



# Transmittal

Date:	October 15, 2015	Reference No.:	240781
То:	Jerry Wickham Alameda County Environmental Health		
	1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577		
Subject:	Former Shell Service Station 2703 Martin Luther	King .Ir Way Oa	kland California

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1	Groundwater Monitoring Report -					
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 <u>GeoTracker and Alameda County FTP
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Remarks:

If you have any questions regarding the contents of this document, please call the GHD project manager Peter Schaefer at (510) 420-3319 or the Shell program manager Andrea Wing at (714) 731-1050.

Copy to:

Andrea Wing, Shell Oil Products US (electronic copy)

Rodney & Janet Kwan (property owners)

Monique Oatis (off-site property owner)

Completed by: Peter Schaefer [Please Print]

IEI

Signed: Pohn Scharge

Filing: Correspondence File

**GHD Services Inc.** 

5900 Hollis Street Suite A Emeryville California 94608 USA T 510 420 0700 F 510 420 9170 W www.ghd.com



Mr. Jerry Wickham Alameda County Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 Shell Oil Products US Soil and Groundwater Focus Delivery Group 20945 S. Wilmington Avenue Carson, CA 90810 Tel (714) 731 1050 Fax (714) 731 1038 Email Andrea.Wing@shell.com Internet http://www.shell.com

Re: 2703 Martin Luther King Jr. Way, Oakland, California PlaNet Site ID USF04645 PlaNet Project ID 27482 ACEH Case No. RO0000145

Dear Mr. Wickham:

I am informed and believe that, based on a reasonably diligent inquiry undertaken by GHD on behalf of Equilon Enterprises LLC dba Shell Oil Products US, the information and/or recommendations contained in the attached document is true, and on that ground I declare under penalty of perjury in accordance with Water Code section 13267 that this statement is true and correct.

As always, please feel free to contact me directly at (714) 731-1050 with any questions or concerns.

Sincerely, Shell Oil Products US

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Andrea A. Wing Principal Program Manager



# Groundwater Monitoring Report -Third Quarter 2015

Former Shell Service Station 2703 Martin Luther King Jr. Way Oakland, California

PlaNet Site ID	USF04645
PlaNet Project ID	27482
Agency No.	RO0000145

Shell Oil Products US

5900 Hollis Street Suite A Emeryville California 94608 USA 240781 | 15.03 | Report No 37 | October 15, 2015

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# 1. Introduction

GHD Services Inc. (GHD) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell).

## 1.1 Site Information

Site Address	2703 Martin Luther King Jr. Way, Oakland
Site Use	Auto repair shop
Shell Program Manager	Andrea Wing
GHD Project Manager	Peter Schaefer
Lead Agency and Contact	ACEH, Jerry Wickham
Agency Case No.	RO0000145
Shell PlaNet Site ID	USF04645
Shell PlaNet Project ID	27482

Date of most recent agency correspondence was July 21, 2015.

## 2. Site Activities, Findings, and Discussion

## 2.1 Current Quarter's Activities

Blaine Tech Services, Inc. (Blaine) gauged and sampled the wells according to the modified monitoring program for this Site.

GHD prepared a vicinity map (Figure 1), a groundwater elevation and chemical concentration map (Figure 2), and a groundwater data table (Table 1). Blaine's field notes are presented in Appendix A, and the laboratory report is presented in Appendix B.

As requested Alameda County Environmental Health's (ACEH's) July 21, 2015 letter, GHD submitted a soil vapor sampling report on October 13, 2015. ACEH's July 21, 2015 letter also requested recommendations for implementing Conestoga-Rovers & Associates' (CRA's) May 28, 2008 *Remedial Action Plan* (RAP). GHD discussed the plan forward with ACEH during a August 12, 2015 telephone conversation.

## 2.2 Current Quarter's Findings

Groundwater Flow Direction	NA
Hydraulic Gradient	NA
Depth to Water	11.55 feet below top of well casing

### 2.3 Proposed Activities

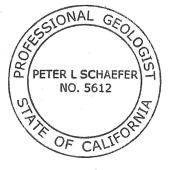
The Site wells will be gauged and sampled according to the modified monitoring program for this Site. This Site is monitored quarterly, and Shell will issue groundwater monitoring reports quarterly.

As discussed in a telephone conversation with ACEH on August 12, 2015, Shell will submit a conceptual Site model, human health risk assessment, and recommendations for implementing CRA's May 28, 2008 RAP by December 16, 2015.

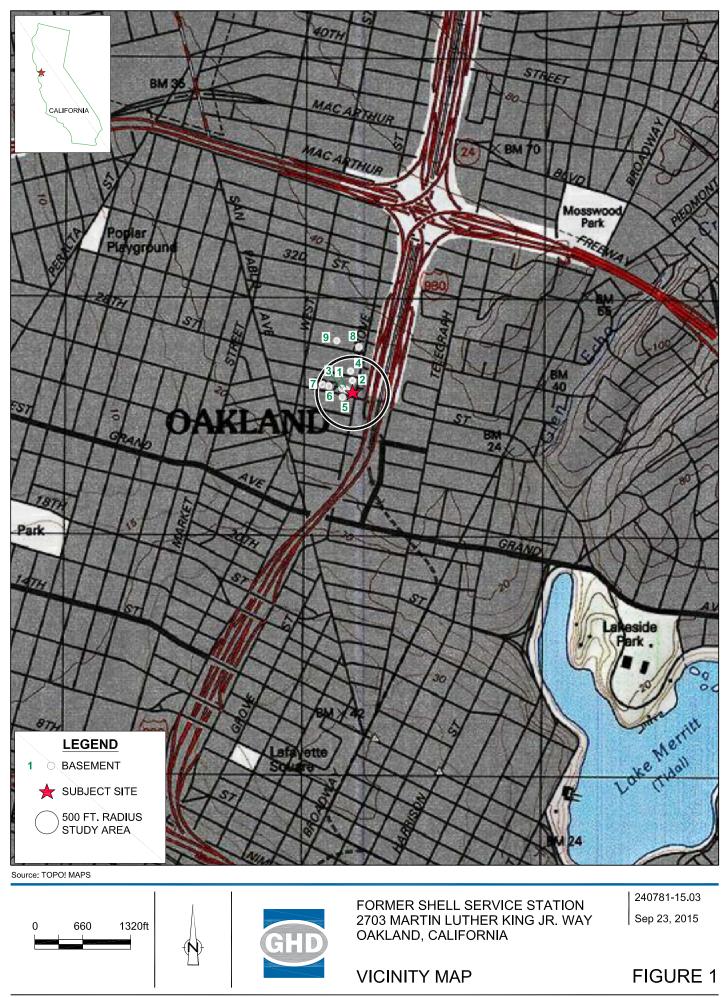
All of Which is Respectfully Submitted,

GHD

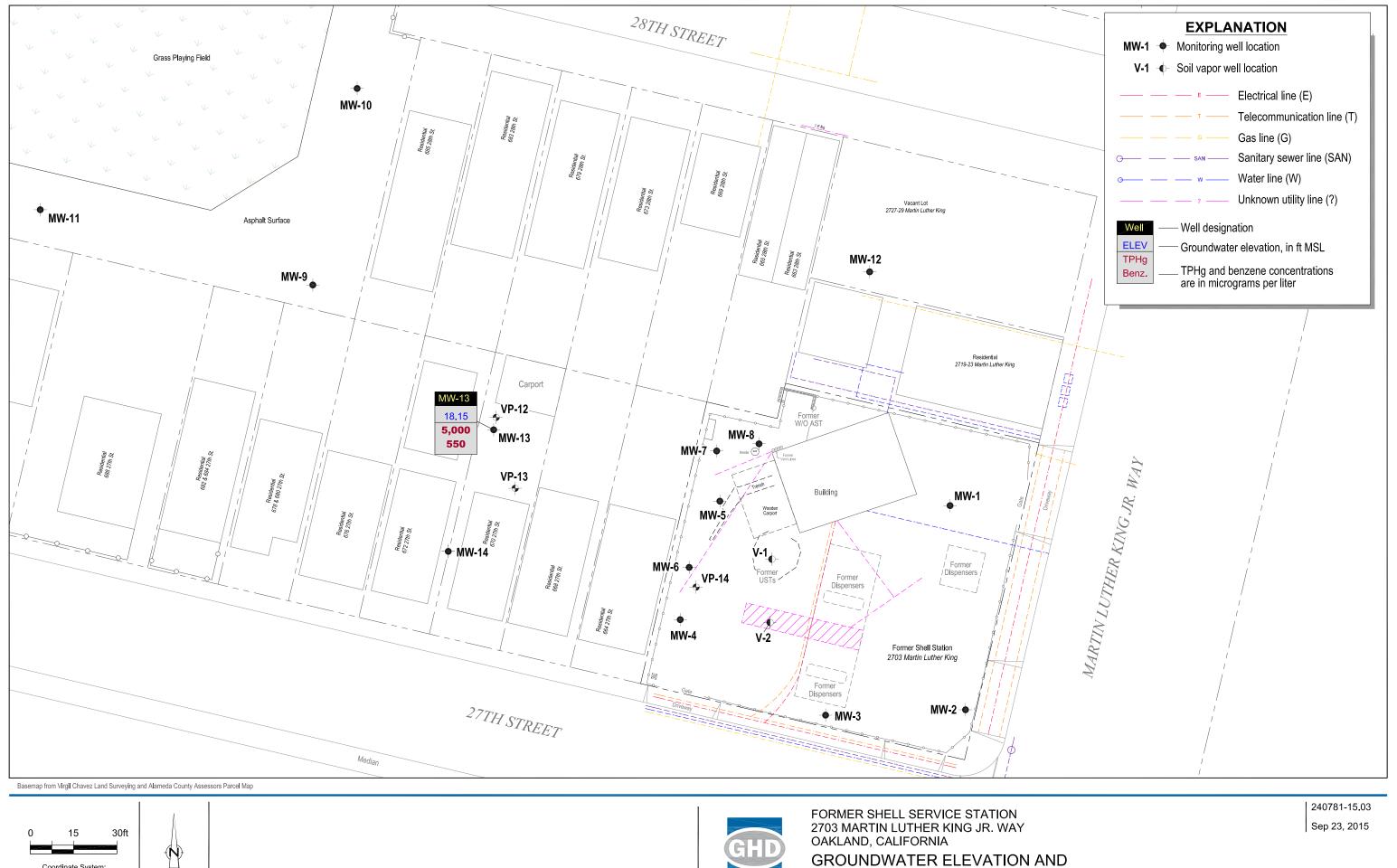
Peter Schaefer, CEG, CHG



Diane M. Lundquist, P.E.



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CAD File: I:\Shell\6-chars\2407--1240781-Oakland 2703 Martin Luther King\240781-FIGURES\240781-37-FIGURES\240781-15.03(037)GN-EM002.DWG

Coordinate System: CA ZONE 6 STATE PLANE COORD SYSTEM NAD 83

## GROUNDWATER ELEVATION AND CHEMICAL CONCENTRATION MAP - AUGUST 14, 2015



Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	МТВЕ 8260 (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (μg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-1	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	8.76	14.77	
MW-1 (D)	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53			
MW-1	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	9.88	13.65	
MW-1	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	6.82	16.71	
MW-1	04/07/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	7.89	15.64	
MW-1	07/02/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	8.71	14.82	
MW-1	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	9.26	14.27	
MW-1	01/09/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	7.94	15.59	
MW-1	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	7.21	16.32	
MW-1	07/14/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	7.78	15.75	
MW-1	10/01/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	8.39	15.14	
MW-1	01/18/1999	<50.0	<0.500	0.785	<0.500	<0.500	2.36						23.53	8.28	15.25	
MW-1	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.53	8.41	15.12	
MW-1	08/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						23.53	8.17	15.36	
MW-1	10/06/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00						23.53	9.37	14.16	
MW-1	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						23.53	7.52	16.01	
MW-1	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						23.53	7.66	15.87	
MW-1	07/19/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						23.53	7.81	15.72	
MW-1	10/24/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						23.53	8.33	15.20	
MW-1	01/04/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						23.53	8.33	15.20	
MW-1	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					23.53	7.83	15.70	
MW-1	07/09/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					23.53	8.60	14.93	
MW-1	10/18/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					23.53	9.01	14.52	0.2
MW-1	01/24/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					23.53	7.68	15.85	2.1
MW-1	04/04/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					23.53	7.38	16.15	1.1
MW-1	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					23.53	7.75	15.78	2.2
MW-1	10/21/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					29.53	8.10	21.43	1.6
MW-1	01/21/2003	<50	<0.50	<0.50	<0.50	<0.50		<5.0					29.53	7.82	21.71	0.6
MW-1	04/17/2003	<50	<0.50	<0.50	<0.50	<1.0		<5.0					29.53	7.76	21.77	1.7
MW-1	07/22/2003	<50	<0.50	<0.50	<0.50	<1.0		<0.50					29.53	7.87	21.66	1.5
MW-1	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0		<0.50					29.53	8.67	20.86	0.8
MW-1	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0		<0.50					29.53	8.28	21.25	
MW-1	01/22/2004												29.53	8.50	21.03	1.1
MW-1	04/01/2004												29.53	7.98	21.55	
MW-1	07/13/2004												29.53	8.30	21.23	
MW-1	10/26/2004												29.53	8.27	21.26	
MW-1	01/13/2005												29.53	6.92	22.61	

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	МТВЕ 8020 (µg/L)	MTBE 8260 (μg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-1	04/28/2005												29.53	7.18	22.35	
MW-1	08/01/2005												29.53	7.43	22.10	
MW-1	10/05/2005												29.53	7.55	21.98	
MW-1	01/11/2006												29.54	5.35	24.19	
MW-1	05/26/2006	<50.0	<0.500	<0.500	<0.500	<0.500		<0.500	<10.0	<0.500	<0.500	<0.500	29.54	6.81	22.73	0.78
MW-1	08/30/2006												29.54	7.77	21.77	
MW-1	11/08/2006												29.54	8.39	21.15	
MW-1	02/22/2007												29.54	7.11	22.43	
MW-1	05/29/2007												29.54	7.20	22.34	
MW-1	08/27/2007												29.54	7.86	21.68	
MW-1	11/08/2007												29.54	7.89	21.65	
MW-1	02/20/2008												29.54	7.38	22.16	
MW-1	05/01/2008												29.54	7.58	21.96	
MW-1	08/12/2008												29.54	8.85	20.69	
MW-1	11/26/2008												29.54	8.90	20.64	
MW-1	02/03/2009												29.54	8.51	21.03	
MW-1	06/02/2009												29.54	8.45	21.09	
MW-1	11/10/2009												29.54	8.89	20.65	
MW-1	05/10/2010												29.54	7.22	22.32	
MW-1	09/09/2010												29.54	7.88	21.66	
MW-1	12/03/2010												29.54	7.98	21.56	
MW-1	03/02/2011												29.54	7.52	22.02	
MW-1	05/31/2011												29.54	7.28	22.26	
MW-1	12/13/2011												29.54	7.64	21.90	
MW-1	06/13/2012												29.54	7.56	21.98	
MW-1	11/19/2012												29.54	8.48	21.06	
MW-1	05/30/2013												29.54	7.32	22.22	
MW-1	11/18/2013												29.54	9.11	20.43	
MW-1	06/06/2014												29.54	8.40	21.14	
MW-1	12/01/2014												29.54	9.37	20.17	
MW-1	05/22/2015												29.54	7.45	22.09	
MW-2	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	8.35	14.12	
MW-2	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	9.32	13.15	
MW-2 (D)	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47			
MW-2	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	6.80	15.67	
MW-2 (D)	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47			
. ,																

Well ID	Date	TPHg (µg/L)	B (µg/L)	Τ (μg/L)	Ε (μg/L)	Х (µg/L)	МТВЕ 8020 (µg/L)	MTBE 8260 (μg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-2	04/07/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	7.81	14.66	
MW-2	07/02/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	8.27	14.20	
MW-2	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	9.12	13.35	
MW-2	01/09/1998	<50	<0.50	<0.50	<0.50	<0.50	6.3						22.47	7.41	15.06	
MW-2	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	6.59	15.88	
MW-2	07/14/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	7.49	14.98	
MW-2	10/01/1998	<50	<0.50	<0.50	<0.50	0.59	<2.5						22.47	8.58	13.89	
MW-2	01/18/1999	<50.0	<0.500	0.971	<0.500	<0.500	2.47						22.47	8.68	13.79	
MW-2	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5						22.47	8.62	13.85	
MW-2	08/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						22.47	7.43	15.04	
MW-2	10/06/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00						22.47	9.00	13.47	
MW-2	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						22.47	8.15	14.32	
MW-2	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						22.47	7.04	15.43	
MW-2	07/19/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						22.47	7.13	15.34	
MW-2	10/24/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						22.47	8.78	13.69	
MW-2	01/04/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						22.47	8.33	14.14	
MW-2	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.47	7.24	15.23	
MW-2	07/09/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.47	8.55	13.92	
MW-2	10/18/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.47	9.42	13.05	
MW-2	01/24/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.47	7.23	15.24	
MW-2	04/04/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.47	6.90	15.57	
MW-2	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.47	7.97	14.50	
MW-2	10/21/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					28.47	8.62	19.85	
MW-2	01/21/2003	<50	<0.50	<0.50	<0.50	<0.50		<5.0					28.47	7.08	21.39	
MW-2	04/17/2003	<50	<0.50	<0.50	0.98	2.5		<5.0					28.47	6.94	21.53	
MW-2	07/22/2003	<50	<0.50	<0.50	<0.50	<1.0		<0.50					28.47	8.10	20.37	
MW-2	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0		<0.50					28.47	9.09	19.38	
MW-2	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0		<0.50					28.47	7.28	21.19	
MW-2	01/22/2004												28.47	8.99	19.48	2.8
MW-2	04/01/2004												28.47	6.88	21.59	
MW-2	07/13/2004												28.47	8.28	20.19	
MW-2	10/26/2004												28.47	8.43	20.04	
MW-2	01/13/2005												28.47	6.52	21.95	
MW-2	04/28/2005												28.47	6.38	22.09	
MW-2	08/01/2005												28.47	7.73	20.74	
MW-2	10/05/2005												28.47	8.47	20.00	
MW-2	01/11/2006												28.48	6.30	22.18	

Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	Е (µg/L)	Х (µg/L)	МТВЕ 8020 (µg/L)	MTBE 8260 (μg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (μg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-2	05/26/2006	59.9	<0.500	<0.500	<0.500	<0.500		<0.500	<10.0	<0.500	<0.500	<0.500	28.48	6.84	21.64	3.02
MW-2	08/30/2006												28.48	8.11	20.37	
MW-2	11/08/2006												28.48	8.61	19.87	
MW-2	02/22/2007												28.48	6.92	21.56	
MW-2	05/29/2007												28.48	7.32	21.16	
MW-2	08/27/2007												28.48	8.38	20.10	
MW-2	11/08/2007												28.48	8.58	19.90	
MW-2	02/20/2008												28.48	6.48	22.00	
MW-2	05/01/2008												28.48	19.00	9.48	
MW-2	08/12/2008												28.48	8.53	19.95	
MW-2	11/26/2008												28.48	8.88	19.60	
MW-2	02/03/2009												28.48	8.20	20.28	
MW-2	06/02/2009												28.48	7.50	20.98	
MW-2	11/10/2009												28.48	8.69	19.79	
MW-2	05/10/2010												28.48	7.09	21.39	
MW-2	09/09/2010												28.48	8.70	19.78	
MW-2	12/03/2010												28.48	8.22	20.26	
MW-2	03/02/2011												28.48	6.40	22.08	
MW-2	05/31/2011												28.48	7.46	21.02	
MW-2	12/13/2011												28.48	8.28	20.20	
MW-2	06/13/2012												28.48	7.51	20.97	
MW-2	11/19/2012												28.48	8.85	19.63	
MW-2	05/30/2013												28.48	7.82	20.66	
MW-2	11/18/2013												28.48	9.55	18.93	
MW-2	06/06/2014												28.48	7.99	20.49	
MW-2	12/01/2014												28.48	9.52	18.96	
MW-2	05/22/2015												28.48	8.30	20.18	
MW-3	04/25/2001												22.30	7.16	15.14	
MW-3	05/03/2001	<100	<0.50	<0.50	<0.50	<0.50		<5.0					22.30	7.28	15.02	
MW-3	07/09/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.30	8.45	13.85	
MW-3	10/18/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.30	9.44	12.86	
MW-3	01/24/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.30	5.88	16.42	
MW-3	04/04/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.30	6.68	15.62	
MW-3	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					22.30	7.63	14.67	
MW-3	10/21/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					28.30	8.56	19.74	
MW-3	01/21/2003	<50	<0.50	<0.50	<0.50	<0.50		<5.0					28.30	6.95	21.35	

Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (μg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-3	04/17/2003	<50	<0.50	<0.50	<0.50	<1.0		<5.0					28.30	6.77	21.53	
MW-3	07/22/2003	<50	<0.50	<0.50	<0.50	<1.0		<0.50					28.30	7.92	20.38	
MW-3	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0		<0.50					28.30	9.12	19.18	
MW-3	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0		<0.50					28.30	7.21	21.09	
MW-3	01/22/2004												28.30	9.00	19.30	0.6
MW-3	04/01/2004												28.30	6.65	21.65	
MW-3	07/13/2004												28.30	8.24	20.06	
MW-3	10/26/2004												28.30	8.50	19.80	
MW-3	01/13/2005												28.30	6.32	21.98	
MW-3	04/28/2005												28.30	6.05	22.25	
MW-3	08/01/2005												28.30	7.65	20.65	
MW-3	10/05/2005												28.30	8.31	19.99	
MW-3	01/11/2006												28.30	6.10	22.20	
MW-3	05/26/2006	<50.0	<0.500	<0.500	<0.500	<0.500		<0.500	<10.0	2.87	<0.500	<0.500	28.30	6.72	21.58	1.46
MW-3	08/30/2006												28.30	8.12	20.18	
MW-3	11/08/2006												28.30	8.71	19.59	
MW-3	02/22/2007												28.30	6.78	21.52	
MW-3	05/29/2007												28.30	7.20	21.10	
MW-3	08/27/2007												28.30	8.18	20.12	
MW-3	11/08/2007												28.30	8.41	19.89	
MW-3	02/20/2008												28.30	6.31	21.99	
MW-3	05/01/2008												28.30	7.52	20.78	
MW-3	08/12/2008												28.30	8.32	19.98	
MW-3	11/26/2008												28.30	8.71	19.59	
MW-3	02/03/2009												28.30	8.08	20.22	
MW-3	06/02/2009												28.30	7.28	21.02	
MW-3	11/10/2009												28.30	8.72	19.58	
MW-3	05/10/2010												28.30	6.71	21.59	
MW-3	09/09/2010												28.30	8.59	19.71	
MW-3	12/03/2010												28.30	8.26	20.04	
MW-3	03/02/2011												28.30	6.12	22.18	
MW-3	05/31/2011												28.30	7.32	20.98	
MW-3	12/13/2011												28.30	8.19	20.11	
MW-3	06/13/2012												28.30	7.40	20.90	
MW-3	11/19/2012												28.30	8.71	19.59	
MW-3	05/30/2013												28.30	7.52	20.78	
MW-3	11/18/2013												28.30	9.33	18.97	

Well ID	Date	TPHg (µg/L)	В (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-3	06/06/2014												28.30	7.68	20.62	
MW-3	12/01/2014												28.30	9.41	18.89	
MW-3	05/22/2015												28.30	8.07	20.23	
MW-4	04/25/2001												22.51	7.05	15.46	
MW-4	04/23/2001	8,000	3.500	24	37	350		<200					22.51	6.66	15.40	
MW-4	05/03/2001		3,500 4,100	24 32		350 790		<200 <200						8.28	15.65	
		16,000	-		890								22.51			
MW-4	10/18/2001	12,000	3,300	<20	430	220		<200					22.51	9.40 5.72	13.11	
MW-4	01/24/2002	5,500	1,200	<5.0	280	240		<50					22.51	5.73	16.78	
MW-4	04/04/2002	2,000	350	1.4	13	7.8		<10					22.51	5.62	16.89	
MW-4	07/18/2002	3,400	440	1.3	200	98		<5.0					22.51	6.94	15.57	
MW-4	10/21/2002	16,000	3,100	11	1,200	970		<5.0					28.51	8.04	20.47	
MW-4	01/21/2003	3,600	720	3.9	110	58		<25					28.51	6.10	22.41	
MW-4	04/17/2003	3,700	810	<5.0	140	17		<50					28.51	5.97	22.54	
MW-4	07/22/2003	3,700	450	<2.5	110	7.9		<2.5					28.51	6.37	22.14	
MW-4	10/20/2003	11,000 b	2,500	<20	550	95		<20					28.51	8.99	19.52	
MW-4	01/13/2004	6,600	1,500	<10	41	37		<10					28.51	6.67	21.84	
MW-4	01/22/2004												28.51	8.80	19.71	0.3
MW-4	04/01/2004	9,500	2,100	12	170	30							28.51	6.28	22.23	0.1
MW-4	07/13/2004	12,000	3,600	39	160	58		<25	<250	<100	<100	<100	28.51	8.20	20.31	0.1
MW-4	10/26/2004	11,000	2,800	<25	100	<50							28.51	8.00	20.51	0.6
MW-4	01/13/2005	12,000	2,200	14	110	43							28.51	6.03	22.48	0.1
MW-4	04/28/2005	8,600	2,300	27	200	49							28.51	5.93	22.58	3.71
MW-4	08/01/2005	11,000	3,900	57	180	47		<10	<100	<40	<40	<40	28.51	6.20	22.31	
MW-4	10/05/2005	9,400	3,300	45	88	33							28.51	8.22	20.29	2.76
MW-4	01/11/2006	3,900 a	1,700 a	14	95	78		<0.50	32	7.4	<0.50	<0.50	28.51	4.25	24.26	0.6
MW-4	05/26/2006	6,730	455	1.90	56.7	44.8		<0.500	<10.0	4.36	<0.500	<0.500	28.51	5.90	22.61	0.54
MW-4	08/30/2006	29,600	2,740	30.0	448	237		<0.500	<10.0	<0.500	<0.500	<0.500	28.51	7.98	20.53	0.44/0.46
MW-4	11/08/2006	6,300	1,500	13	130	67							28.51	8.52	19.99	0.05/0.22
MW-4	02/22/2007	11,000	2,200	18	620	310							28.51	5.63	22.88	2.96/2.98
MW-4	05/29/2007	14,000 b, f	3,200	27	640	249.0							28.51	6.60	21.91	0.19/0.11
MW-4	08/27/2007	12,000 f	1,900	19 g	250	80.9 g		<25	<250	<50	<50	<50	28.51	8.50	20.01	0.85/1.71
MW-4	11/08/2007	6,400 f	1,400	10 g	70	37.9 g							28.51	8.21	20.30	1.09/2.63
MW-4	02/20/2008	12,000 f	2,700	<20	690	396							28.51	4.86	23.65	0.46/0.12
MW-4	05/01/2008	8,500	2,000	<20	260	62							28.51	7.00	21.51	0.2/0.2
MW-4	08/12/2008	8,400	1,800	22	<20	24		<20	<200	<40	<40	<40	28.51	8.31	20.20	0.21/0.68
MW-4	11/26/2008	6,900	1,800	<20	120	<20		~20	~200				28.51	8.94	19.57	0.21/0.08
11110-4	11/20/2000	0,000	1,000	~20	120	~20							20.01	0.34	13.57	0.00/2.10

Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-4	02/03/2009	8,800	1,800	<20	160	96							28.51	7.64	20.87	0.15/0.26
MW-4	06/02/2009	15,000	3,000	58	340	55							28.51	6.82	21.69	0.26/0.65
MW-4	11/10/2009	13,000	2,200	37	180	91		<20	<200	<40	<40	<40	28.51	8.38	20.13	0.61/0.57
MW-4	05/10/2010	12,000	3,100	37	570	140							28.51	5.42	23.09	0.26/2.84
MW-4	09/09/2010												28.51	8.31	20.20	
MW-4	12/03/2010	6,400	1,600	21	96	68		<20	<200	<40	<40	<40	28.51	7.75	20.76	0.52/0.45
MW-4	03/02/2011												28.51	4.25	24.26	
MW-4	05/31/2011	11,000	3,200	61	520	68							28.51	6.34	22.17	1.46/2.63
MW-4	12/13/2011	4,000	1,120	31.1	83.0	30.3		<0.500	<10.0	4.64	<0.500	<0.500	28.51	7.90	20.61	0.59/0.19
MW-4	06/13/2012	12,000	3,500	47	270	<50							28.51	6.90	21.61	1.03/0.96
MW-4	11/19/2012	8,300	1,800	88	120	310		<25	<500	<25	<25	<25	28.51	8.34	20.17	0.88/1.02
MW-4	05/30/2013	11,000	3,400	68	220	40							28.51	7.38	21.13	0.10/0.07
MW-4	11/18/2013	10,000	2,400	33	43	<40		<20	<400	<20	<20	<20	28.51	9.13	19.38	0.27/0.24
MW-4	06/06/2014	8,900	1,800	<25	110	55							28.51	7.28	21.23	0.46/0.50
MW-4	12/01/2014	8,500 i	1,400	17	33	91		<10	<200	<10	<10	<10	28.51	8.80	19.71	0.48/1.17
MW-4	05/22/2015	7,100	1,500	48	54	<40							28.51	7.50	21.01	1.01/0.73
MW-5	04/25/2001												23.54	7.36	16.18	
MW-5	05/03/2001	160,000	12,000	20,000	3,600	23,000		<500					23.54	7.77	15.77	
MW-5	07/09/2001	130,000	11,000	19,000	4,500	22,000		<500					23.54	9.32	14.22	
MW-5	10/18/2001	120,000	12,000	23,000	4,200	21,000		<500					23.54	9.39	14.15	0.5
MW-5	01/24/2002	34,000	3,300	3,300	960	6,000		<100					23.54	7.05	16.49	4.0
MW-5	04/04/2002	32,000	2,100	2,800	730	6,400		<200					23.54	6.89	16.65	1.0
MW-5	07/18/2002	75,000	7,500	4,700	2,700	15,000		<500					23.54	8.48	15.06	1.2
MW-5	10/21/2002	140,000	13,000	18,000	4,000	26,000		<500					29.54	9.21	20.33	1.1
MW-5	01/21/2003	47,000	6,400	3,500	370	8,300		<500					29.54	7.23	22.31	0.8
MW-5	04/17/2003	93,000	9,700	16,000	3,200	20,000		<500					29.54	6.61	22.93	0.8
MW-5	07/22/2003	110,000	9,500	15,000	560	23,000		<50					29.54	8.68	20.86	1.2
MW-5	10/20/2003	88,000	6,600	12,000	1,900	16,000		<50					29.54	9.71	19.83	0.1
MW-5	01/13/2004	4,600	460	140	<10	930		<10					29.54	7.30	22.24	
MW-5	01/22/2004												29.54	9.51	20.03	0.3
MW-5	04/01/2004	70,000	7,900	11,000	2,100	17,000							29.54	6.80	22.74	0.1
MW-5	07/13/2004	66,000	5,900	10,000	1,900	16,000		<50	<500	<200	<200	<200	29.54	9.28	20.26	0.1
MW-5	10/26/2004	6,600	670	110	7.4	2,000							29.54	8.75	20.79	0.8
MW-5	01/13/2005	9,500	1,300	950	360	1,900							29.54	5.87	23.67	6.3
MW-5	04/28/2005	17,000	2,400	1,200	320	3,400							29.54	6.32	23.22	3.54
MW-5	08/01/2005	70,000	6,600	11,000	3,400	17,000		<50	<500	<200	<200	<200	29.54	8.27	21.27	

Well ID	Date	TPHg (µg/L)	В (µg/L)	Τ (μg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	MTBE 8260 (μg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-5	10/05/2005	93,000	8,600	15,000	4,500	23,000							29.54	9.12	20.42	1.43
MW-5	01/11/2006	12,000	1,900	550	2,400	3,800		<25	<250	<25	<25	<25	29.61	5.52	24.09	0.6
MW-5	05/26/2006	112,000	6,600	11,100	3,870	19,900 e		<0.500	<10.0	5.37	<0.500	<0.500	29.61	7.02	22.59	0.45
MW-5	08/30/2006	281,000	8,050	15,400	4,770	26,800		<0.500	<10.0	<0.500	<0.500	60.6	29.61	8.93	20.68	0.55/0.51
MW-5	11/08/2006	83,000	7,000	7,400	3,200	16,000							29.61	9.40	20.21	0.08/0.05
MW-5	02/22/2007	35,000	9,500	13,000	5,300	23,000							29.61	6.87	22.74	1.17/3.17
MW-5	05/29/2007	94,000 f	6,400	9,900	4,300	22,000							29.61	7.85	21.76	0.08/0.19
MW-5	08/27/2007	110,000 f	6,900	11,000	4,300	22,000		<100	<1000	<200	<200	<200	29.61	9.13	20.48	0.08/0.22
MW-5	11/08/2007	61,000 f	7,500	5,300	4,700	20,400							29.61	9.27	20.34	2.15/0.65
MW-5	02/20/2008	92,000 f	14,000	14,000	5,900	30,800							29.61	6.02	23.59	0.17/0.18
MW-5	05/01/2008	130,000	8,200	12,000	4,600	24,900							29.61	8.20	21.41	0.2/0.1
MW-5	08/12/2008	150,000	7,600	12,000	8,900	24,800		<100	<1,000	<200	<200	<200	29.61	9.42	20.19	0.14/0.51
MW-5	11/26/2008	110,000	7,900	12,000	4,500	27,500							29.61	9.86	19.75	1.26/0.95
MW-5	02/03/2009	130,000	8,500	10,000	4,400	24,000							29.61	8.67	20.94	0.30/0.23
MW-5	06/02/2009	150,000	7,000	10,000	4,600	25,000							29.61	8.02	21.59	0.28/0.28
MW-5	11/10/2009	150,000	6,900	10,000	4,600	26,000		<100	<1000	<200	<200	<200	29.61	9.41	20.20	0.48/0.49
MW-5	05/10/2010	80,000	5,700	7,100	4,000	22,000							29.61	6.72	22.89	0.22/0.29
MW-5	09/09/2010												29.61	9.51	20.10	
MW-5	12/03/2010	73,000	5,400	8,500	4,100	21,000		<100	<1,000	<200	<200	<200	29.61	8.70	20.91	0.39/0.38
MW-5	03/02/2011												29.61	5.04	24.57	
MW-5	05/31/2011	72,000	5,800	7,000	4,400	23,000							29.61	7.52	22.09	0.92/1.21
MW-5	12/13/2011	130,000	9,070	10,900	7,200	38,000		<0.500	<10.0	<0.500	<0.500	<0.500	29.61	8.85	20.76	0.66/0.47
MW-5	06/13/2012	110,000	5,400	7,400	5,700	29,000							29.61	7.97	21.64	1.10/1.15
MW-5	11/19/2012	98,000	6,100	7,600	5,500	30,000		<50	<1,000	<50	<50	<50	29.61	9.30	20.31	1.45/1.27
MW-5	05/30/2013	96,000	6,000	7,200	5,700	30,000							29.61	8.43	21.18	0.07/0.10
MW-5	11/18/2013	74,000	5,000	5,300	4,400	24,000		<50	<1,000	<50	<50	<50	29.61	10.36	19.25	0.34/0.30
MW-5	06/06/2014	95,000 h	6,200	5,800	5,900	31,000							29.61	8.46	21.15	0.61/0.69
MW-5	12/01/2014	85,000	4,900	4,400	4,700	22,000		<50	<1,000	<50	<50	<50	29.61	9.84	19.77	0.47/0.29
MW-5	05/22/2015	99,000	5,300	4,100	5,000	27,000							29.61	8.64	20.97	0.33/0.29
MW-6	01/09/2006												28.60	4.18	24.42	
MW-6	01/11/2006	150,000	9,300	1,600	5,100	24,000		<2.5 a	51 a	17 a	<2.5 a	<2.5 a	28.60	4.50	24.10	3.6
MW-6	05/26/2006	67,300	6,930	870	2,440	7,590 e		<5.00	<100	10.1	<5.00	<5.00	28.60	6.10	22.50	0.49
MW-6	08/30/2006	7,060	6,090	1,180	2,040	7,200		<0.500	<10.0	<0.500	<0.500	<0.500	28.60	8.05	20.55	0.39/0.56
MW-6	11/08/2006	8,200	1,900	200	350	890							28.60	8.53	20.07	0.12/0.95
MW-6	02/22/2007	49,000	7,300	2,300	3,600	9,500							28.60	5.94	22.66	1.54/2.03
MW-6	05/29/2007	30,000 b, f	4,100	1,000	1,600	4,900							28.60	6.87	21.73	0.11/0.51

Well ID	Date	TPHg (µg/L)	В (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	МТВЕ 8020 (µg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-6	08/27/2007	36,000 f	2,000	440	1,000	3,400		<25	<250	15 g	<50	<50	28.60	8.22	20.38	0.08/0.15
MW-6	11/08/2007	7,000 f	850	130	270	880							28.60	8.32	20.28	0.94/2.48
MW-6	02/20/2008	28,000 f	6,900	1,300	1,900	7,000							28.60	5.03	23.57	0.14/0.09
MW-6	05/01/2008	24,000	4,400	940	1,000	3,500							28.60	7.15	21.45	0.05/0.04
MW-6	08/12/2008	30,000	1,900	380	1,300	3,600		<50	<500	<100	<100	<100	28.60	8.49	20.11	0.49/0.99
MW-6	11/26/2008	15,000	2,400	320	590	2,120							28.60	8.93	19.67	0.79/2.30
MW-6	02/03/2009	25,000	3,000	330	790	3,000							28.60	7.69	20.91	0.24/0.09
MW-6	06/02/2009	Well inaccess	ible										28.60			
MW-6	11/10/2009	19,000	2,500	490	620	2,200		<25	<250	<50	<50	<50	28.60	8.47	20.13	2.82/1.98
MW-6	05/10/2010	15,000	4,100	700	790	2,300							28.60	5.64	22.96	0.21/0.35
MW-6	09/09/2010												28.60	8.54	20.06	
MW-6	12/03/2010	5,700	1,800	240	250	870		<25	<250	<50	<50	<50	28.60	7.88	20.72	0.38/0.53
MW-6	03/02/2011												28.60	4.08	24.52	
MW-6	05/31/2011	33,000	6,200	1,900	1,700	5,800							28.60	6.25	22.35	0.80/2.21
MW-6	12/13/2011	12,000	2,700	556	548	1,880		<0.500	<10.0	9.68	<0.500	<0.500	28.60	8.01	20.59	0.81/0.99
MW-6	06/13/2012	30,000	6,200	1,400	1,700	6,300							28.60	7.14	21.46	1.00/1.41
MW-6	11/19/2012	3,000	450	67	76	600		<2.5	<50	<2.5	<2.5	<2.5	28.60	8.34	20.26	2.04/2.90
MW-6	05/30/2013	<10,000	350	<100	<100	<200							28.60	7.59	21.01	0.38/2.76
MW-6	11/18/2013	3,500	460	15	150	130		<5.0	<100	<5.0	<5.0	<5.0	28.60	9.42	19.18	0.22/0.19
MW-6	06/06/2014	2,000	400	53	97	350							28.60	7.44	21.16	0.61/0.58
MW-6	12/01/2014	520 i	110	5.8	7.2	46		<1.0	<20	2.3	<1.0	<1.0	28.60	8.54	20.06	0.62/0.71
MW-6	05/22/2015	1,600	360	39	60	240							28.60	7.63	20.97	2.38/3.10
MW-7	01/09/2006												29.71	5.50	24.21	
MW-7	01/11/2006	79,000	9,800	1,800	1,900	20,000		<5.0 a	64 a	28 a	<5.0 a	<5.0 a	29.71	5.70	24.01	1.0
MW-7	05/26/2006	98,200	9,620	1,150	3,490	13,400 e		<5.00	885	30.8	<5.00	<5.00	29.71	7.24	22.47	0.30
MW-7	08/30/2006	146,000	8,740	980	3,440	15,400		<0.500	<10.0	22.7	<0.500	<0.500	29.71	9.03	20.68	0.51/0.46
MW-7	11/08/2006	61,000	6,600	880	2,800	12,000							29.71	9.49	20.22	0.02/0.13
MW-7	02/22/2007	50,000	3,400	910	2,200	13,000							29.71	7.00	22.71	0.96/2.57
MW-7	05/29/2007	26,000 b, f	2,700	320	850	3,590							29.71	8.01	21.70	0.09/0.15
MW-7	08/27/2007	37,000 f	3,300	240	1,300	4,060		<25	<250	20 g	<50	<50	29.71	9.30	20.41	1.23/1.64
MW-7	11/08/2007	26,000 f	3,000	120	1,000	2,810							29.71	9.39	20.32	0.80/1.39
MW-7	02/20/2008	20,000 f	1,400	210	600	4,800							29.71	3.33	26.38	3.72/0.58
MW-7	05/01/2008	16,000	1,700	66	85	1,380							29.71	8.28	21.43	0.2/0.1
MW-7	08/12/2008	27,000	1,700	73	1,100	2,490		<20	<200	<40	<40	<40	29.71	9.61	20.10	1.49/1.93
MW-7	11/26/2008	25,000	2,300	61	62	1,400							29.71	9.94	19.77	0.85/1.10
MW-7	02/03/2009	54,000	2,900	170	520	5,800							29.71	8.80	20.91	0.17/0.62

Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	МТВЕ 8020 (µg/L)	MTBE 8260 (μg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-7	06/02/2009	14,000	1,100	43	23	810							29.71	8.16	21.55	0.21/0.18
MW-7	11/10/2009	17,000	900	42	63	1,400		<10	<100	<20	<20	<20	29.71	9.56	20.15	0.54/0.33
MW-7	05/10/2010	6,900	650	24	24	610							29.71	6.86	22.85	0.37/0.19
MW-7	09/09/2010												29.71	9.70	20.01	
MW-7	12/03/2010	8,100	550	16	20	520		<5.0	<50	<10	<10	<10	29.71	8.95	20.76	0.41/0.37
MW-7	03/02/2011												29.71	4.67	25.04	
MW-7	05/31/2011	6,200	530	16	8.5	320							29.71	7.54	22.17	0.63/0.87
MW-7	12/13/2011	8,800	689	8.85	9.68	200		<0.500	<10.0	1.99	<0.500	<0.500	29.71	8.93	20.78	0.38/0.35
MW-7	06/13/2012	2,300	330	<5.0	<5.0	86							29.71	8.26	21.45	1.35/1.08
MW-7	11/19/2012	5,800	860	14	7.8	300		<5.0	<100	<5.0	<5.0	<5.0	29.71	9.51	20.20	0.96/1.10
MW-7	05/30/2013	3,200	420	11	<5.0	140							29.71	8.55	21.16	0.35/0.24
MW-7	11/18/2013	3,700	620	5.4	7.8	130		<5.0	<100	<5.0	<5.0	<5.0	29.71	10.41	19.30	0.19/0.17
MW-7	06/06/2014	2,000	140	<2.0	<2.0	16							29.71	8.52	21.19	0.41/0.44
MW-7	12/01/2014	2,900	490	7.1	<5.0	140		<5.0	<100	<5.0	<5.0	<5.0	29.71	10.12	19.59	0.41/0.78
MW-7	05/22/2015	2,100	210	3.0	<2.5	48							29.71	8.65	21.06	1.09/1.24
MW-8	01/09/2006												29.54	5.56	23.98	
MW-8	01/11/2006	32,000	2,400	180	66	5,500		<0.50 a	35 a	15 a	<0.50 a	<0.50 a	29.54	5.53	24.01	0.8
MW-8	05/26/2006	24,800	423	73.0	166	2,820 e		<0.500	<10.0	2.18	<0.500	<0.500	29.54	7.02	22.52	0.35
MW-8	08/30/2006	72,100	1,770	114	324	3,140		<0.500	<10.0	23.3	<0.500	<0.500	29.54	8.81	20.73	0.51/0.50
MW-8	11/08/2006	24,000	2,000	90	190	3,400							29.54	9.25	20.29	0.11/0.40
MW-8	02/22/2007	26,000	2,100	110	180	4,400							29.54	7.08	22.46	1.37/1.71
MW-8	05/29/2007	31,000 f	2,600	99	250	3,140							29.54	7.81	21.73	0.05/0.49
MW-8	08/27/2007	41,000 f	3,400	110	260	3,880		<20	<200	32 g	<40	<40	29.54	9.04	20.50	0.07/0.27
MW-8	11/08/2007	42,000 f	4,900	140	440	4,000							29.54	9.14	20.40	3.20/0.10
MW-8	02/20/2008	19,000 f	760	38	52	1,930							29.54	9.00	20.54	1.72/0.13
MW-8	05/01/2008	18,000	1,000	35	42	1,520							29.54	8.10	21.44	1.10/0.19
MW-8	08/12/2008	33,000	1,600	69	1,100	2,730		<10	<100	<20	<20	<20	29.54	9.41	20.13	0.15/0.29
MW-8	11/26/2008	27,000	2,600	77	100	2,930							29.54	9.68	19.86	2.60/0.66
MW-8	02/03/2009	32,000	2,400	70	81	2,700							29.54	8.57	20.97	0.10/0.23
MW-8	06/02/2009	22,000	1,100	39	56	1,600							29.54	8.00	21.54	0.22/0.38
MW-8	11/10/2009	22,000	1,600	46	52	1,600		<25	<250	<50	<50	<50	29.54	9.32	20.22	0.45/0.29
MW-8	05/10/2010	9,800	340	15	21	700							29.54	6.74	22.80	0.28/0.54
MW-8	09/09/2010												29.54	9.52	20.02	
MW-8	12/03/2010	13,000	720	26	29	870		<5.0	<50	<10	<10	<10	29.54	8.67	20.87	0.90/0.27
MW-8	03/02/2011												29.54	4.97	24.57	
MW-8	05/31/2011	10,000	260	7.6	9.6	390							29.54	7.51	22.03	0.78/0.81

Well ID	Date	TPHg (µg/L)	Β (μg/L)	Т (µg/L)	Ε (μg/L)	X (µg/L)	MTBE 8020 (μg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-8	12/13/2011	14,000	703	15.4	25.2	467		<0.500	<10.0	4.95	<0.500	<0.500	29.54	8.73	20.81	0.69/0.32
MW-8	06/13/2012	8,200	290	7.9	14	430							29.54	8.01	21.53	1.48/0.94
MW-8	11/19/2012	7,000	180	7.0	13	510		<2.5	<50	<2.5	<2.5	<2.5	29.54	9.28	20.26	0.79/0.70
MW-8	05/30/2013	7,900	190	5.7	8.7	270							29.54	8.37	21.17	0.17/0.07
MW-8	11/18/2013	11,000	240	8.2	11	630		<2.0	<40	<2.0	<2.0	<2.0	29.54	10.40	19.14	0.26/0.22
MW-8	06/06/2014	7,000	120	2.5	4.6	170							29.54	8.55	20.99	0.36/0.39
MW-8	12/01/2014	6,600	92	3.2	2.9	180		<2.5	<50	<2.5	<2.5	<2.5	29.54	9.69	19.85	0.36/0.42
MW-8	05/22/2015	6,800	80	2.6	4.3	140							29.54	8.59	20.95	0.69/0.50
MW-9	08/27/2010												28.52	10.33	18.19	
MW-9	09/09/2010	13,000	32	13	880	610							28.52	10.60	17.92	0.51/0.73
MW-9	12/03/2010	6,400	33	9.5	540	280							28.52	10.42	18.10	0.22/0.33
MW-9	03/02/2011	11,000	74	11	840	170							28.52	6.45	22.07	0.53/0.48
MW-9	05/31/2011	12,000	49	6.7	570	100							28.52	8.80	19.72	0.19/0.27
MW-9	12/13/2011	13,000	35.8	5.60	470	97.2							28.52	10.24	18.28	0.54/0.51
MW-9	06/13/2012	9,700	49	6.1	420	59							28.52	9.27	19.25	0.68/0.72
MW-9	11/19/2012	9,300	26	<5.0	340	68							28.52	10.55	17.97	1.35/0.76
MW-9	05/30/2013	7,200	19	3.4	160	36							28.52	9.32	19.20	0.41/0.59
MW-9	11/18/2013	760	<5.0	<5.0	19	<10							28.52	10.93	17.59	0.37/0.31
MW-9	06/06/2014	7,600	23	<5.0	190	31							28.52	9.60	18.92	0.16/0.20
MW-9	12/01/2014	7,700	17	<5.0	110	17							28.52	10.96	17.56	0.15/0.19
MW-9	05/22/2015 V	Well inacces	sible										28.52			
MW-10	08/27/2010												28.70	10.21	18.49	
MW-10	09/09/2010	2,600	1.9	1.3	40	170							28.70	10.70	18.00	1.43/1.67
MW-10	12/03/2010	1,600	2.0	<1.0	25	18							28.70	10.06	18.64	0.17/0.30
MW-10	03/02/2011	1,600	2.6	0.55	41	13							28.70	6.85	21.85	0.41/0.40
MW-10	05/31/2011	2,400	2.0	0.51	60	45							28.70	7.23	21.47	0.22/0.43
MW-10	12/13/2011	2,700	2.43	<0.500	20.2	2.70							28.70	9.50	19.20	0.69/0.62
MW-10	06/13/2012	2,200	2.5	0.53	48	46							28.70	10.41	18.29	0.81/0.92
MW-10	11/19/2012	980	1.6	<0.50	8.8	1.1							28.70	10.12	18.58	1.20/0.66
MW-10	05/30/2013	1,300	2.0	<0.50	34	5.1							28.70	9.02	19.68	1.38/0.44
MW-10	11/18/2013	5,400	9.8	<5.0	150	19							28.70	10.42	18.28	0.50/0.52
MW-10	06/06/2014	1,000	1.7	<0.50	21	2.3							28.70	8.93	19.77	0.18/0.25
MW-10	12/01/2014	890	1.3	<0.50	8.8	<1.0							28.70	11.15	17.55	0.19/0.35
MW-10	05/22/2015 V	Nell inacces	sible										28.70			

Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	MTBE 8260 (μg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-11	08/27/2010												27.46	9.98	17.48	
MW-11	09/09/2010	<50	<0.50	<1.0	<1.0	<1.0							27.46	10.32	17.14	1.64/1.69
MW-11	12/03/2010	<50	<0.50	<1.0	<1.0	<1.0							27.46	9.84	17.62	0.29/0.47
MW-11	03/02/2011	<50	<0.50	<0.50	<0.50	<1.0							27.46	6.13	21.33	1.08/0.88
MW-11	05/31/2011	<50	<0.50	<0.50	<0.50	<1.0							27.46	8.42	19.04	0.17/0.30
MW-11	12/13/2011	<50	<0.500	<0.500	<0.500	<0.500							27.46	9.93	17.53	0.36/0.52
MW-11	06/13/2012	<50	<0.50	<0.50	<0.50	<1.0							27.46	9.98	17.48	0.54/0.91
MW-11	11/19/2012	<50	<0.50	<0.50	<0.50	<1.0							27.46	10.16	17.30	0.60/0.88
MW-11	05/30/2013	<50	<0.50	<0.50	<0.50	<1.0							27.46	8.74	18.72	0.74/0.59
MW-11	11/18/2013	<50	<0.50	<0.50	<0.50	<1.0							27.46	10.32	17.14	0.90/0.45
MW-11	06/06/2014	<50	<0.50	<0.50	<0.50	<1.0							27.46	9.25	18.21	0.47/0.27
MW-11	12/01/2014	<50	<0.50	<0.50	<0.50	<1.0							27.46	10.63	16.83	0.45/0.30
MW-11	05/22/2015 N	Well inacces	sible										27.46			
MW-12	05/19/2006												31.16	8.42	22.74	
MW-12	05/26/2006	<50.0	<0.500	<0.500	<0.500	<0.500		<0.500	<10.0	<0.500	<0.500	<0.500	31.16	8.44	22.72	3.88
MW-12	08/30/2006	746	<0.500	<0.500	<0.500	<0.500							31.16	9.54	21.62	1.75/1.81
MW-12	11/08/2006	<50	<0.50	<0.50	<0.50	<1.0							31.16	8.67	22.49	2.26/3.60
MW-12	02/22/2007	<50	<0.50	<1.0	<0.50	<1.0							31.16	7.72	23.44	1.60/2.91
MW-12	05/29/2007	<50 f	0.49 g	<1.0	0.14 g	0.48 g							31.16	9.00	22.16	0.60/0.61
MW-12	08/27/2007	<50 f	<0.50	<1.0	<1.0	<1.0							31.16	9.90	21.26	0.47/0.24
MW-12	11/08/2007	<50 f	<0.50	<1.0	<1.0	<1.0							31.16	9.90	21.26	3.8/3.1
MW-12	02/20/2008	<50 f	5.4	1.7	3.4	12.4							31.16	7.40	23.76	3.43/1.91
MW-12	05/01/2008	<50	<0.50	<1.0	<1.0	<1.0							31.16	9.20	21.96	0.09/0.13
MW-12	08/12/2008	<50	<0.50	<1.0	<1.0	<1.0							31.16	10.40	20.76	3.6/3.2
MW-12	11/26/2008	<50	<0.50	<1.0	<1.0	<1.0							31.16	10.59	20.57	1.80/1.32
MW-12	02/03/2009	<50	<0.50	<1.0	<1.0	<1.0							31.16	9.39	21.77	1.72/1.75
MW-12	06/02/2009	<50	<0.50	<1.0	<1.0	<1.0							31.16	9.20	21.96	0.77/1.41
MW-12	11/10/2009	<50	<0.50	<1.0	<1.0	<1.0							31.16	10.12	21.04	2.70/1.52
MW-12	05/10/2010	<50	<0.50	<1.0	<1.0	<1.0							31.16	8.41	22.75	2.65/1.42
MW-12	09/09/2010 l	Unable to loo	cate										31.16			
MW-12	12/03/2010	<50	<0.50	<1.0	<1.0	<1.0							31.16	9.32	21.84	0.74/1.29
MW-12	03/02/2011 l	Unable to loo	cate										31.16			
MW-12	05/31/2011	<50	<0.50	<0.50	<0.50	<1.0							31.16	8.80	22.36	0.59/0.91
MW-12	12/13/2011	<50	<0.500	<0.500	<0.500	<0.500							31.16	9.64	21.52	0.75/2.07
MW-12	06/13/2012	<50	<0.50	<0.50	<0.50	<1.0							31.16	9.31	21.85	0.61/1.79
MW-12	11/19/2012 \	Well inacces	sible										31.16			

Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	МТВЕ 8020 (µg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (μg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-12	05/30/2013	<50	<0.50	<0.50	<0.50	<1.0							31.16	9.40	21.76	0.68/0.72
MW-12	11/18/2013	<50	<0.50	<0.50	<0.50	<1.0							31.16	11.83	19.33	0.29/0.66
MW-12	06/06/2014	Well inacces	sible										31.16			
MW-12	12/01/2014	Well inacces	sible										31.16			
MW-12	05/22/2015	Well inacces	sible										31.16			
MW-13	04/16/2015												29.70	9.31	20.39	
MW-13	05/22/2015	4,100	430	5.9	16	<10							29.70	10.12	19.58	0.86/0.59
MW-13	08/14/2015	5,000	550	<5.0	8.5	<10							29.70	11.55	18.15	0.56/0.32
MW-14	05/19/2006												28.09	6.95	21.14	
MW-14	05/26/2006	103,000	5,280	76.7	3,930	4,800 e		<5.00	895	49.7	<5.00	<5.00	28.09	7.05	21.04	3.60
MW-14	08/30/2006	10,200	1,260	12.5	1,310	1,330		<0.500	<10.0	<0.500	<0.500	<0.500	28.09	9.19	18.90	3.33/3.49
MW-14	11/08/2006	29,000	4,400 a	34	2,000	1,600							28.09	9.80	18.29	1.16/1.40
MW-14	02/22/2007	31,000	2,600	42	2,200	1,600							28.09	6.70	21.39	0.59/1.11
MW-14	05/29/2007	35,000 f	1,100	14	1,800	767							28.09	7.89	20.20	0.08/0.08
MW-14	08/27/2007	Well inacces	sfble													
MW-14	08/29/2007	45,000 f	1,000	11	870	367.8 g		<10	<100	20	<20	<20	28.09	9.25	18.84	0.09/0.16
MW-14	11/08/2007	32,000 f	1,600	22	1,500	889							28.09	9.21	18.88	0.04/0.35
MW-14	02/20/2008	23,000 f	1,800	32	1,600	1,021							28.09	6.34	21.75	0.09/0.08
MW-14	05/01/2008	16,000	830	15	870	452							28.09	7.95	20.14	0.12/0.09
MW-14	08/12/2008	34,000	1,400	26	550	1,151		<10	<100	<20	<20	<20	28.09	14.10	13.99	0.03/0.38
MW-14	11/26/2008	Well inacces	sible										28.09			
MW-14	02/03/2009	39,000	1,800	27	1,700	1,400							28.09	8.66	19.43	0.16/0.19
MW-14	06/02/2009	34,000	1,100	<25	1,200	710							28.09	8.21	19.88	0.16/0.26
MW-14	11/10/2009	39,000	2,300	35	2,100	1,200		<25	<250	<50	<50	<50	28.09	9.69	18.40	0.45/1.56
MW-14	05/10/2010	5,900	150	2.1	170	54							28.09	6.64	21.45	0.49/1.38
MW-14	09/09/2010	Well inacces	sible										28.09			
MW-14	12/03/2010	84,000	1,800	39	1,900	1,100		<5.0	<50	27	<10	<10	28.09	9.10	18.99	0.50/0.67
MW-14	03/02/2011												28.09	5.60	22.49	
MW-14	05/31/2011	21,000	460	10	930	460							28.09	8.85	19.24	0.47/0.77
MW-14	12/13/2011	30,000	1,370	23.8	1,590	871		<0.500	<10.0	17.8	<0.500	<0.500	28.09	9.35	18.74	0.67/0.65
MW-14	06/13/2012	26,000	1,100	13	1,400	630							28.09	8.34	19.75	0.54/0.75
MW-14	11/19/2012	27,000	1,700	30	2,800	1,200		<5.0	<100	23	<5.0	<5.0	28.09	9.78	18.31	2.84/3.10
MW-14	05/30/2013	34,000	1,300	23	2,100	920							28.09	8.78	19.31	0.97/1.02
MW-14	11/18/2013	33,000	1,200	23	2,700	950		<10	<200	16	<10	<10	28.09	10.41	17.68	0.21/0.33
MW-14	06/06/2014	68,000	900	<50	2,800	680							28.09	8.77	19.32	0.20/0.27

Well ID	Date	TPHg (µg/L)	B (µg/L)	Τ (μg/L)	E (µg/L)	Х (µg/L)	MTBE 8020 (μg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
MW-14	12/01/2014	36,000	1,600	24	2,700	700		<20	<400	<20	<20	<20	28.09	9.50	18.59	0.18/0.25
MW-14	05/22/2015	5,200	320	<10	490	120							28.09	9.08	19.01	1.04/0.96
V-1	08/02/1996												23.26			
V-1	08/05/1996												23.26	8.58	14.68	
V-1	10/17/1996												23.26	10.02	13.24	
V-1	01/16/1997	9,500	1,200	250	280	880	<50						23.26	5.55	17.71	
V-1	04/07/1997	2,200	42	<5.0	130	15	<25						23.26	7.40	15.86	
V-1	07/02/1997	2,600	340	5.8	49	12	74	<4.0					23.26	8.94	14.32	
V-1	10/24/1997	57,000	5,200	2,300	3,600	16,000	1,900	<200					23.26	9.43	13.83	
V-1	01/09/1998	23,000	2,400	1,700	1,300	2,300	310						23.26	6.81	16.45	
V-1 (D)	01/09/1998	24,000	2,500	1,800	1,400	2,400	450						23.26			
V-1	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.26	4.58	18.68	
V-1 (D)	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.26			
V-1	07/14/1998	160	1.9	<0.50	4.2	<0.50	6.1						23.26	7.51	15.75	
V-1	10/01/1998	440	18	<0.50	11	0.80	7.9						23.26	8.49	14.77	
V-1	01/18/1999	697	55.7	0.839	28.2	<0.500	9.35						23.26	8.59	14.67	
V-1	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5						23.26	8.69	14.57	
V-1	08/23/1999	457	33.4	3.59	16.3	<0.500	13.9						23.26	8.99	14.27	
V-1	10/06/1999	714	53.7	0.740	8.69	<0.500	9.83						23.26	9.55	13.71	
V-1	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						23.26	7.19	16.07	
V-1	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50						23.26	7.67	15.59	
V-1	07/19/2000	255	21.7	<0.500	10.2	<0.500	7.33	<1.00 a					23.26	7.53	15.73	
V-1	10/24/2000	200	4.05	0.566	<0.500	<0.500	7.82						23.26	7.38	15.88	
V-1	01/04/2001	128	1.77	<0.500	<0.500	<0.500	6.40	<10.0					23.26	8.41	14.85	
V-1	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50		<5.0					23.26	7.20	16.06	
V-1	07/09/2001	110	4.4	<0.50	0.88	1.7		<5.0					23.26	9.22	14.04	
V-1	10/18/2001	1,500	180	12	43	46		<5.0					23.26	10.08	13.18	0.8
V-1	01/24/2002	210	7.1	15	4.6	32		<5.0					23.26	6.44	16.82	3.5
V-1	04/04/2002	<50	<0.50	<0.50	<0.50	<0.50		<5.0					23.26	6.18	17.08	1.0
V-1	07/18/2002	100	1.6	1.2	1.2	6.1		<5.0					23.26	8.08	15.18	1.7
V-1	10/21/2002	210	1.4	<0.50	1.0	1.3		<5.0					29.26	8.94	20.32	1.2
V-1	01/21/2003	61	5.2	<0.50	<0.50	<0.50		<5.0					29.26	6.62	22.64	0.6
V-1	04/17/2003	<50	<0.50	<0.50	<0.50	1.2		<5.0					29.26	6.00	23.26	1.3
V-1	07/22/2003	Well inacces	sible										29.26			
V-1	10/20/2003	540	11	1.6	6.0	8.9		<0.50					29.26	9.53	19.73	0.1
V-1	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0		<0.50					29.26	6.62	22.64	

Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	МТВЕ 8020 (µg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
V-1	01/22/2004												29.26	9.08	20.18	0.1
V-1	04/01/2004	<50	<0.50	<0.50	<0.50	<1.0							29.26	6.24	23.02	0.1
V-1	07/13/2004	120	1.8	<0.50	<0.50	<1.0		<0.50	<5.0	<2.0	<2.0	<2.0	29.26	8.78	20.48	0.1
V-1	10/26/2004	<50	<0.50	<0.50	<0.50	<1.0							29.26	8.09	21.17	0.6
V-1	01/13/2005	<50	<0.50	<0.50	<0.50	<1.0							29.26	4.30	24.96	0.1
V-1	04/28/2005	<50	<0.50	<0.50	<0.50	<1.0							29.26	5.27	23.99	3.34
V-1	08/01/2005	54	<0.50	<0.50	<0.50	<1.0		<0.50	<5.0	<2.0	<2.0	<2.0	29.26	7.77	21.49	
V-1	10/05/2005	120 c	<0.50	<0.50	<0.50	<1.0							29.26	8.72	20.54	1.67
V-1	01/11/2006	<50	<0.50	<0.50	<0.50	<0.50		<0.50	<5.0	<0.50	<0.50	<0.50	29.24	4.78	24.46	0.3
V-1	05/26/2006	<50.0	<0.500	<0.500	<0.500	1.02 e		<0.500	<10.0	<0.500	<0.500	<0.500	29.24	6.61	22.63	1.94
V-1	08/30/2006	5,660	6.81	1.39	27.3	21.0		<0.500	<10.0	<0.500	<0.500	<0.500	29.24	8.46	20.78	0.33/0.33
V-1	11/08/2006	1,300	3.7	1.5	5.1	6.9							29.24	8.95	20.29	0.05/0.11
V-1	02/22/2007	<50	<0.50	<1.0	<0.50	<1.0							29.24	6.17	23.07	0.76/0.99
V-1	05/29/2007	650 f	0.64	<1.0	1.2	0.95 g							29.24	7.21	22.03	0.69/0.74
V-1	08/27/2007	510 b, f	0.24	<1.0	<1.0	<1.0		<1.0	<10	<2.0	<2.0	<2.0	29.24	8.78	20.46	0.12/0.57
V-1 d	11/08/2007	2,000 f	19	2.9	23	18.5							29.24	8.41	20.83	0.61/1.54
V-1	02/20/2008	54 f	<0.50	<1.0	<1.0	<1.0							29.24	5.11	24.13	0.13/0.22
V-1	05/01/2008	280	0.57	<1.0	<1.0	<1.0							29.24	7.60	21.64	0.08/0.08
V-1	08/12/2008	390	0.80	<1.0	<1.0	1.1		<1.0	<10	<2.0	<2.0	<2.0	29.24	9.00	20.24	0.81/1.51
V-1	11/26/2008	3,300	46	8.3	62	44.2							29.24	9.50	19.74	0.76/1.28
V-1	02/03/2009	450	0.98	<1.0	1.7	<1.0							29.24	8.18	21.06	0.13/0.39
V-1	06/02/2009	230	<0.50	<1.0	1.3	<1.0							29.24	7.45	21.79	0.25/0.31
V-1	11/10/2009	900	3.1	<1.0	6.5	2.0		<1.0	<10	<2.0	<2.0	<2.0	29.24	8.91	20.33	0.84/0.56
V-1	05/10/2010	81	<0.50	<1.0	<1.0	<1.0							29.24	5.94	23.30	0.17/0.43
V-1	09/09/2010												29.24	8.95	20.29	
V-1	12/03/2010	560	1.1	<1.0	3.2	<1.0		<1.0	<10	<2.0	<2.0	<2.0	29.24	8.25	20.99	0.47/0.95
V-1	03/02/2011												29.24	4.18	25.06	
V-1	05/31/2011	160	<0.50	<0.50	0.57	<1.0							29.24	6.82	22.42	0.69/1.26
V-1	12/13/2011	1,300	1.09	<0.500	5.63	0.980		<0.500	<10.0	<0.500	<0.500	<0.500	29.24	8.37	20.87	0.94/0.81
V-1	06/13/2012	410	0.63	<0.50	3.9	<1.0							29.24	7.52	21.72	1.65/1.73
V-1	11/19/2012	57	<0.50	<0.50	<0.50	<1.0		<0.50	<10	<0.50	<0.50	<0.50	29.24	8.35	20.89	1.48/1.37
V-1	05/30/2013	710	1.8	<0.50	9.3	<1.0							29.24	7.93	21.31	0.44/0.85
V-1	11/18/2013	610	1.7	<0.50	1.5	<1.0		<0.50	<10	<0.50	<0.50	<0.50	29.24	9.33	19.91	0.14/0.13
V-1	06/06/2014	410	1.7	<0.50	5.1	<1.0							29.24	7.85	21.39	0.11/0.65
V-1	12/01/2014	50	<0.50	<0.50	<0.50	<1.0		<0.50	<10	<0.50	<0.50	<0.50	29.24	8.45	20.79	0.10/0.60
V-1	05/22/2015	500	1.1	<0.50	2.3	<1.0							29.24	8.10	21.14	0.15/0.61

Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
V-2	08/02/1996												22.80			
V-2	08/05/1996												22.80	7.94	14.86	
V-2	10/17/1996												22.80	9.30	13.50	
V-2	01/08/1997	69,000	4,800	2,800	2,700	13,000	750						22.80	5.82	16.98	
V-2	04/07/1997	90,000	4,400	1,900	3,300	14,000	<500						22.80	7.10	15.70	
V-2 (D)	04/07/1997	77,000	4,400	2,000	3,200	14,000	<250						22.80			
V-2	07/02/1997	82,000	5,500	2,700	3,500	16,000	530	<100					22.80	8.35	14.45	
V-2 (D)	07/02/1997	85,000	5,600	2,800	3,600	17,000	520	<100					22.80			
V-2	10/24/1997	7,300	1,100	97	230	180	91	<12					22.80	10.03	12.77	
V-2 (D)	10/24/1997	12,000	1,700	340	650	630	120	<20					22.80			
V-2	01/09/1998	40,000	4,100	1,500	2,500	9,000	280						22.80	6.94	15.86	
V-2	04/02/1998	62,000	6,800	2,400	3,400	14,000	<250						22.80	5.35	17.45	
V-2	07/14/1998	43,000	4,700	1,100	2,500	6,600	<250						22.80	6.48	16.32	
V-2 (D)	07/14/1998	48,000	5,100	1,300	2,600	8,100	<250						22.80			
V-2	10/01/1998	53,000	5,200	1,800	3,200	10,000	83						22.80	8.41	14.39	
V-2 (D)	10/01/1998	55,000	5,300	1,900	3,300	11,000	65						22.80			
V-2	01/18/1999	47,100	5,800	1,960	3,450	10,200	<100						22.80	8.29	14.51	
V-2	04/29/1999	65,000	6,100	2,800	3,200	12,000	540						22.80	8.19	14.61	
V-2	08/23/1999	59,600	6,240	2,190	3,900	14,700	390						22.80	8.44	14.36	
V-2	10/06/1999	63,800	4,820	1,860	2,840	11,100	<1000						22.80	8.96	13.84	
V-2	01/27/2000	59,600	10,200	2,840	3,450	12,100	<500						22.80	7.57	15.23	
V-2	04/18/2000	45,000	6,050	2,700	3,340	12,200	<250						22.80	8.14	14.66	
V-2	07/19/2000	31,800	4,440	1,270	2,390	6,820	<500						22.80	8.21	14.59	
V-2	10/24/2000	40,100	4,810	1,730	2,960	8,650	734	<10.0					22.80	8.53	14.27	
V-2	01/04/2001	37,500	4,510	1,390	2,710	6,880	375						22.80	8.03	14.77	
V-2	05/03/2001	51,000	4,000	1,900	2,800	8,200		<200					22.80	6.63	16.17	
V-2	07/09/2001	9,600	710	190	180	1,400		<25					22.80	8.75	14.05	
V-2	10/18/2001	20,000	2,000	540	560	6,000		<50					22.80	9.60	13.20	0.4
V-2	01/24/2002	36,000	2,900	870	1,700	5,900		<100					22.80	5.93	16.87	4.0
V-2	04/04/2002	49,000	3,900	1,500	2,900	9,300		<200					22.80	5.78	17.02	0.9
V-2	07/18/2002	50,000	3,600	1,300	2,800	9,300		<200					22.80	7.58	15.22	1.3
V-2	10/21/2002	86,000	6,000	1,900	4,200	20,000		<250					28.80	8.40	20.40	1.3
V-2	01/21/2003	13,000	630	200	300	2,400		<25					28.80	6.52	22.28	1.2
V-2	04/17/2003	26,000	2,000	570	750	6,000		<100					28.80	5.93	22.87	1.1
V-2	07/22/2003	6,800	130	34	150	440		<2.5					28.80	7.96	20.84	1.4
V-2	10/20/2003	14,000	660	160	260	2,400		<10					28.80	9.21	19.59	0.7
V-2	01/13/2004	20,000	1,400	410	700	4,200		<13					28.80	6.90	21.90	

#### Groundwater Data Former Shell Service Station 2703 Martin Luther King Jr. Way, Oakland, California

Well ID	Date	TPHg (µg/L)	В (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	МТВЕ 8260 (µg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	DO (mg/L)
V-2	01/22/2004												28.80	8.50	20.30	0.1
V-2	04/01/2004	28,000	2,000	520	650	8,700							28.80	6.84	21.96	0.2
V-2	07/13/2004	21,000	1,900	460	1,000	4,300							28.80	8.28	20.52	0.1
V-2	10/26/2004	43,000	2,700	880	2,300	12,000							28.80	8.43	20.37	0.8
V-2	01/13/2005	23,000	1,400	330	1,800	5,800							28.80	6.67	22.13	0.6
V-2	04/28/2005	16,000	970	230	620	3,800							28.80	5.69	23.11	4.55
V-2	08/01/2005	14,000	610	190	450	3,600							28.80	5.25	23.55	
V-2	10/05/2005	37,000	2,200	680	2,300	8,500							28.80	8.24	20.56	0.75
V-2	01/11/2006	45,000 a	1,900 a	720 a	3,000 a	13,000 a		<25 a	<250 a	<25 a	<25 a	<25 a	28.81	6.60	22.21	0.4
V-2	05/26/2006	66,600	1,300	400	2,950	9,700 e		<0.500	<10.0	<0.500	<0.500	<0.500	28.81	6.28	22.53	0.28
V-2	08/30/2006	7,290	2,390	750	4,680	17,000							28.81	8.03	20.78	0.37/0.31
V-2	11/08/2006	68,000	1,700	580	3,900	13,000							28.81	8.60	20.21	0.05/0.14
V-2	02/22/2007	57,000	1,300	600	4,000	15,000							28.81	5.88	22.93	1.23/2.50
V-2	05/29/2007	48,000 b, f	2,000	650	3,300	10,000							28.81	6.82	21.99	0.07/0.12
V-2	08/27/2007	55,000 f	1,600	520	2,900	8,000							28.81	8.22	20.59	0.22/0.48
V-2 d	11/08/2007	74,000 f	1,300	500	3,000	9,600							28.81	8.82	19.99	0.87/1.46
V-2	02/20/2008	52,000 f	1,200	560	3,200	12,400							28.81	5.13	23.68	0.16/0.05
V-2	05/01/2008	53,000	960	350	3,000	9,600							28.81	7.25	21.56	0.06/0.05
V-2	08/12/2008	55,000	950	230	2,700	6,030							28.81	8.50	20.31	0.53/1.47
V-2	11/26/2008	71,000	1,400	430	3,900	10,400							28.81	9.08	19.73	0.66/1.62
V-2	02/03/2009	81,000	1,100	340	3,700	11,000							28.81	7.78	21.03	0.48/0.15
V-2	06/02/2009	78,000	920	350	3,500	9,200							28.81	6.90	21.91	0.19/0.26
V-2	11/10/2009	66,000	890	310	3,400	7,900							28.81	8.62	20.19	0.44/0.98
V-2	05/10/2010	28,000	490	160	2,200	4,800							28.81	5.63	23.18	0.18/0.28
V-2	09/09/2010												28.81	8.49	20.32	
V-2	12/03/2010	31,000	640	210	2,600	4,300							28.81	7.90	20.91	0.86/1.16
V-2	03/02/2011												28.81	3.95	24.86	
V-2	05/31/2011	36,000	510	180	3,600	6,700							28.81	6.55	22.26	0.47/0.92
V-2	12/13/2011	51,000	652	129	3,760	5,040							28.81	7.96	20.85	0.60/1.51
V-2	06/13/2012	44,000	540	150	4,300	5,000							28.81	7.08	21.73	0.91/1.36
V-2	11/19/2012	43,000	530	170	4,100	5,700							28.81	8.73	20.08	0.99/0.82
V-2	05/30/2013	35,000	480	130	3,900	4,000							28.81	7.49	21.32	0.44/1.21
V-2	11/18/2013	45,000	460	140	4,500	4,400							28.81	9.33	19.48	0.19/1.33
V-2	06/06/2014	65,000	420	130	5,400	4,800							28.81	7.40	21.41	0.89/1.13
V-2	12/01/2014	42,000	470	140	3,900	3,600							28.81	9.42	19.39	0.62/0.74

Notes:

#### Groundwater Data Former Shell Service Station 2703 Martin Luther King Jr. Way, Oakland, California

							MTBE	MTBE						Depth to	GW	
Well ID	Date	TPHg	в	т	E	х	8020	8260	TBA	DIPE	ETBE	TAME	тос	Water	Elevation	DO
		(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(mg/L)										

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; prior to May 3, 2001, analyzed by EPA Method 8015 unless otherwise noted.

BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; prior to May 3, 2001, analyzed by EPA Method 8020.

MTBE = Methyl tertiary-butyl ether analyzed as noted

TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B

DIPE = Di-isopropyl ether analyzed by EPA Method 8260B

ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B

TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B

TOC = Top of casing elevation, in feet relative to mean sea level

GW = Groundwater

DO = Dissolved oxygen concentrations in mg/L (Pre-purge/Post-purge)

µg/L = Micrograms per liter

ft = Feet

MSL = Mean sea level

- <x = Not detected at reporting limit x
- --- = Not analyzed or available

mg/L = Milligrams per liter

(D) = Duplicate sample

a = Sample analyzed outside of EPA recommended holding time.

b = Hydrocarbon does not match pattern of laboratory's standard.

c = Quantity of unknown hydrocarbon(s) in sample based on gasoline.

d = Samples were switched in the field for wells V-1 and V-2 due to field error. Data corrected for this table.

e = Analyte was detected in the associated Method Blank.

f = Analyzed by EPA Method 8015B (M).

g = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

h = Concentration reported is due to the presence of discrete peaks of xylenes.

i = Concentration reported is due to the presence of discrete peak of benzene.

Site wells surveyed June 14, 2001 by Virgil Chavez Land Surveying

Site wells surveyed August 13, 2002 by Virgil Chavez Land Surveying

Wells MW-1 through MW-8, V-1, and V-2 surveyed on February 14, 2006 by Virgil Chavez Land Surveying

Wells MW-12 and MW-14 surveyed on April 19, 2006 by Virgil Chavez Land Surveying

Wells MW-9, MW-10, and MW-11 surveyed on August 18, 2010 by Virgil Chavez Land Surveying

# Appendix A Blaine Tech Services – Field Notes

## WELL GAUGING DATA

Project # 150814-052 Date <u>B-14-15</u> Client <u>Shell</u>

Site 2703 Martin Luther King jr way oouland, ca

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)		Immiscibles Removed	8 A A A A A A A A A A A A A A A A A A A	Depth to well bottom (ft.)	Survey Point: TOB or	Notes
MW-13	110	2					11.55	19.89	L.	
									4	
					-1					
					1					

BLAINE TECH SERVICES, INC. SAN JOSE SACRAMENTO LOS ANGELES SAN DIEGO SEATTLE

www.blainetech.com

• *	· ·		$\bigcirc$	an a	· · ·	
<b>.</b>		SHEL	L WELL MO	<b>DNITORING D</b>	ATA SHEET	
BTS #: /	50814	-052		Site: 2703 Ma	Ain luther ki	ing Jr. way
Sampler: -				Date: 6=	1000	3-14-15
Well I.D.:	_MW -13	ł		Well Diameter	: (2) 3 4	6 8
Total Well	Depth (TD	): 19	89	Depth to Wate	r (DTW): 11 t	55
Depth to Fr	ee Product	:		Thickness of F	ree Product (fe	
Referenced	to:	PVO	Grade	D.O. Meter (if	req'd): <	YSD HACH
DTW with	80% Recha	arge [(H	eight of Water	Column x 0.20	)+DTW]: いろ	.21
Purge Method:(	Bailer Disposable Br Positive Air D Electric Subm	Displaceme	nt Extra Other	Waterra Peristaltic ction Pump	Sampling Method	Disposable Bailer Extraction Port Dedicated Tubing
1 Case Volume	Gals.) X Specif	3 ĩed Volum	$\underline{} = \underline{4.02}$ es Calculated Vo		multiplier         Well           0.04         4"           0.16         6"           0.37         Other	Diameter         Multiplier           0.65         1.47           er         radius <sup>2</sup> * 0.163
Time	Temp (⁰F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1115	70.4	770	2482	71660	1.5	muddy pan
6117	674	7.27	1692	71000	3.0	muldy, pink
1119	66.3	7.40	NO78	71600	4.5	muldy, Dark
	- 1996 	n in sea	**************************************			
Did well dev		······	No	Gallons actuall	· · · · · · · · · · · · · · · · · · ·	
Sampling D			Sampling Tim	e: 1125	Depth to Wate	r: 13.18
Sample I.D.	: MW-1	3		Laboratory: 🧹	Test America	Other
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygenates (5)	Other: See C	oc
EB I.D. (if a			@ Time	Duplicate I.D. (	(if applicable):	
Analyzed fo		BTEX	MTBE TPH-D	Oxygenates (5)	Other:	
D.O. (if req'	-	e-purge:	0.50	<sup>mg</sup> / <sub>L</sub> P	ost-purge:	0.32 mg/L
O.R.P. (if re	q'd): Pre	e-purge:		mV P	ost-purge:	mV

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

ENVIRONMENTAL WELL, REMEDIATION COMPOUND, AND SITE INSPECTION FORM

and the second second second second

Observations Upon Arrival

093397 **INCIDENT #** 0

DATE:

8-14-15

# ADDRESS 2703 Martin Luther Kingbr Way CITY & STATE Bakland, CA

Note Repairs Made

Well ID	Manwa	y Cover,	Type, Co	ondition	& Size	Pai	abeled / nted perly*	(Grij	l Cap pper) dition	Well L	_ock Cor	ndition	Sur	Pad / face dition	Detailed Explanation of Maintenance Recommended and Performed	W Cond	ell lition	and PM Initials
	Standpipe	Flush	6	P	Size (inch)	$\bigcirc$	N	I	R	٢	R	NL	6	Р		Y	N	
	Standpipe	Flush	G	Р	Size (inch)	Y	N	G	R	G	R	NL	G	Р		Y	N	
	Standpipe	Flush	G	Р	Size (inch)	Y	N	G	R	G	R	NL.	G	Р		Y	N	
	Standpipe	Flush	G	Р	Size (inch)	Y	N	G	R	G	R	NL	G	р		Y	N	
	Standpipe	Flush	G	Р	Size (inch)	Y	N	G	R	G	R	NL	G	Р		Y	N	
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N	
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	Р		Y	N	
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	Р		Y	N	
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	Р		Y.	. N	
	Standpipe	Flush	G	Р	Size (inch)	Y	N	G	R	G	R	NL	G	Р		Y	N	
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	Р		Y	N	
	I	l	<u></u>	L	тоти	L # CAF	S REPL	ACED =				= TOTA	L # OF L	OCKS R	EPLACED			
Condition of Abando	Soil Boring P oned Monitor			Р	N/A	) If P	OOR, Bo	rings/Well	IDs or Lo	ocation De	scription:					Y	N	
	n Compound oxes that app		Condi	ition of E	nclosure	and the second second second	ion of Are Enclosur	and the work of the first	Com	ipound Se	curity	Emerg	ency Coni Visible	tact Info	Cleaning / Repairs Recommended and Conducted	Phot Cond	os of lition	Repair Date and PM Initials
Buildi					T		Γ	·										
Building w/ Fe Fenced Cor Traile	npound		G	P	N/A	G	P	N/A	G	P	N/A	Y	N	N/A		Y	N	
Number of Drums On-site	Does the Source	Label Rev of the Co			eled Correct Vriting Legil		Dr	um Condi	tion	Rela	n Drums ted to nmental		s Located ess Interf		Detailed Explanation of Any Issues Resolved	Phot Dr Cond	um	Date Drums Removed from Site and PM Initials
	Y	N	NA	Y	N	N/A	G	P	N/A	Y	N	Y	N	N/A		Y	N	
******	1	I			1	L	1	-Language and	1	1		-	L	.l	All onvironmental wells and the remediation compour	nd wer	e in ac	od condition.

G = Good (Acceptable) R = Replaced

P = Poor (needs attention) NL = No Lock Required

Note: All repairs other than locks and grippers require Shell PM approval prior to repair.

\* = Groundwater monitoring well covers must be painted and labeled in accordance with applicable regulations. Version 2.4, March 2008

ition, All environmental wells and the remediation compound were in good cor locked, and secured upon my departure (unless otherwise noted above).

Page \_\_\_\_\_ of

Photos of Repair Date

Blaine Tech Services Suto am Print or type Name of Field Personnel & Consultant Company

# Appendix B TestAmerica Laboratories, Inc. – Analytical Report



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

## TestAmerica Laboratories, Inc.

TestAmerica Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

TestAmerica Job ID: 440-118335-1

Client Project/Site: 2703 MLK Jr. Way, Oakland, CA

## For:

GHD Services Inc. 5900 Hollis Street Suite A Emeryville, California 94608

Attn: Peter Schaefer

eather ( lark

Authorized for release by: 8/20/2015 2:31:34 PM

Heather Clark, Project Manager I (949)261-1022 heather.clark@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Receipt Checklists	14

## Sample Summary

Client: GHD Services Inc. Project/Site: 2703 MLK Jr. Way, Oakland, CA TestAmerica Job ID: 440-118335-1

		<b>N</b> = 4 - 2	O allo stadi – De seleval
Lab Sample ID	Client Sample ID	Matrix	Collected Received
440-118335-1	MW-13	Ground Water	08/14/15 11:25 08/18/15 09:50

### Job ID: 440-118335-1

#### Laboratory: TestAmerica Irvine

#### Narrative

Job Narrative 440-118335-1

#### Comments

No additional comments.

#### Receipt

The sample was received on 8/18/2015 9:50 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4° C.

#### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### 440-118335-1 Lab S ər

5

Date Collected: 08/14/15 11:25 Date Received: 08/18/15 09:50

**Client Sample ID: MW-13** 

ab	Sam	pie i	D: 4	40-1	18	335-	
		Ма	atrix:	Grou	und	Wate	•

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons	5000		500		ug/L			08/20/15 03:45	10
(C4-C12)									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	114		76 - 132			-		08/20/15 03:45	10
4-Bromofluorobenzene (Surr)	101		80 - 120					08/20/15 03:45	10
Toluene-d8 (Surr)	108		80 - 128					08/20/15 03:45	10
Method: 8260B - Volatile O				МП	Unit	п	Prenared	Analyzed	Dil Fac
Analyte	Result	unds (GC/ Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Analyte Benzene	Result 550		<b>RL</b> 5.0	MDL	ug/L	<u> </u>	Prepared	08/20/15 03:45	10
Analyte	Result		RL	MDL		<u>D</u>	Prepared		
Analyte Benzene Ethylbenzene	Result 550 8.5		RL 5.0 5.0	MDL	ug/L ug/L	<u> </u>	Prepared	08/20/15 03:45 08/20/15 03:45	10 10
Analyte Benzene Ethylbenzene Toluene	Result 550 8.5 ND	Qualifier	RL 5.0 5.0 5.0	MDL	ug/L ug/L ug/L	<u>D</u>	Prepared	08/20/15 03:45 08/20/15 03:45 08/20/15 03:45	10 10 10
Analyte Benzene Ethylbenzene Toluene Xylenes, Total	Result 550 8.5 ND ND	Qualifier	RL 5.0 5.0 5.0 10	MDL	ug/L ug/L ug/L	D	•	08/20/15 03:45 08/20/15 03:45 08/20/15 03:45 08/20/15 03:45	10 10 10 10
Analyte Benzene Ethylbenzene Toluene Xylenes, Total Surrogate	Result 550 8.5 ND ND %Recovery	Qualifier	RL 5.0 5.0 10 <i>Limits</i>	MDL	ug/L ug/L ug/L	<u> </u>	•	08/20/15 03:45 08/20/15 03:45 08/20/15 03:45 08/20/15 03:45 08/20/15 03:45 Analyzed	10 10 10 10 <b>Dil Fac</b>

#### Client: GHD Services Inc. Project/Site: 2703 MLK Jr. Way, Oakland, CA

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8260B/CA_LUFT	V Volatile Organic Compounds by GC/MS	SW846	TAL IRV

#### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Sample ID: 440-118335-1

**Matrix: Ground Water** 

### Client Sample ID: MW-13 Date Collected: 08/14/15 11:25 Date Received: 08/18/15 09:50

Bron Tuno	Batch	Batch Method	Run	Dil	Initial Amount	Final	Batch Number	Prepared	Analyst	Lab
Prep Type Total/NA	Type Analysis	8260B	Kun	Factor	Amount 10 mL	Amount 10 mL	274496	or Analyzed 08/20/15 03:45	Analyst WK	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTN S		10	10 mL	10 mL	274497	08/20/15 03:45	WK	TAL IRV

#### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-2744 Matrix: Water Analysis Batch: 274496	196/4						Client Sam	ple ID: Method Prep Type: To	
	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			08/19/15 20:26	1
Ethylbenzene	ND		0.50		ug/L			08/19/15 20:26	1
Toluene	ND		0.50		ug/L			08/19/15 20:26	1
Xylenes, Total	ND		1.0		ug/L			08/19/15 20:26	1
	MB	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120					08/19/15 20:26	1
Dibromofluoromethane (Surr)	112		76 - 132					08/19/15 20:26	1
Toluene-d8 (Surr)	109		80 - 128					08/19/15 20:26	1
Lab Sample ID: LCS 440-274	496/5					Client	Sample ID:	Lab Control S	
Matrix: Water								Prep Type: To	otal/NA

## Analysis Batch: 274496

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	25.0	26.5		ug/L		106	68 - 130	
Ethylbenzene	25.0	25.9		ug/L		104	70 - 130	
m,p-Xylene	25.0	27.4		ug/L		110	70 - 130	
o-Xylene	25.0	27.1		ug/L		109	70 - 130	
Toluene	25.0	25.7		ug/L		103	70 - 130	
	LCS LCS							

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	115		76 - 132
Toluene-d8 (Surr)	105		80 - 128

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 440-27449 Matrix: Water Analysis Batch: 274497	97/4							Clie	ent Sam	ple ID: Method Prep Type: To	
Analysis Baton: 214401	МВ	МВ									
Analyte	Result	Qualifier	RL	r	MDL	Unit		D P	repared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		50			ug/L				08/19/15 20:26	1
	МВ	МВ									
Surrogate	%Recovery	Qualifier	Limits					Р	repared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	112		76 - 132							08/19/15 20:26	1
4-Bromofluorobenzene (Surr)	101		80 - 120							08/19/15 20:26	1
Toluene-d8 (Surr)	109		80 - 128							08/19/15 20:26	1
Lab Sample ID: LCS 440-2744	97/6						Clie	ent Sai	mple ID	: Lab Control S	Sample
Matrix: Water										Prep Type: To	otal/NA
Analysis Batch: 274497											
•			Spike	LCS	LCS					%Rec.	
Analyte			Added	Result	Qua	lifier	Unit	D	%Rec	Limits	
Volatile Fuel Hydrocarbons (C4-C12)			500	384			ug/L		77	55 - 130	

**TestAmerica** Irvine

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## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

Client: GHD Services Inc.

#### Lab Sample ID: LCS 440-274497/6 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA** Analysis Batch: 274497 LCS LCS %Recovery Qualifier Surrogate Limits Dibromofluoromethane (Surr) 114 76 - 132 4-Bromofluorobenzene (Surr) 104 80 - 120 Toluene-d8 (Surr) 80 - 128 110 Lab Sample ID: 440-118042-A-5 MS **Client Sample ID: Matrix Spike Matrix: Water** Prep Type: Total/NA Analysis Batch: 274497 Sample Sample Spike MS MS %Rec. **Result Qualifier** Added Result Qualifier Limits Analyte Unit D %Rec Volatile Fuel Hydrocarbons 3200 F1 1730 50 - 145 2450 F1 ug/L -43 (C4-C12) MS MS Surrogate %Recovery Qualifier Limits Dibromofluoromethane (Surr) 112 76 - 132 4-Bromofluorobenzene (Surr) 99 80 - 120 Toluene-d8 (Surr) 107 80 - 128 Lab Sample ID: 440-118042-A-5 MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Water** Prep Type: Total/NA Analysis Batch: 274497 Sample Sample Spike MSD MSD %Rec. RPD **Result Qualifier** Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec 3200 F1 1730 2420 F1 ug/L -45 50 - 145 20 Volatile Fuel Hydrocarbons 1 (C4-C12) MSD MSD %Recovery Qualifier Surrogate Limits Dibromofluoromethane (Surr) 111 76 - 132 4-Bromofluorobenzene (Surr) 98 80 - 120 Toluene-d8 (Surr) 106 80 - 128

## **QC** Association Summary

Client: GHD Services Inc. Project/Site: 2703 MLK Jr. Way, Oakland, CA

# 1 2 3 4 5 6 7 8 8 9

## GC/MS VOA

#### Analysis Batch: 274496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-118335-1	MW-13	Total/NA Ground		8260B	
LCS 440-274496/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-274496/4	Method Blank	Total/NA	Water	8260B	
nalysis Batch: 2744	497				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-118042-A-5 MS	Matrix Spike	Total/NA	Water	8260B/CA_LUFT MS	
440-118042-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B/CA_LUFT MS	
440-118335-1	MW-13	Total/NA	Ground Water	8260B/CA_LUFT MS	
LCS 440-274497/6	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
MB 440-274497/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Client: GHD Services Inc. Project/Site: 2703 MLK Jr. Way, Oakland, CA

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## Qualifiers

#### **GC/MS VOA**

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
	Listed under the "D" column to designate that the result is reported on a dry weight basis
~ %R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN DLC	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

TEQ Toxicity Equivalent Quotient (Dioxin)

## **Certification Summary**

**EPA Region** 

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**Certification ID** 

Cert. No. 12.002r

CA015312007A

P330-09-00080

CA01531

AZ0671

10256

2706

N/A

N/A

4005

MP0002

#### Client: GHD Services Inc. Project/Site: 2703 MLK Jr. Way, Oakland, CA

### Laboratory: TestAmerica Irvine

Authority

Alaska

Arizona

California

California

Guam

Hawaii

Nevada

Oregon

USDA

New Mexico

Northern Mariana Islands

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

State Program

NELAP

Federal

LA Cty Sanitation Districts

Program

TestAmerica	Ioh ID <sup>1</sup>	440-1	18335-1
i colAmenca c	עו עטנ	. 440-1	10000-1

**Expiration Date** 

06-30-16

10-13-15

01-31-16 \*

06-30-16

01-23-16

01-29-16

07-31-16 \*

01-29-16

01-29-16

01-29-16

07-08-18

\* Certification renewal pending - certification considered valid.

ALSCIENCE (	(LOCATION)	)	·····	·····	Place	Theck A		ate:Box:	Sile	ll Oil					ct Nam		Cu	510	-				SED.	ICES		CHECK IF NO INCIDENT # APPLIE	
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## Login Sample Receipt Checklist

Client: GHD Services Inc.

#### Login Number: 118335 List Number: 1 Creator: Ornelas, Olga

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

### Job Number: 440-118335-1

List Source: TestAmerica Irvine