



**CONESTOGA-ROVERS  
& ASSOCIATES**

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## TRANSMITTAL

DATE: February 11, 2013 REFERENCE NO.: 240894  
 PROJECT NAME: 1800½ Powell Street, Emeryville  
 TO: Jerry Wickham  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

**RECEIVED**

*By Alameda County Environmental Health at 1:52 pm, Feb 13, 2013*

Please find enclosed:  Draft  Final  
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 Prints  
 Sent via:  Mail  Same Day Courier  
 Overnight Courier  Other GeoTracker and Alameda County FTP


QUANTITY	DESCRIPTION
1	Groundwater Monitoring Report - Fourth Quarter 2012

As Requested  For Review and Comment  
 For Your Use

**COMMENTS:**

If you have any questions regarding the contents of this document, please call Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown, Shell Oil Products US (electronic copy)  
 Au Energy LLC (property owner), c/o Nick Goyle, Vintners Distributors, Inc., 41805  
 Albrae Street, 2<sup>nd</sup> Floor, Fremont, CA 94538

Completed by: Peter Schaefer Signed: 

Filing: Correspondence File



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

**Denis L. Brown**  
**Shell Oil Products US**  
HSE – Environmental Services  
20945 S. Wilmington Ave.  
Carson, CA 90810-1039  
Tel (707) 865 0251  
Fax (707) 865 2542  
Email [denis.l.brown@shell.com](mailto:denis.l.brown@shell.com)

Re: Shell-branded Service Station  
1800½ Powell Street  
Emeryville, California  
SAP Code 135266  
Incident No. 98995349  
ACEH Case No. RO0000254

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 (707) 865-0251 with any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Denis L. Brown", with a long horizontal flourish extending to the right.

Denis L. Brown  
Senior Program Manager



## **GROUNDWATER MONITORING REPORT - FOURTH QUARTER 2012**

**SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET  
EMERYVILLE, CALIFORNIA**

**SAP CODE            135266  
INCIDENT NO.      98995349  
AGENCY NO.        RO0000254**

**FEBRUARY 11, 2013  
REF. NO. 240894 (7)**

This report is printed on recycled paper.

**Prepared by:  
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& Associates**

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- APPENDIX B TESTAMERICA LABORATORIES, INC. - ANALYTICAL REPORT

## 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell).

### 1.1 SITE INFORMATION

Site Address	1800½ Powell Street, Emeryville
Site Use	Shell-branded Service Station
Shell Project Manager	Denis Brown
CRA Project Manager	Peter Schaefer
Lead Agency and Contact	ACEH, Jerry Wickham
Agency Case No.	RO0000254
Shell SAP Code	135266
Shell Incident No.	98995349

Date of most recent agency correspondence was June 25, 2012 (electronic).

## 2.0 SITE ACTIVITIES, FINDINGS, AND DISCUSSION

### 2.1 CURRENT ACTIVITIES

CRA's April 27, 2012 *Hydrocarbon Fingerprinting* correspondence discussed a review of chromatographs from the fourth quarter 2011 groundwater sampling event. The review concluded that there is a trace of gasoline in residual petroleum hydrocarbons detected in groundwater; however, the majority of hydrocarbons are in the motor oil range or heavier.

Blaine Tech Services, Inc. (Blaine) gauged and sampled the wells according to the established monitoring program for this site. CRA 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.

## 2.2 CURRENT FINDINGS

Groundwater Flow Direction	Southwesterly
Hydraulic Gradient	0.02
Depth to Water	8.58 to 10.39 feet below top of well casing

## 2.3 PROPOSED ACTIVITIES

Blaine will gauge and sample wells according to the established monitoring program for this site. This site is monitored annually during the fourth quarter, and CRA will issue a groundwater monitoring report annually following the sampling event.

All of Which is Respectfully Submitted,  
CONESTOGA-ROVERS & ASSOCIATES

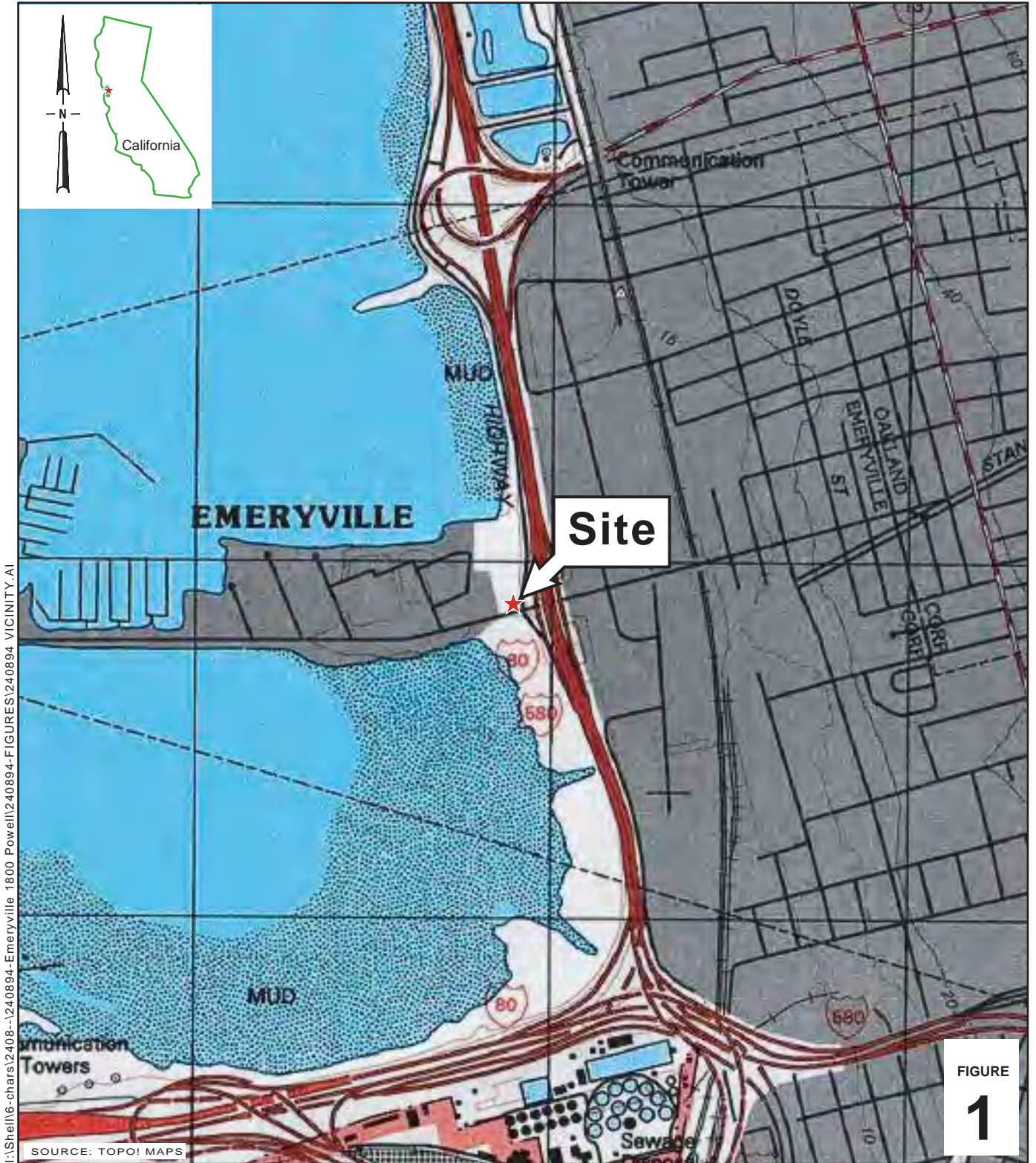
*Peter Schaefer*  
Peter Schaefer, CHG, CEG

*Aubrey K Cool*  
Aubrey K. Cool, PG





## FIGURES



I:\Shell\6-chars\2408--1240894-Emeryville\_1800\_Powell\240894-FIGURES\240894 VICINITY.A1

FIGURE  
**1**

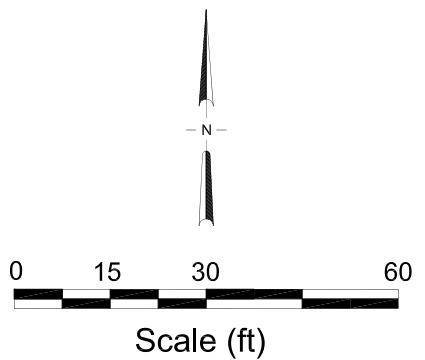
### Shell-branded Service Station

1800 1/2 Powell Street  
Emeryville, California



**CONESTOGA-ROVERS  
& ASSOCIATES**

### Vicinity Map



**EXPLANATION**

- S-5 ● Monitoring well location
- S-6 ☒ Destroyed monitoring well location
- S-1/A ▲ Tank backfill well location

**Notes:**  
 ND = Not detected  
 NS = Not sampled

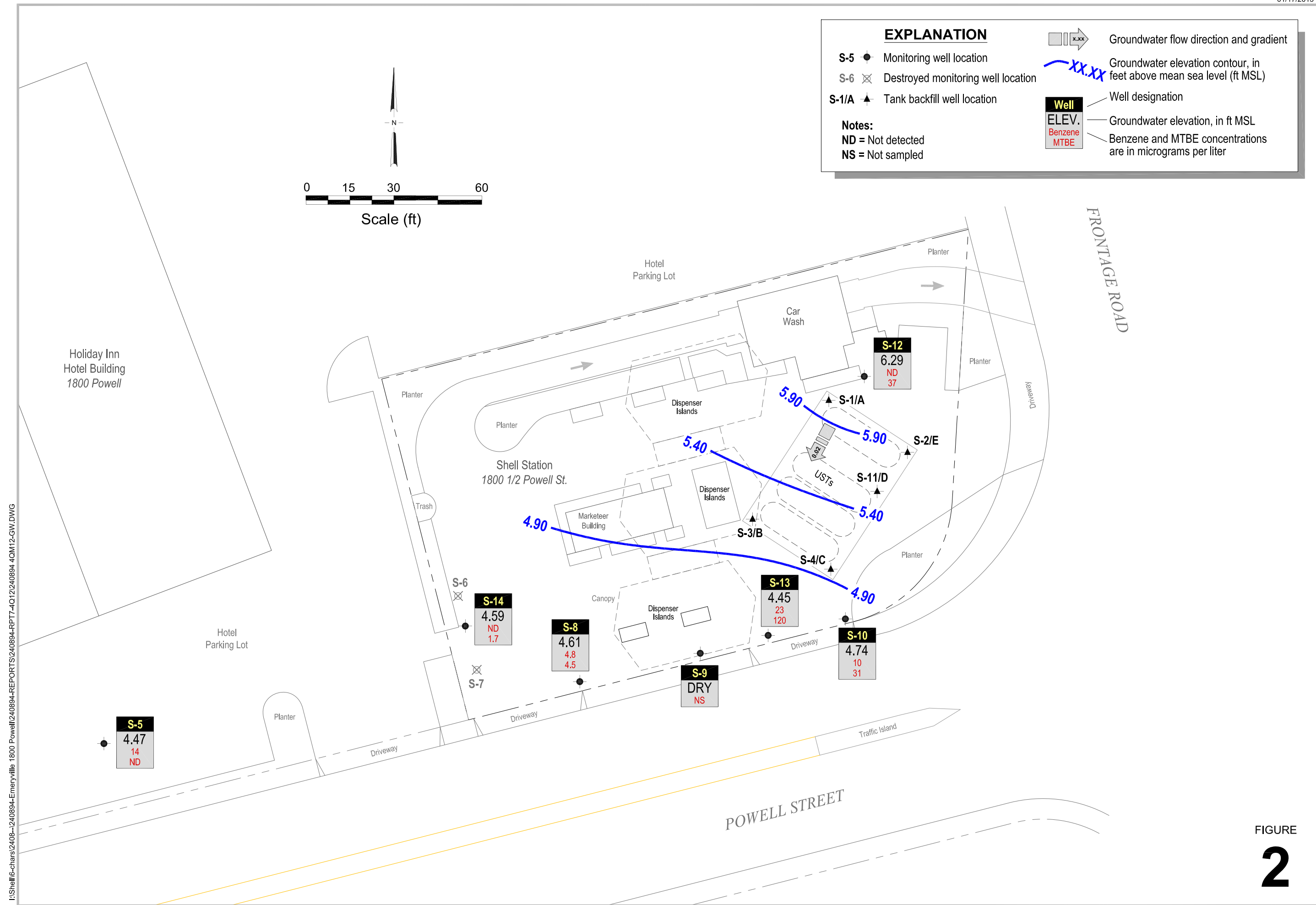
Groundwater flow direction and gradient (arrow with x.xx)

Groundwater elevation contour, in feet above mean sea level (ft MSL) (xx.xx)

Well designation (Well box)

Groundwater elevation, in ft MSL (ELEV. box)

Benzene and MTBE concentrations are in micrograms per liter (Benzene/MTBE box)



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FIGURE 2

TABLE

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPHmo (µg/L)	TPHd (µg/L)	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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-5	10/27/1988	---	---	3,000	660	20	20	70	---	---	---	---	---	---	11.72	---	---	---
S-5	02/10/1989	---	---	2,800	740	20	20	140	---	---	---	---	---	---	11.72	---	---	---
S-5	04/28/1989	---	---	4,300	750	10	20	<30	---	---	---	---	---	---	11.72	---	---	---
S-5	07/07/1989	---	---	1,500	300	8.0	7.0	9.0	---	---	---	---	---	---	11.72	---	---	---
S-5	10/25/1989	---	---	2,100	760	10	40	50	---	---	---	---	---	---	11.72	---	---	---
S-5	01/04/1990	---	---	1,300	520	9.0	8.0	10	---	---	---	---	---	---	11.72	---	---	---
S-5	07/06/1990	---	---	1,400	500	10	4.0	<10	---	---	---	---	---	---	11.72	8.36	---	3.36
S-5	10/19/1990	---	---	4,200	1,100	9.0	14	7.0	---	---	---	---	---	---	11.72	---	---	---
S-5	01/14/1991	---	6,100	4,500	1,100	15	30	25	---	---	---	---	---	---	11.72	---	---	---
S-5	04/23/1991	---	---	2,800	500	8.0	14	10	---	---	---	---	---	---	11.72	---	---	---
S-5	07/08/1991	---	---	3,200	1,000	16	9.0	12	---	---	---	---	---	---	11.72	9.15	---	2.57
S-5	10/11/1991	---	---	1,700	16	5.7	5.2	8.9	---	---	---	---	---	---	11.72	9.67	---	2.05
S-5	02/12/1992	---	---	1,300	300	5.0	<5	<5	---	---	---	---	---	---	11.72	9.00	---	2.72
S-5	05/11/1992	---	---	1,900	490	<0.5	<5	<5	---	---	---	---	---	---	11.72	8.61	---	3.11
S-5	09/01/1992	---	---	6,700	760	26	<25	<25	---	---	---	---	---	---	11.72	9.61	---	2.11
S-5	12/04/1992	---	---	2,900	890	5.3	7.3	13	---	---	---	---	---	---	11.72	9.47	---	2.25
S-5	02/17/1993	---	---	1,300	280	3.0	3.4	9.4	---	---	---	---	---	---	11.72	8.29	---	3.43
S-5	05/29/1993	---	---	460	130	<0.5	<0.5	2.9	---	---	---	---	---	---	11.72	9.16	---	2.56
S-5	08/11/1993	---	---	1,700	530	5.5	<5	5.8	---	---	---	---	---	---	11.72	9.30	---	2.42
S-5	11/12/1993	---	---	---	---	---	---	---	---	---	---	---	---	---	11.72	9.42	---	2.30
S-5	02/21/1994	---	---	1,000	250	<5	<5	<5	---	---	---	---	---	---	11.72	7.95	---	3.77
S-5 (D)	02/21/1994	---	---	1,300	220	<5	<5	11	---	---	---	---	---	---	11.72	7.95	---	3.77
S-5	05/16/1994	---	---	1,200	230	<5	<5	<5	---	---	---	---	---	---	11.72	8.00	---	3.72
S-5	08/09/1994	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	11.72	---	---	---
S-5	11/09/1994	---	---	1,600	220	3.2	1.8	5.0	---	---	---	---	---	---	11.72	8.32	---	3.40
S-5 (D)	11/09/1994	---	---	1,600	250	3.3	1.9	5.9	---	---	---	---	---	---	11.72	8.32	---	---
S-5	02/22/1995	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	11.72	---	---	---
S-5	05/02/1995	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	11.72	---	---	---
S-5	05/10/1995	---	---	910	170	1.5	1.3	5.2	---	---	---	---	---	---	11.72	---	---	---
S-5	08/24/1995	---	---	620	210	<0.5	1.2	5.3	---	---	---	---	---	---	11.72	8.78	---	2.94
S-5	12/08/1995	---	---	1,600	510	3.3	1.5	6.6	---	---	---	---	---	---	11.72	9.78	---	1.94
S-5 (D)	12/08/1995	---	---	1,600	530	1.8	1.1	5.4	---	---	---	---	---	---	11.72	9.78	---	1.94
S-5	02/29/1996	---	---	1,900	470	5.8	<5.0	<5.0	46	---	---	---	---	---	11.72	7.64	---	4.08
S-5 (D)	02/29/1996	---	---	1,700	440	5.4	<5.0	<5.0	40	---	---	---	---	---	11.72	7.64	---	4.08
S-5	05/22/1996	---	---	1,200	490	<10	<10	<10	<50	---	---	---	---	---	11.72	8.60	---	3.12

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPHmo (µg/L)	TPHd (µg/L)	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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-5	07/30/1996	---	---	1,100	400	<5.0	<5.0	6.9	<25	---	---	---	---	---	11.72	9.40	---	2.32
S-5	11/11/1996	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	11.72	---	---	---
S-5	11/03/1997	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	11.72	---	---	---
S-5	11/06/1998	---	---	620	91	<0.50	0.64	4.0	<2.5	---	---	---	---	---	11.72	8.25	---	3.47
S-5	12/07/1999	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	11.72	---	---	---
S-5	11/02/2000	---	---	1,120	191	2.78	<2.50	3.56	<12.5	---	---	---	---	---	11.72	8.55	---	3.17
S-5	12/27/2001	---	---	760	110	2.4	<0.50	5.8	---	<5.0	---	---	---	---	11.72	7.64	---	4.08
S-5	11/26/2002	Well inaccessible	---	---	---	---	---	---	---	---	---	---	---	---	14.07	---	---	---
S-5	12/06/2002	---	---	860	130	2.3	<0.50	6.0	---	<5.0	---	---	---	---	14.07	8.62	---	5.45
S-5	11/25/2003	---	---	920	180	3.0	<1.0	6.2	---	<1.0	---	---	---	---	14.07	9.32	---	4.75
S-5	11/10/2004	---	---	530	2.4	0.68	<0.50	6.3	---	<0.50	---	---	---	---	14.07	9.35	---	4.72
S-5	11/23/2005	---	---	1,630	102	2.42	0.540	5.71	---	<0.500	<10.0	<0.500	<0.500	<0.500	14.07	9.62	---	4.45
S-5	11/21/2006	---	---	1,100	91	2.4	<0.50	5.3	---	<0.50	<5.0	<2.0	<2.0	<2.0	14.07	9.60	---	4.47
S-5	11/14/2007	---	---	1,700 m	92	2.9	0.33 n	6.2	---	<1.0	<10	<2.0	<2.0	<2.0	14.07	8.60	---	5.47
S-5	11/17/2008	---	---	810	30	1.6	<1.0	4.4	---	<1.0	<10	<2.0	<2.0	<2.0	14.07	8.10	---	5.97
S-5	11/12/2009	---	---	1,000	24	1.5	<1.0	3.8	---	<1.0	<10	<2.0	<2.0	<2.0	14.07	8.52	---	5.55
S-5	12/03/2010	---	---	790	16	<1.0	<1.0	4.2	---	<1.0	<10	<2.0	<2.0	<2.0	14.07	8.04	---	6.03
S-5	12/01/2011	---	---	280	<0.500	<0.500	<0.500	2.23	---	<0.500	<10.0	<0.500	<0.500	<0.500	14.07	8.80	---	5.27
S-5	01/16/2012	---	7,300 l	---	---	---	---	---	---	---	---	---	---	---	14.07	8.87	---	5.20
S-5	10/05/2012	---	---	550	14	<0.50	<0.50	4.4	---	<0.50	<10	<0.50	<0.50	<0.50	14.07	9.60	---	4.47
S-6	10/27/1988	---	---	6,000	1,700	50	80	420	---	---	---	---	---	---	---	---	---	---
S-6	02/10/1989	---	---	2,800	740	20	20	140	---	---	---	---	---	---	---	---	---	---
S-6	04/28/1989	---	---	6,500	2,400	30	50	210	---	---	---	---	---	---	---	---	---	---
S-6	07/07/1989	---	---	3,700	1,700	34	55	200	---	---	---	---	---	---	---	---	---	---
S-6	10/25/1989	---	---	<50	23	<5.0	<5.0	10	---	---	---	---	---	---	---	---	---	---
S-6	11/10/1989	Well abandoned	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-7	10/27/1988	---	---	50	1.1	<1	<1	4.0	---	---	---	---	---	---	---	---	---	---
S-7	02/10/1989	---	---	---	0.90	<1	<1	<3	---	---	---	---	---	---	---	---	---	---
S-7	04/28/1989	---	---	<50	<1	<1	<1	<3	---	---	---	---	---	---	---	---	---	---
S-7	07/07/1989	---	---	70	2.2	<1	<1	<3	---	---	---	---	---	---	---	---	---	---
S-7	10/25/1989	---	---	6,200	2,200	130	190	660	---	---	---	---	---	---	---	---	---	---
S-7	11/10/1989	Well abandoned	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPH <sub>mo</sub> (µg/L)	TPH <sub>d</sub> (µg/L)	TPH <sub>g</sub> (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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-8	10/27/1988	---	---	1,000	610	9.0	1.0	42	---	---	---	---	---	---	12.76	---	---	---
S-8	02/10/1989	---	---	500	160	5.0	<2	17	---	---	---	---	---	---	12.76	---	---	---
S-8	04/28/1989	---	---	2,700	1,500	20	10	40	---	---	---	---	---	---	12.76	---	---	---
S-8	07/07/1989	---	---	440	180	5.0	2.0	12	---	---	---	---	---	---	12.76	---	---	---
S-8	10/25/1989	---	---	2,000	1,100	17	5.0	70	---	---	---	---	---	---	12.76	---	---	---
S-8	01/04/1990	---	---	1,900	1,300	20	<10	70	---	---	---	---	---	---	12.76	---	---	---
S-8	07/06/1990	---	---	1,600	920	30	<10	60	---	---	---	---	---	---	12.76	9.50	---	3.26
S-8	10/19/1990	---	---	1,400	640	<10	<10	30	---	---	---	---	---	---	12.76	---	---	---
S-8	01/14/1991	600	760	670	190	5.8	<0.5	19	---	---	---	---	---	---	12.76	---	---	---
S-8	04/23/1991	---	---	2,400	740	54	5.7	59	---	---	---	---	---	---	12.76	---	---	---
S-8	07/08/1991	---	---	1,100	450	15	<2.5	42	---	---	---	---	---	---	12.76	10.45	---	2.31
S-8	10/11/1991	---	---	340	4.0	0.60	<0.5	17	---	---	---	---	---	---	12.76	10.83	---	1.93
S-8	02/12/1992	---	---	<1,000	260	<10	<10	11	---	---	---	---	---	---	12.76	10.44	---	2.32
S-8	05/11/1992	---	---	1,800	700	14	<5	46	---	---	---	---	---	---	12.76	10.17	---	2.59
S-8	09/01/1992	---	---	---	---	---	---	---	---	---	---	---	---	---	12.76	10.81	a	1.95
S-8	12/04/1992	---	---	960	250	4.3	<2.5	14	---	---	---	---	---	---	12.76	10.81	---	1.95
S-8	02/17/1993	---	---	2,700	800	35	10	83	---	---	---	---	---	---	12.76	9.65	---	3.11
S-8	05/29/1993	---	---	960	710	25	84	80	---	---	---	---	---	---	12.76	10.46	---	2.30
S-8	08/11/1993	---	---	1,300	630	17	<5	46	---	---	---	---	---	---	12.76	10.59	---	2.17
S-8	11/12/1993	---	---	910	180	8.0	<2.5	15	---	---	---	---	---	---	12.76	10.29	---	2.47
S-8	02/21/1994	---	---	3,200	480	52	<5	130	---	---	---	---	---	---	12.76	9.52	---	3.24
S-8	05/16/1994	---	---	1,000	220	7.3	<5	28	---	---	---	---	---	---	12.76	9.49	---	3.27
S-8 (D)	05/16/1994	---	---	1,000	280	10	<5	29	---	---	---	---	---	---	12.76	9.49	---	3.27
S-8	08/09/1994	---	---	400	27	6.6	<0.5	18	---	---	---	---	---	---	12.76	10.37	---	2.39
S-8	11/09/1994	---	---	650	170	5.3	<0.5	17	---	---	---	---	---	---	12.76	9.58	---	3.18
S-8	02/22/1995	---	---	650	210	10	1.2	22	---	---	---	---	---	---	12.76	9.02	---	3.74
S-8	05/02/1995	---	---	1,000	280	17	1.4	32	---	---	---	---	---	---	12.76	8.45	---	4.31
S-8	08/24/1995	---	---	480	180	11	1.0	19	---	---	---	---	---	---	12.76	10.02	---	2.74
S-8 (D)	08/24/1995	---	---	700	180	6.5	<0.5	17	---	---	---	---	---	---	12.76	10.02	---	2.74
S-8	12/08/1995	---	---	740	230	6.9	0.70	15	---	---	---	---	---	---	12.76	10.65	---	2.11
S-8	02/29/1996	---	---	740	260	8.1	<5.0	19	58	---	---	---	---	---	12.76	9.10	---	3.66
S-8	05/22/1996	---	---	1,200	350	10	<5.0	23	74	---	---	---	---	---	12.76	10.14	---	2.62
S-8	07/30/1996	---	---	530	220	20	6.3	36	69	---	---	---	---	---	12.76	10.51	---	2.25
S-8	11/11/1996	---	---	540	140	3.7	<2.0	17	42	---	---	---	---	---	12.76	10.23	---	2.53
S-8	11/03/1997	---	---	480	54	3.5	<0.50	12	40	---	---	---	---	---	12.76	9.40	---	3.36

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800<sup>1</sup>/<sub>2</sub> POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPHmo (µg/L)	TPHd (µg/L)	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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-8	11/06/1998	---	---	740	110	10	2.8	26	31	---	---	---	---	---	12.76	9.78	---	2.98
S-8	12/07/1999	---	---	770	270	16	<2.0	33	75	---	---	---	---	---	12.76	10.14	---	2.62
S-8	11/02/2000	---	---	436	75.8	6.18	0.549	14.9	81.5	---	---	---	---	---	12.76	9.45	---	3.31
S-8	12/27/2001	---	---	1,300	62	11	1.8	31	---	86	---	---	---	---	12.76	9.19	---	3.57
S-8	11/26/2002	---	---	970	58	3.8	0.51	15	---	35	---	---	---	---	15.00	10.10	---	4.90
S-8	11/25/2003	---	---	400	19	4.4	<0.50	15	---	34	---	---	---	---	15.00	10.49	---	4.51
S-8	11/10/2004	---	---	430	28	3.4	<0.50	11	---	25	---	---	---	---	15.00	10.45	---	4.55
S-8	11/23/2005	---	---	476	8.72	3.15	1.03	12.6	---	35.2	20.1	<0.500	<0.500	<0.500	15.00	10.46	---	4.54
S-8	11/21/2006	---	---	280	5.9	1.9	4.9	7.9	---	27	47	<2.0	<2.0	<2.0	15.00	10.61	---	4.39
S-8	11/14/2007	---	---	520 m	2.2	0.66 n	<1.0	4.9	---	29	38	<2.0	<2.0	<2.0	15.00	10.01	---	4.99
S-8	11/17/2008	---	---	550	6.9	1.8	<1.0	8.0	---	36	23	<2.0	<2.0	<2.0	15.00	9.64	---	5.36
S-8	11/12/2009	---	---	640	8.1	3.5	<1.0	9.8	---	72	23	<2.0	<2.0	<2.0	15.00	10.00	---	5.00
S-8	12/03/2010	---	---	810	5.3	4.2	<1.0	14	---	37	23	<2.0	<2.0	<2.0	15.00	9.32	---	5.68
S-8	12/01/2011	---	---	150	1.05	<0.500	<0.500	3.94	---	24.7	<10.0	<0.500	<0.500	<0.500	15.00	9.90	---	5.10
S-8	01/16/2012	---	1,400.1	---	---	---	---	---	---	---	---	---	---	---	15.00	8.34	---	6.66
S-8	10/05/2012	---	---	610	4.8	1.9	<0.50	6.5	---	4.5	<10	<0.50	<0.50	<0.50	15.00	10.39	---	4.61
S-9	10/27/1988	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	02/10/1989	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	1.30	---
S-9	04/28/1989	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	1.25	---
S-9	07/07/1989	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	1.20	---
S-9	10/25/1989	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	01/04/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	04/12/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	07/06/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	9.67	a	3.08
S-9	10/19/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	01/14/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	04/23/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	07/08/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	10/11/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	22.30	a	-9.55
S-9	02/24/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	05/16/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	1.50	---
S-9	08/09/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	11.80	2.00	---
S-9	11/09/1994	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	---	a	---
S-9	02/22/1995	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	11.40	2.38	---



TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPH <sub>mo</sub> (µg/L)	TPH <sub>d</sub> (µg/L)	TPH <sub>g</sub> (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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)	
S-9	05/02/1995	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	11.83	2.12	---	
S-9	12/08/1995	---	---	---	---	---	---	---	---	---	---	---	---	---	12.75	11.92	1.06	---	
S-9	02/29/1996	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	12.10	2.79	2.88
S-9	05/22/1996	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	11.71	1.75	2.44
S-9	07/30/1996	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	---	a	---
S-9	11/11/1996	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	---	9.00	---
S-9	11/03/1997	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	---	a	---
S-9	11/06/1998	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	---	a	---
S-9	12/07/1999	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	---	---	---
S-9	11/02/2000	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	---	---	---
S-9	12/27/2001	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	12.75	---	---	---
S-9	11/26/2002	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	14.83	---	---	---
S-9	11/25/2003	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	14.83	---	---	---
S-9	11/25/2003	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	14.98 i	---	---	---
S-9	11/23/2005	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	14.98	---	---	---
S-9	11/21/2006	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	14.98	---	---	---
S-9	11/14/2007	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	14.98	---	---	---
S-9	11/17/2008	Tar-like substance in well, probably from previous landfill activities; not gasoline.										---	---	---	---	14.98	---	---	---
S-9	11/12/2009	Dry	---	---	---	---	---	---	---	---	---	---	---	---	14.98	---	---	---	
S-9	12/03/2010	Dry	---	---	---	---	---	---	---	---	---	---	---	---	14.98	---	---	---	
S-9	12/01/2011	Dry	---	---	---	---	---	---	---	---	---	---	---	---	14.98	---	---	---	
S-9	10/05/2012	Dry	---	---	---	---	---	---	---	---	---	---	---	---	14.98	---	---	---	
S-10	10/27/1988	---	---	700,000	37,000	100,000	20,000	110,000	---	---	---	---	---	---	12.58	---	---	---	
S-10	02/10/1989	---	---	6,500	480	700	100	1,800	---	---	---	---	---	---	12.58	---	---	---	
S-10	04/28/1989	---	---	13,000	1,300	500	600	3,700	---	---	---	---	---	---	12.58	---	---	---	
S-10	07/07/1989	---	---	14,000	1,300	310	270	2,400	---	---	---	---	---	---	12.58	---	---	---	
S-10	10/25/1989	---	---	4,200	580	34	4.0	440	---	---	---	---	---	---	12.58	---	---	---	
S-10	01/04/1990	---	---	1,700	360	10	7.8	170	---	---	---	---	---	---	12.58	---	---	---	
S-10	04/12/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	---	0.01	---	
S-10	07/06/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	9.16	0.01	3.42	
S-10	10/19/1990	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	---	0.03	---	
S-10	01/14/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	---	0.03	---	
S-10	04/23/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	---	0.01	---	
S-10	07/08/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	9.41	0.03	3.17	

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPHmo (µg/L)	TPHd (µg/L)	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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-10	10/11/1991	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	7.77	a	4.81
S-10	02/12/1992	---	---	1,200	470	16	<5	14	---	---	---	---	---	---	12.58	6.41	---	6.17
S-10	05/11/1992	---	---	1,100	100	6.0	4.0	19	---	---	---	---	---	---	12.58	9.04	---	3.54
S-10	09/01/1992	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	9.38	0.01	3.20
S-10	12/04/1992	---	---	---	---	---	---	---	---	---	---	---	---	---	12.58	6.89	a	5.69
S-10	02/17/1993	---	---	530	89	8.5	1.6	4.5	---	---	---	---	---	---	12.58	7.34	---	5.24
S-10	05/29/1993	---	---	240	65	3.8	2.2	8.6	---	---	---	---	---	---	12.58	6.60	---	5.98
S-10	08/11/1993	---	---	250	23	4.1	<1	6.4	---	---	---	---	---	---	12.58	9.09	---	3.49
S-10	11/12/1993	---	---	320	1.6	1.3	1.4	6.2	---	---	---	---	---	---	12.58	6.58	---	6.00
S-10	02/21/1994	---	---	1,400	190	9.9	<2.5	19	---	---	---	---	---	---	12.58	8.32	---	4.26
S-10	05/16/1994	---	---	300	45	8.6	6.2	19	---	---	---	---	---	---	12.58	8.35	---	4.23
S-10	08/08/1994	---	---	700	57	14	<0.5	9.3	---	---	---	---	---	---	12.58	8.66	---	3.92
S-10	11/09/1994	---	---	640	130	2.0	1.6	4.1	---	---	---	---	---	---	12.58	6.68	---	5.90
S-10	02/22/1995	---	---	500	65	5.9	1.0	8.2	---	---	---	---	---	---	12.58	9.12	---	3.46
S-10	05/02/1995	---	---	530	59	2.3	0.80	8.2	---	---	---	---	---	---	12.58	9.50	---	3.08
S-10	08/24/1995	---	---	350	35	4.6	<0.5	6.7	---	---	---	---	---	---	12.58	10.06	---	2.52
S-10	12/08/1995	---	---	690	28	4.6	0.90	8.6	---	---	---	---	---	---	12.58	10.08	---	2.50
S-10	02/29/1996	---	---	430	32	1.8	0.50	5.8	16	---	---	---	---	---	12.58	5.32	---	7.26
S-10	05/22/1996	---	1,200	100	19	0.63	<0.5	1.4	5.3	---	---	---	---	---	12.58	6.04	---	6.54
S-10	07/30/1996	---	13,000	240	17	<1.2	<1.2	7.8	11	---	---	---	---	---	12.58	10.48	---	2.10
S-10	11/11/1996	---	4,800	370	16	1.1	<0.5	7.0	94	---	---	---	---	---	12.58	10.31	---	2.27
S-10	11/03/1997	---	1,100	340	6.7	2.1	<0.50	3.3	19	---	---	---	---	---	12.58	9.53	---	3.05
S-10 (D)	11/03/1997	---	1,100	310	7.8	1.3	<0.50	3.1	19	---	---	---	---	---	12.58	9.53	---	3.05
S-10	11/06/1998	---	2,000	<250	<2.5	<2.5	<2.5	6.5	900	---	---	---	---	---	12.58	5.12	---	7.46
S-10	12/07/1999	---	2,230	400	47	33	10	29	90	---	---	---	---	---	12.58	7.95	---	4.63
S-10	11/02/2000	---	14,500	536	32.0	3.08	<0.500	2.98	42.3	---	---	---	---	---	12.58	7.05	---	5.53
S-10	12/27/2001	---	6,600	870	61	4.9	2.5	15	---	26	---	---	---	---	12.58	7.43	---	5.15
S-10	11/26/2002	---	9,800	720	56	3.5	<0.50	8.4	---	52	---	---	---	---	15.11	9.75	---	5.36
S-10	11/25/2003	---	530 k	550	29	2.7	<0.50	8.4	---	49	---	---	---	---	15.11	9.00	---	6.11
S-10	11/10/2004	---	1,500 k	660	64	5.0	0.61	14	---	54	---	---	---	---	14.93 i	9.50	---	5.43
S-10	11/23/2005	---	---	866	47.0	3.44	0.600	12.6	---	61.9	<10.0	<0.500	<0.500	<0.500	14.93	10.23	---	4.70
S-10	11/21/2006	---	12,000	490	21	2.3	5.8	9.6	---	48	34	<2.0	<2.0	<2.0	14.93	10.04	---	4.89
S-10	11/14/2007	---	1,300 k,l	740 m	19	2.1	<1.0	8.0	---	44	20	<2.0	<2.0	<2.0	14.93	9.49	---	5.44
S-10	11/17/2008	---	2,000 l	630	7.3	1.0	<1.0	7.0	---	32	11	<2.0	<2.0	<2.0	14.93	10.03	---	4.90
S-10	11/12/2009	---	2,100 l	600	7.9	1.1	<1.0	5.7	---	23	12	<2.0	<2.0	<2.0	14.93	10.31	---	4.62

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPHmo (µg/L)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE		TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
									8020 (µg/L)	8260 (µg/L)								
S-10	12/03/2010	---	900 l	740	6.0	1.3	<1.0	9.3	---	19	12	<2.0	<2.0	<2.0	14.93	9.60	---	5.33
S-10	12/01/2011	---	10,100 h,l	430	2.87	0.680	<0.500	6.85	---	22.0	<10.0	<0.500	<0.500	<0.500	14.93	10.60	---	4.33
S-10	01/16/2012	---	5,700 l	---	---	---	---	---	---	---	---	---	---	---	14.93	9.96	---	4.97
S-10	10/05/2012	---	510 l	890	10	2.9	<0.50	19	---	31	13	<0.50	<0.50	1.6	14.93	10.19	---	4.74
S-12	07/07/1989	---	2,200	<250	0.71	<0.5	<0.5	<3.6	---	---	---	---	---	---	12.84	8.22	---	---
S-12	11/17/1989	---	1,400	<250	18	<2	<2	<5	---	---	---	---	---	---	12.84	---	---	---
S-12	01/04/1990	---	---	<250	24	2.0	<2	<5	---	---	---	---	---	---	12.84	---	---	---
S-12	07/06/1990	---	---	80	15	0.70	<0.5	2.0	---	---	---	---	---	---	12.84	8.27	---	4.57
S-12	10/19/1990	---	---	150	12	9.0	<0.5	3.6	---	---	---	---	---	---	12.84	---	---	---
S-12	01/14/1991	600	1,000	120	3.6	0.80	<0.5	2.9	---	---	---	---	---	---	12.84	---	---	---
S-12	04/23/1991	800	820	100	3.7	3.8	0.80	11	---	---	---	---	---	---	12.84	---	---	---
S-12	07/08/1991	---	---	70	2.5	0.80	<0.5	2.4	---	---	---	---	---	---	12.84	9.50	---	3.34
S-12	10/11/1991	5,100	2,500	220	2.1	0.70	<0.5	1.2	---	---	---	---	---	---	12.84	9.90	---	2.94
S-12	02/12/1992	1,400	2,500	110	0.80	<0.5	<0.5	1.3	---	---	---	---	---	---	12.84	9.43	---	3.41
S-12	05/11/1992	---	3,800 b	140	0.80	0.80	<0.5	2.5	---	---	---	---	---	---	12.84	8.65	---	4.19
S-12	09/01/1992	---	2,600 b	190	3.0	15	0.50	4.5	---	---	---	---	---	---	12.84	9.86	---	2.98
S-12	12/04/1992	---	3,900 b	180	1.2	1.0	1.0	7.7	---	---	---	---	---	---	12.84	9.93	---	2.91
S-12	02/17/1993	---	2,100 b	350 k	0.60	<0.5	0.50	5.5	---	---	---	---	---	---	12.84	8.08	---	4.76
S-12	05/29/1993	---	2,200	290	2.0	1.6	4.4	6.0	---	---	---	---	---	---	12.84	9.08	---	3.76
S-12	08/11/1993	---	720	240	0.70	<0.5	<0.5	1.1	---	---	---	---	---	---	12.84	9.35	---	3.49
S-12	11/12/1993	---	4,100	210 k	0.70	0.50	<0.5	3.4	---	---	---	---	---	---	12.84	9.28	---	3.56
S-12	02/21/1994	---	2,200 c	240 o	0.70	<0.5	<0.5	3.6	---	---	---	---	---	---	12.84	8.22	---	4.62
S-12	05/16/1994	---	2,200	96	1.5	<0.5	<0.5	2.0	---	---	---	---	---	---	12.84	8.92	---	3.92
S-12	08/08/1994	---	3,500 e	110 d	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---	12.84	---	---	0.00
S-12	11/09/1994	---	5,400 e	80	80	<0.5	<0.5	0.60	---	---	---	---	---	---	12.84	7.56	---	5.28
S-12	02/22/1995	---	2,900 e,f	110	0.70	<0.5	<0.5	3.7	---	---	---	---	---	---	12.84	7.98	---	4.86
S-12 (D)	02/22/1995	---	3,400 e,f	110	4.8	7.1	<0.5	2.1	---	---	---	---	---	---	12.84	7.98	---	4.86
S-12	05/02/1995	---	2,800	140	2.4	1.1	0.80	4.3	---	---	---	---	---	---	12.84	8.44	---	4.40
S-12	08/24/1995	---	1,600	200	19	12	5.6	24	---	---	---	---	---	---	12.84	9.00	---	3.84
S-12	12/08/1995	---	2,700	170	2.2	0.70	0.90	3.6	---	---	---	---	---	---	12.84	9.62	---	3.22
S-12	02/29/1996	---	2,200	1,700	<5.0	<5.0	<5.0	<5.0	5,600	---	---	---	---	---	12.84	7.64	---	5.20
S-12	05/22/1996	---	5,700	<1,000	<10	<10	<10	<10	2,400	---	---	---	---	---	12.84	8.94	---	3.90
S-12	07/30/1996	---	3,200	<500	<5.0	<5.0	<5.0	<5.0	1,500	---	---	---	---	---	12.84	9.71	---	3.13
S-12 (D)	07/30/1996	---	2,900	<500	<5.0	<5.0	<5.0	<5.0	---	2,000	---	---	---	---	12.84	9.71	---	3.13

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPH <sub>mo</sub> (µg/L)	TPH <sub>d</sub> (µg/L)	TPH <sub>g</sub> (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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-12	11/11/1996	---	6,900	<500	<5.0	<5.0	<5.0	<5.0	1,400	---	---	---	---	---	12.84	9.65	---	3.19
S-12	11/03/1997	---	2,800	110	2.1	<0.50	<0.50	1.3	---	---	---	---	---	---	12.84	8.73	---	4.11
S-12	11/06/1998	---	2,900	<500	<5.0	<5.0	<5.0	<5.0	2,700	---	---	---	---	---	12.84	8.85	---	3.99
S-12	12/07/1999	---	2,800	<500	<5.0	<5.0	<5.0	<5.0	1,900	---	---	---	---	---	12.84	8.32	---	4.52
S-12	11/02/2000	---	4,000	132	0.642	<0.500	<0.500	1.07	1,900	2,230 h	---	---	---	---	12.84	7.50	---	5.34
S-12	12/27/2001	---	2,700	230	<2.0	<2.0	<2.0	<2.0	---	760	---	---	---	---	12.84	7.00	---	5.84
S-12	11/26/2002	---	540	180	<1.0	<1.0	<1.0	1.7	---	390	---	---	---	---	14.87	8.35	---	6.52
S-12	11/25/2003	---	2,600 k	<250	<2.5	<2.5	<2.5	<5.0	---	310	---	---	---	---	14.87	6.04	---	8.83
S-12	11/10/2004	---	1,000 k	290	<1.0	1.2	<1.0	5.0	---	140	---	---	---	---	14.87	7.80	---	7.07
S-12	11/23/2005	---	---	<50.0	<0.500	<0.500	<0.500	2.63	---	93.3	398	<0.500	<0.500	<0.500	14.87	7.22	---	7.65
S-12	11/21/2006	---	220	280	<1.0	<1.0	<1.0	<2.0	---	110	600	<4.0	<4.0	<4.0	14.87	8.53	---	6.34
S-12	11/14/2007	---	660 k,l	360 m	0.23 n	<1.0	<1.0	0.51 n	---	83	830	<2.0	<2.0	<2.0	14.87	7.40	---	7.47
S-12	11/17/2008	---	2,600 l	390	<0.50	<1.0	<1.0	<1.0	---	44	350	<2.0	<2.0	<2.0	14.87	6.80	---	8.07
S-12	11/12/2009	---	690 l	200	<0.50	<1.0	<1.0	<1.0	---	61	370	<2.0	<2.0	<2.0	14.87	8.00	---	6.87
S-12	12/03/2010	---	480 k,l	330	<0.50	<1.0	<1.0	<1.0	---	31	280	<2.0	<2.0	<2.0	14.87	7.47	---	7.40
S-12	12/01/2011	---	15,600 h,l	200	<0.500	<0.500	<0.500	0.970	---	54.3	<10.0	<0.500	<0.500	<0.500	14.87	8.60	---	6.27
S-12	01/16/2012	---	1,800 l,o	---	---	---	---	---	---	---	---	---	---	---	14.87	8.56	---	6.31
S-12	10/05/2012	---	280 l	250	<0.50	<0.50	<0.50	<1.0	---	37	290	<0.50	<0.50	<0.50	14.87	8.58	---	6.29
S-13	07/07/1989	---	3,600	700	200	<5	<5	45	---	---	---	---	---	---	12.59	9.26	---	---
S-13	11/17/1989	5,000	2,000	1,900	700	160	70	340	---	---	---	---	---	---	12.59	---	---	---
S-13	01/04/1990	---	---	2,800	1,400	130	10	500	---	---	---	---	---	---	12.59	---	---	---
S-13	07/06/1990	---	---	3,100	1,800	60	40	270	---	---	---	---	---	---	12.59	9.47	---	3.12
S-13	10/24/1990	---	---	3,400	1,500	28	28	250	---	---	---	---	---	---	12.59	---	---	---
S-13	01/14/1991	1,600	900	1,900	830	15	<10	99	---	---	---	---	---	---	12.59	---	---	---
S-13	04/23/1991	640	770 f	2,900 k	1,100	20	30	140	---	---	---	---	---	---	12.59	---	---	---
S-13	07/08/1991	---	---	1,500	880	10	6.0	160	---	---	---	---	---	---	12.59	10.38	---	2.21
S-13	10/11/1991	4,900	2,400	480	830	15	<0.5	120	---	---	---	---	---	---	12.59	10.78	---	1.81
S-13	02/12/1992	1,300	1,300	1,300	510	<10	<10	86	---	---	---	---	---	---	12.59	10.48	---	2.11
S-13	05/11/1992	---	1,300 b	1,000	470	<0.5	<5	50	---	---	---	---	---	---	12.59	9.48	---	3.11
S-13	09/01/1992	---	---	---	---	---	---	---	---	---	---	---	---	---	12.59	10.74	a	1.85
S-13	12/04/1992	---	2,400 b	900	290	4.6	<2.5	20	---	---	---	---	---	---	12.59	10.30	---	2.29
S-13	02/17/1993	---	1,200 b	840 k	310	3.5	<2.5	27	---	---	---	---	---	---	12.59	7.60	---	4.99
S-13	05/29/1993	---	4,600	2,100	1,100	19	50	350	---	---	---	---	---	---	12.59	10.60	---	1.99
S-13	08/11/1993	---	2,300	900	230	16	6.9	65	---	---	---	---	---	---	12.59	10.58	---	2.01

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPH <sub>mo</sub> (µg/L)	TPH <sub>d</sub> (µg/L)	TPH <sub>g</sub> (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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-13	11/12/1993	---	2,800	2,800	200	15	8.6	58	---	---	---	---	---	---	12.59	9.84	---	2.75
S-13	02/21/1994	---	1,800 o	700	200	<5	<5	45	---	---	---	---	---	---	12.59	9.26	---	3.33
S-13	05/16/1994	---	1,700	650	180	2.5	<2.5	21	---	---	---	---	---	---	12.59	9.62	---	2.97
S-13	08/08/1994	---	2,600 e	470	12	1.5	0.50	14	---	---	---	---	---	---	12.59	10.32	---	2.27
S-13	11/09/1994	Well inaccessible		---	---	---	---	---	---	---	---	---	---	---	12.59	---	---	---
S-13	02/22/1995	---	2,400 e,f	550	190	4.0	<0.5	17	---	---	---	---	---	---	12.59	8.92	---	3.67
S-13	05/02/1995	---	2,100	790	250	6.9	1.2	22	---	---	---	---	---	---	12.59	9.52	---	3.07
S-13	08/24/1995	---	1,500	330	93	<0.5	<0.5	2.0	---	---	---	---	---	---	12.59	10.02	---	2.57
S-13	12/08/1995	---	2,400	440	110	2.2	0.80	23	---	---	---	---	---	---	12.59	10.75	---	1.84
S-13	02/29/1996	---	2,500	560	130	<5.0	<5.0	30	30	---	---	---	---	---	12.59	9.02	---	3.57
S-13	05/22/1996	---	3,700	430	55	1.6	310	27	<5.0	---	---	---	---	---	12.59	10.20	---	2.39
S-13	07/30/1996	---	1,600	230	30	2.0	1.4	17	15	---	---	---	---	---	12.59	10.42	---	2.17
S-13	11/11/1996	---	2,700	320	19	1.1	<0.5	14	3.5	---	---	---	---	---	12.59	10.28	---	2.31
S-13 (D)	11/11/1996	---	2,400	360	24	1.3	<0.5	15	4.5	---	---	---	---	---	12.59	10.28	---	2.31
S-13	11/03/1997	---	1,900	300	25	1.4	0.63	12	5.0	---	---	---	---	---	12.59	9.36	---	3.23
S-13	11/06/1998	---	1,300	390	53	2.9	1.1	13	17	---	---	---	---	---	12.59	9.85	---	2.74
S-13	12/07/1999	---	1,430	420	15	6.2	2.6	15	42	---	---	---	---	---	12.59	9.72	---	2.87
S-13	11/02/2000	---	4,240	257	4.89	1.92	<0.500	5.17	45.1	---	---	---	---	---	12.59	7.15	---	5.44
S-13	12/27/2001	---	6,400	300	7.2	0.84	<0.50	6.0	---	34	---	---	---	---	12.59	9.35	---	3.24
S-13	11/26/2002	---	850	160	<0.50	<0.50	<0.50	2.6	---	23	---	---	---	---	14.47	9.80	---	4.67
S-13	11/25/2003	---	5,100 k	180	0.57	0.55	<0.50	3.0	---	26	---	---	---	---	14.47	9.94	---	4.53
S-13	11/10/2004	---	1,900 k	220	<0.50	0.71	<0.50	2.8	---	26	---	---	---	---	14.47	10.05	---	4.42
S-13	11/23/2005	---	---	<50.0	4.33	1.24	0.700	5.40	---	27.2	30.3	<0.500	<0.500	<0.500	14.47	10.02	---	4.45
S-13	11/21/2006	---	840	370	19	2.3	0.60	4.9	---	77	73	<2.0	<2.0	5.1	14.47	10.30	---	4.17
S-13	11/14/2007	---	590 k,l	650 m	8.0	1.8	<1.0	4.7	---	32	13	<2.0	<2.0	1.8 n	14.47	9.60	---	4.87
S-13	11/17/2008	---	1,500 l	510	3.0	1.1	<1.0	4.2	---	25	13	<2.0	<2.0	<2.0	14.47	9.24	---	5.23
S-13	11/12/2009	---	1,000 l	410	2.6	1.0	<1.0	2.1	---	32	17	<2.0	<2.0	<2.0	14.47	9.82	---	4.65
S-13	12/03/2010	---	650 k,l	690	3.8	1.6	<1.0	6.3	---	44	22	<2.0	<2.0	3.8	14.47	9.30	---	5.17
S-13	12/01/2011	---	9,100 h,l	580	4.20	1.02	<0.500	5.80	---	67.0	<10.0	<0.500	<0.500	<0.500	14.47	10.02	---	4.45
S-13	01/16/2012	---	1,200 l	---	---	---	---	---	---	---	---	---	---	---	14.47	9.80	---	4.67
S-13	10/05/2012	---	990 l	950	23	6.4	0.91	16	---	120	36	<0.50	<0.50	11	14.47	10.02	---	4.45
S-14	11/17/1989	3,000	<400	<250	3.0	<2	<2	<5	---	---	---	---	---	---	12.69	---	---	---
S-14	01/04/1990	---	---	<250	3.0	2.0	<2	<5	---	---	---	---	---	---	12.69	---	---	---
S-14	04/23/1991	<5,000	18,000	1,200	7.4	2.7	15	110	---	---	---	---	---	---	12.69	---	---	---

TABLE 1

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPHmo (µg/L)	TPHd (µg/L)	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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-14	07/08/1991	---	---	190	6.5	0.60	1.9	26	---	---	---	---	---	---	12.69	10.32	---	2.37
S-14	10/11/1991	<500	21,000	4,900	7.0	1.2	<0.5	25	---	---	---	---	---	---	12.69	10.77	---	1.92
S-14	02/12/1992	2,500	12,000 k	370	4.6	<2.5	<2.5	26	---	---	---	---	---	---	12.69	10.40	---	2.29
S-14	05/11/1992	---	2,200 b	660	2.9	<2.5	<2.5	24	---	---	---	---	---	---	12.69	9.66	---	3.03
S-14	09/01/1992	---	7,900	700	3.2	<2.5	<2.5	15	---	---	---	---	---	---	12.69	10.74	---	1.95
S-14	12/04/1992	---	11,000 b	210	<0.5	<0.5	0.80	6.8	---	---	---	---	---	---	12.69	10.69	---	2.00
S-14	02/17/1993	---	5,700 b	130 k	<0.5	<0.5	<0.5	4.4	---	---	---	---	---	---	12.69	9.69	---	3.00
S-14	05/29/1993	---	5,200	770	<0.5	<0.5	<0.5	4.5	---	---	---	---	---	---	12.69	10.42	---	2.27
S-14	08/11/1993	---	8,800	920	<1	<1	1.6	17	---	---	---	---	---	---	12.69	10.54	---	2.15
S-14	11/12/1993	---	28,000	710	20	57	25	69	---	---	---	---	---	---	12.69	9.91	---	2.78
S-14	02/21/1994	---	3,600	2,800	<5	<5	<5	14	---	---	---	---	---	---	12.69	9.30	---	3.09
S-14	02/21/1994	---	3,600 c	2,300 o	<5.0	<5	<5	14	---	---	---	---	---	---	12.69	9.30	---	3.39
S-14	05/16/1994	---	6,700	310	<2.5	<2.5	<2.5	3.1	---	---	---	---	---	---	12.69	9.54	---	3.15
S-14	08/08/1994	---	2,900	480 g	<0.5	0.60	<0.5	0.8	---	---	---	---	---	---	12.69	10.29	---	2.40
S-14 (D)	08/08/1994	---	2,900	590 g	<0.5	0.60	<0.5	1.5	---	---	---	---	---	---	12.69	10.29	---	2.40
S-14	11/09/1994	---	6,400 e	170 g	0.70	<0.5	<0.5	2.7	---	---	---	---	---	---	12.69	9.52	---	3.07
S-14	02/22/1995	---	7,000 e,f	550	<0.5	<0.5	<0.5	1.6	---	---	---	---	---	---	12.69	9.18	---	3.51
S-14	05/02/1995	---	2,300	210	1.0	0.90	1.1	6.3	---	---	---	---	---	---	12.69	9.49	---	3.20
S-14 (D)	05/02/1995	---	2,600	160	0.60	0.60	0.70	3.8	---	---	---	---	---	---	12.69	9.49	---	3.20
S-14	08/24/1995	---	3,700	180	0.50	<0.5	<0.5	1.3	---	---	---	---	---	---	12.69	9.94	---	2.75
S-14	12/08/1995	---	4,900	190	1.0	<0.5	0.60	4.6	---	---	---	---	---	---	12.69	10.65	---	2.04
S-14	02/29/1996	---	11,000	200	<0.5	<0.5	<0.5	2.0	3.0	---	---	---	---	---	12.69	8.90	---	3.79
S-14	05/22/1996	---	3,800	93	<0.5	<0.5	<0.5	1.6	<2.5	---	---	---	---	---	12.69	10.10	---	2.59
S-14 (D)	05/22/1996	---	3,900	150	<0.5	<0.5	<0.5	1.8	<2.5	---	---	---	---	---	12.69	10.10	---	2.59
S-14	07/30/1996	---	2,500	<50	<0.5	<0.5	<0.5	0.89	<2.5	---	---	---	---	---	12.69	10.37	---	2.32
S-14	11/11/1996	---	27,000	2,600	<2.5	<2.5	<2.5	3.9	<12	---	---	---	---	---	12.69	10.29	---	2.40
S-14	11/03/1997	---	1,800	430	<0.50	<0.50	<0.50	1.7	<2.5	---	---	---	---	---	12.69	9.52	---	3.17
S-14	11/06/1998	Well inaccessible		---	---	---	---	---	---	---	---	---	---	---	12.69	---	---	---
S-14	12/07/1999	---	5,920	970	1.0	1.1	0.59	3.5	2.6	---	---	---	---	---	12.69	9.73	---	2.96
S-14	11/02/2000	---	535,000	273	<0.500	<0.500	<0.500	1.59	<2.50	---	---	---	---	---	12.69	9.98	---	2.71
S-14	12/27/2001	---	20,000	68	<0.50	<0.50	<0.50	1.3	---	<5.0	---	---	---	---	12.69	9.33	---	3.36
S-14	11/26/2002	---	2,400	<50	<0.50	<0.50	<0.50	0.91	---	<5.0	---	---	---	---	14.51	9.70	---	4.81
S-14	11/25/2003	---	4,400 k	78 k	<0.50	<0.50	<0.50	1.2	---	1.6	---	---	---	---	14.51	9.99	---	4.52
S-14	11/10/2004	---	2,500 k	74 k	<0.50	<0.50	<0.50	<1.0	---	1.9	---	---	---	---	14.51	10.05	---	4.46
S-14	11/23/2005	---	---	<50.0	<0.500	<0.500	<0.500	<0.500	---	1.02	<10.0	<0.500	<0.500	<0.500	14.51	9.92	---	4.59

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

Well ID	Date	TPH <sub>mo</sub> (µg/L)	TPH <sub>d</sub> (µg/L)	TPH <sub>g</sub> (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)	TOC (ft MSL)	Depth to Water (ft TOC)	SPH Thickness (ft)	GW Elevation (ft MSL)
S-14	11/21/2006	---	5,000	62 j	<0.50 j	<0.50 j	<0.50 j	<1.0 j	---	1.9 j	<5.0 j	<2.0 j	<2.0 j	<2.0 j	14.51	10.26	---	4.25
S-14	11/14/2007	---	550 k,l	120 m	0.98	<1.0	<1.0	0.23 n	---	2.2	<10	<2.0	<2.0	<2.0	14.51	9.63	---	4.88
S-14	11/17/2008	---	1,700 l	<50	<0.50	<1.0	<1.0	<1.0	---	1.4	<10	<2.0	<2.0	<2.0	14.51	9.25	---	5.26
S-14	11/12/2009	---	1,200 l	<50	<0.50	<1.0	<1.0	<1.0	---	1.2	<10	<2.0	<2.0	<2.0	14.51	9.67	---	4.84
S-14	12/03/2010	---	540 l	58	<0.50	<1.0	<1.0	<1.0	---	1.1	<10	<2.0	<2.0	<2.0	14.51	9.12	---	5.39
S-14	12/01/2011	---	7,610 h,l	120	<0.500	<0.500	<0.500	<0.500	---	1.46	<10.0	<0.500	<0.500	<0.500	14.51	9.88	---	4.63
S-14	01/16/2012	---	1,400 l	---	---	---	---	---	---	---	---	---	---	---	14.51	9.69	---	4.82
S-14	10/05/2012	---	1,300 l	82	<0.50	<0.50	<0.50	<1.0	---	1.7	<10	<0.50	<0.50	<0.50	14.51	9.92	---	4.59

Notes:

TPH<sub>mo</sub> = Total petroleum hydrocarbons as motor oil analyzed by modified EPA Method 8015

TPH<sub>d</sub> = Total petroleum hydrocarbons as diesel analyzed by modified EPA Method 8015

TPH<sub>g</sub> = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; prior to December 27, 2001, analyzed by EPA Method 8015 unless otherwise noted.

BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; prior to December 27, 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

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

SPH = Separate-phase hydrocarbon

GW = Groundwater

µg/L = Micrograms per liter

ft = Feet

MSL = Mean sea level

<x = Not detected at reporting limit x

--- = Not analyzed or available

(D) = Duplicate sample

a = SPH present but not measured

b = Compounds detected within the chromatographic range appear to be weathered diesel.

c = The concentration reported as diesel is due to the presence of a combination of diesel and a heavier petroleum product of hydrocarbon range C18 - C36, possibly motor oil.

d = The result for gasoline is an unknown hydrocarbon which consists of several peaks.

e = The positive result appears to be a heavier hydrocarbon than diesel.

f = Compounds detected within the chromatographic range of diesel appear to include gasoline compounds.

GROUNDWATER DATA  
SHELL-BRANDED SERVICE STATION  
1800½ POWELL STREET, EMERYVILLE, CALIFORNIA

<i>Well ID</i>	<i>Date</i>	<i>TPH<sub>mo</sub></i> (µg/L)	<i>TPH<sub>d</sub></i> (µg/L)	<i>TPH<sub>g</sub></i> (µg/L)	<i>B</i> (µg/L)	<i>T</i> (µg/L)	<i>E</i> (µg/L)	<i>X</i> (µg/L)	<i>MTBE</i> <i>8020</i> (µg/L)	<i>MTBE</i> <i>8260</i> (µg/L)	<i>TBA</i> (µg/L)	<i>DIPE</i> (µg/L)	<i>ETBE</i> (µg/L)	<i>TAME</i> (µg/L)	<i>TOC</i> (ft MSL)	<i>Depth to</i> <i>Water</i> (ft TOC)	<i>SPH</i> <i>Thickness</i> (ft)	<i>GW</i> <i>Elevation</i> (ft MSL)
----------------	-------------	-----------------------------------	----------------------------------	----------------------------------	--------------------	--------------------	--------------------	--------------------	--------------------------------------	--------------------------------------	----------------------	-----------------------	-----------------------	-----------------------	------------------------	---	--	---

g = The positive result appears to be a heavier hydrocarbon than gasoline.

h = Sample analyzed outside of EPA recommended holding time.

i = TOC altered due to wellhead maintenance.

j = The sample, as received, was not preserved in accordance to the referenced analytical method.

k = 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.

l = The sample extract was subjected to silica gel treatment prior to analysis.

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

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

o = Hydrocarbon result partly due to individual peak(s) in quantitation range

Beginning November 26, 2002, depth to water referenced to TOC instead of top of well box.

Active wells surveyed on February 12, 2002 by Virgil Chavez Land Surveying



APPENDIX A

BLAINE TECH SERVICES, INC. -  
FIELD NOTES

## WELL GAUGING DATA

Project # 12005 Mpl Date 10-5-12 Client Shell

Site 1800 Powell ST Emeryville CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
S-5	0947	8					9.60	11.71	TOC	
S-8	0930	3					10.39	17.90		
S-9	1000	3				Dry	-			
S-10	0951	6				10.19	19.12			
S-12	0944	3				8.58	23.45			
S-13	0955	3				10.02	18.43			
S-14	0925	3				9.92	22.70			

## SHELL WELL MONITORING DATA SHEET

BTS #: 121005MPL	Site: 98995349
Sampler: MP	Date: 10/5/12
Well I.D.: S-5	Well Diameter: 2 3 4 6 8 <del>8.75</del>
Total Well Depth (TD): 11.71	Depth to Water (DTW): 9.60
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <del>PVC</del> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.02	

Purge Method: Bailer      Watterra      Sampling Method: ~~Bailer~~  
 Disposable Bailer      Peristaltic      Disposable Bailer  
~~Middleburg~~      Extraction Pump      Extraction Port  
~~Electric Submersible~~      Other \_\_\_\_\_      Dedicated Tubing

$5.6$ (Gals.) X $3$ = $16.6$ Gals. 1 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/cm or <del>µS/cm</del> )	Turbidity (NTUs)	Gals. Removed	Observations
1110	69.7	7.3	1956	63	6.0	
1113	69.5	7.0	2007	58	12.0	
1116	69.2	7.0	2021	54	16.6	
			waited for 80%			

Did well dewater? Yes  No  Gallons actually evacuated: 16.6

Sampling Date: 10/5/12      Sampling Time: 1125      Depth to Water: 10.00

Sample I.D.: S-5      Laboratory: Test America

Analyzed for: ~~TPH-C~~ ~~BTEX~~ MTBE ~~TPH-D~~ Other: 5 oxy's

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

Analyzed for: TPH-G BTEX MTBE TPH-D 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 #: 121005MPL	Site: 98995349
Sampler: MP	Date: 10/5/12
Well I.D.: 5-8	Well Diameter: 2 <u>①</u> 4 6 8
Total Well Depth (TD): 17.90	Depth to Water (DTW): 10.39
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]: 11.89	

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

$2.8 \text{ (Gals.)} \times 3 = 8.4 \text{ Gals.}$ 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/cm or <u>µS/cm</u> )	Turbidity (NTUs)	Gals. Removed	Observations
10:45	72.9	7.7	491	131	3.0	obs
10:49	71.5	7.6	487	110	6.0	↓
10:53	71.2	7.6	485	107	8.5	↓

Did well dewater? Yes  No  Gallons actually evacuated: 8.5

Sampling Date: 10/5/12      Sampling Time: 1100      Depth to Water: 11.10

Sample I.D.: 5-8      Laboratory: Test America

Analyzed for: PH-G BTEX MTBE PH-D Other: 5 oxy's

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

Analyzed for: TPH-G BTEX MTBE TPH-D 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 #: <u>121005MPI</u>	Site: <u>98995349</u>
Sampler: <u>MP</u>	Date: <u>10/5/12</u>
Well I.D.: <u>5-10</u>	Well Diameter: 2 3 4 <u>(6)</u> 8
Total Well Depth (TD): <u>19.12</u>	Depth to Water (DTW): <u>10.19</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVO</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.97</u>	

Purge Method: Bailer      Watertra      Sampling Method: Bailer  
 Disposable Bailer      Peristaltic      Disposable Bailer  
~~Mudlogging~~      Extraction Pump      Extraction Port  
Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing

$13.2 \text{ (Gals.)} \times 3 = 39.6 \text{ Gals.}$ 1 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><u>1.47</u></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"	<u>1.47</u>	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"	<u>1.47</u>														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS/cm or <del>µS/cm</del> )	Turbidity (NTUs)	Gals. Removed	Observations
<u>1205</u>	<u>69.8</u>	<u>7.5</u>	<u>7734</u>	<u>40</u>	<u>13.5</u>	
					<u>13.5</u>	<u>Well Debris @</u>
<u>1405</u>	<u>71.6</u>	<u>7.2</u>	<u>6312</u>	<u>10</u>		

Did well dewater? Yes No      Gallons actually evacuated: 13.5

Sampling Date: 10/5/12      Sampling Time: 1405      Depth to Water: 17.90 ~~12.90~~ 2+HC

Sample I.D.: S-10      Laboratory: Test America

Analyzed for: ~~TPH-G~~ ~~BTEX~~ MTBE ~~TPH-D~~ Other: 5 oxy's

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

Analyzed for: TPH-G BTEX MTBE TPH-D 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 #: 121005MPL	Site: 98995349
Sampler: MP	Date: 10/5/12
Well I.D.: S-12	Well Diameter: 2 <u>3</u> 4 6 8
Total Well Depth (TD): 23.45	Depth to Water (DTW): 8.58
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVO</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.58	

Purge Method:  Bailor  Disposable Bailor  ~~Middleburg~~  Electric Submersible

Water:  Peristaltic  Extraction Pump  Other \_\_\_\_\_

Sampling Method:  ~~Bailor~~  Disposable Bailor  Extraction Port  Dedicated Tubing

Other: \_\_\_\_\_

5.5 (Gals.) X 3 = 16.6 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	<u>0.33</u>	Other	radius <sup>2</sup> + 0.163

Time	Temp (°F)	pH	Cond. (mS/cm or <del>µS/cm</del> )	Turbidity (NTUs)	Gals. Removed	Observations
1145	69.0	7.5	1419	30	5.5	
1151	68.4	6.8	1788	23	11.0	
1157	68.2	6.8	1797	21	17.0	

Did well dewater? Yes   No      Gallons actually evacuated: 17.0

Sampling Date: 10/5/12      Sampling Time: 1200      Depth to Water: 10.10

Sample I.D.: S-12      Laboratory: Test America

Analyzed for: ~~TPH-G~~ ~~BTEX~~ MTBE ~~TPH-D~~ Other: 5 oxy's

EB I.D. (if applicable): @<sub>Time</sub>      Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D 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 #: 121005MPI	Site: 98995349
Sampler: MP	Date: 10/5/12
Well I.D.: 5-13	Well Diameter: 2 <u>3</u> 4 6 8
Total Well Depth (TD): 18.43	Depth to Water (DTW): 10.0
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVO</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.70	

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

Other: \_\_\_\_\_

$3.2$  (Gals.) X  $3$  =  $9.4$  Gals.  
 I Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	<u>0.37</u>	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS/cm or $\mu$ S/cm)	Turbidity (NTUs)	Gals. Removed	Observations
1235	70.4	7.0	7648	310	3.5	
1239	71.1	6.8	7782	257	7.0	
1243	71.4	6.8	7741	246	9.5	

Did well dewater? Yes  No  Gallons actually evacuated: 9.5

Sampling Date: 10/5/12      Sampling Time: 1255      Depth to Water: ~~10.80~~ <sup>10.80</sup> ~~10.80~~

Sample I.D.: 5-13      Laboratory: Test America

Analyzed for: ~~TPH-G~~ ~~BTEX~~ MTBE ~~TPH-D~~ Other: 5 oxy's

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

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

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

## SHELL WELL MONITORING DATA SHEET

BTS #: 121005MPI	Site: 98995349
Sampler: MP	Date: 10/5/12
Well I.D.: S-14	Well Diameter: 2 ③ 4 6 8
Total Well Depth (TD): 22.70	Depth to Water (DTW): 9.92
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVO Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.47	

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

Other: \_\_\_\_\_

4.8 (Gals.) X 3 = 14.2 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	<u>0.37</u>	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	Gals. Removed	Observations
1018	68.3	6.6	4724	49	5.0	
1021	68.1	6.6	4829	42	10.0	
1026	68.0	6.6	4850	39	14.5	

Did well dewater? Yes No      Gallons actually evacuated: 14.5

Sampling Date: 10/5/12      Sampling Time: 1030      Depth to Water: 10.90

Sample I.D.: S-14      Laboratory: Test America

Analyzed for: ~~TPH-G~~ ~~BTEX~~ MTBE ~~TPH-D~~ Other: 5 oxy's

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

Analyzed for: TPH-G BTEX MTBE TPH-D 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 # 989953 49

ADDRESS 1800 Powell ST

DATE: 10-5-12

CITY & STATE EMERYVILLE CA

Well ID	Manway Cover Type, Condition & Size				Observations Upon Arrival								Detailed Explanation of Maintenance Recommended and Performed	Photos of Well Condition		Remarks and Other				
	Well Label (Painted Properly)	Well Cap (Grip) Condition	Well Lock Condition	Well Pad Surface Condition	Well Label	Well Cap	Well Lock	Well Pad	Well Label	Well Cap	Well Lock	Well Pad								
S-5	Standpipe	Flush	G	P	Size (inch) 12	Y	N	G	R	G	R	NL	G	P		Y	N			
S-8	Standpipe	Flush	G	P	Size (inch) 12	Y	N	G	R	G	R	NL	G	P		Y	N			
S-9	Standpipe	Flush	G	P	Size (inch) 12	Y	N	G	R	G	R	NL	G	P		Y	N			
S-10	Standpipe	Flush	G	P	Size (inch) 12	Y	N	G	R	G	R	NL	G	P		Y	N			
S-12	Standpipe	Flush	G	P	Size (inch) 12	Y	N	G	R	G	R	NL	G	P		Y	N			
S-13	Standpipe	Flush	G	P	Size (inch) 12	Y	N	G	R	G	R	NL	G	P		Y	N			
S-14	Standpipe	Flush	G	P	Size (inch) 8	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 Barriers/Patches or Abandoned Monitoring Wells		G	P	N/A		If POE, provide Well ID & Location Description												Y	N	
Remediation Compound Type (Check boxes that apply)		Condition of enclosure		Condition of enclosure		Condition of enclosure		Condition of enclosure		Condition of enclosure		Condition of enclosure		Condition of enclosure		Condition of enclosure		Condition of enclosure		
NA	Building																			
Building w/ Fence Comp.	Fenced Compound	G	P	N/A		G	P	N/A		G	P	N/A		Y	N	N/A		Y	N	
Trailer																				
Number of Drums On-site	Does the Label Reveal the Source of the Content?	Labeled Correctly and Within 15 Days		Drum Condition		Drum Labeling		Drum Location		Drum Storage		Drum Security		Drum Maintenance		Drum Disposal		Drum Condition		
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).

\* = Groundwater monitoring well covers must be painted and labeled in accordance with applicable regulations

APPENDIX B

TESTAMERICA LABORATORIES, INC. -  
ANALYTICAL REPORT

# 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: 440-26039-1  
Client Project/Site: 1800 Powell St., Emeryville

For:  
Conestoga-Rovers & Associates, Inc.  
5900 Hollis Street  
Suite A  
Emeryville, California 94608

Attn: Peter Schaefer



Authorized for release by:  
10/25/2012 1:56:12 PM

Philip Sanelle  
Project Manager I  
philip.sanelle@testamericainc.com

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?

 **Ask  
The  
Expert**

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: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-26039-1	S-5	Water	10/05/12 11:25	10/10/12 10:00
440-26039-2	S-8	Water	10/05/12 11:00	10/10/12 10:00
440-26039-3	S-10	Water	10/05/12 14:05	10/10/12 10:00
440-26039-4	S-12	Water	10/05/12 12:00	10/10/12 10:00
440-26039-5	S-13	Water	10/05/12 12:55	10/10/12 10:00
440-26039-6	S-14	Water	10/05/12 10:30	10/10/12 10:00

# Case Narrative

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

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**Job ID: 440-26039-1**

---

**Laboratory: TestAmerica Irvine**

**Narrative**

---

**Job Narrative  
440-26039-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 10/10/2012 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

**GC/MS VOA**

No analytical or quality issues were noted.

**GC Semi VOA**

Method(s) 8015B: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 58751. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

**Organic Prep**

No analytical or quality issues were noted.

**VOA Prep**

No analytical or quality issues were noted.

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

**Client Sample ID: S-5**

**Lab Sample ID: 440-26039-1**

Date Collected: 10/05/12 11:25

Matrix: Water

Date Received: 10/10/12 10:00

**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)	550		50		ug/L			10/12/12 15:51	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	94		80 - 120					10/12/12 15:51	1
4-Bromofluorobenzene (Surr)	96		80 - 120					10/12/12 15:51	1
Toluene-d8 (Surr)	102		80 - 120					10/12/12 15:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	14		0.50		ug/L			10/12/12 15:51	1
Toluene	ND		0.50		ug/L			10/12/12 15:51	1
Ethylbenzene	ND		0.50		ug/L			10/12/12 15:51	1
Xylenes, Total	4.4		1.0		ug/L			10/12/12 15:51	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50		ug/L			10/12/12 15:51	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			10/12/12 15:51	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			10/12/12 15:51	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			10/12/12 15:51	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			10/12/12 15:51	1
<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)	96		80 - 120					10/12/12 15:51	1
Dibromofluoromethane (Surr)	94		80 - 120					10/12/12 15:51	1
Toluene-d8 (Surr)	102		80 - 120					10/12/12 15:51	1

**Client Sample ID: S-8**

**Lab Sample ID: 440-26039-2**

Date Collected: 10/05/12 11:00

Matrix: Water

Date Received: 10/10/12 10:00

**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)	610		50		ug/L			10/12/12 16:21	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	99		80 - 120					10/12/12 16:21	1
4-Bromofluorobenzene (Surr)	97		80 - 120					10/12/12 16:21	1
Toluene-d8 (Surr)	103		80 - 120					10/12/12 16:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.8		0.50		ug/L			10/12/12 16:21	1
Toluene	1.9		0.50		ug/L			10/12/12 16:21	1
Ethylbenzene	ND		0.50		ug/L			10/12/12 16:21	1
Xylenes, Total	6.5		1.0		ug/L			10/12/12 16:21	1
Methyl-t-Butyl Ether (MTBE)	4.5		0.50		ug/L			10/12/12 16:21	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			10/12/12 16:21	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			10/12/12 16:21	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			10/12/12 16:21	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			10/12/12 16:21	1
<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)	97		80 - 120					10/12/12 16:21	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

**Client Sample ID: S-8**

**Lab Sample ID: 440-26039-2**

Date Collected: 10/05/12 11:00

Matrix: Water

Date Received: 10/10/12 10:00

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		80 - 120		10/12/12 16:21	1
Toluene-d8 (Surr)	103		80 - 120		10/12/12 16:21	1

**Client Sample ID: S-10**

**Lab Sample ID: 440-26039-3**

Date Collected: 10/05/12 14:05

Matrix: Water

Date Received: 10/10/12 10:00

**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)	890		50		ug/L			10/12/12 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	93		80 - 120		10/12/12 16:52	1
4-Bromofluorobenzene (Surr)	94		80 - 120		10/12/12 16:52	1
Toluene-d8 (Surr)	102		80 - 120		10/12/12 16:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	10		0.50		ug/L			10/12/12 16:52	1
Toluene	2.9		0.50		ug/L			10/12/12 16:52	1
Ethylbenzene	ND		0.50		ug/L			10/12/12 16:52	1
Xylenes, Total	19		1.0		ug/L			10/12/12 16:52	1
Methyl-t-Butyl Ether (MTBE)	31		0.50		ug/L			10/12/12 16:52	1
tert-Butyl alcohol (TBA)	13		10		ug/L			10/12/12 16:52	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			10/12/12 16:52	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			10/12/12 16:52	1
Tert-amyl-methyl ether (TAME)	1.6		0.50		ug/L			10/12/12 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		80 - 120		10/12/12 16:52	1
Dibromofluoromethane (Surr)	93		80 - 120		10/12/12 16:52	1
Toluene-d8 (Surr)	102		80 - 120		10/12/12 16:52	1

**Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level - Silica Gel Cleanup**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28)	510		48		ug/L		10/12/12 09:20	10/12/12 22:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	73		45 - 120		10/12/12 09:20	1

**Client Sample ID: S-12**

**Lab Sample ID: 440-26039-4**

Date Collected: 10/05/12 12:00

Matrix: Water

Date Received: 10/10/12 10:00

**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)	250		50		ug/L			10/12/12 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	93		80 - 120		10/12/12 17:23	1
4-Bromofluorobenzene (Surr)	95		80 - 120		10/12/12 17:23	1



# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

**Client Sample ID: S-12**

**Lab Sample ID: 440-26039-4**

Date Collected: 10/05/12 12:00

Matrix: Water

Date Received: 10/10/12 10:00

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		10/12/12 17:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/12/12 17:23	1
Toluene	ND		0.50		ug/L			10/12/12 17:23	1
Ethylbenzene	ND		0.50		ug/L			10/12/12 17:23	1
Xylenes, Total	ND		1.0		ug/L			10/12/12 17:23	1
Methyl-t-Butyl Ether (MTBE)	37		0.50		ug/L			10/12/12 17:23	1
tert-Butyl alcohol (TBA)	290		10		ug/L			10/12/12 17:23	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			10/12/12 17:23	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			10/12/12 17:23	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			10/12/12 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		80 - 120		10/12/12 17:23	1
Dibromofluoromethane (Surr)	93		80 - 120		10/12/12 17:23	1
Toluene-d8 (Surr)	103		80 - 120		10/12/12 17:23	1

**Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level - Silica Gel Cleanup**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28)	280		48		ug/L		10/12/12 09:20	10/12/12 23:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	73		45 - 120		10/12/12 09:20	1

**Client Sample ID: S-13**

**Lab Sample ID: 440-26039-5**

Date Collected: 10/05/12 12:55

Matrix: Water

Date Received: 10/10/12 10:00

**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)	950		50		ug/L			10/12/12 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	95		80 - 120		10/12/12 17:53	1
4-Bromofluorobenzene (Surr)	96		80 - 120		10/12/12 17:53	1
Toluene-d8 (Surr)	103		80 - 120		10/12/12 17:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	23		0.50		ug/L			10/12/12 17:53	1
Toluene	6.4		0.50		ug/L			10/12/12 17:53	1
Ethylbenzene	0.91		0.50		ug/L			10/12/12 17:53	1
Xylenes, Total	16		1.0		ug/L			10/12/12 17:53	1
Methyl-t-Butyl Ether (MTBE)	120		0.50		ug/L			10/12/12 17:53	1
tert-Butyl alcohol (TBA)	36		10		ug/L			10/12/12 17:53	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			10/12/12 17:53	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			10/12/12 17:53	1
Tert-amyl-methyl ether (TAME)	11		0.50		ug/L			10/12/12 17:53	1

## Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

**Client Sample ID: S-13**

**Lab Sample ID: 440-26039-5**

Date Collected: 10/05/12 12:55

Matrix: Water

Date Received: 10/10/12 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		80 - 120		10/12/12 17:53	1
Dibromofluoromethane (Surr)	95		80 - 120		10/12/12 17:53	1
Toluene-d8 (Surr)	103		80 - 120		10/12/12 17:53	1

**Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level - Silica Gel Cleanup**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28)	990		48		ug/L		10/12/12 09:20	10/12/12 23:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	74		45 - 120	10/12/12 09:20	10/12/12 23:31	1

**Client Sample ID: S-14**

**Lab Sample ID: 440-26039-6**

Date Collected: 10/05/12 10:30

Matrix: Water

Date Received: 10/10/12 10:00

**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)	82		50		ug/L			10/12/12 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	92		80 - 120		10/12/12 18:24	1
4-Bromofluorobenzene (Surr)	96		80 - 120		10/12/12 18:24	1
Toluene-d8 (Surr)	102		80 - 120		10/12/12 18:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/12/12 18:24	1
Toluene	ND		0.50		ug/L			10/12/12 18:24	1
Ethylbenzene	ND		0.50		ug/L			10/12/12 18:24	1
Xylenes, Total	ND		1.0		ug/L			10/12/12 18:24	1
Methyl-t-Butyl Ether (MTBE)	1.7		0.50		ug/L			10/12/12 18:24	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			10/12/12 18:24	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			10/12/12 18:24	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			10/12/12 18:24	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			10/12/12 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		80 - 120		10/12/12 18:24	1
Dibromofluoromethane (Surr)	92		80 - 120		10/12/12 18:24	1
Toluene-d8 (Surr)	102		80 - 120		10/12/12 18:24	1

**Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level - Silica Gel Cleanup**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28)	1300		48		ug/L		10/12/12 09:20	10/12/12 22:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	75		45 - 120	10/12/12 09:20	10/12/12 22:30	1

# Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

**Client Sample ID: S-5**

**Lab Sample ID: 440-26039-1**

Date Collected: 10/05/12 11:25

Matrix: Water

Date Received: 10/10/12 10:00

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	58699	10/12/12 15:51	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	10 mL	10 mL	58700	10/12/12 15:51	CP	TAL IRV

**Client Sample ID: S-8**

**Lab Sample ID: 440-26039-2**

Date Collected: 10/05/12 11:00

Matrix: Water

Date Received: 10/10/12 10:00

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	58699	10/12/12 16:21	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	10 mL	10 mL	58700	10/12/12 16:21	CP	TAL IRV

**Client Sample ID: S-10**

**Lab Sample ID: 440-26039-3**

Date Collected: 10/05/12 14:05

Matrix: Water

Date Received: 10/10/12 10:00

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	58699	10/12/12 16:52	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	10 mL	10 mL	58700	10/12/12 16:52	CP	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			1050 mL	1 mL	58751	10/12/12 09:20	KW	TAL IRV
Silica Gel Cleanup	Analysis	8015B		1			58734	10/12/12 22:50	JR	TAL IRV

**Client Sample ID: S-12**

**Lab Sample ID: 440-26039-4**

Date Collected: 10/05/12 12:00

Matrix: Water

Date Received: 10/10/12 10:00

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	58699	10/12/12 17:23	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	10 mL	10 mL	58700	10/12/12 17:23	CP	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			1050 mL	1 mL	58751	10/12/12 09:20	KW	TAL IRV
Silica Gel Cleanup	Analysis	8015B		1			58734	10/12/12 23:10	JR	TAL IRV

**Client Sample ID: S-13**

**Lab Sample ID: 440-26039-5**

Date Collected: 10/05/12 12:55

Matrix: Water

Date Received: 10/10/12 10:00

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	58699	10/12/12 17:53	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	10 mL	10 mL	58700	10/12/12 17:53	CP	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			1040 mL	1 mL	58751	10/12/12 09:20	KW	TAL IRV
Silica Gel Cleanup	Analysis	8015B		1			58734	10/12/12 23:31	JR	TAL IRV

# Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

**Client Sample ID: S-14**

**Lab Sample ID: 440-26039-6**

Date Collected: 10/05/12 10:30

Matrix: Water

Date Received: 10/10/12 10:00

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	58699	10/12/12 18:24	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	10 mL	10 mL	58700	10/12/12 18:24	CP	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			1050 mL	1 mL	58751	10/12/12 09:20	KW	TAL IRV
Silica Gel Cleanup	Analysis	8015B		1			58736	10/12/12 22:30	JR	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: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

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

Lab Sample ID: MB 440-58699/4

Matrix: Water

Analysis Batch: 58699

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		0.50		ug/L			10/12/12 09:15	1
Toluene	ND		0.50		ug/L			10/12/12 09:15	1
Ethylbenzene	ND		0.50		ug/L			10/12/12 09:15	1
Xylenes, Total	ND		1.0		ug/L			10/12/12 09:15	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50		ug/L			10/12/12 09:15	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			10/12/12 09:15	1
Isopropyl Ether (DIPE)	ND		0.50		ug/L			10/12/12 09:15	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			10/12/12 09:15	1
Tert-amyl-methyl ether (TAME)	ND		0.50		ug/L			10/12/12 09:15	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	98		80 - 120		10/12/12 09:15	1
Dibromofluoromethane (Surr)	94		80 - 120		10/12/12 09:15	1
Toluene-d8 (Surr)	103		80 - 120		10/12/12 09:15	1

Lab Sample ID: LCS 440-58699/5

Matrix: Water

Analysis Batch: 58699

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	25.0	26.0		ug/L		104	70 - 120
Toluene	25.0	26.6		ug/L		106	70 - 120
Ethylbenzene	25.0	26.6		ug/L		106	75 - 125
Methyl-t-Butyl Ether (MTBE)	25.0	22.0		ug/L		88	60 - 135
tert-Butyl alcohol (TBA)	125	134		ug/L		107	70 - 135
Isopropyl Ether (DIPE)	25.0	21.0		ug/L		84	60 - 135
Ethyl-t-butyl ether (ETBE)	25.0	20.7		ug/L		83	65 - 135
Tert-amyl-methyl ether (TAME)	25.0	23.0		ug/L		92	60 - 135
m,p-Xylene	50.0	52.6		ug/L		105	75 - 125
o-Xylene	25.0	25.7		ug/L		103	75 - 125

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120
Toluene-d8 (Surr)	102		80 - 120

Lab Sample ID: 440-25705-D-3 MS

Matrix: Water

Analysis Batch: 58699

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Benzene	0.65		25.0	24.3		ug/L		95	65 - 125
Toluene	4.3		25.0	28.7		ug/L		98	70 - 125
Ethylbenzene	0.96		25.0	24.3		ug/L		93	65 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.4		ug/L		98	55 - 145
tert-Butyl alcohol (TBA)	ND		125	122		ug/L		98	65 - 140
Isopropyl Ether (DIPE)	ND		25.0	22.3		ug/L		89	60 - 140
Ethyl-t-butyl ether (ETBE)	ND		25.0	22.3		ug/L		89	60 - 135
Tert-amyl-methyl ether (TAME)	ND		25.0	24.7		ug/L		99	60 - 140

## QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

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

Lab Sample ID: 440-25705-D-3 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 58699

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
m,p-Xylene	3.4		50.0	49.9		ug/L		93	65 - 130
o-Xylene	1.4		25.0	24.9		ug/L		94	65 - 125

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	107		80 - 120
Toluene-d8 (Surr)	105		80 - 120

Lab Sample ID: 440-25705-D-3 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 58699

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Benzene	0.65		25.0	25.2		ug/L		98	65 - 125	4	20
Toluene	4.3		25.0	29.7		ug/L		102	70 - 125	3	20
Ethylbenzene	0.96		25.0	25.4		ug/L		98	65 - 130	5	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.7		ug/L		103	55 - 145	5	25
tert-Butyl alcohol (TBA)	ND		125	128		ug/L		102	65 - 140	5	25
Isopropyl Ether (DIPE)	ND		25.0	23.8		ug/L		95	60 - 140	7	25
Ethyl-t-butyl ether (ETBE)	ND		25.0	24.2		ug/L		97	60 - 135	8	25
Tert-amyl-methyl ether (TAME)	ND		25.0	26.0		ug/L		104	60 - 140	5	30
m,p-Xylene	3.4		50.0	52.5		ug/L		98	65 - 130	5	25
o-Xylene	1.4		25.0	26.1		ug/L		99	65 - 125	5	20

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	106		80 - 120
Toluene-d8 (Surr)	105		80 - 120

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

Lab Sample ID: MB 440-58700/4

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 58700

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Volatile Fuel Hydrocarbons (C4-C12)	ND		50		ug/L			10/12/12 09:15	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	94		80 - 120		10/12/12 09:15	1
4-Bromofluorobenzene (Surr)	98		80 - 120		10/12/12 09:15	1
Toluene-d8 (Surr)	103		80 - 120		10/12/12 09:15	1

## QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

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

<b>Lab Sample ID: LCS 440-58700/6</b>				<b>Client Sample ID: Lab Control Sample</b>																																											
<b>Matrix: Water</b>				<b>Prep Type: Total/NA</b>																																											
<b>Analysis Batch: 58700</b>																																															
<b>Analyte</b>	<b>Spike Added</b>	<b>LCS Result</b>	<b>LCS Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec. Limits</b>																																								
Volatile Fuel Hydrocarbons (C4-C12)	500	507		ug/L		101	55 - 130																																								
<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;"><b>LCS</b></td> <td style="width: 10%; text-align: center;"><b>LCS</b></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td><b>Surrogate</b></td> <td style="text-align: center;"><b>%Recovery</b></td> <td style="text-align: center;"><b>Qualifier</b></td> <td style="text-align: center;"><b>Limits</b></td> <td colspan="4"></td> </tr> <tr> <td><i>Dibromofluoromethane (Surr)</i></td> <td style="text-align: center;">100</td> <td></td> <td style="text-align: center;">80 - 120</td> <td colspan="4"></td> </tr> <tr> <td><i>4-Bromofluorobenzene (Surr)</i></td> <td style="text-align: center;">100</td> <td></td> <td style="text-align: center;">80 - 120</td> <td colspan="4"></td> </tr> <tr> <td><i>Toluene-d8 (Surr)</i></td> <td style="text-align: center;">104</td> <td></td> <td style="text-align: center;">80 - 120</td> <td colspan="4"></td> </tr> </table>									<b>LCS</b>	<b>LCS</b>						<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>					<i>Dibromofluoromethane (Surr)</i>	100		80 - 120					<i>4-Bromofluorobenzene (Surr)</i>	100		80 - 120					<i>Toluene-d8 (Surr)</i>	104		80 - 120				
	<b>LCS</b>	<b>LCS</b>																																													
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<i>4-Bromofluorobenzene (Surr)</i>	100		80 - 120																																												
<i>Toluene-d8 (Surr)</i>	104		80 - 120																																												

<b>Lab Sample ID: 440-25705-D-3 MS</b>				<b>Client Sample ID: Matrix Spike</b>																																																							
<b>Matrix: Water</b>				<b>Prep Type: Total/NA</b>																																																							
<b>Analysis Batch: 58700</b>																																																											
<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>Spike Added</b>	<b>MS Result</b>	<b>MS Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec. Limits</b>																																																		
Volatile Fuel Hydrocarbons (C4-C12)	ND		1730	1320		ug/L		74	50 - 145																																																		
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<b>Lab Sample ID: 440-25705-D-3 MSD</b>				<b>Client Sample ID: Matrix Spike Duplicate</b>																																																																			
<b>Matrix: Water</b>				<b>Prep Type: Total/NA</b>																																																																			
<b>Analysis Batch: 58700</b>																																																																							
<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>Spike Added</b>	<b>MSD Result</b>	<b>MSD Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec. Limits</b>	<b>RPD</b>	<b>Limit</b>																																																												
Volatile Fuel Hydrocarbons (C4-C12)	ND		1730	1430		ug/L		81	50 - 145	8	20																																																												
<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;"><b>MSD</b></td> <td style="width: 10%; text-align: center;"><b>MSD</b></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td><b>Surrogate</b></td> <td style="text-align: center;"><b>%Recovery</b></td> <td style="text-align: center;"><b>Qualifier</b></td> <td style="text-align: center;"><b>Limits</b></td> <td colspan="8"></td> </tr> <tr> <td><i>Dibromofluoromethane (Surr)</i></td> <td style="text-align: center;">106</td> <td></td> <td style="text-align: center;">80 - 120</td> <td colspan="8"></td> </tr> <tr> <td><i>4-Bromofluorobenzene (Surr)</i></td> <td style="text-align: center;">97</td> <td></td> <td style="text-align: center;">80 - 120</td> <td colspan="8"></td> </tr> <tr> <td><i>Toluene-d8 (Surr)</i></td> <td style="text-align: center;">105</td> <td></td> <td style="text-align: center;">80 - 120</td> <td colspan="8"></td> </tr> </table>													<b>MSD</b>	<b>MSD</b>										<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>									<i>Dibromofluoromethane (Surr)</i>	106		80 - 120									<i>4-Bromofluorobenzene (Surr)</i>	97		80 - 120									<i>Toluene-d8 (Surr)</i>	105		80 - 120								
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<i>Toluene-d8 (Surr)</i>	105		80 - 120																																																																				

### Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

<b>Lab Sample ID: MB 440-58751/1-A</b>				<b>Client Sample ID: Method Blank</b>																																			
<b>Matrix: Water</b>				<b>Prep Type: Silica Gel Cleanup</b>																																			
<b>Analysis Batch: 58736</b>				<b>Prep Batch: 58751</b>																																			
<b>Analyte</b>	<b>MB Result</b>	<b>MB Qualifier</b>	<b>RL</b>	<b>MDL</b>	<b>Unit</b>	<b>D</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>																														
DRO (C10-C28)	ND		50		ug/L		10/12/12 09:20	10/12/12 18:29	1																														
<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;"><b>MB</b></td> <td style="width: 10%; text-align: center;"><b>MB</b></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td><b>Surrogate</b></td> <td style="text-align: center;"><b>%Recovery</b></td> <td style="text-align: center;"><b>Qualifier</b></td> <td style="text-align: center;"><b>Limits</b></td> <td style="text-align: center;"><b>Prepared</b></td> <td style="text-align: center;"><b>Analyzed</b></td> <td style="text-align: center;"><b>Dil Fac</b></td> <td colspan="3"></td> </tr> <tr> <td><i>n-Octacosane</i></td> <td style="text-align: center;">73</td> <td></td> <td style="text-align: center;">45 - 120</td> <td style="text-align: center;">10/12/12 09:20</td> <td style="text-align: center;">10/12/12 18:29</td> <td style="text-align: center;">1</td> <td colspan="3"></td> </tr> </table>											<b>MB</b>	<b>MB</b>								<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>				<i>n-Octacosane</i>	73		45 - 120	10/12/12 09:20	10/12/12 18:29	1			
	<b>MB</b>	<b>MB</b>																																					
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>																																	
<i>n-Octacosane</i>	73		45 - 120	10/12/12 09:20	10/12/12 18:29	1																																	

# QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

## Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level (Continued)

Lab Sample ID: LCS 440-58751/2-A  
 Matrix: Water  
 Analysis Batch: 58734

Client Sample ID: Lab Control Sample  
 Prep Type: Silica Gel Cleanup  
 Prep Batch: 58751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
DRO (C10-C28)	1000	782		ug/L		78	40 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	84		45 - 120

Lab Sample ID: LCSD 440-58751/3-A  
 Matrix: Water  
 Analysis Batch: 58736

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Silica Gel Cleanup  
 Prep Batch: 58751

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
DRO (C10-C28)	1000	683		ug/L		68	40 - 115	14	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
n-Octacosane	76		45 - 120



# QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

## GC/MS VOA

### Analysis Batch: 58699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-25705-D-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-25705-D-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-26039-1	S-5	Total/NA	Water	8260B	
440-26039-2	S-8	Total/NA	Water	8260B	
440-26039-3	S-10	Total/NA	Water	8260B	
440-26039-4	S-12	Total/NA	Water	8260B	
440-26039-5	S-13	Total/NA	Water	8260B	
440-26039-6	S-14	Total/NA	Water	8260B	
LCS 440-58699/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-58699/4	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 58700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-25705-D-3 MS	Matrix Spike	Total/NA	Water	8260B/CA_LUFT MS	
440-25705-D-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B/CA_LUFT MS	
440-26039-1	S-5	Total/NA	Water	8260B/CA_LUFT MS	
440-26039-2	S-8	Total/NA	Water	8260B/CA_LUFT MS	
440-26039-3	S-10	Total/NA	Water	8260B/CA_LUFT MS	
440-26039-4	S-12	Total/NA	Water	8260B/CA_LUFT MS	
440-26039-5	S-13	Total/NA	Water	8260B/CA_LUFT MS	
440-26039-6	S-14	Total/NA	Water	8260B/CA_LUFT MS	
LCS 440-58700/6	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
MB 440-58700/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

## GC Semi VOA

### Analysis Batch: 58734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-26039-3	S-10	Silica Gel Cleanup	Water	8015B	58751
440-26039-4	S-12	Silica Gel Cleanup	Water	8015B	58751
440-26039-5	S-13	Silica Gel Cleanup	Water	8015B	58751
LCS 440-58751/2-A	Lab Control Sample	Silica Gel Cleanup	Water	8015B	58751

### Analysis Batch: 58736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-26039-6	S-14	Silica Gel Cleanup	Water	8015B	58751
LCSD 440-58751/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Water	8015B	58751
MB 440-58751/1-A	Method Blank	Silica Gel Cleanup	Water	8015B	58751

### Prep Batch: 58751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-26039-3	S-10	Silica Gel Cleanup	Water	3510C SGC	
440-26039-4	S-12	Silica Gel Cleanup	Water	3510C SGC	
440-26039-5	S-13	Silica Gel Cleanup	Water	3510C SGC	

# QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

## GC Semi VOA (Continued)

### Prep Batch: 58751 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-26039-6	S-14	Silica Gel Cleanup	Water	3510C SGC	
LCS 440-58751/2-A	Lab Control Sample	Silica Gel Cleanup	Water	3510C SGC	
LCSD 440-58751/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Water	3510C SGC	
MB 440-58751/1-A	Method Blank	Silica Gel Cleanup	Water	3510C SGC	

# Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

## 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
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
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: 1800 Powell St., Emeryville

TestAmerica Job ID: 440-26039-1

## 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
California	LA Cty Sanitation Districts	9	10256	01-31-13
California	NELAC	9	1108CA	01-31-13
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	01-23-13
Hawaii	State Program	9	N/A	01-31-13
Nevada	State Program	9	CA015312007A	07-31-13
New Mexico	State Program	6	N/A	01-31-13
Northern Mariana Islands	State Program	9	MP0002	01-31-13
Oregon	NELAC	10	4005	09-12-13
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-13

LAB (LOCATION)

- CALSCIENCE ( )
- SPL ( )
- XENCO ( )
- TEST AMERICA (IRVINE)
- OTHER ( )



# Shell Oil Products Chain Of Custody Record

**Please Check Appropriate Box:**

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

**Print Bill To Contact Name:** Peter Schaefer 240894

**INCIDENT # (ENV SERVICES):** 9 8 9 9 5 3 4 9

**PO #:** 4 0 - 4 0 3 4 9 7 3

**SAP #:**

**CHECK IF NO INCIDENT # APPLIES:**

**DATE:** 10-5-12

**PAGE:** 1 of 1

**SAMPLING COMPANY:** Blaine Tech Services

**LOG CODE:** BTSS

**SITE ADDRESS: Street and City:** 1800 Powell St., Emeryville

**State:** CA

**GLOBAL ID NO.:** T0600101231

**ADDRESS:** 1680 Rogers Avenue, San Jose, CA

**EDF DELIVERABLE TO (Name, Company, Office Location):** Brenda Carter, CRA, Emeryville

**PHONE NO.:** 510-420-3343

**E-MAIL:** shelledf@croworld.com

**PROJECT CONTACT (Handcopy or PDF Report to):** Lorin King

**TELEPHONE:** 310-995-4455 x 108

**FAX:** 310-637-5802

**E-MAIL:** lking@blainetech.com

**CONSULTANT PROJECT NO.:** 121005 4/11

**SAMPLER NAME(S) (Print):** Matt Pestoni

**LAB USE ONLY:** 446-24039

**TURNAROUND TIME (CALENDAR DAYS):**

STANDARD (14 DAY)     5 DAYS     3 DAYS     2 DAYS     24 HOURS

RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT     UST AGENCY:

**REQUESTED ANALYSIS**

**TEMPERATURE ON RECEIPT**  
°C  
38

**SPECIAL INSTRUCTIONS OR NOTES :**

Email invoice and copy of final report to Shell.Lab.Billing@croworld.com

Run TPH-D w/ Silica Gel Clean Up

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	TPH -GRO, Purgeable (8260B)	TPH -DRO, Extractable (8015M)	TPHq (8015M)	BTEX (8260B)	BTEX + MTBE (8260B)	BTEX + MTBE + TBA (8260B)	BTEX + 6 OXYs (MTBE, TBA, DIPE, TAME, ETBE) 8260B	Full VOC list (8260B)	Single Compound: (8260B)	1,2-DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015M)	Container PID Readings or Laboratory Notes	
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER																
	S-5	10/5/12	1125	WG	X					3	X														
	S-8	10/5/12	1100		X					3	X														
	S-10	10/5/12	1405		X					5	X														
	S-12	10/5/12	1200		X					1	X														
	S-13	10/5/12	1255		X					1	X														
	S-14	10/5/12	1030		X					1	X														

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>	<i>[Signature]</i>	10/5/12	
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>	<i>[Signature]</i>	10-9-12	0930
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>	<i>[Signature]</i>	10/10/12	10:00

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10/25/2012

## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 440-26039-1

**Login Number: 26039**

**List Source: TestAmerica Irvine**

**List Number: 1**

**Creator: Perez, Angel**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\neq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Matt Pestoni
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.	N/A	
Residual Chlorine Checked.	N/A	