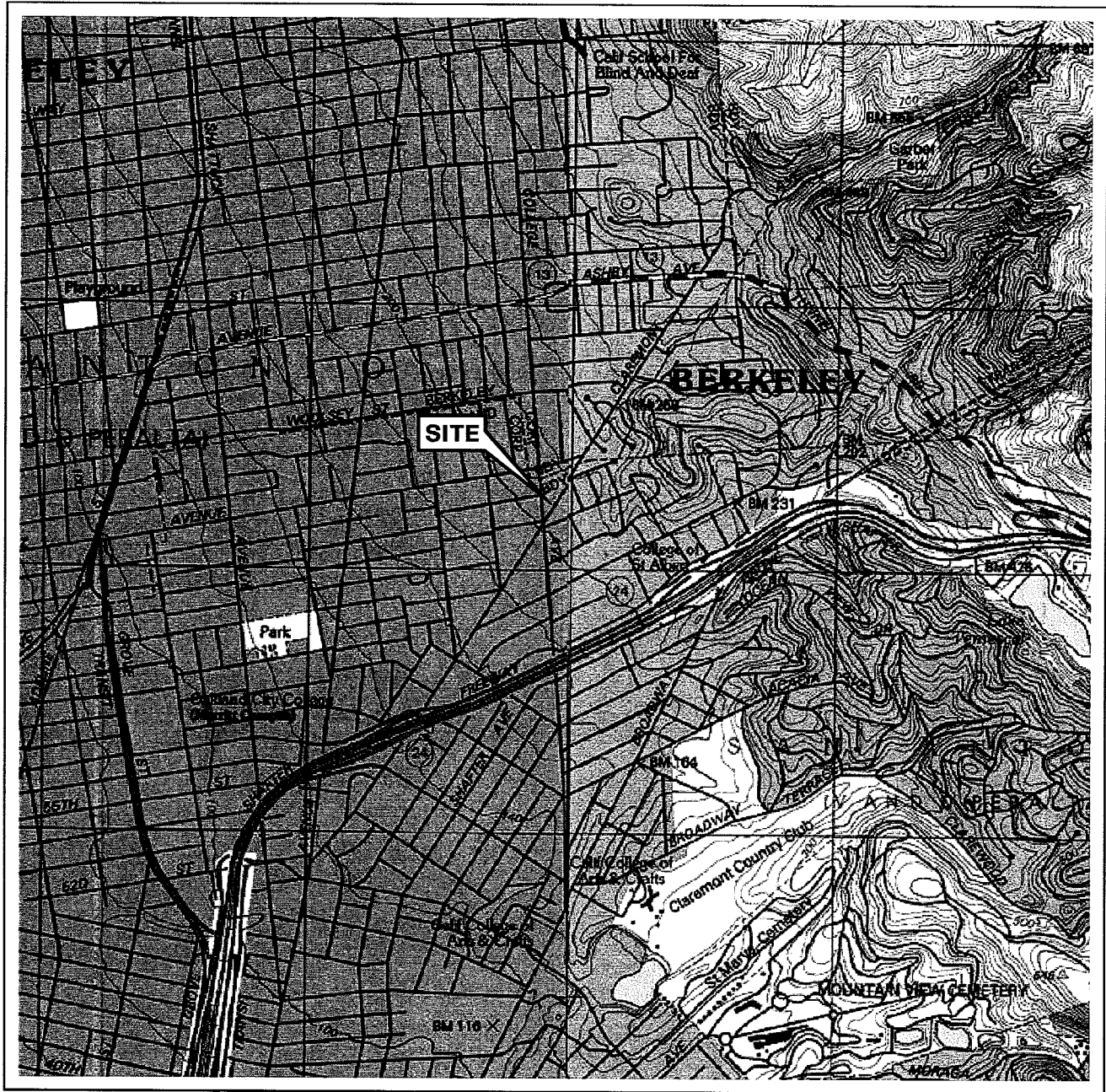
Date Sampled	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
<b>MW-2</b>							
08/24/00	ND	ND	--	--	ND	ND	ND
11/16/00	ND	ND	--	--	ND	ND	ND
02/09/01	ND	ND	ND	ND	ND	ND	ND
05/11/01	ND	ND	ND	ND	ND	ND	ND
08/10/01	ND<100	ND<1000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
11/07/01	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
11/13/03	--	ND<500	--	--	--	--	--
01/29/04	--	ND<500	--	--	--	--	--
05/07/04	--	ND<50	--	--	--	--	--
08/27/04	--	ND<50	--	--	--	--	--
11/23/04	--	ND<50	--	--	--	--	--
02/09/05	--	ND<50	--	--	--	--	--
06/16/05	--	ND<50	--	--	--	--	--
09/27/05	--	ND<250	--	--	--	--	--
12/30/05	--	ND<250	--	--	--	--	--
03/08/06	--	ND<250	--	--	--	--	--
06/08/06	--	ND<250	--	--	--	--	--
09/15/06	--	ND<250	--	--	--	--	--
12/22/06	--	ND<250	--	--	--	--	--
03/28/07	--	ND<250	--	--	--	--	--
<b>MW-3</b>							
08/24/00	ND	ND	--	--	ND	ND	ND
11/16/00	ND	ND	--	--	ND	ND	ND
02/09/01	ND	ND	ND	ND	ND	ND	ND
05/11/01	ND	ND	ND	ND	ND	ND	ND
08/10/01	ND<100	ND<1000000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0

**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 0018**

Date Sampled	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
<b>MW-3 continued</b>							
11/07/01	ND<20	ND<500000	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
08/09/02	--	--	ND	ND	--	--	--
11/29/02	--	--	ND	ND	--	--	--
02/03/03	--	--	ND<2.0	ND<2.0	--	--	--
05/05/03	--	--	ND<1.0	ND<1.0	--	--	--
11/13/03	--	ND<500	--	--	--	--	--
01/29/04	--	ND<500	--	--	--	--	--
05/07/04	--	ND<50	--	--	--	--	--
08/27/04	--	ND<50	--	--	--	--	--
11/23/04	--	ND<50	--	--	--	--	--
02/09/05	--	ND<50	--	--	--	--	--
06/16/05	--	ND<50	--	--	--	--	--
09/30/05	--	ND<250	--	--	--	--	--
12/30/05	--	ND<250	--	--	--	--	--
03/08/06	--	ND<250	--	--	--	--	--
06/08/06	--	ND<250	--	--	--	--	--
09/15/06	--	ND<250	--	--	--	--	--
12/22/06	--	ND<250	--	--	--	--	--
03/28/07	--	ND<250	--	--	--	--	--

# FIGURES

PS = 1:1 L:\QMS V.I.C.I.N.I.T.Y. M.A.P.S\0018\WM.DWG Apr 09, 2007 - 9:29am bschmidt



SCALE 1:24,000

**SOURCE:**

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

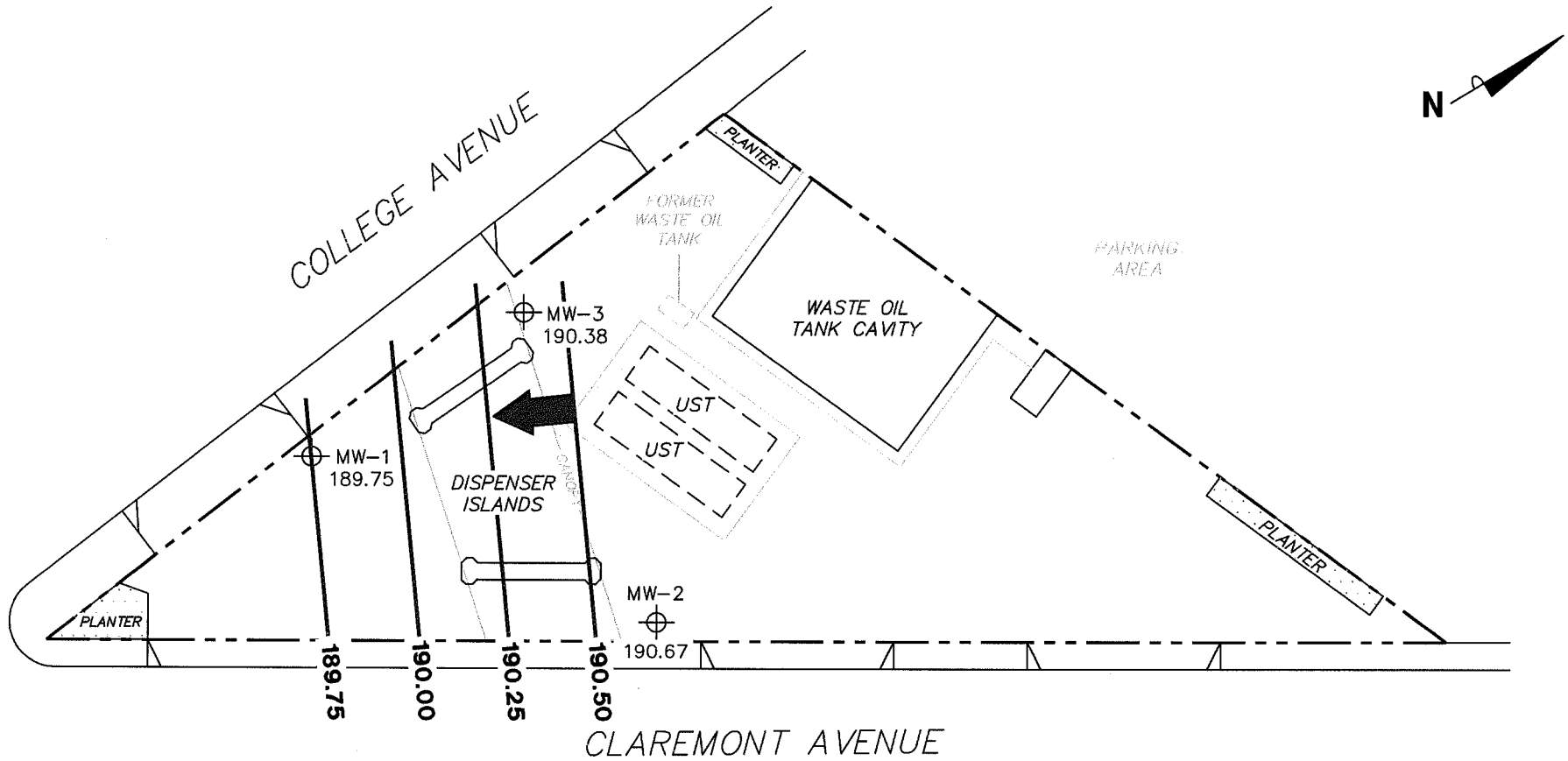


**VICINITY MAP**

76 Station 0018  
6201 Claremont Avenue  
Oakland, California



**FIGURE 1**



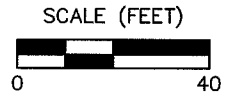
**LEGEND**

- MW-3 ⊕ Monitoring Well with Groundwater Elevation (feet)
- 190.50 — Groundwater Elevation Contour
- ➔ General Direction of Groundwater Flow

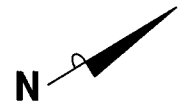
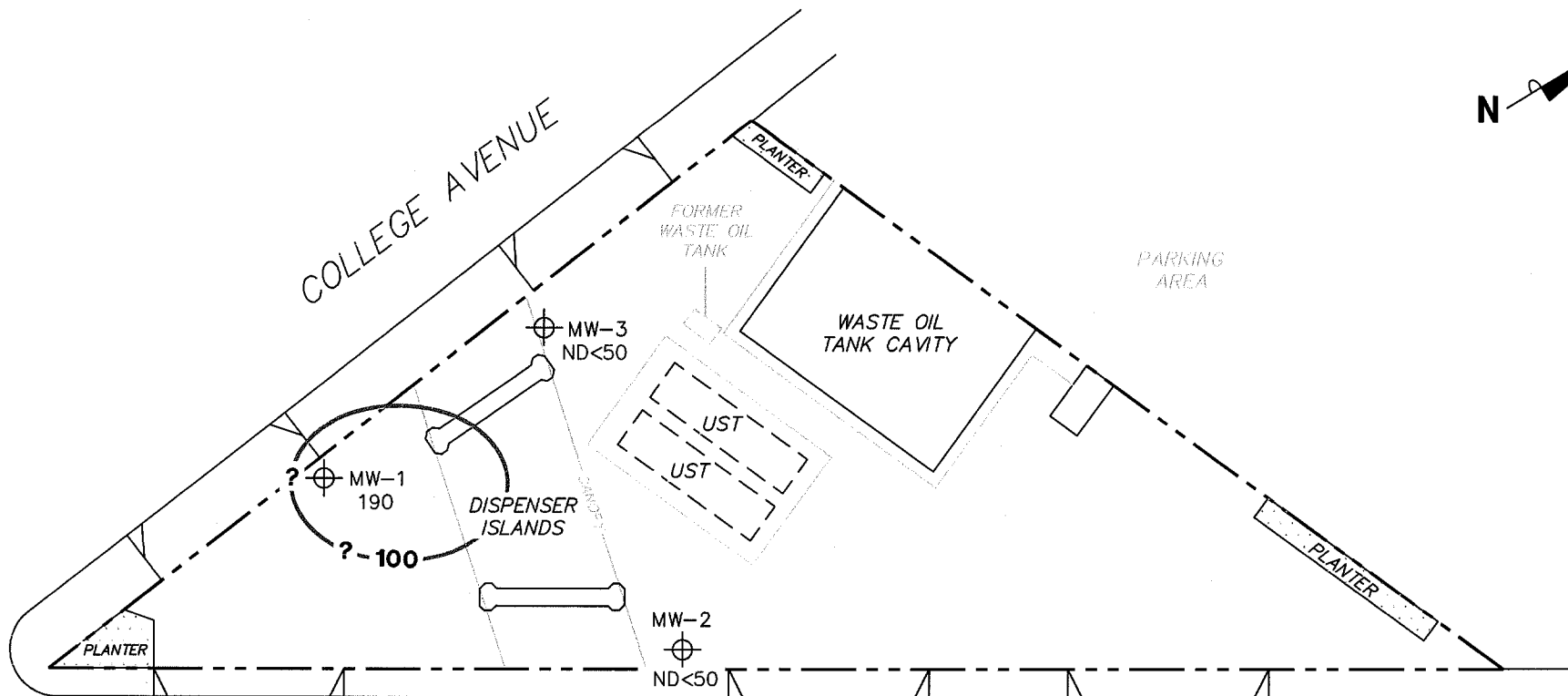
**NOTES:**  
 Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. UST = underground storage tank.

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

76 Station 0018  
 6201 Claremont Avenue  
 Oakland, California



**FIGURE 2**



CLAREMONT AVENUE

**LEGEND**

MW-3 ⊕ Monitoring Well with Dissolved-Phase TPH-G (GC/MS) Concentration (µg/l)

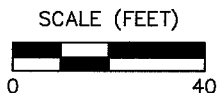
—100— Dissolved-Phase TPH-G (GC/MS) Contour (µg/l)

**NOTES:**

Contour lines are interpretive and based on laboratory analysis results of groundwater samples. TPH-G (GC/MS) = total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B. µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. UST = underground storage tank.

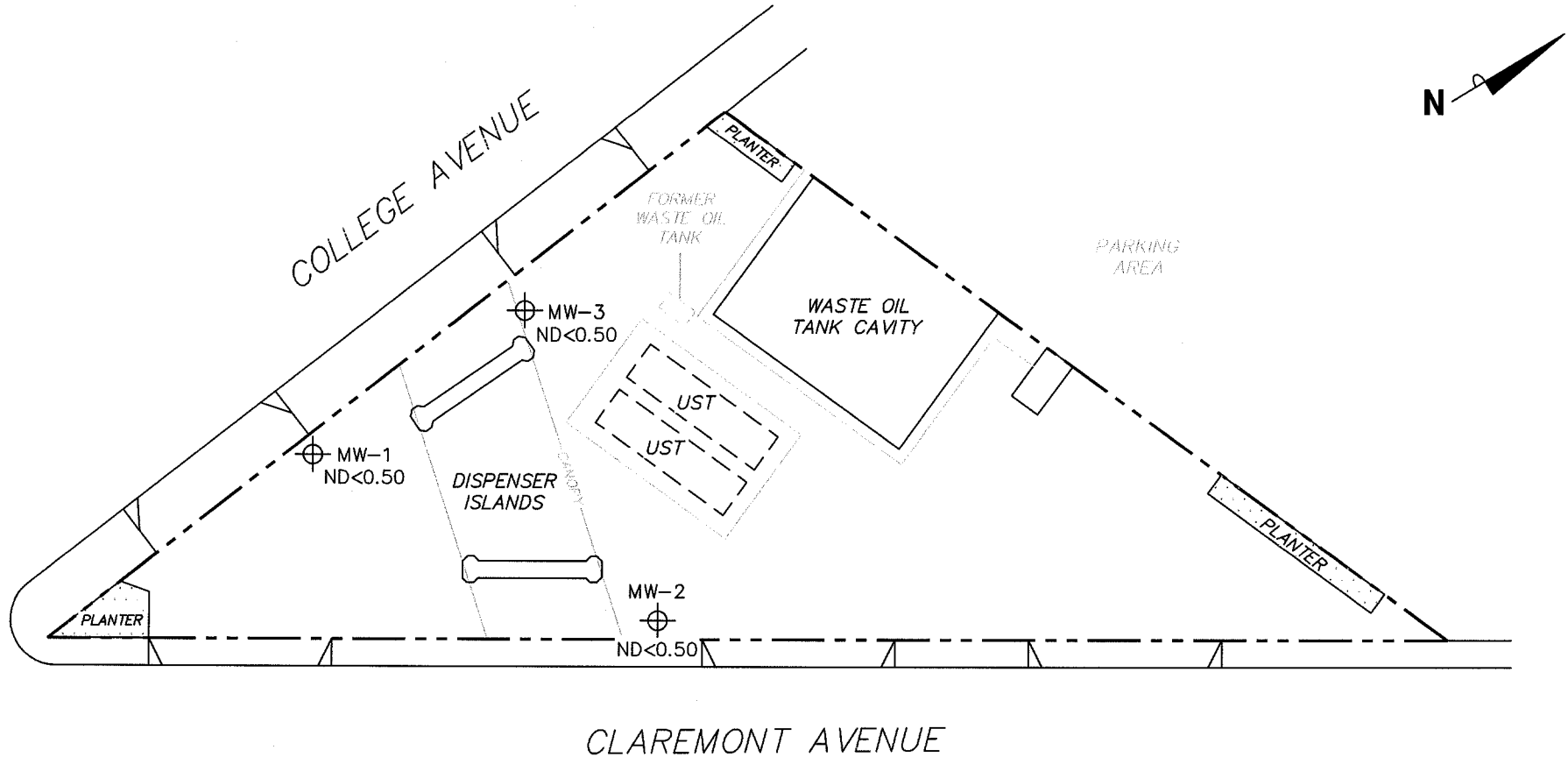
**DISSOLVED-PHASE  
TPH-G (GC/MS)  
CONCENTRATIONS MAP  
March 28, 2007**

76 Station 0018  
6201 Claremont Avenue  
Oakland, California



**FIGURE 3**





**LEGEND**

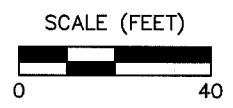
MW-3 ⊕ Monitoring Well with Dissolved-Phase Benzene Concentration ( $\mu\text{g}/\text{l}$ )

**NOTES:**

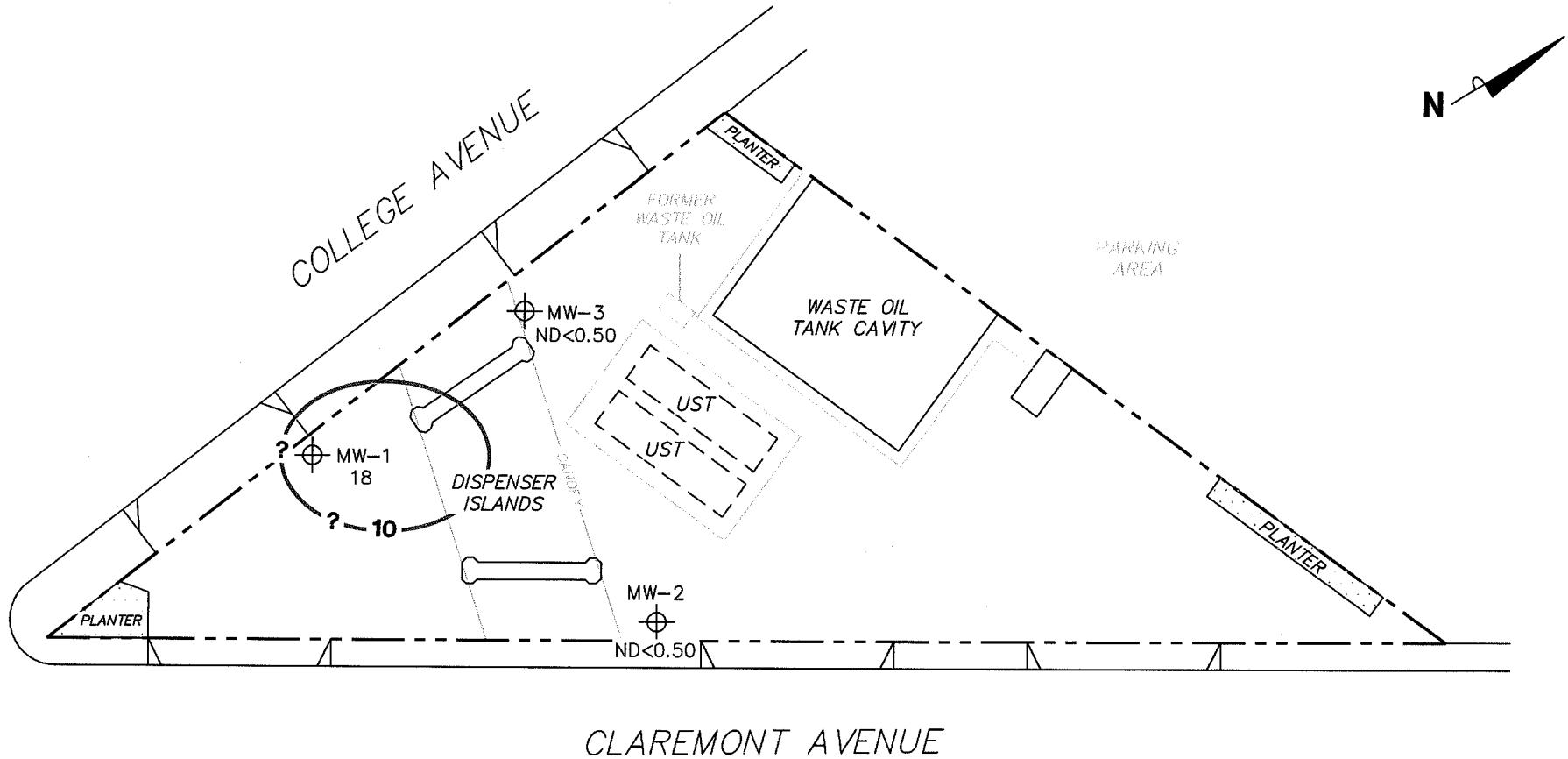
$\mu\text{g}/\text{l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
UST = underground storage tank.

**DISSOLVED-PHASE BENZENE CONCENTRATIONS MAP**  
**March 28, 2007**

76 Station 0018  
6201 Claremont Avenue  
Oakland, California



**FIGURE 4**



**LEGEND**

MW-3 ⊕ Monitoring Well with Dissolved-Phase MTBE Concentration ( $\mu\text{g/l}$ )

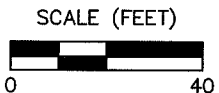
—10— Dissolved-Phase MTBE Contour ( $\mu\text{g/l}$ )

**NOTES:**

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

**DISSOLVED-PHASE MTBE CONCENTRATIONS MAP**  
**March 28, 2007**

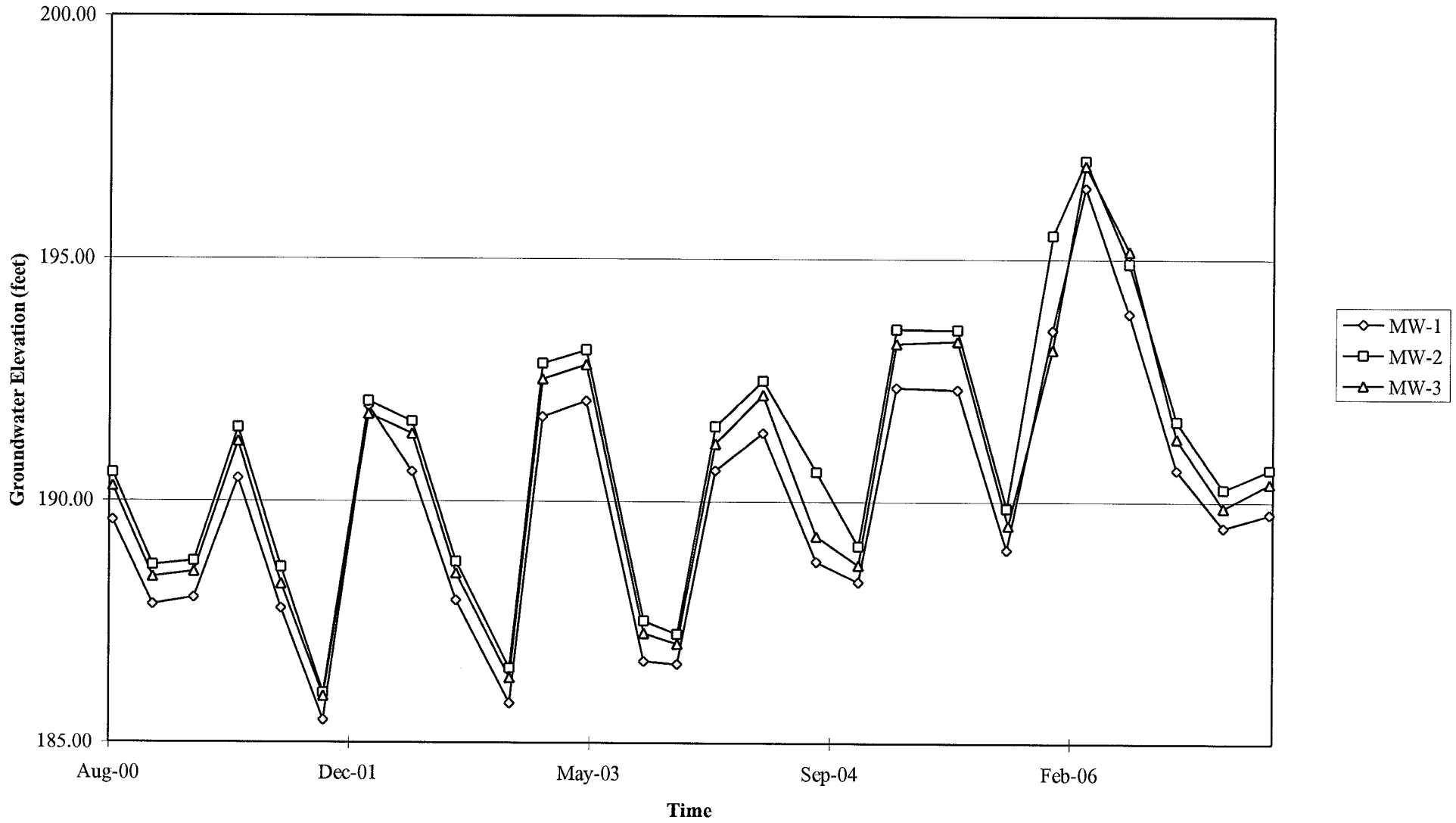
76 Station 0018  
 6201 Claremont Avenue  
 Oakland, California



**FIGURE 5**

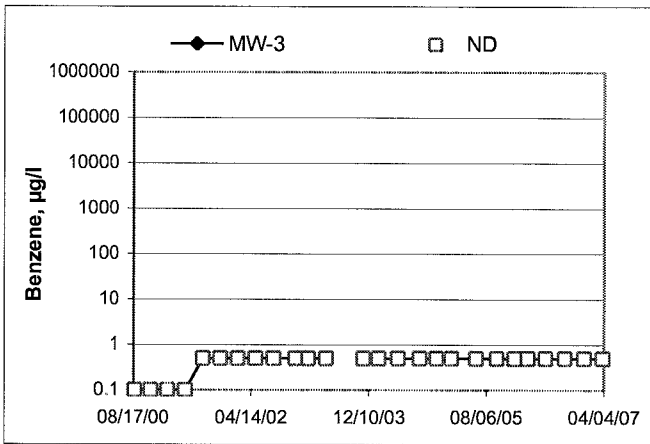
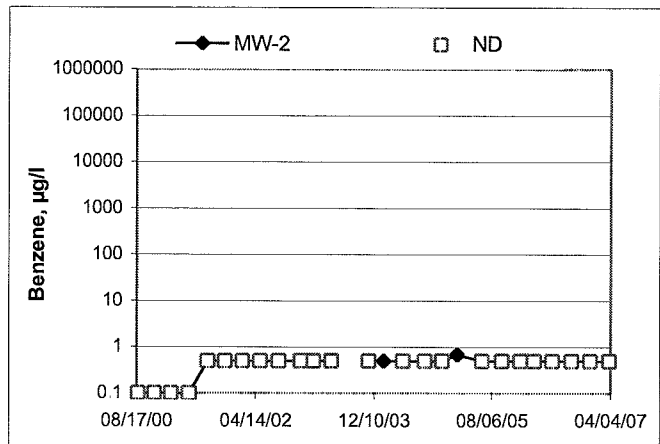
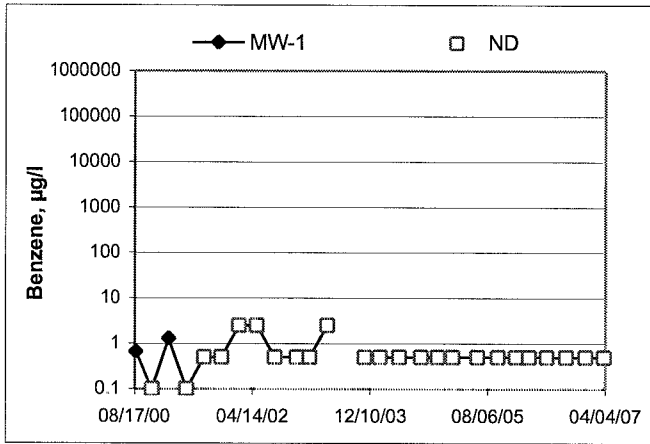
# GRAPHS

Groundwater Elevations vs. Time  
76 Station 0018



Elevations may have been corrected for apparent changes due to resurvey

Benzene Concentrations vs Time  
76 Station 0018



# GENERAL FIELD PROCEDURES

## **Groundwater Monitoring and Sampling Assignments**

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

## **Fluid Level Measurements**

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

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

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

## **Purging and Groundwater Parameter Measurement**

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

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

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

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

## **Groundwater Sample Collection**

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

Samples are collected by lowering a new, disposable, 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: chris

Site: 0018

Project No.: 41060001

Date: 3-28-07

Well No. MW-3

Purge Method: DIA

Depth to Water (feet): 18.60

Depth to Product (feet): —

Total Depth (feet): 30.17

LPH & Water Recovered (gallons): —

Water Column (feet): 11.57

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 29.91

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F °C)	pH	D.O.	ORP	Turbidity
0622			2	443	14.7	6.51			
			4	455	15.7	6.51			
	0625		6	468	16.2	6.47			
Static at Time Sampled			Total Gallons Purged		Sample Time				
21.23			6		0628				
Comments:									

Well No. MW-1

Purge Method: DIA

Depth to Water (feet): 18.40

Depth to Product (feet): —

Total Depth (feet): 29.99

LPH & Water Recovered (gallons): —

Water Column (feet): 11.59

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 20.71

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F °C)	pH	D.O.	ORP	Turbidity
0636			2	592	16.1	6.54			
			4	642	17.1	6.59			
	0639		6	645	17.6	6.55			
Static at Time Sampled			Total Gallons Purged		Sample Time				
20.68			6		0644				
Comments:									

# GROUNDWATER SAMPLING FIELD NOTES

Technician: Chris

Site: 0018

Project No.: 41060001

Date: 3-28-07

Well No. MW-2

Purge Method: DIA

Depth to Water (feet): 19.60

Depth to Product (feet): —

Total Depth (feet): 29.52

LPH & Water Recovered (gallons): —

Water Column (feet): 9.92

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 21.58

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
0652			2	437	16.4	6.59			
			4	432	17.0	6.54			
	0655		6	438	17.3	6.51			
Static at Time Sampled			Total Gallons Purged		Sample Time				
19.81			6		0658				
Comments:									

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

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

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

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

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

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

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

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

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

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

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



LABORATORIES, INC.

Date of Report: 04/06/2007

Anju Farfan

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

RE: 0018

BC Work Order: 0703668

Enclosed are the results of analyses for samples received by the laboratory on 03/28/2007 21:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Hooker  
Client Service Rep

Authorized Signature



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

Project: 0018  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 04/06/2007 13:10

### 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:
0703668-01	COC Number:	---		03/28/2007 21:40	03/28/2007 06:28	---	Water		T0600102231	W	CS	
	Project Number:	0018										
	Sampling Location:	MW-3										
	Sampling Point:	MW-3										
	Sampled By:	Chris of TRCI										
0703668-02	COC Number:	---		03/28/2007 21:40	03/28/2007 06:58	---	Water		T0600102231	W	CS	
	Project Number:	0018										
	Sampling Location:	MW-2										
	Sampling Point:	MW-2										
	Sampled By:	Chris of TRCI										
0703668-03	COC Number:	---		03/28/2007 21:40	03/28/2007 06:44	---	Water		T0600102231	W	CS	
	Project Number:	0018										
	Sampling Location:	MW-1										
	Sampling Point:	MW-1										
	Sampled By:	Chris of TRCI										

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

Project: 0018  
 Project Number: [none]  
 Project Manager: Anju Farfan

Reported: 04/06/2007 13:10

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0703668-01		Client Sample Name: 0018, MW-3, MW-3, 3/28/2007 6:28:00AM, Chris											
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053	ND	
Toluene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053	ND	
Ethanol	ND	ug/L	250		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053	ND	
1,2-Dichloroethane-d4 (Surrogate)	97.1	%	76 - 114 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053		
Toluene-d8 (Surrogate)	97.9	%	88 - 110 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053		
4-Bromofluorobenzene (Surrogate)	104	%	86 - 115 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 14:57	SDU	MS-V10	1	BQD0053		

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

 Project: 0018  
 Project Number: [none]  
 Project Manager: Anju Farfan

Reported: 04/06/2007 13:10

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0703668-02		Client Sample Name:	0018, MW-2, MW-2, 3/28/2007 6:58:00AM, Chris									
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053	ND	
Toluene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053	ND	
Ethanol	ND	ug/L	250		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053	ND	
1,2-Dichloroethane-d4 (Surrogate)	99.8	%	76 - 114 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053		
Toluene-d8 (Surrogate)	96.1	%	88 - 110 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053		
4-Bromofluorobenzene (Surrogate)	100	%	86 - 115 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 15:21	SDU	MS-V10	1	BQD0053		

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

 Project: 0018  
 Project Number: [none]  
 Project Manager: Anju Farfan

Reported: 04/06/2007 13:10

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0703668-03		Client Sample Name:	0018, MW-1, MW-1, 3/28/2007 6:44:00AM, Chris									
Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
Methyl t-butyl ether	18	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
Toluene	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
Ethanol	ND	ug/L	250		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
Total Purgeable Petroleum Hydrocarbons	190	ug/L	50		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053	ND	
1,2-Dichloroethane-d4 (Surrogate)	99.3	%	76 - 114 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053		
Toluene-d8 (Surrogate)	96.8	%	88 - 110 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053		
4-Bromofluorobenzene (Surrogate)	105	%	86 - 115 (LCL - UCL)		EPA-8260	04/02/07	04/04/07 11:59	SDU	MS-V10	1	BQD0053		

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

 Project: 0018  
 Project Number: [none]  
 Project Manager: Anju Farfan

Reported: 04/06/2007 13:10

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		
									Percent Recovery	RPD	Percent Recovery Lab Quals
Benzene	BQD0053	Matrix Spike	0703650-02	0.11000	23.370	25.000	ug/L		93.0		70 - 130
		Matrix Spike Duplicate	0703650-02	0.11000	23.460	25.000	ug/L	0.4	93.4	20	70 - 130
Toluene	BQD0053	Matrix Spike	0703650-02	0.32000	25.090	25.000	ug/L		99.1		70 - 130
		Matrix Spike Duplicate	0703650-02	0.32000	25.130	25.000	ug/L	0.1	99.2	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BQD0053	Matrix Spike	0703650-02	ND	9.8700	10.000	ug/L		98.7		76 - 114
		Matrix Spike Duplicate	0703650-02	ND	9.9800	10.000	ug/L		99.8		76 - 114
Toluene-d8 (Surrogate)	BQD0053	Matrix Spike	0703650-02	ND	9.7900	10.000	ug/L		97.9		88 - 110
		Matrix Spike Duplicate	0703650-02	ND	9.7800	10.000	ug/L		97.8		88 - 110
4-Bromofluorobenzene (Surrogate)	BQD0053	Matrix Spike	0703650-02	ND	10.220	10.000	ug/L		102		86 - 115
		Matrix Spike Duplicate	0703650-02	ND	9.9600	10.000	ug/L		99.6		86 - 115



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

Project: 0018  
 Project Number: [none]  
 Project Manager: Anju Farfan

Reported: 04/06/2007 13:10

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits		Lab Quals
										Percent Recovery	RPD	
Benzene	BQD0053	BQD0053-BS1	LCS	22.900	25.000	0.50	ug/L	91.6		70 - 130		
Toluene	BQD0053	BQD0053-BS1	LCS	26.280	25.000	0.50	ug/L	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BQD0053	BQD0053-BS1	LCS	9.6700	10.000		ug/L	96.7		76 - 114		
Toluene-d8 (Surrogate)	BQD0053	BQD0053-BS1	LCS	10.330	10.000		ug/L	103		88 - 110		
4-Bromofluorobenzene (Surrogate)	BQD0053	BQD0053-BS1	LCS	10.360	10.000		ug/L	104		86 - 115		

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

Project: 0018  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 04/06/2007 13:10

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
Ethylbenzene	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
Toluene	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
Total Xylenes	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
t-Amyl Methyl ether	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BQD0053	BQD0053-BLK1	ND	ug/L	10		
Diisopropyl ether	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
Ethanol	BQD0053	BQD0053-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BQD0053	BQD0053-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons	BQD0053	BQD0053-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BQD0053	BQD0053-BLK1	99.1	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BQD0053	BQD0053-BLK1	98.0	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BQD0053	BQD0053-BLK1	103	%	86 - 115 (LCL - UCL)		

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

Project: 0018  
Project Number: [none]  
Project Manager: Anju Farfan

Reported: 04/06/2007 13:10

### 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

Submission #: 07-03668

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: 01W  
Temperature: 2.7 °C  
Thermometer ID: 48

Emissivity: 0.98  
Container: QTA

Date/Time: 3/27/07  
Analyst Init: AMC

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 IOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A	3	A	3	(	(	(	(	(	(
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT QA/QC										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments: Sample Numbering Completed By: OTO Date/Time: 3/29/07 (200)

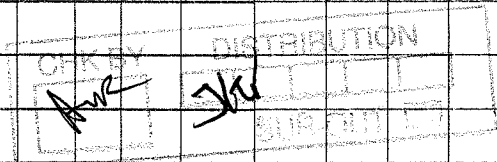
**BC LABORATORIES, INC.**

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

**CHAIN OF CUSTODY**

**07-03668 Analysis Requested**

Bill to: Conoco Phillips/ TRC		Consultant Firm: TRC		MATRIX (GW) Ground-water (S) Soil (WW) Waste-water (SL) Sludge	BTEX/MTBE by 8021B, Gas by 8015	TPH GAS by 8015M	TPH DIESEL by 8015	8260 full list w/ oxygenates	BTEX/MTBE/OXYS BY 8260B	ETHANOL by 8260B	TPH -G by GC/MS	BTEX/MTBE by 8260B	EDC/EPB by 8260B	Turnaround Time Requested
Address: 6201 claremont Blvd		21 Techology Drive Irvine, CA 92618-2302 Attn: Anju Farfan												
City: oakland		4-digit site#: 0018												
State: CA Zip:		Workorder # 0062-4506898713												
Conoco Phillips Mgr: shelby Lathrop		Project #: 41060001												
Lab#		Sample Description		Field Point Name		Date & Time Sampled								
	-1	MW-3		03-28-07 0628		GW								
	-2	MW-3		0658		↓								
	-3	MW-1		0644		↓								



Comments:  GLOBAL ID: T0600102231	Relinquished by: (Signature) <i>Chris Miller</i>	Received by: Refrigerator	Date & Time 03-28-07 1320
	Relinquished by: (Signature) <i>Chris Miller</i>	Received by: Ross Wickey	Date & Time 03-28-07 1420
	Relinquished by: (Signature) Ross Wickey 3/28/07	Received by: R. Ruyund	Date & Time 3-28-07 1650

(A) = ANALYSIS      (C) = CONTAINER      (P) = PRESERVATIVE

R. Ruyund 3-28-07 2140      Terri Obaku 3/28/07 2140

## **STATEMENTS**

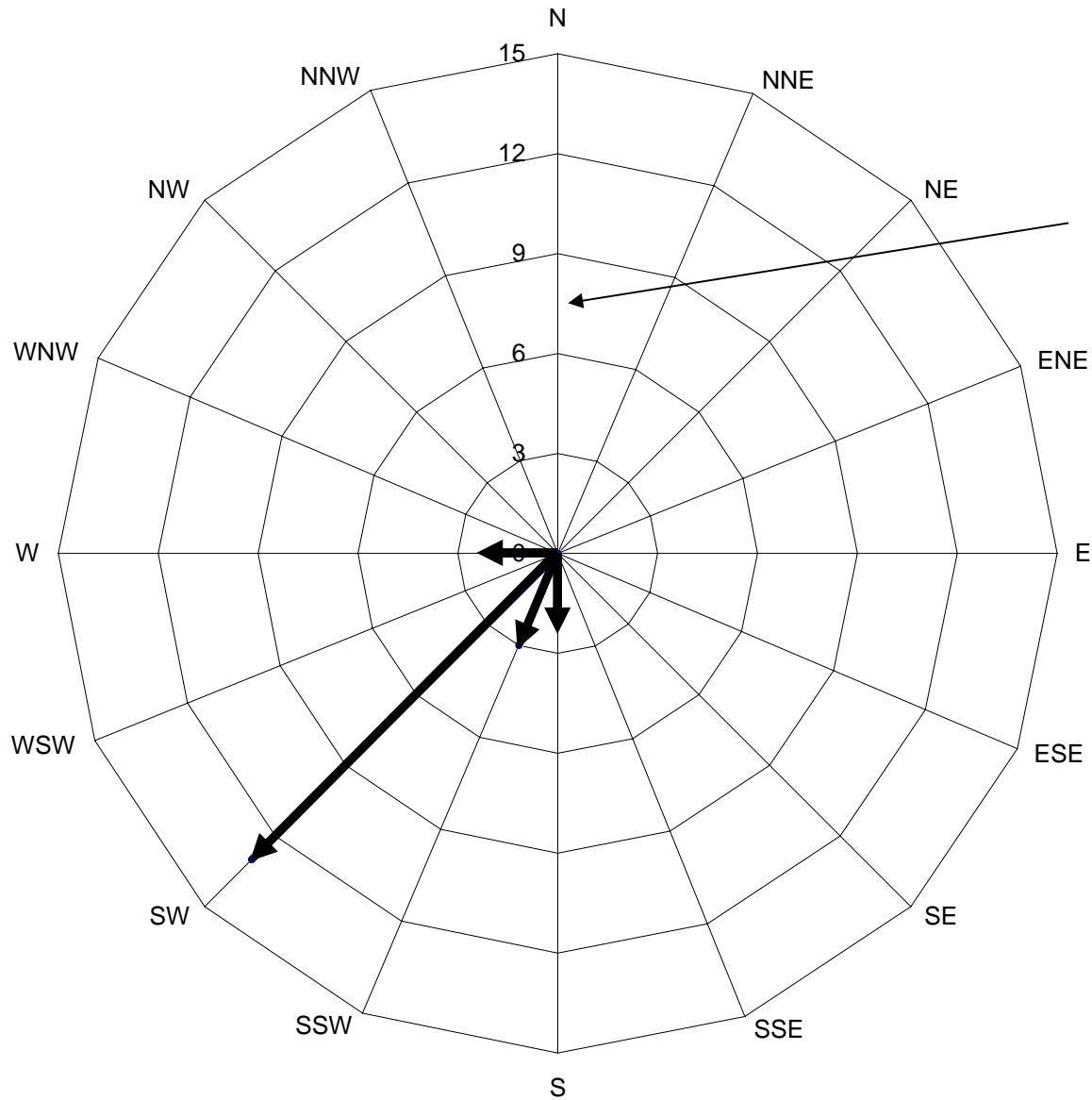
### **Purge Water Disposal**

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.

**Historical Groundwater Flow Directions  
for Tosco (76) Service Station No. 0018  
October 2000 through March 2007**



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