#### **RECEIVED**

4:43 pm, Sep 23, 2010

Alameda County Environmental Health



Sacramento, California 95818

April 30, 2010

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

Re:

Semi Annual Summary Report—Fourth Quarter 2009 through First Quarter 2010

76 Service Station # 3538 RO # 0251

411 W. MacArthur Blvd.

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 30, 2010

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

Re: Semi-Annual Summary Report -Fourth Quarter 2009 through First Quarter 2010

Delta Project No. C1Q3538091 Alameda County LOP Case No. R0251

Dear Ms. Jakub,



On behalf of ConocoPhillips Company (ConocoPhillips), Delta Consultants (Delta) is submitting the subject report and forwarding a copy of TRC's Semi-Annual Monitoring Report October 2009 through March 2010, dated April 7, 2010 for the following location:

#### **Service Station**

#### Location

ConocoPhillips Site No. 3538

411 W. MacArthur Blvd. Oakland, California

Please contact me at (916) 503-1275 if you have any questions.

Sincerely,

**Delta Consultants** 

Jan W. Wagoner

Senior Project Manager

James B. Barnard, P.G.

ones B. Bangar

California Registered Professional Geologist No. 7478

Enclosure

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



# SEMI-ANNUAL SUMMARY REPORT Fourth Quarter 2009 through First Quarter 2010 76 Service Station No. 3538 411 W. MacArthur Blvd. Oakland, California

#### SITE DESCRIPTION

The subject site is a former Tosco (76) service station located on the southwest corner of MacArthur Boulevard and Webster Street in Oakland, California. The site is currently a used car sales lot and is entirely fenced. All petroleum storage and dispensing equipment were removed in September of 1998, during station demolition activities. Six groundwater-monitoring wells are present, four on-site wells and two off-site wells.

#### SITE BACKGROUND AND ACTIVITY

July 1989: One 10,000-gallon and one 12,000-gallon gasoline underground storage tanks (USTs) were removed and replaced with two new 12,000-gallon USTs. One 550-gallon waste oil UST and the associated piping for all three tanks were also removed. No holes or cracks were observed in the gasoline USTs; however, holes were observed in the waste oil UST. Groundwater was encountered in the former UST pit at a depth of approximately 10.5 feet below ground surface (bgs), which prohibited the collection of soil samples below the former fuel USTs. Confirmation soil samples from the sidewalls contained moderate maximum concentrations of total petroleum hydrocarbons as gasoline (TPH-G), and low maximum concentrations of benzene. These sample areas were subsequently over-excavated. Soil samples from the base of the waste oil UST pit did not contain detections of TPH-G or benzene, toluene, ethylbenzene, and xylenes (BTEX). (Kaprealian Engineering, INC., 1989)

<u>September 1989:</u> Kaprealian Engineering, INC. (KEI) installed four groundwater monitoring wells at the site to depths of approximately 30 feet bgs.

November 1992: Two additional groundwater monitoring wells were installed off-site to a depth of 30 feet bgs. (KEI, 1993)

<u>September 1998:</u> Two 12,000-gallon gasoline USTs and associated product piping and dispensers were removed from the site during station demolition activities. No holes or cracks were observed in the tanks. Confirmation soil samples contained low maximum concentrations of TPH-G and benzene. Methyl butyl ether (MTBE) was not detected.

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

March 2006: TRC conducted additional soil and groundwater assessment at the Site. The investigation involved the advancement of three onsite soil borings (SB-3, SB-4, and SB-5) and two offsite soil borings (SB-1 and SB-2) to sufficient depth to obtain representative groundwater samples (approximately 16 feet bgs).

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

### SENSITIVE RECEPTORS

A sensitive receptor survey has been conducted for the site. According to the California Department of Water Resources (DWR) records, no water supply wells have been located within 2,000 feet of the site. The nearest well identified was a private water well located approximately 2,500 feet east-southeast of the site.

## GROUNDWATER MONITORING AND SAMPLING

Currently, the two onsite monitoring wells MW-2 and MW-3 are monitored semi-annually during the first and third quarters and the remaining four wells are monitored annually during the third quarter. Groundwater samples collected and submitted are analyzed for total petroleum hydrocarbons as gasoline (TPHg) by Environmental Protection Agency (EPA) method 8015M and BTEX and MTBE by EPA method 8021B.

During the first quarter of 2010, the groundwater monitoring well network was monitored and sampled by TRC on March 23, 2010. During the current event, all six wells were monitored, but only wells MW-2 and MW-3 were sampled. The groundwater flow direction beneath the site was reported south at a gradient of 0.02 feet per feet (ft/ft). This is consistent with the previous calculated gradient of 0.01 ft/ft south during the previous sampling event (9/17/09).

Dissolved groundwater concentrations are reported as follows.

**TPHg** was below the laboratory's indicated reporting limits in groundwater samples collected from both of the two sampled wells during the current sampling event. During the third quarter 2009, TPHg was also below reporting limits in all wells sampled, (MW-1 through MW-6).

**Benzene** was reported above the laboratory's indicated reporting limits in ground water samples collected from one of the two wells sampled with a concentration of 0.68  $\mu$ g/L in MW-2. During the previous sampling event, benzene was reported in the same well at a concentration of 2.7  $\mu$ g/L.

MTBE was reported above the laboratory's indicated reporting limits in groundwater samples collected from one of the two wells sampled with a concentration of 22  $\mu$ g/L in MW-3. During the previous sampling event, MTBE was reported in the same well at 30  $\mu$ g/L. MTBE was also reported above reporting limits in well MW-2 at a concentration of 1.1  $\mu$ g/L. Historically, MTBE has been reported above the laboratory's indicated reporting limits fairly consistently in on-site wells MW-3 and to a lesser extent in MW-2.

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

#### REMEDIATION STATUS

October 1998: A total of 516.44 tons (approximately 380 cubic yards) of soil generated during station demolition was transported from the site to Forward Landfill in Manteca, California for disposal.

Active soil and groundwater remediation is not currently being conducted at the site.

#### CONCLUSIONS AND RECOMMENDATIONS

Reported petroleum hydrocarbon concentrations in the Site's monitoring wells continue to decline. In Delta's Site Conceptual Model dated November 21, 2008, Delta proposed collecting a grab-groundwater sample no more than 30 feet south of the site to assess the southern extent of the hydrocarbon and fuel oxygenate plume.

Delta did not receive agency response to the SCM or the recommendations proposed within the November 21, 2008 SCM. Delta then submitted a *Work Plan for Additional Assessment* dated June 3, 2009 detailing the scope initially proposed in the November 2008 SCM. To date, Delta has not received a response from the agency regarding the November 2008 SCM or the June 2009 work plan. However, Delta and ConocoPhillips have been moving forward with private property access procurement, in preparation of agency approval.

Although several letters have been issued to the property owner, no response has been received. Upon approval of the work plan, Delta will request agency assistance in procuring access to the private property south of the site.

#### RECENT CORRESPONDENCE

No correspondence was sent or received during the current quarter.

# FOURTH QUARTER 2009 AND FIRST QUARTER 2010 ACTIVITIES

• TRC performed fourth quarter 2009 through first quarter 2010 monitoring and sampling activities on March 23, 2010, and prepared their results in *Semi-Annual Monitoring Report – October 2009 through March* 2010, dated April 7, 2010.

# SECOND QUARTER AND THIRD QUARTER 2010 PLANNED ACTIVITIES

- TRC will perform second quarter through third quarter 2010 monitoring and sampling activities and prepare their results in a semi-annual monitoring report.
- Delta prepared Semi-Annual Summary Report Fourth Quarter 2009 through First Quarter 2010.
- Delta will continue to attempt to obtain access to the private property, south of the site. Delta will also evaluate the potential to relocate the borings into the public right of way, if access cannot be obtained. Pending access arrangements, Delta will then look to conduct field activities as proposed in the Work Plan for Additional Assessment (June 3, 2009).

#### **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 - 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:

April 7, 2010

TO:

Delta Consultants

11050 White Rock Road, Suite 110

Rancho Cordova, CA 95670

ATTN:

MR. JAN WAGONER

SITE:

FORMER 76 STATION 3538

411 WEST MACARTHUR BLVD.

OAKLAND, CALIFORNIA

RE:

SEMI-ANNUAL MONITORING REPORT

OCTOBER 2009 THROUGH MARCH 2010

This Semi-Annual Monitoring Report for Former 76 Station 3538 is being sent to you for your review and comment. If no comments are received by **April 14, 2010**, copies of this report will be sent to you for distribution.

Please send all comments to me at <u>dlee@trcsolutions.com</u>. If you have any questions regarding this report, please call me at (949) 727-7382

Sincerely,

TRC

Daniel Lee

Technical Writer





123 Technology Drive West Irvine, CA 92618

949.727.9336 PHONE 949.727.7399 FAX

www.TRCsolutions.com

DATE:

April 7, 2010

TO:

ConocoPhillips Company

76 Broadway

Sacramento, CA 95818

ATTN:

MR. TERRY GRAYSON

SITE:

FORMER 76 STATION 3538

411 WEST MACARTHUR BLVD.

OAKLAND, CALIFORNIA

RE:

SEMI-ANNUAL MONITORING REPORT

OCTOBER 2009 THROUGH MARCH 2010

Dear Mr. Grayson:

Please find enclosed our Semi-Annual Monitoring Report for Former 76 Station 3538, located at 411 West MacArthur Blvd, Oakland, California. If you have any questions regarding this report, please call us at (949) 727-9336.

Sincerely,

TRC

Anju Farfan

Groundwater Program Operations Manager

CC: Mr. Jan Wagoner, Delta Consultants (2 copies)

Enclosures 20-0400/3538R13.QMS

# SEMI-ANNUAL MONITORING REPORT OCTOBER 2009 THROUGH MARCH 2010

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

Prepared For:

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

By:

Senior Project Geologist, Irvine Operations

Date: 4/2/10



	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 2: Historic Fluid Levels and Selected Analytical Results Table 2a: Additional Historic Analytical Results Table 2b: Additional Historic Analytical Results Table 2c: Additional Historic Analytical Results Table 2d: Additional Historic Analytical Results
Figures	Figure 1: Vicinity Map Figure 2: Groundwater Elevation Contour Map Figure 3: Dissolved-Phase TPH-G by 8015M 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 – 3/23/10 Groundwater Sampling Field Notes – 3/23/10
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 Former 76 Station 3538 411 West MacArthur Blvd.

Oakland, CA

Project Coordinator: **Terry Grayson** Water Sampling Contractor: **TRC** 

Telephone: 916-558-7666 Compiled by: Daniel Lee

Date(s) of Gauging/Sampling Event: 3/23/10

Sample Points

Groundwater wells: 4 onsite, 2 offsite Points gauged: 6 Points sampled: 2

Purging method: Bailer

Purge water disposal: Crosby and Overton treatment facility

Other Sample Points: **0** Type: --

**Liquid Phase Hydrocarbons (LPH)** 

Sample Points with LPH: **0** Maximum thickness (feet): --

LPH removal frequency: -- Method: --

Treatment or disposal of water/LPH: --

**Hydrogeologic Parameters** 

Depth to groundwater (below TOC): Minimum: 15.42 feet Maximum: 17.84 feet

Average groundwater elevation (relative to available local datum): **54.38 feet** Average change in groundwater elevation since previous event: **0.36 feet** 

Interpreted groundwater gradient and flow direction:

Current event: 0.02 ft/ft, south

Previous event: **0.01 ft/ft**, **south (9/17/09)** 

**Selected Laboratory Results** 

Sample Points with detected **Benzene:** 1 Sample Points above MCL (1.0 µg/l): 0

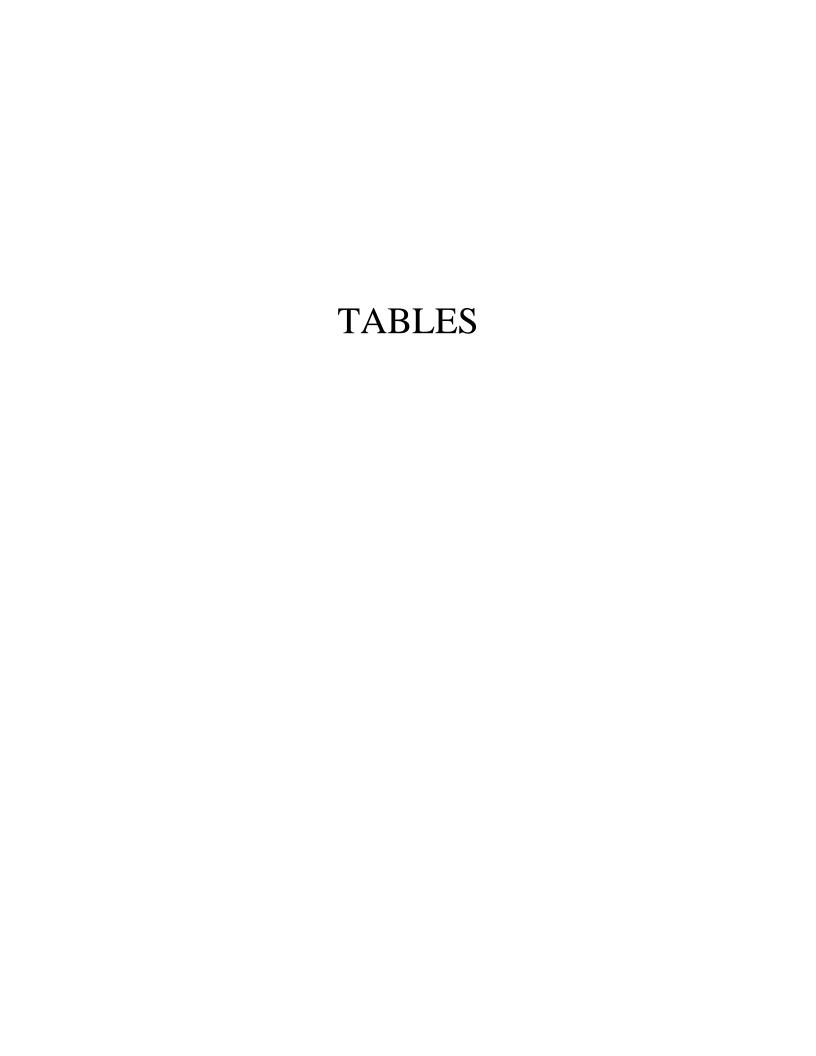
Maximum reported benzene concentration: 0.68 µg/l (MW-2)

Sample Points with TPH-G 0

Sample Points with MTBE 8021B 1 Maximum: 22 µg/l (MW-3)

Notes:

 $\label{eq:mw-1} \mbox{MW-1=Sampled Q3 only, MW-5=Sampled Q3 only, MW-6=Sampled Q3 only$ 



#### TABLE KEY

#### STANDARD ABBREVIATIONS

-- e 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: <u>Surface Elevation Measured Depth to Water + (Dp x LPH Thickness)</u>, 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 Former 76 Station 3538 in October 2003. Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

### Contents of Tables 1 and 2 Site: Former 76 Station 3538

Current E	vent
-----------	------

Table 1	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	
Historic	Data												
Table 2	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	
Table 2a	Well/ Date	TPH-D	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Total Oil and Grease	Bromo- dichloro- methane	Bromo- form	Bromo- methane
Table 2b	Well/ Date	Carbon Tetra- chloride	Chloro- benzene	Chloro- ethane	Chloroform	Chloro- methane	Dibromo- chloro- methane	1,2- Dichloro- benzene	1,3- Dichloro- benzene	1,4- Dichloro- benzene	Dichloro- difluoro- methane	1,1-DCA	1,1-DCE
Table 2c	Well/ Date	cis- 1,2-DCE	trans- 1,2-DCE	1,2- Dichloro- propane	cis-1,3- Dichloro- propene	trans-1,3- Dichloro- propene	Methylene chloride	1,1,2,2- Tetrachloro- ethane	Tetrachloro- ethene (PCE)	Trichloro- trifluoro- ethane	1,1,1- Trichloro- ethane	1,1,2- Trichloro- ethane	Trichloro- ethene (TCE)
Table 2d	Well/ Date	Trichloro- fluoro- methane	Vinyl chloride										

Table 1
CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
March 23, 2010

#### Former 76 Station 3538

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	$(\mu g/l)$	$(\mu g/l)$	(µg/l)	$(\mu g/l)$	
<b>MW-1</b> 3/23/10	72.12	17.34	0.00	54.78	0.84								Sampled Q3 only
<b>MW-2</b> 3/23/10	71.34	17.47	0.00	53.87	0.54	ND<50	0.68	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
<b>MW-3</b> 3/23/10	71.40	17.33	0.00	54.07	0.55	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	22		
<b>MW-4</b> 3/23/10	71.54	17.25	0.00	54.29	0.61								Sampled Q3 only
<b>MW-5</b> 3/23/10	71.16	17.84	0.00	53.32	-0.24								Sampled Q3 only
<b>MW-6</b> 3/23/10	71.37	15.42	0.00	55.95	-0.11								Sampled Q3 only



Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 1989 Through March 2010
Former 76 Station 3538

Date	TOC	Depth to	LPH		Change in								Comments
Sampled	Elevation	Water	Thickness	water	Elevation	TPH-G			Ethyl-	Total	MTBE	MTBE	
				Elevation		8015	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	$(\mu g/l)$	(µg/l)	(µg/l)	$(\mu g/l)$	$(\mu g/l)$	(µg/l)	(µg/l)	
MW-1													
9/15/8	9					ND	ND	0.61	ND	ND			
1/23/9	0					ND	1.5	2.3	ND	4.3			
4/19/9	0					ND	ND	ND	ND	ND			
7/17/9	0					ND	ND	ND	ND	ND			
10/16/9	90					ND	ND	ND	ND	ND			
1/15/9	1					ND	ND	ND	ND	ND			
4/12/9	1					ND	ND	ND	ND	ND			
7/15/9	1					ND	ND	ND	ND	ND			
7/14/9	2					ND	ND	ND	ND	ND			
4/13/9	3 72.43	17.70	0.00	54.73									Sampled Q3 only
7/14/9	3 72.43	18.49	0.00	53.94	-0.79	ND	2.2	2.1	1.1	6.2			
10/14/9	72.10	18.32	0.00	53.78	-0.16								Sampled Q3 only
1/12/9	4 72.10	18.18	0.00	53.92	0.14								Sampled Q3 only
4/11/9	4 72.10	17.80	0.00	54.30	0.38								Sampled Q3 only
7/7/94	72.10	18.28	0.00	53.82	-0.48	ND	ND	ND	ND	ND			
10/5/9	4 72.10	18.55	0.00	53.55	-0.27								Sampled Q3 only
1/9/95	72.10	17.90	0.00	54.20	0.65								Sampled Q3 only
4/17/9	5 72.10	17.22	0.00	54.88	0.68								Sampled Q3 only
7/19/9	5 72.10	18.03	0.00	54.07	-0.81	ND	ND	ND	ND	ND			
10/26/9	72.10	18.67	0.00	53.43	-0.64								Sampled Q3 only
1/16/9	6 72.10	17.20	0.00	54.90	1.47								Sampled Q3 only
4/15/9	6 72.10	17.40	0.00	54.70	-0.20								Sampled Q3 only

Date	TOC	Depth to	LPH		Change in								Comments
Sampled	Elevation	Water	Thickness	water Elevation	Elevation	TPH-G			Ethyl-	Total	MTBE	MTBE	
				Elevation	l	8015	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)	
MW-1	continued												
7/11/9	6 72.10	18.03	0.00	54.07	-0.63	ND	ND	ND	ND	ND	ND		
1/17/9	7 72.10	16.54	0.00	55.56	1.49								Sampled Q3 only
7/21/9	7 72.10	18.16	0.00	53.94	-1.62	ND	ND	ND	ND	ND	ND		
1/14/9	8 72.10	16.05	0.00	56.05	2.11								Sampled Q3 only
7/6/98	72.10	16.46	0.00	55.64	-0.41	ND	ND	ND	ND	ND	ND		
1/13/9	9 72.10	17.37	0.00	54.73	-0.91								Sampled Q3 only
8/31/9	9 72.12	17.00	0.00	55.12	0.39	ND	ND	ND	ND	ND	ND		
1/21/0	0 72.12	17.04	0.00	55.08	-0.04								Sampled Q3 only
7/10/0	0 72.12	18.10	0.00	54.02	-1.06	ND	ND	ND	ND	ND	ND		
1/4/01	72.12	17.95	0.00	54.17	0.15								Sampled Q3 only
7/16/0	1 72.12	18.03	0.00	54.09	-0.08	ND	ND	ND	ND	ND	ND		
1/28/0		17.31	0.00	54.81	0.72								Sampled Q3 only
7/12/0	2 72.12	18.15	0.00	53.97	-0.84	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		• •
1/14/0		17.66	0.00	54.46									Sampled Q3 only
7/10/0		17.86	0.00	54.26		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0		The Prince of
2/4/04		17.43	0.00	54.69	0.43								Sampled Q3 only
7/29/0		18.12	0.00	54.00	-0.69	ND<50	ND<0.3	0.38	ND<0.3	ND<0.6	ND<1	ND<0.5	
3/2/05		16.15	0.00	55.97	1.97								Sampled Q3 only
9/30/0		18.04	0.00	54.08	-1.89	ND<50	ND<0.30		ND<0.30	ND<0.60	ND<1.0	ND<0.50	Sumpled Q3 omy
3/23/0		10.04				ND<30	ND<0.50	ND<0.50	ND<0.30	ND<0.00	ND<1.0		Inaccessible due to gate;
3/23/0	0 /2.12												Sampled Q3 only
9/26/0	6 72.12	17.90	0.00	54.22		ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
3/15/0	7 72.12	17.22	0.00	54.90	0.68								Sampled Q3 only

**CTRC** 

Page 2 of 14

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 1989 Through March 2010
Former 76 Station 3538

Date	TOC	Depth to	LPH		Change in								Comments
Sampled	Elevation	Water	Thickness	water Elevation	Elevation	TPH-G			Ethyl-	Total	MTBE	MTBE	
						8015	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)	
	continued												
9/27/0	7 72.12	18.49		53.63	-1.27	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
3/27/0	8 72.12	17.57	0.00	54.55	0.92								Sampled Q3 only
9/17/0	8 72.12	18.20	0.00	53.92	-0.63	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
3/27/0	9 72.12	16.75	0.00	55.37	1.45								Sampled Q3 only
9/17/0	9 72.12	18.18	0.00	53.94	-1.43	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/23/1	0 72.12	17.34	0.00	54.78	0.84								Sampled Q3 only
MW-2													
9/15/8	9					290	ND	12	ND	ND			
1/23/9	0					400	73	36	10	40			
4/19/9	0					3900	550	5.1	91	390			
7/17/9	0					490	76	0.59	11	46			
10/16/9	90					1400	430	2.0	48	240			
1/15/9	1					680	170	0.7	19	81			
4/12/9	1					2200	160	4.3	23	62			
7/15/9	1					2200	770	12	72	370			
10/15/9	91					140	44	0.56	1.5	12			
1/15/9	2					220	37	0.52	1.1	7			
4/14/9	2					150	6.2	ND	ND	1.4			
7/14/9	2					130	3.7	ND	ND	ND			
10/12/9	92					370	3.4	0.56	ND	11			
1/8/93	3					510	ND	ND	ND	ND			
4/13/9		17.86	0.00	53.77		410	42	7.7	6.4	28	200		
7/14/9			0.00	53.25	-0.52	110	6.5	ND	ND	1.1	250		

Page 3 of 14

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 1989 Through March 2010
Former 76 Station 3538

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	$(\mu g/l)$	(µg/l)	(µg/l)	$(\mu g/l)$	(µg/l)	(µg/l)	$(\mu g/l)$	
MW-2	continued												
10/14/9	93 71.38	18.20	0.00	53.18	-0.07	230	5.3	ND	ND	2.1			
1/12/9	4 71.38	18.08	0.00	53.30	0.12	300	7.8	3.8	1.8	10			
4/9/94	4 71.38	17.97	0.00	53.41	0.11	120	10	0.88	1.1	4.9			
4/11/9	4 71.38	17.88	0.00	53.50	0.09								
7/7/94	4 71.38	17.81	0.00	53.57	0.07	110	4.4	ND	ND	ND			
10/5/9	4 71.38	18.33	0.00	53.05	-0.52	720	20	ND	ND	3.1			
1/9/95	5 71.38	17.40	0.00	53.98	0.93	ND	ND	ND	ND	ND			
4/17/9	5 71.38	17.50	0.00	53.88	-0.10	93	5.6	0.62	1.7	5.5			
7/19/9	5 71.38	18.01	0.00	53.37	-0.51	77	32	0.58	1.7	4.1			
10/26/9	95 71.38	18.21	0.00	53.17	-0.20	54	13	ND	ND	0.72	220		
1/16/9	6 71.38	16.58	0.00	54.80	1.63	120	23	ND	ND	0.99			
4/15/9	6 71.38	17.61	0.00	53.77	-1.03	340	21	ND	2.2	3.7	45		
7/11/9	6 71.38	17.98	0.00	53.40	-0.37	540	34	ND	4.3	12	150		
1/17/9	7 71.38	17.08	0.00	54.30	0.90	320	63	2.4	9.4	26	260		
7/21/9	7 71.38	18.06	0.00	53.32	-0.98	160	13	ND	1.3	1.6	180		
1/14/9	8 71.38	16.52	0.00	54.86	1.54	66	6.3	ND	ND	0.98	100		
7/6/98	3 71.38	16.87	0.00	54.51	-0.35	ND	2.3	ND	ND	ND	11		
1/13/9	9 71.38	17.88	0.00	53.50	-1.01	53	24	ND	0.52	0.98	120		
8/31/9	9 71.34	18.45	0.00	52.89	-0.61	86	14	ND	0.63	ND	21		
1/21/0	0 71.34	17.73	0.00	53.61	0.72	ND	1.94	ND	ND	ND	10.1		
7/10/0	0 71.34	18.14	0.00	53.20	-0.41	ND	ND	ND	ND	ND	46.6		
1/4/0	1 71.34	18.02	0.00	53.32	0.12	ND	0.925	ND	ND	ND	ND		
7/16/0	1 71.34	18.02	0.00	53.32	0.00	ND	ND	ND	ND	ND	ND		

Page 4 of 14

Table 2 HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS September 1989 Through March 2010 Former 76 Station 3538

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water	Change in Elevation	TPH-G			Ethyd	Total	MTBE	MTBE	Comments
Sumpled	Lie varion	vv ater	Timekness	Elevation		8015	Benzene	Toluene	Ethyl- benzene	Total Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(µg/l)	(µg/l)	(µg/l)	(μg/l)	(μg/l)	(μg/l)	
	continued												
1/28/0		17.57	0.00	53.77	0.45	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		
7/12/0	2 71.34	18.05	0.00	53.29	-0.48	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		
1/14/0	3 71.34	17.44	0.00	53.90	0.61	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0		
7/10/0	3 71.34												Car parked over well
2/4/04	71.34	17.22	0.00	54.12		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0		
7/29/0	4 71.34												Sampled Q3 only
3/2/05	71.34	16.63	0.00	54.71		99	26	ND<0.50	3.5	2.8	ND<5.0		
9/30/0	5 71.34	17.94	0.00	53.40	-1.31	ND<50	1.2	ND<0.30	ND<0.30	ND<0.60	1.6		
3/23/0	6 71.34	16.74	0.00	54.60	1.20	ND<50	3.6	ND<0.30	0.35	ND<0.60	2.5		
9/26/0	6 71.34	17.91	0.00	53.43	-1.17	ND<50	1.2	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/15/0	7 71.34	17.45	0.00	53.89	0.46	110	6.5	ND<0.30	0.70	ND<0.60	1.7		
9/27/0	7 71.34	18.23	0.00	53.11	-0.78	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/27/0	8 71.34	17.77	0.00	53.57	0.46	ND<50	1.8	ND<0.30	ND<0.30	ND<0.60	1.3		
9/17/0	8 71.34	18.06	0.00	53.28	-0.29	ND<50	1.6	ND<0.30	ND<0.30	ND<0.60	3.1		
3/27/0	9 71.34	17.43	0.00	53.91	0.63	ND<50	3.5	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
9/17/0	9 71.34	18.01	0.00	53.33	-0.58	ND<50	2.7	ND<0.30	ND<0.30	ND<0.60	1.1		
3/23/1	0 71.34	17.47	0.00	53.87	0.54	ND<50	0.68	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
MW-3													
9/15/8	9					32	ND	ND	ND	ND			
1/23/9	0					450	110	1.2	4.4	11			
4/19/9	0					3100	600	27	54	220			
7/17/9	0					4000	270	48	130	250			
10/16/9	90					740	210	1.4	2.5	82			
3538								Page 5	of 14				@TPC

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 1989 Through March 2010
Former 76 Station 3538

Date	TOC	Depth to	LPH		Change in								Comments
Sampled	Elevation	Water	Thickness	water Elevation	Elevation	TPH-G	D	Т-1	Ethyl-	Total	MTBE	MTBE	
	(feet)	(feet)	(feet)	(feet)	(feet)	8015 (μg/l)	Benzene (µg/l)	Toluene (µg/l)	benzene (ug/l)	Xylenes (μg/l)	(8021B) (µg/l)	(8260B) (µg/l)	
		(Ieet)	(leet)	(Ieet)	(ICCI)	(μg/1)	(μg/1)	(μg/1)	(µg/l)	(μg/1)	(μg/1)	(μg/1)	
<b>MW-3</b> 1/15/9	continued					3200	460	1.5	120	270			
4/12/9						880	170	1.1	34	110			
7/15/9						9200	1300	230	490	1900			
10/15/9						3100	390	34	150	390			
1/15/9						3000	590	34 14	310	750			
						14000							
4/14/9: 7/14/9:						21000	660 890	48 200	560 1200	2000 4300			
10/12/9						3200		10	230	540			
						1100	160	0.99		93			
1/8/93		17.00	0.00	 54.10			48		0.9		1400		
4/13/9				54.10	0.50	12000	290	38 ND	760	2300	1400		
7/14/9				53.52	-0.58	6300	190	ND	430	1000	860		
10/14/9				53.41	-0.11	2500	52	ND	110	250			
1/12/9				53.52	0.11	3800	78	ND	180	390			
4/9/94				53.67	0.15	1800	22	ND	140	280			
4/11/9				53.74	0.07								
7/7/94				53.65	-0.09	110	4.5	ND	ND	ND			
10/5/9				53.28	-0.37	ND	ND	ND	ND	ND			
1/9/95				54.17	0.89	ND	0.68	ND	ND	ND			
4/17/9				54.18	0.01	3700	80	10	270	510			
7/19/9:				53.66	-0.52	15000	330	27	990	2400			
10/26/9				53.54	-0.12	14000	420	180	750	1600	4800		
1/16/9				53.91	0.37	920	38	ND	30	57			
4/15/9	6 71.86	17.78	0.00	54.08	0.17	9700	240	ND	570	860	3200		

Page 6 of 14

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 1989 Through March 2010
Former 76 Station 3538

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness		Change in Elevation	TPH-G	_		Ethyl-	Total	MTBE	MTBE	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	8015 (μg/l)	Benzene (µg/l)	Toluene (µg/l)	benzene (µg/l)	Xylenes (μg/l)	(8021B) (µg/l)	(8260B) (µg/l)	
MW-3	continued												
7/11/9		18.19	0.00	53.67	-0.41	13000	69	5.5	430	900	740		
1/17/9	7 71.86	17.23	0.00	54.63	0.96	4400	25	ND	270	580	1600		
7/21/9	7 71.86	18.29	0.00	53.57	-1.06	9000	36	ND	450	800	950		
1/14/9	8 71.86	16.71	0.00	55.15	1.58	7100	40	ND	380	360	930		
7/6/98	3 71.86	17.03	0.00	54.83	-0.32	6800	39	ND	320	360	370		
1/13/9	9 71.86	18.00	0.00	53.86	-0.97	1800	9.4	ND	58	36	180		
8/31/9	9 71.40		0.00										Well obstructed at 0.5 feet.
1/21/0	0 71.40	17.58	0.00	53.82		ND	ND	ND	ND	ND	21.4		
7/10/0	0 71.40	18.05	0.00	53.35	-0.47	ND	ND	ND	ND	ND	162		
8/25/0	0 71.40	17.82	0.00	53.58	0.23							180	
1/4/01	1 71.40	18.16	0.00	53.24	-0.34	ND	ND	ND	ND	ND	193		
7/16/0	1 71.40	17.98	0.00	53.42	0.18	ND	ND	ND	ND	ND	660		
1/28/0	2 71.40	17.84	0.00	53.56	0.14	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	34		
7/12/0	2 71.40	17.87	0.00	53.53	-0.03	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	11	19	
1/14/0	3 71.40	17.28	0.00	54.12	0.59	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	12		
7/10/0	3 71.40	17.64	0.00	53.76	-0.36	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	23		
2/4/04	4 71.40	17.05	0.00	54.35	0.59	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	26		
7/29/0	4 71.40	17.82	0.00	53.58	-0.77	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.6	ND<1		
3/2/05	71.40	16.47	0.00	54.93	1.35	93	ND<0.50	ND<0.50	ND<0.50	ND<0.50	140		
9/30/0	5 71.40	17.79	0.00	53.61	-1.32	65	ND<0.30	ND<0.30	ND<0.30	ND<0.60	61		
3/23/0	6 71.40	16.61	0.00	54.79	1.18	54	ND<0.30	0.41	ND<0.30	0.98	63		
9/26/0	6 71.40	17.77	0.00	53.63	-1.16	51	ND<0.30	ND<0.30	ND<0.30	ND<0.60	41		
3/15/0	7 71.40	17.27	0.00	54.13	0.50	140	ND<0.30	ND<0.30	ND<0.30	ND<0.60	110		
								D 5					

Page 7 of 14

Comments

Date

TOC

Depth to

LPH

Ground- Change in

Date	100	Deptil to	LIII		Change in								Comments
Sampled	Elevation	Water	Thickness		Elevation	TPH-G			Ethyl-	Total	MTBE	MTBE	
				Elevation	1	8015	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	(µg/l)	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	
MW-3	continued												
9/27/0	71.40	18.48	0.00	52.92	-1.21	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	20		
3/27/0	71.40	17.67	0.00	53.73	0.81	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	19		
9/17/0	08 71.40	17.91	0.00	53.49	-0.24	56	ND<0.30	ND<0.30	ND<0.30	ND<0.60	43		
3/27/0	9 71.40	17.34	0.00	54.06	0.57	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	15		
9/17/0	9 71.40	17.88	0.00	53.52	-0.54	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	30		
3/23/1	0 71.40	17.33	0.00	54.07	0.55	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	22		
MW-4													
9/15/8	39					ND	ND	ND	ND	ND			
1/23/9	00					ND	ND	0.4	ND	ND			
4/19/9	00					ND	ND	0.48	ND	ND			
7/17/9	00					ND	ND	ND	ND	ND			
10/16/9	90					ND	ND	ND	ND	ND			
1/15/9	01					ND	ND	ND		ND			
4/12/9	1					ND	ND	ND	ND	ND			
7/15/9	01					ND	ND	ND	ND	ND			
7/14/9	)2					ND	1.3	2.5	ND	1.0			
4/13/9	71.98	17.67	0.00	54.31									Sampled Q3 only
7/14/9	71.98	18.31	0.00	53.67	-0.64	ND	ND	ND	ND	ND			
10/14/9	93 71.64	18.08	0.00	53.56	-0.11								Sampled Q3 only
1/12/9	71.64	17.97	0.00	53.67	0.11								Sampled Q3 only
4/11/9	71.64	17.70	0.00	53.94	0.27								Sampled Q3 only
7/7/94	4 71.64	17.80	0.00	53.84	-0.10	ND	ND	ND	ND	ND			
10/5/9	71.64	18.28	0.00	53.36	-0.48								Sampled Q3 only
3538								Page 8	3 of 14				OTPC

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G	D	m 1	Ethyl-	Total	MTBE	MTBE	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	8015 (μg/l)	Benzene (µg/l)	Toluene (µg/l)	benzene (µg/l)	Xylenes (μg/l)	(8021B) (μg/l)	(8260B) (µg/l)	
	continued												
1/9/9:		17.38	0.00	54.26	0.90								Sampled Q3 only
4/17/9	5 71.64	17.21	0.00	54.43	0.17								Sampled Q3 only
7/19/9	5 71.64	17.82	0.00	53.82	-0.61	ND	ND	ND	ND	ND			
10/26/9	95 71.64	18.17	0.00	53.47	-0.35								Sampled Q3 only
1/16/9	6 71.64	16.45	0.00	55.19	1.72								Sampled Q3 only
4/15/9	6 71.64	17.35	0.00	54.29	-0.90								Sampled Q3 only
7/11/9	6 71.64	17.81	0.00	53.83	-0.46	ND	ND	ND	ND	ND	ND		
1/17/9	71.64	16.73	0.00	54.91	1.08								Sampled Q3 only
7/21/9	71.64	17.91	0.00	53.73	-1.18	ND	ND	ND	ND	ND	ND		
1/14/9	8 71.64	16.18	0.00	55.46	1.73								Sampled Q3 only
7/6/98	8 71.64	16.49	0.00	55.15	-0.31	ND	ND	ND	ND	ND	ND		
1/13/9	9 71.64	17.29	0.00	54.35	-0.80								Sampled Q3 only
8/31/9	9 71.54		0.00										Well obstructed at 10.4 feet.
1/21/0	00 71.54	17.51	0.00	54.03									Sampled Q3 only
7/10/0	00 71.54	17.93	0.00	53.61	-0.42	ND	ND	ND	ND	ND	ND		
1/4/0	1 71.54	18.10	0.00	53.44	-0.17								Sampled Q3 only
7/16/0	1 71.54	17.76	0.00	53.78	0.34	ND	ND	ND	ND	ND	ND		
1/28/0	2 71.54	17.20	0.00	54.34	0.56								Sampled Q3 only
7/12/0	2 71.54	17.81	0.00	53.73	-0.61	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		
1/14/0	3 71.54	17.30	0.00	54.24	0.51								Sampled Q3 only
7/10/0	71.54	17.58	0.00	53.96	-0.28	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0		
2/4/04	4 71.54	17.07	0.00	54.47	0.51								Sampled Q3 only
7/29/0	71.54	17.81	0.00	53.73	-0.74	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.6	ND<1		
3538								Page 9	of 14				PTPC

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 1989 Through March 2010
Former 76 Station 3538

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	water	Change in Elevation	TPH-G			Ethyl-	Total	MTBE	MTBE	Comments
				Elevation	Ī	8015	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	(µg/l)	$(\mu g/l)$	$(\mu g/l)$	
MW-4	continued												
3/2/05	5 71.54	16.25	0.00	55.29	1.56								Sampled Q3 only
9/30/0	5 71.54	17.74	0.00	53.80	-1.49	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/23/0	6 71.54												Inaccessible due to gate; Sampled Q3 only
9/26/0	6 71.54	17.71	0.00	53.83		ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/15/0	71.54	17.56	0.00	53.98	0.15								Sampled Q3 only
9/27/0	71.54	18.16	0.00	53.38	-0.60	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/27/0	8 71.54	17.58	0.00	53.96	0.58								Sampled Q3 only
9/17/0	8 71.54	17.87	0.00	53.67	-0.29	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/27/0	9 71.54	17.17	0.00	54.37	0.70								Sampled Q3 only
9/17/0	9 71.54	17.86	0.00	53.68	-0.69	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/23/1	0 71.54	17.25	0.00	54.29	0.61								Sampled Q3 only
MW-5													
11/30/9	92					ND	ND	ND	ND	ND			
1/8/93	3					ND	ND	ND	ND	ND			
4/13/9	3 71.51	17.49	0.00	54.02		ND	ND	ND	ND	ND			
7/14/9	3 71.51	18.02	0.00	53.49	-0.53	ND	ND	0.57	ND	ND			
10/14/9	93 71.23	17.82	0.00	53.41	-0.08	ND	ND	ND	ND	ND			
1/12/9	4 71.23	17.74	0.00	53.49	0.08	ND	ND	0.84	ND	1.6			
4/11/9	4 71.23	17.56	0.00	53.67	0.18								Sampled Q3 only
7/7/94	4 71.23	17.50	0.00	53.73	0.06	ND	ND	ND	ND	ND			
10/5/9	4 71.23	17.98	0.00	53.25	-0.48								Sampled Q3 only
1/9/95	5 71.23	17.13	0.00	54.10	0.85								Sampled Q3 only

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G			Ethyl-	Total	MTBE	MTBE	Comments
						8015	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)	
MW-5			0.00										g 1 100 1
4/17/9				54.18	0.08								Sampled Q3 only
7/19/9				53.64	-0.54	ND	ND	ND	ND	ND			g 1,100 I
10/26/9				53.13	-0.51								Sampled Q3 only
1/16/9			0.00	54.12	0.99								Sampled Q3 only
4/15/9				54.01	-0.11								Sampled Q3 only
7/11/9		17.59	0.00	53.64	-0.37	ND	ND	ND	ND	ND	ND		
1/17/9	71.23	16.75		54.48	0.84								Sampled Q3 only
7/21/9	71.23	17.59	0.00	53.64	-0.84	ND	ND	ND	ND	ND	ND		
1/14/9	71.23	16.16	0.00	55.07	1.43								Sampled Q3 only
7/6/98	8 71.23	16.52	0.00	54.71	-0.36	ND	ND	ND	ND	ND	ND		
1/13/9	9 71.23	17.62	0.00	53.61	-1.10								Sampled Q3 only
8/31/9	9 71.16	17.76	0.00	53.40	-0.21	ND	ND	ND	ND	ND	ND		
1/21/0	00 71.16	16.83	0.00	54.33	0.93								Sampled Q3 only
7/10/0	00 71.16	17.46	0.00	53.70	-0.63	ND	ND	ND	ND	ND	ND		
1/4/0	1 71.16	17.51	0.00	53.65	-0.05								Sampled Q3 only
7/16/0	1 71.16	17.32	0.00	53.84	0.19	ND	ND	ND	ND	ND	ND		
1/28/0	2 71.16	17.12	0.00	54.04	0.20								Sampled Q3 only
7/12/0	2 71.16	17.12	0.00	54.04	0.00	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		
1/14/0	3 71.16	16.67	0.00	54.49	0.45								Sampled Q3 only
7/10/0	3 71.16	17.39	0.00	53.77	-0.72	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0		
2/4/04	4 71.16	16.23	0.00	54.93	1.16								Sampled Q3 only
7/29/0				55.14	0.21	ND<50	ND<0.3	0.64	ND<0.3	0.79	ND<1		
3/2/05	5 71.16			54.73	-0.41								Sampled Q3 only
3538								Page 1	1 of 14				€ TRC

Date	TOC Elevation	Depth to Water	LPH Thickness	Ground- water	Change in Elevation								Comments
Sampled	Elevation	water	THICKHESS	Elevation		TPH-G	D	TD 1	Ethyl-	Total	MTBE	MTBE	
	(feet)	(feet)	(feet)	(feet)	(feet)	8015 (μg/l)	Benzene (µg/l)	Toluene (µg/l)	benzene	Xylenes	(8021B)	(8260B) (µg/l)	
		(leet)	(leet)	(leet)	(leet)	(μg/1)	(μg/1)	(μg/1)	(µg/l)	(µg/l)	(µg/l)	(μg/1)	
	continued	17.41	0.00	E2 75	0.00	ND -50	NID -0.20	NID +0.20	ND -0.20	ND 40.60	ND 41.0		
9/30/0		17.41		53.75	-0.98	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		Sampled Q3 only
3/23/0		16.37		54.79	1.04	 NID .50		 ND 0.20	 ND 0.20	 ND 0.60	 ND 10		Sampled Q5 omy
9/26/0		15.54		55.62	0.83	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		g 1 102 1
3/15/0		17.20		53.96	-1.66								Sampled Q3 only
9/27/0		18.01	0.00	53.15	-0.81	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/27/0		17.57		53.59	0.44								Sampled Q3 only
9/17/0	8 71.16	17.68		53.48	-0.11	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/27/0	9 71.16	17.14		54.02	0.54								Sampled Q3 only
9/17/0	9 71.16	17.60	0.00	53.56	-0.46	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/23/1	0 71.16	17.84	0.00	53.32	-0.24								Sampled Q3 only
MW-6													
11/30/9	92					ND	ND	ND	ND	ND			
1/8/93	3					ND	ND	ND	ND	ND			
4/13/9	3 71.79	11.94	0.00	59.85		ND	ND	ND	ND	ND			
7/14/9	3 71.79	17.20	0.00	54.59	-5.26	ND	0.99	2.4	ND	1.9			
10/14/9	93 71.44	17.21	0.00	54.23	-0.36	ND	ND	0.64	ND	ND			
1/12/9	4 71.44	17.44	0.00	54.00	-0.23	ND	ND	1.2	ND	2.9			
4/11/9	4 71.44	13.66	0.00	57.78	3.78								Sampled Q3 only
7/7/94	4 71.44	14.05	0.00	57.39	-0.39	ND	ND	ND	ND	ND			
10/5/9	4 71.44	14.16	0.00	57.28	-0.11								Sampled Q3 only
1/9/95	5 71.44	13.73	0.00	57.71	0.43								Sampled Q3 only
4/17/9		11.30		60.14	2.43								Sampled Q3 only
7/19/9		12.32		59.12	-1.02	ND	ND	ND	ND	ND			and I am Co only
	. ,	12.52		27.12	·· <b>-</b>	1.2	1,2	Page 1		1.2			
3538								r uge 1	_ O1 1¬				(A) TPC

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	water	Change in Elevation	TPH-G			Ethyl-	Total	MTBE	MTBE	Comments
				Elevation	1	8015	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	$(\mu g/l)$							
MW-6	continued												
10/26/9	95 71.44	17.88	0.00	53.56	-5.56								Sampled Q3 only
1/16/9	6 71.44	16.38	0.00	55.06	1.50								Sampled Q3 only
4/15/9	6 71.44	14.00	0.00	57.44	2.38								Sampled Q3 only
7/11/9	6 71.44	13.58	0.00	57.86	0.42	ND	ND	ND	ND	ND	ND		
1/17/9	7 71.44	15.42	0.00	56.02	-1.84								Sampled Q3 only
7/21/9	7 71.44	13.78	0.00	57.66	1.64	ND	ND	ND	ND	ND	ND		
1/14/9	8 71.44	13.65	0.00	57.79	0.13								Sampled Q3 only
7/6/98	3 71.44	13.90	0.00	57.54	-0.25	ND	ND	ND	ND	ND	ND		
1/13/9	9 71.44	14.93	0.00	56.51	-1.03								Sampled Q3 only
8/31/9	9 71.37	15.81	0.00	55.56	-0.95	ND	ND	ND	ND	ND	ND		
1/21/0	0 71.37	16.13	0.00	55.24	-0.32								Sampled Q3 only
7/10/0	0 71.37	16.95	0.00	54.42	-0.82	ND	ND	ND	ND	ND	ND		
1/4/0	1 71.37	17.09	0.00	54.28	-0.14								Sampled Q3 only
7/16/0	1 71.37	16.83	0.00	54.54	0.26	ND	ND	ND	ND	ND	ND		
1/28/0	2 71.37	14.58	0.00	56.79	2.25								Sampled Q3 only
7/12/0	2 71.37	16.76	0.00	54.61	-2.18	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		
1/14/0	3 71.37	16.25	0.00	55.12	0.51								Sampled Q3 only
7/10/0	3 71.37	12.97	0.00	58.40	3.28	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0		
2/4/04	4 71.37	16.20	0.00	55.17	-3.23								Sampled Q3 only
7/29/0	4 71.37	14.98	0.00	56.39	1.22	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.6	1.3		
3/2/05	5 71.37	14.51	0.00	56.86	0.47								Sampled Q3 only
9/30/0	5 71.37	14.45	0.00	56.92	0.06	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	1.7		
3/23/0	6 71.37	16.55	0.00	54.82	-2.10								Sampled Q3 only
3538								Page 1	3 of 14				© TRC

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 1989 Through March 2010
Former 76 Station 3538

Date	TOC	Depth to	LPH	Ground-	Change in								Comments
Sampled	Elevation	Water	Thickness	water	Elevation	TPH-G			Ethyl-	Total	MTBE	MTBE	
				Elevation		8015	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	$(\mu g/l)$	(µg/l)	$(\mu g/l)$	(µg/l)	(µg/l)	(µg/l)	
MW-6	continued												
9/26/0	6 71.37	17.58	0.00	53.79	-1.03	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/15/0	71.37	13.72	0.00	57.65	3.86								Sampled Q3 only
9/27/0	71.37	14.18	0.00	57.19	-0.46	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/27/0	8 71.37	14.83	0.00	56.54	-0.65								Sampled Q3 only
9/17/0	8 71.37	14.70	0.00	56.67	0.13	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	2.8		
3/27/0	9 71.37	15.66	0.00	55.71	-0.96								Sampled Q3 only
9/17/0	9 71.37	15.31	0.00	56.06	0.35	ND<50	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0		
3/23/1	0 71.37	15.42	0.00	55.95	-0.11								Sampled Q3 only



Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
Former 76 Station 3538

Date				Ethylene-						Bromo-		
Sampled			Ethanol	dibromide	1,2-DCA				Total Oil	dichloro-	Bromo-	Bromo-
	TPH-D	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME	and Grease	methane	form	methane
	$(\mu g/l)$	(mg/l)	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$							
MW-1												
9/15/89	ND								ND			
1/23/90	ND								1.5			
4/19/90	ND								ND			
7/17/90	ND								ND			
10/16/90	ND								ND			
1/15/91	ND								ND			
4/12/91	ND								ND			
7/15/91	ND								ND			
7/16/01										1.7		
7/29/04					ND<0.5					ND<0.5	ND<0.5	ND<1
9/30/05					ND<0.50					ND<0.50	ND<0.50	ND<1.0
9/26/06					ND<0.50					ND<0.50	ND<0.50	ND<1.0
9/27/07					ND<0.50					ND<0.50	ND<0.50	ND<1.0
9/17/08					ND<0.50					ND<0.50	ND<0.50	ND<1.0
MW-3												
8/25/00		ND		ND	ND	ND	ND	ND				
7/12/02		ND<20	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0				



Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
Former 76 Station 3538

Date Sampled	Carbon Tetra- chloride	Chloro- benzene	Chloro- ethane	Chloroform	Chloro- methane	Dibromo- chloro- methane	1,2- Dichloro- benzene	1,3- Dichloro- benzene	1,4- Dichloro- benzene	Dichloro- difluoro- methane	1,1-DCA	1,1-DCE
	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	(µg/l)	(µg/l)
MW-1												
7/11/96				0.96								
7/21/97				1.0								
7/16/01				45								
7/12/02												1.8
7/10/03												0.89
7/29/04	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.2
9/30/05	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.52
9/26/06	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.60
9/27/07	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
9/17/08	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50



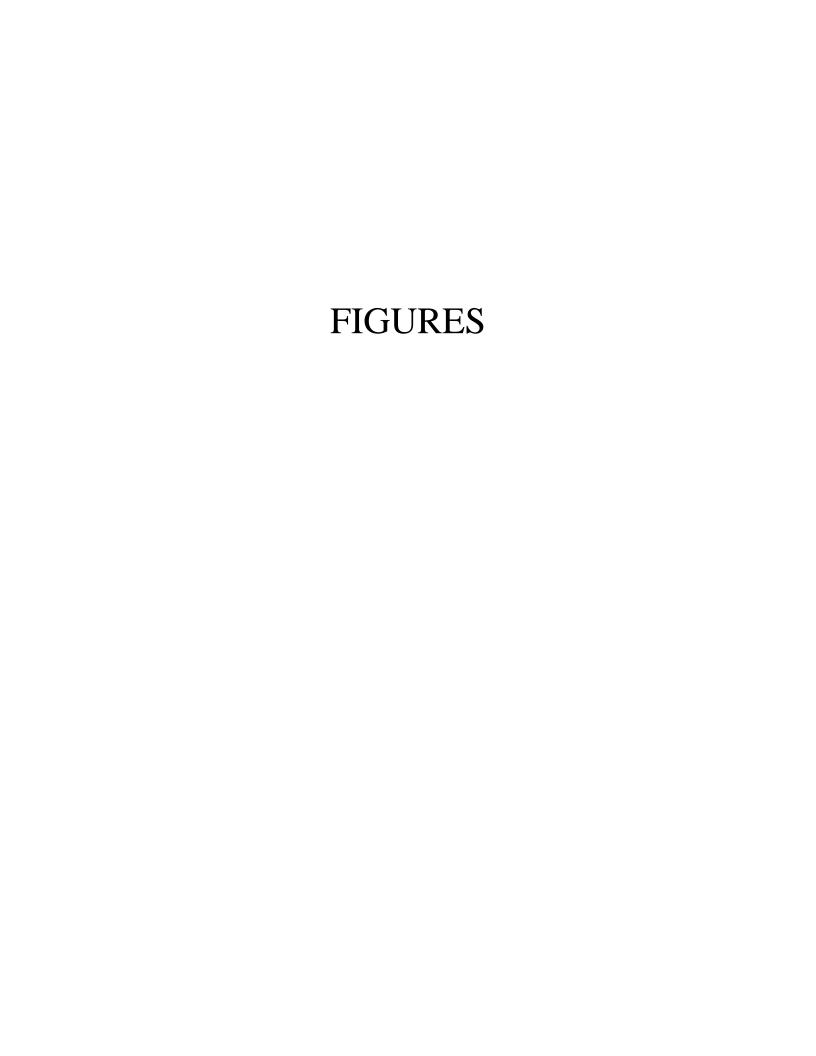
Table 2 c
ADDITIONAL HISTORIC ANALYTICAL RESULTS
Former 76 Station 3538

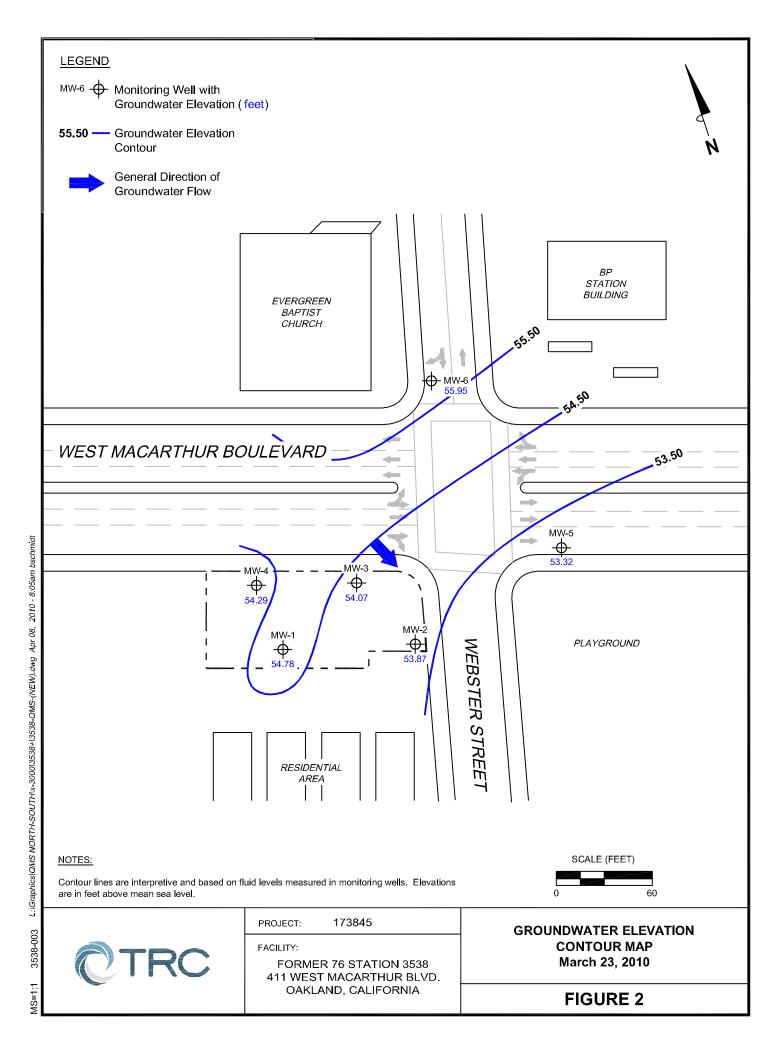
Date Sampled	cis- 1,2-DCE (μg/l)	trans- 1,2-DCE (µg/l)	1,2- Dichloro- propane (µg/l)	cis-1,3- Dichloro- propene (µg/l)	trans-1,3- Dichloro- propene (µg/l)	Methylene chloride (µg/l)	1,1,2,2- Tetrachloro- ethane (µg/l)	Tetrachloro- ethene (PCE) (µg/l)	Trichloro- trifluoro- ethane (µg/l)	1,1,1- Trichloro- ethane (µg/l)	1,1,2- Trichloro- ethane (µg/l)	Trichloro- ethene (TCE) (µg/l)
MW-1												
9/15/89								2.7				
1/23/90								2.1				
4/19/90								2.2				
7/17/90								1.7				
10/16/90								2.0				
1/15/91								2.1				
4/12/91								2.0				
7/15/91								1.8				
7/14/92								1.4				
7/14/93								0.95				
7/7/94								0.83				
7/19/95								0.52				
7/11/96								0.73				
7/21/97								0.70				
8/31/99								ND				
7/16/01								ND				
7/12/02								ND<0.60				
7/10/03								ND<0.50				
7/29/04	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5	13	ND<0.5	ND<0.5	ND<0.5
9/30/05	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	9.1	ND<0.50	ND<0.50	ND<0.50
9/26/06	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	7.0	ND<0.50	ND<0.50	ND<0.50
9/27/07	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	4.3	ND<0.50	ND<0.50	ND<0.50
9/17/08	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	5.4	ND<0.50	ND<0.50	ND<0.50

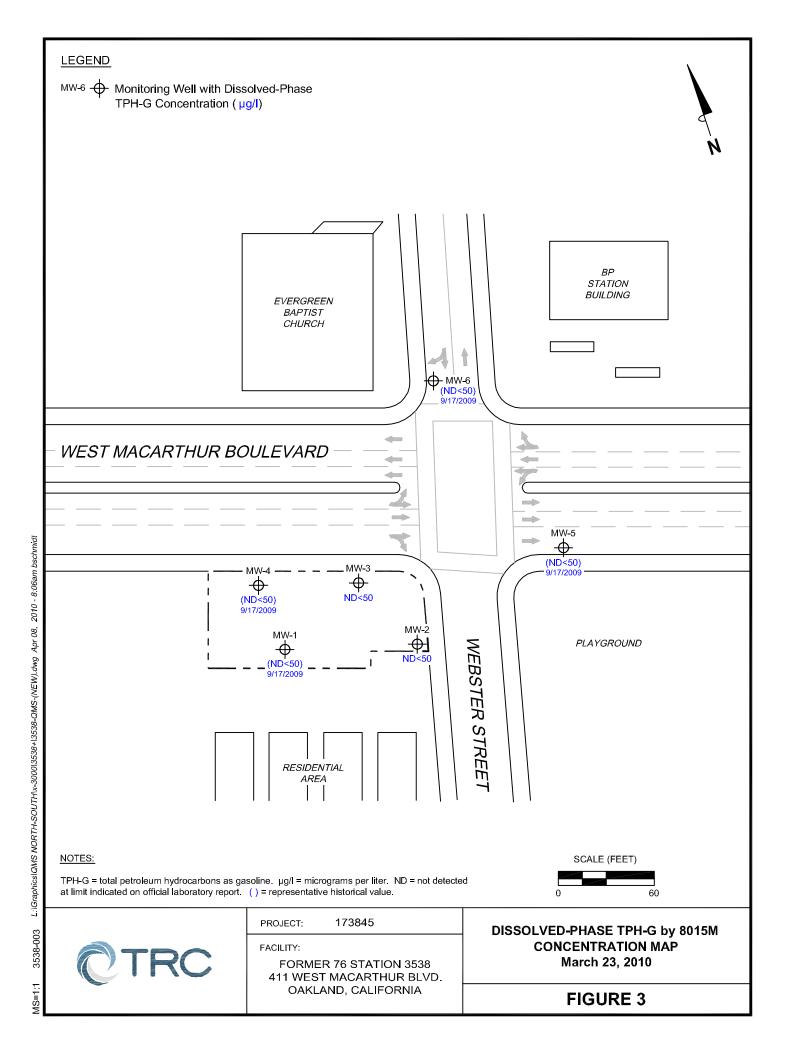
# Table 2 d ADDITIONAL HISTORIC ANALYTICAL RESULTS Former 76 Station 3538

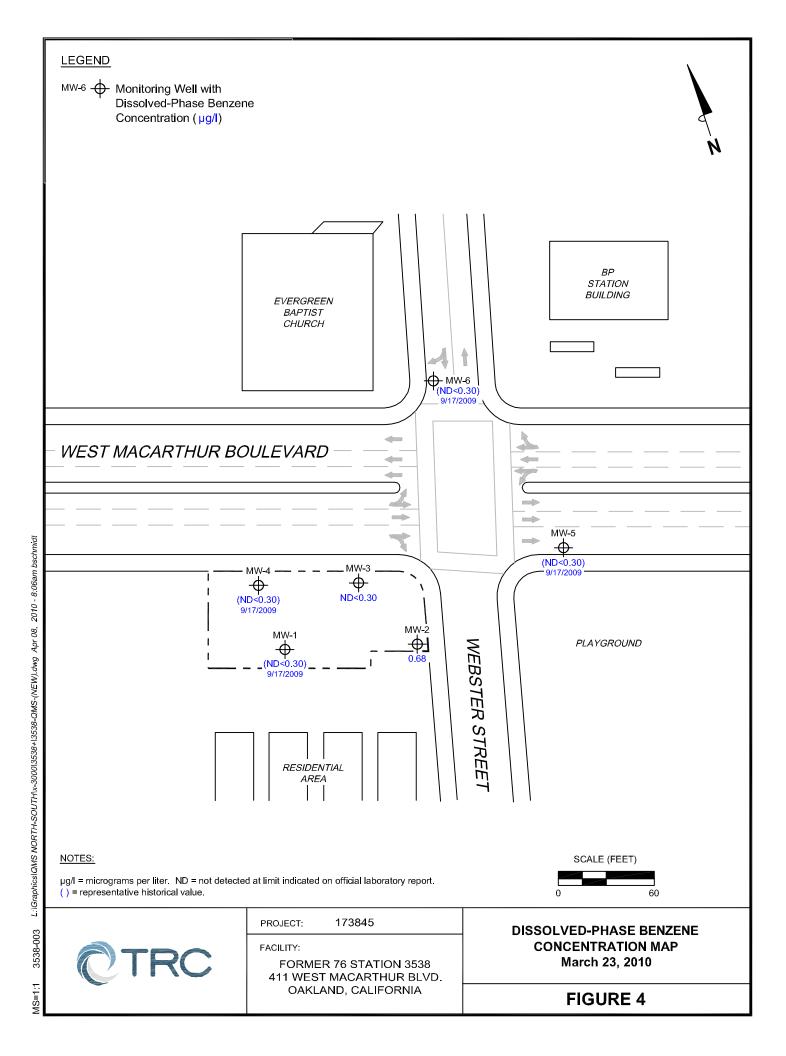
Date Trichlo
Sampled fluoro
methan
(μg/l
MW-1
7/29/04 ND<
9/30/05 ND<0
9/26/06 ND<0

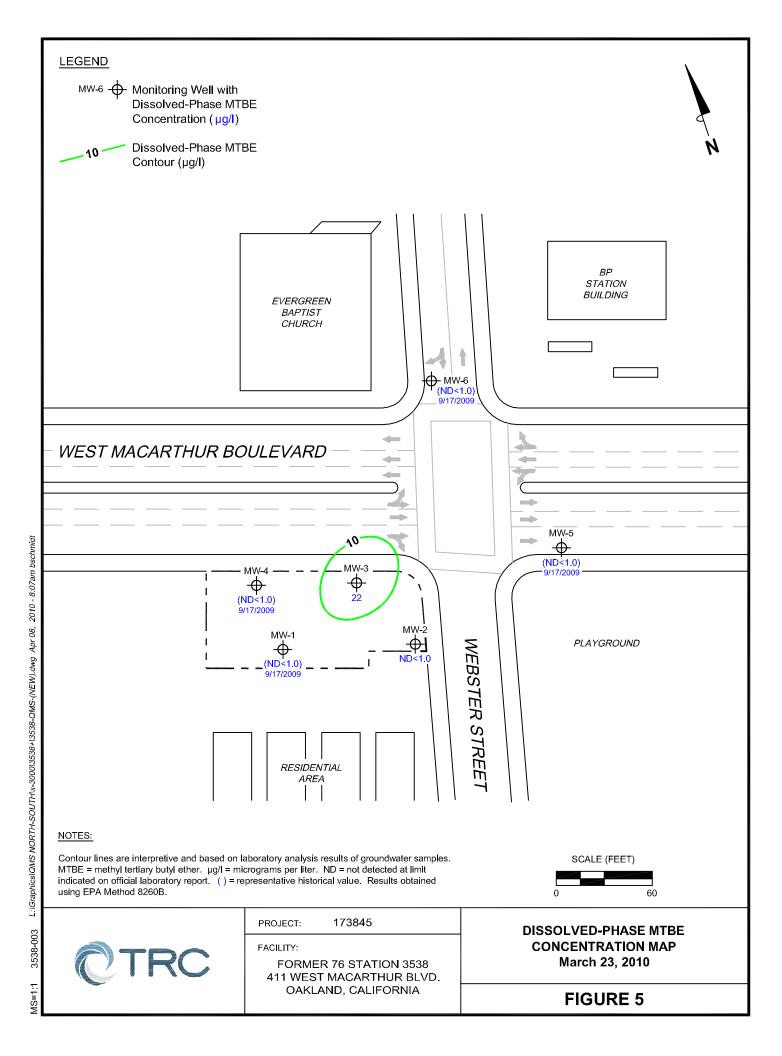


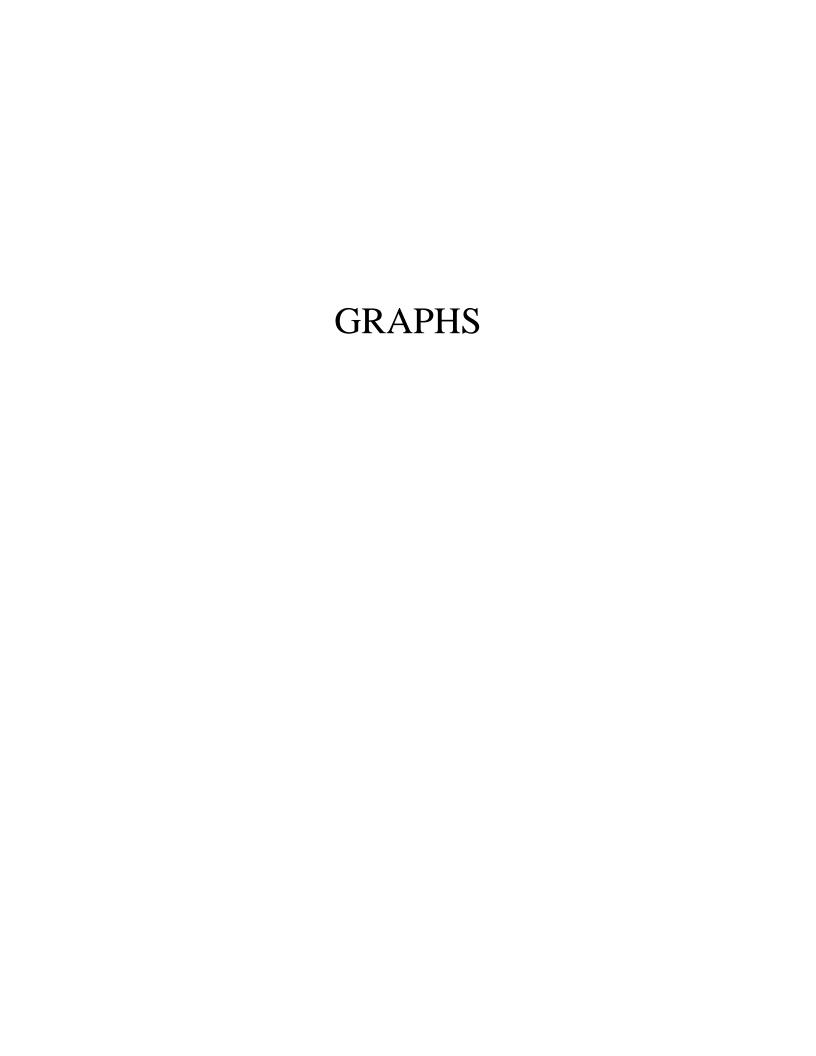




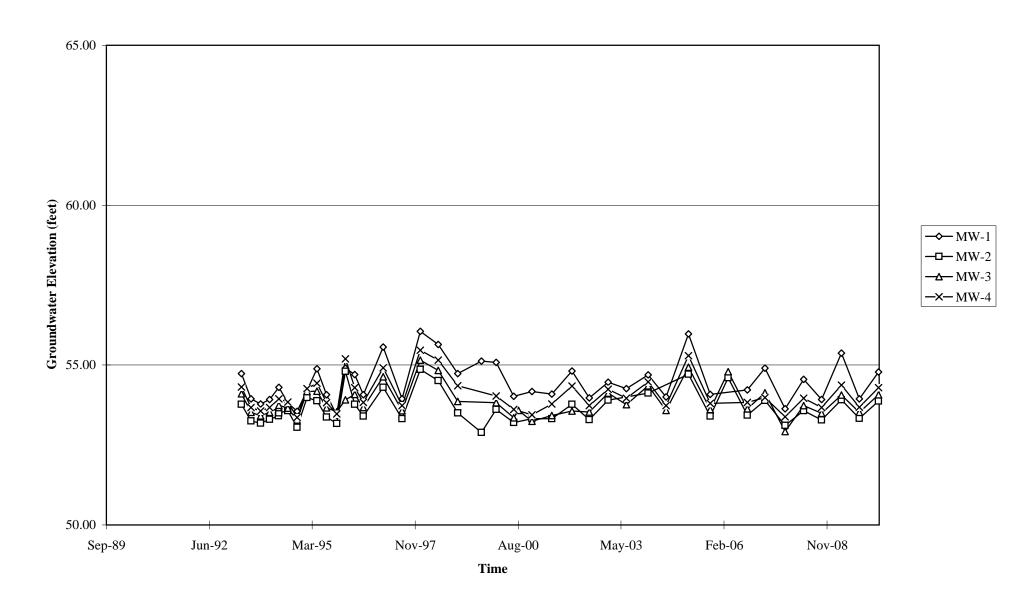


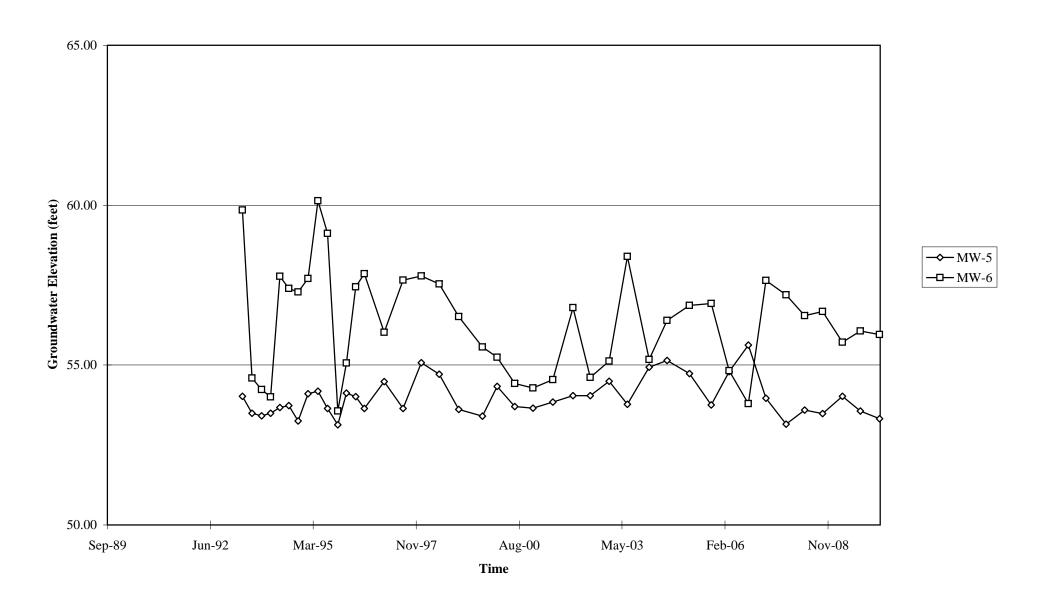






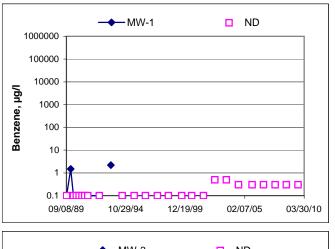
# Groundwater Elevations vs. Time Former 76 Station 3538

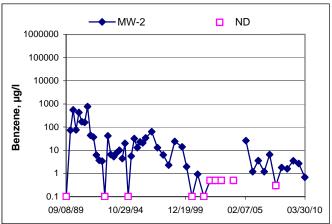


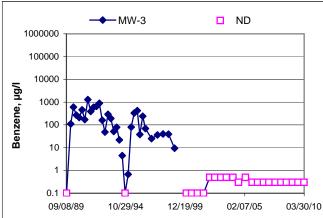


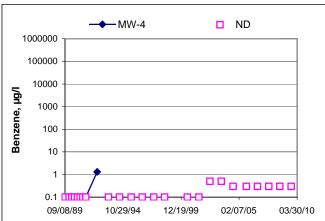
#### **Benzene Concentrations vs Time**

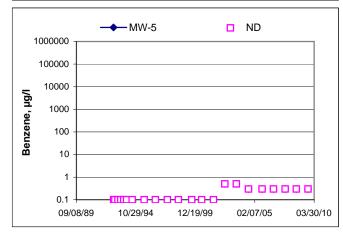
Former 76 Station 3538

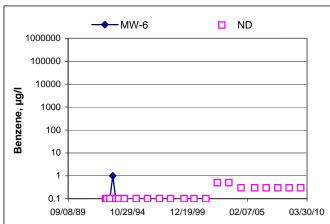












### GENERAL FIELD PROCEDURES

#### **Groundwater Monitoring and Sampling Assignments**

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

#### Fluid Level Measurements

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

Fluid levels in each well are measured using a coated cloth tape equipped with an electronic interface probe, which distinguishes between liquid phase hydrocarbon (LPH) and water. The depth to LPH (if it is present), to water, and to the bottom of the well are measured from the top of the well casing (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:	Ba	entio	Joh	) #/Task #:	17384	S FAZ ollins	D	Date: <u>3-23-/つ</u>
Site#	352	38	Projec	t Manager	A. C	ollins		Page of l
Well#	тос	Time Gauged	Total Depth	Depth to Water	Depth to Product	Product Thickness (feet)	Time Sampled	Misc. Well Notes
Mw-6	V	1040	30.05	15.42	Q		N/5	24 Unifor Duly
NW-5	V	1050	30,15	17.84			1/5	Z' / /
MW-4		1102	24.70	17.25			NIS	Z"
Mw-3 Mw-1 Mw-3		1110	23.95	17.34	<u> </u>		1/3	2" //
NW-3	/	1115	27.15	17.33			1145	2"
MW-2	V	1200	24.55	17.47			1225	Z"
								* Cour park on top
								NW-3 and car was
								of Mw-Z; sampled Nw-3 and cor was removed jourged and
								sample Mw-z after.
								,
		·						
					T			

FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS

MANIFEST DRUM INVENTORY TRAFFIC CONTROL

# **GROUNDWATER SAMPLING FIELD NOTES**

		Tec	hnician: _	Bo	anilis				
Site: <u>35</u>	38	Proj	ect No.:	173843	<u></u>		Date:_	3-2	.3~/0
Well No	$\mathcal{M}$	W-3		Purge Metho		HB			
		17.33		Depth to Pro	duct (feet):				
Total Depth	(feet)	27.15		LPH & Water	Recovered (ga	allons):		_	
Water Colu	nn (feet):	9.82	·····	Casing Diam	eter (Inches):	2			
		eet): 19.2	9	1 Well Volum	ne (gallons):	2			
Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F,C)	рН	D.O. (mg/L)	ORP	Turbidity
Pre-F	urge								
1131			2	783.1	19.1	6.75			
			4	792.9	19.7	6.69			
	1140		la	8049	19.9	6.65			

Total Gallons Purged

Well No. MW-Z	Purge Method: HB
Depth to Water (feet): 17,44	Depth to Product (feet):
Total Depth (feet) 24.55	LPH & Water Recovered (gallons):
Water Column (feet): 7,08	Casing Diameter (Inches):
80% Recharge Depth(feet): 18, 88	1 Well Volume (gallons):

Static at Time Sampled 17.67

Comments:

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F,C)	рН	D.O. (mg/L)	ORP	Turbidity
Pre-l	Purge								
0151			$\sim$	767.4	19.0	6.92			
			y	763.5	19.1	6.78		A-440000	
	1219		6	761.9	19.3	6.71			
	,		1000		10000				
Stat	ic at Time S	ampled	Tota	al Gallons Pur	ged	I	Sample	Time	I
	17.59		6		-		1225	<del>,</del>	
omments	;				1				



Sample Time



Date of Report: 04/05/2010

Anju Farfan

TRC 123 Technology Drive Irvine, CA 92618

RE: 3538

BC Work Order: 1004069
Invoice ID: B078135

Enclosed are the results of analyses for samples received by the laboratory on 3/24/2010. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Client Service Rep

In the

**Authorized Signature** 



123 Technology DriveProject Number:4512981449Irvine, CA 92618Project Manager:Anju Farfan

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

Laboratory	Client Sample Information	on			
1004069-01	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 3538  MW-3 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	03/24/2010 21:00 03/23/2010 11:45  Water	Delivery Work Order: Global ID: T0600101472 Location ID (FieldPoint): MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
1004069-02	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 3538  MW-2 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	03/24/2010 21:00 03/23/2010 12:25  Water	Delivery Work Order: Global ID: T0600101472 Location ID (FieldPoint): MW-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:

123 Technology DriveProject Number:4512981449Irvine, CA 92618Project Manager:Anju Farfan

# **Purgeable Aromatics and Total Petroleum Hydrocarbons**

<b>BCL Sample ID:</b> 1004069-01	Client Sampl	e Name:	3538, MW-3, 3/23/2	010 11:45:00	DAM							
					Prep	Run		Instru-		QC	MB	Lab
Constituent	Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene	ND	ug/L	0.30	EPA-8021	03/24/10	03/26/10 04:51	jjh	GC-V4	1	BTC1642	ND	
Toluene	ND	ug/L	0.30	EPA-8021	03/24/10	03/26/10 04:51	jjh	GC-V4	1	BTC1642	ND	
Ethylbenzene	ND	ug/L	0.30	EPA-8021	03/24/10	03/26/10 04:51	jjh	GC-V4	1	BTC1642	ND	
Methyl t-butyl ether	22	ug/L	1.0	EPA-8021	03/24/10	03/26/10 04:51	jjh	GC-V4	1	BTC1642		V11
Total Xylenes	ND	ug/L	0.60	EPA-8021	03/24/10	03/26/10 04:51	jjh	GC-V4	1	BTC1642	ND	
Gasoline Range Organics (C4 - C12)	ND	ug/L	50	Luft	03/24/10	03/26/10 04:51	jjh	GC-V4	1	BTC1642	ND	
a,a,a-Trifluorotoluene (PID Surrogate)	90.6	%	70 - 130 (LCL - UCL)	EPA-8021	03/24/10	03/26/10 04:51	jjh	GC-V4	1	BTC1642		
a,a,a-Trifluorotoluene (FID Surrogate)	97.0	%	70 - 130 (LCL - UCL)	Luft	03/24/10	03/26/10 04:51	jjh	GC-V4	1	BTC1642		

123 Technology DriveProject Number:4512981449Irvine, CA 92618Project Manager:Anju Farfan

# **Purgeable Aromatics and Total Petroleum Hydrocarbons**

BCL Sample ID: 10	04069-02	Client Sample	e Name:	3538, MW-2, 3/23/2	010 12:25:00	PM							
						Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		0.68	ug/L	0.30	EPA-8021	03/24/10	03/26/10 05:13	jjh	GC-V4	1	BTC1642	ND	
Toluene		ND	ug/L	0.30	EPA-8021	03/24/10	03/26/10 05:13	jjh	GC-V4	1	BTC1642	ND	
Ethylbenzene		ND	ug/L	0.30	EPA-8021	03/24/10	03/26/10 05:13	jjh	GC-V4	1	BTC1642	ND	
Methyl t-butyl ether		ND	ug/L	1.0	EPA-8021	03/24/10	03/26/10 05:13	jjh	GC-V4	1	BTC1642		V11
Total Xylenes		ND	ug/L	0.60	EPA-8021	03/24/10	03/26/10 05:13	jjh	GC-V4	1	BTC1642	ND	
Gasoline Range Organics (C	4 - C12)	ND	ug/L	50	Luft	03/24/10	03/26/10 05:13	jjh	GC-V4	1	BTC1642	ND	
a,a,a-Trifluorotoluene (PID Si	urrogate)	89.0	%	70 - 130 (LCL - UCL)	EPA-8021	03/24/10	03/26/10 05:13	jjh	GC-V4	1	BTC1642		
a,a,a-Trifluorotoluene (FID Si	urrogate)	95.0	%	70 - 130 (LCL - UCL)	Luft	03/24/10	03/26/10 05:13	jjh	GC-V4	1	BTC1642		

123 Technology DriveProject Number:4512981449Irvine, CA 92618Project Manager:Anju Farfan

### **Purgeable Aromatics and Total Petroleum Hydrocarbons**

### **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	BTC1642	Matrix Spike	1002046-90	ND	38.205	40.000	ug/L		95.5		70 - 130
		Matrix Spike Duplicate	1002046-90	ND	37.328	40.000	ug/L	2.3	93.3	20	70 - 130
Toluene	BTC1642	Matrix Spike	1002046-90	ND	37.890	40.000	ug/L		94.7		70 - 130
		Matrix Spike Duplicate	1002046-90	ND	37.068	40.000	ug/L	2.2	92.7	20	70 - 130
Ethylbenzene	BTC1642	Matrix Spike	1002046-90	ND	38.427	40.000	ug/L		96.1		70 - 130
		Matrix Spike Duplicate	1002046-90	ND	37.813	40.000	ug/L	1.6	94.5	20	70 - 130
Methyl t-butyl ether	BTC1642	Matrix Spike	1002046-90	ND	43.570	40.000	ug/L		109		70 - 130
Total Xylenes	BTC1642	Matrix Spike	1002046-90	ND	112.78	120.00	ug/L		94.0		70 - 130
		Matrix Spike Duplicate	1002046-90	ND	110.41	120.00	ug/L	2.1	92.0	20	70 - 130
Gasoline Range Organics (C4 - C12)	BTC1642	Matrix Spike	1002046-90	ND	966.63	1000.0	ug/L		96.7		70 - 130
		Matrix Spike Duplicate	1002046-90	ND	970.92	1000.0	ug/L	0.4	97.1	20	70 - 130
a,a,a-Trifluorotoluene (PID Surrogate)	BTC1642	Matrix Spike	1002046-90	ND	40.303	40.000	ug/L		101		70 - 130
		Matrix Spike Duplicate	1002046-90	ND	40.166	40.000	ug/L		100		70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	BTC1642	Matrix Spike	1002046-90	ND	40.381	40.000	ug/L		101		70 - 130
		Matrix Spike Duplicate	1002046-90	ND	39.959	40.000	ug/L		99.9		70 - 130

123 Technology DriveProject Number:4512981449Irvine, CA 92618Project Manager:Anju Farfan

## **Purgeable Aromatics and Total Petroleum Hydrocarbons**

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

										Control	Limits	
					Spike			Percent		Percent		
Constituent	Batch ID	QC Sample ID	QC Type	Result	Level	PQL	Units	Recovery	RPD	Recovery	RPD	Lab Quals
Benzene	BTC1642	BTC1642-BS1	LCS	37.766	40.000	0.30	ug/L	94.4		85 - 115		
Toluene	BTC1642	BTC1642-BS1	LCS	37.503	40.000	0.30	ug/L	93.8		85 - 115		
Ethylbenzene	BTC1642	BTC1642-BS1	LCS	38.254	40.000	0.30	ug/L	95.6		85 - 115		
Methyl t-butyl ether	BTC1642	BTC1642-BS1	LCS	43.247	40.000	1.0	ug/L	108		85 - 115		
Total Xylenes	BTC1642	BTC1642-BS1	LCS	112.00	120.00	0.60	ug/L	93.3		85 - 115		
Gasoline Range Organics (C4 - C12)	BTC1642	BTC1642-BS1	LCS	957.28	1000.0	50	ug/L	95.7		85 - 115		
a,a,a-Trifluorotoluene (PID Surrogate)	BTC1642	BTC1642-BS1	LCS	40.513	40.000		ug/L	101		70 - 130		
a,a,a-Trifluorotoluene (FID Surrogate)	BTC1642	BTC1642-BS1	LCS	39.693	40.000		ug/L	99.2		70 - 130		

123 Technology DriveProject Number:4512981449Irvine, CA 92618Project Manager:Anju Farfan

### **Purgeable Aromatics and Total Petroleum Hydrocarbons**

### **Quality Control Report - Method Blank Analysis**

		•					
Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BTC1642	BTC1642-BLK1	ND	ug/L	0.30		
Toluene	BTC1642	BTC1642-BLK1	ND	ug/L	0.30		
Ethylbenzene	BTC1642	BTC1642-BLK1	ND	ug/L	0.30		
Total Xylenes	BTC1642	BTC1642-BLK1	ND	ug/L	0.60		
Gasoline Range Organics (C4 - C12)	BTC1642	BTC1642-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (PID Surrogate)	BTC1642	BTC1642-BLK1	92.1	%	70 - 130 (LCL	- UCL)	
a,a,a-Trifluorotoluene (FID Surrogate)	BTC1642	BTC1642-BLK1	100	%	70 - 130 (LCL	- UCL)	



123 Technology DriveProject Number:4512981449Irvine, CA 92618Project Manager:Anju Farfan

#### **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

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

BC LABORATORIES INC.		SAMPLE	RECEIP	TFORM	Re	v. No. 12	06/24/08	Page _	[ Of [	
Submission #:10 040	09									
SHIPPING INFOF Federal Express □ . UPS □ BC Lab Field Service ☑ Other (	Hand Deli	very 🗆			ce Chest. Box	ø′	NG CON Non Othe		cify)	
Refrigerant: Ice 🗹 Blue Ice 🗆	None	□ Oth	ner 🗆 🤇	Commen	ts:					
Custody Seals Ice Chest  Intact? Yes  No	Containe	1	None,⊠́	Comme	nts:					,
All samples received? Yes No 🗆	All samples	containers	intact? Y	No (		Descript	ion(s) mate	ch COC? Y	/pdbNo I	
COC Received Er	missivity: _	0.95 c	ontainer: _	0+A-	Thermomet	er ID: <u>并U</u>		Date/Tim	ie <u>3\24\17</u> nit <u>J.D.V.)</u>	208
SAMPLE CONTAINERS					SAMPLE	NUMBERS	T			
	1 1	2	3	4	5	6.	7	8	9	10
QT GENERAL MINERALI GENERAL PHYSICAL						<u> </u>			<u> </u>	
PT PE UNPRESERVED				<u> </u>		<u> </u>			ļ	<u> </u>
OT INORGANIC CHEMICAL METALS					1			<u> </u>		
PT INORGANIC CHEMICAL METALS								ļ		
PT CYANIDE	250									
PT NITROGEN FORMS										
PT TOTAL SULFIDE								ļ		
2oz. NITRATE / NITRITE			<del> </del>						<u> </u>	
PT TOTAL ORGANIC CARBON						<u> </u>			ļ	
PT TOX					_					
PT CHEMICAL OXYGEN DEMAND									<u> </u>	
PtA PHENOLICS	1									
40ml VOA VIAL TRAVEL BLANK	A 3	7			<u> </u>				ļ	
40ml VOA VIAL	<i>  T   Z</i>	A3	()		<b>(</b> )	( )	1 )	( )	1	( )
OT EPA 413.1, 413.2, 418.1									<u> </u>	
PT ODOR					<u> </u>					
RADIOLOGICAL RACTERIOLOGICAL								<u> </u>		
BACTERIOLOGICAL									<u> </u>	
OT FRANCOS MORE								<u> </u>	1	
OT EPA 508/608/8080	ii A									
QT EPA 515.1/8150								]		
OT EPA 525	167 187							<u> </u>		
OT EPA 525 TRAVEL BLANK	in the second		· · · · · · · · · · · · · · · · · · ·						ļ	
100ml EPA 547					<u> </u>					
100ml EPA 531.1	Annual Maria									
OT EPA 548										
OT EPA 549	9									
OT EPA 632										
OT EPA 8015M										
QT AMBER	99									
8 OZ. JAR	1422									
32 OZ. JAR										
SOIL SLEEVE	W. C.									
PCB VIAL	92									
PLASTIC BAG	Acres Acres									
FERROUS IRON										
ENCORE	<u> </u>									
omments:										

Sample Numbering Completed By: An Date/Time: 3/2000
A = Actual / C = Corrected

# 1004069

### BC LABORATORIES, INC.

(661) 327-4911

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

**CHAIN OF CUSTODY** 

(001) 027 1011	FAX (661) 327-1918							and the control of th	and the commence of the comment of t	JOSEPH CONTROL
			1	٩nal	ysis	Red	que	sted		
Consultant Firm: TRC		MATRIX (GW)	TP.							
21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan		Ground- water (S) Soil			nates	/ 8260B				hested
		(WW) Waste- water	oy 8021€	8015M by 8015	// oxyge	OXYS B)	8260B	C/MS		Turnaround Time Requested
Project #: 1738	345	(SL)	Ш	ع ق	is is	BE	L by	S C		2
Sampler Name:	Sarelo	Sludge	LMS	GAS	3	CIMT	N O	<b>ज</b>		aron
Field Point Name	Date & Time Sampled		BTE		8260	BTE		I L		5
111-3 3-2	3-10 1145	600	X	$\setminus$						5/1)
UW-Z U	1225	U	V							
				Acceleration for the second se	SHKB		7			and the state of t
				D. A.		1		Data &	Fime	
	(And			/W	1 W	do	5	3/24/ Date &	<u>//                                   </u>	300
Relinquished by: (Si	1000 3/2	24110 2100)		KUK	uy c	_M_	- 3	Date &	Time	818 400
	21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan  4-digit site#: 35 Workorder# 01/78 Project #: /738 Sampler Name: Field Point Name  Relinquished by: (Single March) 12 12 12 12 12 12 12 12 12 12 12 12 12	Irvine, CA 92618-2302 Attn: Anju Farfan  4-digit site#: 3538  Workorder # 01/ 78- 4512981449  Project #: /73845  Sampler Name: Date & Time Sampled  4 3 3-23-70 // 45  Au - 2 // 1225  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)	Consultant Firm: IRC  21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan  4-digit site#: 3538  Workorder # 01/78-451298/49  Project #: /73845  Sampler Name: Sampled  Field Point Name Date & Time Sampled  Aw-3 3-23-/0 //45  Aw-2 //255  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)	Consultant Firm: TRC  21 Technology Drive   Groundwater   GS   GS   GS   GS   GS   GS   GS   G	Consultant Firm: TRC  21 Technology Drive   Groundwater   Groundwater	Consultant Firm: TRC  21 Technology Drive   Groundwater   GS   Soil   Wasterwater   GS   Groundwater   Groundwater   GS   Groun	Consultant Firm: TRC  21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan  4-digit site#: 3538 Workorder # 0/1 78-4/5/298/4/9 Project #: /73845 Sampler Name: Sampled  Field Point Name Date & Time Sampled  Au - 3 3-23-/0 1/45  Au - 2 / 1225  Relinquished by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) Received by: Reverved by: Reve	Consultant Firm: TRC  21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan  4-digit site#: 3538  Workorder # 0/1 78 - 45/298/449  Project #: /73845  Sampler Name: Sampled  Field Point Name  Date & Time Sampled  Field Point Name  Date & Time Sampled  Au - 3 3-23-10 1145  Au - 2 1225  Relinquished by: (Signature)  Received by:  Received	Consultant Firm: IRC  21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan  4-digit site#: 3538  Workorder # 0/1778-451298/499 Project #: 173845  Sampler Name: Sampled  Date & Time Sampled  Pield Point Name Date & Time Sampled  Aug - 2	Consultant Firm: TRC  21 Technology Drive Irvine, CA 92618-2302 Attn: Anju Farfan  4-digit site#: 3538  Workorder # 011 78-4512981449 Project #: 173845 Sampler Name: Sampled  Field Point Name  Date & Time Sampled  Relinquished by: (Signature)  Received by:  Date & Time  Received by:  Date & Time  Date & Time  Received by:  Date & Time  Date & Time  Received by:  Date & Time  Date & Time  Date & Time  Received by:  Date & Time

### **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.

.