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9:02 am, Apr 19, 2010

Alameda County  
Environmental Health

**ConocoPhillips**

76 Broadway  
Sacramento, California 95818

April 15, 2010

Barbara Jakub  
Alameda County Health Agency  
1131 Harbor Bay parkway, Suite250  
Alameda, California 94502-577

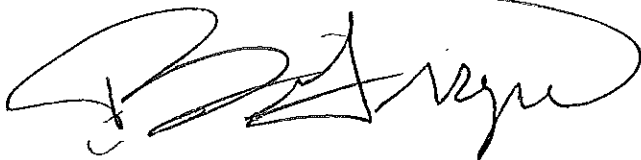
Re: **Semi-Annual Summary Report—Fourth Quarter 2009 –First Quarter 2010**  
**76 Service Station # 0018 RO # 0243**  
**6201 Claremont Ave.**  
**Oakland, CA**

Dear Ms. Jakub:

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) 558-7666.

Sincerely,



Terry L. Grayson  
Site Manager  
Risk Management & Remediation

April 15, 2010

Ms. Barbara Jakub  
Alameda County Health Care Services  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

RE: **Semi-Annual Summary Report – Fourth Quarter  
2009 through First Quarter 2010**  
Delta Project No.: C1Q-0018-106  
ACEH Case No: RO243



Dear Ms. Jakub:

On behalf of ConocoPhillips (COP), Delta Consultants (Delta) is forwarding the semi-annual summary report for the following location:

**Service Station**

**Location**

ConocoPhillips Site No. 0018

6201 Claremont Avenue  
Oakland, California

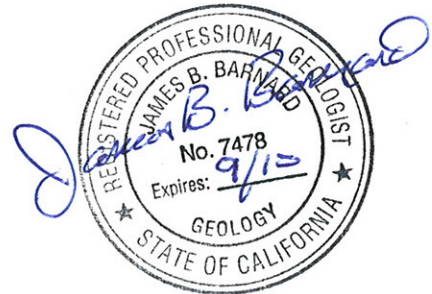
Sincerely,  
**Delta Consultants**

A handwritten signature in blue ink that reads "AM Morgan" with a circled "for" next to it.

Caitlin Morgan  
Staff Scientist

A handwritten signature in blue ink that reads "James B. Barnard".

James B. Barnard  
Project Manager  
California Registered Professional Geologist #7478



Cc: Mr. Terry Grayson – ConocoPhillips (electronic copy only)

## **PREVIOUS ASSESSMENT ACTIVITIES**

March 1997 Kaprealian Engineering Inc. (KEI) collected nine soil and one grab groundwater sample during UST and product line replacement activities. One soil sample collected from the UST excavation contained 2.6 milligrams per kilograms (mg/kg) of total petroleum hydrocarbons as gasoline (TPHg). Another soil sample collected from beneath a dispenser island contained 1.4 mg/kg TPHg, 0.012 mg/kg benzene, and 1.4 mg/kg methyl tert butyl ether (MTBE). The groundwater sample collected from the UST excavation contained 6,100 micrograms per liter ( $\mu\text{g/L}$ ) of TPHg and 54  $\mu\text{g/L}$  benzene. (KEI, 1997)

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

July 2000 Gettler-Ryan Inc. (GR) installed three groundwater monitoring wells (MW-1 through MW-3) to depths of 30 feet below ground surface (bgs). Five soil samples were collected from the borings for the wells. Sample MW-1-25.5, from a depth of 25.5 foot bgs, contained 19 mg/kg of TPHg and 0.018 mg/kg of benzene. Initial groundwater samples contained low ( $\leq 120$  micrograms per liter ( $\mu\text{g/l}$ )) concentrations of TPHg, benzene, and MTBE.

November 2000 A quarterly monitoring program, utilizing the three on-site monitoring wells (MW-1 through MW-3), was initiated. (GR, 2000)

October 2003 Site environmental consulting responsibilities were transferred to TRC.

January 2006 TRC completed a *No Further Action Required Report – Request for Closure*.

April 2006 TRC completed a sensitive receptor survey.

October 2007 Site environmental consulting responsibilities were transferred to Delta Consultants.

## **SENSITIVE RECEPTORS**

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

## **REMEDIATION STATUS**

Remediation is not currently being conducted at the site.

## **MONITORING AND SAMPLING**

The groundwater monitoring well network, consisting of three on-site monitoring wells, was been monitored and sampled on a quarterly basis between fourth quarter 2000 and first quarter 2009. Following the first quarter 2009 sampling event, the monitoring and sampling frequency of wells at this site was reduced to semi-annual, to be conducted during the first and third quarters. During the most recent groundwater sampling event conducted on March 17, 2010, reported depth to groundwater ranged from 15.39 feet (MW-3) to 16.43 feet (MW-2) below top of casing (TOC), with a 5.16 feet average increase in groundwater elevation across the site. Groundwater elevation beneath the site typically fluctuates by approximately 5 feet annually. A historical groundwater flow (rose) diagram is included as Attachment A.

The groundwater flow direction during the first quarter 2010 was reported south at a gradient of 0.02 feet per foot (ft/ft). This is not consistent with a gradient of 0.01 ft/ft southwest during the previous sampling event (9/30/09). Reported historical groundwater flow direction has been primarily to the southwest.

During the fourth quarter 2009 through first quarter 2010, groundwater samples were collected from all three on-site wells (MW-1, MW-2, and MW-3). Samples were analyzed for TPHg, benzene, toluene, ethyl-benzene and xylenes (BTEX), MTBE, and ethanol by US Environmental Protection Agency (EPA) Method 8260B. In addition, well MW-1 was also analyzed for fuel oxygenates (tert butyl alcohol (TBA), ethyl tert butyl ether (ETBE), tert amyl methyl ether (TAME), and di-isopropyl ether (DIPE)), 1,2-dichloroethane (1,2-DCA), and ethylene dibromide (EDB) by EPA Method 8260B.

### **Constituents of Concern:**

**TPHg** was above laboratory indicated reporting limits in groundwater samples collected from one of the three wells sampled with a maximum concentration of 320 µg/L in MW-1 during the current sampling event. This is an increase from a maximum concentration of 62 µg/L in this well during the previous sampling event (9/30/09).

**MTBE** was above laboratory indicated reporting limits in groundwater samples collected from one of the three wells sampled with a maximum concentration of 11 µg/L in MW-1 during the current sampling event. This is a decrease from a maximum concentration of 14 µg/L in this well during the previous sampling event.

All other analytes (BTEX, and other fuel oxygenates) were all below laboratory indicated reporting limits in all wells sampled during the current sampling event.

The MTBE concentration in well MW-1 has been below 20 µg/L for the past twelve consecutive sampling events. The maximum historical MTBE concentration detected in MW-1 was 150 µg/L in February and August 2001. MTBE has never been detected in well MW-2, and has only been detected sporadically in well MW-3. The most recent detection of MTBE in well MW-3 was at a concentration of 3.4 µg/L (September 2006). Benzene was not detected in any of the three wells during the first quarter 2009 sampling event. Benzene has not been detected in any site well since at 2005.

A copy of TRC's *Semi-Annual Monitoring Report – October 2009 through March 2010* is included as Attachment B.

### **CONCLUSIONS AND RECOMMENDATIONS**

Currently, TPHg and MTBE concentrations are only present in well MW-1 and continue to fluctuate with seasonal variation in groundwater elevation; however there is no clear correlation between groundwater elevation and higher or lower concentrations of TPHg and MTBE. Historic data shows that MTBE and TPHg concentrations have remained fairly stable overall since 2005. Since the third quarter of 2005, TPHg and MTBE concentrations in MW-1 show respective maximum concentration of 570 µg/L and 18 µg/L, while current concentrations are 320 µg/l and 11 µg/l, respectively.

In Delta's Site Conceptual Model (SCM) dated September 12, 2008 Delta proposed the advancement of two soil borings in the location of the former UST pit and the collection of soil samples. Delta also recommended collection of a groundwater sample southwest of the site. The purpose of this investigation is to fill data gaps in the former UST footprint and downgradient of well MW-1 in order to request case closure.

Delta submitted a *Work Plan for Additional Assessment*, dated July 6, 2009, further detailing the soil borings proposed in the September 2008 SCM.

**At this time, Delta recommends continued groundwater monitoring on a semi-annual basis, pending results of the additional investigation proposed in Delta's July 2009 work plan.** Groundwater samples from the site wells have never been reported to contain TBA, ETBE, TAME, DIPE 1,2-DCA, EDB or ethanol, with the exception of November 23, 2004, at which time TBA was reported in MW-1 at a concentration of 7.4 µg/l. **Delta recommends discontinuing analysis of TBA. Delta also recommends discontinuing analysis of ETBE, TAME, DIPE 1,2-DCA, EDB or ethanol, as they have not historically been detected in groundwater samples from site wells.**

Following completion of the scope proposed Delta's July 2009 work plan, contingent upon the analytical results of samples gathered during the investigation, Delta will either make recommendations for further assessment, or request final case closure.

#### **RECENT CORRESPONDENCE**

In correspondence dated July 24, 2009, the ACEH requested that groundwater monitoring and sampling frequency of this site be reduced from quarterly to semi-annual.

In correspondence dated August 13, 2009, the ACEH approved the general scope of Delta's *Work Plan for Additional Assessment*, dated July 6.

In email correspondence dated September 23, 2009, Delta notified the ACEH of the work dates scheduled to complete the work proposed in Delta's *Work Plan for Additional Assessment*, dated July 6, 2009.

#### **FOURTH QUARTER 2009 THROUGH FIRST QUARTER 2010 ACTIVITIES**

- TRC performed the semi-annual monitoring and sampling event on March 17, 2010, and prepared their results in *Semi-Annual Monitoring Report – October 2009 through March 2010*, dated March 30, 2010.
- Delta prepared this *Semi-Annual Summary Report – Fourth Quarter 2009 through First Quarter 2010*.

#### **SECOND QUARTER THROUGH THIRD QUARTER 2010 ACTIVITIES**

- TRC will perform the semi-annual monitoring and sampling event, and prepare a semi-annual monitoring report.

- Delta will prepare and submit a semi-annual summary report.

### **REMARKS**

The descriptions, conclusions, and recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. For any reports cited that were not generated by Delta, the data from those reports is used "as is" and is assumed to be accurate. Delta does not guarantee the accuracy of this data for the referenced work performed nor the inferences or conclusions stated in these reports. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were conducted. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

**CONSULTANT:** Delta Consultants

\* \* \* \* \*

Attachment A – Historical Groundwater Flow Direction (Rose) Diagram

Attachment B – Semi-Annual Monitoring Report – October 2009 through March 2010

**ATTACHMENT A**

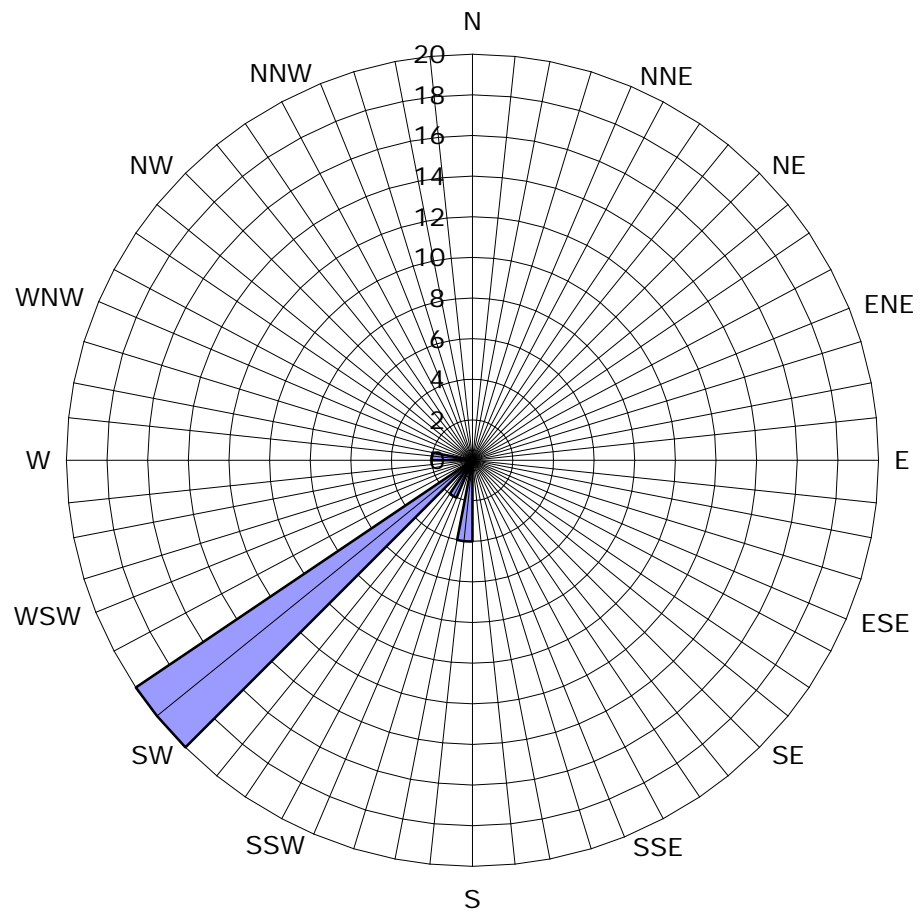
Historical Groundwater Flow Direction (Rose) Diagram

### Historic Groundwater Flow Directions

Site No. 0018

6201 Claremont Avenue

Oakland, California



#### Legend

Concentric circles represent quarterly monitoring events. Third Quarter 2000 through First Quarter 2010. 28 data points shown.

■ Groundwater Flow Direction



**ATTACHMENT B**

Semi-Annual Monitoring Report – October 2009 through March 2010



123 Technology Drive West  
Irvine, CA 92618

949.727.9336 PHONE  
949.727.7399 FAX

www.TRCSolutions.com

DATE: March 30, 2010

TO: ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

ATTN: MR. TERRY GRAYSON

SITE: 76 STATION 0018  
6201 CLAREMONT AVENUE  
OAKLAND, CALIFORNIA

RE: SEMI-ANNUAL MONITORING REPORT  
OCTOBER 2009 THROUGH MARCH 2010

Dear Mr. Grayson:

Please find enclosed our Semi-Annual 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. James Barnard, Delta Consultants (4 copies)

Enclosures  
20-0400/0018R24.QMS

**SEMI-ANNUAL MONITORING REPORT  
OCTOBER 2009 THROUGH MARCH 2010**

76 STATION 0018  
6201 Claremont Avenue  
Oakland, California

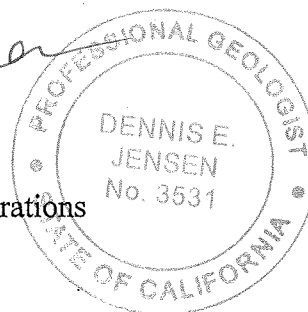
Prepared For:

Mr. Terry Grayson  
CONOCOPHILLIPS COMPANY  
76 Broadway  
Sacramento, California 95818

By:

*Dennis E. Jensen*  
Senior Project Geologist, Irvine Operations

Date: 3/29/10



## 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 MTBE Concentration Map
Graphs	Groundwater Elevations vs. Time Benzene Concentrations vs. Time
Field Activities	General Field Procedures Field Monitoring Data Sheet – 3/17/10 Groundwater Sampling Field Notes – 3/17/10
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations

**Summary of Gauging and Sampling Activities**  
**October 2009 through March 2010**  
**76 Station 0018**  
**6201 Claremont Avenue**  
**Oakland, CA**

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Project Coordinator: **Terry Grayson**  
Telephone: **916-558-7666**

Water Sampling Contractor: **TRC**  
Compiled by: **Daniel Lee**

Date(s) of Gauging/Sampling Event: **3/17/10**

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**Sample Points**

Groundwater wells: **3** onsite, **0** offsite      Points gauged: **3**      Points sampled: **3**  
Purging method: **Submersible pump**  
Purge water disposal: **Crosby and Overton treatment facility**  
Other Sample Points: **0**      Type: --

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**Liquid Phase Hydrocarbons (LPH)**

Sample Points with LPH: **0**      Maximum thickness (feet): --  
LPH removal frequency: --      Method: --  
Treatment or disposal of water/LPH: --

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**Hydrogeologic Parameters**

Depth to groundwater (below TOC):      Minimum: **15.39 feet**      Maximum: **16.43 feet**  
Average groundwater elevation (relative to available local datum): **193.32 feet**  
Average change in groundwater elevation since previous event: **5.61 feet**  
Interpreted groundwater gradient and flow direction:  
    Current event: **0.02 ft/ft, south**  
    Previous event: **0.01 ft/ft, southwest (9/30/09)**

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**Selected Laboratory Results**

Sample Points with detected **Benzene**: **0**      Sample Points above MCL (1.0 µg/l): --  
    Maximum reported benzene concentration: --

Sample Points with **TPH-G by GC/MS**      **1**      Maximum: **320 µg/l (MW-1)**  
Sample Points with **MTBE 8260B**      **1**      Maximum: **11 µg/l (MW-1)**

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**Notes:**

# TABLES

## TABLE KEY

### STANDARD ABBREVIATIONS

--	=	not analyzed, measured, or collected
LPH	=	liquid-phase hydrocarbons
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)
D	=	duplicate
P	=	no-purge sample

### ANALYTES

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
1,2-DCA	=	1,2-dichloroethane (same as EDC, ethylene dichloride)

### 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. Prior to the 1st quarter 2010, the word "monitor" was used in table comments interchangeably with the word "gauge". Starting in the 1<sup>st</sup> quarter 2010, the word "monitor" is used to include both "gauge" and "sample".

### 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 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
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 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
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 17, 2010**  
**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 8015 (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</b>						<b>(Screen Interval in feet: 10.0-30.0)</b>									
3/17/10	208.15	15.63	0.00	192.52	5.21	--	320	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	11		
<b>MW-2</b>						<b>(Screen Interval in feet: 10.0-30.0)</b>									
3/17/10	210.27	16.43	0.00	193.84	5.79	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50		
<b>MW-3</b>						<b>(Screen Interval in feet: 10.0-30.0)</b>									
3/17/10	208.98	15.39	0.00	193.59	5.82	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50		

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

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-1</b> 3/17/10	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-2</b> 3/17/10	--	ND<250	--	--	--	--	--
<b>MW-3</b> 3/17/10	--	ND<250	--	--	--	--	--

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**August 2000 Through March 2010**  
**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 8015 (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 (Screen Interval in feet: 10.0-30.0)</b>														
8/24/00	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	
2/9/01	208.15	20.16	0.00	187.99	0.14	330	--	1.3	ND	1.0	4.6	140	150	
5/11/01	208.15	17.68	0.00	190.47	2.48	1250	--	ND	ND	ND	ND	145	122	
8/10/01	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	
11/7/01	208.15	22.68	0.00	185.47	-2.30	250	--	ND<0.50	1.5	ND<0.50	ND<0.50	120	100	
2/6/02	208.15	16.20	0.00	191.95	6.48	790	--	ND<2.5	12	8.8	ND<2.5	90	72	
5/8/02	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	
8/9/02	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	
2/3/03	208.15	16.41	0.00	191.74	5.92	--	540	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	40	
5/5/03	208.15	16.09	0.00	192.06	0.32	--	670	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	57	
9/4/03	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	
1/29/04	208.15	17.51	0.00	190.64	4.01	--	520	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	44	
5/7/04	208.15	16.74	0.00	191.41	0.77	--	180	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	25	
8/27/04	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	
2/9/05	208.15	15.81	0.00	192.34	4.01	--	5700	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	40	
6/16/05	208.15	15.85	0.00	192.30	-0.04	--	200	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	24	
9/27/05	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	



**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**August 2000 Through March 2010**  
**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 8015 (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>														
3/8/06	208.15	11.69	0.00	196.46	2.93	--	130	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	21	
6/8/06	208.15	14.28	0.00	193.87	-2.59	--	66	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	16	
9/15/06	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	
3/28/07	208.15	18.40	0.00	189.75	0.28	--	190	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	18	
6/25/07	208.15	20.01	0.00	188.14	-1.61	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	4.2	
9/22/07	208.15	21.23	0.00	186.92	-1.22	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	14	
12/14/07	208.15	21.02	0.00	187.13	0.21	--	76	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	16	
3/26/08	208.15	16.87	0.00	191.28	4.15	--	230	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	18	
6/20/08	208.15	18.82	0.00	189.33	-1.95	--	100	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	13	
9/19/08	208.15	21.11	0.00	187.04	-2.29	--	63	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	12	
12/22/08	208.15	20.82	0.00	187.33	0.29	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	9.6	
3/27/09	208.15	16.00	0.00	192.15	4.82	--	340	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	15	
9/30/09	208.15	20.84	0.00	187.31	-4.84	--	62	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	14	
3/17/10	208.15	15.63	0.00	192.52	5.21	--	320	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	11	
<b>MW-2 (Screen Interval in feet: 10.0-30.0)</b>														
8/24/00	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	
2/9/01	210.27	21.52	0.00	188.75	0.09	ND	--	ND	ND	ND	ND	ND	ND	
5/11/01	210.27	18.76	0.00	191.51	2.76	ND	--	ND	ND	ND	ND	ND	ND	
8/10/01	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	
11/7/01	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	
2/6/02	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	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**August 2000 Through March 2010**  
**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 8015 (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>														
5/8/02	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	--	
8/9/02	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	
2/3/03	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	
5/5/03	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	
9/4/03	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	
1/29/04	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	
5/7/04	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	
8/27/04	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	
2/9/05	210.27	16.72	0.00	193.55	4.48	--	ND<50	0.69	1.5	ND<0.50	1.4	--	ND<0.50	
6/16/05	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	
9/27/05	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	
3/8/06	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	
6/8/06	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	
9/15/06	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	
3/28/07	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	
6/25/07	210.27	21.34	0.00	188.93	-1.74	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
9/22/07	210.27	22.71	0.00	187.56	-1.37	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
12/14/07	210.27	22.52	0.00	187.75	0.19	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**August 2000 Through March 2010**  
**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 8015 (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>														
3/26/08	210.27	17.79	0.00	192.48	4.73	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/20/08	210.27	21.13	0.00	189.14	-3.34	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/19/08	210.27	22.62	0.00	187.65	-1.49	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/22/08	210.27	22.55	0.00	187.72	0.07	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/27/09	210.27	16.88	0.00	193.39	5.67	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/30/09	210.27	22.22	0.00	188.05	-5.34	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/17/10	210.27	16.43	0.00	193.84	5.79	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
<b>MW-3 (Screen Interval in feet: 10.0-30.0)</b>														
8/24/00	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	
2/9/01	208.98	20.45	0.00	188.53	0.11	ND	--	ND	ND	ND	ND	ND	ND	
5/11/01	208.98	17.75	0.00	191.23	2.70	ND	--	ND	ND	ND	ND	ND	ND	
8/10/01	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	
11/7/01	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	
2/6/02	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	--	
5/8/02	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	--	
8/9/02	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	
2/3/03	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	
5/5/03	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	
9/4/03	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	
1/29/04	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 2010**  
**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 8015 (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>														
5/7/04	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	
8/27/04	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	
2/9/05	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	
6/16/05	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	
9/30/05	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	
3/8/06	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	
6/8/06	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	
9/15/06	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	
3/28/07	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	
6/25/07	208.98	20.30	0.00	188.68	-1.70	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
9/22/07	208.98	21.61	0.00	187.37	-1.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
12/14/07	208.98	21.43	0.00	187.55	0.18	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/26/08	208.98	16.74	0.00	192.24	4.69	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/20/08	208.98	19.05	0.00	189.93	-2.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/19/08	208.98	21.49	0.00	187.49	-2.44	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/22/08	208.98	21.40	0.00	187.58	0.09	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/27/09	208.98	15.88	0.00	193.10	5.52	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/30/09	208.98	21.21	0.00	187.77	-5.33	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/17/10	208.98	15.39	0.00	193.59	5.82	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	

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

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-1</b>							
8/24/00	ND	ND	--	--	ND	ND	ND
11/16/00	ND	ND	--	--	ND	ND	ND
2/9/01	ND	ND	ND	ND	ND	ND	ND
5/11/01	ND	ND	ND	ND	ND	ND	ND
8/10/01	ND<100	ND<1000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
11/7/01	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
2/6/02	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
5/8/02	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
8/9/02	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
2/3/03	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
5/5/03	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
1/29/04	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
5/7/04	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
8/27/04	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
2/9/05	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
6/16/05	ND<5.0	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
9/27/05	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
3/8/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
6/8/06	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
9/15/06	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



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

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-1 continued</b>							
3/28/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
6/25/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
9/22/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/14/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
3/26/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
6/20/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
9/19/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/22/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
3/27/09	ND<10	ND<250	--	--	ND<0.50	ND<0.50	ND<0.50
9/30/09	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
3/17/10	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-2</b>							
8/24/00	ND	ND	--	--	ND	ND	ND
11/16/00	ND	ND	--	--	ND	ND	ND
2/9/01	ND	ND	ND	ND	ND	ND	ND
5/11/01	ND	ND	ND	ND	ND	ND	ND
8/10/01	ND<100	ND<1000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
11/7/01	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
11/13/03	--	ND<500	--	--	--	--	--
1/29/04	--	ND<500	--	--	--	--	--
5/7/04	--	ND<50	--	--	--	--	--
8/27/04	--	ND<50	--	--	--	--	--
11/23/04	--	ND<50	--	--	--	--	--
2/9/05	--	ND<50	--	--	--	--	--
6/16/05	--	ND<50	--	--	--	--	--

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

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-2 continued</b>							
9/27/05	--	ND<250	--	--	--	--	--
12/30/05	--	ND<250	--	--	--	--	--
3/8/06	--	ND<250	--	--	--	--	--
6/8/06	--	ND<250	--	--	--	--	--
9/15/06	--	ND<250	--	--	--	--	--
12/22/06	--	ND<250	--	--	--	--	--
3/28/07	--	ND<250	--	--	--	--	--
6/25/07	--	ND<250	--	--	--	--	--
9/22/07	--	ND<250	--	--	--	--	--
12/14/07	--	ND<250	--	--	--	--	--
3/26/08	--	ND<250	--	--	--	--	--
6/20/08	--	ND<250	--	--	--	--	--
9/19/08	--	ND<250	--	--	--	--	--
12/22/08	--	ND<250	--	--	--	--	--
3/27/09	--	ND<250	--	--	--	--	--
9/30/09	--	ND<250	--	--	--	--	--
3/17/10	--	ND<250	--	--	--	--	--
<b>MW-3</b>							
8/24/00	ND	ND	--	--	ND	ND	ND
11/16/00	ND	ND	--	--	ND	ND	ND
2/9/01	ND	ND	ND	ND	ND	ND	ND
5/11/01	ND	ND	ND	ND	ND	ND	ND
8/10/01	ND<100	ND<1000000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
11/7/01	ND<20	ND<500000	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
8/9/02	--	--	ND	ND	--	--	--

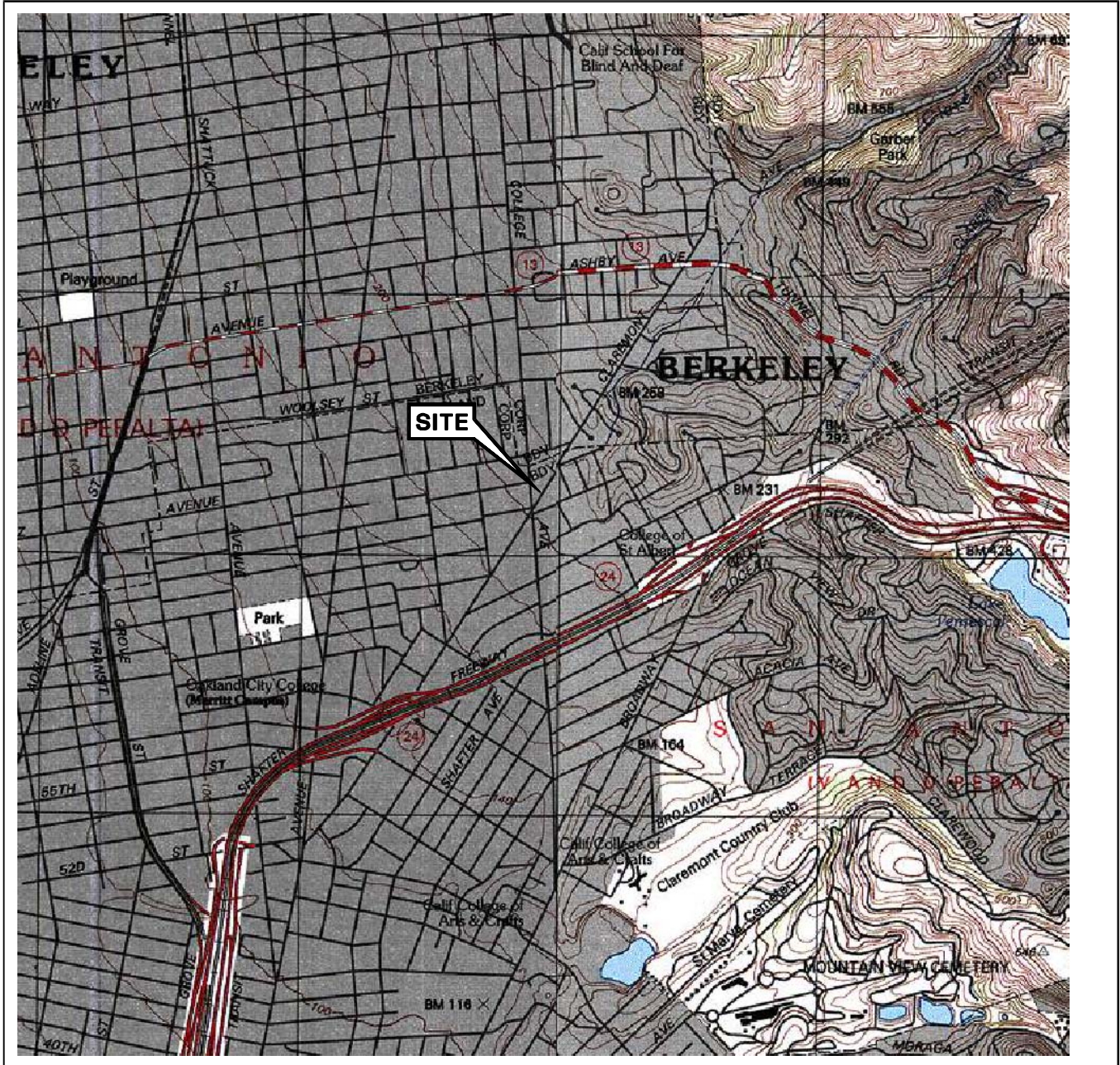
**Table 2 a**  
**ADDITIONAL HISTORIC ANALYTICAL RESULTS**  
**76 Station 0018**

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-3 continued</b>							
11/29/02	--	--	ND	ND	--	--	--
2/3/03	--	--	ND<2.0	ND<2.0	--	--	--
5/5/03	--	--	ND<1.0	ND<1.0	--	--	--
11/13/03	--	ND<500	--	--	--	--	--
1/29/04	--	ND<500	--	--	--	--	--
5/7/04	--	ND<50	--	--	--	--	--
8/27/04	--	ND<50	--	--	--	--	--
11/23/04	--	ND<50	--	--	--	--	--
2/9/05	--	ND<50	--	--	--	--	--
6/16/05	--	ND<50	--	--	--	--	--
9/30/05	--	ND<250	--	--	--	--	--
12/30/05	--	ND<250	--	--	--	--	--
3/8/06	--	ND<250	--	--	--	--	--
6/8/06	--	ND<250	--	--	--	--	--
9/15/06	--	ND<250	--	--	--	--	--
12/22/06	--	ND<250	--	--	--	--	--
3/28/07	--	ND<250	--	--	--	--	--
6/25/07	--	ND<250	--	--	--	--	--
9/22/07	--	ND<250	--	--	--	--	--
12/14/07	--	ND<250	--	--	--	--	--
3/26/08	--	ND<250	--	--	--	--	--
6/20/08	--	ND<250	--	--	--	--	--
9/19/08	--	ND<250	--	--	--	--	--
12/22/08	--	ND<250	--	--	--	--	--
3/27/09	--	ND<250	--	--	--	--	--

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

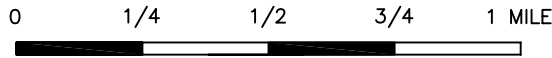
Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)
<b>MW-3 continued</b>							
9/30/09	--	ND<250	--	--	--	--	--
3/17/10	--	ND<250	--	--	--	--	--

# FIGURES



SOURCE:

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



SCALE 1:24,000




76 STATION 0018  
6201 CLAREMONT AVENUE  
OAKLAND, CALIFORNIA


VICINITY MAP


FIGURE 1

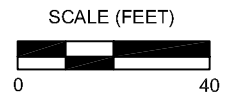
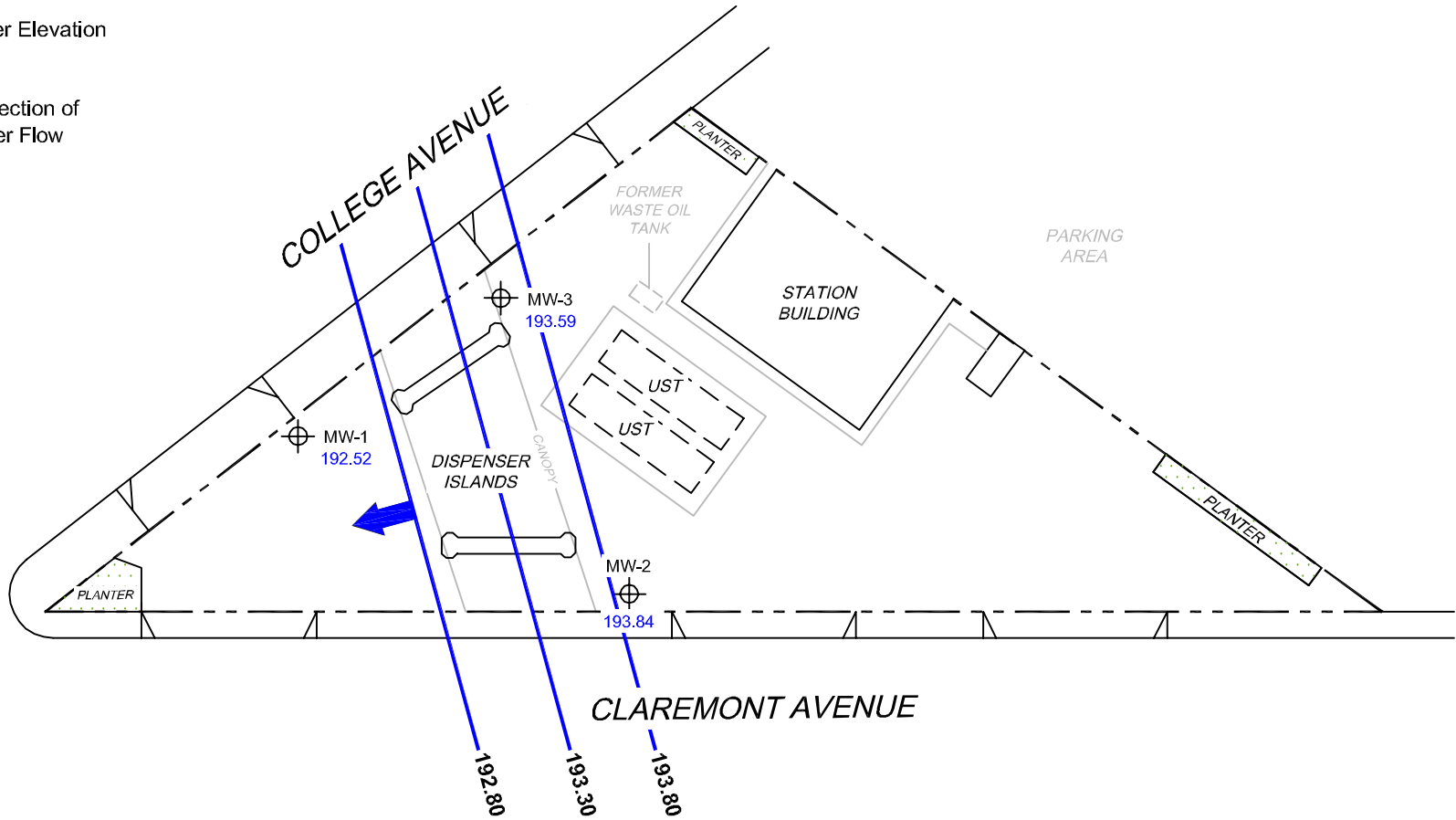


**LEGEND**

MW-3  Monitoring Well with Groundwater Elevation ( feet)

193.80  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.





PROJECT: 173845  
 FACILITY:  
 76 STATION 0018  
 6201 CLAREMONT AVENUE  
 OAKLAND, CALIFORNIA

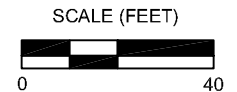
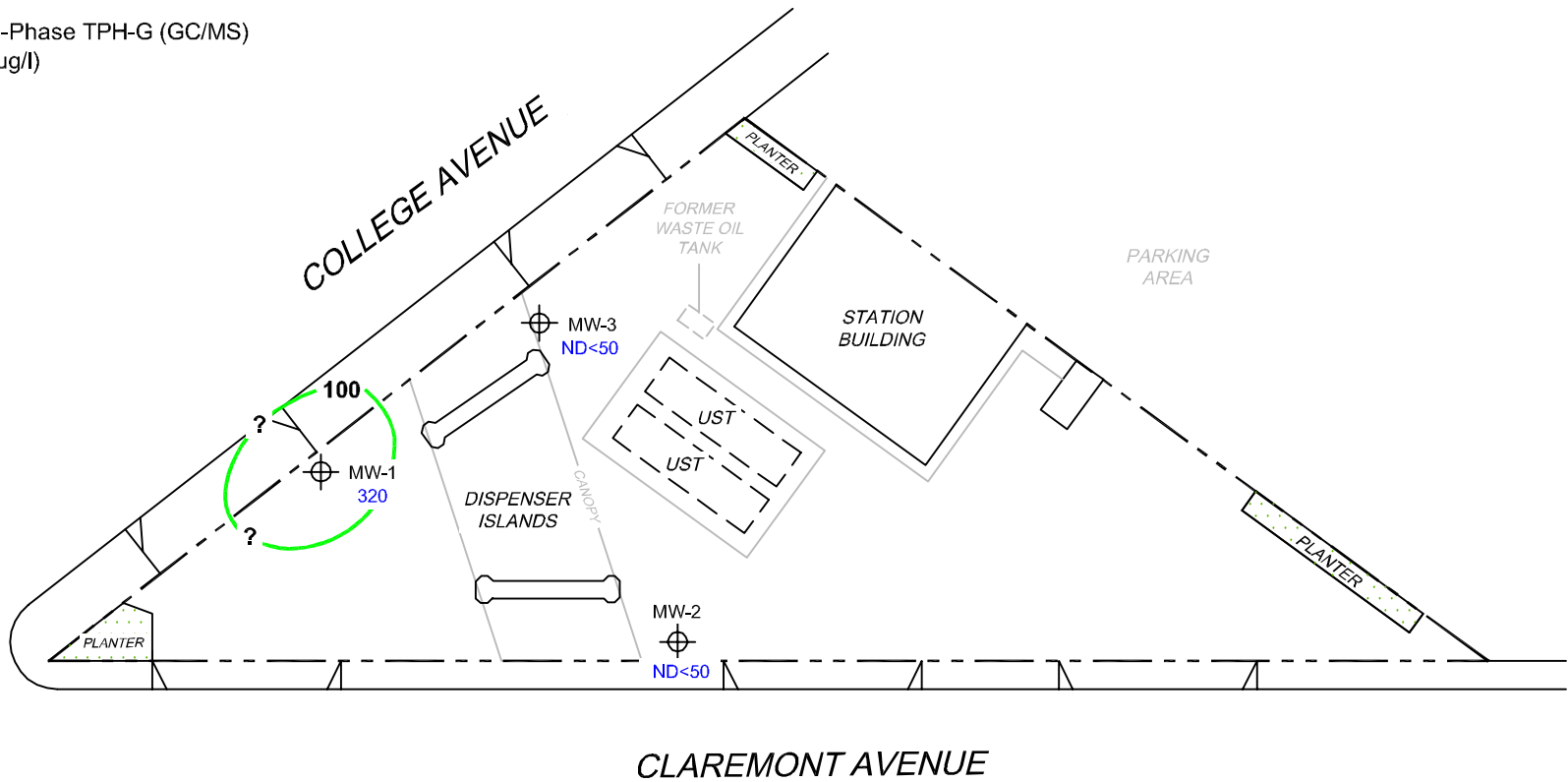
**GROUNDWATER ELEVATION  
 CONTOUR MAP  
 March 17, 2010**

**FIGURE 2**

**LEGEND**

MW-3  Monitoring Well with Dissolved-Phase TPH-G (GC/MS) Concentration (  $\mu\text{g/l}$  )

 100 Dissolved-Phase TPH-G (GC/MS) Contour (  $\mu\text{g/l}$  )



**NOTES:**

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



PROJECT: 173845


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76 STATION 0018  
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OAKLAND, CALIFORNIA

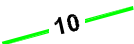
**DISSOLVED-PHASE TPH-G (GC/MS)  
CONCENTRATION MAP  
March 17, 2010**

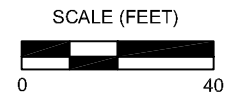
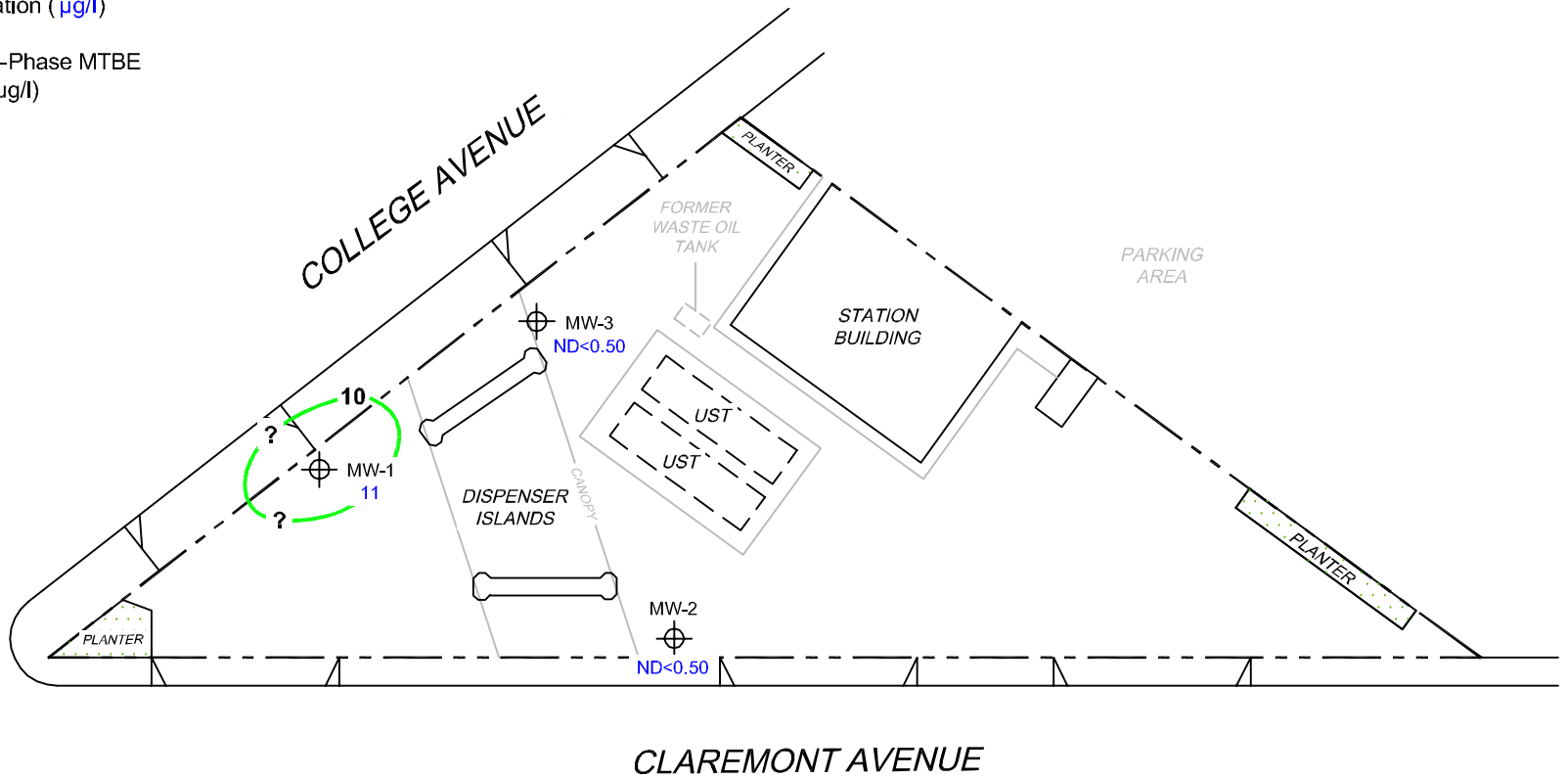
**FIGURE 3**



**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.



PROJECT: 173845

FACILITY:

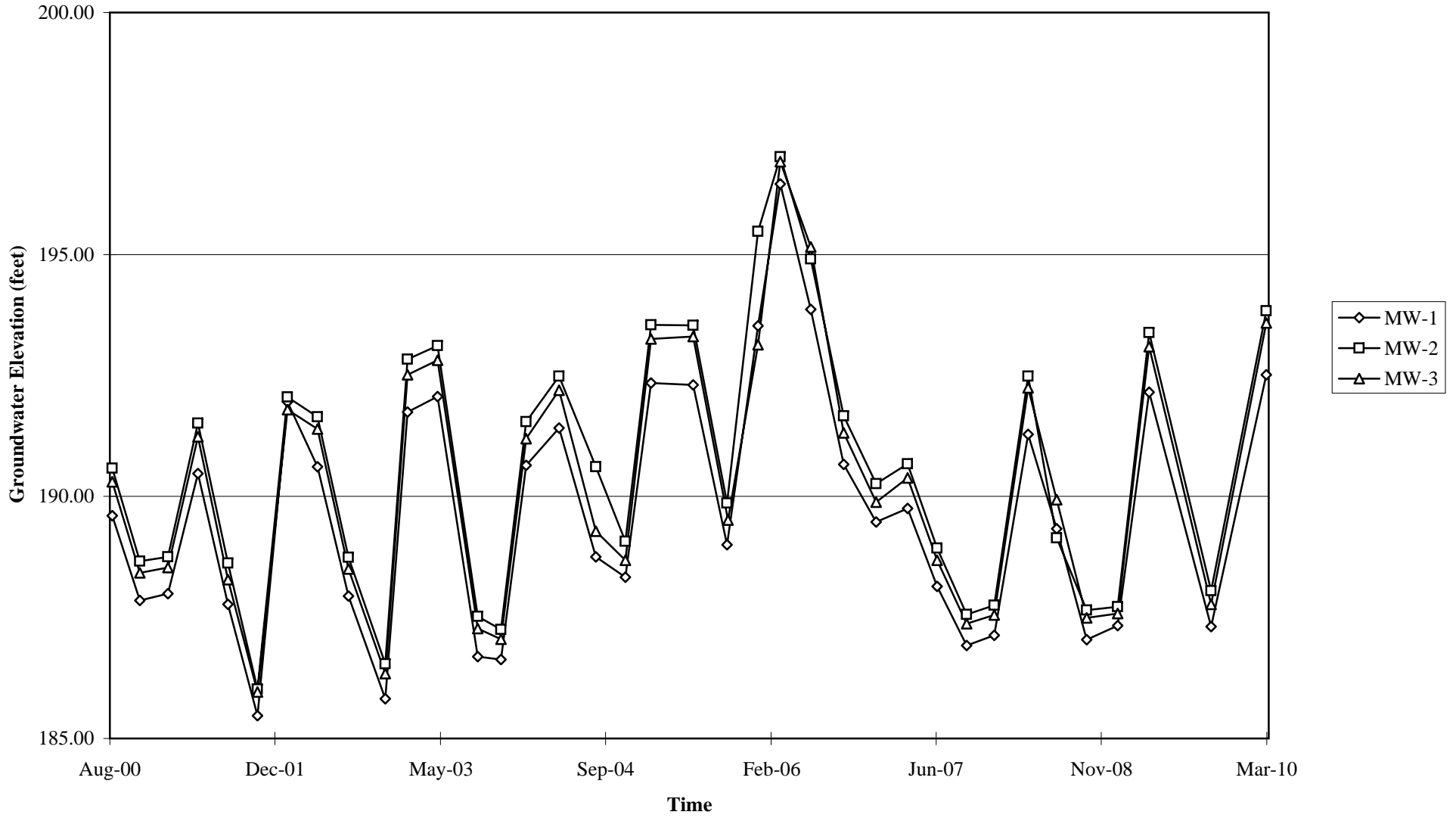
76 STATION 0018  
 6201 CLAREMONT AVENUE  
 OAKLAND, CALIFORNIA

**DISSOLVED-PHASE MTBE  
 CONCENTRATION MAP  
 March 17, 2010**

**FIGURE 4**

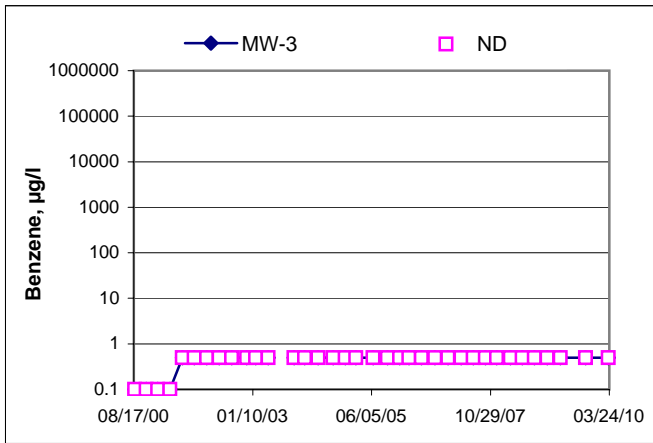
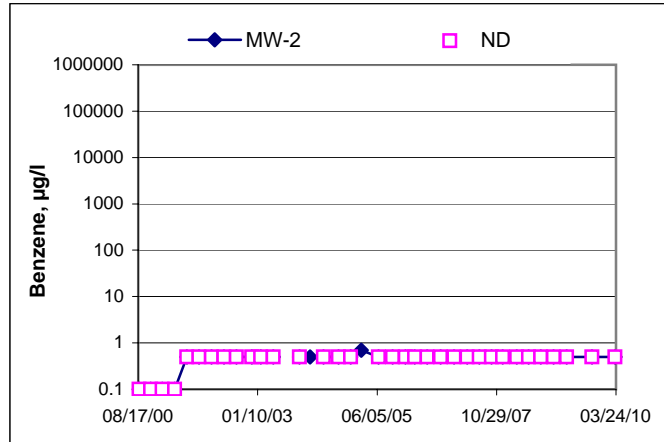
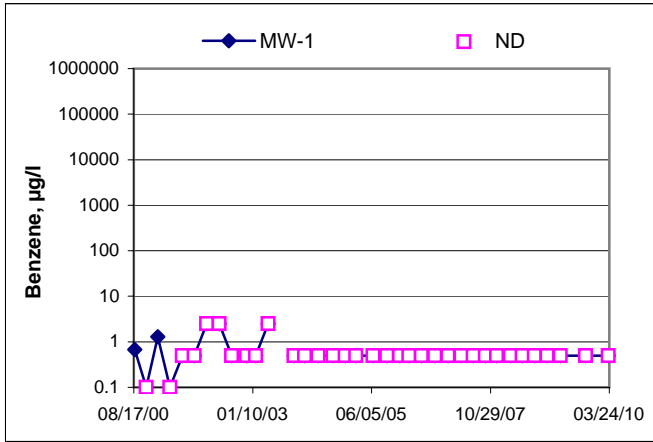
# GRAPHS

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 is 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 a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of washing in a solution of Liqui-nox and water and rinsing twice. The final rinse is in deionized water.

## **Exceptions**

Additional tasks or non-standard procedures, if any, that may be requested or required for a particular site, and noted on the site TSR, are documented in field notes on the following pages.

# FIELD MONITORING DATA SHEET

Technician: A. Vidaras

Job #/Task #: 173845 / FA20

Date: 03/17/10

Site # 0018

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-3	✓	1057	30.22	15.39	—	—	1128	2"
MW-2	✓	1101	29.54	16.43	—	—	1143	2"
MW-1	✓	1106	30.00	15.63	—	—	1207	2"

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



## GROUNDWATER SAMPLING FIELD NOTES

Technician: A. Vidales

Site: 0018      Project No.: 173845      Date: 03/17/10

Well No. MW-3      Purge Method: Sub  
 Depth to Water (feet): 15.39      Depth to Product (feet): —  
 Total Depth (feet): 30.22      LPH & Water Recovered (gallons): —  
 Water Column (feet): 14.83      Casing Diameter (Inches): 2  
 80% Recharge Depth(feet): 18.36      1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
1118			3	625.3	18.7	6.25			
			6	608.9	18.9	6.22			
	1123		9	581.1	19.2	6.26			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.36			9			1128			
<b>Comments:</b>									

Well No. MW-2      Purge Method: Sub  
 Depth to Water (feet): 16.43      Depth to Product (feet): —  
 Total Depth (feet): 29.54      LPH & Water Recovered (gallons): —  
 Water Column (feet): 13.11      Casing Diameter (Inches): 2  
 80% Recharge Depth(feet): 19.05      1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
1135			3	511.6	19.7	6.43			
			6	513.1	19.7	6.41			
	1139		9	511.5	20.0	6.36			
Static at Time Sampled			Total Gallons Purged			Sample Time			
17.33			9			1143			
<b>Comments:</b>									



# GROUNDWATER SAMPLING FIELD NOTES

Technician: A. Vidwans

Site: 0018

Project No.: 173845

Date: 03/17/10

Well No. MW-1

Purge Method: Sub

Depth to Water (feet): 15.63

Depth to Product (feet):     

Total Depth (feet): 30.00

LPH & Water Recovered (gallons):     

Water Column (feet): 14.37

Casing Diameter (Inches): 2

80% Recharge Depth(feet): 18.50

1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity ( $\mu$ S/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
<del>11:25</del> 11:50			3	682.0	21.1	6.40			
			6	701.4	20.9	6.38			
	11:55		9	706.3	20.9	6.42			
Static at Time Sampled		Total Gallons Purged			Sample Time				
<u>18.50</u>		<u>9</u>			<u>1207</u>				
<b>Comments:</b>									

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 ( $\mu$ S/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
Static at Time Sampled		Total Gallons Purged			Sample Time				
<b>Comments:</b>									



**Laboratories, Inc.**

Environmental Testing Laboratory Since 1949



Date of Report: 03/23/2010

Anju Farfan

TRC

123 Technology Drive  
Irvine, CA 92618

RE: 0018  
BC Work Order: 1003718  
Invoice ID: B077538

Enclosed are the results of analyses for samples received by the laboratory on 3/17/2010. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers  
Client Service Rep

Authorized Signature



TRC  
123 Technology Drive  
Irvine, CA 92618

Project: 0018  
Project Number: 4512968258  
Project Manager: Anju Farfan

**Reported:** 03/23/2010 16:27

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			Receive Date:	Sampling Date:	Sample Depth:	Sample Matrix:	Delivery Work Order:
1003718-01	<b>COC Number:</b>	---		03/17/2010 20:45	03/17/2010 11:28	---	Water	Global ID: T0600102231
	<b>Project Number:</b>	0018						Location ID (FieldPoint): MW-3
	<b>Sampling Location:</b>	---						Matrix: W
	<b>Sampling Point:</b>	MW-3						Sample QC Type (SACode): CS
	<b>Sampled By:</b>	TRCI						Cooler ID:
1003718-02	<b>COC Number:</b>	---		03/17/2010 20:45	03/17/2010 11:43	---	Water	Global ID: T0600102231
	<b>Project Number:</b>	0018						Location ID (FieldPoint): MW-2
	<b>Sampling Location:</b>	---						Matrix: W
	<b>Sampling Point:</b>	MW-2						Sample QC Type (SACode): CS
	<b>Sampled By:</b>	TRCI						Cooler ID:
1003718-03	<b>COC Number:</b>	---		03/17/2010 20:45	03/17/2010 12:07	---	Water	Global ID: T0600102231
	<b>Project Number:</b>	0018						Location ID (FieldPoint): MW-1
	<b>Sampling Location:</b>	---						Matrix: W
	<b>Sampling Point:</b>	MW-1						Sample QC Type (SACode): CS
	<b>Sampled By:</b>	TRCI						Cooler ID:



TRC  
123 Technology Drive  
Irvine, CA 92618

Project: 0018  
Project Number: 4512968258  
Project Manager: Anju Farfan

Reported: 03/23/2010 16:27

### Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1003718-01		Client Sample Name: 0018, MW-3, 3/17/2010 11:28:00AM										
Constituent	Result	Units	PQL	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	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368	ND	
Ethylbenzene	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368	ND	
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368	ND	
Toluene	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368	ND	
Total Xylenes	ND	ug/L	1.0	EPA-8260	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368	ND	
Ethanol	ND	ug/L	250	EPA-8260	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368	ND	
1,2-Dichloroethane-d4 (Surrogate)	104	%	76 - 114 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368		
Toluene-d8 (Surrogate)	95.4	%	88 - 110 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368		
4-Bromofluorobenzene (Surrogate)	97.7	%	86 - 115 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 22:34	KEA	MS-V12	1	BTC1368		



TRC  
123 Technology Drive  
Irvine, CA 92618

Project: 0018  
Project Number: 4512968258  
Project Manager: Anju Farfan

Reported: 03/23/2010 16:27

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	1003718-02		Client Sample Name:	0018, MW-2, 3/17/2010 11:43:00AM								
Constituent	Result	Units	PQL	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	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368	ND	
Ethylbenzene	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368	ND	
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368	ND	
Toluene	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368	ND	
Total Xylenes	ND	ug/L	1.0	EPA-8260	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368	ND	
Ethanol	ND	ug/L	250	EPA-8260	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368	ND	
1,2-Dichloroethane-d4 (Surrogate)	104	%	76 - 114 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368		
Toluene-d8 (Surrogate)	89.8	%	88 - 110 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368		
4-Bromofluorobenzene (Surrogate)	96.5	%	86 - 115 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 22:15	KEA	MS-V12	1	BTC1368		



TRC  
123 Technology Drive  
Irvine, CA 92618

Project: 0018  
Project Number: 4512968258  
Project Manager: Anju Farfan

Reported: 03/23/2010 16:27

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	1003718-03												
Client Sample Name:	0018, MW-1, 3/17/2010 12:07:00PM												
Constituent	Result	Units	PQL	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	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
Ethylbenzene	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
<b>Methyl t-butyl ether</b>	<b>11</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260</b>	<b>03/22/10</b>	<b>03/22/10 21:57</b>	<b>KEA</b>	<b>MS-V12</b>	<b>1</b>	<b>BTC1368</b>	<b>ND</b>		
Toluene	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
Total Xylenes	ND	ug/L	1.0	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
t-Butyl alcohol	ND	ug/L	10	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
Diisopropyl ether	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
Ethanol	ND	ug/L	250	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368	ND		
<b>Total Purgeable Petroleum Hydrocarbons</b>	<b>320</b>	<b>ug/L</b>	<b>50</b>	<b>Luft-GC/MS</b>	<b>03/22/10</b>	<b>03/22/10 21:57</b>	<b>KEA</b>	<b>MS-V12</b>	<b>1</b>	<b>BTC1368</b>	<b>ND</b>		
1,2-Dichloroethane-d4 (Surrogate)	101	%	76 - 114 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368			
Toluene-d8 (Surrogate)	97.5	%	88 - 110 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368			
4-Bromofluorobenzene (Surrogate)	108	%	86 - 115 (LCL - UCL)	EPA-8260	03/22/10	03/22/10 21:57	KEA	MS-V12	1	BTC1368			



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## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
										RPD	Percent Recovery	
Benzene	BTC1368	Matrix Spike	1003610-08	ND	24.350	25.000	ug/L		97.4		70 - 130	
		Matrix Spike Duplicate	1003610-08	ND	23.420	25.000	ug/L	3.9	93.7	20	70 - 130	
Toluene	BTC1368	Matrix Spike	1003610-08	ND	23.940	25.000	ug/L		95.8		70 - 130	
		Matrix Spike Duplicate	1003610-08	ND	23.060	25.000	ug/L	3.7	92.2	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BTC1368	Matrix Spike	1003610-08	ND	9.9600	10.000	ug/L		99.6		76 - 114	
		Matrix Spike Duplicate	1003610-08	ND	9.8000	10.000	ug/L		98.0		76 - 114	
Toluene-d8 (Surrogate)	BTC1368	Matrix Spike	1003610-08	ND	10.110	10.000	ug/L		101		88 - 110	
		Matrix Spike Duplicate	1003610-08	ND	10.000	10.000	ug/L		100		88 - 110	
4-Bromofluorobenzene (Surrogate)	BTC1368	Matrix Spike	1003610-08	ND	10.010	10.000	ug/L		100		86 - 115	
		Matrix Spike Duplicate	1003610-08	ND	9.9200	10.000	ug/L		99.2		86 - 115	



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## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits		Lab Quals
										Percent Recovery	RPD	
Benzene	BTC1368	BTC1368-BS1	LCS	22.300	25.000	0.50	ug/L	89.2		70 - 130		
Toluene	BTC1368	BTC1368-BS1	LCS	21.360	25.000	0.50	ug/L	85.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BTC1368	BTC1368-BS1	LCS	10.230	10.000		ug/L	102		76 - 114		
Toluene-d8 (Surrogate)	BTC1368	BTC1368-BS1	LCS	10.060	10.000		ug/L	101		88 - 110		
4-Bromofluorobenzene (Surrogate)	BTC1368	BTC1368-BS1	LCS	9.8400	10.000		ug/L	98.4		86 - 115		





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## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
Ethylbenzene	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
Toluene	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
Total Xylenes	BTC1368	BTC1368-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BTC1368	BTC1368-BLK1	ND	ug/L	10		
Diisopropyl ether	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
Ethanol	BTC1368	BTC1368-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BTC1368	BTC1368-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons	BTC1368	BTC1368-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BTC1368	BTC1368-BLK1	102	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BTC1368	BTC1368-BLK1	99.1	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BTC1368	BTC1368-BLK1	99.1	%	86 - 115 (LCL - UCL)		



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**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 #: 10-03718

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

Emissivity: 0.95 Container: QVA Thermometer ID: #163 Temperature: A 4.5 °C / C 45 °C

Date/Time: 3/17/10 2100 Analyst Init: BK

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

Comments:

Sample Numbering Completed By: *COM*

Date/Time: 3/18/10

0935

A = Actual / C = Corrected

10-03718

CHK BY  DISTRIBUTION  
 SUB-OUT

BC LABORATORIES, INC.

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

CHAIN OF CUSTODY

Analysis Requested

Bill to: Conoco Phillips/ TRC	Consultant Firm: TRC	MATRIX (GW)	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 <sup>EDB/EDC by 8260B</sup>	ETHANOL by 8260B	TPH -G by GC/MS	BTEX/MTBE by 8260B	Turnaround Time Requested
Address: 6201 Claremont Ave	21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan	(S) Ground-water									
City: Oakland	4-digit site#: 0018	(S) Soil									
State: CA Zip:	Workorder # 01062-4512968258	(WW) Waste-water									
Conoco Phillips Mgr: Terry Grayson	Project #: 173845	(SL) Sludge									
	Sampler Name: Andrew Vidars										

Lab#	Sample Description	Field Point Name	Date & Time Sampled									
-1		MW-3	03/17/16 1128	GW				X	X	X		STD
-2		MW-2	↓ 143	↓				↓	↓	X		↓
3		MW-1	↓ 1207	↓			X	↓	↓			↓

Comments:	Relinquished by: (Signature)	Received by: Ross Decker	Date & Time 3/17/10 1430
	Relinquished by: (Signature) Ross Decker 3/17/10	Received by: R. Reynold	Date & Time 3-17-10 1730
	Relinquished by: (Signature) R. Reynold 3-17-10 2045	Received by: [Signature]	Date & Time 3-17-10 2045
GLOBAL ID: T0600102231			

## **STATEMENTS**

### **Purge Water Disposal**

Non-hazardous groundwater produced during purging and sampling of monitoring wells is accumulated at TRC's groundwater monitoring field office at Concord, California, for transportation by a licensed carrier to an authorized disposal facility. Currently, non-hazardous purge water is transported under a bulk non-hazardous waste manifest to Crosby and Overton, Inc. in Long Beach, California.

### **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.