#### RECEIVED

9:42 am, Apr 29, 2009

Alameda County
Environmental Health



76 Broadway Sacramento, California 95818

April 22, 2009

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

Re:

Quarterly Summary Report—First Quarter 2009

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 17, 2009

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

**RE:** Quarterly Summary Report – First Quarter 2009

Delta Project No.: C1Q-0018-106

ACEH Case No: RO243

Dear Ms. Jakub:

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

#### **Service Station**

Location

CIONAL GEO

LIA HOLDEN No. 8584 Exp. 4///

OF CALL

ConocoPhillips Site No. 0018

6201 Claremont Avenue Oakland, California

Sincerely,

**Delta Consultants** 

Nadine Periat Staff Geologist

Lia Holden, PG #8584

Geologist—Project Manager

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



Quarterly Summary Report – First Quarter 2009 ConocoPhillips Site No. 0018 Oakland, CA April 17, 2009 Page 2 of 5

#### 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 (TPH-G). Another soil sample collected from beneath a dispenser island contained 1.4 mg/kg TPH-G, 0.012 mg/kg benzene, and 1.4 mg/kg methyl tertiary butyl ether (MTBE). The groundwater sample collected from the UST excavation contained 6,100 micrograms per liter ( $\mu$ g/L) of TPH-G and 54  $\mu$ g/L benzene. (KEI, 1997)

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

<u>July 2000</u> 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 TPH-G and 0.018 mg/kg of benzene. Initial groundwater samples contained low ( $\leq$ 120 micrograms per liter (ug/I)) concentrations of TPH-G, 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.

<u>January 2006</u> 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 one-half mile 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, has been monitored and sampled on a quarterly basis since October 2000. During the most recent groundwater sampling event conducted on March 27, 2009, reported depth to groundwater ranged from 15.88 feet (MW-3) to 16.88 feet (MW-2) below top of casing (TOC), with 5.34 feet average increase in groundwater elevation across the site.

Quarterly Summary Report – First Quarter 2009 ConocoPhillips Site No. 0018 Oakland, CA April 17, 2009 Page 3 of 5

Groundwater elevation beneath the site typically fluctuates by approximately 5 feet annually.

The groundwater flow direction during the first quarter 2009 was reported south at a gradient of 0.01 feet per feet (ft/ft). This is mainly consistent with a gradient of 0.005 ft/ft southwest during the previous sampling event (December 22, 2008). Reported historical groundwater flow direction has been primarily to the southwest.

During the first quarter 2009, groundwater samples were collected from all three onsite wells (MW-1, MW-2, MW-3). Samples were analyzed for TPH-G by GC/MS; benzene, toluene, ethyl-benzene and xylenes (BTEX), MTBE, and ethanol by US Environmental Protection Agency (EPA) Method 8260. In addition, well MW-1 was also analyzed for oxygenates (tertiary butyl alcohol (TBA), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and di-isopropyl ether (DIPE)), 1,2-dichloroethane (1,2-DCA), and ethylene dibromide (EDB) by EPA Method 8260.

All analytes except TPH-G and MTBE were below the laboratory reporting limits for first quarter samples. During the first quarter 2009, TPH-G and MTBE were reported in well MW-1 only, with concentrations of 340  $\mu$ g/l and 15  $\mu$ g/l, respectively. The MTBE concentration in well MW-1 has been below 20  $\mu$ g/L for the past ten consecutive sampling events. The maximum historical MTBE concentration detected in MW-1 was 150  $\mu$ g/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  $\mu$ g/L (September 2006). TPH-G has continued to decline in MW-1 and is now below the laboratory reporting limit. 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.

#### CONCLUSIONS AND RECOMMENDATIONS

TPH-G and MTBE concentrations in well MW-1 continue to fluctuate with seasonal variation in groundwater elevation. Historic data shows that MTBE and TPH-G concentrations have remained fairly stable overall since 2005.

Delta recommends continued groundwater monitoring on a quarterly basis. 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  $\mu$ g/l. Delta 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.

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 from depths of 5, 10, and 15 feet bgs. Delta also recommended collection of a groundwater sample southwest of the site.

Delta has not yet received agency response to the SCM or the recommendations proposed within the SCM; however, Delta will submit a work plan detailing the

Quarterly Summary Report – First Quarter 2009 ConocoPhillips Site No. 0018 Oakland, CA April 17, 2009 Page 4 of 5

proposed scope of work. Following submittal of a work plan, Delta will follow up with ACHCS to discuss the proposed field activities.

#### RECENT CORRESPONDENCE

No recent correspondence was sent or received this quarter.

#### THIS QUARTER'S ACTIVITIES (First Quarter 2009)

- TRC performed the First Quarter 2009 quarterly monitoring and sampling event, and prepared a quarterly monitoring report.
- Delta submitted the Fourth Quarter 2008 Quarterly Summary Report.

#### **NEXT QUARTER'S ACTIVITIES (Second Quarter 2009)**

- TRC to conduct the Second Quarter 2009 groundwater monitoring and sampling event and prepare a quarterly monitoring report.
- Delta submitted the first quarter status report for 2009.
- Delta to submit a work plan detailing the proposed scope of work initially recommended in *Delta's Site Conceptual Model*, dated September 12, 2008

#### 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





21 Technology Drive Irvine, CA 92618

949.727.9336 PHONE 949.727.7399 FAX

www.TRCsolutions.com

DATE:

April 15, 2009

TO:

ConocoPhillips Company

76 Broadway

Sacramento, CA 95818

ATTN:

MR TERRY GRAYSON

SITE:

**76 STATION 0018** 

6201 CLAREMONT AVENUE OAKLAND, CALIFORNIA

RE:

QUARTERLY MONITORING REPORT JANUARY THROUGH MARCH 2009

Dear Mr. Grayson:

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

Anju Farfan

Groundwater Program Operations Manager

CC: Ms. Lia Holden, Delta Consultants (4 copies)

Enclosures 20-0400/0018R21 QMS

## QUARTERLY MONITORING REPORT JANUARY THROUGH MARCH 2009

76 STATION 0018 6201 Claremont Avenue Oakland, California

Prepared For:

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

By:

Senior Project Geologist, Irvine Operations

Date: 4/14/09



DENNISE JENSEN No 3531

	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 – 03/27/09 Groundwater Sampling Field Notes – 03/27/09
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations

## Summary of Gauging and Sampling Activities January 2009 through March 2009 76 Station 0018

## 6201 Claremont Avenue Oakland, CA

Project Coordinator: <b>Terry Grayson</b> Telephone: <b>916-558-7666</b>	Water Sampling Contractor: <i>TRC</i> Compiled by: <b>Christina Carrillo</b>
Date(s) of Gauging/Sampling Event: 03/27/09	Complica by: Christina Carrillo
Sample Points	
Groundwater wells: <b>3</b> onsite, <b>0</b> offsite Purging method: <b>Submersible pump</b> Purge water disposal: <b>Veolia/Rodeo Unit 100</b> Other Sample Points: <b>0</b> Type:	Points gauged: 3 Points sampled: 3
Liquid Phase Hydrocarbons (LPH)	
Sample Points with LPH: <b>0</b> Maximum thickness (LPH removal frequency: Treatment or disposal of water/LPH:	feet): Method:
Hydrogeologic Parameters	
Depth to groundwater (below TOC): Minimum: 1 Average groundwater elevation (relative to available Average change in groundwater elevation since previous representation of the previous event: 0.01 ft/ft, south  Previous event: 0.005 ft/ft, southwest (12/2)	ous event: 5.34 feet
Selected Laboratory Results	
	mple Points above MCL (1.0 μg/l):
	aximum: <b>340 μg/l (MW-1)</b> aximum: <b>15 μg/l (MW-1)</b>
Notes:	<u>.</u>

## **TABLES**

#### TABLE KEY

#### STANDARD ABBREVIATIONS

- not analyzed, measured, or collected

LPH = liquid-phase hydrocarbons

Irace = 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 IOC = top of casing (surveyed reference elevation)

D = duplicate

P = no-purge sample

#### 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
IBA = tertiary butyl alcohol
TCA = trichloroethane
ICE = 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-)

#### **NOIES**

- 1 Elevations are in feet above mean sea level. Depths are in feet below surveyed top-of-casing.
- 2. Groundwater elevations for wells with LPH are calculated as: Surface Elevation Measured Depth to Water + (Dp x 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.

#### 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

A	. 4	English to the
Currer	π	Event

Table 1	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015 (Luft)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
Table 1a	Well/ Date	TBA	Ethanol (8260B)	DIPE	ETBE	TAME							
Historic	Data												
Table 2	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015 (Luft)	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 27, 2009 76 Station 0018

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	water	Change in Elevation	TPH-G 8015	TPH-G			Ethyl-	Total	MTBE	МТВЕ	Comments
				Elevation	1	(Luft)	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	(µg/l)	(µg/l)	$(\mu g/l)$	
MW-1			(Scree	en Interva	l in feet: 10.	0-30.0)								
03/27/0	9 208.15	16.00	0.00	192.15	4.82		340	ND<0.50	ND<0.50	ND<0.50	ND<1.0		15	
MW-2			(Scree	en Interval	l in feet: 10.	0-30.0)								
03/27/0	9 210.27	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	
MW-3			(Scree	n Interval	in feet: 10.	0-30.0)								
03/27/0	9 208.98	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	



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

Date Sampled		Ethanol			
	ТВА	(8260B)	DIPE	ETBE	TAME
	(μg/l)	(μg/l)	(µg/l)	(μg/l)	(μg/l)
MW-1					
03/27/09	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50
<b>MW-2</b> 03/27/09		ND<250		and has	
MW-3					
03/27/09		ND<250			



Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
August 2000 Through March 2009
76 Station 0018

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015 (Luft)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
-	(feet)	(feet)	(feet)	(feet)	(feet)	$(\mu g/l)$	(μg/l)	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	(μg/l)	(µg/l)	
MW-1			(Scre	en Interva	l in feet: 10.	0-30.0)			,					
08/24/0	00 208.15	18.55	0.00	189.60		120		0.67	ND	0.86	1.4	54	54	
11/16/0	00 208.15	20.30	0.00	187.85	-1.75	169	~-	ND	1.20	i.74	0.629	68.6	97.7	
02/09/0	208.15	20.16	0.00	187.99	0.14	330		1.3	ND	1.0	4.6	140	150	
05/11/0	208.15	17.68	0.00	190.47	2.48	1250	***	ND	ND	ND	ND	145	122	
08/10/0	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	
11/07/0	208.15	22.68	0.00	185.47	-2.30	250		ND<0.50	1.5	ND<0.50	ND<0.50	120	100	
02/06/0	208.15	16.20	0.00	191.95	6.48	790		ND<2.5	12	8.8	ND<2.5	90	72	
05/08/0	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	
08/09/0	208.15	20.21	0.00	187.94	-2.67		450	ND<0.50	ND<0.50	ND<0.50	ND<1.0		100	
11/29/0	208.15	22.33	0.00	185.82	-2.12		110	ND<0.50	ND<0.50	ND<0.50	ND<1.0		72	
02/03/0	3 208.15	16.41	0.00	191.74	5.92		540	ND<0.50	ND<0.50	ND<0.50	ND<1.0		40	
05/05/0	3 208.15	16.09	0.00	192.06	0.32		670	ND<2.5	ND<2.5	ND<2.5	ND<5.0		57	
09/04/0	3 208.15	21.46	0.00	186.69	-5.37									No analysis; past holding time
11/13/0	3 208.15	21.52	0.00	186.63	-0.06		97	ND<0.50	5.0	0.82	3.5		29	
01/29/0	208.15	17.51	0.00	190.64	4.01		520	ND<0.50	ND<0.50	ND<0.50	ND<1.0	<del></del>	44	
05/07/0	208.15	16.74	0.00	191.41	0.77		180	ND<0.50	ND<0.50	ND<0.50	ND<1.0		25	
08/27/0	208.15	19.40	0.00	188.75	-2.66		100	ND<0.50	ND<0.50	ND<0.50	ND<1.0		21	
11/23/0	208.15	19.82	0.00	188.33	-0.42		410	ND<0.50	ND<0.50	ND<0.50	ND<1.0		45	
02/09/0	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	
06/16/0	208.15	15.85	0.00	192.30	-0.04		200	ND<0.50	ND<0.50		ND<1.0		24	
09/27/0	5 208.15	19.15	0.00	189.00	-3.30		300		ND<0.50		ND<1.0		19	
12/30/0	)5 208.15	14.62	0.00	193.53	4.53		68		ND<0.50		ND<1.0		12	

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Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
August 2000 Through March 2009
76 Station 0018

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015 (Luft)	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)	
MW-1	continued									,				
03/08/0	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	
06/08/0	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	
09/15/0	6 208.15	17.49	0.00	190.66	-3.21		96	ND<0.50	ND<0.50	ND<0.50	ND<0.50		6.1	
12/22/0	6 208.15	18.68	0.00	189.47	-1.19		570	ND<0.50	ND<0.50	ND<0.50	ND<0.50		18	
03/28/0	7 208.15	18.40	0.00	189.75	0.28		190	ND<0.50	ND<0.50	ND<0.50	ND<0.50		18	
06/25/0	7 208.15	20.01	0.00	188.14	-1.61		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		4.2	
09/22/0	7 208.15	21.23	0.00	186.92	-1.22		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		14	
12/14/0	7 208.15	21.02	0.00	187.13	0.21		76	ND<0.50	ND<0.50	ND<0.50	ND<1.0		16	
03/26/0	8 208.15	16.87	0.00	191.28	4.15		230	ND<0.50	ND<0.50	ND<0.50	ND<1.0		18	
06/20/0	8 208.15	18.82	0.00	189.33	-1.95		100	ND<0.50	ND<0.50	ND<0.50	ND <i.0< td=""><td></td><td>13</td><td></td></i.0<>		13	
09/19/0	8 208.15	21,11	0.00	187.04	-2.29		63	ND<0.50	ND<0.50	ND<0.50	ND<1.0		12	
12/22/0	8 208.15	20.82	0.00	187.33	0.29		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		9.6	
03/27/0	9 208.15	16.00	0.00	192.15	4.82		340	ND<0.50	ND<0.50	ND<0.50	ND<1.0		15	
MW-2			(Scre	en Interval	l in feet: 10.	.0-30.0)								
08/24/0	0 210.27	19.69	0.00	190.58		ND		ND	ND	ND	ND	ND	ND	
11/16/0	0 210.27	21.61	0.00	188.66	-1.92	ND		ND	ND	ND	ND	ND	ND	
02/09/0	1 210.27	21.52	0.00	188.75	0.09	ND		ND	ND	ND	ND	ND	ND	
05/11/0	1 210.27	18.76	0.00	191.51	2.76	ND		ND	ND	ND	ND	ND	ND	
08/10/0	1 210.27	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	
11/07/0	1 210.27	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	
02/06/0	2 210.27	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		
05/08/0	2 210.27	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		
08/09/0	2 210.27	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	
0018								Page 2	2 of 5					

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Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
August 2000 Through March 2009
76 Station 0018

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015 (Luft)	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)	$(\mu g/l)$	(μg/l)	(μg/l)	(µg/l)	
MW-2														
11/29/0				186.54	-2.20		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
02/03/0				192.84	6.30		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
05/05/0		7 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	
09/04/0				187.52	<b>-</b> 5.60									No analysis; past holding time
11/13/0		7 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	
01/29/0			0.00	191.54	4.29		ND<50	0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
05/07/0		7 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	
08/27/0	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	
11/23/0		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	
02/09/0	210.27	16.72	0.00	193.55	4.48		ND<50	0.69	1.5	ND<0.50	1.4		ND<0.50	
06/16/0	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	
09/27/0	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	
12/30/0	5 210.27	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	
03/08/0	6 210.27	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	
06/08/0	6 210.27	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	
09/15/0	6 210.27	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	
12/22/0	6 210.27	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	
03/28/0	7 210.27	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	
06/25/0	7 210.27	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	
09/22/0	7 210.27	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	
12/14/0	7 210.27	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	
03/26/0	8 210.27	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	
06/20/0	8 210.27	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	
0018								Page 3	3 of 5					<b>OTRC</b>

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
August 2000 Through March 2009
76 Station 0018

Date	TOC	Depth to	LPH	Ground-	Change	трн-с								Comments
Sampled	Elevation	Water	Thickness	water Elevation	in Elevation	8015	TPH-G			Ethyl-	Total	MTBE	MTBE	
	40	(0)	(2)			(Luft)	(GC/MS)		Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(μg/l)	(µg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	(µg/l)	
	continued													
09/19/0				187.65	-1.49		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
12/22/0	08 210.27	7 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	
03/27/0	09 210.27	7 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	
MW-3			(Scre	en Interval	l in feet: 10	.0-30.0)								
08/24/0	00 208.98	18.68	0.00	190.30		ND		ND	ND	ND	ND	4.7	2.3	
11/16/0	00 208.98	3 20.56	0.00	188.42	-1.88	ND		ND	ND	ND	ND	ND	ND	
02/09/0	208.98	3 20.45	0.00	188.53	0.11	ND		ND	ND	ND	ND	ND	ND	
05/11/0	208.98	3 17.75	0.00	191.23	2.70	ND		ND	ND	ND	ND	ND	ND	
08/10/0	208.98	3 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	
11/07/0	1 208.98	3 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	
02/06/0	208.98	3 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		
05/08/0	208.98	3 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		
08/09/0	208.98	3 20.48	0.00	188.50	-2.89		ND<50		ND<0.50		ND<1.0		ND<2.0	
11/29/0	208.98	3 22.64	0.00	186.34	-2.16		ND<50		ND<0.50		ND<1.0		ND<2.0	
02/03/0	3 208.98	3 16.46	0.00	192.52	6.18		ND<50			ND<0.50	ND<1.0		ND<2.0	
05/05/0	3 208.98	3 16.16	0.00	192.82	0.30		ND<50			ND<0.50	ND<1.0		2.6	
09/04/0	3 208,98	3 21.71	0.00	187.27	-5.55									No analysis; past holding time
11/13/0				187.05	-0.22		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	140 analysis, past nothing time
01/29/0				191.19	4.14		ND<50		ND<0.50		ND<1.0		ND<2.0	
05/07/0				192.19	1.00		ND<50		ND<0.50		ND<1.0		0.55	
08/27/0				189.28	-2.91		ND<50		ND<0.50		ND<1.0			
11/23/0				188.68	-0.60		ND<50		ND<0.50		ND<1.0 ND<1.0		ND<0.50	
02/09/0				193.26	4.58		ND<50		ND<0.50				ND<0.50	
	5 500,70	15,12	0.00	175.20	טע.די		MD~30			1VD~0.30	ND<1.0	<u></u>	1.6	
0018								Page 4	+ OI 3					

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
August 2000 Through March 2009
76 Station 0018

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water	Change in	TPH-G 8015	ТРН-G			Ed., i	T-1-1	Maror	Mark	Comments
				Elevation		8015 (Luft)	(GC/MS)	Benzene	Toluene	Ethyl- benzene	Total	MTBE (8021B)	MTBE	
	(feet)	(feet)	(feet)	(feet)	(feet)	(Luit) (μg/l)	(GC/MS) (μg/l)	Benzene (μg/l)	roidene (μg/l)	oenzene (μg/l)	Xylenes		(8260B)	
		(1001)	(1001)	(1001)	(ICCI)	(μg/1)	(μg/1)	(μg/1)	(μg/1)	(με/1)	(μg/l)	(µg/l)	(µg/l)	
<b>MW-3</b> 06/16/0	<b>continued</b> 308.98 5	15 (7	0.00	102.21	0.05		NYD -50	NID -0 60	3.075 .0.50	ND -0.50				
				193.31	0.05		ND<50			ND<0.50			ND<0.50	
09/30/0	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.
12/30/0	)5 208.98	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	
03/08/0	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	
06/08/0	6 208.98	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	
09/15/0	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	
12/22/0	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	
03/28/0	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	
06/25/0	7 208.98	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	
09/22/0	7 208.98	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	
12/14/0	7 208.98	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	
03/26/0	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	
06/20/0	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	
09/19/0	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	
12/22/0	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	
03/27/0	9 208.98	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	



Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 0018

Date			Ethylene-				
Sampled		Ethanoi	dibromide	1,2-DCA			
	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME
	(μg/l)	(μg/l)	(µg/l)	(μg/l)	(µg/l)	(µg/l)	(μg/l)
MW-1							-14.19
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

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Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 0018

Date			Ethylene-				
Sampled		Ethanol	dibromide	1,2-DCA			
	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME
	(µg/l)	(µg/l)	(µg/l)	(μg/l)	(µg/l)	(μg/l)	(μg/l)
MW-1 co							
03/28/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
06/25/07	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0,50
09/22/07	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
03/26/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
06/20/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/19/08	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
03/27/09	ND<10	ND<250			ND<0.50	ND<0.50	ND<0.50
MW-2							
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	<u>-</u>	ND<500		<del></del>			
01/29/04		ND<500					
05/07/04		ND<50					
08/27/04		ND<50					
11/23/04		ND<50				MI had	
02/09/05		ND<50			<del></del>		
06/16/05		ND<50					
09/27/05		ND<250			<u></u>		
12/30/05		ND<250		<u></u>			

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Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 0018

Date			Ethylene-				
Sampled		Ethanol	dibromide	1,2-DCA			
	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME
	(µg/l)	(μg/l)	(μg/l)	(µg/l)	(µg/l)	(µg/l)	(μg/l)
MW-2 co	ontinued						
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		<u></u>			
06/25/07		ND<250					
09/22/07		ND<250					
12/14/07		ND<250					
03/26/08		ND<250					
06/20/08		ND<250				<del></del> -	
09/19/08		ND<250					
12/22/08		ND<250					
03/27/09	-	ND<250					
MW-3							
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
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			wie
05/05/03			ND<1.0	ND<1.0			
11/13/03		ND<500				<b>u</b> -	

**OTRC** 

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)
MW-3 co	ntinued				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , ,
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					
06/25/07		ND<250					
09/22/07		ND<250					
12/14/07		ND<250					
03/26/08		ND<250		n-			
06/20/08		ND<250					
09/19/08		ND<250					
12/22/08		ND<250					
03/27/09	w w	ND<250					



- 2:03pm

2009

Jan 19,

M A P S\0018VM.DWG

PS=1:1 L: \QMS VICINITY

## **LEGEND** MW-3 - Monitoring Well with Groundwater Elevation (feet) 193.30 — Groundwater Elevation Contour General Direction of Groundwater Flow FORMER WASTE OIL TANK PARKING AREA STATION BUILDING MW-1 DISPENSER & ISLANDS PLANTER 193.39

**CLAREMONT AVENUE** 



#### NOTES:

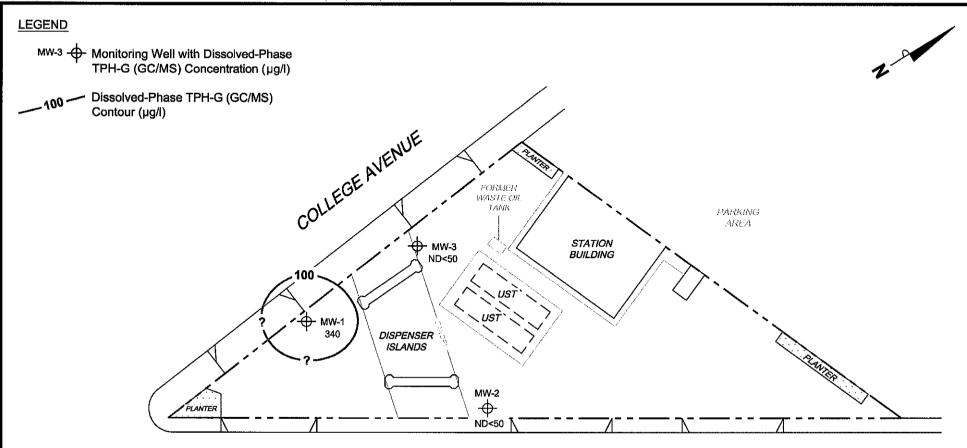
Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. UST = underground storage tank.



PROJECT: 165521

FACILITY:

76 STATION 0018 6201 CLAREMONT AVENUE OAKLAND, CALIFORNIA GROUNDWATER ELEVATION CONTOUR MAP March 27, 2009



## **CLAREMONT AVENUE**



#### 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.



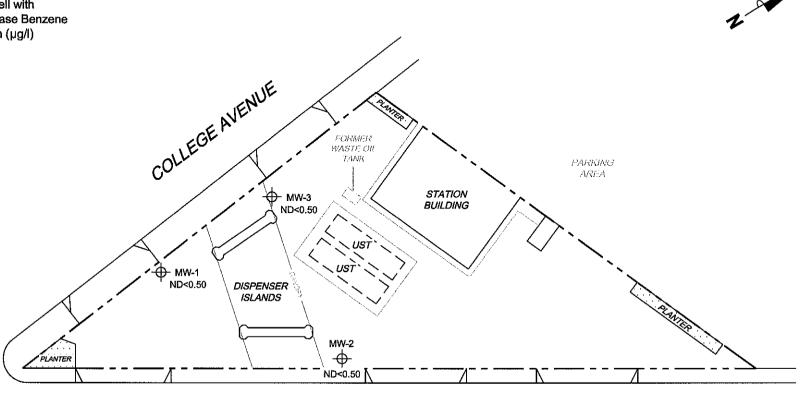
PROJECT: 165521

FACILITY:

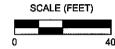
76 STATION 0018 6201 CLAREMONT AVENUE OAKLAND, CALIFORNIA DISSOLVED-PHASE TPH-G (GC/MS) CONCENTRATION MAP March 27, 2009

### LEGEND

MW-3 - Monitoring Well with
Dissolved-Phase Benzene
Concentration (µg/l)



### **CLAREMONT AVENUE**



#### NOTES:

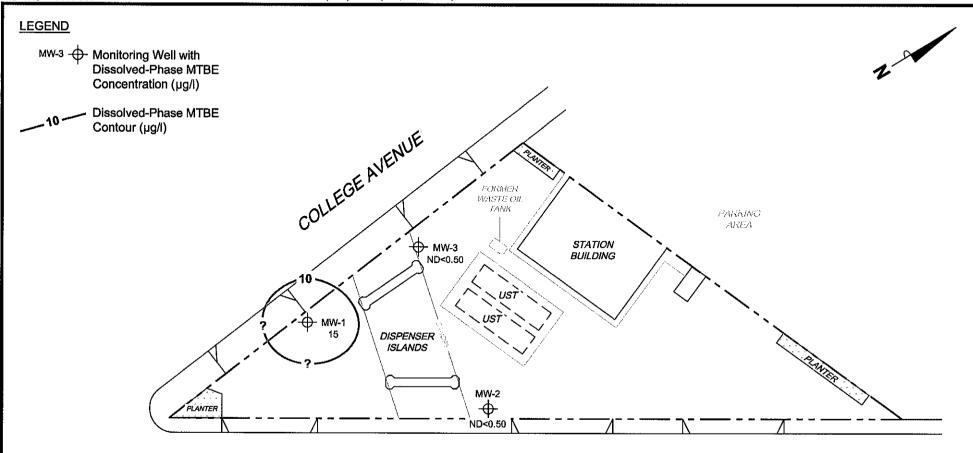
µg/i = micrograms per liter. ND = not detected at limit indicated on official laboratory report. UST = underground storage tank.



PROJECT: 165521

FACILITY:

76 STATION 0018 6201 CLAREMONT AVENUE OAKLAND, CALIFORNIA DISSOLVED-PHASE BENZENE CONCENTRATION MAP March 27, 2009



#### **CLAREMONT AVENUE**



#### NOTES:

Contour lines are interpretive and based on laboratory analysis results of groundwater samples.

MTBE = methyl tertiary butyl ether.

µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.

UST = underground storage tank. Results obtained using EPA Method 8260B.



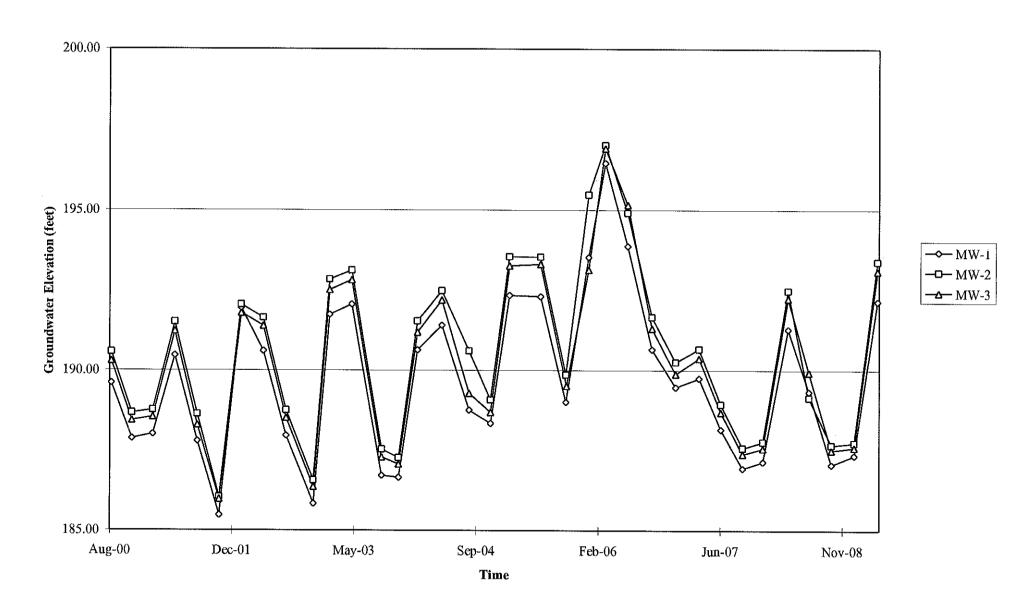
PROJECT: 165521

FACILITY:

76 STATION 0018 6201 CLAREMONT AVENUE OAKLAND, CALIFORNIA DISSOLVED-PHASE MTBE CONCENTRATION MAP March 27, 2009

## **GRAPHS**

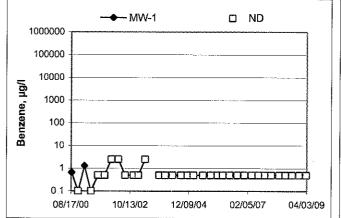
## Groundwater Elevations vs. Time 76 Station 0018

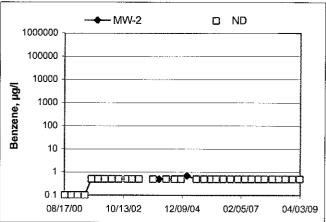


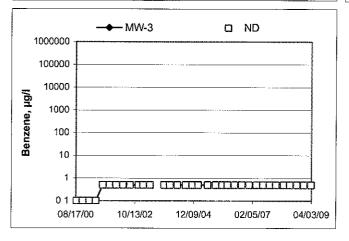
Elevations may have been corrected for apparent changes due to resurvey

#### **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

3/7/08 version

## FIELD MONITORING DATA SHEET

Technician:	<u>B</u>	Asili	) Jol	) #/Task #:	145=	S21 Fr Collin;	656	Date: 3 7 - 0	
Site#	<u> </u>	18	Projec	t Manager <sub>,</sub>	<i>V</i> , (	sur!	<i>Y</i>	Page of/	
				Depth	Depth	Product			_
*** ** **	T00	Time	Total	to	to	Thickness	Time	*** *** *** ***	
Well#	TOC	Gauged	Depth	Water	Product	(feet)	Sampled	Misc. Well Notes	_
MW-1	V		29.70				0655	2"	
MW-3	~	0534	30 15	15.88	** <u></u>	-	0705	2"	
MW-Z		0540	27.50	16-33		(Pilakelikeli, d )	0915	2"	
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	100							, MP-12-12-1	
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FIELD DATA	COMPLI	LTE ETE	QA/QC		COC	W	ELL BOX CO	DNDITION SHEETS	_
	, m = 1		~, r &O			***		- No.	_
MANIFEST		DRUM IN	VENTORY	<u> </u>	TRAFFIC (	CONTROL	,		_

### **GROUNDWATER SAMPLING FIELD NOTES**

Time Time Start Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F.C)	pН	D O (mg/L)	ORP	Turbidity	
Pre-Purge		nitalianing in incident		-					
0608		3	780.7	13.3	8.11				
		6	776.2	110-0	7.08				
21014		9	725.4	17.5	6-29				
Static at Time Sa	mpled	Tot	al Gallons Pur	ged		Sample	Time		
16.50	)	9	al Calloris F di	ged in the last	0	655			
Comments:		•			•		•		

Well No. <u>MW-3</u>	Purge Method: Snb
Depth to Water (feet): 15,88	Depth to Product (feet):
Total Depth (feet) 30 · 15	LPH & Water Recovered (gallons):
Water Column (feet): 14.27	Casing Diameter (Inches):
80% Recharge Depth(feet): 1373	1 Well Volume (gallons):

Pre-Purge  (62)  5533 16.1 6.26  6535.1 17.0 6.14  625  532.1 17.3 6.11	urbiditý		ORP	(		D. (mg	1	рН	ıre	Temperatu (F,C)	ty	Conductivity (µS/cm)	Volume Purged (gallons)	Depth to Water (feet)	Time Stop	Time Start
625 7 535.1 17.0 6.14		$\top$												ring Gravitan	urge	Pre-P
		T					Ô	10.20		16.1		5533	3			7/2/
							4	Cer 14		17.0		535.1	6			
Static at Time Sampled Total Gallons Purged Sample Time		+						6.11	*	17.3	1	53211	27		625	
Sample Line Sampled	EBS FB : meus ra	1	TERRIK						lia tac			1011			(T. 0	
		MA	me	اللث	npie	Sai				ea	urg	ii Gallons Pu	lota	impled	at Time Sa	Statio
15.95 9 070					0	<u>9 †</u>	7		<u> </u>				9	>	15.93	



		GROU	NDWATE		NG FIELD N	OTES			
		Tec	hnician: _	13 a	nli				
Site: <i></i> \_		Proj	ect No :	65521		2 I.	Date:	3 - 3	7-09
		W-2		Purge Metho	od:	5n5			
Depth to W	ater (feet):_	14.88	<u> </u>	Depth to Pro	duct (feet):				
Total Depth	(feet)	29.50		LPH & Wate	r Recovered (g neter (Inches):_ ne (gallons):	allons):		_	
		12.6		Casing Diam	eter (Inches):_				
80% Recha	rge Depth(fe	eet):	<u>1 U</u>	1 Well Volun	ne (gallons):				
Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F,C)	pН	D O (mg/L)	ORP	Turbidity
	urge		agaeterandunford Andressandunford				****		
0631			3	507.3		6.17			
	0636		9	504.4 503.7	17.1	6.15			
					<b>1-1</b>				
Stat	 ic at Time Sa	l ampled	Tota	│ al Gallons Pur	ged		Sample	Time	
	1600		5°		3-2-1	0	715		s va minimusiani grani
Comments	:								
				· · · · · · · · · · · · · · · · · · · ·		***************************************		<del></del>	
Well No.				Purae Metho	d:		are and		
				-	duct (feet):				
					Recovered (g				
Nater Colu					eter (Inches):_	,		<u> </u>	
30% Recha	rge Depth(fe	et):	<del></del>	1 Well Volum	e (gallons):				
Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)/	Conductivity (µS/cm)	Temperature (F , C)	рН	D O (mg/L)	ÖRP	Turbidity
Pre-F	urge			uh anu reso					.,
			/						
CI-II	c at Timo Sa	undolod		Collone Dur			Comple		

Comments:



Date of Report: 04/07/2009

Anju Farfan

TRC 21 Technology Drive Irvine, CA 92618

RE.

0018

BC Work Order:

0904122

Invoice ID:

B059966

Enclosed are the results of analyses for samples received by the laboratory on 3/30/2009. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Client Service Rep

Authorized Signature



21 Technology Drive Irvine, CA 92618

Protect: 0018

Project Number: 4511010881

Project Manager: Anju Farfan

Reported: 04/07/2009 17:25

### **Laboratory / Client Sample Cross Reference**

Laboratory	Client Sample Information	Dit .			
0904122-01	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0018  MW-1 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	03/30/2009 22:15 03/27/2009 06:55  Water	Delivery Work Order: Global ID: T0600102231 Location ID (FieldPoint): MW-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
0904122-02	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0018  MW-3 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	03/30/2009 22:15 03/27/2009 07:05  Water	Delivery Work Order: Global ID: T0600102231 Location ID (FieldPoint): MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
0904122-03	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0018  MW-2 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	03/30/2009 22:15 03/27/2009 07:15  Water	Delivery Work Order: Global ID: T0600102231 Location ID (FieldPoint): MW-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:



21 Technology Drive Irvine, CA 92618



Project: 0018

Project Number: 4511010881 Project Manager: Anju Farfan

Reported: 04/07/2009 17:25

## Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0	904122-01	Client Sample	e Name:	0018, MW-1, 3/	27/2009 6:55:00	)AM							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL M	DL Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	i	BSD0260	ND	
Ethylbenzene		ND	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	í	BSD0260	ND	
Methyl t-butyl ether		15	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
Toluene		ND	ug/L	0,50	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
Total Xylenes		ND	ug/L	1.0	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
t-Amyl Methyl ether		ND	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
t-Butyl alcohol		ND	ug/L	10	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
Diisopropyl ether		ND	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
Ethanol		ND	ug/L	250	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
Ethyl t-butyl ether		ND	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
Total Purgeable Petroleum Hydrocarbons		340	ug/L	50	Luft-GC/M8	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260	ND	
1,2-Dichloroethane-d4 (Surr	ogate)	101	%	76 - 114 (LCL - UC	L) EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	í	BSD0260		
Toluene-d8 (Surrogate)		99.8	%	88 - 110 (LCL - UC	L) EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	i	BSD0260		
4-Bromofluorobenzene (Sur	rogate)	114	%	86 - 115 (LCL - UC	L) EPA-8260	04/03/09	04/04/09 22:19	KEA	MS-V12	1	BSD0260		



21 Technology Drive Irvine, CA 92618 Project: 0018

Project Number: 4511010881

Project Manager: Anju Farfan

Reported: 04/07/2009 17:25

# Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0904122-03	2 Client Samp	le Name:	0018, MW-3, 3	/27/2009 7:05:00/	AM							
					Prep	Run		Instru-		QC	MB	Lab
Constituent	Result	Units	PQL IV	DL Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene	ND	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	1	BSD0260	ND	
Ethylbenzene	ND	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	1	BSD0260	ND	
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	1	BSD0260	ND	
Toluene	ND	ug/L	0,50	EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	1	BSD0260	ND	
Total Xvienes	ND	ug/L	1.0	EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	1	BSD0260	ND	
Ethanol	ND	ug/L	250	EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	í	BSD0260	ND	
Total Purgeable Petroleum Hvdrocarbons	ND	ug/L	50	Luft-GC/MS	04/03/09	04/04/09 22:42	KEA	MS-V12	i	BSD0260	ND	
1,2-Dichloroethane-d4 (Surrogate)	90.2	%	76 - 114 (LCL - UC	L) EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	í	BSD0260		
Toluene-d8 (Surrogate)	99.5	%	88 - 110 (LCL - UC	L) EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	1	BSD0260		
4-Bromofluorobenzene (Surrogate)	101	%	86 - 115 (LCL - UC	L) EPA-8260	04/03/09	04/04/09 22:42	KEA	MS-V12	1	BSD0260		



21 Technology Drive Irvine, CA 92618 Project: 0018

Project Number: 4511010881 Project Manager: Anju Farfan Reported: 04/07/2009 17:25

# Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0904122-03	Client Sample Name:		0018, MW-2, 3/2	0018, MW-2, 3/27/2009 7:15:00AM								
Constituent		Result	Units	PQL M	DL 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	04/03/09	04/07/09 08:04	KEA	MS-V12	1	BSD0260	ND	
Ethylbenzene		ND	ug/L	0.50	EPA-8260	04/03/09	04/07/09 08:04	KEA	MS-V12	i	BSD0260	ND	
Methvi t-butyl ether		ND	ug/L	0.50	EPA-8260	04/03/09	04/07/09 08:04	KEA	MS-V12	i	BSD0260	ND	
Toluene		ND	ug/L	0,50	EPA-8260	04/03/09	04/07/09 08:04	KEA	MS-V12	i	BSD0260	ND	
Total Xylenes		ND	ug/L	1.0	EPA-8260	04/03/09	04/07/09 08:04	KEA	MS-V12	1	BSD0260	ND	
Ethanol		ND	ug/L	250	EPA-8260	04/03/09	04/07/09 08:04	KEA	MS-V12	1	BSD0260	ND	
Total Purgeable Petrole Hydrocarbons	um	ND	ug/L	50	Luft-GC/MS	04/03/09	04/07/09 08:04	KEA	MS-V12	1	BSD0260	ND	
1,2-Dichloroethane-d4 (	Surrogate)	93,5	%	76 - 114 (LCL - UC	_) EPA-8260	04/03/09	04/07/09 08:04	KEA	MS-V12	1	BSD0260		
Toluene-d8 (Surrogate)		102	%	88 - 110 (LCL - UC	_) EPA-8260	04/03/09	04/07/09 08:04	KEA	MS-V12	1	BSD0260		
4-Bromofluorobenzene	(Surrogate)	100	%	86 - 115 (LCL - UC	_) EPA-8260	04/03/09	04/07/09 08:04	KEA	MS-V12	1	BSD0260		



21 Technology Drive Irvine, CA 92618

Project: 0018

Project Number: 4511010881 Project Manager: Anju Fartan

Reported: 04/07/2009 17:25

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Precision & Accuracy

										Contr	ol Limits
			Source	Source		Spike			Percent		Percent
Constituent	Batch ID	QC Sample Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery Lab Quals
Benzene	BSD0260	Matrix Spike	0903406-52	0	23.890	25.000	ug/L		95.6		70 - 130
		Matrix Spike Duplicate	0903406-52	0	23.530	25.000	ug/L	1.6	94.1	20	70 - 130
Toluene	BSD0260	Matrix Spike	0903406-52	0	23,460	25.000	ug/L		93,8	•••	70 - 130
		Matrix Spike Duplicate	0903406-52	0	22,280	25.000	ug/L	5.1	89.1	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	B\$D0260	Matrix Spike	0903406-52	ND	10.370	10.000	ug/L		104		76 - 114
		Matrix Spike Duplicate	0903406-52	ND	10.560	10.000	ug/L		106		76 - 114
Toluene-d8 (Surrogate)	BSD0260	Matrix Spike	0903406-52	ND	10,530	10.000	ug/L		105		88 - 110
		Matrix Spike Duplicate	0903406-52	ND	10.010	10.000	ug/L		100		88 - 110
4-Bromofluorobenzene (Surrogate)	BSD0260	Matrix Spike	0903406-52	ND	10.140	10.000	ug/L		101		86 - 115
		Matrix Spike Duplicate	0903406-52	ND	10.200	10.000	ug/L		102		86 - 115



21 Technology Drive Irvine, CA 92618 Project: 0018

Project Number: 4511010881

Project Manager: Anju Farfan

Reported: 04/07/2009 17:25

## **Volatile Organic Analysis (EPA Method 8260)**

### **Quality Control Report - Laboratory Control Sample**

										Control	<u>Limits</u>	
Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
Benzene	BSD0260	BSD0260-BS1	LCS	28.970	25.000	0,50	ug/L	116		70 - 130		
Toluene	BSD0260	BSD0260-BS1	LCS	27.870	25,000	0.50	ug/L	111		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BSD0260	BSD0260-BS1	LCS	10.140	10.000		ug/L	101	•••	76 - 114		
Toluene-d8 (Surrogate)	BSD0260	BSD0260-BS1	LCS	10.120	10.000		ug/L	101	***	88 - 110		
4-Bromofluorobenzene (Surrogate)	BSD0260	BSD0260-BS1	LCS	9.9700	10.000		ug/L	99.7		86 - 115		

TRC 21 Technology Drive Irvine, CA 92618

Project: 0018

Project Number: 4511010881

Project Manager: Anju Farfan

Reported: 04/07/2009 17:25

# 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	BSD0260	BSD0260-BLK1	ND	ug/L	0.50		
Ethylbenzene	BSD0260	BSD0260-BLK1	NĐ	ug/L	0.50		
Methyl t-butyl ether	BSD0260	BSD0260-BLK1	ND	ug/L	0.50		
Toluene	BSD0260	BSD0260-BLK1	ND	ug/L	0.50		
Total Xvlenes	BSD0260	BSD0260-BLK1	ND	ug/L	1.0		1
t-Amyl Methyl ether	BSD0260	BSD0260-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BSD0260	BSD0260-BLK1	ND	ug/L	10		
Diisopropyl ether	BSD0260	BSD0260-BLK1	ND	ug/L	0.50		
Ethanol	BSD0260	BSD0260-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BSD0260	BSD0260-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons	BSD0260	BSD0260-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BSD0260	BSD0260-BLK1	98.6	%	76 - 114 (LC	L - UCL)	
Toluene-d8 (Surrogate)	BSD0260	BSD0260-BLK1	102	%	88 - 110 (LC	L - UCL)	
4-Bromofluorobenzene (Surrogate)	BSD0260	BSD0260-BLK1	98.7	%	86 - 115 (LC	L - UCL)	



RPD

21 Technology Drive Irvine, CA 92618 Project: 0018

Project Number: 4511010881 Project Manager: Anju Farfan Reported: 04/07/2009 17:25

#### **Notes And Definitions**

MDL Method Detection Limit

ND Analyte Not Detected at or above the reporting limit

PQL Practical Quantitation Limit

Relative Percent Difference

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Sample Numbering Completed By: AYVVO
A = Actual / C = Corrected

Date/Time: 8 31 09 - 850

BC LABORATORIES, INC.

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

CHAIN OF CUSTODY

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#### **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.

Quarterly Summary Report – First Quarter 2009 ConocoPhillips Site No. 0018 Oakland, CA April 17, 2009 Page 5 of 5

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