



**CONESTOGA-ROVERS  
& ASSOCIATES**

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www.CRAworld.com

## TRANSMITTAL

DATE: August 17, 2011 REFERENCE NO.: 060119  
PROJECT NAME: 2350 (2368) Harrison Street, Oakland  
TO: Jerry Wickham  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

**RECEIVED**

11:00 am, Aug 19, 2011  
Alameda County  
Environmental Health

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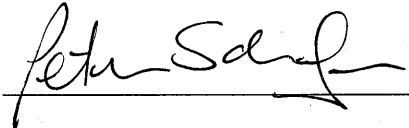
QUANTITY	DESCRIPTION
1	Groundwater Monitoring Report - Second Quarter 2011

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)  
Richard Burge, 490 Grand Avenue, Suite 100, Oakland, CA 94610

Completed by: Peter Schaefer Signed: 

Filing: Correspondence File



Mr. 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: Former Shell Service Station  
2350 (2368) Harrison Street  
Oakland, California  
SAP Code 173318  
Incident No. 97743969  
ACEH No. RO0000505

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.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

A handwritten signature in black ink that reads "Denis L. Brown". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Denis L. Brown  
Senior Program Manager



## **GROUNDWATER MONITORING REPORT - SECOND QUARTER 2011**

**FORMER SHELL SERVICE STATION  
2350 (2368) HARRISON STREET  
OAKLAND, CALIFORNIA**

**SAP CODE           173318  
INCIDENT NO.    97743969  
AGENCY NO.      RO0000505**

**AUGUST 17, 2011  
REF. NO. 060119 (20)**  
This report is printed on recycled paper.

**Prepared by:  
Conestoga-Rovers  
& Associates**

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## 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	2350 (2368) Harrison Street, Oakland
Site Use	7-Eleven Store
Shell Project Manager	Denis Brown
CRA Project Manager	Peter Schaefer
Lead Agency and Contact	ACEH, Jerry Wickham
Agency Case No.	RO0000505
Shell SAP Code	173318
Shell Incident No.	97743969

Date of most recent agency correspondence was March 16, 2011.

## 2.0 SITE ACTIVITIES, FINDINGS, AND DISCUSSION

### 2.1 CURRENT QUARTER'S ACTIVITIES

CRA's February 18, 2011 *Review of Historical Aerial Photos and Sanborn Maps* presented a review of historical uses for the site and adjacent properties.

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.

CRA's July 14, 2011 *Soil Vapor Sampling Report* presented results for soil vapor samples collected from soil vapor probes SVP-3 through SVP-5 on March 30, 2011 and from probes SVP-4 and SVP-5 on June 8, 2011. Near sub-slab soil vapor probes SVP-4 and SVP-5 were resampled because the analytical results from the March 30, 2011 samples appeared anomalous compared with the March 23, 2010 results. CRA resampled these probes on June 8, 2011. Soil vapor probes SVP-1, SVP-2, and SVP-2A could not be sampled during either sampling event due to water in the sampling tubing. We did not recommend additional soil vapor sampling.

## **2.2      CURRENT QUARTER'S FINDINGS**

Groundwater Flow Direction	Variable
Hydraulic Gradient	Variable
Depth to Water	3.13 to 7.09 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 semiannually during the second and fourth quarters, and CRA will issue groundwater monitoring reports semiannually following the sampling events.

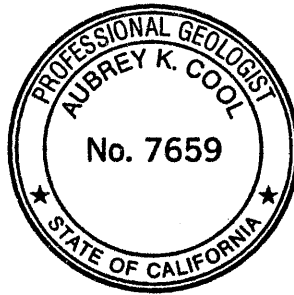
All of Which is Respectfully Submitted,  
CONESTOGA-ROVERS & ASSOCIATES



Peter Schaefer, CHG, CEG

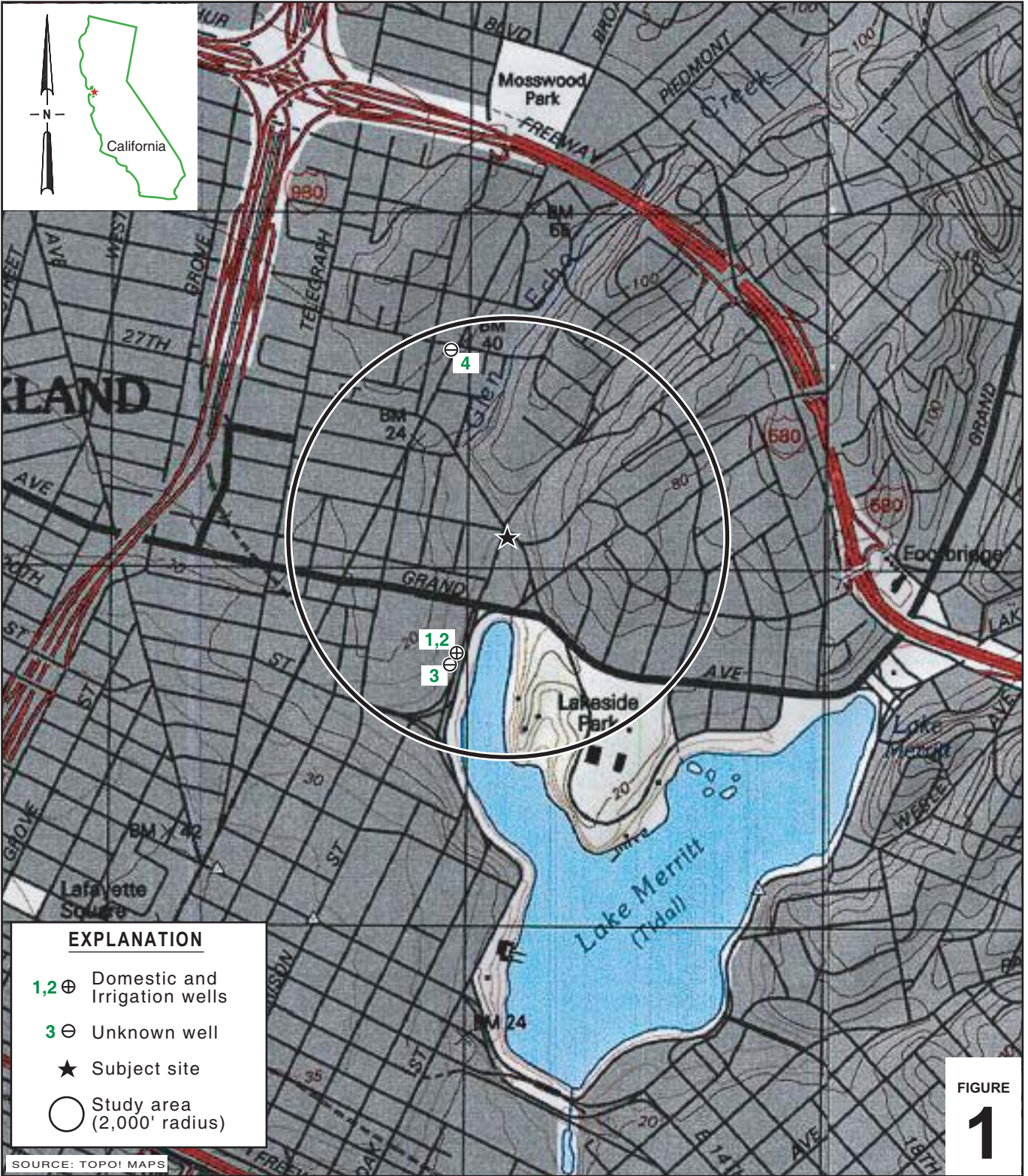


Aubrey K. Cool, PG





## FIGURES



I:\Shell\6-chars\0601--\060119-Oakland 2350 Harrison St\060119-FIGURES\060119\_VICINITY.A1

**EXPLANATION**

- 1,2 ⊕ Domestic and Irrigation wells
- 3 ⊖ Unknown well
- ★ Subject site
- Study area (2,000' radius)

SOURCE: TOPOI MAPS

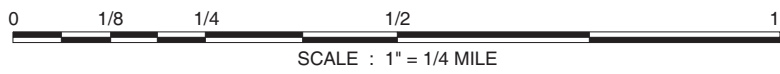


FIGURE 1

### Former Shell Service Station

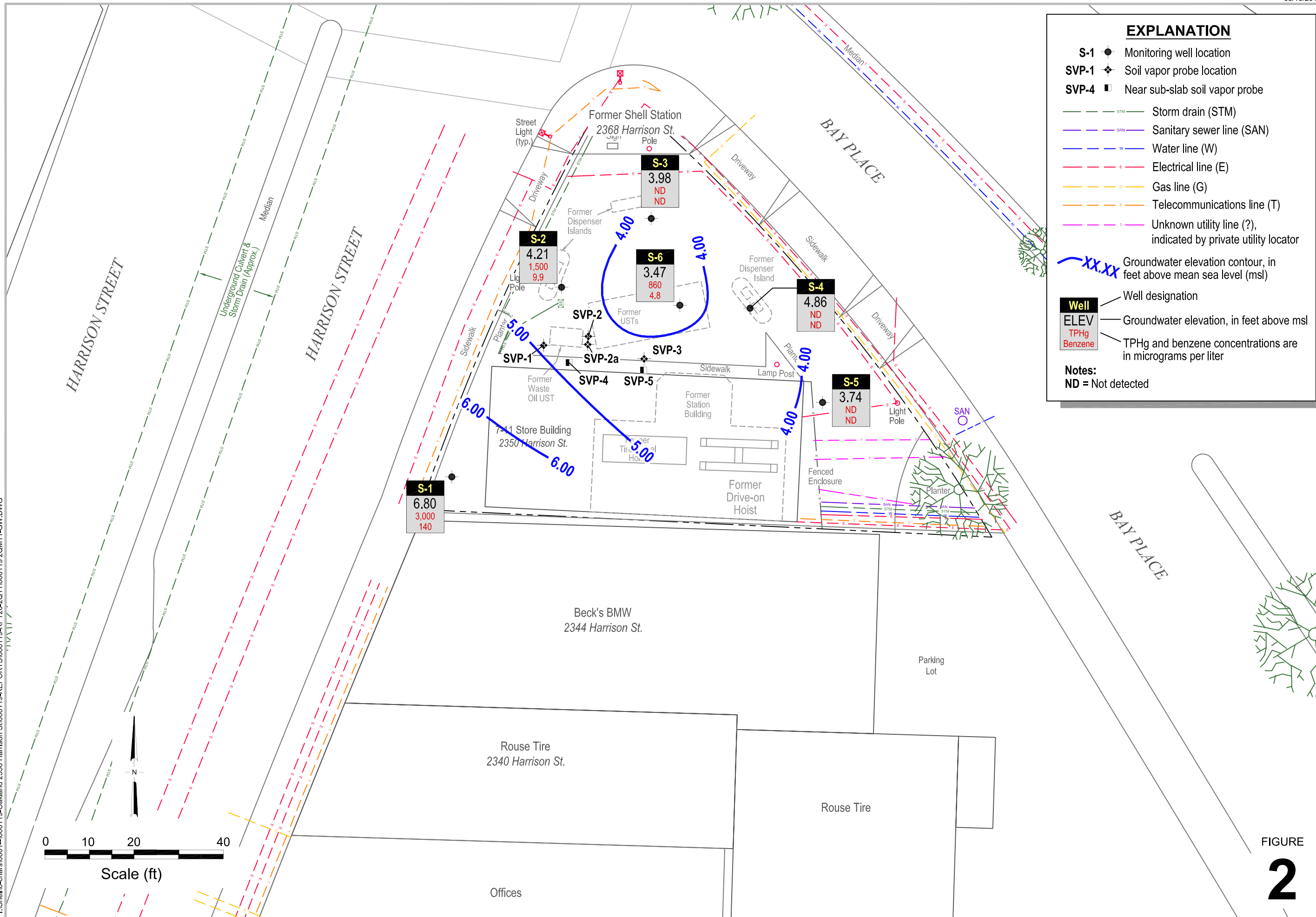
2350 (2368) Harrison Street  
Oakland, California



**CONESTOGA-ROVERS  
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### Vicinity Map

I:\Shell\6-chars\0601--060119-Oakland 2350 Harrison St\060119-REPORTS\060119-RPT20-2011\060119-20M11-GW.DWG



**Groundwater Contour and Chemical Concentration Map**

**CONESTOGA-ROVERS & ASSOCIATES**

June 24, 2011

**Former Shell Service Station**

2350 (2368) Harrison Street  
Oakland, California

FIGURE  
**2**

TABLE

TABLE 1

**GROUNDWATER DATA  
FORMER SHELL SERVICE STATION  
2350 (2368) HARRISON STREET, OAKLAND, CALIFORNIA**

Well ID	Date	Oil & Grease (µg/L)	TPHmo (µg/L)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)
S-1	06/09/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9.93	5.92	4.01
S-1	06/11/2008	2,500	<250	540 a	1,300	46	<5.0	14	<5.0	<5.0	130	34	<10	<10	<2.5	<5.0	9.93	7.45	2.48
S-1	09/17/2008	2,400	<250	550 a	3,100	180	2.7	78	8.6	<1.0	150	30	<2.0	<2.0	<0.50	<1.0	9.93	5.05	4.88
S-1	12/11/2008	<1,000	<250	570 a	2,900	190	3.0	57	6.1	<1.0	160	31	<2.0	<2.0	<0.50	<1.0	9.93	6.87	3.06
S-1	02/25/2009	1,000	<250	620 a	3,300	270	<5.0	69	6.8	<5.0	180	26	<10	<10	<2.5	<5.0	9.93	4.05	5.88
S-1	05/26/2009	<1,000	---	660 a	1,700	230	<5.0	51	5.3	<5.0	170	32	<10	<10	<2.5	<5.0	9.93	3.34	6.59
S-1	11/30/2009	<1,000	---	510 a	2,200	200	3.0	42	2.6	<2.0	150	25	<4.0	<4.0	<1.0	<2.0	9.93	3.72	6.21
S-1	05/18/2010	<1,000	---	710 a	1,600	180	3.0	34	2.3	<2.0	150	25	<4.0	<4.0	<1.0	<2.0	9.93	5.54	4.39
S-1	12/09/2010	<1,000	---	590 a	2,500	140	2.4	40	2.2	<2.0	130	22	<4.0	<4.0	<1.0	<2.0	9.93	3.62	6.31
S-1	06/24/2011	<4,900	---	660 b	3,000	140	2.4	45	2.8	---	---	---	---	---	---	---	9.93	3.13	6.80
S-2	06/09/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10.37	6.60	3.77
S-2	06/11/2008	1,300	<250	800 a	960	3.0	<5.0	<5.0	<5.0	<5.0	<50	20	<10	<10	<2.5	<5.0	10.37	6.80	3.57
S-2	09/17/2008	<1,000	<250	490 a	1,700	3.4	<1.0	8.3	1.1	<1.0	16	7.3	<2.0	<2.0	<0.50	<1.0	10.37	6.16	4.21
S-2	12/11/2008	<1,000	280	210	1,800	5.2	<1.0	6.9	1.2	<1.0	23	11	<2.0	<2.0	<0.50	<1.0	10.37	6.08	4.29
S-2	02/25/2009	<1,000	<250	590 a	2,100	7.7	2.6	3.8	2.0	<1.0	28	12	<2.0	<2.0	<0.50	<1.0	10.37	5.34	5.03
S-2	05/26/2009	<1,000	---	570 a	1,200	6.2	1.5	3.6	1.4	---	---	---	---	---	---	---	10.37	5.63	4.74
S-2	11/30/2009	<1,000	---	480 a	1,200	4.7	1.3	1.5	1.5	---	---	---	---	---	---	---	10.37	6.17	4.20
S-2	05/18/2010	1,900	---	740 a	1,300	7.3	2.3	1.1	1.9	---	---	---	---	---	---	---	10.37	5.61	4.76
S-2	12/09/2010	1,300	---	490 a	1,600	7.2	2.6	<1.0	2.5	---	---	---	---	---	---	---	10.37	6.33	4.04
S-2	06/24/2011	<4,900	---	420 b	1,500	9.9	2.1	0.80	3.0	---	---	---	---	---	---	---	10.37	6.16	4.21
S-3	06/09/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10.49	6.93	3.56
S-3	06/11/2008	2,800	<250	100 a	82	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.49	7.45	3.04
S-3	09/17/2008	1,200	<250	<50	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.49	6.86	3.63
S-3	12/11/2008	<1,000	<250	92	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.49	6.74	3.75
S-3	02/25/2009	<1,000	<250	<50	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.49	6.01	4.48
S-3	05/26/2009	<1,000	---	<50	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.49	6.58	3.91
S-3	11/30/2009	<1,000	---	<50	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.49	6.72	3.77
S-3	05/18/2010	<1,000	---	<50	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.49	6.51	3.98
S-3	12/09/2010	<1,000	---	<50	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.49	6.53	3.96
S-3	06/24/2011	<4,900	---	140 b	<50	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	10.49	6.51	3.98
S-4	06/09/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10.56	7.11	3.45
S-4	06/11/2008	2,400	<250	56 a	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.56	10.92	-0.36
S-4	09/17/2008	<1,000	<250	51	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.56	6.43	4.13

TABLE 1

**GROUNDWATER DATA  
FORMER SHELL SERVICE STATION  
2350 (2368) HARRISON STREET, OAKLAND, CALIFORNIA**

Well ID	Date	Oil & Grease (µg/L)	TPHmo (µg/L)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)
S-4	12/11/2008	4,400	<250	140	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.56	5.71	4.85
S-4	02/25/2009	<1,000	<250	<50	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.56	5.71	4.85
S-4	05/26/2009	<1,000	---	80	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.56	5.72	4.84
S-4	11/30/2009	<1,000	---	<50	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.56	5.67	4.89
S-4	05/18/2010	1,200	---	<50	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.56	6.91	3.65
S-4	12/09/2010	<1,000	---	<50	<50	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.56	5.41	5.15
S-4	06/24/2011	<4,900	---	56 b	<50	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	10.56	5.70	4.86
S-5	06/09/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10.54	6.64	3.90
S-5	06/11/2008	1,700	<250	80 a	<50	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.54	6.67	3.87
S-5	09/17/2008	<1,000	<250	64 a	60	<0.50	<1.0	<1.0	<1.0	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.54	6.73	3.81
S-5	12/11/2008	<1,000	<250	63	54	<0.50	<1.0	<1.0	1.1	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.54	6.77	3.77
S-5	02/25/2009	<1,000	<250	<50	100	<0.50	<1.0	1.1	1.1	<1.0	<10	<2.0	<2.0	<2.0	<0.50	<1.0	10.54	6.65	3.89
S-5	05/26/2009	Well inaccessible		---	---	---	---	---	---	---	---	---	---	---	---	---	10.54	---	---
S-5	11/30/2009	<1,000	---	77	120	<0.50	<1.0	<1.0	1.1	---	---	---	---	---	---	---	10.54	6.91	3.63
S-5	05/18/2010	<1,000	---	140 a	77	<0.50	<1.0	1.1	1.1	---	---	---	---	---	---	---	10.54	6.75	3.79
S-5	12/09/2010	<1,000	---	<50	79	<0.50	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	10.54	6.71	3.83
S-5	06/24/2011	<4,900	---	410 b	<50	<0.50	<0.50	<0.50	<1.0	---	---	---	---	---	---	---	10.54	6.80	3.74
S-6	06/09/2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10.56	6.98	3.58
S-6	06/11/2008	2,700	<250	2,900 a	6,500	180	25	3.9	19.1	<1.0	190	18	<2.0	<2.0	<0.50	<1.0	10.56	7.04	3.52
S-6	09/17/2008	1,200	260 a	3,000 a	8,000	160	16	3.3	14.4	<1.0	65	8.7	<2.0	<2.0	<0.50	<1.0	10.56	6.92	3.64
S-6	12/11/2008	1,200	<250	2,700 a	5,300	120	7.3	<5.0	5.1	<5.0	92	<10	<10	<10	<2.5	<5.0	10.56	4.80	5.76
S-6	02/25/2009	<1,000	<250	1,700 a	6,100	82	6.3	<5.0	<5.0	<5.0	88	<10	<10	<10	<2.5	<5.0	10.56	6.30	4.26
S-6	05/26/2009	<1,000	---	2,100 a	3,400	50	4.0	<1.0	4.6	<1.0	69	7.8	<2.0	<2.0	<0.50	<1.0	10.56	6.87	3.69
S-6	11/30/2009	<1,000	---	950 a	2,200	33	3.6	<1.0	2.1	<1.0	40	4.6	<2.0	<2.0	<0.50	<1.0	10.56	6.94	3.62
S-6	05/18/2010	1,000	---	820 a	1,400	27	5.6	<1.0	2.9	<1.0	62	6.0	<2.0	<2.0	<0.50	<1.0	10.56	6.73	3.83
S-6	12/09/2010	<1,000	---	440 a	1,300	28	4.8	<1.0	2.7	<1.0	34	4.9	<2.0	<2.0	<0.50	<1.0	10.56	6.71	3.85
S-6	06/24/2011	<4,900	---	410 b	860	4.8	1.2	<0.50	<1.0	---	---	---	---	---	---	---	10.56	7.09	3.47

**Notes:**

Oil &amp; grease (as hexane extractable material) analyzed by EPA Method 1664A

TPHmo = Total petroleum hydrocarbons as motor oil analyzed by EPA Method 8015B (M) with silica gel cleanup

TPHd = Total petroleum hydrocarbons as diesel analyzed by modified EPA Method 8015 with silica gel cleanup unless otherwise noted

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B

BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B

**GROUNDWATER DATA  
FORMER SHELL SERVICE STATION  
2350 (2368) HARRISON STREET, OAKLAND, CALIFORNIA**

<i>Well ID</i>	<i>Date</i>	<i>Oil &amp; Grease (µg/L)</i>	<i>TPH<sub>mo</sub> (µg/L)</i>	<i>TPH<sub>d</sub> (µg/L)</i>	<i>TPH<sub>g</sub> (µg/L)</i>	<i>B (µg/L)</i>	<i>T (µg/L)</i>	<i>E (µg/L)</i>	<i>X (µg/L)</i>	<i>MTBE (µg/L)</i>	<i>TBA (µg/L)</i>	<i>DIPE (µg/L)</i>	<i>ETBE (µg/L)</i>	<i>TAME (µg/L)</i>	<i>1,2-DCA (µg/L)</i>	<i>EDB (µg/L)</i>	<i>TOC (ft MSL)</i>	<i>Depth to Water (ft TOC)</i>	<i>GW Elevation (ft MSL)</i>
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MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B

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

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

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

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

GW = Groundwater

µg/L = Micrograms per liter

ft = Feet

MSL = Mean sea level

<x = Not detected at reporting limit x

--- = Not analyzed or available

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

b = The sample extract was not subjected to silica gel treatment prior to analysis.

APPENDIX A

BLAINE TECH SERVICES, INC. -  
FIELD NOTES



# WELL GAUGING DATA

Project # 110624 - WW2 Date 6/24/11 Client SHELL

Site 2350 HARRISON ST, OAKLAND, 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-1	1115	4					3.13	15.85	↓	
S-2	1108	4				6.16	15.77			
S-3	1101	4				6.51	20.55			
S-4	1104	4				5.70	20.59			
S-5	1106	4				6.80	16.16			
S-6	1110	4	odor			7.09	15.55	↓		

# SHELL WELL MONITORING DATA SHEET

BTS #: 110624-WW2	Site: 2350 HARRISON ST, OAKLAND, CA
Sampler: WW	Date: 6/24/11
Well I.D.: S-1	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 15.85	Depth to Water (DTW): 3.13
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]: <u>12.72 = 5.67</u>	

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

8.3 (Gals.) X	3	= 24.9 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"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1255	66.3	7.04	10.09 mS	12	8.3	
WELL DEWATERED @ 9 GALS						
1455	69.9	7.43	11.73 mS	241	—	

Did well dewater? Yes No      Gallons actually evacuated: 9

Sampling Date: 6/24/11      Sampling Time: 1455      Depth to Water: 12.10 (2HR)

Sample I.D.: S-1      Laboratory: Test America Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: OIL & GREASE

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

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:
D.O. (if req'd): Pre-purge: _____ mg/L      Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV      Post-purge: _____ mV

# SHELL WELL MONITORING DATA SHEET

BTS #: 110624-MW2	Site: 235D HARRISON ST, OAKLAND, CA
Sampler: WW	Date: 6/24/11
Well I.D.: S-2	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 15.77	Depth to Water (DTW): 6.16
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]: 8.08	

Purge Method:  Bailer  Waterra  Sampling Method: Bailer

Disposable Bailer  Peristaltic  Disposable Bailer

Positive Air Displacement  Extraction Pump  Extraction Port

Electric Submersible  Other \_\_\_\_\_  Dedicated Tubing

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

$6.2 \text{ (Gals.)} \times 3 = 18.6 \text{ Gals.}$	<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														
1 Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
1225	67.5	8.00	2782	12	6.2	
1226	66.9	7.46	2603	16	12.4	
WELL	DEWATERED @ 13 GALS					
1430	70.0	7.90	2596	128	—	

Did well dewater?  Yes  No      Gallons actually evacuated: 13

Sampling Date: 6/24/11      Sampling Time: 1430      Depth to Water: 10.68 2HR

Sample I.D.: S-2      Laboratory: Test America Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: OIL & GREASE

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

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:			
D.O. (if req'd): Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV

## SHELL WELL MONITORING DATA SHEET

BTS #: 110624-WW2	Site: 2350 HARRISON ST, OAKLAND, CA
Sampler: WW	Date: 6/24/11
Well I.D.: S-3	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 20.55	Depth to Water (DTW): 6.51
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]: 9.32	

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

$9.1 \text{ (Gals.)} \times 3 = 27.3 \text{ Gals.}$ <p>I Case Volume      Specified Volumes      Calculated Volume</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1130	70.7	8.00	2650	20	9.1	
1132	70.1	7.70	3064	56	18.2	
WELL DEWATERED @ 22 GALS						
1335	7.87 71.9	7.87	3061	274	—	

Did well dewater? Yes No      Gallons actually evacuated: 22

Sampling Date: 6/24/11      Sampling Time: 1335      Depth to Water: 15.44 2HR

Sample I.D.: S-3      Laboratory: Test America Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: OIL & GREASE

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

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

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

# SHELL WELL MONITORING DATA SHEET

BTS #: 110624-WW2	Site: 235D HARRISON ST, OAKLAND, CA
Sampler: WW	Date: 6/24/11
Well I.D.: S-4	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 20.59	Depth to Water (DTW): 5.70
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]: 8.68	

Purge Method: Bailer Disposable Bailer Positive Air Displacement <u>Electric Submersible</u>	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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$9.7$ (Gals.) X $3$ = $29.1$ Gals.	I Case Volume	Specified Volumes	Calculated Volume
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Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
1154	68.0	7.80	6142	23	9.7	odor
1156	66.7	7.50	7208	23	19.4	
WELL DEWATERED @ 21 GALS						
1400	70.7	7.48	6905	108	—	

Did well dewater?  Yes No Gallons actually evacuated: 21

Sampling Date: 6/24/11 Sampling Time: 1400 Depth to Water: 14.04 (2HR)

Sample I.D.: S-4 Laboratory: Test America Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: OIL & GREASE

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

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

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

## SHELL WELL MONITORING DATA SHEET

BTS #: 110624-WW2	Site: 2350 HARRISON ST, OAKLAND, CA
Sampler: WW	Date: 6/24/11
Well I.D.: S-5	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD): 16.16	Depth to Water (DTW): 6.80
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]: 8.67	

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

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

$6.1 \text{ (Gals.)} \times 3 = 18.3 \text{ Gals.}$ I Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1203	66.5	7.40	12.98ms	10	6.1	
WELL	DEWATERED @			7 GALS		
1415	70.2	7.82	13.30ms	297	—	

Did well dewater? Yes No      Gallons actually evacuated: 7

Sampling Date: 6/24/11      Sampling Time: 1415      Depth to Water: 10.35 21M

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

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: OIL & GREASE

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

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

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

## SHELL WELL MONITORING DATA SHEET

BTS #: 110624-WW2	Site: 2350 HARRISON ST, OAKLAND, CA
Sampler: WW	Date: 6/24/11
Well I.D.: S-6	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 15.55	Depth to Water (DTW): 7.09
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]: 8.72	

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

5.5 (Gals.) X 3 = 16.5 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"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <del>µS</del> )	Turbidity (NTUs)	Gals. Removed	Observations
1235	66.5	7.80	3326	23	5.5	
WELL DEWATERED @				6 GALS		
1440	71.1	8.10	3174	64	—	

Did well dewater?  Yes  No      Gallons actually evacuated: 6

Sampling Date: 6/24/11      Sampling Time: 1440      Depth to Water: 7.86 ~~8.14~~

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

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5)      Other: OIL & GREASE

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

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

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

# SHELL WELLHEAD INSPECTION FORM

(FOR SAMPLE TECHNICIAN)

Site Address 2350 HARRISON ST, OAKLAND, CA Date 6/24/11

Job Number 110624-WWZ Technician WW Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Well Box Meets Compliance Requirements *See Below	Water Bailed From Wellbox	Cap Replaced	Lock Replaced	Well Not Inspected (explain in notes)	New Deficiency Identified	Previously Identified Deficiency Persists	Notes
S-1	x	x							
S-2	x	x							
S-3	x	x							
S-4	x	x							
S-5	x	x	x						
S-6	x	x							

\*Well box must meet all three criteria to be compliant: 1) WELL IS SECURABLE BY DESIGN (12" or less) 2) WELL IS MARKED WITH THE WORDS "MONITORING WELL" (12" or less) 3) WELL TAG IS PRESENT, SECURE, AND CORRECT

Notes: \_\_\_\_\_



APPENDIX B

TEST AMERICA -  
LABORATORY REPORT

## LABORATORY REPORT

Prepared For: Blaine Tech San Jose/CRA Shell  
1680 Rogers Avenue  
San Jose, CA 95112-1105  
Attention: Lorin King

Project: 2350 (2368) Harrison St.,  
Oakland, CA

Sampled: 06/24/11  
Received: 06/28/11  
Issued: 07/13/11 08:56

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.*

*This entire report was reviewed and approved for release.*

## SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IUF2500-01	S-1	Water
IUF2500-02	S-2	Water
IUF2500-03	S-3	Water
IUF2500-04	S-4	Water
IUF2500-05	S-5	Water
IUF2500-06	S-6	Water

Reviewed By:



TestAmerica Irvine

Philip Sanelle  
Project Manager

Blaine Tech San Jose/CRA Shell  
 1680 Rogers Avenue  
 San Jose, CA 95112-1105  
 Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11  
 Received: 06/28/11

## EXTRACTABLE FUEL HYDROCARBONS (EPA 3510C/EPA 8015B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IUF2500-01 (S-1 - Water)</b>								
Reporting Units: ug/l								
<b>DRO (C10-C28)</b>	EPA 8015B	11F3691	51	<b>660</b>	1.01	6/28/2011	6/29/2011	
<i>Surrogate: n-Octacosane (45-120%)</i>				85 %				
<b>Sample ID: IUF2500-02 (S-2 - Water)</b>								
Reporting Units: ug/l								
<b>DRO (C10-C28)</b>	EPA 8015B	11F3691	50	<b>420</b>	0.99	6/28/2011	6/29/2011	
<i>Surrogate: n-Octacosane (45-120%)</i>				81 %				
<b>Sample ID: IUF2500-03 (S-3 - Water)</b>								
Reporting Units: ug/l								
<b>DRO (C10-C28)</b>	EPA 8015B	11F3691	49	<b>140</b>	0.98	6/28/2011	6/29/2011	
<i>Surrogate: n-Octacosane (45-120%)</i>				70 %				
<b>Sample ID: IUF2500-04 (S-4 - Water)</b>								
Reporting Units: ug/l								
<b>DRO (C10-C28)</b>	EPA 8015B	11F3691	47	<b>56</b>	0.943	6/28/2011	6/29/2011	
<i>Surrogate: n-Octacosane (45-120%)</i>				86 %				
<b>Sample ID: IUF2500-05 (S-5 - Water)</b>								
Reporting Units: ug/l								
<b>DRO (C10-C28)</b>	EPA 8015B	11F3691	51	<b>410</b>	1.02	6/28/2011	6/29/2011	
<i>Surrogate: n-Octacosane (45-120%)</i>				82 %				
<b>Sample ID: IUF2500-06 (S-6 - Water)</b>								
Reporting Units: ug/l								
<b>DRO (C10-C28)</b>	EPA 8015B	11F3691	48	<b>410</b>	0.952	6/28/2011	6/29/2011	
<i>Surrogate: n-Octacosane (45-120%)</i>				77 %				

TestAmerica Irvine

Philip Sanelle  
 Project Manager

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Blaine Tech San Jose/CRA Shell  
1680 Rogers Avenue  
San Jose, CA 95112-1105  
Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11  
Received: 06/28/11

## VOLATILE FUEL HYDROCARBONS BY GC/MS (CA LUFT)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IUF2500-01 (S-1 - Water)</b>								
Reporting Units: ug/l								
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	TPH by GC/MS	11G0239	120	<b>3000</b>	2.5	7/5/2011	7/6/2011	
Surrogate: Dibromofluoromethane (80-120%)				93 %				
Surrogate: Toluene-d8 (80-120%)				105 %				
Surrogate: 4-Bromofluorobenzene (80-120%)				101 %				
<b>Sample ID: IUF2500-02 (S-2 - Water)</b>								
Reporting Units: ug/l								
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	TPH by GC/MS	11G0239	50	<b>1500</b>	1	7/5/2011	7/6/2011	
Surrogate: Dibromofluoromethane (80-120%)				90 %				
Surrogate: Toluene-d8 (80-120%)				106 %				
Surrogate: 4-Bromofluorobenzene (80-120%)				103 %				
<b>Sample ID: IUF2500-03 (S-3 - Water)</b>								
Reporting Units: ug/l								
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	TPH by GC/MS	11G0239	50	ND	1	7/5/2011	7/6/2011	
Surrogate: Dibromofluoromethane (80-120%)				100 %				
Surrogate: Toluene-d8 (80-120%)				105 %				
Surrogate: 4-Bromofluorobenzene (80-120%)				102 %				
<b>Sample ID: IUF2500-04 (S-4 - Water)</b>								
Reporting Units: ug/l								
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	TPH by GC/MS	11G0239	50	ND	1	7/5/2011	7/6/2011	
Surrogate: Dibromofluoromethane (80-120%)				95 %				
Surrogate: Toluene-d8 (80-120%)				105 %				
Surrogate: 4-Bromofluorobenzene (80-120%)				103 %				
<b>Sample ID: IUF2500-05 (S-5 - Water)</b>								
Reporting Units: ug/l								
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	TPH by GC/MS	11G0239	50	ND	1	7/5/2011	7/6/2011	
Surrogate: Dibromofluoromethane (80-120%)				93 %				
Surrogate: Toluene-d8 (80-120%)				104 %				
Surrogate: 4-Bromofluorobenzene (80-120%)				102 %				
<b>Sample ID: IUF2500-06 (S-6 - Water)</b>								
Reporting Units: ug/l								
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	TPH by GC/MS	11G0239	50	<b>860</b>	1	7/5/2011	7/6/2011	
Surrogate: Dibromofluoromethane (80-120%)				94 %				
Surrogate: Toluene-d8 (80-120%)				107 %				
Surrogate: 4-Bromofluorobenzene (80-120%)				101 %				

TestAmerica Irvine

Philip Sanelle  
Project Manager

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IUF2500 <Page 3 of 13>

Blaine Tech San Jose/CRA Shell  
1680 Rogers Avenue  
San Jose, CA 95112-1105  
Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11

Received: 06/28/11

## VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IUF2500-01 (S-1 - Water)</b>								
Reporting Units: ug/l								
Benzene	EPA 8260B	11G0239	1.2	140	2.5	7/5/2011	7/6/2011	
Ethylbenzene	EPA 8260B	11G0239	1.2	45	2.5	7/5/2011	7/6/2011	
Toluene	EPA 8260B	11G0239	1.2	2.4	2.5	7/5/2011	7/6/2011	
Xylenes, Total	EPA 8260B	11G0239	2.5	2.8	2.5	7/5/2011	7/6/2011	
Surrogate: 4-Bromofluorobenzene (80-120%)				101 %				
Surrogate: Dibromofluoromethane (80-120%)				93 %				
Surrogate: Toluene-d8 (80-120%)				105 %				
<b>Sample ID: IUF2500-02 (S-2 - Water)</b>								
Reporting Units: ug/l								
Benzene	EPA 8260B	11G0239	0.50	9.9	1	7/5/2011	7/6/2011	
Ethylbenzene	EPA 8260B	11G0239	0.50	0.80	1	7/5/2011	7/6/2011	
Toluene	EPA 8260B	11G0239	0.50	2.1	1	7/5/2011	7/6/2011	
Xylenes, Total	EPA 8260B	11G0239	1.0	3.0	1	7/5/2011	7/6/2011	
Surrogate: 4-Bromofluorobenzene (80-120%)				103 %				
Surrogate: Dibromofluoromethane (80-120%)				90 %				
Surrogate: Toluene-d8 (80-120%)				106 %				
<b>Sample ID: IUF2500-03 (S-3 - Water)</b>								
Reporting Units: ug/l								
Benzene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Ethylbenzene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Toluene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Xylenes, Total	EPA 8260B	11G0239	1.0	ND	1	7/5/2011	7/6/2011	
Surrogate: 4-Bromofluorobenzene (80-120%)				102 %				
Surrogate: Dibromofluoromethane (80-120%)				100 %				
Surrogate: Toluene-d8 (80-120%)				105 %				

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Project Manager

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Blaine Tech San Jose/CRA Shell  
 1680 Rogers Avenue  
 San Jose, CA 95112-1105  
 Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11  
 Received: 06/28/11

## VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IUF2500-04 (S-4 - Water)</b>								
Reporting Units: ug/l								
Benzene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Ethylbenzene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Toluene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Xylenes, Total	EPA 8260B	11G0239	1.0	ND	1	7/5/2011	7/6/2011	
Surrogate: 4-Bromofluorobenzene (80-120%)				103 %				
Surrogate: Dibromofluoromethane (80-120%)				95 %				
Surrogate: Toluene-d8 (80-120%)				105 %				
<b>Sample ID: IUF2500-05 (S-5 - Water)</b>								
Reporting Units: ug/l								
Benzene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Ethylbenzene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Toluene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
Xylenes, Total	EPA 8260B	11G0239	1.0	ND	1	7/5/2011	7/6/2011	
Surrogate: 4-Bromofluorobenzene (80-120%)				102 %				
Surrogate: Dibromofluoromethane (80-120%)				93 %				
Surrogate: Toluene-d8 (80-120%)				104 %				
<b>Sample ID: IUF2500-06 (S-6 - Water)</b>								
Reporting Units: ug/l								
<b>Benzene</b>	EPA 8260B	11G0239	0.50	<b>4.8</b>	1	7/5/2011	7/6/2011	
Ethylbenzene	EPA 8260B	11G0239	0.50	ND	1	7/5/2011	7/6/2011	
<b>Toluene</b>	EPA 8260B	11G0239	0.50	<b>1.2</b>	1	7/5/2011	7/6/2011	
Xylenes, Total	EPA 8260B	11G0239	1.0	ND	1	7/5/2011	7/6/2011	
Surrogate: 4-Bromofluorobenzene (80-120%)				101 %				
Surrogate: Dibromofluoromethane (80-120%)				94 %				
Surrogate: Toluene-d8 (80-120%)				107 %				

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Blaine Tech San Jose/CRA Shell  
1680 Rogers Avenue  
San Jose, CA 95112-1105  
Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11

Received: 06/28/11

## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IUF2500-01 (S-1 - Water)</b>								
Reporting Units: ug/l								
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11G0748	4900	ND	1	7/8/2011	7/8/2011	
<b>Sample ID: IUF2500-02 (S-2 - Water)</b>								
Reporting Units: ug/l								
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11G0748	4900	ND	1	7/8/2011	7/8/2011	
<b>Sample ID: IUF2500-03 (S-3 - Water)</b>								
Reporting Units: ug/l								
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11G0748	4900	ND	1	7/8/2011	7/8/2011	
<b>Sample ID: IUF2500-04 (S-4 - Water)</b>								
Reporting Units: ug/l								
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11G0748	4900	ND	1	7/8/2011	7/8/2011	
<b>Sample ID: IUF2500-05 (S-5 - Water)</b>								
Reporting Units: ug/l								
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11G0748	4900	ND	1	7/8/2011	7/8/2011	
<b>Sample ID: IUF2500-06 (S-6 - Water)</b>								
Reporting Units: ug/l								
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11G0748	4900	ND	1	7/8/2011	7/8/2011	

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Blaine Tech San Jose/CRA Shell  
 1680 Rogers Avenue  
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 Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11

Received: 06/28/11

## METHOD BLANK/QC DATA

### EXTRACTABLE FUEL HYDROCARBONS (EPA 3510C/EPA 8015B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11F3691 Extracted: 06/28/11</b>										
<b>Blank Analyzed: 06/29/2011 (11F3691-BLK1)</b>										
DRO (C10-C28)	ND	50	ug/l							
Surrogate: n-Octacosane	178		ug/l	200		89	45-120			
<b>LCS Analyzed: 06/29/2011 (11F3691-BS1)</b>										
DRO (C10-C28)	635	50	ug/l	1000		63	40-115			MNRI
Surrogate: n-Octacosane	138		ug/l	200		69	45-120			
<b>LCS Dup Analyzed: 06/29/2011 (11F3691-BSD1)</b>										
DRO (C10-C28)	846	50	ug/l	1000		85	40-115	29	25	R-7
Surrogate: n-Octacosane	175		ug/l	200		87	45-120			

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Report Number: IUF2500

Sampled: 06/24/11  
Received: 06/28/11

## METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS BY GC/MS (CA LUFT)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11G0239 Extracted: 07/05/11</b>										
<b>Blank Analyzed: 07/05/2011 (11G0239-BLK1)</b>										
Volatile Fuel Hydrocarbons (C4-C12)	ND	50	ug/l							
Surrogate: Dibromofluoromethane	23.9		ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	26.3		ug/l	25.0		105	80-120			
Surrogate: 4-Bromofluorobenzene	25.7		ug/l	25.0		103	80-120			
<b>LCS Analyzed: 07/05/2011 (11G0239-BS2)</b>										
Volatile Fuel Hydrocarbons (C4-C12)	482	50	ug/l	500		96	55-130			
Surrogate: Dibromofluoromethane	25.2		ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	26.3		ug/l	25.0		105	80-120			
Surrogate: 4-Bromofluorobenzene	25.9		ug/l	25.0		104	80-120			
<b>Matrix Spike Analyzed: 07/05/2011 (11G0239-MS1) Source: IUF2416-05</b>										
Volatile Fuel Hydrocarbons (C4-C12)	4690	50	ug/l	1720	2890	104	50-145			
Surrogate: Dibromofluoromethane	24.5		ug/l	25.0		98	80-120			
Surrogate: Toluene-d8	26.3		ug/l	25.0		105	80-120			
Surrogate: 4-Bromofluorobenzene	26.6		ug/l	25.0		107	80-120			
<b>Matrix Spike Dup Analyzed: 07/05/2011 (11G0239-MSD1) Source: IUF2416-05</b>										
Volatile Fuel Hydrocarbons (C4-C12)	4460	50	ug/l	1720	2890	91	50-145	5	20	
Surrogate: Dibromofluoromethane	23.9		ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	26.1		ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	26.5		ug/l	25.0		106	80-120			

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Blaine Tech San Jose/CRA Shell  
 1680 Rogers Avenue  
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 Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11

Received: 06/28/11

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11G0239 Extracted: 07/05/11</b>										
<b>Blank Analyzed: 07/05/2011 (11G0239-BLK1)</b>										
Benzene	ND	0.50	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Toluene	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	0.50	ug/l							
Xylenes, Total	ND	1.0	ug/l							
Surrogate: 4-Bromofluorobenzene	25.7		ug/l	25.0		103	80-120			
Surrogate: Dibromofluoromethane	23.9		ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	26.3		ug/l	25.0		105	80-120			
<b>LCS Analyzed: 07/05/2011 (11G0239-BS1)</b>										
Benzene	24.6	0.50	ug/l	25.0		98	70-120			
Ethylbenzene	27.7	0.50	ug/l	25.0		111	75-125			
Toluene	26.7	0.50	ug/l	25.0		107	70-120			
m,p-Xylenes	58.8	1.0	ug/l	50.0		118	75-125			
o-Xylene	29.6	0.50	ug/l	25.0		118	75-125			
Xylenes, Total	88.4	1.0	ug/l	75.0		118	70-125			
Surrogate: 4-Bromofluorobenzene	26.0		ug/l	25.0		104	80-120			
Surrogate: Dibromofluoromethane	26.7		ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	26.2		ug/l	25.0		105	80-120			
<b>Matrix Spike Analyzed: 07/05/2011 (11G0239-MS1)</b>					<b>Source: IUF2416-05</b>					
Benzene	25.5	0.50	ug/l	25.0	0.810	99	65-125			
Ethylbenzene	28.7	0.50	ug/l	25.0	ND	115	65-130			
Toluene	27.6	0.50	ug/l	25.0	0.440	108	70-125			
m,p-Xylenes	61.2	1.0	ug/l	50.0	ND	122	65-130			
o-Xylene	30.3	0.50	ug/l	25.0	ND	121	65-125			
Xylenes, Total	91.6	1.0	ug/l	75.0	ND	122	60-130			
Surrogate: 4-Bromofluorobenzene	26.6		ug/l	25.0		107	80-120			
Surrogate: Dibromofluoromethane	24.5		ug/l	25.0		98	80-120			
Surrogate: Toluene-d8	26.3		ug/l	25.0		105	80-120			

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 Project Manager

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Blaine Tech San Jose/CRA Shell  
 1680 Rogers Avenue  
 San Jose, CA 95112-1105  
 Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11  
 Received: 06/28/11

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11G0239 Extracted: 07/05/11</b>										
<b>Matrix Spike Dup Analyzed: 07/05/2011 (11G0239-MSD1)</b>					<b>Source: IUF2416-05</b>					
Benzene	24.9	0.50	ug/l	25.0	0.810	96	65-125	2	20	
Ethylbenzene	29.0	0.50	ug/l	25.0	ND	116	65-130	0.9	20	
Toluene	26.7	0.50	ug/l	25.0	0.440	105	70-125	3	20	
m,p-Xylenes	61.2	1.0	ug/l	50.0	ND	122	65-130	0.1	25	
o-Xylene	30.2	0.50	ug/l	25.0	ND	121	65-125	0.5	20	
Xylenes, Total	91.4	1.0	ug/l	75.0	ND	122	60-130	0.2	20	
Surrogate: 4-Bromofluorobenzene	26.5		ug/l	25.0		106	80-120			
Surrogate: Dibromofluoromethane	23.9		ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	26.1		ug/l	25.0		104	80-120			

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 Project Manager

Blaine Tech San Jose/CRA Shell  
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Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11

Received: 06/28/11

## METHOD BLANK/QC DATA

### HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11G0748 Extracted: 07/08/11</b>										
<b>Blank Analyzed: 07/08/2011 (11G0748-BLK1)</b>										
Hexane Extractable Material (Oil & Grease)	ND	5000	ug/l							
<b>LCS Analyzed: 07/08/2011 (11G0748-BS1)</b>										
Hexane Extractable Material (Oil & Grease)	19100	5000	ug/l	20000		96	78-114			MNR1
<b>LCS Dup Analyzed: 07/08/2011 (11G0748-BSD1)</b>										
Hexane Extractable Material (Oil & Grease)	19300	5000	ug/l	20000		96	78-114	1	11	

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Blaine Tech San Jose/CRA Shell  
1680 Rogers Avenue  
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Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11

Received: 06/28/11

## DATA QUALIFIERS AND DEFINITIONS

- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- R-7** LCS/LCSD RPD exceeded the acceptance limit. Recovery met acceptance criteria.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

## ADDITIONAL COMMENTS

### For Volatile Fuel Hydrocarbons (C4-C12):

Volatile Fuel Hydrocarbons (C4-C12) are quantitated against a gasoline standard. Quantitation begins immediately before TBA-d9.

### For Extractable Fuel Hydrocarbons (EFH, DRO, ORO):

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

TestAmerica Irvine

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Project Manager

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IUF2500 <Page 12 of 13>

Blaine Tech San Jose/CRA Shell  
1680 Rogers Avenue  
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Attention: Lorin King

Project ID: 2350 (2368) Harrison St., Oakland, CA

Report Number: IUF2500

Sampled: 06/24/11  
Received: 06/28/11

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water	X	X
EPA 8015B	Water	X	X
EPA 8260B	Water	X	X
TPH by GC/MS	Water	X	X

*Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at [www.testamericainc.com](http://www.testamericainc.com)*

TestAmerica Irvine

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Project Manager

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IUF2500 <Page 13 of 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 060119

INCIDENT # (ENV SERVICES) 9 7 7 4 3 9 6 9

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

SAP #

CHECK IF NO INCIDENT # APPLIES

DATE: 6/24/11

PAGE: 1 of 1

SAMPLING COMPANY: Blaine Tech Services

LOG CODE: BTSS

ADDRESS: 1680 Rogers Avenue, San Jose, CA

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

TELEPHONE: 310-995-4455 x 108

FAX: 310-637-5802

E-MAIL: lking@blainetech.com

SITE ADDRESS: Street and City: 2350 (2368) Harrison St, Oakland

State: CA

GLOBAL ID NO.: T0600102237

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

PHONE NO.: 510-420-3343

E-MAIL: shelledf@craworld.com

CONSULTANT PROJECT NO.: 10624-4442

LAB USE ONLY: IUF2500

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:

SPECIAL INSTRUCTIONS OR NOTES:

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

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

TPH -GRO, Purgeable (8260B)	TPH -DRO, Extractable (8015M)	TPHg (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)	OIL & GREASE (1661A)	TEMPERATURE ON RECEIPT °C
														4.8

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	REQUESTED ANALYSIS													Container PID Readings or Laboratory Notes			
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER		TPH -GRO, Purgeable (8260B)	TPH -DRO, Extractable (8015M)	TPHg (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)		OIL & GREASE (1661A)		
	S-1	6/24/11	1455	W	3			2		7	X	0		X													
	S-2		1430								0	0		0													
	S-3		1335								0	0		0													
	S-4		1400								0	0		0													
	S-5		1415								0	0		0													
	S-6		1440								0	0		0													

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>	<i>[Signature]</i> SAMPLE CUSTODIAN	6/24/11	1635
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>	<i>[Signature]</i> TASF	6/27/11	1000
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>	<i>[Signature]</i>	06/27/11	1045

*Gerald Taylor 6/27/11 10:00*

*6/28/11 0940*

*4.8°C d/s*

05/2008 Revision