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# Transmittal

Date: August 13, 2015 Reference No.: 241501

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To: Jerry Wickham  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

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Subject: Former Shell Service Station, 461 8<sup>th</sup> Street, Oakland, California

No. of Copies	Description/Title	Drawing No./ Document Ref.	Issue
1	Groundwater Monitoring Report – Second Quarter 2015		

Issued for:  Your information  As requested  Construction  Quotation  
 Your approval/comments  Returned to you  For re-submission

Sent by:  Overnight courier  Same day courier  Mailed under separate cover  Mail enclosed  
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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 Perry Pineda at (425) 413-1164.

Copy to: Perry Pineda, Shell Oil Products US

Leroy Griffin, Fire Prevention Bureau

Signature Land Advisors, Inc.  
 (property owner)

Completed by: Peter Schaefer Signed: *Peter Schaefer*  
 [Please Print]

Filing: Correspondence File



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** (425) 413 1164  
**Fax** (425) 413 0988  
**Email** perry.pineda@shell.com  
**Internet** <http://www.shell.com>

Re: **461 8<sup>th</sup> Street, Oakland, California**  
**PlaNet Site ID USF04642**  
**PlaNet Project ID 27481**  
**ACEH Case No. RO0000343**

Dear Mr. Wickham:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (425) 413-1164 with any questions or concerns.

Sincerely,  
Shell Oil Products US

A handwritten signature in black ink, appearing to read "Perry Pineda", is located below the typed name.

Perry Pineda  
Senior Environmental Program Manager



# Groundwater Monitoring Report - Second Quarter 2015

Former Shell Service Station  
461 8<sup>th</sup> Street  
Oakland, California

PlaNNet Site ID	USF04642
PlaNNet Project ID	27481
Agency No.	RO0000343

Shell Oil Products US

August 13, 2015  
5900 Hollis Street Suite A Emeryville California 94608 USA  
241501 | 15.03 | Report No 41

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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	461 8th Street, Oakland
Site Use	Parking lot
Shell Program Manager	Perry Pineda
GHD Project Manager	Peter Schaefer
Lead Agency and Contact	ACEH, Jerry Wickham
Agency Case No.	RO0000343
Shell PlaNet Site ID	USF04642
Shell PlaNet Project ID	27481

Date of most recent agency correspondence was June 30, 2015 (electronic).

# 2. Site Activities, Findings, and Discussion

## 2.1 Current Quarter's Activities

Conestoga-Rovers & Associates (CRA) submitted a *Limited Human Health Risk Assessment Report* on February 27, 2015, which assessed the potential for petroleum hydrocarbon soil vapor intrusion to the building proposed for the Site. The report was approved in Alameda County Environmental Health's (ACEH's) March 9, 2015 letter.

Blaine Tech Services, Inc. (Blaine) gauged and sampled the wells according to the modified monitoring program for this Site, which was approved in ACEH's June 30, 2015 electronic correspondence. The second quarter 2015 monitoring event could not be conducted until July 17, 2015 because Shell was still negotiating an access agreement for the Site with the property owner.

GHD prepared a vicinity map (Figure 1), a groundwater contour 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.

No separate-phase hydrocarbons (SPHs) were measured or recovered from wells S-5 or S-13 during the January 22, 2015 monitoring event, and no SPHs were measured or recovered from well S-5 during the July 17, 2015 monitoring event. SPH removal data since November 2013 are presented in Table 2 and are summarized below.

## SPH REMOVAL SUMMARY

This Period (pounds)	Cumulative Removal (pounds)
0.00	25.38

Analytical results from wells S-4 and S-6 appear to be anomalous. Blaine and TestAmerica Laboratories, Inc. have investigated and found no evidence that the samples are invalid.

### 2.2 Current Quarter's Findings

Groundwater Flow Direction	Westerly
Hydraulic Gradient	0.06
Depth to Water	18.49 to 22.70 feet below top of well casing

### 2.3 Proposed Activities

As proposed in CRA's June 30, 2015 electronic correspondence to ACEH and approved in ACEH's electronic correspondence of the same date, GHD has suspended monitoring of the on-Site wells and will continue quarterly monitoring off-Site wells S-5 and S-6. Off-Site well S-4 will continue to be monitored annually, during the second quarter. Blaine will gauge and sample wells according to the modified monitoring program for the Site. The Site is monitored quarterly, and GHD will issue groundwater monitoring reports within 45 days following the end of each quarter. Blaine will remove SPHs from well S-5 quarterly by hand bailing and using SPH-absorbent socks.

As discussed in Shell's and CRA's March 5, 2015 meeting with ACEH and the property owner's representatives, GHD will submit a well destruction and installation work plan. We are scheduled to destroy the on-Site wells and soil vapor probes September 8 through 11, 2015 and to install the proposed off-Site well (S-26) on September 14, 2015. Proposed on-Site wells (S-24 and S-25) will be installed concurrent with Site redevelopment. The new wells will be developed and added to the quarterly monitoring program as soon as redevelopment will allow.

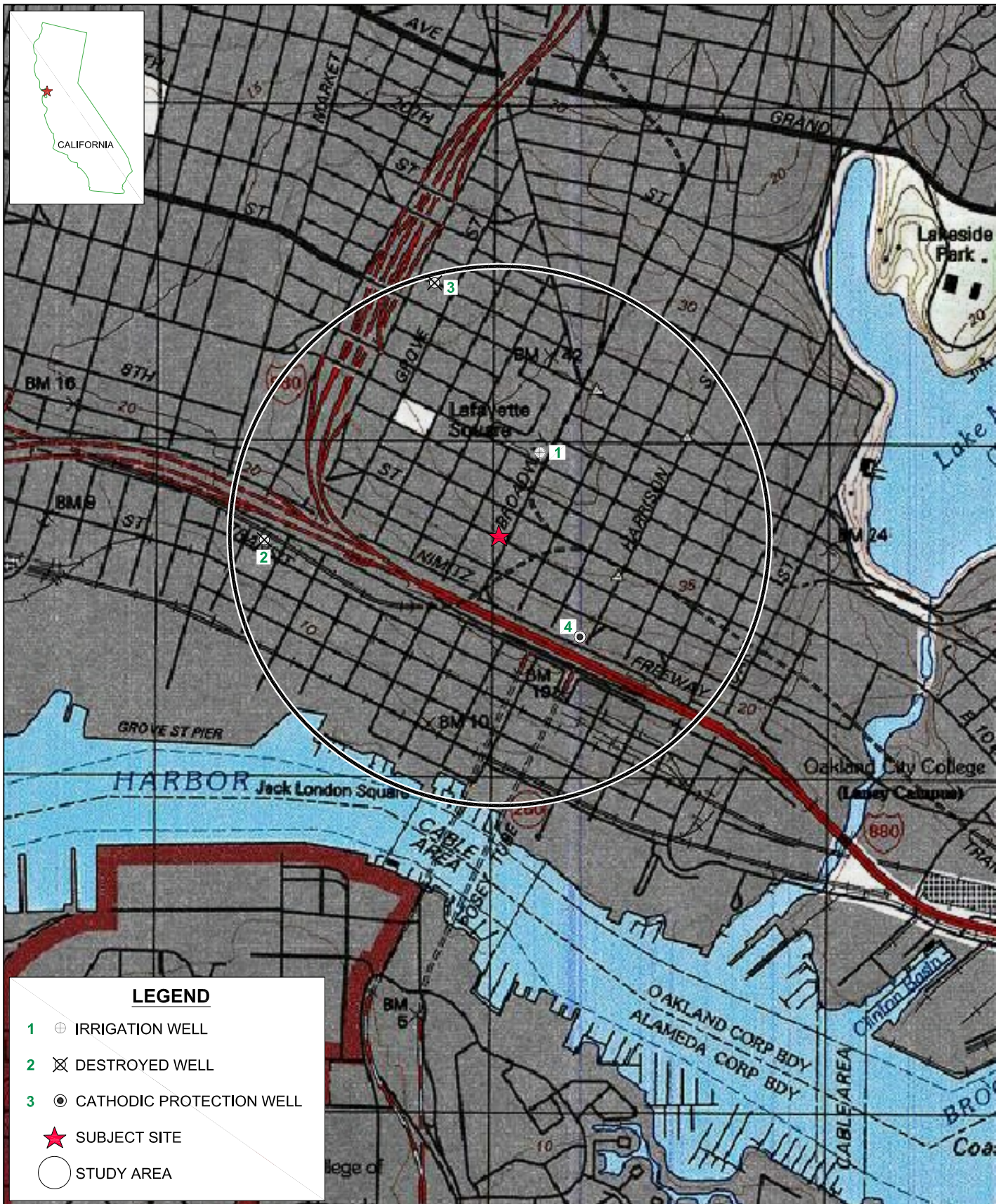
All of Which is Respectfully Submitted,

GHD

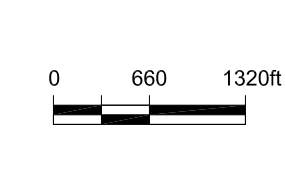
*Peter Schaefer*  
Peter Schaefer, CEG, CHG

*Aubrey K Cool*  
Aubrey K. Cool, PG





Source: TOPO! MAPS



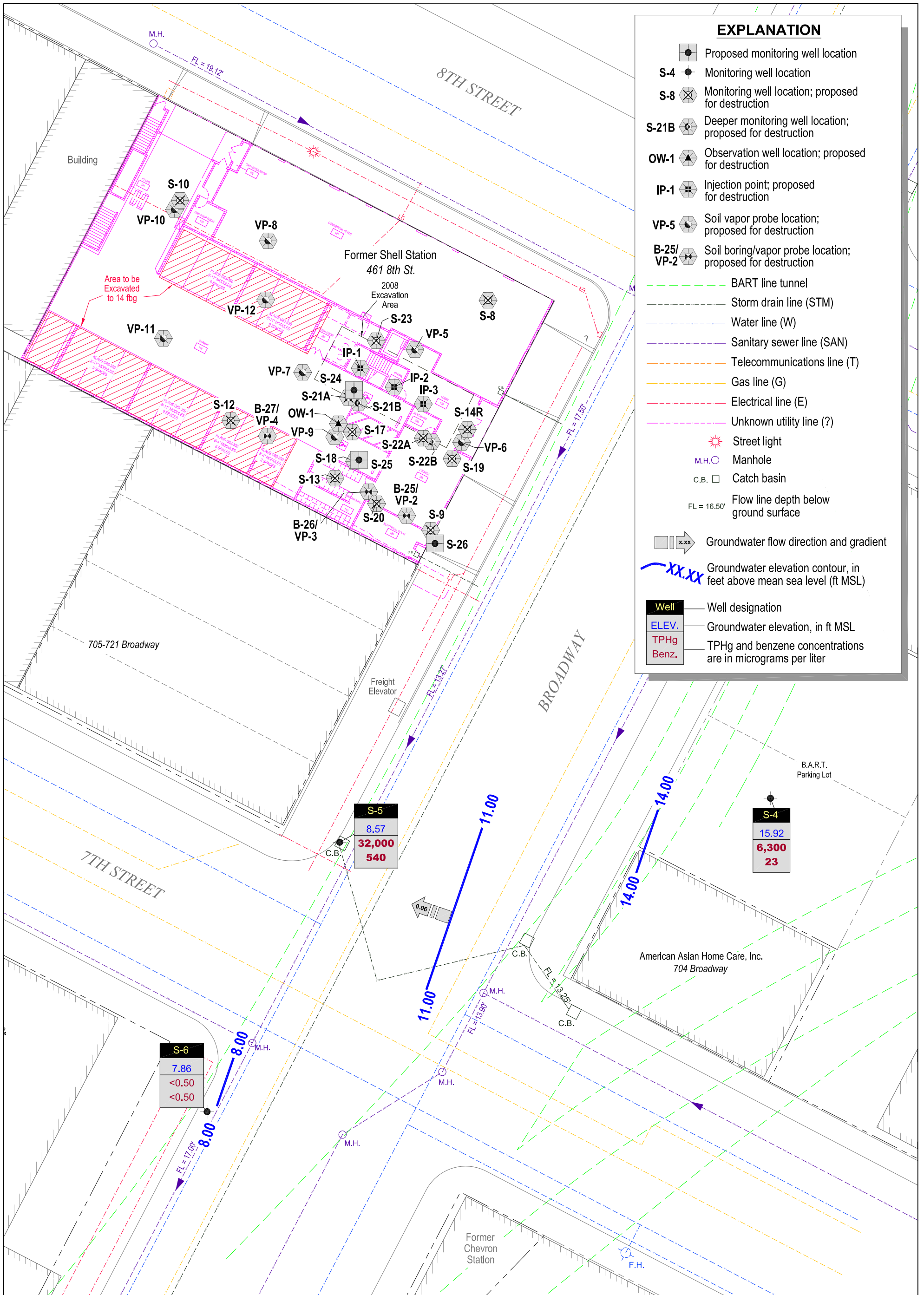
FORMER SHELL SERVICE STATION  
 461 8TH STREET  
 OAKLAND, CALIFORNIA

241501-15.03  
 Aug 10, 2015

VICINITY MAP

FIGURE 1

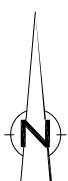
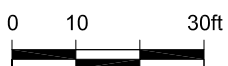




### EXPLANATION

- Proposed monitoring well location
- S-4** Monitoring well location
- S-8** Monitoring well location; proposed for destruction
- S-21B** Deeper monitoring well location; proposed for destruction
- OW-1** Observation well location; proposed for destruction
- IP-1** Injection point; proposed for destruction
- VP-5** Soil vapor probe location; proposed for destruction
- B-25/VP-2** Soil boring/vapor probe location; proposed for destruction
- BART line tunnel
- Storm drain line (STM)
- Water line (W)
- Sanitary sewer line (SAN)
- Telecommunications line (T)
- Gas line (G)
- Electrical line (E)
- Unknown utility line (?)
- Street light
- M.H.** Manhole
- C.B.** Catch basin
- FL = 16.50'** Flow line depth below ground surface
- Groundwater flow direction and gradient
- Groundwater elevation contour, in feet above mean sea level (ft MSL)

Well	ELEV.	TPHg	Benz.
Well designation	Groundwater elevation, in ft MSL	TPHg and benzene concentrations are in micrograms per liter	



FORMER SHELL SERVICE STATION  
 461 8TH STREET  
 OAKLAND, CALIFORNIA  
 GROUNDWATER MONITORING REPORT  
 SECOND QUARTER 2015 - JULY 17, 2015

241501-15.03  
 Aug 14, 2015

FIGURE 2

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-4	10/26/1988	130	3.8	13	4.0	30	---	---	---	---	---	---	---	---	93.51	---	---	---	---	---
S-4	02/14/1989	<50	0.50	<1.0	<1.0	3.0	---	---	---	---	---	---	---	---	93.51	12.82	---	80.69	---	---
S-4	05/01/1989	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	16.48	---	77.03	---	---
S-4	07/27/1989	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	15.84	---	77.67	---	---
S-4	10/05/1989	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	15.98	---	77.53	---	---
S-4	01/09/1990	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	15.86	---	77.65	---	---
S-4	04/30/1990	<50	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	93.51	14.48	---	79.03	---	---
S-4	07/31/1990	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	---	---	---	---	---
S-4	10/30/1990	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	---	---	---	---	---
S-4	05/06/1991	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	15.23	---	78.28	---	---
S-4	06/27/1991	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---	93.51	13.54	---	79.97	---	---
S-4	09/24/1991	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	15.85	---	77.66	---	---
S-4	11/07/1991	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	15.60	---	77.91	---	---
S-4	02/13/1992	<50	<0.50	<0.50	<0.50	3.0	---	---	---	---	---	---	---	---	93.51	14.27	---	79.24	---	---
S-4	05/11/1992	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	93.51	---	---	---	---	---
S-4	12/03/1992	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	93.51	---	---	---	---	---
S-4	05/13/1993	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	93.51	14.81	---	78.70	---	---
S-4	07/22/1993	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	93.51	14.42	---	79.09	---	---
S-4	10/20/1993	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	93.51	---	---	---	---	---
S-4	01/25/1994	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	93.51	14.60	---	78.91	---	---
S-4	04/25/1994	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	93.51	14.39	---	79.12	---	---
S-4	07/21/1994	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---	93.51	22.29	---	71.22	---	---
S-4	10/24/1994	<500	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---	93.51	22.72	---	70.79	---	---
S-4	12/22/1994	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---	25.77	22.25	---	3.52	---	---
S-4	04/20/1995	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---	25.77	21.16	---	4.61	---	---
S-4	10/04/1995	<50	1.2	0.70	<0.50	<0.50	---	---	---	---	---	---	---	---	25.77	22.25	---	3.52	---	---
S-4	01/03/1996	<50	0.60	<0.50	<0.50	1.7	---	---	---	---	---	---	---	---	25.77	23.28	---	2.49	---	---
S-4	04/11/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	25.77	21.58	---	4.19	---	---
S-4	07/11/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	25.77	21.60	---	4.17	---	---
S-4	10/02/1996	<50	<0.50	<0.50	<0.50	<0.50	2.6	---	---	---	---	---	---	---	25.77	22.46	---	3.31	---	---
S-4	01/22/1997	<50	0.73	<0.50	<0.50	0.63	<2.5	---	---	---	---	---	---	---	25.77	20.06	---	5.71	---	---
S-4	07/21/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	25.77	22.10	---	3.67	---	---
S-4	01/22/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	25.77	20.50	---	5.27	---	---
S-4	07/08/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	25.77	20.86	---	4.91	---	---
S-4	10/26/1998	---	---	---	---	---	---	---	---	---	---	---	---	---	25.77	21.41	---	4.36	---	---
S-4	01/28/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	25.77	22.34	---	3.43	---	---
S-4	04/23/1999	---	---	---	---	---	---	---	---	---	---	---	---	---	25.77	21.43	---	4.34	---	---
S-4	07/29/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	---	---	---	---	---	---	---	25.77	21.45	---	4.32	---	---
S-4	11/01/1999	---	---	---	---	---	---	---	---	---	---	---	---	---	25.77	22.08	---	3.69	---	---
S-4	01/07/2000	<50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	25.77	22.29	---	3.48	---	---
S-4	04/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	25.77	21.11	---	4.66	---	---
S-4	07/19/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	---	---	---	---	---	---	---	25.77	21.19	---	4.58	---	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-4	10/12/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	25.77	22.22	---	3.55	---	---
S-4	01/09/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	---	---	---	---	---	---	---	25.77	22.17	---	3.60	---	---
S-4	04/06/2001	---	---	---	---	---	---	---	---	---	---	---	---	---	25.77	21.50	---	4.27	---	---
S-4	07/25/2001	<50	2.0	0.52	<0.50	1.0	---	<5.0	---	---	---	---	---	---	25.77	21.50	---	4.27	---	---
S-4	11/01/2001	---	---	---	---	---	---	---	---	---	---	---	---	---	25.77	21.95	---	3.82	---	---
S-4	01/17/2002	<50 d	<0.50 d	<0.50 d	<0.50 d	<0.50 d	---	<5.0 d	---	---	---	---	---	---	25.77	21.13	---	4.64	---	---
S-4	05/08/2002	---	---	---	---	---	---	---	---	---	---	---	---	---	25.77	21.35	---	4.42	---	---
S-4	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50	---	<5.0	---	---	---	---	---	---	34.41	21.19	---	13.22	---	---
S-4	10/15/2002	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.42	---	12.99	---	---
S-4	01/02/2003	<50	<0.50	<0.50	<0.50	<0.50	---	<5.0	---	---	---	---	---	---	34.41	20.75	---	13.66	---	---
S-4	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.08	---	13.33	---	---
S-4	07/14/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	19.93	---	14.48	---	---
S-4	10/20/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	19.56	---	14.85	---	---
S-4	01/22/2004	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	---	---	34.41	19.12	---	15.29	---	---
S-4	04/19/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	19.15	---	15.26	---	---
S-4	07/13/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	20.48	---	13.93	---	---
S-4	10/28/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.00	---	13.41	---	---
S-4	01/17/2005	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	---	---	34.41	20.17	---	14.24	---	---
S-4	04/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	19.82	---	14.59	---	---
S-4	07/28/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	20.71	---	13.70	---	---
S-4	10/05/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	20.85	---	13.56	---	---
S-4	02/09/2006	<50.0	<0.500	<0.500	<0.500	<0.500	---	<0.500	---	---	---	---	---	---	34.41	19.47	---	14.94	---	---
S-4	05/15/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	19.52	---	14.89	---	---
S-4	08/23/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	20.75	---	13.66	---	---
S-4	11/15/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	20.03	---	14.38	---	---
S-4	01/30/2007	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	---	---	34.41	21.30	---	13.11	---	---
S-4	05/29/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.15	---	13.26	---	---
S-4	08/15/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.38	---	13.03	---	---
S-4	11/28/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.55	---	12.86	---	---
S-4	02/08/2008	64 f	<0.50	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	34.41	22.75	---	11.66	---	---
S-4	05/08/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	22.18	---	12.23	---	---
S-4	08/14/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.77	---	12.64	---	---
S-4	11/11/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	20.68	---	13.73	---	---
S-4	01/05/2009	250	1.8	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	34.41	20.92	---	13.49	---	---
S-4	04/09/2009	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.10	---	13.31	---	---
S-4	07/23/2009	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.76	---	12.65	---	---
S-4	10/01/2009	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	22.10	---	12.31	---	---
S-4	01/28/2010	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	34.41	21.75	---	12.66	---	---
S-4	05/20/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.44	---	12.97	---	---
S-4	08/31/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.72	---	12.69	---	---
S-4	12/29/2010	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	20.91	---	13.50	---	---
S-4	02/01/2011	<50	<0.50	<0.50	<0.50	1.1	---	---	---	---	---	---	---	---	34.41	21.19	---	13.22	1.84	157

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-4	04/25/2011	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	17.32	---	17.09	---	---
S-4	07/28/2011	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	20.92	---	13.49	---	---
S-4	10/28/2011	---	---	---	---	---	---	---	---	---	---	---	---	---	34.41	21.35	---	13.06	---	---
S-4	05/07/2012	240	86	22	9.5	25	---	---	---	---	---	---	---	34.41	20.65	---	13.76	2.52	119	
S-4	05/02/2013	55	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	34.41	21.45	---	12.96	---	---
S-4	04/21/2014	380	88	58	14	42	---	---	---	---	---	---	---	---	34.41	21.70	---	12.71	---	---
<b>S-4</b>	<b>07/17/2015</b>	<b>6,300</b>	<b>23</b>	<b>1.0</b>	<b>&lt;1.0</b>	<b>15</b>	---	---	---	---	---	---	---	---	<b>34.41</b>	<b>18.49</b>	---	<b>15.92</b>	---	---
S-5	04/16/1987	130,000	15,000	16,000	a	14,000	---	---	---	---	---	---	---	---	99.36	---	---	---	---	---
S-5	10/26/1988	110,000	20,000	25,000	2,300	10,000	---	---	---	---	---	---	---	---	99.36	---	---	---	---	---
S-5	02/14/1989	94,000	16,000	21,000	1,800	10,000	---	---	---	---	---	---	---	---	99.36	19.87	---	79.49	---	---
S-5	05/01/1989	120,000	29,000	35,000	3,100	15,000	---	---	---	---	---	---	---	---	99.36	21.23	---	78.13	---	---
S-5	07/27/1989	110,000	20,000	29,000	2,400	14,000	---	---	---	---	---	---	---	---	99.36	20.41	---	78.95	---	---
S-5	10/05/1989	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	20.43	0.01	78.94	---	---
S-5	01/09/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	21.16	0.01	78.21	---	---
S-5	04/30/1990	100,000	13,000	22,000	2,100	11,000	---	---	---	---	---	---	---	---	99.36	20.96	---	78.40	---	---
S-5	07/31/1990	53,000	8,300	14,000	1,200	7,400	---	---	---	---	---	---	---	---	99.36	20.88	---	78.48	---	---
S-5	10/30/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	21.96	0.03	77.42	---	---
S-5	05/06/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	23.00	0.13	76.46	---	---
S-5	06/27/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	20.53	0.03	78.85	---	---
S-5	09/24/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	21.40	0.06	78.01	---	---
S-5	11/07/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	21.33	0.25	78.23	---	---
S-5	02/13/1992	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	22.52	0.31	77.09	---	---
S-5	05/11/1992	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	22.46	0.58	77.36	---	---
S-5	12/03/1992	Well inaccessible		---	---	---	---	---	---	---	---	---	---	---	99.36	---	---	---	---	---
S-5	05/13/1993	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	22.22	0.27	77.36	---	---
S-5	07/22/1993	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	21.68	0.25	77.88	---	---
S-5	10/20/1993	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	20.51	0.23	79.03	---	---
S-5	01/25/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	21.93	0.18	77.57	---	---
S-5	04/25/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	21.97	0.35	77.67	---	---
S-5	05/26/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	20.84	0.35	78.80	---	---
S-5	06/10/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	21.01	0.32	78.61	---	---
S-5	07/21/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	22.18	0.47	77.56	---	---
S-5	08/25/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	22.01	0.44	77.70	---	---
S-5	09/22/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	22.00	0.15	77.48	---	---
S-5	10/24/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	99.36	22.28	0.56	77.53	---	---
S-5	12/22/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	22.88	0.99	0.85	---	---
S-5	04/20/1995	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	21.66	0.33	1.54	---	---
S-5	10/04/1995	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	22.18	---	0.76	---	---
S-5	01/03/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	22.80	0.83	0.80	---	---
S-5	04/11/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	21.15	0.67	2.33	---	---
S-5	07/11/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	22.62	0.90	1.04	---	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-5	10/02/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	23.07	0.64	0.38	---	---
S-5	01/22/1997	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	20.83	0.16	2.24	---	---
S-5	07/21/1997	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	21.16	0.05	1.82	---	---
S-5	01/22/1998	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	20.04	0.04	2.93	---	---
S-5	07/08/1998	220	14	40	5.8	34	3.3	---	---	---	---	---	---	---	22.94	18.61	---	4.33	---	---
S-5	10/26/1998	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	17.31	---	5.63	---	---
S-5	01/28/1999	51,000	13,000	1,200	1,200	2,400	2,400	---	---	---	---	---	---	---	22.94	20.11	---	2.83	---	---
S-5	04/23/1999	65,600	2,540	7,300	1,790	9,840	<1,000	---	---	---	---	---	---	---	22.94	19.21	---	3.73	---	---
S-5	07/29/1999	61,400	3,320	6,980	1,520	7,700	<1,000	---	---	---	---	---	---	---	22.94	14.77	---	8.17	---	---
S-5	11/01/1999	48,200	2,700	5,740	1,290	7,850	<500	<40.0	---	---	---	---	---	---	22.94	15.56	---	7.38	---	---
S-5	01/07/2000	39,000	3,900	8,500	790	8,300	1,500	---	---	---	---	---	---	---	22.94	15.82	---	7.12	---	---
S-5	04/11/2000	29,300	1,680	5,060	1,130	6,220	<250	---	---	---	---	---	---	---	22.94	18.19	---	4.75	---	---
S-5	07/19/2000	6,420	2,110	207	252	681	355	253 b	---	---	---	---	---	---	22.94	19.01	---	3.93	---	---
S-5	10/12/2000	41,500	2,940	4,940	1,520	7,770	<250	<66.7	---	---	---	---	---	---	22.94	19.62	---	3.32	---	---
S-5	01/09/2001	142,000	7,030	9,550	2,340	12,600	779	---	---	---	---	---	---	---	22.94	19.94	---	3.00	---	---
S-5	04/06/2001	Well inaccessible		---	---	---	---	---	---	---	---	---	---	---	22.94	---	---	---	---	---
S-5	04/13/2001	59,800	4,810	10,800	1,950	10,100	842	<10.0	---	---	---	---	---	---	22.94	14.72	---	8.22	---	---
S-5	07/25/2001	71,000	2,900	6,800	1,700	9,100	---	<250	---	---	---	---	---	---	22.94	14.91	---	8.03	---	---
S-5	08/13/2001	---	---	---	---	---	---	---	---	---	---	---	---	---	22.94	19.43	---	3.51	---	---
S-5	11/01/2001	Unable to locate		---	---	---	---	---	---	---	---	---	---	---	22.94	---	---	---	---	---
S-5	01/17/2002	58,000 d	460 d	3,300 d	1,900 d	8,400 d	---	<200 d	---	---	---	---	---	---	c	14.27	---	---	---	---
S-5	05/08/2002	60,000 d	d	2,700 d	1,800 d	8,800 d	---	<100 d	---	---	---	---	---	---	22.94	18.40	---	4.54	---	---
S-5	07/18/2002	53,000	240	1,200	1,500	6,400	---	<100	---	---	---	---	---	---	27.36	14.25	---	13.11	---	---
S-5	10/15/2002	Well inaccessible		---	---	---	---	---	---	---	---	---	---	---	27.36	---	---	---	---	---
S-5	10/17/2002	42,000	420	1,100	1,200	5,500	---	<10	---	---	---	---	---	---	27.36	14.90	---	12.46	---	---
S-5	01/02/2003	26,000	680	1,500	780	3,800	---	<5.0	---	---	---	---	---	---	27.36	14.72	---	12.64	---	---
S-5	04/15/2003	3,600	29	38	65	370	---	<5.0	---	---	---	---	---	---	e	14.45	---	---	---	---
S-5	07/14/2003	21,000	210	460	650	2,900	---	<10	---	---	---	---	---	---	e	14.10	---	---	---	---
S-5	10/20/2003	37,000	390	590	870	3,500	---	<13	---	---	---	---	---	---	e	14.63	---	---	---	---
S-5	01/22/2004	29,000	200	210	710	2,400	---	<13	---	---	---	---	---	---	e	14.08	---	---	---	---
S-5	04/19/2004	25,000	490	460	750	2,400	---	19	---	---	---	---	---	---	e	13.43	---	---	---	---
S-5	07/13/2004	28,000	300	280	690	2,400	---	<13	---	---	---	---	---	---	e	14.88	---	---	---	---
S-5	08/14/2008	31,000	1,700	1,600	1,400	3,350	---	<10	---	---	---	---	<5.0	<10	e	16.65	---	---	---	---
S-5	11/11/2008	37,000 i	2,500 i	1,300 i	2,000 i	3,490 i	---	<50 i	---	---	---	---	<25 i	<50 i	e	16.81	---	---	---	---
S-5	11/11/2008	40,000 j	2,300 j	1,400 j	1,900 j	3,630 j	---	<50 j	---	---	---	---	<25 j	<50 j	e	16.81	---	---	---	---
S-5	01/05/2009	57,000	2,300	1,400	1,500	2,900	---	<10	---	---	---	---	<5.0	<10	e	16.71	---	---	---	---
S-5	04/09/2009	52,000	2,100	3,500	1,900	5,400	---	<20	---	---	---	---	<10	<20	e	16.31	---	---	0.3	163
S-5	07/23/2009	37,000	1,800	1,900	1,400	3,800	---	---	---	---	---	---	---	---	e	16.62	---	---	1.48	-84
S-5	10/01/2009	36,000	1,800	1,900	1,400	3,700	---	---	---	---	---	---	---	---	27.24	16.35	---	10.89	0.86	-52
S-5	01/28/2010	35,000	1,200	1,900	1,500	3,600	---	---	---	---	---	---	---	---	27.24	16.35	---	10.89	---	---
S-5	05/20/2010	36,000	1,600	2,500	1,700	4,500	---	---	---	---	---	---	---	---	27.24	16.50	---	10.74	1.22	227
S-5	08/31/2010	32,000	1,300	1,100	1,600	3,400	---	---	---	---	---	---	---	---	27.24	16.95	---	10.29	0.58	-102

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-5	12/29/2010	26,000	970	1,500	1,500	3,200	---	---	---	---	---	---	---	---	27.24	16.25	---	10.99	1.18	233
S-5	02/01/2011	27,000	1,100	1,500	1,400	3,100	---	---	---	---	---	---	---	---	27.24	15.38	---	11.86	1.65	-83
S-5	04/25/2011	70,000	380	440	720	1,200	---	---	---	---	---	---	---	---	27.24	13.98	---	13.26	0.95	-109
S-5	07/28/2011	21,000	340	430	570	1,000	---	---	---	---	---	---	---	---	27.24	13.80	---	13.44	0.71	-95
S-5	10/28/2011	23,000	430	480	570	1,300	---	---	---	---	---	---	---	---	27.24	14.28	---	12.96	6.05	190
S-5	05/07/2012	16,000	150	200	350	760	---	---	---	---	---	---	---	---	27.24	13.82	---	13.42	3.61	120
S-5	08/31/2012	12,000	330	300	330	850	---	---	---	---	---	---	---	---	27.24	14.68	---	12.56	1.38	253
S-5	12/11/2012	14,000	420	700	550	1,500	---	---	---	---	---	---	---	---	27.24	16.00	---	11.24	1.07/1.29	162/63
S-5	01/24/2013	29,000	910	1,700	1,200	2,700	---	---	---	---	---	---	---	---	27.24	16.46	---	10.78	---	---
S-5	05/02/2013	35,000	650	1,500	1,400	4,500	---	---	---	---	---	---	---	---	27.24	18.59	---	8.65	---	---
S-5	08/09/2013	350,000	820	9,800	6,900	34,000	---	---	---	---	---	---	---	---	27.24	19.12	---	8.12	---	---
S-5	11/07/2013	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	k	k	k	---	---
S-5	01/31/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	19.87	0.91	8.10	---	---
S-5	03/14/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	19.98	1.15	8.18	---	---
S-5	04/21/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	19.80	1.14	8.35	---	---
S-5	07/31/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	18.58	0.29	8.89	---	---
S-5	09/22/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	18.55	0.15	8.81	---	---
S-5	10/03/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	18.45	---	8.79	---	---
S-5	10/10/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	10.48	---	16.76	---	---
S-5	10/17/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	18.44	---	8.80	---	---
S-5	10/24/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	18.54	---	8.70	---	---
S-5	11/21/2014	34,000	350	830	1,400	14,000	---	---	---	---	---	---	---	---	27.24	18.58	---	8.66	---	---
S-5	12/23/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	27.24	25.19	---	2.05	---	---
<b>S-5</b>	<b>01/22/2015</b>	<b>56,000 m</b>	<b>690</b>	<b>740</b>	<b>2,600</b>	<b>9,400</b>	---	---	---	---	---	---	---	---	<b>27.24</b>	<b>18.24</b>	---	<b>9.00</b>	---	---
<b>S-5</b>	<b>07/17/2015</b>	<b>32,000</b>	<b>540</b>	<b>240</b>	<b>1,300</b>	<b>3,700</b>	---	---	---	---	---	---	---	---	<b>27.24</b>	<b>18.67</b>	---	<b>8.57</b>	---	---
S-6	04/16/1987	81,000	16,000	9,000	a	6,400	---	---	---	---	---	---	---	---	100.58	---	---	---	---	---
S-6	10/26/1988	110,000	29,000	18,000	2,500	8,200	---	---	---	---	---	---	---	---	100.58	---	---	---	---	---
S-6	02/14/1989	54,000	18,000	4,500	1,400	4,000	---	---	---	---	---	---	---	---	100.58	20.87	---	79.71	---	---
S-6	05/01/1989	93,000	43,000	9,900	3,000	8,000	---	---	---	---	---	---	---	---	100.58	20.49	---	80.09	---	---
S-6	07/27/1989	52,000	20,000	3,200	1,700	5,500	---	---	---	---	---	---	---	---	100.58	21.01	---	79.57	---	---
S-6	10/05/1989	55,000	20,000	2,900	1,600	5,500	---	---	---	---	---	---	---	---	100.58	21.24	---	79.34	---	---
S-6	01/09/1990	76,000	35,000	9,100	2,300	8,600	---	---	---	---	---	---	---	---	100.58	22.62	Sheen	77.96	---	---
S-6	04/30/1990	39,000	13,000	2,300	900	2,800	---	---	---	---	---	---	---	---	100.58	22.10	---	78.48	---	---
S-6	07/31/1990	48,000	20,000	4,600	1,500	4,900	---	---	---	---	---	---	---	---	100.58	22.00	---	78.58	---	---
S-6	10/30/1990	27,000	7,400	900	600	1,400	---	---	---	---	---	---	---	---	100.58	22.14	---	78.44	---	---
S-6	05/06/1991	35,000	3,900	2,700	2,300	3,500	---	---	---	---	---	---	---	---	100.58	22.40	---	78.18	---	---
S-6	06/27/1991	51,000	19,000	5,600	1,700	6,300	---	---	---	---	---	---	---	---	100.58	21.21	---	79.37	---	---
S-6	09/24/1991	42,000	14,000	4,300	1,200	4,000	---	---	---	---	---	---	---	---	100.58	22.26	---	78.32	---	---
S-6	11/07/1991	39,000	11,000	2,000	800	2,300	---	---	---	---	---	---	---	---	100.58	22.35	---	78.23	---	---
S-6	02/13/1992	64,000	21,000	6,200	1,600	5,100	---	---	---	---	---	---	---	---	100.58	22.28	---	78.30	---	---
S-6	05/11/1992	57,000	22,000	7,600	2,200	7,700	---	---	---	---	---	---	---	---	100.58	22.10	---	78.48	---	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-6	12/03/1992	110,000	26,000	9,400	2,100	8,700	---	---	---	---	---	---	---	---	100.58	22.14	---	78.44	---	---
S-6	05/13/1993	58,000	21,000	6,800	2,500	9,800	---	---	---	---	---	---	---	---	100.58	22.16	---	78.42	---	---
S-6	07/22/1993	70,000	31,000	14,000	3,000	13,000	---	---	---	---	---	---	---	---	100.58	21.64	---	78.94	---	---
S-6	10/20/1993	48,000	28,000	9,800	3,200	12,000	---	---	---	---	---	---	---	---	100.58	21.62	---	78.96	---	---
S-6	01/25/1994	70,000	23,000	7,500	2,500	8,000	---	---	---	---	---	---	---	---	100.58	21.80	---	78.78	---	---
S-6	04/25/1994	61,000	16,000	4,000	1,800	5,100	---	---	---	---	---	---	---	---	100.58	21.68	---	78.90	---	---
S-6	07/21/1994	44,000	8,200	3,600	1,400	3,900	---	---	---	---	---	---	---	---	100.58	21.78	---	78.80	---	---
S-6 (D)	07/21/1994	32,000	7,800	3,400	1,300	3,700	---	---	---	---	---	---	---	---	100.58	---	---	---	---	---
S-6	10/24/1994	2,936	1,184	440.6	163.4	648.4	---	---	---	---	---	---	---	---	100.58	22.06	---	78.52	---	---
S-6 (D)	10/24/1994	2,968	770.8	325.3	144.1	622	---	---	---	---	---	---	---	---	22.08*	---	---	---	---	---
S-6	12/22/1994	32,000	7,000	2,900	790	2,400	---	---	---	---	---	---	---	---	22.08	21.91	---	0.17	---	---
S-6 (D)	12/22/1994	32,000	8,000	3,800	1,100	3,400	---	---	---	---	---	---	---	---	22.08	---	---	---	---	---
S-6	04/20/1995	56,000	15,000	3,800	1,900	4,900	---	---	---	---	---	---	---	---	22.08	21.38	---	0.70	---	---
S-6 (D)	04/20/1995	49,000	13,000	3,500	1,800	4,700	---	---	---	---	---	---	---	---	22.08	---	---	---	---	---
S-6	10/04/1995	49,000	8,400	4,700	1,800	4,800	---	---	---	---	---	---	---	---	22.08	21.80	---	0.28	---	---
S-6 (D)	10/04/1995	41,000	8,400	4,100	1,400	4,400	---	---	---	---	---	---	---	---	22.08	---	---	---	---	---
S-6	01/03/1996	52,000	9,100	7,100	1,800	5,800	---	---	---	---	---	---	---	---	22.08	21.70	---	0.38	---	---
S-6	04/11/1996	59,000	11,000	7,100	2,100	6,400	<500	---	---	---	---	---	---	---	22.08	21.62	---	0.46	---	---
S-6 (D)	04/11/1996	59,000	11,000	6,800	1,900	6,400	<500	---	---	---	---	---	---	---	22.08	---	---	---	---	---
S-6	07/11/1996	72,000	18,000	6,600	2,500	8,400	<1,000	---	---	---	---	---	---	---	22.08	21.65	---	0.43	---	---
S-6	10/02/1996	57,000	11,000	6,500	1,500	5,100	<500	---	---	---	---	---	---	---	22.08	21.80	---	0.28	---	---
S-6	01/22/1997	67,000	15,000	5,000	1,800	5,400	<1,000	---	---	---	---	---	---	---	22.08	19.95	---	2.13	---	---
S-6 (D)	01/22/1997	63,000	15,000	4,800	1,800	5,200	<1,000	---	---	---	---	---	---	---	22.08	---	---	---	---	---
S-6	07/21/1997	61,000	15,000	2,100	1,100	3,500	1,900	---	---	---	---	---	---	---	22.08	20.61	---	1.47	---	---
S-6	01/22/1998	46,000	14,000	3,200	1,300	3,400	<500	---	---	---	---	---	---	---	22.08	19.82	---	2.26	---	---
S-6	07/08/1998	74,000	26,000	7,500	2,200	6,200	<1,000	---	---	---	---	---	---	---	22.08	18.20	---	3.88	---	---
S-6	10/26/1998	---	---	---	---	---	---	---	---	---	---	---	---	---	22.08	18.81	---	3.27	---	---
S-6	01/28/1999	120,000	9,000	14,000	2,700	14,000	3,700	---	---	---	---	---	---	---	22.08	19.73	---	2.35	---	---
S-6	04/23/1999	58,500	15,900	1,360	1,640	3,030	<2500	---	---	---	---	---	---	---	22.08	17.58	---	4.50	---	---
S-6	07/29/1999	36,200	10,300	760	930	1,360	<1,000	---	---	---	---	---	---	---	22.08	21.35	---	0.73	---	---
S-6	11/01/1999	36,000	11,700	767	865	1,670	<1,250	<40.0	---	---	---	---	---	---	22.08	19.23	---	2.85	---	---
S-6	01/07/2000	36,000	7,600	4,600	840	3,600	<1,000	---	---	---	---	---	---	---	22.08	19.53	---	2.55	---	---
S-6	04/11/2000	14,600	7,540	205	306	609	621	---	---	---	---	---	---	---	22.08	18.16	---	3.92	---	---
S-6	07/19/2000	2,590	629	63.9	99.6	267	124	72.7 b	---	---	---	---	---	---	22.08	18.40	---	3.68	---	---
S-6	10/12/2000	32,900	14,200	966	1,060	1,790	<500	<100	---	---	---	---	---	---	22.08	19.52	---	2.56	---	---
S-6	01/09/2001	27,600	11,200	675	666	1,580	1,430	<10.0 b	---	---	---	---	---	---	22.08	19.69	---	2.39	---	---
S-6	02/05/2001	---	---	---	---	---	---	---	---	---	---	---	---	---	22.08	19.20	---	2.88	---	---
S-6	04/06/2001	16,900	7,800	343	172	966	809	<20.0	---	---	---	---	---	---	22.08	18.25	---	3.83	---	---
S-6	07/25/2001	29,000	9,800	1,700	1,000	1,800	---	<250	---	---	---	---	---	---	22.08	18.27	---	3.81	---	---
S-6	11/01/2001	41,000	15,000	2,400	1,100	2,500	---	<500	---	---	---	---	---	---	22.08	19.30	---	2.78	---	---
S-6	01/17/2002	38,000 d	11,000 d	1,700 d	990 d	2,200 d	---	<500 d	---	---	---	---	---	---	22.08	18.51	---	3.57	---	---
S-6	05/08/2002	72,000	21,000	4,400	2,200	5,300	---	<1,000	---	---	---	---	---	---	22.08	18.30	---	3.78	---	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-6	07/18/2002	71,000	17,000	4,300	1,700	4,800	---	<1,000	---	---	---	---	---	---	30.56	18.19	---	12.37	---	---
S-6	10/15/2002	55,000	16,000	4,600	1,500	4,600	---	<100	---	---	---	---	---	---	30.56	18.77	---	11.79	---	---
S-6	01/02/2003	75,000	21,000	5,000	2,400	6,400	---	<50	---	---	---	---	---	---	30.56	18.60	---	11.96	---	---
S-6	04/15/2003	64,000	29,000	6,400	2,700	5,600	---	<1,000	---	---	---	---	---	---	30.56	18.27	---	12.29	---	---
S-6	07/14/2003	47,000	19,000	4,300	1,500	4,300	---	<100	---	---	---	---	---	---	30.56	18.05	---	12.51	---	---
S-6	10/20/2003	63,000	21,000	5,800	1,900	5,200	---	<130	---	---	---	---	---	---	30.56	18.55	Sheen	12.01	---	---
S-6	01/22/2004	41,000	21,000	4,300	1,800	4,000	---	<130	---	---	---	---	---	---	30.56	18.18	Sheen	12.38	---	---
S-6	04/19/2004	58,000	23,000	4,200	2,200	3,900	---	<130	---	---	---	---	---	---	30.56	17.32	---	13.24	---	---
S-6	05/03/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	30.56	17.30	---	13.26	---	---
S-6	06/17/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	30.56	17.70	---	12.86	---	---
S-6	07/13/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	30.56	17.85	---	12.71	---	---
S-6	10/28/2004	45,000	21,000	3,600	1,700	3,300	---	<130	---	---	---	---	---	---	30.56	18.45	---	12.11	---	---
S-6	01/17/2005	61,000	21,000	3,500	1,600	3,200	---	<130	---	---	---	---	---	---	30.56	17.52	---	13.04	---	---
S-6	04/14/2005	36,000	12,000	6,200	850	4,800	---	<50	---	---	---	---	---	---	30.56	22.49	---	8.07	---	---
S-6	07/28/2005	54,000	16,000	9,100	1,800	5,900	---	<130	---	---	---	---	---	---	30.56	19.38	---	11.18	---	---
S-6	10/05/2005	59,000	14,000	7,500	1,400	5,000	---	<50	---	---	---	---	---	---	30.56	18.32	---	12.24	---	---
S-6	02/09/2006	41,100	7,060	3,900	673	2,380	---	<0.500	---	---	---	---	---	---	30.56	17.11	---	13.45	---	---
S-6	05/15/2006	188,000	24,800	20,700	2,540	12,400	---	<25.0	---	---	---	---	---	---	30.56	19.80	---	10.76	---	---
S-6	08/23/2006	133,000	24,900	16,100	2,280	10,500	---	<0.500	---	---	---	---	---	---	30.56	20.45	---	10.11	---	---
S-6	11/15/2006	66,000	19,000	8,400	1,900	7,400	---	<400	---	---	---	---	---	---	30.56	20.41	---	10.15	---	---
S-6	01/30/2007	88,000	18,000	9,600	1,900	7,200	---	<100	---	---	---	---	---	---	30.56	20.47	---	10.09	---	---
S-6	05/29/2007	56,000 f	17,000	6,700	1,700	5,400	---	<20	---	---	---	---	---	---	30.56	20.40	---	10.16	---	---
S-6	08/15/2007	57,000 f,g	15,000	6,800	1,600	6,100	---	<100	---	---	---	---	---	---	30.56	20.49	---	10.07	---	---
S-6	11/28/2007	42,000 f	13,000	5,000	1,300	5,000	---	<100	---	---	---	---	---	---	30.56	20.65	---	9.91	---	---
S-6	02/08/2008	35,000 f	12,000	5,000	1,200	4,050	---	<100	---	---	---	---	<50	<100	30.56	20.31	---	10.25	---	---
S-6	05/08/2008	45,000 f	15,000	6,100	1,400	5,000	---	<100	---	---	---	---	<50	<100	30.56	20.63	---	9.93	---	---
S-6	08/14/2008	37,000	11,000	5,200	1,200	4,600	---	<100	---	---	---	---	<50	<100	30.56	20.65	---	9.91	---	---
S-6	11/11/2008	37,000 i	15,000 i	6,200 i	1,200 i	3,390 i	---	<10 i	---	---	---	---	<5.0 i	<10 i	30.56	20.79	---	9.77	---	---
S-6	11/11/2008	14,000 j	5,200 j	680 j	400 j	1,060 j	---	<50 j	---	---	---	---	<25 j	<50 j	30.56	20.79	---	9.77	---	---
S-6	01/05/2009	53,000	9,400	3,600	890	3,100	---	<100	---	---	---	---	<50	<100	30.56	21.66	---	8.90	---	---
S-6	04/09/2009	Unable to sample			---	---	---	---	---	---	---	---	---	---	30.56	---	---	---	---	---
S-6	04/21/2009	13,000	3,700	1,100	270	750	---	<100	---	---	---	---	<50	<100	30.56	20.20	---	10.36	---	---
S-6	07/23/2009	15,000	4,400	1,100	360	1,000	---	---	---	---	---	---	---	---	30.56	20.66	---	9.90	1.13	-73
S-6	10/01/2009	21,000	5,100	1,300	420	1,200	---	---	---	---	---	---	---	---	30.56	20.86	---	9.70	0.58	16
S-6	01/28/2010	8,700	2,600	250	200	400	---	---	---	---	---	---	---	---	30.56	20.36	---	10.20	---	---
S-6	05/20/2010	4,400	1,600	82	85	150	---	---	---	---	---	---	---	---	30.56	20.68	---	9.88	1.08	64
S-6	08/31/2010	19,000	4,700	1,300	560	1,600	---	---	---	---	---	---	---	---	30.56	20.78	---	9.78	1.55	-88
S-6	12/29/2010	15,000	3,900	1,500	520	1,800	---	---	---	---	---	---	---	---	30.56	19.92	---	10.64	2.35	123
S-6	02/01/2011	16,000	4,000	1,700	600	1,800	---	---	---	---	---	---	---	---	30.56	19.05	---	11.51	0.61	-143
S-6	04/25/2011	23,000	7,800	3,500	960	3,000	---	---	---	---	---	---	---	---	30.56	17.73	---	12.83	0.76	-112
S-6	07/28/2011	17,000	5,500	1,500	600	1,600	---	---	---	---	---	---	---	---	30.56	17.62	---	12.94	0.77	-26
S-6	10/28/2011	42,000	11,000	4,500	1,600	5,900	---	---	---	---	---	---	---	---	30.56	18.12	---	12.44	4.64	-9



Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-6	05/07/2012	38,000	14,000	4,800	1,300	4,400	---	---	---	---	---	---	---	---	30.56	17.50	---	13.06	2.32	116
S-6	08/31/2012	96,000	6,700	2,500	1,900	6,200	---	---	---	---	---	---	---	---	30.56	18.42	---	12.14	0.62	146
S-6	12/11/2012	31,000	8,300	3,700	1,000	3,700	---	---	---	---	---	---	---	---	30.56	20.00	---	10.56	0.92/0.65	102/-16
S-6	01/24/2013	29,000	9,100	2,500	950	2,600	---	---	---	---	---	---	---	---	30.56	20.43	---	10.13	---	---
S-6	05/02/2013	10,000	1,800	1,100	430	1,100	---	---	---	---	---	---	---	---	30.56	22.98	---	7.58	---	---
S-6	08/09/2013	45,000	3,800	8,000	1,800	6,500	---	---	---	---	---	---	---	---	30.56	23.21	---	7.35	---	---
S-6	11/07/2013	33,000	3,600	3,800	1,000	3,700	---	---	---	---	---	---	---	---	30.56	25.24	---	5.32	---	---
S-6	01/31/2014	16,000	1,200	2,700	710	2,500	---	---	---	---	---	---	---	---	30.56	23.30	---	7.26	---	---
S-6	04/21/2014	15,000	1,100	3,100	650	2,300	---	---	---	---	---	---	---	---	30.56	22.98	---	7.58	---	---
S-6	07/31/2014	40,000	4,200	7,300	1,300	5,400	---	---	---	---	---	---	---	---	30.56	22.49	---	8.07	---	---
S-6	11/21/2014	48,000	3,600	8,900	1,700	7,000	---	---	---	---	---	---	---	---	30.56	22.49	---	8.07	---	---
<b>S-6</b>	<b>01/22/2015</b>	<b>40,000 n</b>	<b>7,100</b>	<b>4,600</b>	<b>1,500</b>	<b>5,100</b>	---	---	---	---	---	---	---	---	<b>30.56</b>	<b>22.27</b>	---	<b>8.29</b>	---	---
<b>S-6</b>	<b>07/17/2015</b>	<b>&lt;50 b</b>	<b>&lt;0.50 b</b>	<b>&lt;0.50 b</b>	<b>&lt;0.50 b</b>	<b>&lt;1.0 b</b>	---	---	---	---	---	---	---	---	<b>30.56</b>	<b>22.70</b>	---	<b>7.86</b>	---	---
S-8	12/22/1994	600	120	32	5.2	34	---	---	---	---	---	---	---	---	27.21	24.87	---	2.34	---	---
S-8	04/20/1995	460	180	23	5.2	21	---	---	---	---	---	---	---	---	27.21	23.90	---	3.31	---	---
S-8	10/04/1995	830	210	38	11	42	---	---	---	---	---	---	---	---	27.21	24.48	---	2.73	---	---
S-8	01/03/1996	350	61	12	2.5	12	---	---	---	---	---	---	---	---	27.21	24.62	---	2.59	---	---
S-8 (D)	01/03/1996	340	54	12	2.4	12	---	---	---	---	---	---	---	---	27.21	---	---	---	---	---
S-8	04/11/1996	570	140	37	12	47	<6.2	---	---	---	---	---	---	---	27.21	24.32	---	2.89	---	---
S-8	07/11/1996	980	98	32	9.1	160	<12	---	---	---	---	---	---	---	27.21	24.10	---	3.11	---	---
S-8	10/02/1996	280	62	13	3.3	25	15	---	---	---	---	---	---	---	27.21	25.38	---	1.83	---	---
S-8 (D)	10/02/1996	490	110	24	7.0	45	22	<2.0	---	---	---	---	---	---	27.21	---	---	---	---	---
S-8	01/22/1997	400	90	13	4.9	25	12	---	---	---	---	---	---	---	27.21	23.91	---	3.30	---	---
S-8	07/21/1997	2,900	380	110	26	260	85	---	---	---	---	---	---	---	27.21	23.62	---	3.59	---	---
S-8 (D)	07/21/1997	3,200	420	120	32	300	130	---	---	---	---	---	---	---	27.21	---	---	---	---	---
S-8	01/22/1998	3,800	790	140	42	330	160	---	---	---	---	---	---	---	27.21	23.52	---	3.69	---	---
S-8 (D)	01/22/1998	3,500	780	120	33	300	160	---	---	---	---	---	---	---	27.21	---	---	---	---	---
S-8	07/08/1998	3,600	1,800	<25	<25	<25	<125	---	---	---	---	---	---	---	27.21	21.52	---	5.69	---	---
S-8 (D)	07/08/1998	4,000	1,800	<25	<25	31	<125	---	---	---	---	---	---	---	27.21	---	---	---	---	---
S-8	10/26/1998	---	---	---	---	---	---	---	---	---	---	---	---	---	27.21	22.01	---	5.20	---	---
S-8	01/28/1999	2,000	630	6.2	24	51	43	---	---	---	---	---	---	---	27.21	23.03	---	4.18	---	---
S-8	04/23/1999	1,050	408	<5.00	<5.00	6.65	<50.0	---	---	---	---	---	---	---	27.21	22.15	---	5.06	---	---
S-8	07/29/1999	955	344	<2.50	6.90	16.2	<25.0	---	---	---	---	---	---	---	27.21	21.95	---	5.26	---	---
S-8	11/01/1999	1,800	550	6.45	15.0	40.4	<50.0	---	---	---	---	---	---	---	27.21	22.55	---	4.66	---	---
S-8	01/07/2000	1,300	600	11	29	48	<13	---	---	---	---	---	---	---	27.21	22.87	---	4.34	---	---
S-8	04/11/2000	342	101	4.42	4.24	14.7	21.4	---	---	---	---	---	---	---	27.21	21.86	---	5.35	---	---
S-8	07/19/2000	579	228	6.37	6.45	25	<12.5	---	---	---	---	---	---	---	27.21	21.93	---	5.28	---	---
S-8	10/12/2000	947	340	8.64	3.26	38.3	<12.5	<2.00	---	---	---	---	---	---	27.21	22.92	---	4.29	---	---
S-8	01/09/2001	1,090	394	<10.0	<10.0	33.3	57.6	---	---	---	---	---	---	---	27.21	23.19	---	4.02	---	---
S-8	04/06/2001	671	182	12.5	16.4	47.1	42.5	---	---	---	---	---	---	---	27.21	22.46	---	4.75	---	---
S-8	07/25/2001	500	70	6.7	11	23	---	<5.0	---	---	---	---	---	---	27.21	22.50	---	4.71	---	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-8	11/01/2001	1,900	250	28	39	180	---	<5.0	---	---	---	---	---	---	27.21	22.44	---	4.77	---	---
S-8	01/17/2002	830 d	140 d	11 d	12 d	89 d	---	<5.0 d	---	---	---	---	---	---	27.21	21.82	---	5.39	---	---
S-8	05/08/2002	210 d	34 d	1.7 d	4.1 d	15 d	---	<5.0 d	---	---	---	---	---	---	27.21	21.35	---	5.86	---	---
S-8	07/18/2002	650	68	2.8	9.7	42	---	<5.0	---	---	---	---	---	---	35.85	21.53	---	14.32	---	---
S-8	10/15/2002	1,000	160	4.2	7.7	74	---	<0.50	---	---	---	---	---	---	35.85	21.97	---	13.88	---	---
S-8	01/02/2003	440	55	1.8	2.9	31	---	<0.50	---	---	---	---	---	---	35.85	21.95	---	13.90	---	---
S-8	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	21.73	---	14.12	---	---
S-8	07/14/2003	60	6.8	<0.50	0.98	4.9	---	<0.50	---	---	---	---	---	---	35.85	21.40	---	14.45	---	---
S-8	10/20/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	21.94	---	13.91	---	---
S-8	01/22/2004	210	19	0.52	3.6	17	---	<0.50	---	---	---	---	---	---	35.85	21.40	---	14.45	---	---
S-8	04/19/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	20.83	---	15.02	---	---
S-8	07/13/2004	420	77	0.82	14	31	---	<0.50	---	---	---	---	---	---	35.85	21.05	---	14.80	---	---
S-8	10/28/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	21.77	---	14.08	---	---
S-8	01/17/2005	490	85	0.89	13	28	---	<0.50	---	---	---	---	---	---	35.85	20.92	---	14.93	---	---
S-8	04/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	21.57	---	14.28	---	---
S-8	07/28/2005	64	12	<0.50	1.5	1.6	---	<0.50	---	---	---	---	---	---	35.85	21.62	---	14.23	---	---
S-8	10/05/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	21.11	---	14.74	---	---
S-8	02/09/2006	<50.0	2.79	<0.500	<0.500	<0.500	---	<0.500	---	---	---	---	---	---	35.85	20.18	---	15.67	---	---
S-8	05/15/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	20.53	---	15.32	---	---
S-8	08/23/2006	<50.0	<0.500	<0.500	<0.500	<0.500	---	<0.500	---	---	---	---	---	---	35.85	21.49	---	14.36	---	---
S-8	11/15/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	22.05	---	13.80	---	---
S-8	01/30/2007	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	---	---	35.85	22.41	---	13.44	---	---
S-8	05/29/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	22.65	---	13.20	---	---
S-8	08/15/2007	65 f,g	7.4	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	---	---	35.85	22.88	---	12.97	---	---
S-8	11/28/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	23.20	---	12.65	---	---
S-8	02/08/2008	350 f	22	<1.0	4.8	2.6	---	1.2	---	---	---	---	<0.50	<1.0	35.85	22.72	---	13.13	---	---
S-8	05/08/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.85	22.91	---	12.94	---	---
S-8	08/14/2008	420	28	<1.0	6.3	1.4	---	<1.0	---	---	---	---	<0.50	<1.0	35.85	23.12	---	12.73	---	---
S-8	11/11/2008	330 i	37 i	<1.0 i	5.1 i	<1.0 i	---	<1.0 i	---	---	---	---	<0.50 i	<1.0 i	35.85	23.37	---	12.48	1.6	28
S-8	11/11/2008	480 j	29 j	<1.0 j	5.4 j	<1.0 j	---	---	---	---	---	---	---	---	35.85	23.37	---	12.48	2.2	103
S-8	12/18/2008	340	38	<1.0	5.4	<1.0	---	---	---	---	---	---	---	---	35.83	23.31	---	12.52	---	---
S-8	01/05/2009	170	15	<1.0	1.2	<1.0	---	---	---	---	---	---	---	---	35.83	23.28	---	12.55	---	---
S-8	01/15/2009	260	45	<1.0	3.2	<1.0	---	---	---	---	---	---	---	---	35.83	23.05	---	12.78	---	---
S-8	02/12/2009	88	7.2	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.83	23.34	---	12.49	---	---
S-8	03/12/2009	12,000	1,700	2,100	200	2,400	---	---	---	---	---	---	---	---	35.83	22.90	---	12.93	---	---
S-8	04/09/2009	170	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.83	23.10	---	12.73	---	594
S-8	07/23/2009	140	0.55	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.83	23.02	---	12.81	2.38	-54
S-8	10/01/2009	140	0.68	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.83	23.31	---	12.52	4.34	359
S-8	01/28/2010	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.83	22.80	---	13.03	---	---
S-8	05/20/2010	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.83	23.55	---	12.28	0.64	42
S-8	08/31/2010	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.83	23.48	---	12.35	0.54	-72
S-8	12/29/2010	79	0.83	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.83	23.18	---	12.65	0.74	133

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-8	02/01/2011	<50	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.83	22.57	---	13.26	1.68	104
S-8	04/25/2011	<50	1.1	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.83	21.26	---	14.57	1.78	12
S-8	07/28/2011	50	2.4	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.83	20.94	---	14.89	0.89	186
S-8	10/28/2011	<50	0.61	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.83	21.09	---	14.74	2.78	349
S-8	05/07/2012	<50	4.3	1.4	0.59	1.0	---	---	---	---	---	---	---	---	35.83	21.23	---	14.60	2.42	209
S-8	05/02/2013	53	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.83	24.65	---	11.18	---	---
S-8	04/21/2014	<50	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.83	25.28	---	10.55	---	---
S-9	12/22/1994	2,600	400	150	42	310	---	---	---	---	---	---	---	---	26.06	24.37	---	1.69	---	---
S-9	04/20/1995	1,900	400	130	51	200	---	---	---	---	---	---	---	---	26.06	23.49	---	2.57	---	---
S-9	10/04/1995	3,200	590	260	68	280	---	---	---	---	---	---	---	---	26.06	24.01	---	2.05	---	---
S-9	01/03/1996	Well inaccessible					---	---	---	---	---	---	---	---	26.06	---	---	---	---	---
S-9	04/11/1996	2,100	440	1,500	42	210	<25	---	---	---	---	---	---	---	26.06	23.61	---	2.45	---	---
S-9	07/11/1996	5,200	940	450	120	520	<50	---	---	---	---	---	---	---	26.06	23.78	---	2.28	---	---
S-9 (D)	07/11/1996	4,800	890	430	110	500	<50	---	---	---	---	---	---	---	26.06	---	---	---	---	---
S-9	10/02/1996	3,000	680	220	56	270	<62	---	---	---	---	---	---	---	26.06	24.31	---	1.75	---	---
S-9	01/22/1997	1,500	230	71	36	130	<12	---	---	---	---	---	---	---	26.06	23.08	---	2.98	---	---
S-9	07/21/1997	3,400	590	57	19	210	96	---	---	---	---	---	---	---	26.06	22.83	---	3.23	---	---
S-9	01/22/1998	2,600	300	46	<10	270	62	---	---	---	---	---	---	---	26.06	21.96	---	4.10	---	---
S-9	07/08/1998	820	150	6.2	7.5	57	<10	---	---	---	---	---	---	---	26.06	20.85	---	5.21	---	---
S-9	10/26/1998	---	---	---	---	---	---	---	---	---	---	---	---	---	26.06	21.39	---	4.67	---	---
S-9	01/28/1999	<50	1.0	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	26.06	22.32	---	3.74	---	---
S-9	04/23/1999	---	---	---	---	---	---	---	---	---	---	---	---	---	26.06	21.41	---	4.65	---	---
S-9	07/29/1999	117	7.77	0.817	0.683	5.05	<5.00	---	---	---	---	---	---	---	26.06	21.25	---	4.81	---	---
S-9	11/01/1999	---	---	---	---	---	---	---	---	---	---	---	---	---	26.06	21.92	---	4.14	---	---
S-9	01/07/2000	<50	1.2	<0.50	<0.50	<0.50	<2.5	---	---	---	---	---	---	---	26.06	22.11	---	3.95	---	---
S-9	04/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	26.06	21.14	---	4.92	---	---
S-9	07/19/2000	Well inaccessible					---	---	---	---	---	---	---	---	26.06	---	---	---	---	---
S-9	10/12/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	26.06	22.24	---	3.82	---	---
S-9	01/09/2001	<50.0	1.45	<0.500	<0.500	<0.500	<2.50	---	---	---	---	---	---	---	26.06	22.52	---	3.54	---	---
S-9	04/06/2001	---	---	---	---	---	---	---	---	---	---	---	---	---	26.06	23.61	---	2.45	---	---
S-9	07/25/2001	Well inaccessible					---	---	---	---	---	---	---	---	26.06	---	---	---	---	---
S-9	08/13/2001	Well inaccessible					---	---	---	---	---	---	---	---	26.06	---	---	---	---	---
S-9	11/01/2001	---	---	---	---	---	---	---	---	---	---	---	---	---	26.06	21.78	---	4.28	---	---
S-9	01/17/2002	<50 d	<0.50 d	<0.50 d	<0.50 d	<0.50 d	---	<5.0 d	---	---	---	---	---	---	26.06	21.15	---	4.91	---	---
S-9	05/08/2002	---	---	---	---	---	---	---	---	---	---	---	---	---	26.06	20.56	---	5.50	---	---
S-9	07/18/2002	<50	<0.50	<0.50	<0.50	<0.50	---	<5.0	---	---	---	---	---	---	34.70	20.88	---	13.82	---	---
S-9	10/15/2002	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	21.41	---	13.29	---	---
S-9	01/02/2003	<50	<0.50	<0.50	<0.50	<0.50	---	<5.0	---	---	---	---	---	---	34.70	21.35	---	13.35	---	---
S-9	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	21.14	---	13.56	---	---
S-9	07/14/2003	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	---	---	34.70	20.80	---	13.90	---	---
S-9	10/20/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	21.33	---	13.37	---	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-9	01/22/2004	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	---	---	34.70	20.77	---	13.93	---	---
S-9	04/19/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	20.06	---	14.64	---	---
S-9	07/13/2004	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	---	---	34.70	20.44	---	14.26	---	---
S-9	10/28/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	21.02	---	13.68	---	---
S-9	01/17/2005	<50	<0.50	<0.50	<0.50	<1.0	---	<0.50	---	---	---	---	---	---	34.70	20.18	---	14.52	---	---
S-9	04/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	21.85	---	12.85	---	---
S-9	07/28/2005	360	190	1.8	1.1	3.9	---	<0.50	<5.0	<2.0	<2.0	<2.0	---	---	34.70	21.22	---	13.48	---	---
S-9	10/05/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	20.63	---	14.07	---	---
S-9	02/09/2006	<50.0	0.94	<0.500	<0.500	<0.500	---	<0.500	---	---	---	---	---	---	34.70	19.23	---	15.47	---	---
S-9	05/15/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	20.28	---	14.42	---	---
S-9	08/23/2006	7,000	1,740	55.6	193	278	---	<0.500	<10.0	<0.500	<0.500	<0.500	---	---	34.70	21.31	---	13.39	---	---
S-9	11/15/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	21.79	---	12.91	---	---
S-9	01/30/2007	12,000	2,200	250	480	980	---	<0.50	---	---	---	---	---	---	34.70	22.08	---	12.62	---	---
S-9	05/29/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	22.22	---	12.48	---	---
S-9	08/15/2007	9,800 f,g	2,400	100	410	602	---	<10	<100	<20	<20	<20	---	---	34.70	22.43	---	12.27	---	---
S-9	11/28/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	22.75	---	11.95	---	---
S-9	02/08/2008	69 f	2.2	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	34.70	22.31	---	12.39	---	---
S-9	05/08/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	34.70	22.49	---	12.21	---	---
S-9	08/14/2008	<50	<0.50	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	34.70	22.70	---	12.00	---	---
S-9	11/11/2008	<50 i	2.4 i	<1.0 i	<1.0 i	<1.0 i	---	<1.0 i	---	---	---	---	<0.50 i	<1.0 i	34.70	22.90	---	11.80	1.1	92
S-9	11/11/2008	550 j	74 j	12 j	22 j	55.3 j	---	---	---	---	---	---	---	---	34.70	22.90	---	11.80	3.6	98
S-9	12/18/2008	1,500	280	43	71	182	---	---	---	---	---	---	---	---	34.34	22.81	---	11.53	---	---
S-9	01/05/2009	1,000	230	24	45	64	---	---	---	---	---	---	---	---	34.34	22.75	---	11.59	---	---
S-9	01/15/2009	2,100	560	75	100	245	---	---	---	---	---	---	---	---	34.34	22.37	---	11.97	---	---
S-9	02/12/2009	500	120	19	26	50	---	---	---	---	---	---	---	---	34.34	22.61	---	11.73	---	---
S-9	03/12/2009	810	200	30	50	110	---	---	---	---	---	---	---	---	34.34	22.22	---	12.12	---	---
S-9	04/09/2009	2,300	450	60	110	260	---	---	---	---	---	---	---	---	34.34	22.12	---	12.22	0.65	79
S-9	05/18/2009	1,500	200	35	61	180	---	---	---	---	---	---	---	---	34.34	22.09	---	12.25	2.71	173
S-9	07/23/2009	1,700	430	49	110	190	---	---	---	---	---	---	---	---	34.34	22.48	---	11.86	0.21	346
S-9	10/01/2009	1,200	180	12	58	93	---	---	---	---	---	---	---	---	34.34	22.84	---	11.50	1.37	146
S-9	11/09/2009	1,400	260	21	67	81	---	---	---	---	---	---	---	---	34.34	22.63	---	11.71	0.42	---
S-9	12/01/2009	1,100	110	11	26	59	---	---	---	---	---	---	---	---	34.34	22.44	---	11.90	1.09	133
S-9	01/28/2010	860	130	9.3	38	79	---	---	---	---	---	---	---	---	34.34	22.35	---	11.99	1.95	---
S-9	05/20/2010	1,900	340	27	100	210	---	---	---	---	---	---	---	---	34.34	22.40	---	11.94	0.17	138
S-9	06/22/2010	1,400	240	30	65	130	---	---	---	---	---	---	---	---	34.34	22.64	---	11.70	2.16	577
S-9	08/31/2010	760	130	13	54	110	---	<1.0	<10	<2.0	<2.0	<2.0	---	---	34.34	22.92	---	11.42	1.53	415
S-9	12/29/2010	290	55	3.3	18	41	---	---	---	---	---	---	---	---	34.34	22.62	---	11.72	1.64	163
S-9	02/01/2011	640	99	7.8	38	72	---	---	---	---	---	---	---	---	34.34	21.88	---	12.46	1.34	0
S-9	04/25/2011	590	120	9.1	29	77	---	---	---	---	---	---	---	---	34.34	20.34	---	14.00	0.62	98
S-9	07/28/2011	1,700	280	47	88	230	---	<1.0	<10	<1.0	<1.0	<1.0	---	---	34.34	20.10	---	14.24	2.17	73
S-9	10/28/2011	1,900	370	32	110	260	---	---	---	---	---	---	---	---	34.34	20.54	---	13.80	2.18	122
S-9	05/07/2012	970	200	14	46	100	---	<2.5	<50	<2.5	<2.5	<2.5	---	---	34.34	20.49	---	13.85	0.91	78

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-9	12/11/2012	610	160	22	32	95	---	---	---	---	---	---	---	---	34.34	22.28	---	12.06	1.28/1.53	93/76
S-9	05/02/2013	1,400	230	53	65	160	---	<2.5	<50	<2.5	<2.5	<2.5	---	---	34.34	24.36	---	9.98	---	---
S-9	11/07/2013	1,200	150	15	32	84	---	---	---	---	---	---	---	---	34.34	24.92	---	9.42	---	---
S-9	04/21/2014	1,100	120	25	33	83	---	<1.3	<25	<1.3	<1.3	<1.3	---	---	34.34	24.90	---	9.44	---	---
S-9	11/21/2014	1,600	250	15	64	89	---	---	---	---	---	---	---	---	34.34	24.55	---	9.79	---	---
S-10	12/22/1994	420	27	8.0	18	45	---	---	---	---	---	---	---	---	28.04	25.84	---	2.20	---	---
S-10	04/20/1995	820	49	3.7	97	52	---	---	---	---	---	---	---	---	28.04	24.92	---	3.12	---	---
S-10	10/04/1995	240	6.5	1.1	16	12	---	---	---	---	---	---	---	---	28.04	25.47	---	2.57	---	---
S-10	01/03/1996	1,100	27	4.9	110	70	---	---	---	---	---	---	---	---	28.04	25.60	---	2.44	---	---
S-10	04/11/1996	530	19	1.6	82	52	<5.0	---	---	---	---	---	---	---	28.04	25.27	---	2.77	---	---
S-10	07/11/1996	570	16	3.2	53	53	<2.5	---	---	---	---	---	---	---	28.04	25.46	---	2.58	---	---
S-10	10/02/1996	270	8.2	0.77	24	23	3.3	---	---	---	---	---	---	---	28.04	25.81	---	2.23	---	---
S-10	01/22/1997	160	4.8	0.73	16	11	<2.5	---	---	---	---	---	---	---	28.04	24.74	---	3.30	---	---
S-10	07/21/1997	530	5.7	0.70	29	69	<2.5	---	---	---	---	---	---	---	28.04	24.50	---	3.54	---	---
S-10	01/22/1998	1,500	15	<5.0	88	130	<2.5	---	---	---	---	---	---	---	28.04	24.44	---	3.60	---	---
S-10	07/08/1998	530	4.8	1.1	47	51	<2.5	---	---	---	---	---	---	---	28.04	22.36	---	5.68	---	---
S-10	10/26/1998	---	---	---	---	---	---	---	---	---	---	---	---	---	28.04	22.81	---	5.23	---	---
S-10	01/28/1999	630	4.6	0.98	<0.50	59	<2.5	---	---	---	---	---	---	---	28.04	23.82	---	4.22	---	---
S-10	04/23/1999	---	---	---	---	---	---	---	---	---	---	---	---	---	28.04	22.96	---	5.08	---	---
S-10	07/29/1999	728	3.4	<1.00	41.8	38.0	<10.0	---	---	---	---	---	---	---	28.04	22.63	---	5.41	---	---
S-10	11/01/1999	---	---	---	---	---	---	---	---	---	---	---	---	---	28.04	23.02	---	5.02	---	---
S-10	01/07/2000	870	8.5	1.3	110	110	<2.5	---	---	---	---	---	---	---	28.04	23.33	---	4.71	---	---
S-10	04/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	28.04	22.64	---	5.40	---	---
S-10	07/19/2000	612	3.75	<0.500	41.6	43.6	<2.50	---	---	---	---	---	---	---	28.04	23.04	---	5.00	---	---
S-10	10/12/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	28.04	23.92	---	4.12	---	---
S-10	01/09/2001	647	7.62	1.01	66.2	42.4	<2.50	---	---	---	---	---	---	---	28.04	24.13	---	3.91	---	---
S-10	04/06/2001	---	---	---	---	---	---	---	---	---	---	---	---	---	28.04	25.37	---	2.67	---	---
S-10	07/25/2001	340	1.5	<0.50	42	19	---	<5.0	---	---	---	---	---	---	28.04	25.35	---	2.69	---	---
S-10	11/01/2001	---	---	---	---	---	---	---	---	---	---	---	---	---	28.04	23.22	---	4.82	---	---
S-10	01/17/2002	1,100 d	3.5 d	<0.50 d	55 d	46 d	---	<5.0 d	---	---	---	---	---	---	28.04	22.72	---	5.32	---	---
S-10	05/08/2002	---	---	---	---	---	---	---	---	---	---	---	---	---	28.04	22.35	---	5.69	---	---
S-10	07/18/2002	750	1.8	<0.50	42	26	---	<5.0	---	---	---	---	---	---	36.35	22.05	---	14.30	---	---
S-10	10/15/2002	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	22.51	---	13.84	---	---
S-10	01/02/2003	440	1.8	<0.50	14	24	---	<5.0	---	---	---	---	---	---	36.35	22.50	---	13.85	---	---
S-10	04/15/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	22.32	---	14.03	---	---
S-10	07/14/2003	210	0.86	<0.50	13	12	---	<0.50	---	---	---	---	---	---	36.35	21.99	---	14.36	---	---
S-10	10/20/2003	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	22.53	---	13.82	---	---
S-10	01/22/2004	280	0.88	<0.50	10	11	---	<0.50	---	---	---	---	---	---	36.35	22.02	---	14.33	---	---
S-10	04/19/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	21.43	---	14.92	---	---
S-10	07/13/2004	770	1.5	<0.50	70	42	---	<0.50	---	---	---	---	---	---	36.35	21.68	---	14.67	---	---
S-10	10/28/2004	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	22.37	---	13.98	---	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-10	01/17/2005	1,100	1.5	<0.50	73	51	---	<0.50	---	---	---	---	---	---	36.35	21.45	---	14.90	---	---
S-10	04/14/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	22.18	---	14.17	---	---
S-10	07/28/2005	260	<0.50	<0.50	19	9.7	---	<0.50	<5.0	<2.0	<2.0	<2.0	---	---	36.35	22.25	---	14.10	---	---
S-10	10/05/2005	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	21.70	---	14.65	---	---
S-10	02/09/2006	630	<0.500	<0.500	13.8	13.8	---	<0.500	---	---	---	---	---	---	36.35	20.37	---	15.98	---	---
S-10	05/15/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	21.31	---	15.04	---	---
S-10	08/23/2006	<50.0	<0.500	<0.500	14.5	3.4	---	<0.500	<10.0	<0.500	<0.500	<0.500	---	---	36.35	22.12	---	14.23	---	---
S-10	11/15/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	22.68	---	13.67	---	---
S-10	01/30/2007	120	<0.50	<0.50	7.0	3.3	---	<0.50	---	---	---	---	---	---	36.35	23.09	---	13.26	---	---
S-10	05/29/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	23.20	---	13.15	---	---
S-10	08/15/2007	64 f,g	0.15 h	<1.0	1.4	0.72 h	---	<1.0	<10	<2.0	<2.0	<2.0	---	---	36.35	23.48	---	12.87	---	---
S-10	11/28/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	23.82	---	12.53	---	---
S-10	02/08/2008	61 f	<0.50	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	36.35	23.31	---	13.04	---	---
S-10	05/08/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	23.55	---	12.80	---	---
S-10	08/14/2008	58	<0.50	<1.0	2.7	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	36.35	23.75	---	12.60	---	---
S-10	11/11/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	23.08	---	13.27	---	---
S-10	12/18/2008	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	36.35	24.00	---	12.35	---	---
S-10	01/05/2009	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	36.35	23.87	---	12.48	---	---
S-10	01/15/2009	<50	<0.50	<1.0	1.1	<1.0	---	---	---	---	---	---	---	---	36.35	23.66	---	12.69	---	---
S-10	02/12/2009	56	<0.50	<1.0	3.4	<1.0	---	---	---	---	---	---	---	---	36.35	23.96	---	12.39	---	---
S-10	03/12/2009	53	<0.50	<1.0	4.9	<1.0	---	---	---	---	---	---	---	---	36.35	23.44	---	12.91	---	---
S-10	04/09/2009	---	---	---	---	---	---	---	---	---	---	---	---	---	36.35	23.26	---	13.09	---	---
S-10	07/23/2009	66	<0.50	<1.0	5.7	<1.0	---	---	---	---	---	---	---	---	36.35	23.56	---	12.79	0.06	112
S-10	10/01/2009	76	<0.50	<1.0	4.6	<1.0	---	---	---	---	---	---	---	---	36.35	23.80	---	12.55	1.26	206
S-10	01/28/2010	100	<0.50	<1.0	3.6	<1.0	---	---	---	---	---	---	---	---	36.35	23.30	---	13.05	---	---
S-10	05/20/2010	52	<0.50	<1.0	1.9	<1.0	---	---	---	---	---	---	---	---	36.35	24.04	---	12.31	0.68	59
S-10	08/31/2010	<50	0.69	<1.0	1.4	<1.0	---	<1.0	<10	<2.0	<2.0	<2.0	---	---	36.35	24.24	---	12.11	0.51	-3
S-10	12/29/2010	95	<0.50	<1.0	3.4	1.4	---	---	---	---	---	---	---	---	36.35	23.89	---	12.46	0.43	87
S-10	02/01/2011	69	<0.50	<0.50	2.2	<1.0	---	---	---	---	---	---	---	---	36.35	23.25	---	13.10	2.08	117
S-10	04/25/2011	55	0.51	<0.50	2.9	<1.0	---	---	---	---	---	---	---	---	36.35	21.87	---	14.48	1.32	21
S-10	07/28/2011	<50	<0.50	<1.0	0.92	<1.0	---	<1.0	<10	<1.0	<1.0	<1.0	---	---	36.35	21.39	---	14.96	0.32	227
S-10	10/28/2011	52	<0.50	<0.50	2.7	<1.0	---	---	---	---	---	---	---	---	36.35	21.68	---	14.67	2.68	327
S-10	05/07/2012	50	0.84	<0.50	1.5	<1.0	---	<0.50	<10	<0.50	<0.50	<0.50	---	---	36.35	22.00	---	14.35	2.51	220
S-10	05/02/2013	100	<0.50	<0.50	0.77	<1.0	---	<0.50	<10	<0.50	<0.50	<0.50	---	---	36.35	25.53	---	10.82	---	---
S-10	04/21/2014	180	<0.50	<0.50	0.71	<1.0	---	<0.50	<10	<0.50	<0.50	<0.50	---	---	36.35	26.20	---	10.15	---	---
S-12	12/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	36.44	24.58	---	11.86	---	---
S-12	02/08/2008	55 f	<0.50	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	36.44	24.32	---	12.12	---	---
S-12	05/08/2008	<50 f	<0.50	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	36.44	24.51	---	11.93	---	---
S-12	08/14/2008	<50	1.0	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	36.44	24.63	---	11.81	---	---
S-12	11/11/2008	<50 i	0.95 i	<1.0 i	<1.0 i	<1.0 i	---	<1.0 i	---	---	---	---	<0.50 i	<1.0 i	36.44	24.85	---	11.59	0.2	37
S-12	11/11/2008	65 j	8.1 j	2.2 j	4.8 j	1.5 j	---	---	---	---	---	---	---	---	36.44	24.85	---	11.59	0.2	45

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-12	12/18/2008	<50	8.3	<1.0	1.8	<1.0	---	---	---	---	---	---	---	---	36.44	24.81	---	11.63	---	---
S-12	01/05/2009	95	16	<1.0	3.2	<1.0	---	---	---	---	---	---	---	---	36.44	24.75	---	11.69	---	---
S-12	01/15/2009	140	36	<1.0	12	<1.0	---	---	---	---	---	---	---	---	36.44	24.54	---	11.90	---	---
S-12	02/12/2009	<50	5.0	<1.0	1.6	<1.0	---	---	---	---	---	---	---	---	36.44	24.81	---	11.63	---	---
S-12	03/12/2009	<50	4.8	<1.0	1.5	<1.0	---	---	---	---	---	---	---	---	36.44	24.41	---	12.03	---	---
S-12	04/09/2009	59	6.0	<1.0	1.6	<1.0	---	---	---	---	---	---	---	---	36.44	24.23	---	12.21	0.50	-3
S-12	07/23/2009	130	29	<1.0	13	<1.0	---	---	---	---	---	---	---	---	36.44	24.50	---	11.94	0.07	142
S-12	10/01/2009	130	25	<1.0	15	<1.0	---	---	---	---	---	---	---	---	36.44	24.76	---	11.68	0.74	135
S-12	01/28/2010	110	14	<1.0	19	<1.0	---	---	---	---	---	---	---	---	36.44	24.28	---	12.16	---	---
S-12	05/20/2010	75	8.5	<1.0	7.0	<1.0	---	---	---	---	---	---	---	---	36.44	24.71	---	11.73	0.14	740
S-12	08/31/2010	<50	0.56	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	36.44	25.08	---	11.36	1.18	180
S-12	12/29/2010	<50	0.98	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	36.44	24.60	---	11.84	1.27	121
S-12	02/01/2011	<50	1.8	<0.50	2.8	<1.0	---	---	---	---	---	---	---	---	36.44	23.94	---	12.50	2.06	-2
S-12	04/25/2011	<50	0.82	<0.50	1.7	<1.0	---	---	---	---	---	---	---	---	36.44	22.53	---	13.91	0.28	196
S-12	07/28/2011	<50	0.96	<0.50	2.8	<1.0	---	---	---	---	---	---	---	---	36.44	22.05	---	14.39	3.01	163
S-12	10/28/2011	99	15	<0.50	14	<1.0	---	---	---	---	---	---	---	---	36.44	22.50	---	13.94	3.67	91
S-12	05/07/2012	180	25	<0.50	19	1.0	---	---	---	---	---	---	---	---	36.44	22.50	---	13.94	0.88	66
S-12	05/02/2013	190	1.2	0.64	0.71	3.8	---	---	---	---	---	---	---	---	36.44	26.48	---	9.96	---	---
S-12	04/21/2014	1,100	5.0	3.3	9.5	38	---	---	---	---	---	---	---	---	36.44	27.08	---	9.36	---	---
S-13	12/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	35.16	23.33	---	11.83	---	---
S-13	02/08/2008	14,000 f	1,900	1,300	280	3,000	---	<10	---	---	---	---	<5.0	<10	35.16	23.01	---	12.15	---	---
S-13	05/08/2008	18,000 f	2,800	3,400	550	3,500	---	<10	---	---	---	---	<5.0	<10	35.16	23.31	---	11.85	---	---
S-13	08/14/2008	16,000	2,400	3,100	580	3,100	---	<20	---	---	---	---	<10	<20	35.16	23.31	---	11.85	---	---
S-13	11/11/2008	16,000 i	2,400 i	2,800 i	270 i	2,500 i	---	<50 i	---	---	---	---	<25 i	<50 i	35.16	23.60	---	11.56	0.8	-48
S-13	11/11/2008	4,400 j	560 j	630 j	88 j	530 j	---	---	---	---	---	---	---	---	35.16	23.60	---	11.56	1.2	-60
S-13	12/18/2008	3,900	530	560	76	510	---	---	---	---	---	---	---	---	35.05	23.61	---	11.44	---	---
S-13	01/05/2009	8,200	700	670	67	1,000	---	---	---	---	---	---	---	---	35.05	23.54	---	11.51	---	---
S-13	01/15/2009	5,400	610	610	48	950	---	---	---	---	---	---	---	---	35.05	23.10	---	11.95	---	---
S-13	02/12/2009	6,300	800	1,000	110	870	---	---	---	---	---	---	---	---	35.05	22.36	---	12.69	---	---
S-13	03/12/2009	14,000	1,700	2,300	190	2,400	---	---	---	---	---	---	---	---	35.05	23.20	---	11.85	---	---
S-13	04/09/2009	35,000	510	7,800	1,000	4,300	---	---	---	---	---	---	---	---	35.05	23.02	---	12.03	25.9	433
S-13	05/18/2009	35,000	820	7,000	1,100	6,600	---	---	---	---	---	---	---	---	35.05	23.07	---	11.98	5.21	83
S-13	07/23/2009	18,000	1,800	3,000	480	2,500	---	---	---	---	---	---	---	---	35.05	23.51	---	11.54	1.23	148
S-13	10/01/2009	2,000	330	87	33	5.2	---	---	---	---	---	---	---	---	35.05	23.61	---	11.44	1.23	413
S-13	11/09/2009	15,000	1,100	1,500	300	1,800	---	---	---	---	---	---	---	---	35.05	23.41	---	11.64	0.71	---
S-13	12/01/2009	1,600	210	190	34	36	---	---	---	---	---	---	---	---	35.05	23.15	---	11.90	16.3	231
S-13	01/28/2010	5,900	370	930	100	680	---	---	---	---	---	---	---	---	35.05	22.94	---	12.11	2.18	---
S-13	05/20/2010	400	35	120	9.5	52	---	---	---	---	---	---	---	---	35.05	23.36	---	11.69	0.31	211
S-13	06/22/2010	16,000	570	3,000	260	2,000	---	---	---	---	---	---	---	---	35.05	23.20	---	11.85	1.10	412
S-13	08/31/2010	3,000	140	490	83	540	---	---	---	---	---	---	---	---	35.05	24.00	---	11.05	0.90	400
S-13	12/29/2010	8,700	600	1,700	260	1,700	---	---	---	---	---	---	---	---	35.05	23.48	---	11.57	0.69	231

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-13	02/01/2011	2,100	170	390	75	410	---	---	---	---	---	---	---	---	35.05	22.71	---	12.34	1.10	248
S-13	04/25/2011	6,000	600	1,800	270	1,300	---	---	---	---	---	---	---	---	35.05	21.15	---	13.90	0.19	69
S-13	07/28/2011	3,700	320	430	160	790	---	---	---	---	---	---	---	---	35.05	20.64	---	14.41	2.65	44
S-13	10/28/2011	8,100	600	830	380	1,700	---	---	---	---	---	---	---	---	35.05	21.47	---	13.58	3.67	1
S-13	05/07/2012	5,100	540	670	320	1,100	---	---	---	---	---	---	---	---	35.05	21.35	---	13.70	0.60	-176
S-13	12/11/2012	5,900	420	580	260	950	---	---	---	---	---	---	---	---	35.05	22.91	---	12.14	1.07/0.80	-70/-63
S-13	05/02/2013	1,300	130	95	49	85	---	---	---	---	---	---	---	---	35.05	25.24	---	9.81	---	---
S-13	11/07/2013	---	---	---	---	---	---	---	---	---	---	---	---	---	35.05	k	k	k	---	---
S-13	03/14/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	35.05	26.22	0.25	9.03	---	---
S-13	04/21/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	35.05	26.09	0.39	9.27	---	---
S-13	07/31/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	35.05	25.25	---	9.80	---	---
S-13	09/22/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	35.05	25.31	---	9.74	---	---
S-13	10/03/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	35.05	25.35	---	9.70	---	---
S-13	10/10/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	35.05	25.33	---	9.72	---	---
S-13	10/17/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	35.05	25.31	---	9.74	---	---
S-13	10/24/2014	Well inaccessible			---	---	---	---	---	---	---	---	---	---	35.05	---	---	---	---	---
S-13	11/21/2014	7,000	330	270	120	590	---	---	---	---	---	---	---	---	35.05	25.35	---	9.70	---	---
S-13	11/21/2014	7,000	330	270	120	590	---	---	---	---	---	---	---	---	35.05	18.33	---	16.72	---	---
<b>S-13</b>	<b>01/22/2015</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	<b>35.05</b>	<b>25.01</b>	---	<b>10.04</b>	---	---
S-14	12/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	34.94	22.68	---	12.26	---	---
S-14	02/08/2008	5,300 f	380	300	34	970	---	<10	---	---	---	---	<5.0	<10	34.94	22.82	---	12.12	---	---
S-14	05/08/2008	4,300 f	750	270	30	520	---	<10	---	---	---	---	<5.0	<10	34.94	22.41	---	12.53	---	---
S-14	Well destroyed	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-14R	11/07/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.19	22.91	---	12.28	---	---
S-14R	11/11/2008	8,500 i	680 i	270 i	<25 i	1,110 i	---	---	---	---	---	---	---	---	35.19	23.13	---	12.06	0.60	115
S-14R	11/11/2008	4,300 j	270 j	190 j	43 j	470 j	---	---	---	---	---	---	---	---	35.19	23.13	---	12.06	1.5	116
S-14R	12/18/2008	7,800	530	640	79	1,010	---	---	---	---	---	---	---	---	34.95	22.80	---	12.15	---	---
S-14R	01/05/2009	2,100	89	86	19	140	---	---	---	---	---	---	---	---	34.95	22.80	---	12.15	---	---
S-14R	01/15/2009	4,800	430	540	83	730	---	---	---	---	---	---	---	---	34.95	22.57	---	12.38	---	---
S-14R	02/12/2009	1,000	40	29	7.3	55	---	---	---	---	---	---	---	---	34.95	22.89	---	12.06	---	---
S-14R	03/12/2009	350	22	18	3.3	29	---	---	---	---	---	---	---	---	34.95	22.39	---	12.56	---	---
S-14R	04/09/2009	2,300	230	240	47	250	---	---	---	---	---	---	---	---	34.95	22.35	---	12.60	0.30	430
S-14R	05/18/2009	750	51	48	17	67	---	---	---	---	---	---	---	---	34.95	22.20	---	12.75	5.63	93
S-14R	07/23/2009	600	81	57	19	47	---	---	---	---	---	---	---	---	34.95	22.56	---	12.39	0.05	246
S-14R	10/01/2009	230	12	10	5.3	23	---	---	---	---	---	---	---	---	34.95	22.90	---	12.05	2.22	201
S-14R	11/09/2009	330	47	21	11	39	---	---	---	---	---	---	---	---	34.95	22.68	---	12.27	0.75	---
S-14R	12/01/2009	420	38	27	12	39	---	---	---	---	---	---	---	---	34.95	22.62	---	12.33	0.45	110
S-14R	01/28/2010	270	45	27	11	32	---	---	---	---	---	---	---	---	34.95	22.38	---	12.57	3.75	---
S-14R	05/20/2010	330	17	10	2.7	13	---	---	---	---	---	---	---	---	34.95	22.72	---	12.23	0.96	102
S-14R	08/31/2010	130	5.8	3.5	1.4	6.1	---	---	---	---	---	---	---	---	34.95	23.12	---	11.83	1.55	-13



Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-14R	12/29/2010	480	56	30	13	52	---	---	---	---	---	---	---	---	34.95	22.75	---	12.20	0.48	375
S-14R	02/01/2011	570	56	32	20	59	---	---	---	---	---	---	---	---	34.95	22.10	---	12.85	0.58	143
S-14R	04/25/2011	860	100	59	41	97	---	---	---	---	---	---	---	---	34.95	20.80	---	14.15	0.81	-37
S-14R	07/28/2011	970	100	80	51	110	---	---	---	---	---	---	---	---	34.95	20.36	---	14.59	0.56	151
S-14R	10/28/2011	420	47	38	25	67	---	---	---	---	---	---	---	---	34.95	20.68	---	14.27	3.97	321
S-14R	05/07/2012	630	68	62	40	120	---	---	---	---	---	---	---	---	34.95	20.77	---	14.18	2.47	238
S-14R	05/02/2013	3,200	200	130	95	200	---	---	---	---	---	---	---	---	34.95	24.49	---	10.46	---	---
S-14R	04/21/2014	3,700	190	160	99	290	---	---	---	---	---	---	---	---	34.95	24.99	---	9.96	---	---
S-15	12/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	35.34	23.00	---	12.34	---	---
S-15	02/08/2008	55,000 f	6,700	13,000	1,100	9,800	---	<10	---	---	---	---	<5.0	<10	35.34	22.71	---	12.63	---	---
S-15	05/08/2008	53,000 f	6,300	13,000	1,500	7,500	---	<200	---	---	---	---	<100	<200	35.34	22.91	---	12.43	---	---
S-15	Well destroyed	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-16	12/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	36.08	23.88	---	12.20	---	---
S-16	02/08/2008	6,000 f	670	730	88	1,290	---	<5.0	---	---	---	---	<2.5	<5.0	36.08	23.52	---	12.56	---	---
S-16	05/08/2008	3,200 f	670	320	18	580	---	<10	---	---	---	---	<5.0	<10	36.08	23.69	---	12.39	---	---
S-16	Well destroyed	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-17	06/19/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.49	23.30	---	12.19	---	---
S-17	06/25/2008	21,000	1,300	1,300	160	2,850	---	<5.0	---	---	---	---	<2.5	<5.0	35.49	23.33	---	12.16	---	---
S-17	08/14/2008	14,000	1,700	1,700	310	2,250	---	<10	---	---	---	---	<5.0	<10	35.49	23.50	---	11.99	---	---
S-17	11/11/2008	7,200 i	1,600 i	820 i	140 i	760 i	---	<5.0 i	---	---	---	---	<2.5 i	<5.0 i	35.49	23.70	---	11.79	---	---
S-17	11/11/2008	32,000 j	2,500 j	3,100 j	820 j	4,000 j	---	<25 j	---	---	---	---	<12 j	<25 j	35.49	23.70	---	11.79	---	---
S-17	01/05/2009	15,000	790	700	150	1,200	---	<10	---	---	---	---	<5.0	<10	35.50	23.66	---	11.84	---	---
S-17	01/15/2009	2,300	220	170	19	300	---	---	---	---	---	---	---	---	35.50	23.37	---	12.13	---	---
S-17	02/12/2009	4,700	750	200	37	23	---	---	---	---	---	---	---	---	35.50	23.66	---	11.84	---	---
S-17	03/12/2009	3,300	640	370	81	290	---	---	---	---	---	---	---	---	35.50	23.24	---	12.26	---	---
S-17	04/09/2009	1,300	200	110	37	100	---	---	---	---	---	---	---	---	35.50	23.20	---	12.30	0.69	429
S-17	05/18/2009	630	97	44	17	25	---	---	---	---	---	---	---	---	35.50	23.21	---	12.29	5.93	442
S-17	07/23/2009	3,900	480	410	160	480	---	---	---	---	---	---	---	---	35.50	23.70	---	11.80	0.15	34
S-17	10/01/2009	1,300	32	24	3.1	72	---	---	---	---	---	---	---	---	35.50	23.64	---	11.86	1.30	204
S-17	11/09/2009	5,300	260	330	56	500	---	---	---	---	---	---	---	---	35.50	23.52	---	11.98	0.18	---
S-17	12/01/2009	3,300	190	210	52	240	---	---	---	---	---	---	---	---	35.50	23.41	---	12.09	0.95	450
S-17	01/28/2010	3,500	260	250	85	310	---	---	---	---	---	---	---	---	35.50	23.21	---	12.29	1.93	---
S-17	05/20/2010	370	18	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.50	23.65	---	11.85	1.31	544
S-17	08/31/2010	1,900	120	110	52	260	---	---	---	---	---	---	---	---	35.50	23.92	---	11.58	1.32	370
S-17	12/29/2010	2,600	200	150	91	280	---	---	---	---	---	---	---	---	35.50	23.60	---	11.90	1.37	131
S-17	02/01/2011	950	100	72	47	130	---	---	---	---	---	---	---	---	35.50	22.91	---	12.59	1.40	136
S-17	04/25/2011	2,000	150	71	77	210	---	---	---	---	---	---	---	---	35.50	21.44	---	14.06	0.23	82
S-17	07/28/2011	3,400	270	98	170	370	---	---	---	---	---	---	---	---	35.50	21.06	---	14.44	1.45	70
S-17	10/28/2011	270	58	5.3	23	28	---	---	---	---	---	---	---	---	35.50	21.51	---	13.99	1.19	221

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-17	05/07/2012	980	110	3.6	66	100	---	---	---	---	---	---	---	---	35.50	21.50	---	14.00	0.62	84
S-17	05/02/2013	570	62	20	19	49	---	---	---	---	---	---	---	---	35.50	25.49	---	10.01	---	---
S-17	04/21/2014	2,500	140	120	98	310	---	---	---	---	---	---	---	---	35.50	25.91	---	9.59	---	---
S-18	06/19/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.04	22.94	---	12.10	---	---
S-18	06/25/2008	58,000	2,200	5,600	880	10,200	---	<10	---	---	---	---	<5.0	<10	35.04	22.92	---	12.12	---	---
S-18	08/14/2008	25,000	2,500	4,500	860	5,800	---	<50	---	---	---	---	<25	<50	35.04	23.08	---	11.96	---	---
S-18	11/11/2008	24,000 i	2,400 i	3,300 i	820 i	3,800 i	---	<25 i	---	---	---	---	<12 i	<25 i	35.04	23.30	---	11.74	---	---
S-18	11/11/2008	43,000 j	3,900 j	5,500 j	1,300 j	6,500 j	---	<50 j	---	---	---	---	<25 j	<50 j	35.04	23.30	---	11.74	---	---
S-18	01/05/2009	20,000	830	1,000	290	1,400	---	<50	---	---	---	---	<25	<50	35.03	23.16	---	11.87	---	---
S-18	01/15/2009	8,200	690	790	150	1,230	---	---	---	---	---	---	---	---	35.03	22.97	---	12.06	---	---
S-18	02/12/2009	13,000	1,200	1,400	330	940	---	---	---	---	---	---	---	---	35.03	23.29	---	11.74	---	---
S-18	03/12/2009	52,000	5,300	9,000	1,600	10,000	---	---	---	---	---	---	---	---	35.03	22.85	---	12.18	---	---
S-18	04/09/2009	Insufficient water		---	---	---	---	---	---	---	---	---	---	---	35.03	22.79	---	12.24	---	---
S-18	05/18/2009	6,700	320	1,100	200	1,000	---	---	---	---	---	---	---	---	35.03	22.81	---	12.22	6.51	377
S-18	07/23/2009	8,900	500	890	290	1,600	---	---	---	---	---	---	---	---	35.03	22.91	---	12.12	0.20	---
S-18	10/01/2009	1,800	49	5.5	5.3	<5.0	---	---	---	---	---	---	---	---	35.03	23.65	---	11.38	6.25	557
S-18	11/09/2009	1,100	79	8.9	5.3	1.1	---	---	---	---	---	---	---	---	35.03	23.19	---	11.84	0.26	---
S-18	12/01/2009	570	50	7.5	2.7	1.2	---	---	---	---	---	---	---	---	35.03	23.12	---	11.91	4.07	460
S-18	01/28/2010	1,200	170	91	18	68	---	---	---	---	---	---	---	---	35.03	22.86	---	12.17	1.90	---
S-18	05/20/2010	3,900	500	690	79	240	---	---	---	---	---	---	---	---	35.03	23.12	---	11.91	1.77	169
S-18	06/22/2010	13,000	1,700	2,800	200	1,000	---	---	---	---	---	---	---	---	35.03	23.10	---	11.93	0.58	499
S-18	08/31/2010	6,600	970	1,100	230	1,000	---	---	---	---	---	---	---	---	35.03	23.55	---	11.48	1.23	258
S-18	12/29/2010	8,500	1,000	750	410	1,800	---	---	---	---	---	---	---	---	35.03	23.23	---	11.80	0.79	70
S-18	02/01/2011	2,100	210	190	87	180	---	---	---	---	---	---	---	---	35.03	22.52	---	12.51	1.13	220
S-18	04/25/2011	13,000	2,100	2,000	470	2,300	---	---	---	---	---	---	---	---	35.03	21.00	---	14.03	0.52	85
S-18	07/28/2011	8,200	1,200	1,000	290	1,200	---	---	---	---	---	---	---	---	35.03	20.56	---	14.47	1.57	27
S-18	10/28/2011	9,000	1,200	480	430	1,900	---	---	---	---	---	---	---	---	35.03	21.11	---	13.92	1.45	147
S-18	05/07/2012	4,700	710	310	310	870	---	---	---	---	---	---	---	---	35.03	21.20	---	13.83	0.55	-68
S-18	05/02/2013	5,000	720	280	220	480	---	---	---	---	---	---	---	---	35.03	24.95	---	10.08	---	---
S-18	04/21/2014	1,400	240	190	70	230	---	---	---	---	---	---	---	---	35.03	25.61	---	9.42	---	---
S-19	11/07/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	34.78	22.73	---	12.05	---	---
S-19	11/11/2008	7,100 i	500 i	600 i	25 i	1,010 i	---	---	---	---	---	---	---	---	34.78	22.87	---	11.91	1.0	62
S-19	11/11/2008	2,300 j	110 j	160 j	43 j	280 j	---	---	---	---	---	---	---	---	34.78	22.87	---	11.91	1.3	71
S-19	12/18/2008	2,900	190	300	41	420	---	---	---	---	---	---	---	---	34.57	22.60	---	11.97	---	---
S-19	01/05/2009	3,400	230	250	50	380	---	---	---	---	---	---	---	---	34.57	22.56	---	12.01	---	---
S-19	01/15/2009	3,100	340	540	70	440	---	---	---	---	---	---	---	---	34.57	22.31	---	12.26	---	---
S-19	02/12/2009	1,300	130	180	37	190	---	---	---	---	---	---	---	---	34.57	22.58	---	11.99	---	---
S-19	03/12/2009	880	110	150	30	160	---	---	---	---	---	---	---	---	34.57	22.44	---	12.13	---	---
S-19	04/09/2009	1,300	140	190	32	190	---	---	---	---	---	---	---	---	34.57	22.02	---	12.55	0.57	106
S-19	05/18/2009	780	69	87	17	100	---	---	---	---	---	---	---	---	34.57	22.04	---	12.53	6.47	75

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-19	07/23/2009	400	77	59	15	38	---	---	---	---	---	---	---	---	34.57	22.40	---	12.17	0.06	31
S-19	10/01/2009	1,500	160	170	33	120	---	---	---	---	---	---	---	---	34.57	22.66	---	11.91	0.52	301
S-19	11/09/2009	1,600	140	160	41	160	---	---	---	---	---	---	---	---	34.57	22.44	---	12.13	0.26	---
S-19	12/01/2009	1,600	150	180	45	170	---	---	---	---	---	---	---	---	34.57	22.62	---	11.95	0.79	161
S-19	01/28/2010	2,600	230	280	71	300	---	---	---	---	---	---	---	---	34.57	22.29	---	12.28	1.71	---
S-19	05/20/2010	850	110	55	11	4.6	---	---	---	---	---	---	---	---	34.57	22.49	---	12.08	1.77	118
S-19	08/31/2010	580	79	92	22	50	---	---	---	---	---	---	---	---	34.57	22.86	---	11.71	1.02	297
S-19	12/29/2010	920	120	120	54	150	---	---	---	---	---	---	---	---	34.57	22.48	---	12.09	1.12	150
S-19	02/01/2011	1,800	210	270	100	320	---	---	---	---	---	---	---	---	34.57	21.78	---	12.79	1.08	21
S-19	04/25/2011	2,100	290	360	140	470	---	---	---	---	---	---	---	---	34.57	20.42	---	14.15	0.25	115
S-19	07/28/2011	2,400	240	380	140	450	---	---	---	---	---	---	---	---	34.57	20.16	---	14.41	1.17	80
S-19	10/28/2011	3,600	210	420	190	750	---	---	---	---	---	---	---	---	34.57	20.41	---	14.16	1.73	160
S-19	05/07/2012	3,400	220	480	210	880	---	---	---	---	---	---	---	---	34.57	20.51	---	14.06	2.54	244
S-19	12/11/2012	1,700	110	240	100	440	---	---	---	---	---	---	---	---	34.57	22.05	---	12.52	0.89/2.21	81/52
S-19	05/02/2013	1,500	88	89	55	160	---	---	---	---	---	---	---	---	34.57	24.15	---	10.42	---	---
S-19	11/07/2013	170,000	1,200	7,300	3,800	22,000	---	---	---	---	---	---	---	---	34.57	k	k	k	---	---
S-19	04/21/2014	32,000	580	1,400	940	4,300	---	---	---	---	---	---	---	---	34.57	24.95	---	9.62	---	---
S-19	07/31/2014	---	---	---	---	---	---	---	---	---	---	---	---	---	34.57	24.22	0.20	10.51	---	---
S-19	11/21/2014	25,000	420	880	550	2,500	---	---	---	---	---	---	---	---	34.57	24.40	---	10.17	---	---
S-20	11/07/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	34.50	22.80	---	11.70	---	---
S-20	11/11/2008	13,000 i	1,300 i	1,600 i	80 i	1,920 i	---	---	---	---	---	---	---	---	34.50	22.90	---	11.60	0.8	-39
S-20	11/11/2008	16,000 j	1,100 j	1,800 j	220 j	1,930 j	---	---	---	---	---	---	---	---	34.50	22.90	---	11.60	2.6	-64
S-20	01/05/2009	17,000	1,500	1,700	320	1,900	---	---	---	---	---	---	---	---	34.50	22.78	---	11.72	---	---
S-20	02/12/2009	11,000	1,300	1,400	230	1,600	---	---	---	---	---	---	---	---	34.50	22.80	---	11.70	2.6	-64
S-20	03/12/2009	19,000	2,700	3,200	390	3,100	---	---	---	---	---	---	---	---	34.50	22.40	---	12.10	---	---
S-20	04/09/2009	8,200	80	480	220	490	---	---	---	---	---	---	---	---	34.50	22.90	---	11.60	13.80	578
S-20	05/18/2009	21,000	970	1,500	630	4,800	---	---	---	---	---	---	---	---	34.50	22.42	---	12.08	4.58	197
S-20	07/23/2009	41,000	4,900	2,900	990	7,300	---	---	---	---	---	---	---	---	34.50	22.73	---	11.77	0.27	419
S-20	10/01/2009	1,800	140	39	33	39	---	---	---	---	---	---	---	---	34.50	23.00	---	11.50	0.85	533
S-20	11/09/2009	21,000	1,600	740	300	2,500	---	---	---	---	---	---	---	---	34.50	22.72	---	11.78	1.67	---
S-20	12/01/2009	12,000	1,100	450	160	1,200	---	---	---	---	---	---	---	---	34.50	22.61	---	11.89	1.38	347
S-20	01/28/2010	20,000	2,000	1,600	260	2,000	---	---	---	---	---	---	---	---	34.50	22.51	---	11.99	4.40	---
S-20	05/20/2010	4,300	1,100	110	26	61	---	---	---	---	---	---	---	---	34.50	22.90	---	11.60	8.96	555
S-20	06/22/2010	7,100	1,300	550	120	550	---	---	---	---	---	---	---	---	34.50	23.19	---	11.31	11.64	637
S-20	08/31/2010	9,600	1,800	1,400	230	580	---	---	---	---	---	---	---	---	34.50	23.13	---	11.37	0.94	529
S-20	12/29/2010	19,000	2,000	3,100	860	3,200	---	---	---	---	---	---	---	---	34.50	22.72	---	11.78	0.92	193
S-20	02/01/2011	26,000	3,900	7,100	1,300	5,800	---	---	---	---	---	---	---	---	34.50	22.04	---	12.46	1.03	390
S-20	04/25/2011	41,000	6,600	11,000	2,000	9,800	---	---	---	---	---	---	---	---	34.50	20.60	---	13.90	0.43	156
S-20	07/28/2011	34,000	4,200	5,300	1,400	6,300	---	---	---	---	---	---	---	---	34.50	20.30	---	14.20	1.25	-15
S-20	10/28/2011	17,000	1,500	1,900	1,000	3,400	---	---	---	---	---	---	---	---	34.50	20.78	---	13.72	1.28	431
S-20	05/07/2012	9,900	760	1,200	790	2,000	---	---	---	---	---	---	---	---	34.50	20.54	---	13.96	1.92	-106

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-20	12/11/2012	9,700	630	1,000	720	1,500	---	---	---	---	---	---	---	---	34.50	22.29	---	12.21	0.82/1.67	-11/-43
S-20	05/02/2013	4,500	380	220	240	300	---	---	---	---	---	---	---	---	34.50	24.50	---	10.00	---	---
S-20	11/07/2013	4,000	420	290	60	330	---	---	---	---	---	---	---	---	34.50	25.24	---	9.26	---	---
S-20	04/21/2014	3,800	480	350	50	350	---	---	---	---	---	---	---	---	34.50	25.15	---	9.35	---	---
S-20	11/21/2014	4,800	560	340	98	430	---	---	---	---	---	---	---	---	34.50	24.54	---	9.96	---	---
S-21A	11/07/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.81	23.73	---	12.08	---	---
S-21A	11/11/2008	96,000 i	6,100 i	11,000 i	1,700 i	10,500 i	---	---	---	---	---	---	---	---	35.81	23.86	---	11.95	1.6	-42
S-21A	11/11/2008	87,000 j	6,300 j	13,000 j	1,700 j	10,300 j	---	---	---	---	---	---	---	---	35.81	23.86	---	11.95	1.8	-51
S-21A	12/18/2008	17,000	3,700	1,200	170	47	---	---	---	---	---	---	---	---	35.80	23.91	---	11.89	---	---
S-21A	01/05/2009	28,000	3,100	2,900	450	1,100	---	---	---	---	---	---	---	---	35.80	23.78	---	12.02	---	---
S-21A	01/15/2009	9,700	2,100	290	45	<25	---	---	---	---	---	---	---	---	35.80	23.53	---	12.27	---	---
S-21A	02/12/2009	19,000	3,100	2,500	330	500	---	---	---	---	---	---	---	---	35.80	23.83	---	11.97	---	---
S-21A	03/12/2009	31,000	2,600	3,800	810	3,700	---	---	---	---	---	---	---	---	35.80	23.35	---	12.45	---	---
S-21A	04/09/2009	7,800	700	750	130	<25	---	---	---	---	---	---	---	---	35.80	24.00	---	11.80	0.91	304
S-21A	05/18/2009	15,000	1,800	2,200	390	1,900	---	---	---	---	---	---	---	---	35.80	23.46	---	12.34	2.37	529
S-21A	07/23/2009	51,000	4,800	7,100	1,100	7,000	---	---	---	---	---	---	---	---	35.80	23.85	---	11.95	0.14	-3
S-21A	10/01/2009	18,000	2,300	2,200	310	2,400	---	---	---	---	---	---	---	---	35.80	24.06	---	11.74	7.92	575
S-21A	11/09/2009	41,000	3,500	5,800	600	4,800	---	---	---	---	---	---	---	---	35.80	23.73	---	12.07	0.34	---
S-21A	12/01/2009	43,000	3,100	6,700	640	4,900	---	---	---	---	---	---	---	---	35.80	23.60	---	12.20	2.55	350
S-21A	01/28/2010	65,000	3,900	9,900	970	6,600	---	---	---	---	---	---	---	---	35.80	23.54	---	12.26	1.43	---
S-21A	05/20/2010	6,000	670	760	110	150	---	---	---	---	---	---	---	---	35.80	23.92	---	11.88	1.37	541
S-21A	06/22/2010	16,000	690	2,000	370	2,300	---	---	---	---	---	---	---	---	35.80	23.87	---	11.93	2.33	439
S-21A	08/31/2010	5,000	230	420	190	990	---	---	---	---	---	---	---	---	35.80	24.13	---	11.67	0.73	392
S-21A	12/29/2010	5,100	500	430	230	810	---	---	---	---	---	---	---	---	35.80	23.84	---	11.96	0.95	464
S-21A	02/01/2011	9,200	840	750	370	1,300	---	---	---	---	---	---	---	---	35.80	23.18	---	12.62	0.84	110
S-21A	04/25/2011	22,000	3,800	4,000	960	4,800	---	---	---	---	---	---	---	---	35.80	21.71	---	14.09	0.36	336
S-21A	07/28/2011	27,000	3,400	3,600	1,000	4,300	---	---	---	---	---	---	---	---	35.80	21.48	---	14.32	1.02	223
S-21A	10/28/2011	20,000	2,400	3,000	840	3,600	---	---	---	---	---	---	---	---	35.80	21.65	---	14.15	2.06	213
S-21A	05/07/2012	12,000	2,200	1,900	510	2,100	---	---	---	---	---	---	---	---	35.80	21.90	---	13.90	1.01	107
S-21A	12/11/2012	13,000	3,300	2,200	610	1,300	---	---	---	---	---	---	---	---	35.80	22.60	---	13.20	1.35/1.49	82/80
S-21A	05/02/2013	6,800	1,000	470	270	480	---	---	---	---	---	---	---	---	35.80	25.48	---	10.32	---	---
S-21A	11/07/2013	32,000	4,100	3,000	940	2,900	---	---	---	---	---	---	---	---	35.80	26.28	---	9.52	---	---
S-21A	04/21/2014	Insufficient water		---	---	---	---	---	---	---	---	---	---	---	35.80	26.29	---	9.51	---	---
S-21A	11/21/2014	37,000	6,000	3,900	1,100	3,500	---	---	---	---	---	---	---	---	35.80	25.81	---	9.99	---	---
S-21B	11/07/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.79	23.68	---	12.11	---	---
S-21B	11/11/2008	3,200 i	49 i	300 i	93 i	510 i	---	---	---	---	---	---	---	---	35.79	23.80	---	11.99	0.4	-108
S-21B	11/11/2008	7,500 j	67 j	470 j	150 j	960 j	---	---	---	---	---	---	---	---	35.79	23.80	---	11.99	5.6	-135
S-21B	12/18/2008	5,300	36	310	120	770	---	---	---	---	---	---	---	---	35.76	23.72	---	12.04	---	---
S-21B	01/05/2009	5,400	35	200	93	600	---	---	---	---	---	---	---	---	35.76	23.70	---	12.06	---	---
S-21B	01/15/2009	3,300	30	150	78	470	---	---	---	---	---	---	---	---	35.76	23.43	---	12.33	---	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-21B	02/12/2009	2,800	12	100	69	450	---	---	---	---	---	---	---	---	35.76	23.81	---	11.95	---	---
S-21B	03/12/2009	2,300	9.4	72	50	320	---	---	---	---	---	---	---	---	35.76	23.32	---	12.44	---	---
S-21B	04/09/2009	890	14	55	19	140	---	---	---	---	---	---	---	---	35.76	23.20	---	12.56	0.56	453
S-21B	05/18/2009	390	6.8	14	12	27	---	---	---	---	---	---	---	---	35.76	23.24	---	12.52	1.62	458
S-21B	06/17/2009	---	---	---	---	---	---	---	---	---	---	---	---	---	35.76	23.40	---	12.36	---	---
S-21B	07/23/2009	920	5.0	17	28	120	---	---	---	---	---	---	---	---	35.76	23.52	---	12.24	0.26	37
S-21B	10/01/2009	820	2.6	10	17	89	---	---	---	---	---	---	---	---	35.76	23.95	---	11.81	0.96	353
S-21B	01/28/2010	810	11	6.2	10	51	---	---	---	---	---	---	---	---	35.76	23.30	---	12.46	---	---
S-21B	05/20/2010	120	1.4	2.6	2.0	2.7	---	---	---	---	---	---	---	---	35.76	23.46	---	12.30	1.63	206
S-21B	08/31/2010	500	0.81	3.4	6.9	32	---	---	---	---	---	---	---	---	35.76	24.04	---	11.72	0.72	45
S-21B	12/29/2010	310	<0.50	1.9	4.5	21	---	---	---	---	---	---	---	---	35.76	23.59	---	12.17	0.40	191
S-21B	02/01/2011	270	<0.50	2.0	4.0	16	---	---	---	---	---	---	---	---	35.76	23.08	---	12.68	0.51	10
S-21B	04/25/2011	250	<0.50	1.9	4.6	16	---	---	---	---	---	---	---	---	35.76	21.86	---	13.90	1.43	72
S-21B	07/28/2011	270	<0.50	0.84	3.0	11	---	---	---	---	---	---	---	---	35.76	21.32	---	14.44	2.86	127
S-21B	10/28/2011	220	<0.50	0.53	2.3	9.2	---	---	---	---	---	---	---	---	35.76	21.52	---	14.24	0.96	153
S-21B	05/07/2012	170	<0.50	0.62	1.5	7.6	---	---	---	---	---	---	---	---	35.76	22.04	---	13.72	0.75	100
S-21B	05/02/2013	<50	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.76	25.59	---	10.17	---	---
S-21B	04/21/2014	52	1.7	2.4	0.80	4.7	---	---	---	---	---	---	---	---	35.76	26.14	---	9.62	---	---
S-22A	11/07/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.08	22.91	---	12.17	---	---
S-22A	11/11/2008	84,000 i	8,500 i	11,000 i	2,200 i	13,900 i	---	---	---	---	---	---	---	---	35.08	23.15	---	11.93	1.0	117
S-22A	11/11/2008	85,000 j	7,600 j	10,000 j	2,500 j	12,400 j	---	---	---	---	---	---	---	---	35.08	23.15	---	11.93	1.6	100
S-22A	12/18/2008	42,000	6,300	6,600	1,200	4,400	---	---	---	---	---	---	---	---	35.06	23.03	---	12.03	---	---
S-22A	01/05/2009	56,000	4,500	5,300	1,200	6,400	---	---	---	---	---	---	---	---	35.06	23.03	---	12.03	---	---
S-22A	01/15/2009	25,000	5,900	4,400	740	1,570	---	---	---	---	---	---	---	---	35.06	22.84	---	12.22	---	---
S-22A	02/12/2009	43,000	6,700	6,600	1,200	5,000	---	---	---	---	---	---	---	---	35.06	23.15	---	11.91	---	---
S-22A	03/12/2009	35,000	4,600	4,600	980	4,600	---	---	---	---	---	---	---	---	35.06	22.65	---	12.41	---	---
S-22A	04/09/2009	22,000	120	1,900	680	3,400	---	---	---	---	---	---	---	---	35.06	22.88	---	12.18	8.41	556
S-22A	05/18/2009	25,000	4,700	1,300	590	3,700	---	---	---	---	---	---	---	---	35.06	22.83	---	12.23	2.46	539
S-22A	07/23/2009	40,000	5,100	4,800	700	4,900	---	---	---	---	---	---	---	---	35.06	23.01	---	12.05	0.18	167
S-22A	10/01/2009	12,000	1,400	600	88	500	---	---	---	---	---	---	---	---	35.06	23.06	---	12.00	4.08	523
S-22A	11/09/2009	18,000	2,700	2,000	190	1,300	---	---	---	---	---	---	---	---	35.06	23.14	---	11.92	1.74	---
S-22A	12/01/2009	24,000	2,300	2,300	270	2,000	---	---	---	---	---	---	---	---	35.06	23.10	---	11.96	1.06	393
S-22A	01/28/2010	44,000	3,600	5,000	620	4,300	---	---	---	---	---	---	---	---	35.06	22.92	---	12.14	1.40	---
S-22A	05/20/2010	3,100	38	<10	<10	<10	---	---	---	---	---	---	---	---	35.06	23.22	---	11.84	0.48	423
S-22A	06/22/2010	2,400	110	15	4.3	6.6	---	---	---	---	---	---	---	---	35.06	23.51	---	11.55	6.10	542
S-22A	08/31/2010	5,000	690	600	78	350	---	---	---	---	---	---	---	---	35.06	23.52	---	11.54	1.03	553
S-22A	12/29/2010	13,000	1,300	1,800	490	2,100	---	---	---	---	---	---	---	---	35.06	23.17	---	11.89	0.70	476
S-22A	02/01/2011	13,000	1,800	3,100	640	2,800	---	---	---	---	---	---	---	---	35.06	22.45	---	12.61	0.89	453
S-22A	04/25/2011	23,000	2,600	5,500	1,200	6,200	---	---	---	---	---	---	---	---	35.06	21.37	---	13.69	0.40	506
S-22A	07/28/2011	Well inaccessible		---	---	---	---	---	---	---	---	---	---	---	35.06	---	---	---	---	---
S-22A	10/28/2011	31,000	1,800	4,700	1,600	8,100	---	---	---	---	---	---	---	---	35.06	20.98	---	14.08	1.33	342

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-22A	05/07/2012	40,000	2,000	7,200	2,000	12,000	---	---	---	---	---	---	---	---	35.06	20.96	---	14.10	2.50	230
S-22A	12/11/2012	54,000	1,800	8,900	2,400	14,000	---	---	---	---	---	---	---	---	35.06	23.42	---	11.64	0.99/1.96	-14/-21
S-22A	05/02/2013	53,000	1,800	6,800	2,200	11,000	---	---	---	---	---	---	---	---	35.06	24.71	---	10.35	---	---
S-22A	11/07/2013	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	35.06	---	---	---	---	---
S-22A	04/21/2014	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	35.06	---	---	---	---	---
S-22A	11/21/2014	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	35.06	---	---	---	---	---
S-22B	11/07/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.15	23.06	---	12.09	---	---
S-22B	11/11/2008	<50 i	<0.50 i	<1.0 i	<1.0 i	1.2 i	---	---	---	---	---	---	---	---	35.15	23.20	---	11.95	0.9	92
S-22B	11/11/2008	360 j	3.3 j	12 j	5.8 j	38 j	---	---	---	---	---	---	---	---	35.15	23.20	---	11.95	1.6	90
S-22B	12/18/2008	150	2.9	6.1	2.9	17.5	---	---	---	---	---	---	---	---	35.24	23.26	---	11.98	---	---
S-22B	01/05/2009	110	1.9	5.0	2.6	11	---	---	---	---	---	---	---	---	35.24	28.12	---	7.12	---	---
S-22B	01/15/2009	59	1.3	1.9	1.6	<1.0	---	---	---	---	---	---	---	---	35.24	22.90	---	12.34	---	---
S-22B	02/12/2009	290	11	6.8	7.9	19	---	---	---	---	---	---	---	---	35.24	23.02	---	12.22	---	---
S-22B	03/12/2009	390	4.4	4.6	3.8	12	---	---	---	---	---	---	---	---	35.24	22.86	---	12.38	---	---
S-22B	04/09/2009	280	5.3	2.5	4.0	6.8	---	---	---	---	---	---	---	---	35.24	22.62	---	12.62	2.24	164
S-22B	05/18/2009	170	3.7	2.9	2.4	8.6	---	---	---	---	---	---	---	---	35.24	22.62	---	12.62	1.42	-171
S-22B	07/23/2009	160	8.9	5.7	3.8	12	---	---	---	---	---	---	---	---	35.24	22.65	---	12.59	0.15	28
S-22B	10/01/2009	300	2.4	1.0	1.2	<1.0	---	---	---	---	---	---	---	---	35.24	23.18	---	12.06	2.62	173
S-22B	01/28/2010	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.24	22.73	---	12.51	---	---
S-22B	05/20/2010	230	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.24	22.88	---	12.36	6.14	584
S-22B	08/31/2010	<50	0.57	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.24	23.51	---	11.73	0.92	377
S-22B	12/29/2010	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.24	23.04	---	12.20	1.07	391
S-22B	02/01/2011	<50	0.55	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.24	22.70	---	12.54	1.07	-3
S-22B	04/25/2011	<50	<0.50	0.62	<0.50	1.1	---	---	---	---	---	---	---	---	35.24	21.38	---	13.86	1.37	416
S-22B	07/28/2011	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	35.24	---	---	---	---	---
S-22B	10/28/2011	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	35.24	20.62	---	14.62	4.83	-12
S-22B	05/07/2012	<50	1.4	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.24	21.08	---	14.16	2.84	127
S-22B	05/02/2013	<50	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	---	35.24	24.68	---	10.56	---	---
S-22B	04/21/2014	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	35.24	---	---	---	---	---
S-23	11/07/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	35.77	23.28	---	12.49	---	---
S-23	11/11/2008	8,800 i	640 i	610 i	82 i	1,260 i	---	---	---	---	---	---	---	---	35.77	23.58	---	12.19	---	---
S-23	11/11/2008	6,400 j	520 j	640 j	34 j	760 j	---	---	---	---	---	---	---	---	35.77	23.58	---	12.19	---	---
S-23	01/05/2009	830	63	98	14	58	---	---	---	---	---	---	---	---	35.75	23.51	---	12.24	---	---
S-23	02/12/2009	3,400	160	320	55	430	---	---	---	---	---	---	---	---	35.75	23.62	---	12.13	---	---
S-23	03/12/2009	4,600	210	460	71	610	---	---	---	---	---	---	---	---	35.75	23.03	---	12.72	---	---
S-23	04/09/2009	2,700	180	95	33	<5.0	---	---	---	---	---	---	---	---	35.75	22.98	---	12.77	1.24	567
S-23	05/18/2009	3,000	350	440	79	300	---	---	---	---	---	---	---	---	35.75	23.18	---	12.57	19.77	503
S-23	07/23/2009	2,900	180	400	67	340	---	---	---	---	---	---	---	---	35.75	23.48	---	12.27	0.21	133
S-23	10/01/2009	790	40	24	5.4	<1.0	---	---	---	---	---	---	---	---	35.75	23.82	---	11.93	8.64	428
S-23	11/09/2009	3,200	84	330	90	400	---	---	---	---	---	---	---	---	35.75	23.51	---	12.24	0.28	---

Table 1

**Groundwater Data**  
**Former Shell Service Station**  
**461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
S-23	12/01/2009	1,800	47	180	50	190	---	---	---	---	---	---	---	---	35.75	23.31	---	12.44	2.49	472
S-23	01/28/2010	3,000	100	450	110	650	---	---	---	---	---	---	---	---	35.75	23.25	---	12.50	1.74	---
S-23	05/20/2010	900	8.2	<5.0	<5.0	<5.0	---	---	---	---	---	---	---	---	35.75	23.80	---	11.95	3.76	607
S-23	06/22/2010	640	11	22	9.0	11	---	---	---	---	---	---	---	---	35.75	24.40	---	11.35	12.96	572
S-23	08/31/2010	710	14	45	34	110	---	---	---	---	---	---	---	---	35.75	23.95	---	11.80	1.25	322
S-23	12/29/2010	1,300	45	82	56	240	---	---	---	---	---	---	---	---	35.75	23.61	---	12.14	1.39	313
S-23	02/01/2011	1,300	51	110	72	270	---	---	---	---	---	---	---	---	35.75	22.92	---	12.83	1.30	107
S-23	04/25/2011	1,300	53	110	81	400	---	---	---	---	---	---	---	---	35.75	21.62	---	14.13	0.96	321
S-23	07/28/2011	1,400	43	79	74	320	---	---	---	---	---	---	---	---	35.75	21.28	---	14.47	0.92	209
S-23	10/28/2011	1,600	43	83	92	370	---	---	---	---	---	---	---	---	35.75	21.50	---	14.25	1.82	161
S-23	05/07/2012	870	50	40	66	220	---	---	---	---	---	---	---	---	35.75	21.59	---	14.16	2.20	254
S-23	05/02/2013	540	24	15	5.6	25	---	---	---	---	---	---	---	---	35.75	25.04	---	10.71	---	---
S-23	04/21/2014	1,700	110	47	8.4	95	---	---	---	---	---	---	---	---	35.75	25.67	---	10.08	---	---
AS-1	12/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	35.33	22.91	---	12.42	---	---
AS-1	02/08/2008	130 f	1.1	3.4	<1.0	5.4	---	<1.0	---	---	---	---	<0.50	<1.0	35.33	22.62	---	12.71	---	---
AS-1	05/08/2008	<50 f	<0.50	<1.0	<1.0	<1.0	---	<1.0	---	---	---	---	<0.50	<1.0	35.33	27.78	---	7.55	---	---
OW-1	04/09/2009	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
OW-1	05/18/2009	Well dry	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**Notes:**

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; prior to July 25, 2001, analyzed by EPA Method 8015 unless otherwise noted.

BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; prior to July 25, 2001, analyzed by EPA Method 8020.

MTBE = Methyl tertiary-butyl ether analyzed by method 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

EDC = 1,2-Dichloroethane analyzed by EPA Method 8260B.

EDB = 1,2-Dibromoethane analyzed by EPA Method 8260B.

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

SPH = Separate-phase hydrocarbon

GW = Groundwater

DO = Dissolved oxygen (pre-purge/post purge reading)

ORP = Oxygen redox potential (pre-purge/post purge reading)

µg/L = Micrograms per liter

ft = Feet

MSL = Mean sea level

mg/L = Milligrams per liter

mV = Millivolts

<x = Not detected at reporting limit x

**Groundwater Data  
Former Shell Service Station  
461 8th Street, Oakland, California**

Well ID	Date	TPHg (µg/L)	B (µg/L)	T (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)	EDC (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	DO (mg/L)	ORP (mV)
---------	------	----------------	-------------	-------------	-------------	-------------	------------------------	------------------------	---------------	----------------	----------------	----------------	---------------	---------------	-----------------	-------------------------------	--------------------------	-----------------------------	--------------	-------------

--- = Not analyzed or available

(D) = Duplicate sample

a = Included in xylenes analysis

b = Analyzed outside of EPA recommended holding time

c = Depth to water measured from TOC; elevation unknown.

d = Grab sampled

e = Casing broken; TOC unknown.

f = Analyzed by EPA Method 8015B (M)

g = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

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

i = Pre-purge sample

j = Post-purge sample

k = SPH present; well purged prior to gauging with interface probe

l = Concentration reported is partially due to the presence of discrete peak of toluene.

m = Concentration reported is partially due to the presence of discrete peak of m,p-xylenes.

n = Concentration reported is partially due to the presence of discrete peaks of benzene, toluene, m,p-xylenes.

When SPHs are present, groundwater elevation is adjusted using the relation: Corrected groundwater elevation = TOC - Depth to Water + (0.8 x Hydrocarbon Thickness).

Beginning July 18, 2002, well elevations measured from TOC

Site wells surveyed March 5, 2002 by Virgil Chavez Land Surveying

Site wells surveyed December 18, 2007 by Virgil Chavez Land Surveying

Wells S-14R and S-19 through S-23 surveyed on November 11, 2008 by Virgil Chavez Land Surveying

Well S-5 surveyed on November 11, 2008 by Virgil Chavez Land Surveying

Well S-5 surveyed on October 8, 2009 by Virgil Chavez Land Surveying



Table 2

**Separate-Phase Hydrocarbon Removal Data  
Former Shell Service Station  
461 8th Street, Oakland, California**

Well ID	Date	SPH measured with Interface Probe (feet)	SPH calculated volume (ml)	SPH removed by bailer/ skimmer (ml)	SPH removed by bailer/ skimmer (pounds)	Cumulative SPH removed by bailer/ skimmer (pounds)	SPH- absorbent sock initial weight (pounds)	SPH- absorbent sock final weight (pounds)	Cumulative	
									SPH removed by SPH- absorbent sock (pounds)	SPH removed by SPH- absorbent socks (pounds)
S-5	11/07/2013	0.08	197	0	0.00	0.00	---	---	---	0.00
S-5	01/31/2014	0.91	2239	0	0.00	0.00	---	---	---	0.00
S-5	03/14/2014	1.15	2829	0	0.00	0.00	---	---	---	0.00
S-5	04/21/2014	1.14	2805	7571	12.43	12.43	0.72	2.08	1.36	1.36
S-5	07/31/2014	0.29	713	713	1.17	13.60	0.72	1.94	1.22	2.58
S-5	09/22/2014	0.15	369	369	0.61	14.21	0.31	0.68	0.37	2.95
S-5	10/03/2014	0.00	0	0	0.00	14.21	0.38	2.00	1.62	4.57
S-5	10/10/2014	0.00	0	0	0.00	14.21	0.36	0.60	0.24	4.81
S-5	10/17/2014	0.00	0	0	0.00	14.21	0.40	0.58	0.18	4.99
S-5	10/24/2014	0.00	0	0	0.00	14.21	0.42	0.50	0.08	5.07
S-5	11/21/2014	0.00	0	0	0.00	14.21	0.38	0.55	0.17	5.24
S-5	12/23/2014	0.00	0	0	0.00	14.21	0.38	1.08	0.70	5.94
<b>S-5</b>	<b>01/22/2015</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>14.21</b>	<b>---</b>	<b>---</b>	<b>0.00</b>	<b>5.94</b>
<b>S-5</b>	<b>07/17/2015</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>14.21</b>	<b>---</b>	<b>---</b>	<b>0.00</b>	<b>5.94</b>
S-13	11/07/2013	0.00	0	0	0.00	0.00	---	---	---	0.00
S-13	01/31/2014	---	---	0	0.00	0.00	---	---	---	0.00
S-13	03/14/2014	0.25	615	0	0.00	0.00	---	---	---	0.00
S-13	04/21/2014	0.39	959	960	1.58	1.58	0.72	1.78	1.06	1.06
S-13	07/31/2014	0.00	0	0	0.00	1.58	0.72	1.52	0.80	1.86
S-13	09/22/2014	0.00	0	0	0.00	1.58	0.29	0.36	0.07	1.93
S-13	10/03/2014	0.00	0	0	0.00	1.58	0.38	0.48	0.10	2.03
S-13	10/10/2014	0.00	0	0	0.00	1.58	0.40	0.45	0.05	2.08
S-13	10/17/2014	0.00	0	0	0.00	1.58	0.42	0.48	0.06	2.14
S-13	10/24/2014	Well inaccessible		0	0.00	1.58	---	---	0.00	2.14
S-13	11/21/2014	0.00	0	0	0.00	1.58	0.42	0.50	0.08	2.22

**Separate-Phase Hydrocarbon Removal Data  
Former Shell Service Station  
461 8th Street, Oakland, California**

Well ID	Date	SPH measured with Interface Probe (feet)	SPH calculated volume (ml)	SPH removed by bailer/skimmer (ml)	SPH removed by bailer/skimmer (pounds)	Cumulative SPH removed by bailer/skimmer (pounds)	SPH-absorbent sock initial weight (pounds)	SPH-absorbent sock final weight (pounds)	SPH removed by SPH-absorbent sock (pounds)	Cumulative SPH removed by SPH-absorbent socks (pounds)
S-13	12/23/2014	0.00	0	0	0.00	1.58	0.38	0.52	0.14	2.36
<b>S-13</b>	<b>01/22/2015</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>1.58</b>	<b>---</b>	<b>---</b>	<b>0.00</b>	<b>2.36</b>
S-19	11/07/2013	0.01	25	0	0.00	0.00	---	---	---	0.00
S-19	01/31/2014	---	---	0	0.00	0.00	---	---	---	0.00
S-19	03/14/2014	---	---	0	0.00	0.00	---	---	---	0.00
S-19	04/21/2014	0.00	0	0	0.00	0.00	---	---	---	0.00
S-19	07/31/2014	0.02	49	49	0.08	0.08	---	---	---	0.00
S-19	09/22/2014	---	---	0	0.00	0.08	---	---	---	0.00
S-19	10/03/2014	---	---	0	0.00	0.08	---	---	---	0.00
S-19	10/10/2014	---	---	0	0.00	0.08	---	---	---	0.00
S-19	10/17/2014	---	---	0	0.00	0.08	---	---	---	0.00
S-19	10/24/2014	---	---	0	0.00	0.08	---	---	---	0.00
S-19	11/21/2014	0.00	0	0	0.00	0.08	0.31	1.52	1.21	1.21
S-19	12/23/2014	---	---	0	0.00	0.08	---	---	---	0.00

<b>SPH removed by bailer/skimmer this event:</b>	0.00	<b>SPH removed by ORCs this event:</b>	0.00
<b>Cumulative SPH removed by bailer/skimmer:</b>	15.87	<b>Cumulative SPH removed by ORCs:</b>	9.51

<b>Total SPH removed this event (pounds):</b>	0.00
<b>Total SPH removed (pounds):</b>	25.38

Notes:

SPH = Separate-phase hydrocarbon

ORC = PIG SPH-absorbent sock

ml = Milliliters

# Appendix A

## Blaine Tech Services – Field Notes



## SHELL WELL MONITORING DATA SHEET

BTS #: 150122-ww1	Site: 461 8th ST, OAKLAND, CA
Sampler: ww	Date: 1/22/15
Well I.D.: 5-5	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 26.89	Depth to Water (DTW): 18.24
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 19.97	

Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: <u>Bailer</u> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Other: _____
--	--	---

$5.6 \text{ (Gals.)} \times 3 = 16.8 \text{ Gals.}$ I Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
0845	63.9	6.31	757	>1000	5.6	odor; gray
WELL	DEWATERED		ED @	8 GALS		
	-SOCK	REDEPLOYED UPON		INSPECTION, ONLY 10% SATURATED		
0855	64.3	6.36	709	308	—	gray odor, skin

Did well dewater? Yes No      Gallons actually evacuated: 8

Sampling Date: 1/22/15      Sampling Time: 0855      Depth to Water: 19.90

Sample I.D.: 5-5      Laboratory: Test America Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See son

EB I.D. (if applicable): @ \_\_\_\_\_ Time Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## SHELL WELL MONITORING DATA SHEET

BTS #: 150122-4441	Site: 461 9 <sup>th</sup> St Oakland CA
Sampler: JU	Date: 1-22-15
Well I.D.: 5-6	Well Diameter: 2 3 (4) 6 8
Total Well Depth (TD): 34.66	Depth to Water (DTW): 22.27
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 24.74	

Purge Method: Bailer      Waterra      Sampling Method: Bailer  
 Disposable Bailer      Peristaltic      Disposable Bailer  
 Positive Air Displacement      Extraction Pump      Extraction Port  
 Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing

$8 \text{ (Gals.)} \times 3 = 24 \text{ Gals.}$ I Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
0804	63.2	7.37	424	>1000	8.0	odor
0807	65.7	7.40	431	>1000	16.0	" "
0810	65.6	7.37	414	7000	24.0	" "

Did well dewater?    Yes    No      Gallons actually evacuated: 24.0

Sampling Date: 1-22-15    Sampling Time: 0815    Depth to Water: 23.46

Sample I.D.: 5-6      Laboratory: Test America    Other \_\_\_\_\_

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: see LOC

EB I.D. (if applicable): @ \_\_\_\_\_    Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

INCIDENT # 97093399

ADDRESS 461 8th ST

DATE: 1/22/15

CITY & STATE OAKLAND, CA

Well ID	Observations Upon Arrival														Note Repairs Made Detailed Explanation of Maintenance Recommended and Performed	Photos of Well Condition		Repair Date and PM Initials	
	Manway Cover, Type, Condition & Size					Well Labeled / Painted Properly*		Well Cap (Gripper) Condition		Well Lock Condition			Well Pad / Surface Condition						
S-5	Standpipe	Flush	G	P	Size (inch) 4 1/2 25	Y	N	G	R	G	R	NL	G	P	STORM DRAIN	Y	N		
S-6	Standpipe	Flush	G	P	Size (inch) 8	Y	N	G	R	G	R	NL	G	P	NOT SEWRABLE DIAMOND PLATE LID	Y	N		
S-13	Standpipe	Flush	G	P	Size (inch) 12	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	P		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	P		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	P		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	P		Y	N		
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N		
TOTAL # CAPS REPLACED = 0														= TOTAL # OF LOCKS REPLACED					
Condition of Soil Boring Patches or Abandoned Monitoring Wells:		G	P	N/A	If POOR, Borings/Well IDs or Location Description:										Y	N			
Remediation Compound Type (Check boxes that apply)		Condition of Enclosure			Condition of Area Inside Enclosure			Compound Security			Emergency Contact Info Visible			Cleaning / Repairs Recommended and Conducted			Photos of Condition		Repair Date and PM Initials
NA		G			G			G			Y						Y		
Building		G			G			G			Y						Y		
Building w/ Fence Comp.		G			G			G			Y						Y		
Fenced Compound		G			G			G			Y						Y		
Trailer		G			G			G			Y						Y		
Number of Drums On-site	Does the Label Reveal the Source of the Contents		Labeled Correctly and Writing Legible			Drum Condition			Confirm Drums Related to Environmental		Drums Located to Min Business Interference			Detailed Explanation of Any Issues Resolved			Photos of Drum Condition		Date Drums Removed from Site and PM Initials
0	Y	N	N/A	Y	N	N/A	G	P	N/A	Y	N	Y	N	N/A				Y	N

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.

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

WILLIAM / BUILDING TECH SERVICES  
WVVB

Print or type Name of Field Personnel & Consultant Company











INCIDENT # 97093399

ADDRESS 461 8th St. - Oakland, CA

DATE: 7/17/15

CITY & STATE Oakland, CA

Well ID	Observations Upon Arrival														Detailed Explanation of Maintenance Recommended and Performed	Photos of Well Condition		Repair Date and PM Initials			
	Manway Cover, Type, Condition & Size					Well Labeled / Painted Properly*		Well Cap (Gripper) Condition		Well Lock Condition			Well Pad / Surface Condition			Note Repairs Made					
S-4	Standpipe	Flush	G	P	Size (inch) 4x4	Y	N	G	R	G	R	NL	G	P		Y	N				
S-5	Standpipe	Flush	G	P	Size (inch) 12	Y	N	G	R	G	R	NL	G	P		Y	N				
S-6	Standpipe	Flush	G	P	Size (inch) 6	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	P		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	P		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	P		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	P		Y	N				
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N				
TOTAL # CAPS REPLACED = 0														TOTAL # OF LOCKS REPLACED = 0							
Condition of Soil Boring Patches or Abandoned Monitoring Wells:			G	P	N/A	If POOR, Borings/Well IDs or Location Description:														Y	N
Remediation Compound Type (Check boxes that apply)		Condition of Enclosure			Condition of Area Inside Enclosure			Compound Security			Emergency Contact Info Visible			Cleaning / Repairs Recommended and Conducted				Photos of Condition		Repair Date and PM Initials	
NA		G			G			G			Y							Y			
Building		G			G			G			Y							Y		N	
Building w/ Fence Comp.		G			G			G			Y							Y		N	
Fenced Compound		G			G			G			Y							Y		N	
Trailer		G			G			G			Y							Y		N	
Number of Drums On-site		Does the Label Reveal the Source of the Contents		Labeled Correctly and Writing Legible			Drum Condition			Confirm Drums Related to Environmental		Drums Located to Min Business Interference			Detailed Explanation of Any Issues Resolved				Photos of Drum Condition		Date Drums Removed from Site and PM Initials
0		Y N N/A		Y N N/A			G P N/A			Y N		Y N N/A							Y		N

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.

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

Nicholas Douchonka + BTS  
Print or type Name of Field Personnel & Consultant Company

Appendix B  
TestAmerica Laboratories, Inc. –  
Analytical Reports

# TestAmerica

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: 440-99801-1

Client Project/Site: 461 8th St., Oakland, CA

For:


Conestoga-Rovers & Associates, Inc.

5900 Hollis Street

Suite A

Emeryville, California 94608

Attn: Peter Schaefer



Authorized for release by:

1/30/2015 2:00:36 PM

Heather Clark, Project Manager I

(949)261-1022

[heather.clark@testamericainc.com](mailto:heather.clark@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.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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# Sample Summary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-99801-1	S-5	Ground Water	01/22/15 08:55	01/24/15 10:20
440-99801-2	S-6	Ground Water	01/22/15 08:15	01/24/15 10:20

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# Case Narrative

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

---

**Job ID: 440-99801-1**

---

**Laboratory: TestAmerica Irvine**

---

**Narrative**

**Job Narrative  
440-99801-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 1/24/2015 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

**GC/MS VOA**

Method(s) 8260B/CA\_LUFTMS: The Gasoline Range Organics (GRO) concentration reported for the following sample(s) is due to the presence of discrete peaks: S-5 (440-99801-1). m,p-Xylenes

Method(s) 8260B/CA\_LUFTMS: The Gasoline Range Organics (GRO) concentration reported for the following sample(s) is due to the presence of discrete peaks: S-6 (440-99801-2). Benzene, Toluene, m,p-Xylenes.

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

**VOA Prep**

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



# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

**Client Sample ID: S-5**  
**Date Collected: 01/22/15 08:55**  
**Date Received: 01/24/15 10:20**

**Lab Sample ID: 440-99801-1**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	<b>56000</b>		1000		ug/L			01/28/15 13:22	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	92		76 - 132					01/28/15 13:22	20
4-Bromofluorobenzene (Surr)	93		80 - 120					01/28/15 13:22	20
Toluene-d8 (Surr)	102		80 - 128					01/28/15 13:22	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>690</b>		25		ug/L			01/30/15 00:10	50
<b>Ethylbenzene</b>	<b>2600</b>		25		ug/L			01/30/15 00:10	50
<b>Toluene</b>	<b>740</b>		25		ug/L			01/30/15 00:10	50
<b>Xylenes, Total</b>	<b>9400</b>		50		ug/L			01/30/15 00:10	50
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	106		80 - 120					01/30/15 00:10	50
Dibromofluoromethane (Surr)	90		76 - 132					01/30/15 00:10	50
Toluene-d8 (Surr)	113		80 - 128					01/30/15 00:10	50

**Client Sample ID: S-6**

**Date Collected: 01/22/15 08:15**  
**Date Received: 01/24/15 10:20**

**Lab Sample ID: 440-99801-2**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	<b>40000</b>		5000		ug/L			01/28/15 13:52	100
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	91		76 - 132					01/28/15 13:52	100
4-Bromofluorobenzene (Surr)	95		80 - 120					01/28/15 13:52	100
Toluene-d8 (Surr)	104		80 - 128					01/28/15 13:52	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>7100</b>		50		ug/L			01/28/15 13:52	100
<b>Ethylbenzene</b>	<b>1500</b>		50		ug/L			01/28/15 13:52	100
<b>Toluene</b>	<b>4600</b>		50		ug/L			01/28/15 13:52	100
<b>Xylenes, Total</b>	<b>5100</b>		100		ug/L			01/28/15 13:52	100
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	95		80 - 120					01/28/15 13:52	100
Dibromofluoromethane (Surr)	91		76 - 132					01/28/15 13:52	100
Toluene-d8 (Surr)	104		80 - 128					01/28/15 13:52	100

# Method Summary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8260B/CA_LUFTM S	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 Chronicle

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

**Client Sample ID: S-5**

Date Collected: 01/22/15 08:55

Date Received: 01/24/15 10:20

**Lab Sample ID: 440-99801-1**

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	10 mL	10 mL	232935	01/30/15 00:10	MP	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		20	10 mL	10 mL	232444	01/28/15 13:22	TN	TAL IRV

**Client Sample ID: S-6**

Date Collected: 01/22/15 08:15

Date Received: 01/24/15 10:20

**Lab Sample ID: 440-99801-2**

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	10 mL	10 mL	232443	01/28/15 13:52	RM	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		100	10 mL	10 mL	232444	01/28/15 13:52	TN	TAL IRV

**Laboratory References:**

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

# QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

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

**Lab Sample ID: MB 440-232443/4**

**Matrix: Water**

**Analysis Batch: 232443**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			01/28/15 08:55	1
Ethylbenzene	ND		0.50		ug/L			01/28/15 08:55	1
Toluene	ND		0.50		ug/L			01/28/15 08:55	1
Xylenes, Total	ND		1.0		ug/L			01/28/15 08:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		80 - 120		01/28/15 08:55	1
Dibromofluoromethane (Surr)	93		76 - 132		01/28/15 08:55	1
Toluene-d8 (Surr)	107		80 - 128		01/28/15 08:55	1

**Lab Sample ID: LCS 440-232443/5**

**Matrix: Water**

**Analysis Batch: 232443**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	21.9		ug/L		88	68 - 130
Ethylbenzene	25.0	23.3		ug/L		93	70 - 130
m,p-Xylene	25.0	24.4		ug/L		98	70 - 130
o-Xylene	25.0	23.9		ug/L		96	70 - 130
Toluene	25.0	23.0		ug/L		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	94		76 - 132
Toluene-d8 (Surr)	100		80 - 128

**Lab Sample ID: 440-99820-C-6 MS**

**Matrix: Water**

**Analysis Batch: 232443**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		125	120		ug/L		96	66 - 130
Ethylbenzene	ND		125	133		ug/L		106	70 - 130
m,p-Xylene	ND		125	135		ug/L		108	70 - 133
o-Xylene	ND		125	132		ug/L		105	70 - 133
Toluene	ND		125	130		ug/L		104	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	88		76 - 132
Toluene-d8 (Surr)	102		80 - 128

# QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

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

**Lab Sample ID: 440-99820-C-6 MSD**  
**Matrix: Water**  
**Analysis Batch: 232443**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		125	121		ug/L		97	66 - 130	1	20
Ethylbenzene	ND		125	131		ug/L		105	70 - 130	2	20
m,p-Xylene	ND		125	137		ug/L		110	70 - 133	1	25
o-Xylene	ND		125	132		ug/L		106	70 - 133	0	20
Toluene	ND		125	128		ug/L		102	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	90		76 - 132
Toluene-d8 (Surr)	101		80 - 128

**Lab Sample ID: MB 440-232935/4**  
**Matrix: Water**  
**Analysis Batch: 232935**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			01/29/15 19:25	1
Ethylbenzene	ND		0.50		ug/L			01/29/15 19:25	1
Toluene	ND		0.50		ug/L			01/29/15 19:25	1
Xylenes, Total	ND		1.0		ug/L			01/29/15 19:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		80 - 120		01/29/15 19:25	1
Dibromofluoromethane (Surr)	96		76 - 132		01/29/15 19:25	1
Toluene-d8 (Surr)	114		80 - 128		01/29/15 19:25	1

**Lab Sample ID: LCS 440-232935/5**  
**Matrix: Water**  
**Analysis Batch: 232935**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	25.8		ug/L		103	68 - 130
Ethylbenzene	25.0	27.3		ug/L		109	70 - 130
m,p-Xylene	25.0	28.3		ug/L		113	70 - 130
o-Xylene	25.0	27.9		ug/L		112	70 - 130
Toluene	25.0	28.0		ug/L		112	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132
Toluene-d8 (Surr)	112		80 - 128

# QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

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

**Lab Sample ID: 440-100115-C-1 MS**

**Matrix: Water**

**Analysis Batch: 232935**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Benzene	85		25.0	111		ug/L		103	66 - 130
Ethylbenzene	110		25.0	124	4	ug/L		77	70 - 130
m,p-Xylene	140		25.0	165	4	ug/L		96	70 - 133
o-Xylene	1.0		25.0	28.9		ug/L		112	70 - 133
Toluene	0.90		25.0	28.6		ug/L		111	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	105		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132
Toluene-d8 (Surr)	111		80 - 128

**Lab Sample ID: 440-100115-C-1 MSD**

**Matrix: Water**

**Analysis Batch: 232935**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD
	Result	Qualifier		Result	Qualifier					RPD	Limit
Benzene	85		25.0	109		ug/L		94	66 - 130	2	20
Ethylbenzene	110		25.0	121	4	ug/L		62	70 - 130	3	20
m,p-Xylene	140		25.0	158	4	ug/L		71	70 - 133	4	25
o-Xylene	1.0		25.0	28.1		ug/L		109	70 - 133	3	20
Toluene	0.90		25.0	27.7		ug/L		107	70 - 130	3	20

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	90		76 - 132
Toluene-d8 (Surr)	109		80 - 128

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

**Lab Sample ID: MB 440-232444/4**

**Matrix: Water**

**Analysis Batch: 232444**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Volatile Fuel Hydrocarbons (C4-C12)	ND		50		ug/L			01/28/15 08:55	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	93		76 - 132		01/28/15 08:55	1
4-Bromofluorobenzene (Surr)	96		80 - 120		01/28/15 08:55	1
Toluene-d8 (Surr)	107		80 - 128		01/28/15 08:55	1

TestAmerica Irvine

# QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

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

**Lab Sample ID: LCS 440-232444/6**

**Matrix: Water**

**Analysis Batch: 232444**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	500	387		ug/L		77	55 - 130
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	93		76 - 132				
4-Bromofluorobenzene (Surr)	96		80 - 120				
Toluene-d8 (Surr)	104		80 - 128				

**Lab Sample ID: 440-99820-C-6 MS**

**Matrix: Water**

**Analysis Batch: 232444**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	ND		8630	8800		ug/L		102	50 - 145
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	88		76 - 132						
4-Bromofluorobenzene (Surr)	94		80 - 120						
Toluene-d8 (Surr)	102		80 - 128						

**Lab Sample ID: 440-99820-C-6 MSD**

**Matrix: Water**

**Analysis Batch: 232444**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Volatile Fuel Hydrocarbons (C4-C12)	ND		8630	8960		ug/L		104	50 - 145	2	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Dibromofluoromethane (Surr)	90		76 - 132								
4-Bromofluorobenzene (Surr)	95		80 - 120								
Toluene-d8 (Surr)	101		80 - 128								



# QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

## GC/MS VOA

### Analysis Batch: 232443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-99801-2	S-6	Total/NA	Ground Water	8260B	
440-99820-C-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-99820-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 440-232443/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-232443/4	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 232444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-99801-1	S-5	Total/NA	Ground Water	8260B/CA_LUFT MS	
440-99801-2	S-6	Total/NA	Ground Water	8260B/CA_LUFT MS	
440-99820-C-6 MS	Matrix Spike	Total/NA	Water	8260B/CA_LUFT MS	
440-99820-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B/CA_LUFT MS	
LCS 440-232444/6	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
MB 440-232444/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

### Analysis Batch: 232935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-99801-1	S-5	Total/NA	Ground Water	8260B	
440-100115-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-100115-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 440-232935/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-232935/4	Method Blank	Total/NA	Water	8260B	

## Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	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

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-99801-1

## Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-15 *
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15
USEPA UCMR	Federal	1	CA01531	01-31-15

\* Certification renewal pending - certification considered valid.

TestAmerica Irvine



# Shell Oil Products Chain Of Custody Record

LAB (LOCATION)

- ALS SCIENCE ( )
- PL Houston ( )
- KENCO ( )
- TEST AMERICA (IRVINE)
- OTHER ( )

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&GM	<input checked="" type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER _____	

Print Bill To Contact Name: 241501 Peter Schaefer

INCIDENT # (ENV SERVICES): 9 7 0 9 3 3 9 9

PO # \_\_\_\_\_ SAP # \_\_\_\_\_

DATE: 1/22/15

PAGE: 1 of 1

SAMPLING COMPANY: Blaine Tech Services

ADDRESS: 1680 Rogers Avenue, San Jose, CA

PROJECT CONTACT (Hardcopy or PDF Report to): Lorin King

TELEPHONE: (310) 885-4455 x108 FAX: (310) 637-5802 EMAIL: lking@blainetech.com

SITE ADDRESS: Street and City: 461 8th St., Oakland

EDF DELIVERABLE TO (Name, Company, Office Location): Anni Kremi, CRA, Emeryville, CA

PHONE NO.: 510-420-3335

STATE: CA GLOBAL ID NO.: T0600101263

CONSULTANT PROJECT NO.: 241501-95-12.03

SAMPLER NAME(S) (Print): WILLIAM WONG / JOSE ORTIZ / DUSTIN BECKER

TURNAROUND TIME (CALENDAR DAYS):

STANDARD (14 DAY)  DAYS  DAYS  DAYS  4 HOURS  RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT  JUST AGENCY:

REQUESTED ANALYSIS

TEMPERATURE ON RECEIPT

SPECIAL INSTRUCTIONS OR NOTES:

1) Please upload the "CRA EQuIS 4-file EDD" to the CRA Website (<http://cra1abeddupload.craworld.com/equis/default.aspx>) and/or send it to the Shell-US-LabDataManagement@CRAworld.com email folder. 2) Please indicate that you have uploaded the EDD by including "EDD Uploaded to CRA website" in the body of the email used to deliver the final PDF report to the Shell-US-LabDataManagement@CRAworld.com email folder.

Copy final report to Shell.Lab.Billing@craworld.com, ShellEDF@craworld.com, Shell-US-LabDataManagement@CRAworld.com, and pschaefer@CRAWorld.com

Email Invoice to Shell.Lab.Billing@craworld.com

Matrix Codes - WG (groundwater), WS (surface water), WP (drinking water source), W (Trip or Temp Blank)

TPH-GRO, Purgeable (8260B)	TPH-DRO, Extractable (80150)	BTEX (8260B)	BTEX + MTBE (8260B)	BTEX + MTBE + TBA (8260B)	BTEX + 5 OXYs (MTBE, TBA, DIPE, TAME, ETBE) 8260B	VOCs Full list (8260B)	Single Compound: (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015B)	Container PID Readings or Laboratory Notes
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LAB USE ONLY	SAMPLE ID					TIME	MATRIX	PRESERVATIVE					NO. OF CONT.	TPH-GRO, Purgeable (8260B)	TPH-DRO, Extractable (80150)	BTEX (8260B)	BTEX + MTBE (8260B)	BTEX + MTBE + TBA (8260B)	BTEX + 5 OXYs (MTBE, TBA, DIPE, TAME, ETBE) 8260B	VOCs Full list (8260B)	Single Compound: (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015B)	TEMPERATURE ON RECEIPT			
	PROJECT NUMBER	DATE (MMDDYY)	SAMPLER INITIALS	WELL ID				HCL	HN03	H2SO4	NONE	OTHER																	
WG	15D122-WW1	012215	JO	S-5	0815	WG						3	X	X															
WG	15D122-WW1	012215	JO	S-6	0815	WG						3	X	X															

TPH-GRO, Purgeable (8260B)	TPH-DRO, Extractable (80150)	BTEX (8260B)	BTEX + MTBE (8260B)	BTEX + MTBE + TBA (8260B)	BTEX + 5 OXYs (MTBE, TBA, DIPE, TAME, ETBE) 8260B	VOCs Full list (8260B)	Single Compound: (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015B)	Container PID Readings or Laboratory Notes
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440-99800 Chain of Custody

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i> SAMPLE CUSTODIAN	Date: 1/22/15	Time: 1621
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 1-22-15	Time: 1705
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 1-22-15	Time: 1835

*[Handwritten notes]*  
 1/23/15 1510  
 3.0°C  
 12.01/24/15

*[Handwritten notes]*  
 RCD @ Lab: MAM-TA1 01/24/15 10:20 UC  
 18/10°C 1R-73 Fed Ex: 6227 6457 1410



## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 440-99801-1

**Login Number: 99801**

**List Number: 1**

**Creator: Jackson, Brent E**

**List Source: TestAmerica Irvine**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
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	



# TestAmerica

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: 440-115823-1

Client Project/Site: 461 8th St., Oakland, CA

Revision: 1

For:

GHD Services Inc.

5900 Hollis Street

Suite A

Emeryville, California 94608

Attn: Peter Schaefer



Authorized for release by:

8/10/2015 4:48:04 PM

Heather Clark, Project Manager I

(949)261-1022

[heather.clark@testamericainc.com](mailto:heather.clark@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.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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# Sample Summary

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-115823-1	S-5	Ground Water	07/17/15 09:20	07/21/15 10:00
440-115823-2	S-4	Ground Water	07/17/15 10:00	07/21/15 10:00
440-115823-3	S-6	Ground Water	07/17/15 08:10	07/21/15 10:00

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# Case Narrative

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

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**Job ID: 440-115823-1**

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**Laboratory: TestAmerica Irvine**

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**Narrative**

**Job Narrative  
440-115823-1**

**Comments**

Revised report to correct sample ID's incorrectly identified on COC. Revised COC was submitted & has been included in the revised report. Sample results have been updated to correspond with the correct results.

**Receipt**

The samples were received on 7/21/2015 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 1.8° C.

**GC/MS VOA**

Method(s) 8260B/CA\_LUFTMS: Reanalysis of the following sample was performed outside of the analytical holding time due to original run's results due to carryover from a previous sample : S-6 (440-115823-3).

Method(s) 8260B: Reanalysis of the following sample was performed outside of the analytical holding time due to original run's results due to carryover from a previous sample : S-6 (440-115823-3).

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

**VOA Prep**

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



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

**Client Sample ID: S-5**

**Date Collected: 07/17/15 09:20**

**Date Received: 07/21/15 10:00**

**Lab Sample ID: 440-115823-1**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	<b>32000</b>		1300		ug/L			07/25/15 04:56	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	116		76 - 132					07/25/15 04:56	25
4-Bromofluorobenzene (Surr)	85		80 - 120					07/25/15 04:56	25
Toluene-d8 (Surr)	105		80 - 128					07/25/15 04:56	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>540</b>		13		ug/L			07/25/15 04:56	25
<b>Ethylbenzene</b>	<b>1300</b>		13		ug/L			07/25/15 04:56	25
<b>Toluene</b>	<b>240</b>		13		ug/L			07/25/15 04:56	25
<b>Xylenes, Total</b>	<b>3700</b>		25		ug/L			07/25/15 04:56	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	85		80 - 120					07/25/15 04:56	25
Dibromofluoromethane (Surr)	116		76 - 132					07/25/15 04:56	25
Toluene-d8 (Surr)	105		80 - 128					07/25/15 04:56	25

**Client Sample ID: S-4**

**Date Collected: 07/17/15 10:00**

**Date Received: 07/21/15 10:00**

**Lab Sample ID: 440-115823-2**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	<b>6300</b>		100		ug/L			07/25/15 05:23	2
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	117		76 - 132					07/25/15 05:23	2
4-Bromofluorobenzene (Surr)	85		80 - 120					07/25/15 05:23	2
Toluene-d8 (Surr)	104		80 - 128					07/25/15 05:23	2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>23</b>		1.0		ug/L			07/25/15 05:23	2
<b>Ethylbenzene</b>	<b>ND</b>		1.0		ug/L			07/25/15 05:23	2
<b>Toluene</b>	<b>1.0</b>		1.0		ug/L			07/25/15 05:23	2
<b>Xylenes, Total</b>	<b>15</b>		2.0		ug/L			07/25/15 05:23	2
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	85		80 - 120					07/25/15 05:23	2
Dibromofluoromethane (Surr)	117		76 - 132					07/25/15 05:23	2
Toluene-d8 (Surr)	104		80 - 128					07/25/15 05:23	2

TestAmerica Irvine

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

**Client Sample ID: S-6**

**Date Collected: 07/17/15 08:10**

**Date Received: 07/21/15 10:00**

**Lab Sample ID: 440-115823-3**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND	H	50		ug/L			08/06/15 10:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		76 - 132		08/06/15 10:52	1
4-Bromofluorobenzene (Surr)	102		80 - 120		08/06/15 10:52	1
Toluene-d8 (Surr)	112		80 - 128		08/06/15 10:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	H	0.50		ug/L			08/06/15 10:52	1
Ethylbenzene	ND	H	0.50		ug/L			08/06/15 10:52	1
Toluene	ND	H	0.50		ug/L			08/06/15 10:52	1
Xylenes, Total	ND	H	1.0		ug/L			08/06/15 10:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		08/06/15 10:52	1
Dibromofluoromethane (Surr)	101		76 - 132		08/06/15 10:52	1
Toluene-d8 (Surr)	112		80 - 128		08/06/15 10:52	1

# Method Summary

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8260B/CA_LUFTM S	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 Chronicle

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

## Client Sample ID: S-5

Date Collected: 07/17/15 09:20

Date Received: 07/21/15 10:00

## Lab Sample ID: 440-115823-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	10 mL	10 mL	269129	07/25/15 04:56	AA	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		25	10 mL	10 mL	269130	07/25/15 04:56	AA	TAL IRV

## Client Sample ID: S-4

Date Collected: 07/17/15 10:00

Date Received: 07/21/15 10:00

## Lab Sample ID: 440-115823-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	10 mL	10 mL	269129	07/25/15 05:23	AA	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		2	10 mL	10 mL	269130	07/25/15 05:23	AA	TAL IRV

## Client Sample ID: S-6

Date Collected: 07/17/15 08:10

Date Received: 07/21/15 10:00

## Lab Sample ID: 440-115823-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	271417	08/06/15 10:52	SS	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	10 mL	10 mL	271418	08/06/15 10:52	AL	TAL IRV

### Laboratory References:

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

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

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

**Lab Sample ID: MB 440-269129/4**  
**Matrix: Water**  
**Analysis Batch: 269129**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/24/15 19:20	1
Ethylbenzene	ND		0.50		ug/L			07/24/15 19:20	1
Toluene	ND		0.50		ug/L			07/24/15 19:20	1
Xylenes, Total	ND		1.0		ug/L			07/24/15 19:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		80 - 120		07/24/15 19:20	1
Dibromofluoromethane (Surr)	114		76 - 132		07/24/15 19:20	1
Toluene-d8 (Surr)	105		80 - 128		07/24/15 19:20	1

**Lab Sample ID: LCS 440-269129/5**  
**Matrix: Water**  
**Analysis Batch: 269129**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	25.6		ug/L		102	68 - 130
Ethylbenzene	25.0	22.7		ug/L		91	70 - 130
m,p-Xylene	25.0	25.3		ug/L		101	70 - 130
o-Xylene	25.0	24.8		ug/L		99	70 - 130
Toluene	25.0	23.1		ug/L		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	85		80 - 120
Dibromofluoromethane (Surr)	116		76 - 132
Toluene-d8 (Surr)	102		80 - 128

**Lab Sample ID: 440-116058-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 269129**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	24.7		ug/L		99	66 - 130
Ethylbenzene	ND		25.0	22.5		ug/L		90	70 - 130
m,p-Xylene	ND		25.0	24.9		ug/L		100	70 - 133
o-Xylene	ND		25.0	24.5		ug/L		98	70 - 133
Toluene	ND		25.0	22.7		ug/L		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	85		80 - 120
Dibromofluoromethane (Surr)	118		76 - 132
Toluene-d8 (Surr)	103		80 - 128

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

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

**Lab Sample ID: 440-116058-A-1 MSD**

**Matrix: Water**

**Analysis Batch: 269129**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	25.5		ug/L		102	66 - 130	3	20
Ethylbenzene	ND		25.0	22.6		ug/L		90	70 - 130	1	20
m,p-Xylene	ND		25.0	25.2		ug/L		101	70 - 133	1	25
o-Xylene	ND		25.0	24.6		ug/L		99	70 - 133	1	20
Toluene	ND		25.0	22.3		ug/L		89	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		80 - 120
Dibromofluoromethane (Surr)	117		76 - 132
Toluene-d8 (Surr)	102		80 - 128

**Lab Sample ID: MB 440-271417/5**

**Matrix: Water**

**Analysis Batch: 271417**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			08/06/15 08:51	1
Ethylbenzene	ND		0.50		ug/L			08/06/15 08:51	1
Toluene	ND		0.50		ug/L			08/06/15 08:51	1
Xylenes, Total	ND		1.0		ug/L			08/06/15 08:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		80 - 120		08/06/15 08:51	1
Dibromofluoromethane (Surr)	102		76 - 132		08/06/15 08:51	1
Toluene-d8 (Surr)	110		80 - 128		08/06/15 08:51	1

**Lab Sample ID: LCS 440-271417/6**

**Matrix: Water**

**Analysis Batch: 271417**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	24.4		ug/L		97	68 - 130
Ethylbenzene	25.0	24.8		ug/L		99	70 - 130
m,p-Xylene	25.0	25.6		ug/L		102	70 - 130
o-Xylene	25.0	24.5		ug/L		98	70 - 130
Toluene	25.0	23.7		ug/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132
Toluene-d8 (Surr)	108		80 - 128

TestAmerica Irvine

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

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

**Lab Sample ID: 440-116856-B-2 MS**

**Matrix: Water**

**Analysis Batch: 271417**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	24.1		ug/L		96	66 - 130
Ethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130
m,p-Xylene	ND		25.0	25.1		ug/L		100	70 - 133
o-Xylene	ND		25.0	24.4		ug/L		98	70 - 133
Toluene	ND		25.0	23.6		ug/L		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	106		76 - 132
Toluene-d8 (Surr)	109		80 - 128

**Lab Sample ID: 440-116856-B-2 MSD**

**Matrix: Water**

**Analysis Batch: 271417**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	24.6		ug/L		98	66 - 130	2	20
Ethylbenzene	ND		25.0	24.6		ug/L		98	70 - 130	1	20
m,p-Xylene	ND		25.0	25.3		ug/L		101	70 - 133	1	25
o-Xylene	ND		25.0	24.8		ug/L		99	70 - 133	1	20
Toluene	ND		25.0	23.6		ug/L		94	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	106		76 - 132
Toluene-d8 (Surr)	106		80 - 128

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

**Lab Sample ID: MB 440-269130/4**

**Matrix: Water**

**Analysis Batch: 269130**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		50		ug/L			07/24/15 19:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	114		76 - 132		07/24/15 19:20	1
4-Bromofluorobenzene (Surr)	85		80 - 120		07/24/15 19:20	1
Toluene-d8 (Surr)	105		80 - 128		07/24/15 19:20	1

TestAmerica Irvine



# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

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

**Lab Sample ID: LCS 440-269130/6**  
**Matrix: Water**  
**Analysis Batch: 269130**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	500	387		ug/L		77	55 - 130
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	116		76 - 132				
4-Bromofluorobenzene (Surr)	89		80 - 120				
Toluene-d8 (Surr)	107		80 - 128				

**Lab Sample ID: 440-116058-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 269130**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	ND		1730	1360		ug/L		79	50 - 145
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	118		76 - 132						
4-Bromofluorobenzene (Surr)	85		80 - 120						
Toluene-d8 (Surr)	103		80 - 128						

**Lab Sample ID: 440-116058-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 269130**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Volatile Fuel Hydrocarbons (C4-C12)	ND		1730	1340		ug/L		77	50 - 145	2	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Dibromofluoromethane (Surr)	117		76 - 132								
4-Bromofluorobenzene (Surr)	82		80 - 120								
Toluene-d8 (Surr)	102		80 - 128								

**Lab Sample ID: MB 440-271418/5**  
**Matrix: Water**  
**Analysis Batch: 271418**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		50		ug/L			08/06/15 08:51	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	102		76 - 132					08/06/15 08:51	1
4-Bromofluorobenzene (Surr)	103		80 - 120					08/06/15 08:51	1
Toluene-d8 (Surr)	110		80 - 128					08/06/15 08:51	1

TestAmerica Irvine

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

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

**Lab Sample ID: LCS 440-271418/7**  
**Matrix: Water**  
**Analysis Batch: 271418**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	500	417		ug/L		83	55 - 130
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	100		76 - 132				
4-Bromofluorobenzene (Surr)	105		80 - 120				
Toluene-d8 (Surr)	110		80 - 128				

**Lab Sample ID: 440-116856-B-2 MS**  
**Matrix: Water**  
**Analysis Batch: 271418**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	ND		1730	2040		ug/L		118	50 - 145
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	106		76 - 132						
4-Bromofluorobenzene (Surr)	104		80 - 120						
Toluene-d8 (Surr)	109		80 - 128						

**Lab Sample ID: 440-116856-B-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 271418**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Volatile Fuel Hydrocarbons (C4-C12)	ND		1730	2070		ug/L		120	50 - 145	2	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Dibromofluoromethane (Surr)	106		76 - 132								
4-Bromofluorobenzene (Surr)	101		80 - 120								
Toluene-d8 (Surr)	106		80 - 128								

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

## GC/MS VOA

### Analysis Batch: 269129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-115823-1	S-5	Total/NA	Ground Water	8260B	
440-115823-2	S-4	Total/NA	Ground Water	8260B	
440-116058-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-116058-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 440-269129/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-269129/4	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 269130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-115823-1	S-5	Total/NA	Ground Water	8260B/CA_LUFT MS	
440-115823-2	S-4	Total/NA	Ground Water	8260B/CA_LUFT MS	
440-116058-A-1 MS	Matrix Spike	Total/NA	Water	8260B/CA_LUFT MS	
440-116058-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B/CA_LUFT MS	
LCS 440-269130/6	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
MB 440-269130/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

### Analysis Batch: 271417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-115823-3	S-6	Total/NA	Ground Water	8260B	
440-116856-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-116856-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 440-271417/6	Lab Control Sample	Total/NA	Water	8260B	
MB 440-271417/5	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 271418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-115823-3	S-6	Total/NA	Ground Water	8260B/CA_LUFT MS	
440-116856-B-2 MS	Matrix Spike	Total/NA	Water	8260B/CA_LUFT MS	
440-116856-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B/CA_LUFT MS	
LCS 440-271418/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
MB 440-271418/5	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

## 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	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	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

Client: GHD Services Inc.  
Project/Site: 461 8th St., Oakland, CA

TestAmerica Job ID: 440-115823-1

## Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16

\* Certification renewal pending - certification considered valid.

TestAmerica Irvine





## Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 440-115823-1

**Login Number: 115823**

**List Source: TestAmerica Irvine**

**List Number: 1**

**Creator: Blocker, Kristina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

