CONESTOGA-ROVERS & ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
www.CRAworld.com

# TRANSMITTAL

**DATE:** May 13, 2011

**REFERENCE NO.:** 240669

**PROJECT NAME:** 5251 Hopyard Road, Pleasanton

**TO:** Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

**RECEIVED**
8:48 am, May 16, 2011
Alameda County
Environmental Health

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|---|---|
| 1 | Groundwater Monitoring Report – First Quarter 2011 |
| | |
| | |

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐
- ☐

**COMMENTS:**
If you have any questions regarding the content of this document, please contact Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown, Shell Oil Products US (electronic copy)
Carl Cox, C and J Cox Corporation, 4431 Stoneridge Drive, Pleasanton, CA 94588
Colleen Winey, Zone 7 Water Agency, 100 North Canyons Parkway, Livermore, CA 94551
Danielle Stefani, Livermore-Pleasanton Fire Department, 3560 Nevada Street, Pleasanton, CA 94566-6267

Completed by: Peter Schaefer Signed: Peter Schaefer

**Filing:** Correspondence File

**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

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

Re: Shell-branded Service Station
5251 Hopyard Road
Pleasanton, California
SAP Code 135785
Incident No. 98995843
ACEH Case No. RO0000194

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,

Denis L. Brown
Senior Program Manager

# GROUNDWATER MONITORING REPORT – FIRST QUARTER 2011

## SHELL-BRANDED SERVICE STATION
## 5251 HOPYARD ROAD
## PLEASANTON, CALIFORNIA

**SAP CODE** 135785
**INCIDENT NO.** 98995843
**AGENCY NO.** RO0000194

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

5900 Hollis Street, Suite A
Emeryville, California
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**MAY 13, 2011**
**REF. NO. 240669 (1)**
This report is printed on recycled paper.

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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 | 5251 Hopyard Road, Pleasanton |
| 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. | RO0000194 |
| Shell SAP Code | 135785 |
| Shell Incident No. | 98995843 |

Date of most recent agency correspondence was September 10, 2010.

## 2.0 SITE ACTIVITIES, FINDINGS, AND DISCUSSION

### 2.1 CURRENT QUARTER'S ACTIVITIES

Delta Consultants' (Delta's) November 12, 2010 *Final Quarterly $MgSO_4$ Feasibility Study Report* summarized the results of four rounds of magnesium sulfate ($MgSO_4$) injections utilizing wells EW-1 and S-3.

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 QUARTER'S FINDINGS

| | |
|---|---|
| Groundwater Flow Direction | Variable |
| Hydraulic Gradient | Variable |
| Depth to Water | 7.04 to 9.09 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 first and third quarters, and CRA will issue groundwater monitoring reports semiannually following the sampling events.

## 2.4 DISCUSSION

In April, May, July, and September 2010, Delta conducted an $MgSO_4$ injection feasibility study on wells EW-1 and S-3. Based on subsequent groundwater sampling data, Delta concluded that the $MgSO_4$ injections had a limited radius of influence due to the low permeability of shallow soils and recommended that total petroleum hydrocarbon as gasoline (TPHg) concentrations in well EW-1 be monitored for two additional sampling events to determine if the $MgSO_4$ injections were effective at accelerating hydrocarbon degradation.

CRA reviewed the constituent of concern (COC) trends and notes that TPHg, benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertiary-butyl ether (MTBE) concentrations in well EW-1 have rebounded to pre-injection historical norms, indicating that the $MgSO_4$ injections were not effective in substantially accelerating degradation of hydrocarbons in the source area.

BTEX were not detected in well S-3, located on the edge of the source area, while TPHg, MTBE, and tertiary-butyl alcohol concentrations remain within historical pre-injection ranges.

COC concentrations and sulfate in well S-1, located closest to the injection wells, are generally within historical pre-injection norms indicating that the radius of influence of the injections has not increased since the injections were completed.

While sulfate concentrations in wells EW-1 and S-3 remain above pre-injection levels, degradation of COCs does not appear to be significantly accelerated, and other wells do not appear to have shown any effects from the injections. No additional $MgSO_4$ injections appear to be warranted.

CRA will re-evaluate the $MgSO_4$ injection feasibility study based on the third quarter 2011 groundwater analytical results. $MgSO_4$ injection feasibility study groundwater data are presented in Table 2.

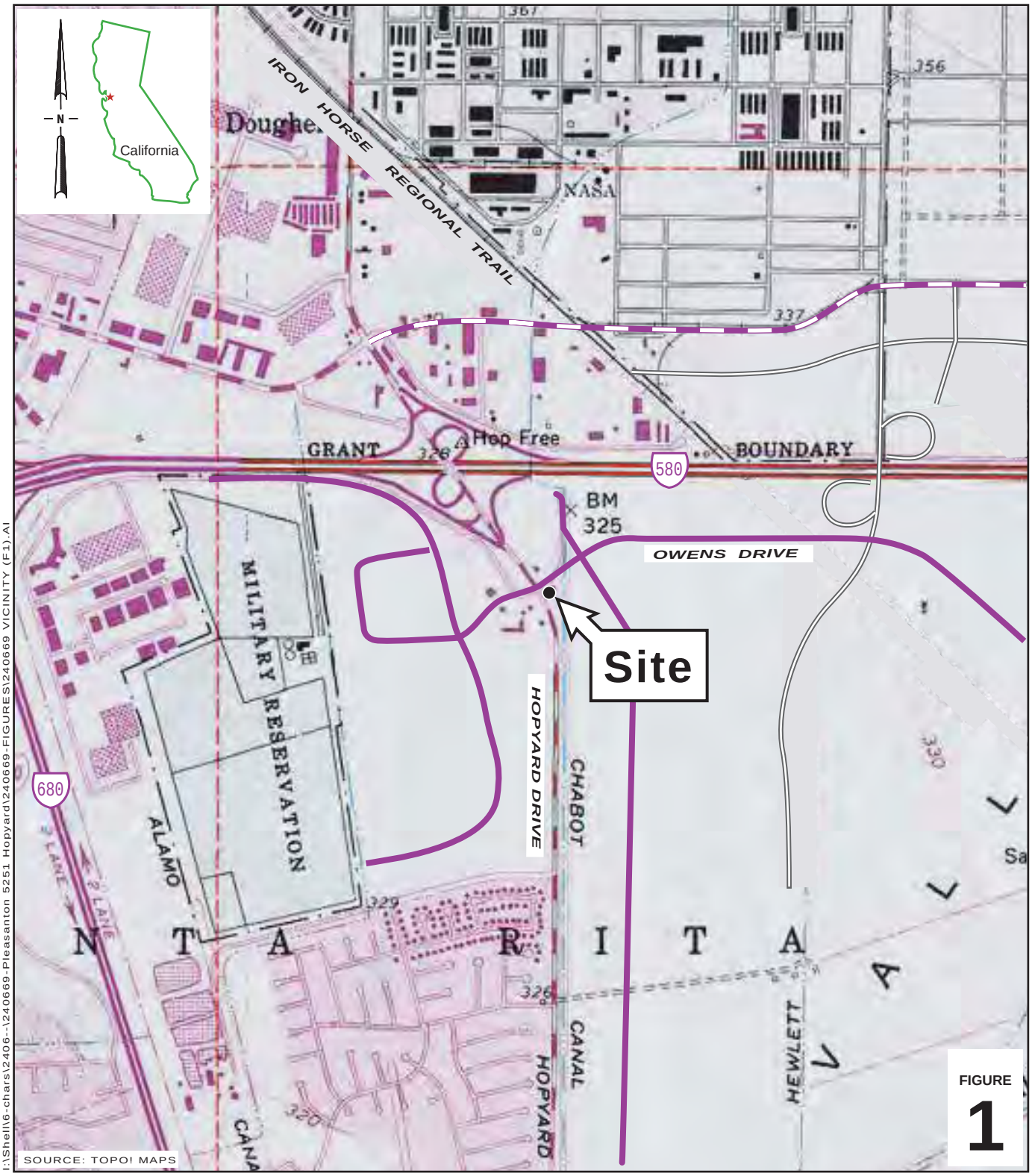
All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES

Peter Schaefer, CHG, CEG

Aubrey K. Cool, PG

FIGURES

05/05/2011




I:\Shell\6-chars\2406-\240669-Pleasanton 5251 Hopyard\240669-FIGURES\240669 VICINITY (F1).AI

FIGURE
1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

## Shell-branded Service Station

5251 Hopyard Road

Pleasanton, California

CONESTOGA-ROVERS & ASSOCIATES

## Vicinity Map

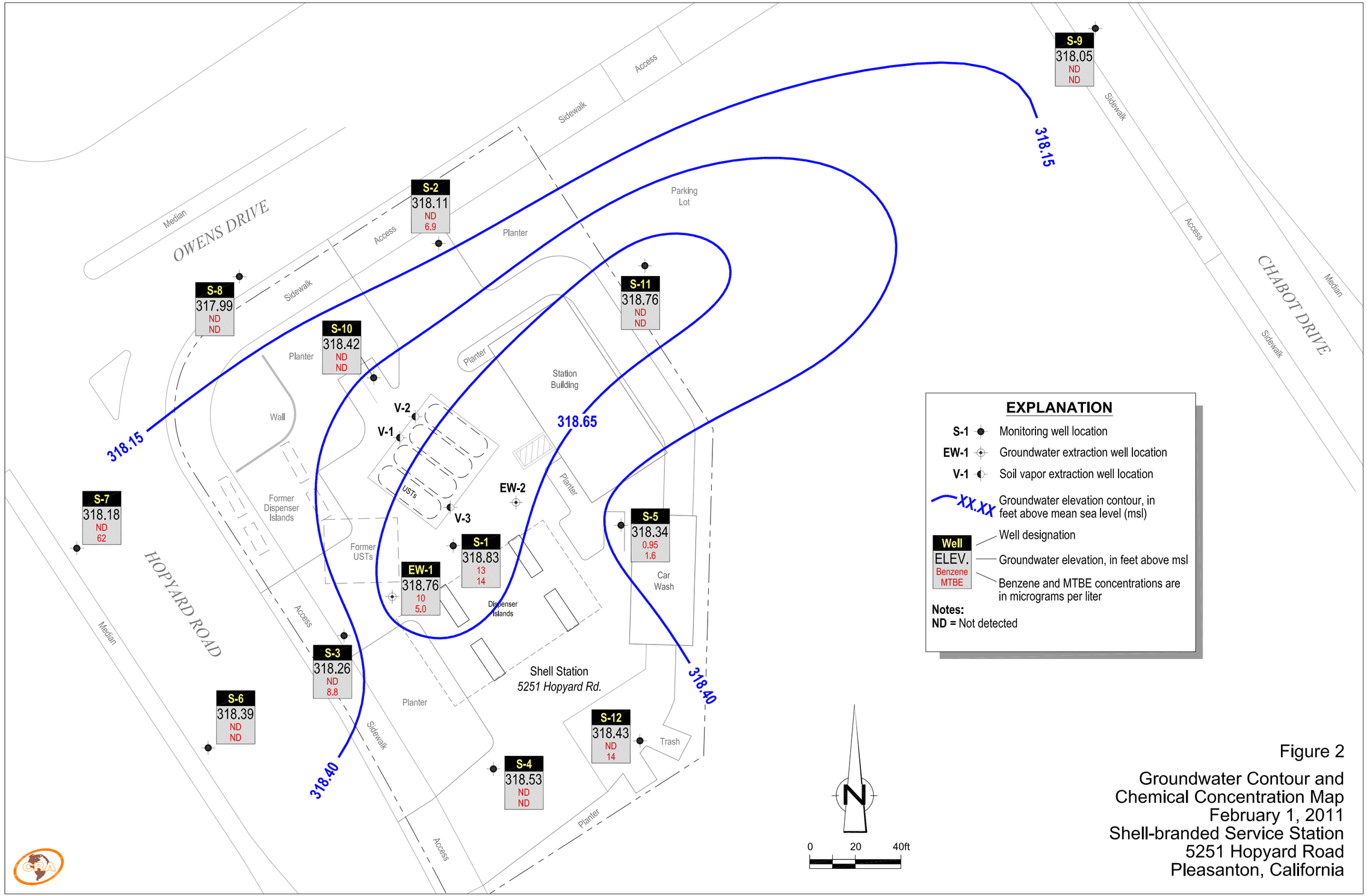



Figure 2

Groundwater Contour and Chemical Concentration Map
February 1, 2011
Shell-branded Service Station
5251 Hopyard Road
Pleasanton, California

I:\Shell\6-chars\2406--\240669-Pleasanton 5251 Hopyard\240669-REPORTS\240669-RPT1-1Q11\240669 1QM11-GW.DWG (05/05/2011)

TABLES

**TABLE 1**

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-1 | 1/25/1991 | 2,500 | 1,500 | 460 | <25 | 130 | 36 | --- | --- | --- | --- | --- | --- | --- | 326.73 | --- | --- | --- |
| S-1 | 4/6/1991 | 6,700 | 2,600 a | 2,600 | 14 | 580 | 250 | --- | --- | --- | --- | --- | --- | --- | 326.73 | --- | --- | --- |
| S-1 | 7/24/1991 | 8,800 | 3,800 a | 2,300 | 30 | 640 | 220 | --- | --- | --- | --- | --- | --- | --- | 326.73 | --- | --- | --- |
| S-1 | 10/18/1991 | 12,000 | 3,300 a | 3,600 | 380 | 990 | 580 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.85 | 317.88 | --- |
| S-1 | 1/23/1992 | 1,600 | 890 | 450 | 3 | 120 | 17 | --- | --- | --- | --- | --- | --- | --- | 326.73 | --- | --- | --- |
| S-1 | 4/27/1992 | 1,100 g | 500 a | 610 | <10 | 110 | 10 | --- | --- | --- | --- | --- | --- | --- | 326.73 | --- | --- | --- |
| S-1 | 7/21/1992 | 5,100 | 290 c | 1,900 | 54 | 460 | 140 | --- | --- | --- | --- | --- | --- | --- | 326.73 | --- | --- | --- |
| S-1 | 10/16/1992 | 13,000 | 390 c | 3,200 | 310 | 780 | 360 | --- | --- | --- | --- | --- | --- | --- | 326.73 | --- | --- | --- |
| S-1 | 1/23/1993 | 2,300 | 30 d | 640 | <5.0 | 110 | 13 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 7.96 | 318.77 | --- |
| S-1 | 4/28/1993 | 4,600 | 390 | 780 | <0.50 | 250 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 9.07 | 317.66 | --- |
| S-1 | 9/22/1993 | 3,000 | 610 a | 660 | 28 | 160 | 17 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.68 | 318.05 | --- |
| S-1 | 12/8/1993 | 520 | 280 | 210 | <2.5 | 49 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.23 | 318.50 | --- |
| S-1 | 3/4/1994 | 640 | --- | 190 | 1.4 | 18 | 1.3 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.81 | 317.92 | --- |
| S-1 (D) | 3/4/1994 | 640 | --- | 180 | 1.7 | 17 | 1.3 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.81 | 317.92 | --- |
| S-1 | 6/16/1994 | 2,500 | --- | 390 | 9.5 | 31 | 7.5 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.80 | 317.93 | --- |
| S-1 (D) | 6/16/1994 | 2,000 | --- | 410 | 7.8 | 120 | 20 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.80 | 317.93 | --- |
| S-1 | 9/13/1994 | 1,400 | --- | 310 | 7.7 | 29 | 8.5 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.62 | 318.11 | --- |
| S-1 (D) | 9/13/1994 | 1,400 | --- | 240 | 7.9 | 44 | 6.3 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.62 | 318.11 | --- |
| S-1 | 5/5/1995 | 800 | --- | 120 | 3.6 | 26 | 2.7 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 11.54 | 315.19 | --- |
| S-1 (D) | 5/5/1995 | 710 | --- | 110 | 3.4 | 19 | 2.7 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 11.54 | 315.19 | --- |
| S-1 | 5/21/1996 | 1,500 | --- | 170 | 8.5 | 120 | 6.7 | --- | --- | --- | --- | --- | --- | --- | 326.73 | 8.88 | 317.85 | --- |
| S-1 | 5/12/1997 | 4,700 | --- | 200 | 15 | 210 | 20 | 2,300 | --- | --- | --- | --- | --- | --- | 326.73 | 11.19 | 315.54 | 2.4 |
| S-1 (D) | 5/12/1997 | 4,800 | --- | 210 | 16 | 190 | 16 | 3,200 | 2,900 | --- | --- | --- | --- | --- | 326.73 | 11.19 | 315.54 | 2.4 |
| S-1 | 5/8/1998 | 500 | --- | 18 | 2.1 | 2.3 | 2.0 | 1,000 | --- | --- | --- | --- | --- | --- | 326.73 | 8.38 | 318.35 | 2.1 |
| S-1 | 6/27/1999 | 2,970 | --- | 117 | 32.0 | 69.1 | 17.5 | 374 | --- | --- | --- | --- | --- | --- | 326.73 | 8.79 | 317.94 | 2.4 |
| S-1 | 4/28/2000 | 1,920 | --- | 50.5 | 15.0 | 67.2 | 46.7 | 276 | --- | --- | --- | --- | --- | --- | 326.73 | 8.50 | 318.23 | 2.8 |
| S-1 | 5/30/2001 | 3,900 | --- | 27 | 12 | 140 | 28 | --- | 140 | --- | --- | --- | --- | --- | 326.73 | 8.18 | 318.55 | 2.6 |
| S-1 | 6/17/2002 | 2,700 | --- | 25 | 11 | 51 | 14 | --- | 140 | --- | --- | --- | --- | --- | 326.73 | 8.39 | 318.34 | 3.2 |
| S-1 | 5/30/2003 | 3,900 | --- | 12 | 8.2 | 47 | 12 | --- | 270 | --- | --- | --- | --- | --- | 326.74 | 7.41 | 319.33 | 1.2 |
| S-1 | 5/3/2004 | 3,700 | --- | 32 | 21 | 170 | 34 | --- | 410 | --- | --- | --- | --- | --- | 326.74 | 11.18 | 315.56 | 2.4 |
| S-1 | 1/14/2005 | 4,200 | --- | 22 | 34 | 380 | 33 | --- | 100 | --- | --- | --- | --- | --- | 326.74 | 7.10 | 319.64 | 0.58 |
| S-1 | 5/5/2005 | 5,000 | --- | 33 | 110 | 970 | 210 | --- | 190 | <0.50 | <0.50 | 0.95 | 630 | --- | 326.74 | 11.32 | 315.42 | --- |
| S-1 | 08/05/2005 l | 4,600 | --- | 32 | 52 | 420 | 69 | --- | 110 | <40 | <40 | <40 | 410 | --- | 326.74 | 9.04 | 317.70 | --- |
| S-1 | 9/16/2005 | 3,300 | --- | 14 | 28 | 280 | 43 | --- | 60 | 51 | <10 | <10 | 260 | --- | 326.74 | 11.37 | 315.37 | --- |
| S-1 | 11/8/2005 | 4,700 | --- | 19.2 | 47.0 | 416 | 84.0 | --- | 50.2 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 326.74 | 9.06 | 317.68 | --- |
| S-1 | 1/31/2006 | 6,380 | --- | 21.0 | 33.1 | 280 | 31.0 | --- | 59.9 | <0.500 | <0.500 | <0.500 | 306 | --- | 326.74 | 8.12 | 318.62 | --- |
| S-1 | 5/16/2006 | 9,080 | --- | 25.8 | 46.6 | 517 | 86.6 m | --- | 69.5 | <0.500 | <0.500 | <0.500 | 268 | --- | 326.74 | 7.95 | 318.79 | --- |
| S-1 | 8/23/2006 | 4,980 | --- | 19.0 | 22.7 | 74.7 | 38.7 | --- | 42.9 | <0.500 | <0.500 | <0.500 | 252 | --- | 326.74 | 7.95 | 318.79 | --- |
| S-1 | 11/13/2006 | 7,900 | --- | 38 | 41 | 480 | 52 | --- | 44 | <5.0 | <5.0 | <5.0 | 480 | --- | 326.74 | 7.99 | 318.75 | --- |

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-1 | 2/1/2007 | 1,500 | --- | 18 | 15 | 110 | 17 | --- | 27 | <10 | <10 | <10 | 640 | --- | 326.74 | 8.19 | 318.55 | --- |
| S-1 | 5/23/2007 | 5,300 n | --- | 35 | 42 | 260 | 67.9 | --- | <5.0 | <10 | <10 | <10 | 720 | --- | 326.74 | 10.50 | 316.24 | --- |
| S-1 | 8/7/2007 | 6,900 n | --- | 26 | 31 | 240 | 40.9 o | --- | 30 | <10 | <10 | <10 | 270 | --- | 326.74 | 8.13 | 318.61 | --- |
| S-1 | 11/29/2007 | 840 n | --- | 16 | 18 | 120 | 14.5 | --- | 26 | <2.0 | <2.0 | <2.0 | 190 | --- | 326.74 | 9.40 | 317.34 | --- |
| S-1 | 2/8/2008 | 4,500 n | --- | 25 | 39 | 410 | 37 | --- | 28 | <10 | <10 | <10 | 330 | --- | 326.74 | 7.91 | 318.83 | --- |
| S-1 | 2/20/2008 | 5,700 n | --- | 29 | 56 | 650 | 89 | --- | 35 | <10 | <10 | <10 | 200 | <500 | 326.74 | 8.70 | 318.04 | --- |
| S-1 | 3/7/2008 | 6,800 n | --- | 25 | 37 | 310 | 59.2 | --- | <5.0 | <10 | <10 | <10 | 240 | <500 | 326.74 | 10.54 | 316.20 | --- |
| S-1 | 3/21/2008 | 5,300 | --- | 22 | 23 | 210 | 38.7 | --- | <2.0 | <4.0 | <4.0 | <4.0 | 220 | <200 | 326.74 | 9.79 | 316.95 | --- |
| S-1 | 4/8/2008 | 4,200 | --- | 15 | 18 | 230 | 26.4 | --- | <2.0 | <4.0 | <4.0 | <4.0 | 240 | <200 | 326.74 | 8.27 | 318.47 | --- |
| S-1 | 4/21/2008 | 6,600 | --- | 21 | 27 | 440 | 53 | --- | <2.0 | <4.0 | <4.0 | <4.0 | 170 | <200 | 326.74 | 8.17 | 318.57 | --- |
| S-1 | 5/6/2008 | 5,700 | --- | 21 | 29 | 440 | 56 | --- | <5.0 | <10 | <10 | <10 | 270 | <500 | 326.74 | 8.00 | 318.74 | --- |
| S-1 | 5/21/2008 | 7,800 | --- | 29 | 51 | 620 | 108 | --- | 40 | <10 | <10 | <10 | 190 | <500 | 326.74 | 8.27 | 318.47 | --- |
| S-1 | 8/6/2008 | 7,600 | --- | 17 | 27 | 140 | 30 | --- | 24 | <10 | <10 | <10 | 180 | --- | 326.74 | 8.01 | 318.73 | --- |
| S-1 | 11/18/2008 | 6,500 | --- | 27 | 35 | 310 | 45.0 | --- | 22 | <20 | <20 | <20 | 180 | --- | 326.74 | 7.59 | 319.15 | --- |
| S-1 | 1/20/2009 | 5,100 | --- | 19 | 21 | 140 | 22 | --- | 21 | <10 | <10 | <10 | 230 | --- | 326.74 | 8.28 | 318.46 | --- |
| S-1 | 5/6/2009 | 6,100 | --- | 26 | 37 | 520 | 51 | --- | 27 | <10 | <10 | <10 | 180 | --- | 326.74 | 8.04 | 318.70 | --- |
| S-1 | 7/6/2009 | 5,800 | --- | 25 | 34 | 370 | 44 | --- | 22 | <10 | <10 | <10 | 180 | --- | 326.74 | 8.42 | 318.32 | --- |
| S-1 | 2/9/2010 | 8,800 | --- | 18 | 33 | 340 | 37 | --- | 13 | --- | --- | --- | 66 | --- | 326.74 | 8.18 | 318.56 | --- |
| S-1 | 8/12/2010 | Unable to access | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.74 | --- | --- | --- |
| S-1 | 8/18/2010 | 4,000 | --- | 15 | 26 | 87 | 34 | --- | 10 | --- | --- | --- | --- | --- | 326.74 | 7.92 | 318.82 | --- |
| **S-1** | **2/1/2011** | **5,900 q** | **---** | **13** | **21** | **38** | **21** | **---** | **14** | **---** | **---** | **---** | **56** | **---** | **326.74** | **7.91** | **318.83** | |
| S-2 | 1/25/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | --- | --- | --- |
| S-2 | 4/16/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | --- | --- | --- |
| S-2 | 7/24/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | --- | --- | --- |
| S-2 | 10/18/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | 8.83 | 317.76 | --- |
| S-2 | 1/23/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | --- | --- | --- |
| S-2 | 4/27/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | --- | --- | --- |
| S-2 | 7/17/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | --- | --- | --- |
| S-2 | 10/16/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | --- | --- | --- |
| S-2 | 1/23/1993 | <50 | 140 b | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | 8.10 | 318.49 | --- |
| S-2 | 4/28/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | 9.06 | 317.53 | --- |
| S-2 | 9/22/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.59 | 8.91 | 317.68 | --- |
| S-2 | 12/8/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.59 | 9.07 | 317.52 | --- |
| S-2 | 3/4/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.59 | 8.90 | 317.69 | --- |
| S-2 | 6/16/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.59 | 8.98 | 317.61 | --- |
| S-2 | 9/13/1994 | <50 | --- | <0.50 | 2.5 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | 8.78 | 317.81 | --- |
| S-2 | 5/5/1995 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | 8.60 | 317.99 | --- |
| S-2 | 5/21/1996 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.59 | 8.75 | 317.84 | --- |

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-2 | 5/12/1997 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 326.59 | 8.72 | 317.87 | 3.4 |
| S-2 | 5/8/1998 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 326.59 | 8.63 | 317.96 | 3.1 |
| S-2 | 6/27/1999 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <2.00 | --- | --- | --- | --- | --- | --- | 326.59 | 8.79 | 317.80 | 2.6 |
| S-2 | 4/28/2000 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | --- | --- | --- | --- | --- | --- | 326.59 | 8.33 | 318.26 | 2.0 |
| S-2 | 5/30/2001 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | --- | --- | --- | --- | --- | 326.59 | 8.56 | 318.03 | 1.8 |
| S-2 | 6/17/2002 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <5.0 | --- | --- | --- | --- | --- | 326.59 | 8.87 | 317.72 | i |
| S-2 | 5/30/2003 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 18 | --- | --- | --- | --- | --- | 326.47 | 7.89 | 318.58 | 1.7 |
| S-2 | 5/3/2004 | <250 | --- | <2.5 | <2.5 | <2.5 | <5.0 | --- | 510 | --- | --- | --- | --- | --- | 326.47 | 5.44 | 321.03 | 0.1 |
| S-2 | 1/14/2005 | <250 | --- | <2.5 | <2.5 | <2.5 | <5.0 | --- | 270 | --- | --- | --- | --- | --- | 326.47 | 7.88 | 318.59 | --- |
| S-2 | 5/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | 280 | <0.50 | <0.50 | 0.55 | 8.9 j | --- | 326.47 | 8.14 | 318.33 | --- |
| S-2 | 08/05/2005 l | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 320 | <2.0 | <2.0 | <2.0 | 510 | --- | 326.47 | 8.24 | 318.23 | --- |
| S-2 | 9/16/2005 | <250 | --- | <2.5 | <2.5 | <2.5 | <5.0 | --- | 320 | <10 | <10 | <10 | 1,800 | --- | 326.47 | 8.06 | 318.41 | --- |
| S-2 | 11/8/2005 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 375 | <0.500 | <0.500 | 0.610 | 1,130 | --- | 326.47 | 8.20 | 318.27 | --- |
| S-2 | 1/31/2006 | 281 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 354 | <0.500 | <0.500 | <0.500 | 3,090 | --- | 326.47 | 8.18 | 318.29 | --- |
| S-2 | 5/16/2006 | 785 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 282 | <0.500 | <0.500 | <0.500 | 3,250 | --- | 326.47 | 8.34 | 318.13 | --- |
| S-2 | 8/23/2006 | 344 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 194 | <0.500 | <0.500 | 0.560 | 10,600 | --- | 326.47 | 8.32 | 318.15 | --- |
| S-2 | 11/13/2006 | 320 | --- | <5.0 f | <5.0 f | <5.0 f | <5.0 f | --- | 140 f | <5.0 f | <5.0 f | <5.0 f | 6,000 f | --- | 326.50 | 8.37 | 318.13 | --- |
| S-2 | 2/1/2007 | 160 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 130 | <2.0 | <2.0 | <2.0 | 3,900 | --- | 326.50 | 8.13 | 318.37 | --- |
| S-2 | 5/23/2007 | 120 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 110 | <2.0 | <2.0 | <2.0 | 1,500 | --- | 326.50 | 8.55 | 317.95 | --- |
| S-2 | 8/7/2007 | 93 n,p | --- | <2.5 | <5.0 | <5.0 | <5.0 | --- | 120 | <10 | <10 | <10 | 1,700 | --- | 326.50 | 8.26 | 318.24 | --- |
| S-2 | 11/29/2007 | 110 n,p | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 98 | <2.0 | <2.0 | <2.0 | 880 | --- | 326.50 | 8.29 | 318.21 | --- |
| S-2 | 2/8/2008 | 110 n,p | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 110 | <2.0 | <2.0 | <2.0 | 830 | --- | 326.50 | 8.07 | 318.43 | --- |
| S-2 | 2/20/2008 | 73 n,p | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 100 | <2.0 | <2.0 | <2.0 | 650 | <100 | 326.50 | 8.30 | 318.20 | --- |
| S-2 | 3/7/2008 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 57 | <2.0 | <2.0 | <2.0 | 240 | <100 | 326.50 | 9.25 | 317.25 | --- |
| S-2 | 3/21/2008 | 73 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 91 | <2.0 | <2.0 | <2.0 | 480 | <100 | 326.50 | 9.01 | 317.49 | --- |
| S-2 | 4/8/2008 | 88 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 72 | <2.0 | <2.0 | <2.0 | 310 | <100 | 326.50 | 8.46 | 318.04 | --- |
| S-2 | 4/21/2008 | 60 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 8.6 | <2.0 | <2.0 | <2.0 | 310 | <100 | 326.50 | 9.60 | 316.90 | --- |
| S-2 | 5/6/2008 | 62 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 53 | <2.0 | <2.0 | <2.0 | 300 | <100 | 326.50 | 10.55 | 315.95 | --- |
| S-2 | 5/21/2008 | 130 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 61 | <2.0 | <2.0 | <2.0 | 320 | <100 | 326.50 | 9.43 | 317.07 | --- |
| S-2 | 8/6/2008 | 76 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 46 | <2.0 | <2.0 | <2.0 | 77 | --- | 326.50 | 8.41 | 318.09 | --- |
| S-2 | 11/18/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 42 | <2.0 | <2.0 | <2.0 | 18 | --- | 326.50 | 8.38 | 318.12 | --- |
| S-2 | 1/20/2009 | 57 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 46 | <2.0 | <2.0 | <2.0 | 13 | --- | 326.50 | 8.64 | 317.86 | --- |
| S-2 | 5/6/2009 | 64 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 58 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.50 | 8.31 | 318.19 | --- |
| S-2 | 7/6/2009 | 110 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 59 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.50 | 8.53 | 317.97 | --- |
| S-2 | 2/9/2010 | 62 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 42 | --- | --- | --- | <10 | --- | 326.50 | 8.20 | 318.30 | --- |
| S-2 | 8/12/2010 | Unable to access | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.50 | --- | --- | --- |
| S-2 | 8/18/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 24 | --- | --- | --- | --- | --- | 326.50 | 8.40 | 318.10 | --- |
| **S-2** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **6.9** | **---** | **---** | **---** | **<10** | **---** | **326.50** | **8.39** | **318.11** | **---** |

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-3 | 1/25/1991 | 870 | 330 | 230 | <2.5 | 130 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-3 | 4/16/1991 | 190 | 140 a | 12 | 0.80 | 6.2 | 1.5 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-3 | 7/24/1991 | 1,700 | 1,200 a | 450 | 4.4 | 150 | 2.9 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-3 | 10/18/1991 | 1,900 | 500 | 370 | 3.1 | 120 | 220 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.64 | 317.74 | --- |
| S-3 | 1/23/1992 | 2,000 | 650 a | 580 | 3.0 | 200 | <0.5 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-3 | 4/27/1992 | 1,100 | 230 a | 150 | <3.0 | 76 | 14 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-3 | 7/17/1992 | 810 | 58 | 200 | <2.5 | 57 | 3.8 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-3 | 10/16/1992 | 440 | 190 c | 79 | 1.8 | 18 | 4.6 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-3 | 1/23/1993 | 670 | 170 d | 79 | 1.5 | 46 | 15 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 8.81 | 318.57 | --- |
| S-3 | 4/28/1993 | 2,000 | <50 | 300 | 3.4 | 210 | 38 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.87 | 317.51 | --- |
| S-3 | 9/22/1993 | 4,800 | 670 a | 2,000 | 34 | 150 | 51 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.65 | 317.73 | --- |
| S-3 | 12/8/1993 | 1,200 | 11 | 440 | <5.0 | 120 | 29 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.26 | 318.12 | --- |
| S-3 | 3/4/1994 | 630 | --- | 130 | <0.50 | 17 | 0.80 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.64 | 317.74 | --- |
| S-3 | 6/16/1994 | 1,800 | --- | 430 | 19 | 35 | 21 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.78 | 317.60 | --- |
| S-3 | 5/5/1995 | 160 | --- | 50 | 0.90 | 7.2 | 4.1 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.38 | 318.00 | --- |
| S-3 | 5/21/1996 | 270 | --- | 45 | <0.50 | 1.4 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.41 | 317.97 | --- |
| S-3 (D) | 5/21/1996 | 210 | --- | <0.5 | <0.50 | 0.95 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.41 | 317.97 | --- |
| S-3 | 5/12/1997 | 420 | --- | <1.0 | <1.0 | <1.0 | <1.0 | 57 | --- | --- | --- | --- | --- | --- | 327.38 | 9.30 | 318.08 | 2.5 |
| S-3 | 5/8/1998 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 327.38 | 9.12 | 318.26 | 2.2 |
| S-3 | 6/27/1999 | 106 | --- | 8.51 | <0.500 | <0.500 | <0.500 | 31.0 | --- | --- | --- | --- | --- | --- | 327.38 | 9.39 | 317.99 | 2.1 |
| S-3 | 4/28/2000 | 139 | --- | 7.58 | <0.500 | <0.500 | <0.500 | 42.6 | --- | --- | --- | --- | --- | --- | 327.38 | 9.04 | 318.34 | 1.8 |
| S-3 | 5/30/2001 | 2,200 | --- | 510 | 6.9 | 100 | 21 | --- | 33 | --- | --- | --- | --- | --- | 327.38 | 9.19 | 318.19 | 2.0 |
| S-3 | 6/17/2002 | 600 | --- | 150 | 2.1 | 30 | 11 | --- | 36 | --- | --- | --- | --- | --- | 327.38 | 9.35 | 318.03 | 0.1 |
| S-3 | 5/30/2003 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 9.0 | --- | --- | --- | --- | --- | 327.04 | 8.39 | 318.65 | 1.2 |
| S-3 | 5/3/2004 | 61 k | --- | 0.90 | <0.50 | <0.50 | <1.0 | --- | 9.8 | --- | --- | --- | --- | --- | 327.04 | 8.73 | 318.31 | 1.2 |
| S-3 | 1/14/2005 | 94 | --- | 4.6 | <0.50 | 3.1 | 1.0 | --- | 13 | --- | --- | --- | --- | --- | 327.04 | 8.00 | 319.04 | --- |
| S-3 | 5/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | 5.7 | <0.50 | <0.50 | <0.50 | <5.0 | --- | 327.04 | 8.31 | 318.73 | --- |
| S-3 | 08/05/2005 l | <50 | --- | 0.51 | <0.50 | <0.50 | <1.0 | --- | 6.0 | <2.0 | <2.0 | <2.0 | 42 | --- | 327.04 | 8.32 | 318.72 | --- |
| S-3 | 9/16/2005 | <50 | --- | 0.62 | <0.50 | <0.50 | <1.0 | --- | 7.9 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 327.04 | 8.29 | 318.75 | --- |
| S-3 | 11/8/2005 | 166 | --- | 63.0 | 1.32 | 7.20 | 2.99 | --- | 8.67 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.04 | 8.17 | 318.87 | --- |
| S-3 | 1/31/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 7.05 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.04 | 8.05 | 318.99 | --- |
| S-3 | 5/16/2006 | <50.0 | --- | 3.23 | <0.500 | 1.42 | 1.63 m | --- | 3.92 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.04 | 8.62 | 318.42 | --- |
| S-3 | 8/23/2006 | <50.0 | --- | 18.9 | <0.500 | 1.72 | 0.800 | --- | 7.65 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.04 | 8.54 | 318.50 | --- |
| S-3 | 11/13/2006 | 530 | --- | 130 f | 3.4 f | 10 f | 4.6 f | --- | 17 f | <2.0 f | <2.0 f | <2.0 f | <80 f | --- | 327.01 | 8.65 | 318.36 | --- |
| S-3 | 2/1/2007 | 430 | --- | 230 | 4.4 | 4.0 | <5.0 | --- | 17 | <10 | <10 | <10 | <25 | --- | 327.01 | 8.41 | 318.60 | --- |
| S-3 | 5/23/2007 | 1,400 n | --- | 370 | 11 | 17 | 11.58 o | --- | 21 | <2.0 | <2.0 | <2.0 | 12 | --- | 327.01 | 8.37 | 318.64 | --- |
| S-3 | 8/7/2007 | 1,000 n | --- | 150 | 4.6 o | 4.1 o | 4.0 o | --- | 21 | <10 | <10 | <10 | <50 | --- | 327.01 | 8.59 | 318.42 | --- |
| S-3 | 11/29/2007 | 710 n | --- | 110 | 3.1 | 3.8 | 5.3 o | --- | 17 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.01 | 8.78 | 318.23 | --- |
| S-3 | 2/8/2008 | 300 n | --- | 2.7 | <1.0 | <1.0 | <1.0 | --- | 19 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.01 | 8.05 | 318.96 | --- |

**TABLE 1**

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-3 | 2/20/2008 | 620 n | --- | 150 | 4.1 | 11 | 11 | --- | 19 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.01 | 8.57 | 318.44 | --- |
| S-3 | 3/7/2008 | 170 n | --- | 15 | <1.0 | 2.5 | 4.0 | --- | 12 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.01 | 8.87 | 318.14 | --- |
| S-3 | 3/21/2008 | 68 | --- | 4.8 | <1.0 | 1.3 | 1.6 | --- | 8.6 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.01 | 9.00 | 318.01 | --- |
| S-3 | 4/8/2008 | 170 | --- | 7.8 | <1.0 | 2.6 | 4.0 | --- | 8.1 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.01 | 8.55 | 318.46 | --- |
| S-3 | 4/21/2008 | 350 | --- | 2.8 | <1.0 | 1.2 | 1.9 | --- | 12 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.01 | 8.65 | 318.36 | --- |
| S-3 | 5/6/2008 | 210 | --- | 2.3 | <1.0 | <1.0 | <1.0 | --- | 9.1 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.01 | 8.60 | 318.41 | --- |
| S-3 | 5/21/2008 | 430 | --- | 21 | <1.0 | 3.5 | 4.2 | --- | 17 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.01 | 8.81 | 318.20 | --- |
| S-3 | 8/6/2008 | 210 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 13 | <2.0 | <2.0 | <2.0 | 11 | --- | 327.01 | 8.71 | 318.30 | --- |
| S-3 | 11/18/2008 | 930 | --- | 130 | 3.5 | 15 | 19 | --- | 18 | <2.0 | <2.0 | <2.0 | 10 | --- | 327.01 | 8.79 | 318.22 | --- |
| S-3 | 1/20/2009 | 950 | --- | 100 | 1.2 | 1.8 | <1.0 | --- | 18 | <2.0 | <2.0 | <2.0 | 16 | --- | 327.01 | 9.10 | 317.91 | --- |
| S-3 | 5/6/2009 | 2,000 | --- | 490 | 5.9 | 14 | 4.8 | --- | 21 | <2.0 | <2.0 | <2.0 | 14 | --- | 327.01 | 8.51 | 318.50 | --- |
| S-3 | 7/6/2009 | 2,300 | --- | 500 | 10 | 30 | 13 | --- | 21 | <10 | <10 | <10 | <50 | --- | 327.01 | 8.80 | 318.21 | --- |
| S-3 | 2/9/2010 | 1,400 | --- | 180 | 4.7 | 11 | 13 | --- | 12 | --- | --- | --- | 32 | --- | 327.01 | 8.36 | 318.65 | --- |
| S-3 | 8/12/2010 | 1,300 | --- | 270 | 3.5 | 47 | 46 | --- | 4.5 | --- | --- | --- | 21 | --- | 327.01 | 8.46 | 318.55 | --- |
| S-3 | 8/18/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.01 | 8.43 | 318.58 | --- |
| **S-3** | **2/1/2011** | **900** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **8.8** | **---** | **---** | **---** | **20** | **---** | **327.01** | **8.75** | **318.26** | **---** |
| S-4 | 1/25/1991 | <50 | <50 | <0.50 | 1.5 | <0.50 | 2.8 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-4 | 4/16/1991 | <50 | 0.7 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-4 | 7/24/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-4 | 10/18/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 8.82 | 318.56 | --- |
| S-4 | 1/23/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-4 | 4/27/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-4 | 7/17/1992 | <500 | 74 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-4 | 10/16/1992 | <500 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | --- | --- | --- |
| S-4 | 1/23/1993 | <500 | 94 b | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 8.32 | 319.06 | --- |
| S-4 | 4/28/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.76 | 317.62 | --- |
| S-4 | 9/22/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.30 | 318.08 | --- |
| S-4 | 12/8/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.74 | 317.64 | --- |
| S-4 | 3/4/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.60 | 317.78 | --- |
| S-4 | 6/16/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.42 | 317.96 | --- |
| S-4 | 5/5/1995 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.02 | 318.36 | --- |
| S-4 | 5/21/1996 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.38 | 9.29 | 318.09 | --- |
| S-4 | 5/12/1997 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | 140 | --- | --- | --- | --- | --- | --- | 327.38 | 7.95 | 319.43 | 2.5 |
| S-4 | 5/8/1998 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | 250 | --- | --- | --- | --- | --- | --- | 327.38 | 8.96 | 318.42 | 2.0 |
| S-4 | 6/27/1999 | 303 | --- | 35.8 | 24.8 | 12.4 | 69.8 | 106 | --- | --- | --- | --- | --- | --- | 327.38 | 8.90 | 318.48 | 2.6 |
| S-4 | 4/28/2000 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | 40.2 | --- | --- | --- | --- | --- | --- | 327.38 | 8.37 | 319.01 | 1.9 |
| S-4 | 5/30/2001 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | 6.8 | --- | --- | --- | --- | --- | 327.38 | 8.83 | 318.55 | 1.8 |
| S-4 | 6/17/2002 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | 31 | --- | --- | --- | --- | --- | 327.38 | 9.37 | 318.01 | 4.8 |

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-4 | 5/30/2003 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 130 | --- | --- | --- | --- | --- | 327.24 | 8.46 | 318.78 | 1.4 |
| S-4 | 5/3/2004 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 170 | --- | --- | --- | --- | --- | 327.24 | 8.70 | 318.54 | 1.1 |
| S-4 | 1/14/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 25 | --- | --- | --- | --- | --- | 327.24 | 8.17 | 319.07 | --- |
| S-4 | 5/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | 15 | <0.50 | <0.50 | <0.50 | <5.0 | --- | 327.24 | 8.25 | 318.99 | --- |
| S-4 | 8/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 6.1 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 327.24 | 8.14 | 319.10 | --- |
| S-4 | 11/8/2005 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 1.01 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.24 | 8.33 | 318.91 | --- |
| S-4 | 1/31/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.24 | 8.29 | 318.95 | --- |
| S-4 | 5/16/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.24 | 8.46 | 318.78 | --- |
| S-4 | 8/23/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.24 | 8.34 | 318.90 | --- |
| S-4 | 11/13/2006 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <20 | --- | 327.24 | 8.23 | 319.01 | --- |
| S-4 | 2/1/2007 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 327.24 | 8.56 | 318.68 | --- |
| S-4 | 5/23/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 0.60 o | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 7.92 | 319.32 | --- |
| S-4 | 8/7/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 0.32 o | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 8.52 | 318.72 | --- |
| S-4 | 11/29/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 8.58 | 318.66 | --- |
| S-4 | 2/8/2008 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 8.07 | 319.17 | --- |
| S-4 | 5/21/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.24 | 8.80 | 318.44 | --- |
| S-4 | 8/6/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 8.73 | 318.51 | --- |
| S-4 | 11/18/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 8.77 | 318.47 | --- |
| S-4 | 1/20/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 9.32 | 317.92 | --- |
| S-4 | 5/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 8.45 | 318.79 | --- |
| S-4 | 7/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.24 | 8.79 | 318.45 | --- |
| S-4 | 2/9/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | <10 | --- | 327.24 | 8.59 | 318.65 | --- |
| S-4 | 8/12/2010 | Unable to access | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.24 | --- | --- | --- |
| S-4 | 8/18/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.24 | 8.50 | 318.74 | --- |
| **S-4** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **<1.0** | **---** | **---** | **---** | **<10** | **---** | **327.24** | **8.71** | **318.53** | **---** |
| S-5 | 1/25/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | 0.70 | --- | --- | --- | --- | --- | --- | --- | 327.76 | --- | --- | --- |
| S-5 | 4/16/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | 0.80 | --- | --- | --- | --- | --- | --- | --- | 327.76 | --- | --- | --- |
| S-5 | 7/24/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | --- | --- | --- |
| S-5 | 10/18/1991 | 120 e | <50 | 4.3 | <0.50 | 1.0 | 0.70 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 10.00 | 317.76 | --- |
| S-5 | 1/23/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | --- | --- | --- |
| S-5 | 4/27/1992 | 50 | <50 | <0.50 | <0.50 | <0.50 | 0.60 | --- | --- | --- | --- | --- | --- | --- | 327.76 | --- | --- | --- |
| S-5 | 7/17/1992 | <50 | 70 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | --- | --- | --- |
| S-5 | 10/16/1992 | 230 | 57 | 13 | <0.50 | 4.9 | 4.3 | --- | --- | --- | --- | --- | --- | --- | 327.76 | --- | --- | --- |
| S-5 | 1/23/1993 | <50 | 150 b | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 8.88 | 318.88 | --- |
| S-5 | 4/28/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 10.20 | 317.56 | --- |
| S-5 | 9/22/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 9.92 | 317.84 | --- |
| S-5 | 12/8/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 10.19 | 317.57 | --- |
| S-5 | 3/4/1994 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 9.95 | 317.81 | --- |

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-5 | 6/16/1994 | <50 | --- | 0.90 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 10.02 | 317.74 | --- |
| S-5 | 5/5/1995 | <50 | --- | <0.5 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 9.58 | 318.18 | --- |
| S-5 | 5/21/1996 | <50 | --- | <0.5 | <0.50 | <0.5 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 327.76 | 9.84 | 317.92 | --- |
| S-5 | 5/12/1997 | 360 | --- | 3.3 | <0.50 | 17 | 9.8 | 130 | --- | --- | --- | --- | --- | --- | 327.76 | 9.16 | 318.60 | 4.2 |
| S-5 | 5/8/1998 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | 92 | --- | --- | --- | --- | --- | --- | 327.76 | 9.25 | 318.51 | 3.8 |
| S-5 (D) | 5/8/1998 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | 100 | --- | --- | --- | --- | --- | --- | 327.76 | 9.25 | 318.51 | 3.8 |
| S-5 | 6/27/1999 | 223 | --- | 13.7 | 12.9 | 8.20 | 45.8 | 106 | --- | --- | --- | --- | --- | --- | 327.76 | 9.39 | 318.37 | 3.0 |
| S-5 | 4/28/2000 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | 255 | --- | --- | --- | --- | --- | --- | 327.76 | 9.43 | 318.33 | 1.2 |
| S-5 | 5/30/2001 | <100 | --- | <1.0 | <1.0 | <1.0 | <1.0 | --- | 480 | --- | --- | --- | --- | --- | 327.76 | 9.47 | 318.29 | 1.1 |
| S-5 | 6/17/2002 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | 210 | --- | --- | --- | --- | --- | 327.76 | 9.74 | 318.02 | 0.2 |
| S-5 | 5/30/2003 | <250 | --- | <2.5 | <2.5 | <2.5 | <5.0 | --- | 450 | --- | --- | --- | --- | --- | 327.43 | 8.87 | 318.56 | 1.7 |
| S-5 | 5/3/2004 | <250 | --- | <2.5 | <2.5 | <2.5 | <5.0 | --- | 470 | --- | --- | --- | --- | --- | 327.43 | 9.10 | 318.33 | 0.7 |
| S-5 | 1/14/2005 | <100 | --- | <1.0 | <1.0 | <1.0 | <2.0 | --- | 230 | --- | --- | --- | --- | --- | 327.43 | 8.43 | 319.00 | --- |
| S-5 | 5/5/2005 | 76 | --- | 16 | <0.50 | <0.50 | <0.50 | --- | 120 | <0.50 | <0.50 | <0.50 | 630 | --- | 327.43 | 8.71 | 318.72 | --- |
| S-5 | 08/05/2005 l | 1,900 | --- | 57 | 7.5 | 22 | 17 | --- | 240 | <4 | <4 | <4 | 480 | --- | 327.43 | 8.90 | 318.53 | --- |
| S-5 | 9/16/2005 | 1,400 | --- | 87 | 2.0 | 7.8 | 5.8 | --- | 75 | <4.0 | <4.0 | <4.0 | 630 | --- | 327.43 | 8.84 | 318.59 | --- |
| S-5 | 11/8/2005 | 315 | --- | 35.8 | <0.500 | <0.500 | 1.07 | --- | 49.1 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 327.43 | 8.86 | 318.57 | --- |
| S-5 | 1/31/2006 | 335 | --- | 7.74 | <0.500 | <0.500 | <0.500 | --- | 48.2 | <0.500 | <0.500 | <0.500 | 337 | --- | 327.43 | 8.66 | 318.77 | --- |
| S-5 | 5/16/2006 | 349 | --- | 3.54 | <0.500 | <0.500 | <0.500 | --- | 24.7 | <0.500 | <0.500 | <0.500 | 182 | --- | 327.43 | 9.00 | 318.43 | --- |
| S-5 | 8/23/2006 | <50.0 | --- | 5.39 | <0.500 | <0.500 | <0.500 | --- | 17.0 | <0.500 | <0.500 | <0.500 | 91.0 | --- | 327.43 | 8.97 | 318.46 | --- |
| S-5 | 11/13/2006 | 420 | --- | 19 | 1.7 | <0.50 | 1.7 | --- | 19 | <0.50 | <0.50 | <0.50 | 80 | --- | 327.43 | 8.77 | 318.66 | --- |
| S-5 | 2/1/2007 | 280 | --- | 14 | 2.1 | <0.50 | 1.4 | --- | 13 | <2.0 | <2.0 | <2.0 | 42 | --- | 327.43 | 9.30 | 318.13 | --- |
| S-5 | 5/23/2007 | 590 n | --- | 19 | 2.0 | <1.0 | 0.92 o | --- | 11 | <2.0 | <2.0 | <2.0 | 24 | --- | 327.43 | 8.73 | 318.70 | --- |
| S-5 | 8/7/2007 | 450 n | --- | 10 | 1.0 | <1.0 | <1.0 | --- | 13 | <2.0 | <2.0 | <2.0 | 17 | --- | 327.43 | 9.00 | 318.43 | --- |
| S-5 | 11/29/2007 | 340 n | --- | 4.1 | 0.34 o | <1.0 | <1.0 | --- | 7.1 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.43 | 9.06 | 318.37 | --- |
| S-5 | 2/8/2008 | 270 n | --- | 4.7 | <1.0 | <1.0 | <1.0 | --- | 6.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.43 | 8.75 | 318.68 | --- |
| S-5 | 2/20/2008 | 340 n | --- | 4.6 | <1.0 | <1.0 | <1.0 | --- | 5.5 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.43 | 9.03 | 318.40 | --- |
| S-5 | 3/7/2008 | 220 n | --- | 1.8 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.43 | 9.20 | 318.23 | --- |
| S-5 | 3/21/2008 | 150 | --- | 0.71 | <1.0 | <1.0 | <1.0 | --- | 5.2 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.43 | 9.43 | 318.00 | --- |
| S-5 | 4/8/2008 | 120 | --- | 0.76 | <1.0 | <1.0 | <1.0 | --- | 5.2 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.43 | 9.11 | 318.32 | --- |
| S-5 | 4/21/2008 | 190 | --- | 0.63 | <1.0 | <1.0 | <1.0 | --- | 3.4 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.43 | 9.17 | 318.26 | --- |
| S-5 | 5/6/2008 | 150 | --- | 1.0 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | 190 | 327.43 | 8.80 | 318.63 | --- |
| S-5 | 5/21/2008 | 250 | --- | 1.6 | <1.0 | <1.0 | <1.0 | --- | 3.8 | <2.0 | <2.0 | <2.0 | <10 | <100 | 327.43 | 9.20 | 318.23 | --- |
| S-5 | 8/6/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 6.2 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.43 | 9.11 | 318.32 | --- |
| S-5 | 11/18/2008 | 93 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 3.5 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.43 | 9.06 | 318.37 | --- |
| S-5 | 1/20/2009 | 59 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 2.7 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.43 | 9.60 | 317.83 | --- |
| S-5 | 5/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 2.5 | <2.0 | <2.0 | <2.0 | <10 | --- | 327.43 | 8.94 | 318.49 | --- |
| S-5 | 7/6/2009 | 62 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 2.5 | <2.0 | <2.0 | <2.0 | 11 | --- | 327.43 | 9.18 | 318.25 | --- |
| S-5 | 2/9/2010 | 130 | --- | 2.3 | <1.0 | <1.0 | <1.0 | --- | 2.4 | --- | --- | --- | <10 | --- | 327.43 | 8.90 | 318.53 | --- |

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-5 | 8/12/2010 | 220 | --- | 3.3 | <1.0 | <1.0 | <1.0 | --- | 2.8 | --- | --- | --- | <10 | --- | 327.43 | 9.22 | 318.21 | --- |
| S-5 | 8/18/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.43 | 9.12 | 318.31 | --- |
| **S-5** | **2/1/2011** | **130** | **---** | **0.95** | **<0.50** | **<0.50** | **<1.0** | **---** | **1.6** | **---** | **---** | **---** | **<10** | **---** | **327.43** | **9.09** | **318.34** | **---** |
| S-6 | 1/25/1991 | <50 | <50 | <0.50 | 1.7 | <0.5 | 2.8 | --- | --- | --- | --- | --- | --- | --- | 326.56 | --- | --- | --- |
| S-6 | 4/16/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | 0.6 | --- | --- | --- | --- | --- | --- | --- | 326.56 | --- | --- | --- |
| S-6 | 7/24/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | 0.5 | --- | --- | --- | --- | --- | --- | --- | 326.56 | --- | --- | --- |
| S-6 | 10/18/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | 0.5 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 8.84 | 317.72 | --- |
| S-6 | 1/23/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | 0.5 | --- | --- | --- | --- | --- | --- | --- | 326.56 | --- | --- | --- |
| S-6 | 4/27/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | --- | --- | --- |
| S-6 | 7/17/1992 | 400 | 130 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | --- | --- | --- |
| S-6 | 10/16/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | --- | --- | --- |
| S-6 | 1/23/1993 | <50 | 230 b | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 7.82 | 318.74 | --- |
| S-6 | 4/28/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 9.00 | 317.56 | --- |
| S-6 | 9/22/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 8.61 | 317.95 | --- |
| S-6 | 12/8/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 10.02 | 316.54 | --- |
| S-6 | 3/4/1994 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 8.88 | 317.68 | --- |
| S-6 | 6/16/1994 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 9.04 | 317.52 | --- |
| S-6 | 5/5/1995 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 8.54 | 318.02 | --- |
| S-6 | 5/21/1996 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.56 | 8.62 | 317.94 | --- |
| S-6 | 5/12/1997 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 326.56 | 8.60 | 317.96 | 2.6 |
| S-6 | 5/8/1998 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 326.56 | 7.90 | 318.66 | 2.2 |
| S-6 | 6/27/1999 | 430 | --- | 50.1 | 30.5 | 15.2 | 83.5 | 8.05 | --- | --- | --- | --- | --- | --- | 326.56 | 8.01 | 318.55 | 2.3 |
| S-6 | 4/28/2000 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | --- | --- | --- | --- | --- | --- | 326.56 | 8.84 | 317.72 | 2.0 |
| S-6 | 5/30/2001 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | --- | --- | --- | --- | --- | 326.56 | 8.54 | 318.02 | 1.9 |
| S-6 | 6/17/2002 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <5.0 | --- | --- | --- | --- | --- | 326.56 | 8.48 | 318.08 | 1.3 |
| S-6 | 5/30/2003 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 8.7 | --- | --- | --- | --- | --- | 326.35 | 7.36 | 318.99 | 1.0 |
| S-6 | 5/3/2004 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | 326.35 | 8.08 | 318.27 | 0.9 |
| S-6 | 1/14/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | 326.35 | 7.38 | 318.97 | --- |
| S-6 | 5/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <5.0 | --- | 326.35 | 7.55 | 318.80 | --- |
| S-6 | 8/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 326.35 | 7.61 | 318.74 | --- |
| S-6 | 11/8/2005 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 326.35 | 7.64 | 318.71 | --- |
| S-6 | 1/31/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | 30.5 | --- | 326.35 | 7.90 | 318.45 | --- |
| S-6 | 5/16/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 326.35 | 8.16 | 318.19 | --- |
| S-6 | 8/23/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | 10.9 | --- | 326.35 | 7.77 | 318.58 | --- |
| S-6 | 11/13/2006 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <20 | --- | 326.35 | 8.15 | 318.20 | --- |
| S-6 | 2/1/2007 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 1.2 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 326.35 | 8.36 | 317.99 | --- |
| S-6 | 5/23/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 7.80 | 318.55 | --- |
| S-6 | 8/7/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 0.39 o | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 8.07 | 318.28 | --- |

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-6 | 11/29/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 8.17 | 318.18 | --- |
| S-6 | 2/8/2008 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 7.67 | 318.68 | --- |
| S-6 | 5/21/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | <100 | 326.35 | 8.17 | 318.18 | --- |
| S-6 | 8/6/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 7.89 | 318.46 | --- |
| S-6 | 11/18/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 8.30 | 318.05 | --- |
| S-6 | 1/20/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 8.01 | 318.34 | --- |
| S-6 | 5/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 7.96 | 318.39 | --- |
| S-6 | 7/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.35 | 8.32 | 318.03 | --- |
| S-6 | 2/9/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | <10 | --- | 326.35 | 7.99 | 318.36 | --- |
| S-6 | 8/12/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.35 | 7.84 | 318.51 | --- |
| **S-6** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **<1.0** | **---** | **---** | **---** | **<10** | **---** | **326.35** | **7.96** | **318.39** | **---** |
| S-7 | 1/25/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | --- | --- | --- |
| S-7 | 4/16/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | --- | --- | --- |
| S-7 | 7/24/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | --- | --- | --- |
| S-7 | 10/18/1991 | <50 | 140 f | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | 8.92 | 317.57 | --- |
| S-7 | 1/23/1992 | <50 | 140 f | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | --- | --- | --- |
| S-7 | 4/27/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | --- | --- | --- |
| S-7 | 7/17/1992 | <50 | <50 | <0.50 | 1.8 | 0.60 | 4.1 | --- | --- | --- | --- | --- | --- | --- | 326.49 | --- | --- | --- |
| S-7 | 10/16/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | --- | --- | --- |
| S-7 | 1/23/1993 | <50 | 110 b | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | 8.06 | 318.43 | --- |
| S-7 | 4/28/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | 8.94 | 317.55 | --- |
| S-7 | 9/22/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.49 | 8.57 | 317.92 | --- |
| S-7 | 12/8/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.49 | 9.00 | 317.49 | --- |
| S-7 | 3/4/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.49 | 8.96 | 317.53 | --- |
| S-7 | 6/16/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.49 | 9.12 | 317.37 | --- |
| S-7 | 5/5/1995 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | 8.58 | 317.91 | --- |
| S-7 | 5/21/1996 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 326.49 | 8.64 | 317.85 | --- |
| S-7 | 5/12/1997 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 326.49 | 8.74 | 317.75 | 2.3 |
| S-7 | 5/8/1998 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 326.49 | 8.00 | 318.49 | 2.5 |
| S-7 | 6/27/1999 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <2.00 | --- | --- | --- | --- | --- | --- | 326.49 | 8.75 | 317.74 | 2.9 |
| S-7 | 4/28/2000 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | --- | --- | --- | --- | --- | --- | 326.49 | 8.96 | 317.53 | 2.2 |
| S-7 | 5/30/2001 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | --- | --- | --- | --- | --- | 326.49 | 8.65 | 317.84 | 2.0 |
| S-7 | 6/17/2002 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <5.0 | --- | --- | --- | --- | --- | 326.49 | 8.55 | 317.94 | 2.3 |
| S-7 | 5/30/2003 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 12 | --- | --- | --- | --- | --- | 326.36 | 7.88 | 318.48 | 1.8 |
| S-7 | 5/3/2004 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 100 | --- | --- | --- | --- | --- | 326.36 | 8.30 | 318.06 | 1.2 |
| S-7 | 1/14/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 41 | --- | --- | --- | --- | --- | 326.36 | 7.70 | 318.66 | --- |
| S-7 | 5/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | 91 | <0.50 | <0.50 | 6.8 | <5.0 | --- | 326.36 | 7.60 | 318.76 | --- |
| S-7 | 8/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 100 | <2.0 | <2.0 | 7.5 | <5.0 | --- | 326.36 | 8.42 | 317.94 | --- |

**TABLE 1**

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-7 | 11/8/2005 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 124 | <0.500 | <0.500 | 8.70 | <10.0 | --- | 326.36 | 7.61 | 318.75 | --- |
| S-7 | 1/31/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 93.0 | <0.500 | <0.500 | 4.50 | <10.0 | --- | 326.36 | 7.85 | 318.51 | --- |
| S-7 | 5/16/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 76.3 | <0.500 | <0.500 | 2.98 | <10.0 | --- | 326.36 | 8.08 | 318.28 | --- |
| S-7 | 8/23/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | 34.7 | <0.500 | <0.500 | 2.02 | <10.0 | --- | 326.36 | 7.93 | 318.43 | --- |
| S-7 | 11/13/2006 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | 27 | <0.50 | <0.50 | 1.6 | <20 | --- | 326.36 | 8.15 | 318.21 | --- |
| S-7 | 2/1/2007 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 45 | <2.0 | <2.0 | 2.9 | 28 | --- | 326.36 | 8.35 | 318.01 | --- |
| S-7 | 5/23/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 1.7 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 8.11 | 318.25 | --- |
| S-7 | 8/7/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 23 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 8.36 | 318.00 | --- |
| S-7 | 11/29/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 10 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 8.19 | 318.17 | --- |
| S-7 | 2/8/2008 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 9.2 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 7.73 | 318.63 | --- |
| S-7 | 5/21/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 8.8 | <2.0 | <2.0 | <2.0 | <10 | <100 | 326.36 | 8.10 | 318.26 | --- |
| S-7 | 8/6/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 1.2 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 8.49 | 317.87 | --- |
| S-7 | 11/18/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 7.6 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 8.31 | 318.05 | --- |
| S-7 | 1/20/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 7.7 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 8.39 | 317.97 | --- |
| S-7 | 5/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 6.4 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 8.39 | 317.97 | --- |
| S-7 | 7/6/2009 | 58 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 4.3 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.36 | 8.63 | 317.73 | --- |
| S-7 | 2/9/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 8.4 | --- | --- | --- | <10 | --- | 326.36 | 8.15 | 318.21 | --- |
| S-7 | 8/12/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | <10 | --- | 326.36 | 7.98 | 318.38 | --- |
| **S-7** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **62** | **---** | **---** | **---** | **33** | **---** | **326.36** | **8.18** | **318.18** | **---** |
| S-8 | 1/25/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | --- | --- | --- |
| S-8 | 4/16/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | --- | --- | --- |
| S-8 | 7/24/1991 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | --- | --- | --- |
| S-8 | 10/18/1991 | <50 | 360 f | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.62 | 317.70 | --- |
| S-8 | 1/23/1992 | <50 | 90 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | --- | --- | --- |
| S-8 | 4/27/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | --- | --- | --- |
| S-8 | 7/17/1992 | 53 | <50 | <0.50 | 1.0 | <0.50 | 1.8 | --- | --- | --- | --- | --- | --- | --- | 325.32 | --- | --- | --- |
| S-8 | 10/16/1992 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | --- | --- | --- |
| S-8 | 1/23/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.00 | 318.32 | --- |
| S-8 | 4/28/1993 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.77 | 317.55 | --- |
| S-8 | 9/22/1993 | <50 | 160 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.67 | 317.65 | --- |
| S-8 | 12/8/1993 | <50 | 210 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.76 | 317.56 | --- |
| S-8 | 3/4/1994 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.66 | 317.66 | --- |
| S-8 | 6/16/1994 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.78 | 317.54 | --- |
| S-8 | 5/5/1995 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.42 | 317.90 | --- |
| S-8 | 5/21/1996 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | 325.32 | 7.50 | 317.82 | --- |
| S-8 | 5/12/1997 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 325.32 | 7.56 | 317.76 | 1.6 |
| S-8 | 5/8/1998 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | 325.32 | 7.64 | 317.68 | 2.0 |
| S-8 | 6/27/1999 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <2.00 | --- | --- | --- | --- | --- | --- | 325.32 | 7.75 | 317.57 | 2.3 |

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-8 | 4/28/2000 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | --- | --- | --- | --- | --- | --- | 325.32 | 8.02 | 317.30 | 1.8 |
| S-8 | 5/30/2001 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | --- | --- | --- | --- | --- | 325.32 | 7.34 | 317.98 | 1.8 |
| S-8 | 6/17/2002 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <5.0 | --- | --- | --- | --- | --- | 325.32 | 7.45 | 317.87 | 1.8 |
| S-8 | 5/30/2003 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | 14 | --- | --- | --- | --- | --- | 325.03 | 7.39 | 317.64 | 3.0 |
| S-8 | 5/3/2004 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | 325.03 | 7.00 | 318.03 | 1.0 |
| S-8 | 1/14/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | 325.03 | 8.65 | 316.39 | --- |
| S-8 | 5/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <5.0 | --- | 325.03 | 6.73 | 318.30 | --- |
| S-8 | 8/5/2005 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 325.03 | 6.93 | 318.10 | --- |
| S-8 | 11/8/2005 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 325.03 | 6.95 | 318.08 | --- |
| S-8 | 1/31/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 325.03 | 6.91 | 318.12 | --- |
| S-8 | 5/16/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 325.03 | 7.02 | 318.01 | --- |
| S-8 | 8/23/2006 | <50.0 | --- | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | --- | 325.03 | 6.98 | 318.05 | --- |
| S-8 | 11/13/2006 | <50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | --- | <0.50 | <0.50 | <0.50 | <0.50 | <20 | --- | 325.03 | 7.09 | 317.94 | --- |
| S-8 | 2/1/2007 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 325.03 | 7.27 | 317.76 | --- |
| S-8 | 5/23/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 6.80 | 318.23 | --- |
| S-8 | 8/7/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 7.04 | 317.99 | --- |
| S-8 | 11/29/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 7.04 | 317.99 | --- |
| S-8 | 2/8/2008 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 6.77 | 318.26 | --- |
| S-8 | 5/21/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | <100 | 325.03 | 7.10 | 317.93 | --- |
| S-8 | 8/6/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 6.94 | 318.09 | --- |
| S-8 | 11/18/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 7.10 | 317.93 | --- |
| S-8 | 1/20/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 7.18 | 317.85 | --- |
| S-8 | 1/20/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 7.18 | 317.85 | --- |
| S-8 | 5/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 7.01 | 318.02 | --- |
| S-8 | 7/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.03 | 7.83 | 317.20 | --- |
| S-8 | 2/9/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | <10 | --- | 325.03 | 6.91 | 318.12 | --- |
| S-8 | 8/12/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 325.03 | 7.14 | 317.89 | --- |
| **S-8** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **<1.0** | **---** | **---** | **---** | **<10** | **---** | **325.03** | **7.04** | **317.99** | **---** |
| S-9 | 11/22/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 325.89 | 7.61 | 318.28 | --- |
| S-9 | 11/27/2006 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 325.89 | 7.77 | 318.12 | --- |
| S-9 | 2/1/2007 | <50 | --- | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | <2.0 | <2.0 | <2.0 | <5.0 | --- | 325.89 | 8.14 | 317.75 | --- |
| S-9 | 5/23/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 7.85 | 318.04 | --- |
| S-9 | 8/7/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 7.77 | 318.12 | --- |
| S-9 | 11/29/2007 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 7.99 | 317.90 | --- |
| S-9 | 2/8/2008 | <50 n | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 7.78 | 318.11 | --- |
| S-9 | 5/21/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | <100 | 325.89 | 7.84 | 318.05 | --- |
| S-9 | 8/6/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 7.69 | 318.20 | --- |
| S-9 | 11/18/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 7.93 | 317.96 | --- |

**TABLE 1**

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-9 | 1/20/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 8.13 | 317.76 | --- |
| S-9 | 5/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 8.02 | 317.87 | --- |
| S-9 | 7/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 325.89 | 8.06 | 317.83 | --- |
| S-9 | 2/9/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | <10 | --- | 325.89 | 7.80 | 318.09 | --- |
| S-9 | 8/12/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 325.89 | 7.96 | 317.93 | --- |
| S-9 | 8/18/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 325.89 | 7.86 | 318.03 | --- |
| **S-9** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **<1.0** | **---** | **---** | **---** | **<10** | **---** | **325.89** | **7.84** | **318.05** | **---** |
| S-10 | 6/30/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.24 | 8.04 | 318.20 | --- |
| S-10 | 7/6/2009 | 340 | --- | <1.0 | <2.0 | <2.0 | <2.0 | --- | <2.0 | <4.0 | <4.0 | <4.0 | 5,100 | --- | 326.24 | 8.11 | 318.13 | --- |
| S-10 | 2/9/2010 | 65 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 1.7 | --- | --- | --- | 1,400 | --- | 326.24 | 7.90 | 318.34 | --- |
| S-10 | 8/12/2010 | <100 | --- | <1.0 | <2.0 | <2.0 | <2.0 | --- | <2.0 | --- | --- | --- | 610 | --- | 326.24 | 8.04 | 318.20 | --- |
| S-10 | 8/18/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.24 | 8.04 | 318.20 | --- |
| **S-10** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **<1.0** | **---** | **---** | **---** | **110** | **---** | **326.24** | **7.82** | **318.42** | **---** |
| S-11 | 6/30/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.12 | 7.97 | 318.15 | --- |
| S-11 | 7/6/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.12 | 7.98 | 318.14 | --- |
| S-11 | 2/9/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | <10 | --- | 326.12 | 9.99 | 316.13 | --- |
| S-11 | 8/12/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | <10 | --- | 326.12 | 8.17 | 317.95 | --- |
| S-11 | 8/18/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.12 | 7.91 | 318.21 | --- |
| **S-11** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **<1.0** | **---** | **---** | **---** | **<10** | **---** | **326.12** | **7.36** | **318.76** | **---** |
| S-12 | 6/30/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.91 | 8.49 | 318.42 | --- |
| S-12 | 7/6/2009 | 83 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 37 | <2.0 | <2.0 | <2.0 | <10 | --- | 326.91 | 8.89 | 318.02 | --- |
| S-12 | 2/9/2010 | 57 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 26 | --- | --- | --- | 11 | --- | 326.91 | 7.97 | 318.94 | --- |
| S-12 | 8/12/2010 | Unable to access | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.91 | --- | --- | --- |
| S-12 | 8/18/2010 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 20 | --- | --- | --- | --- | --- | 326.91 | 8.33 | 318.58 | --- |
| **S-12** | **2/1/2011** | **<50** | **---** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **---** | **14** | **---** | **---** | **---** | **12** | **---** | **326.91** | **8.48** | **318.43** | **---** |
| EW-1 | 2/20/2008 | 9,100 n | --- | 110 | 180 | 840 | 146.9 | --- | <5.0 | <10 | <10 | <10 | <50 | <500 | --- | 8.07 | --- | --- |
| EW-1 | 3/7/2008 | 11,000 n | --- | 380 | 200 | 370 | 317.0 | --- | <5.0 | <10 | <10 | <10 | <50 | <500 | --- | 17.80 | --- | --- |
| EW-1 | 3/21/2008 | 14,000 | --- | 690 | 430 | 750 | 614 | --- | <5.0 | <10 | <10 | <10 | <50 | <500 | --- | 8.61 | --- | --- |
| EW-1 | 4/8/2008 | 12,000 | --- | 430 | 200 | 430 | 302 | --- | <5.0 | <10 | <10 | <10 | <50 | <500 | --- | 8.40 | --- | --- |
| EW-1 | 4/21/2008 | 22,000 | --- | 430 | 510 | 1,100 | 747 | --- | <5.0 | <10 | <10 | <10 | 71 | <500 | --- | 8.33 | --- | --- |
| EW-1 | 5/6/2008 | 20,000 | --- | 280 | 620 | 1,000 | 616 | --- | <10 | <20 | <20 | <20 | <100 | <1,000 | --- | 8.30 | --- | --- |
| EW-1 | 5/21/2008 | 17,000 | --- | 180 | 440 | 830 | 484 | --- | <10 | <20 | <20 | <20 | <100 | <1,000 | --- | 8.60 | --- | --- |
| EW-1 | 8/6/2008 | 12,000 | --- | 140 | 79 | 720 | 110 | --- | <10 | <20 | <20 | <20 | <100 | --- | --- | 8.41 | --- | --- |
| EW-1 | 11/18/2008 | 16,000 | --- | 94 | 170 | 970 | 310 | --- | <20 | <40 | <40 | <40 | <200 | --- | --- | 8.03 | --- | --- |
| EW-1 | 1/20/2009 | 10,000 | --- | 110 | 58 | 440 | 61 | --- | <20 | <40 | <40 | <40 | <200 | --- | --- | 8.98 | --- | --- |

**TABLE 1**

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EW-1 | 5/6/2009 | 14,000 | --- | 73 | 120 | 690 | 120 | --- | <20 | <40 | <40 | <40 | <200 | --- | --- | 7.92 | --- | --- |
| EW-1 | 7/6/2009 | 17,000 | --- | 18 | 82 | 750 | 140 | --- | <10 | <20 | <20 | <20 | <100 | --- | 326.98 | 8.21 | 318.77 | --- |
| EW-1 | 2/9/2010 | 12,000 | --- | 13 | 41 | 490 | 120 | --- | <5.0 | --- | --- | --- | <50 | --- | 326.98 | 8.20 | 318.78 | --- |
| EW-1 | 8/12/2010 | 11,000 | --- | 2.9 | 17 | 370 | 113.4 | --- | <2.0 | --- | --- | --- | <20 | --- | 326.98 | 8.03 | 318.95 | --- |
| EW-1 | 8/18/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 326.98 | 8.09 | 318.89 | --- |
| **EW-1** | **2/1/2011** | **10,000** | **---** | **10** | **35** | **520** | **34** | **---** | **5.0** | **---** | **---** | **---** | **<50** | **---** | **326.98** | **8.22** | **318.76** | **---** |
| EW-2 | 12/14/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 6.25 | --- | --- |
| EW-2 | 2/8/2008 | 70 n,p | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 8.9 | <2.0 | <2.0 | <2.0 | 940 | --- | --- | 8.42 | --- | --- |
| EW-2 | 2/20/2008 | 59 n,p | --- | <1.0 | <2.0 | <2.0 | <2.0 | --- | 10 | <4.0 | <4.0 | <4.0 | 1,300 | <200 | --- | 8.85 | --- | --- |
| EW-2 | 3/7/2008 | 850 n,p | --- | <1.0 | <2.0 | <2.0 | <2.0 | --- | 8.0 | <4.0 | <4.0 | <4.0 | 1,200 | <200 | --- | 9.75 | --- | --- |
| EW-2 | 3/21/2008 | 350 | --- | 5.3 | 4.6 | 6.2 | 18 | --- | <2.0 | <4.0 | <4.0 | <4.0 | 990 | <200 | --- | 9.51 | --- | --- |
| EW-2 | 4/8/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 8.9 | <2.0 | <2.0 | <2.0 | 180 | <100 | --- | 9.12 | --- | --- |
| EW-2 | 4/21/2008 | 140 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 57 | <2.0 | <2.0 | <2.0 | 230 | <100 | --- | 8.86 | --- | --- |
| EW-2 | 5/6/2008 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 8.3 | <2.0 | <2.0 | <2.0 | 590 | <100 | --- | 8.87 | --- | --- |
| EW-2 | 5/21/2008 | 53 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 11 | <2.0 | <2.0 | <2.0 | 380 | <100 | --- | 9.00 | --- | --- |
| EW-2 | 8/6/2008 | 60 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 10 | <2.0 | <2.0 | <2.0 | 560 | --- | --- | 8.81 | --- | --- |
| EW-2 | 11/18/2008 | 140 | --- | 8.0 | <1.0 | 6.2 | 29 | --- | 7.4 | <2.0 | <2.0 | <2.0 | 410 | --- | --- | 8.92 | --- | --- |
| EW-2 | 1/20/2009 | <50 | --- | <0.50 | <1.0 | <1.0 | <1.0 | --- | 6.8 | <2.0 | <2.0 | <2.0 | 390 | --- | --- | 9.28 | --- | --- |
| EW-2 | 5/6/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 327.21 | --- | --- | --- |

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to May 30, 2001 analyzed by EPA Method 8015.
TEPH = Total petroleum hydrocarbons as diesel by modified EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to May 30, 2001, analyzed by EPA Method 8020.
MTBE = Methyl tertiary-butyl ether
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
TBA = Tertiary-butyl alcohol, analyzed by EPA Method 8260B
TOC = Top of casing elevation
GW = Groundwater
DO = Dissolved oxygen
µg/L = Micrograms per liter
ppm = Parts per million
mg/L = Milligrams per liter
MSL = Mean sea level
ft. = Feet
<n = Below detection limit

**GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *TPPH (ug/L)* | *TEPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE 8020 (ug/L)* | *MTBE 8260 (ug/L)* | *DIPE (ug/L)* | *ETBE (ug/L)* | *TAME (ug/L)* | *TBA (ug/L)* | *Ethanol (ug/L)* | *TOC (MSL)* | *Depth to Water (ft.)* | *GW Elevation (MSL)* | *DO Reading (ppm)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

--- = Not applicable
(D) = Duplicate sample

Notes:
Ethanol analyzed by EPA Method 8260B
a = Compounds detected as TEPH appear to be the less volatile constituents of gasoline.
b = The concentration reported as TEPH primarily due to the presence of a heavier petroleum product.
c = The concentration reported as TEPH due to the presence of a lighter petroleum product.
d = Concentrations reported as diesel includes a heavier petroleum product.
e = Compounds detected within the chromatographic range of TEPH but not characteristic of the standard gasoline pattern.
f = There was insufficient preservative to reduce the sample pH to less than 2.
g = Compounds detected within the chromatographic range of TEPH but not characteristic of the standard diesel pattern.
h = The chromatographic pattern of the purgeable hydrocarbons found in the sample is similar to the pattern of weathered gasoline.
i = DO reading not taken.
j = The results may be biased slightly high.
k = The hydrocarbon reported in the gasoline range does not match the laboratory standard.
l = Extracted out of holding time.
m = Analyte was detected in the associated Method Blank.
n = Analyzed by EPA Method 8015B (M).
o = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
p = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample wa based upon the specified standard.
q = Sample container contained headspace
Site surveyed April 16, 2002 by Virgil Chavez Land Surveying of Vallejo, CA.
Beginning May 30, 2003, depth to water referenced to Top of Casing elevation.
Wells S-2, S-3 and S-9 were surveyed on November 22, 2006 by Mid Coast Engineers.
Wells S-10 through S-12 and EW-1 were surveyed on June 25, 2009 by Mid Coast Engineers.

**TABLE 2**

**$MGSO_4$ FEASIBILITY STUDY GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *Volume $MgSO_4$ Applied (gallons)* | *Depth to Water (ft.)* | *pH* | *Sulfate (mg/L)* | *$Fe^{2+}$ (mg/L)* | *$Fe^{3+}$ (mg/L)* | *TPPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE (ug/L)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Injection Wells* | | | | | | | | | | | | | |
| EW-1 | 10/30/2009 | --- | --- | --- | 3.1 | 2.1 | --- | 8,400 | 14 | 21 | 360 | 84 | <2.0 |
| EW-1 | 4/8/10 9:45 [a] | 55 | 7.81 | 7.05 | 2.7 | <0.10[b] | 10.2 | 7,100 | 16 | 25 | 95 | 29 | 3.7 |
| EW-1 | 4/8/10 17:10 | --- | --- | --- | 90,000 | --- | --- | --- | --- | --- | --- | --- | --- |
| EW-1 | 4/21/10 12:00 | --- | --- | --- | 7,800 | --- | --- | --- | --- | --- | --- | --- | --- |
| EW-1 | 5/11/10 9:45 | --- | --- | 7.24 | 2,000 | 2.4 | 7.6 | 5,500 | 13 | 9.5 | 100 | 43 | <1.0 |
| EW-1 | 5/27/10 11:00 [c] | 25 | --- | 7.1 | 960 | 1.8 | 5.72 | 8,000 | 17 | 9.8 | 200 | 66 | <5.0 |
| EW-1 | 6/9/10 10:05 | --- | --- | --- | 4,800 | --- | --- | --- | --- | --- | --- | --- | --- |
| EW-1 | 6/22/10 10:30 | --- | --- | 7.38 | 1,300 | 2.8 | 2.29 | 6,600 | 5.2 | 4.5 | 53 | 20 | <2.0 |
| EW-1 | 7/15/10 14:40 [d] | 25 | 7.78 | 7.82 | 300 | 2.4 | 0.49 | 5,800 | 4.7 | 4.5 | 52 | 27 | <2.0 |
| EW-1 | 8/2/10 13:50 | --- | --- | 4.65 | 2,100 | 2.6 | --- | --- | --- | --- | --- | --- | --- |
| EW-1[e] | 8/12/10 13:10 | --- | 8.03 | 6.98 | 730 | 1.2 | --- | 11,000 | 2.9 | 17 | 370 | 110 | <2.0 |
| EW-1 | 8/17/10 11:00 | --- | --- | 7.71 | 740 | 0.9 | 1.07 | 4,000 | 5.0 | 3.8 | 2.9 | 52 | <2.0 |
| EW-1[f] | 9/9/10 11:30 | 55 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EW-1 | 10/1/10 14:20 | --- | 8.55 | 6.89 | 14,000 | 6.5 | 0.69 | 3,100 | 1.4 | 1.4 | 2.2 | 3.2 | <1.0 |
| EW-1 | 10/19/10 14:15 | --- | --- | 7.49 | 5,800 | 4.8 | 1.56 | 5,600 | 1.8 | 1.4 | 6.3 | 9 | <1.0 |
| **EW-1[g]** | **2/1/11 16:30** | **---** | **8.22** | **7.29** | **740** | **0.1** | **---** | **10,000** | **10** | **35** | **520** | **34** | **5.0** |
| S-3 | 10/30/2009 | --- | --- | --- | 35 | <0.10 | --- | 2,300 | 390 | 12 | 15 | 24 | 14 |
| S-3 | 4/8/10 10:15 [a] | 55 | 8.45 | 7.46 | 19 | <0.10[b] | 1.82 | 2,400 | 270 | 6.0 | 4.0 | 3.6 | 11 |
| S-3 | 4/8/10 19:30 | --- | --- | --- | 99,000 | --- | --- | --- | --- | --- | --- | --- | --- |
| S-3 | 4/21/10 11:45 | --- | --- | --- | 7,700 | --- | --- | --- | --- | --- | --- | --- | --- |
| S-3 | 5/11/10 9:55 | --- | --- | 7.11 | 3,600 | 4.8 | 1.43 | 2,100 | 230 | 2.9 | 15 | 2.7 | 9.3 |
| S-3 | 5/27/10 11:15 [c] | 40 | --- | 6.9 | 1,600 | 3.0 | 1.42 | 1,900 | 210 | <2.0 | 4.1 | <2.0 | 8.2 |
| S-3 | 6/9/10 10:00 | --- | --- | --- | 11,000 | --- | --- | --- | --- | --- | --- | --- | --- |
| S-3 | 6/22/10 10:15 | --- | --- | 6.93 | 6,400 | 4.5 | 4.43 | 1,800 | 270 | 2.4 | 26 | 4 | 5.8 |
| S-3 | 7/15/10 14:50 [d] | 45 | 8.39 | 7.48 | 2,600 | 3.2 | 1.4 | 2,200 | 230 | <2.0 | <2.0 | <2.0 | 7.4 |
| S-3 | 8/2/10 13:20 | --- | --- | 7.01 | 4,300 | 3.6 | --- | --- | --- | --- | --- | --- | --- |
| S-3[e] | 8/12/10 13:00 | --- | 8.46 | 6.89 | 2,700 | 0.6 | --- | 1,300 | 270 | 3.5 | 47 | 46 | 4.5 |
| S-3 | 8/17/10 10:40 | --- | --- | 7.11 | 1,700 | 1.0 | <0.10 | 870 | 90 | 1.3 | 17 | 15 | 4.9 |
| S-3[f] | 9/9/10 0:30 | 55 | --- | --- | NS | --- | --- | --- | --- | --- | --- | --- | --- |
| S-3 | 10/1/10 14:40 | --- | 8.88 | 6.68 | 14,000 | 6.8 | 10.4 | 2,000 | 240 | 5.1 | 140 | 65 | 4.5 |
| S-3 | 10/19/10 13:50 | --- | --- | 7.20 | 9,300 | 5.6 | 10.7 | 3,000 | 190 | <2.0 | 80 | 24 | 6.9 |
| **S-3[g]** | **2/1/11 15:45** | **---** | **8.75** | **7.03** | **11,000** | **0.2** | **---** | **900** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **8.8** |

**TABLE 2**

**$MGSO_4$ FEASIBILITY STUDY GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *Volume $MgSO_4$ Applied (gallons)* | *Depth to Water (ft.)* | *pH* | *Sulfate (mg/L)* | *$Fe^{2+}$ (mg/L)* | *$Fe^{3+}$ (mg/L)* | *TPPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE (ug/L)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Monitoring Wells* | | | | | | | | | | | | | |
| S-1 | 4/8/10 10:35 | --- | 7.95 | 7.49 | 3.1 | <0.10[b] | 0.511 | 9,300 | 23 | 38 | 320 | 56 | 17 |
| S-1 | 5/27/10 10:30 | --- | --- | 7.5 | <1.0 | 0.8 | <0.10 | 14,000 | 20 | 36 | 200 | 57 | <2.0 |
| S-1 | 7/15/10 15:10 | --- | 7.96 | 7.90 | <1.0 | 0.6 | <0.10 | 12,000 | 20 | 38 | 200 | 54 | <2.0 |
| S-1[e] | 8/18/10 14:35 | --- | 7.92 | 7.85 | 3.3 | 0.4 | --- | 4,000 | 15 | 26 | 87 | 34 | 10 |
| S-1 | 10/19/10 14:40 | --- | --- | 8.00 | 1.7 | 0.8 | <0.10 | 13,000 | 20 | 33 | 92 | 29 | 7.2 |
| **S-1[g]** | **2/1/11 15:50** | **---** | **7.91** | **7.91** | **2.3** | **0.3** | **---** | **5,900[h]** | **13** | **21** | **38** | **21** | **14** |
| S-2 | 10/30/2009 | --- | --- | --- | 540 | <0.10 | --- | <50 | <0.50 | <1.0 | <1.0 | <1.0 | 33 |
| S-2 | 4/8/10 11:35 | --- | 8.14 | 7.52 | 600 | <0.10[b] | 0.120 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | 38 |
| S-2 | 5/27/10 10:15 | --- | --- | 7.2 | 570 | 0.0 | <0.10 | 80 | <0.50 | <1.0 | <1.0 | <1.0 | 36 |
| S-2 | 7/15/10 14:10 | --- | 8.30 | 7.72 | 570 | 0.0 | <0.10 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | 19 |
| S-2[e] | 8/18/10 13:25 | --- | 8.40 | 8.19 | 450 | 0.0 | --- | <50 | <0.50 | <1.0 | <1.0 | <1.0 | 24 |
| S-2 | 10/19/10 14:40 | --- | --- | 7.68 | 510 | 0.0 | <0.10 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | 17 |
| **S-2[g]** | **2/1/11 13:40** | **---** | **8.39** | **7.49** | **180** | **0.0** | **---** | **<50** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **6.9** |
| S-10 | 10/30/2009 | --- | --- | --- | 170 | <0.10 | --- | <50 | <0.50 | <1.0 | <1.0 | <1.0 | 1.8 |
| S-10 | 4/8/10 11:15 | --- | 7.68 | 7.71 | 170 | <0.10[b] | 0.915 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | 1.5 |
| S-10 | 5/27/10 9:45 | --- | --- | 6.3 | 160 | 0.0 | 0.367 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | 1.6 |
| S-10 | 7/15/10 13:50 | --- | 7.92 | 7.75 | 150 | 0.0 | 0.12 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | <1.0 |
| S-10[e] | 8/12/10 11:25 | --- | 8.04 | 7.47 | 110 | 0.0 | --- | <100 | <1.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| S-10 | 10/19/10 15:00 | --- | --- | 8.16 | 140 | 0.0 | 0.26 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | <1.0 |
| **S-10[g]** | **2/1/11 14:05** | **---** | **7.82** | **7.94** | **92** | **0.0** | **---** | **<50** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **<1.0** |

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B.
MTBE = Methyl tertiary-butyl ether by EPA Method 8260B
Sulfate analyzed by EPA Method 300.0
$Fe^{2+}$ = Ferrous iron analyzed using field kit by SM 3500-FeB
$Fe^{3+}$ = Ferric iron analyzed by EPA Method 6010B
µg/L = Micrograms per liter
mg/L = Milligrams per liter
ft. = Feet

**TABLE 2**

**$MGSO_4$ FEASIBILITY STUDY GROUNDWATER DATA**
**SHELL-BRANDED SERVICE STATION**
**5251 HOPYARD ROAD, PLEASANTON, CALIFORNIA**

| *Well ID* | *Date* | *Volume $MgSO_4$ Applied (gallons)* | *Depth to Water (ft.)* | *pH* | *Sulfate (mg/L)* | *$Fe^{2+}$ (mg/L)* | *$Fe^{3+}$ (mg/L)* | *TPPH (ug/L)* | *B (ug/L)* | *T (ug/L)* | *E (ug/L)* | *X (ug/L)* | *MTBE (ug/L)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

<n = Below detection limit
--- = Not applicable, not available, or not analyzed

Notes:
a = Initial $MgSO_4$ application following baseline sampling of all wells in study.
b = Ferrous Iron (Fe+2) samples collected and submitted for laboratory analysis; results were run out of hold time (24 hours) and not representative.
c = Second $MgSO_4$ application event May 28th following sample collection; tech had difficulty with gravity feed resulting in time constraint, so a smaller volume was applied.
d = Third $MgSO_4$ application event was on the day following sample collection (July 16, 2010).
e = Samples collected by Blaine Tech Services during third quarter 2010 monitoring and sampling event.
f = Additional (fourth) $MgSO_4$ application event using a low-flow pump rather than gravity feed to attempt to apply more volume in the wells.
g = Samples collected by Blaine Tech Services during first quarter 2011 monitoring and sampling event.
h = Sample container contained head space.

# APPENDIX A

# BLAINE TECH SERVICES, INC. – FIELD NOTES

# WELL GAUGING DATA

Project # 110201-DR1 Date 2/1/11 Client Shell

Site 5251 Hopyard Rd. Pleasanton 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 | 0912 | 3 | | | | | 7.91 | 28.36 | | |
| S-2 | 0851 | 3 | | | | | 8.39 | 24.09 | | |
| S-3 | 0909 | 3 | | | | | 8.75 | 24.07 | | |
| S-4 | 0807 | 3 | | | | | 8.71 | 24.17 | | |
| S-5 | 0902 | 3 | | | | | 9.09 | 24.10 | | |
| S-6 | 0950 | 3 | | | | | 7.96 | 25.55 | | |
| S-7 | 1020 | 3 | | | | | 8.18 | 25.12 | | |
| S-8 | 1059 | 3 | | | | | 7.04 | 24.54 | | |
| S-9 | 0815 | 2 | | | | | 7.84 | 19.57 | | |
| S-10 | 0857 | 4 | | | | | 7.82 | 19.13 | | |
| S-11 | 0821 | 4 | | | | | 7.36 | 19.79 | | |
| S-12 | 0831 | 4 | | | | | 8.48 | 20.22 | | |
| EW-1 | 0917 | 4 | | | | | 8.22 | 19.69 | ↓ | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-1 | Well Diameter: 2 (3) 4 6 8 ___ |
| Total Well Depth (TD): 28.36 | Depth to Water (DTW): 7.91 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.00 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 7.6 (Gals.) X | 3 | = | 22.8 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1535 | 66.1 | 8.01 | 2048 | 229 | 7.6 | odor |
| * well | dewatered @ | 14.5 gal. | | | ~~15.2~~ DR | |
| 1550 | 66.0 | 7.91 | 2164 | 94 | — | odor |
| | | | | | | |
| | Post: | 7.91 | | | | $Fe^{2+}$ = 0.3 mg/L |

Did well dewater? (Yes) No Gallons actually evacuated: 14.5

Sampling Date: 2/1/11 Sampling Time: 1550 Depth to Water: 11.57

Sample I.D.: S-1 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-2 | Well Diameter: 2 (3) 4 6 8 ____ |
| Total Well Depth (TD): 24.09 | Depth to Water (DTW): 8.39 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.21 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 5.8 (Gals.) X | 3 | = | 17.4 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1329 | 64.9 | 7.35 | 2575 | 22 | 5.8 | |
| 1331 | 66.0 | 7.47 | 278 | 20 | 11.6 | |
| 1333 | 66.0 | 7.48 | 2839 | 23 | 17.4 | |
| | | | | | | |
| | Post: | 7.49 | | | | $Fe^{2+}$ = 0.0 mg/L |

Did well dewater? Yes (No) Gallons actually evacuated: 17.4

Sampling Date: 2/1/11 Sampling Time: 1340 Depth to Water: 12.76

Sample I.D.: S-2 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-3 | Well Diameter: 2 (3) 4 6 8 ____ |
| Total Well Depth (TD): 24.07 | Depth to Water (DTW): 8.75 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.81 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 5.7 (Gals.) X | 3 | = | 17.1 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1443 | 63.5 | 7.16 | 8698 | 42 | 5.7 | odor |
| 1445 | 66.9 | 7.08 | 9049 | 107 | 11.4 | odor. |
| @ well | dewatered @ | 12.5gal. | | | | |
| 1545 | 66.3 | 7.03 | 9126 | 56 | — | odor |
| | Post: | 7.03 | | | | Fe2+ = 0.2 mg/L |

Did well dewater? (Yes) No Gallons actually evacuated: 12.5

Sampling Date: 2/1/11 Sampling Time: 1545 Depth to Water: 9.76

Sample I.D.: S-3 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: 5-4 | Well Diameter: 2 (3) 4 6 8 ___ |
| Total Well Depth (TD): 24.17 | Depth to Water (DTW): 8.71 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.80 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 5.7 (Gals.) X | 3 | = | 17.1 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1133 | 64.2 | 7.76 | 893 | 70 | 5.7 | |
| 1135 | 65.4 | 7.59 | 885 | 102 | 11.4 | |
| 1137 | 65.5 | 7.56 | 881 | 113 | 17.1 | |
| | | | | | | |
| | Post: | 7.62 | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 17.1

Sampling Date: 2/1/11 Sampling Time: 1145 Depth to Water: 9.98

Sample I.D.: 5-4 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: 5-5 | Well Diameter: 2 (3) 4 6 8 ___ |
| Total Well Depth (TD): 24.10 | Depth to Water (DTW): 9.09 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.09 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

5.6 (Gals.) X 3 = 16.8 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1416 | 62.8 | 7.42 | 1438 | 41 | 5.6 | |
| 1418 | 64.1 | 7.27 | 1436 | 28 | 11.2 | |
| 1420 | 64.1 | 7.29 | 1437 | 21 | 16.8 | |
| | | | | | | |
| | Post: | 7.31 | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 16.8

Sampling Date: 2/1/11 Sampling Time: 1430 Depth to Water: 11.72

Sample I.D.: 5-5 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-6 | Well Diameter: 2 (3) 4 6 8 ____ |
| Total Well Depth (TD): 25.55 | Depth to Water (DTW): 7.96 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.48 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 6.5 (Gals.) X | 3 | = | 19.5 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1005 | 66.1 | 6.79 | 7888 | 67 | 6.5 | |
| 1009 | 67.9 | 7.05 | 8431 | 80 | 13.0 | |
| 1013 | 68.1 | 7.07 | 8500 | 92 | 19.5 | DTW = 12.91 |
| | | | | | | |
| | Post: | 6.92 | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 19.5

Sampling Date: 2/1/11 Sampling Time: 1050 Depth to Water: 11.40

Sample I.D.: S-6 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-7 | Well Diameter: 2 (3) 4 6 8 ____ |
| Total Well Depth (TD): 25.12 | Depth to Water (DTW): 8.18 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.57 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 6.3 (Gals.) X | 3 | = | 18.9 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1027 | 67.7 | 7.15 | 7986 | 59 | 6.3 | |
| 1031 | 69.5 | 7.03 | 8367 | 47 | 12.6 | |
| 1035 | 69.7 | 7.00 | 8391 | 79 | 18.9 | DTW= 12.09 |
| | | | | | | |
| | Post: | 7.07 | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 18.9

Sampling Date: 2/1/11 Sampling Time: 1045 Depth to Water: (water) 11.56

Sample I.D.: S-7 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: 5-8 | Well Diameter: 2 (3) 4 6 8 ____ |
| Total Well Depth (TD): 24.54 | Depth to Water (DTW): 7.04 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.54 | |

Purge Method: Bailer, Disposable Bailer, Positive Air Displacement, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other: ____

6.5 (Gals.) X 3 = 19.5 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or ~~µS~~) DR | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1106 | 65.1 | 7.30 | 13.22 | 29 | 6.5 | |
| 1110 | 66.8 | 7.00 | 13.67 | 41 | 13.0 | |
| 1114 | 66.9 | 6.97 | 13.71 | 65 | 19.5 | DTW= 10.79 |
| | | | | | | |
| | Post: | 7.11 | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 19.5

Sampling Date: 2/1/11 Sampling Time: 1130 Depth to Water: 10.51 (wated)

Sample I.D.: 5-8 Laboratory: (Test America) Other____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-9 | Well Diameter: (2) 3 4 6 8 ____ |
| Total Well Depth (TD): 19.57 | Depth to Water (DTW): 7.84 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.19 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 1.9 (Gals.) X | 3 | = | 5.7 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1159 | 66.0 | 7.39 | 4922 | 226 | 1.9 | |
| 1202 | 66.8 | 7.33 | 4993 | 197 | 3.8 | |
| 1205 | 66.9 | 7.31 | 4984 | 174 | 5.7 | |
| | | | | | | |
| | Post: | 7.32 | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 5.7

Sampling Date: 2/1/11 Sampling Time: 1210 Depth to Water: 9.79

Sample I.D.: S-9 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-10 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): 19.13 | Depth to Water (DTW): 7.82 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.08 | |

Purge Method: Bailer, Disposable Bailer, Positive Air Displacement, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other: _____

7.4 (Gals.) X 3 = 22.2 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" | 0.37 | Other | radius$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1348 | 64.9 | 7.99 | 1866 | 209 | 7.4 | |
| 1351 | 66.8 | 7.92 | 1833 | 411 | 14.8 | |
| 1354 | 67.0 | 7.91 | 1841 | 674 | 22.2 | |
| | | | | | | |
| | Post: | 7.94 | | | | Fe2+= 0.0mg/L |

Did well dewater? Yes (No) Gallons actually evacuated: 22.2

Sampling Date: 2/1/11 Sampling Time: 1405 Depth to Water: 9.97

Sample I.D.: S-10 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-11 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): 19.79 | Depth to Water (DTW): 7.36 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.85 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 8.1 (Gals.) X | 3 | = | 24.3 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 | radius² * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1220 | 65.1 | 7.58 | 6789 | 27 | 8.1 | |
| 1222 | 67.1 | 7.43 | 6796 | 40 | 16.2 | |
| 1224 | 67.2 | 7.41 | 6802 | 45 | 24.3 | |
| | | | | | | |
| | Post: | 7.43 | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 24.3

Sampling Date: 2/1/11 Sampling Time: 1235 Depth to Water: 9.49

Sample I.D.: S-11 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: S-12 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): 20.22 | Depth to Water (DTW): 8.48 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.83 | |

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

| 7.6 (Gals.) X | 3 | = | 22.8 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1307 | 63.2 | 7.86 | 1952 | 79 | 7.6 | |
| 1310 | 63.9 | 7.66 | 1734 | 126 | 15.2 | |
| 1313 | 64.1 | 7.63 | 1740 | 271 | 22.8 | |
| | | | | | | |
| | Post: | 7.59 | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 22.8

Sampling Date: 2/1/11 Sampling Time: 1325 Depth to Water: 10.71

Sample I.D.: S-12 Laboratory: (Test America) Other_____

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

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 #: 110201-DR1 | Site: 5251 Hopyard Rd. Pleasanton Ca. |
| Sampler: DR | Date: 2/1/11 |
| Well I.D.: EW-1 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): 19.69 | Depth to Water (DTW): 8.22 |
| Depth to Free Product: | Thickness of Free Product (feet): |
| Referenced to: (PVC) Grade | D.O. Meter (if req'd): YSI HACH |
| DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.51 | |

Purge Method: Bailer, Disposable Bailer, Positive Air Displacement, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: (Bailer), Disposable Bailer, Extraction Port, Dedicated Tubing, Other: _____

| 7.5 (Gals.) X | 3 | = | 22.5 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$^2$ * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or µS) DR | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1602 | 63.4 | 7.30 | 11.38 | 107 | 7.5 | odor |
| 1605 | 66.0 | 7.31 | 13.37 | 72 | 15.0 | " |
| 1608 | 66.2 | 7.34 | 13.72 | 49 | 22.5 | " |
| | | | | | | |
| | Post: | 7.29 | | | | $Fe^{2+}$ = 0.1 mg/L |

Did well dewater? Yes (No) Gallons actually evacuated: 22.5

Sampling Date: 2/1/11 Sampling Time: 1630 Depth to Water: 10.47

Sample I.D.: EW-1 Laboratory: (Test America) Other_____

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

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 5251 Hopyard Rd. Pleasanton Ca. Date 2/1/11

Job Number 110201-DR1 Technician DR 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 | | DR X | | | | | X | | -1/2 bolts. No tag. |
| S-2 | X | | | | | | | | No tag. |
| S-3 | X | | | | | | | | No tag. |
| S-4 | X | | | | | | | | No tag. |
| S-5 | X | | | | | | | | No tag. |
| S-6 | X | | | | | | | | No tag. |
| S-7 | | | X | | | | X | | -1/2 bolts. No tag |
| S-8 | X | | | | | | | | Christy box. No tag. |
| S-9 | X | | X | | | | | | No tag. |
| S-10 | X | | X | | | | | | No tag. |
| S-11 | X | | X | | | | | | No tag. |
| S-12 | X | | X | | | | | | No tag |
| EW-1 | DR X | X | | | | | X | | -1/2 bolts. |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

*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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

# LABORATORY REPORT

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

Project: 5251 Hopyard Rd., Pleasanton, CA
- Shell
135785

Sampled: 02/01/11
Received: 02/03/11
Issued: 02/17/11 12:13

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



## SAMPLE CROSS REFERENCE

| LABORATORY ID | CLIENT ID | MATRIX |
|---|---|---|
| IUB0431-01 | S-6 | Water |
| IUB0431-02 | S-7 | Water |
| IUB0431-03 | S-8 | Water |
| IUB0431-04 | S-4 | Water |
| IUB0431-05 | S-9 | Water |
| IUB0431-06 | S-11 | Water |
| IUB0431-07 | S-12 | Water |
| IUB0431-08 | S-2 | Water |
| IUB0431-09 | S-10 | Water |
| IUB0431-10 | S-5 | Water |
| IUB0431-11 | S-3 | Water |
| IUB0431-12 | S-1 | Water |
| IUB0431-13 | EW-1 | Water |

Reviewed By:

**TestAmerica Irvine**

Philip Sanelle
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: 5251 Hopyard Rd., Pleasanton, CA - Shell 135785
Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

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

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-01 (S-6 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *100 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *106 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *95 %* | | | | |
| **Sample ID: IUB0431-02 (S-7 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *100 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *94 %* | | | | |
| **Sample ID: IUB0431-03 (S-8 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *101 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *93 %* | | | | |
| **Sample ID: IUB0431-04 (S-4 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *100 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *95 %* | | | | |
| **Sample ID: IUB0431-05 (S-9 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *103 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *94 %* | | | | |
| **Sample ID: IUB0431-06 (S-11 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *101 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *103 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *94 %* | | | | |

**TestAmerica Irvine**

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1680 Rogers Avenue
San Jose, CA 95112-1105
Attention: Lorin King

Project ID: 5251 Hopyard Rd., Pleasanton, CA - Shell 135785
Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

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

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-07 (S-12 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *102 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *93 %* | | | | |
| **Sample ID: IUB0431-08 (S-2 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *107 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *92 %* | | | | |
| **Sample ID: IUB0431-09 (S-10 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | TPH by GC/MS | 11B1554 | 50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *105 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *92 %* | | | | |
| **Sample ID: IUB0431-10 (S-5 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Volatile Fuel Hydrocarbons (C4-C12)** | TPH by GC/MS | 11B1554 | 50 | **130** | 1 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *101 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *92 %* | | | | |
| **Sample ID: IUB0431-11 (S-3 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Volatile Fuel Hydrocarbons (C4-C12)** | TPH by GC/MS | 11B1554 | 50 | **900** | 1 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *103 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *105 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *96 %* | | | | |
| **Sample ID: IUB0431-12 (S-1 - Water)** | | | | | **Sampled: 02/01/11** | | | **P-HS** |
| **Reporting Units: ug/l** | | | | | | | | |
| **Volatile Fuel Hydrocarbons (C4-C12)** | TPH by GC/MS | 11B1633 | 1000 | **5900** | 20 | 2/14/2011 | 2/14/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *111 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *105 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *88 %* | | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

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

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-13 (EW-1 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Volatile Fuel Hydrocarbons (C4-C12)** | TPH by GC/MS | 11B1554 | 250 | **10000** | 5 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *102 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *105 %* | | | | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *94 %* | | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## BTEX/OXYGENATES by GC/MS (EPA 8260B)

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-01 (S-6 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| tert-Butanol (TBA) | EPA 8260B | 11B1554 | 10 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *95 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *100 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *106 %* | | | | |
| **Sample ID: IUB0431-02 (S-7 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| **Methyl-tert-butyl Ether (MTBE)** | EPA 8260B | 11B1554 | 1.0 | **62** | 1 | 2/12/2011 | 2/12/2011 | |
| **tert-Butanol (TBA)** | EPA 8260B | 11B1554 | 10 | **33** | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *94 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *100 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| **Sample ID: IUB0431-03 (S-8 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| tert-Butanol (TBA) | EPA 8260B | 11B1554 | 10 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *93 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *101 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## BTEX/OXYGENATES by GC/MS (EPA 8260B)

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-04 (S-4 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| tert-Butanol (TBA) | EPA 8260B | 11B1554 | 10 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *95 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *100 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| **Sample ID: IUB0431-05 (S-9 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| tert-Butanol (TBA) | EPA 8260B | 11B1554 | 10 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *94 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *103 %* | | | | |
| **Sample ID: IUB0431-06 (S-11 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| tert-Butanol (TBA) | EPA 8260B | 11B1554 | 10 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *94 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *101 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *103 %* | | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## BTEX/OXYGENATES by GC/MS (EPA 8260B)

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-07 (S-12 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| **Methyl-tert-butyl Ether (MTBE)** | EPA 8260B | 11B1554 | 1.0 | **14** | 1 | 2/12/2011 | 2/12/2011 | |
| **tert-Butanol (TBA)** | EPA 8260B | 11B1554 | 10 | **12** | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *93 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *102 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| **Sample ID: IUB0431-08 (S-2 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| **Methyl-tert-butyl Ether (MTBE)** | EPA 8260B | 11B1554 | 1.0 | **6.9** | 1 | 2/12/2011 | 2/12/2011 | |
| tert-Butanol (TBA) | EPA 8260B | 11B1554 | 10 | ND | 1 | 2/12/2011 | 2/12/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *92 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *107 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| **Sample ID: IUB0431-09 (S-10 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| **tert-Butanol (TBA)** | EPA 8260B | 11B1554 | 10 | **110** | 1 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *92 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *104 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *105 %* | | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## BTEX/OXYGENATES by GC/MS (EPA 8260B)

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-10 (S-5 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Benzene** | EPA 8260B | 11B1554 | 0.50 | **0.95** | 1 | 2/12/2011 | 2/13/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| **Methyl-tert-butyl Ether (MTBE)** | EPA 8260B | 11B1554 | 1.0 | **1.6** | 1 | 2/12/2011 | 2/13/2011 | |
| tert-Butanol (TBA) | EPA 8260B | 11B1554 | 10 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *92 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *101 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *104 %* | | | | |
| **Sample ID: IUB0431-11 (S-3 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| Benzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Ethylbenzene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Toluene | EPA 8260B | 11B1554 | 0.50 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| Xylenes, Total | EPA 8260B | 11B1554 | 1.0 | ND | 1 | 2/12/2011 | 2/13/2011 | |
| **Methyl-tert-butyl Ether (MTBE)** | EPA 8260B | 11B1554 | 1.0 | **8.8** | 1 | 2/12/2011 | 2/13/2011 | |
| **tert-Butanol (TBA)** | EPA 8260B | 11B1554 | 10 | **20** | 1 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *96 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *103 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *105 %* | | | | |
| **Sample ID: IUB0431-12 (S-1 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Benzene** | EPA 8260B | 11B1554 | 0.50 | **13** | 1 | 2/12/2011 | 2/13/2011 | |
| **Ethylbenzene** | EPA 8260B | 11B1554 | 0.50 | **38** | 1 | 2/12/2011 | 2/13/2011 | |
| **Toluene** | EPA 8260B | 11B1554 | 0.50 | **21** | 1 | 2/12/2011 | 2/13/2011 | |
| **Xylenes, Total** | EPA 8260B | 11B1554 | 1.0 | **21** | 1 | 2/12/2011 | 2/13/2011 | |
| **Methyl-tert-butyl Ether (MTBE)** | EPA 8260B | 11B1554 | 1.0 | **14** | 1 | 2/12/2011 | 2/13/2011 | |
| **tert-Butanol (TBA)** | EPA 8260B | 11B1554 | 10 | **56** | 1 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *98 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *102 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *103 %* | | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## BTEX/OXYGENATES by GC/MS (EPA 8260B)

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-13 (EW-1 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Benzene** | EPA 8260B | 11B1554 | 2.5 | **10** | 5 | 2/12/2011 | 2/13/2011 | |
| **Ethylbenzene** | EPA 8260B | 11B1554 | 2.5 | **520** | 5 | 2/12/2011 | 2/13/2011 | |
| **Toluene** | EPA 8260B | 11B1554 | 2.5 | **35** | 5 | 2/12/2011 | 2/13/2011 | |
| **Xylenes, Total** | EPA 8260B | 11B1554 | 5.0 | **34** | 5 | 2/12/2011 | 2/13/2011 | |
| **Methyl-tert-butyl Ether (MTBE)** | EPA 8260B | 11B1554 | 5.0 | **5.0** | 5 | 2/12/2011 | 2/13/2011 | |
| tert-Butanol (TBA) | EPA 8260B | 11B1554 | 50 | ND | 5 | 2/12/2011 | 2/13/2011 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | *94 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | *102 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | *105 %* | | | | |

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Attention: Lorin King

Project ID: 5251 Hopyard Rd., Pleasanton, CA - Shell 135785
Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## INORGANICS

| Analyte | Method | Batch | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|
| **Sample ID: IUB0431-08 (S-2 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Sulfate** | EPA 300.0 | 11B0568 | 50000 | **180000** | 100 | 2/4/2011 | 2/4/2011 | |
| **Sample ID: IUB0431-09 (S-10 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Sulfate** | EPA 300.0 | 11B0568 | 25000 | **92000** | 50 | 2/4/2011 | 2/4/2011 | |
| **Sample ID: IUB0431-11 (S-3 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Sulfate** | EPA 300.0 | 11B0568 | 250000 | **11000000** | 500 | 2/4/2011 | 2/4/2011 | |
| **Sample ID: IUB0431-12 (S-1 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Sulfate** | EPA 300.0 | 11B0681 | 500 | **2300** | 1 | 2/5/2011 | 2/5/2011 | |
| **Sample ID: IUB0431-13 (EW-1 - Water)** | | | | | **Sampled: 02/01/11** | | | |
| **Reporting Units: ug/l** | | | | | | | | |
| **Sulfate** | EPA 300.0 | 11B0568 | 50000 | **740000** | 100 | 2/4/2011 | 2/4/2011 | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch: 11B1554 Extracted: 02/12/11** | | | | | | | | | | |
| **Blank Analyzed: 02/12/2011 (11B1554-BLK1)** | | | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | ND | 50 | ug/l | | | | | | | |
| *Surrogate: Dibromofluoromethane* | *24.0* | | *ug/l* | *25.0* | | *96* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.8* | | *ug/l* | *25.0* | | *103* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *22.7* | | *ug/l* | *25.0* | | *91* | *80-120* | | | |
| **LCS Analyzed: 02/12/2011 (11B1554-BS2)** | | | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | 412 | 50 | ug/l | 500 | | 82 | 55-130 | | | |
| *Surrogate: Dibromofluoromethane* | *24.2* | | *ug/l* | *25.0* | | *97* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *26.4* | | *ug/l* | *25.0* | | *106* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *23.5* | | *ug/l* | *25.0* | | *94* | *80-120* | | | |
| **Matrix Spike Analyzed: 02/12/2011 (11B1554-MS1)** | | | | | **Source: IUB0527-07** | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | 854 | 50 | ug/l | 1720 | ND | 50 | 50-145 | | | |
| *Surrogate: Dibromofluoromethane* | *25.7* | | *ug/l* | *25.0* | | *103* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.5* | | *ug/l* | *25.0* | | *102* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *23.7* | | *ug/l* | *25.0* | | *95* | *80-120* | | | |
| **Matrix Spike Dup Analyzed: 02/12/2011 (11B1554-MSD1)** | | | | | **Source: IUB0527-07** | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | 998 | 50 | ug/l | 1720 | ND | 58 | 50-145 | 16 | 20 | |
| *Surrogate: Dibromofluoromethane* | *25.3* | | *ug/l* | *25.0* | | *101* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.5* | | *ug/l* | *25.0* | | *102* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *23.7* | | *ug/l* | *25.0* | | *95* | *80-120* | | | |
| **Batch: 11B1633 Extracted: 02/14/11** | | | | | | | | | | |
| **Blank Analyzed: 02/14/2011 (11B1633-BLK1)** | | | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | ND | 50 | ug/l | | | | | | | |
| *Surrogate: Dibromofluoromethane* | *23.9* | | *ug/l* | *25.0* | | *95* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.4* | | *ug/l* | *25.0* | | *102* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *23.6* | | *ug/l* | *25.0* | | *95* | *80-120* | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch: 11B1633 Extracted: 02/14/11** | | | | | | | | | | |
| **LCS Analyzed: 02/14/2011 (11B1633-BS2)** | | | | | | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | 481 | 50 | ug/l | 500 | | 96 | 55-130 | | | |
| *Surrogate: Dibromofluoromethane* | *25.0* | | *ug/l* | *25.0* | | *100* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.7* | | *ug/l* | *25.0* | | *103* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *23.6* | | *ug/l* | *25.0* | | *94* | *80-120* | | | |
| **Matrix Spike Analyzed: 02/14/2011 (11B1633-MS1)** | | | | | **Source: IUB0436-01** | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | 1450 | 50 | ug/l | 1720 | ND | 84 | 50-145 | | | |
| *Surrogate: Dibromofluoromethane* | *25.9* | | *ug/l* | *25.0* | | *104* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *26.2* | | *ug/l* | *25.0* | | *105* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *24.4* | | *ug/l* | *25.0* | | *98* | *80-120* | | | |
| **Matrix Spike Dup Analyzed: 02/14/2011 (11B1633-MSD1)** | | | | | **Source: IUB0436-01** | | | | | |
| Volatile Fuel Hydrocarbons (C4-C12) | 1390 | 50 | ug/l | 1720 | ND | 80 | 50-145 | 4 | 20 | |
| *Surrogate: Dibromofluoromethane* | *25.6* | | *ug/l* | *25.0* | | *102* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.1* | | *ug/l* | *25.0* | | *101* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *25.7* | | *ug/l* | *25.0* | | *103* | *80-120* | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## METHOD BLANK/QC DATA

## BTEX/OXYGENATES by GC/MS (EPA 8260B)

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch: 11B1554 Extracted: 02/12/11** | | | | | | | | | | |
| **Blank Analyzed: 02/12/2011 (11B1554-BLK1)** | | | | | | | | | | |
| 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 | | | | | | | |
| Di-isopropyl Ether (DIPE) | ND | 1.0 | ug/l | | | | | | | |
| Ethyl tert-Butyl Ether (ETBE) | ND | 1.0 | ug/l | | | | | | | |
| Methyl-tert-butyl Ether (MTBE) | ND | 1.0 | ug/l | | | | | | | |
| tert-Amyl Methyl Ether (TAME) | ND | 1.0 | ug/l | | | | | | | |
| tert-Butanol (TBA) | ND | 10 | ug/l | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *22.7* | | *ug/l* | *25.0* | | *91* | *80-120* | | | |
| *Surrogate: Dibromofluoromethane* | *24.0* | | *ug/l* | *25.0* | | *96* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.8* | | *ug/l* | *25.0* | | *103* | *80-120* | | | |
| **LCS Analyzed: 02/12/2011 (11B1554-BS1)** | | | | | | | | | | |
| Benzene | 26.1 | 0.50 | ug/l | 25.0 | | 104 | 70-120 | | | |
| Ethylbenzene | 26.5 | 0.50 | ug/l | 25.0 | | 106 | 75-125 | | | |
| Toluene | 26.9 | 0.50 | ug/l | 25.0 | | 108 | 70-120 | | | |
| m,p-Xylenes | 53.5 | 1.0 | ug/l | 50.0 | | 107 | 75-125 | | | |
| o-Xylene | 26.8 | 0.50 | ug/l | 25.0 | | 107 | 75-125 | | | |
| Xylenes, Total | 80.3 | 1.0 | ug/l | 75.0 | | 107 | 70-125 | | | |
| Di-isopropyl Ether (DIPE) | 27.9 | 1.0 | ug/l | 25.0 | | 111 | 60-135 | | | |
| Ethyl tert-Butyl Ether (ETBE) | 21.0 | 1.0 | ug/l | 25.0 | | 84 | 65-135 | | | |
| Methyl-tert-butyl Ether (MTBE) | 25.6 | 1.0 | ug/l | 25.0 | | 102 | 60-135 | | | |
| tert-Amyl Methyl Ether (TAME) | 19.5 | 1.0 | ug/l | 25.0 | | 78 | 60-135 | | | |
| tert-Butanol (TBA) | 141 | 10 | ug/l | 125 | | 113 | 70-135 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *23.4* | | *ug/l* | *25.0* | | *94* | *80-120* | | | |
| *Surrogate: Dibromofluoromethane* | *24.3* | | *ug/l* | *25.0* | | *97* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.6* | | *ug/l* | *25.0* | | *102* | *80-120* | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## METHOD BLANK/QC DATA

## BTEX/OXYGENATES by GC/MS (EPA 8260B)

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch: 11B1554 Extracted: 02/12/11** | | | | | | | | | | |
| **Matrix Spike Analyzed: 02/12/2011 (11B1554-MS1)** | | | | | **Source: IUB0527-07** | | | | | |
| Benzene | 20.6 | 0.50 | ug/l | 25.0 | 0.450 | 81 | 65-125 | | | |
| Ethylbenzene | 20.4 | 0.50 | ug/l | 25.0 | 0.400 | 80 | 65-130 | | | |
| Toluene | 21.8 | 0.50 | ug/l | 25.0 | 1.22 | 82 | 70-125 | | | |
| m,p-Xylenes | 41.8 | 1.0 | ug/l | 50.0 | 1.11 | 81 | 65-130 | | | |
| o-Xylene | 21.9 | 0.50 | ug/l | 25.0 | 0.430 | 86 | 65-125 | | | |
| Xylenes, Total | 63.7 | 1.0 | ug/l | 75.0 | 1.54 | 83 | 60-130 | | | |
| Di-isopropyl Ether (DIPE) | 25.6 | 1.0 | ug/l | 25.0 | ND | 102 | 60-140 | | | |
| Ethyl tert-Butyl Ether (ETBE) | 20.0 | 1.0 | ug/l | 25.0 | ND | 80 | 60-135 | | | |
| Methyl-tert-butyl Ether (MTBE) | 26.6 | 1.0 | ug/l | 25.0 | ND | 106 | 55-145 | | | |
| tert-Amyl Methyl Ether (TAME) | 19.1 | 1.0 | ug/l | 25.0 | ND | 76 | 60-140 | | | |
| tert-Butanol (TBA) | 142 | 10 | ug/l | 125 | ND | 114 | 65-140 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *23.7* | | *ug/l* | *25.0* | | *95* | *80-120* | | | |
| *Surrogate: Dibromofluoromethane* | *25.7* | | *ug/l* | *25.0* | | *103* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.5* | | *ug/l* | *25.0* | | *102* | *80-120* | | | |
| **Matrix Spike Dup Analyzed: 02/12/2011 (11B1554-MSD1)** | | | | | **Source: IUB0527-07** | | | | | |
| Benzene | 25.5 | 0.50 | ug/l | 25.0 | 0.450 | 100 | 65-125 | 21 | 20 | *R* |
| Ethylbenzene | 25.3 | 0.50 | ug/l | 25.0 | 0.400 | 100 | 65-130 | 21 | 20 | *R* |
| Toluene | 26.6 | 0.50 | ug/l | 25.0 | 1.22 | 102 | 70-125 | 20 | 20 | |
| m,p-Xylenes | 51.1 | 1.0 | ug/l | 50.0 | 1.11 | 100 | 65-130 | 20 | 25 | |
| o-Xylene | 25.5 | 0.50 | ug/l | 25.0 | 0.430 | 100 | 65-125 | 15 | 20 | |
| Xylenes, Total | 76.6 | 1.0 | ug/l | 75.0 | 1.54 | 100 | 60-130 | 18 | 20 | |
| Di-isopropyl Ether (DIPE) | 28.0 | 1.0 | ug/l | 25.0 | ND | 112 | 60-140 | 9 | 25 | |
| Ethyl tert-Butyl Ether (ETBE) | 22.9 | 1.0 | ug/l | 25.0 | ND | 92 | 60-135 | 13 | 25 | |
| Methyl-tert-butyl Ether (MTBE) | 27.3 | 1.0 | ug/l | 25.0 | ND | 109 | 55-145 | 3 | 25 | |
| tert-Amyl Methyl Ether (TAME) | 21.4 | 1.0 | ug/l | 25.0 | ND | 86 | 60-140 | 12 | 30 | |
| tert-Butanol (TBA) | 134 | 10 | ug/l | 125 | ND | 107 | 65-140 | 6 | 25 | |
| *Surrogate: 4-Bromofluorobenzene* | *23.7* | | *ug/l* | *25.0* | | *95* | *80-120* | | | |
| *Surrogate: Dibromofluoromethane* | *25.3* | | *ug/l* | *25.0* | | *101* | *80-120* | | | |
| *Surrogate: Toluene-d8* | *25.5* | | *ug/l* | *25.0* | | *102* | *80-120* | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## METHOD BLANK/QC DATA

## INORGANICS

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch: 11B0568 Extracted: 02/04/11** | | | | | | | | | | |
| **Blank Analyzed: 02/04/2011 (11B0568-BLK1)** | | | | | | | | | | |
| Sulfate | ND | 500 | ug/l | | | | | | | |
| **LCS Analyzed: 02/04/2011 (11B0568-BS1)** | | | | | | | | | | |
| Sulfate | 9870 | 500 | ug/l | 10000 | | 99 | 90-110 | | | |
| **Matrix Spike Analyzed: 02/04/2011 (11B0568-MS1)** | | | | | **Source: IUB0472-10** | | | | | |
| Sulfate | 290000 | 10000 | ug/l | 100000 | 192000 | 98 | 80-120 | | | |
| **Matrix Spike Analyzed: 02/04/2011 (11B0568-MS2)** | | | | | **Source: IUB0472-16** | | | | | |
| Sulfate | 53400 | 2500 | ug/l | 10000 | 40000 | 135 | 80-120 | | | *MHA* |
| **Matrix Spike Dup Analyzed: 02/04/2011 (11B0568-MSD1)** | | | | | **Source: IUB0472-10** | | | | | |
| Sulfate | 293000 | 10000 | ug/l | 100000 | 192000 | 100 | 80-120 | 0.9 | 20 | |
| **Matrix Spike Dup Analyzed: 02/05/2011 (11B0568-MSD2)** | | | | | **Source: IUB0472-16** | | | | | |
| Sulfate | 51000 | 2500 | ug/l | 10000 | 40000 | 110 | 80-120 | 5 | 20 | *MHA* |
| **Batch: 11B0681 Extracted: 02/05/11** | | | | | | | | | | |
| **Blank Analyzed: 02/05/2011 (11B0681-BLK1)** | | | | | | | | | | |
| Sulfate | ND | 500 | ug/l | | | | | | | |
| **LCS Analyzed: 02/05/2011 (11B0681-BS1)** | | | | | | | | | | |
| Sulfate | 9640 | 500 | ug/l | 10000 | | 96 | 90-110 | | | |
| **Matrix Spike Analyzed: 02/05/2011 (11B0681-MS1)** | | | | | **Source: IUB0435-10** | | | | | |
| Sulfate | 101000 | 5000 | ug/l | 100000 | 18800 | 83 | 80-120 | | | |

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Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## METHOD BLANK/QC DATA

## INORGANICS

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch: 11B0681 Extracted: 02/05/11** | | | | | | | | | | |
| **Matrix Spike Dup Analyzed: 02/05/2011 (11B0681-MSD1)** | | | | | **Source: IUB0435-10** | | | | | |
| Sulfate | 105000 | 5000 | ug/l | 100000 | 18800 | 86 | 80-120 | 4 | 20 | |

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135785
Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## DATA QUALIFIERS AND DEFINITIONS

**MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).

**P-HS** Sample container contained headspace.

**R** The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.

**ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

**RPD** Relative Percent Difference

## ADDITIONAL COMMENTS

**For 8260 analyses:**

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

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

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

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San Jose, CA 95112-1105
Attention: Lorin King

Project ID: 5251 Hopyard Rd., Pleasanton, CA - Shell
135785
Report Number: IUB0431

Sampled: 02/01/11
Received: 02/03/11

## Certification Summary

**TestAmerica Irvine**

| Method | Matrix | Nelac | California |
|---|---|---|---|
| EPA 300.0 | 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*

**TestAmerica Irvine**

Philip Sanelle
Project Manager

# Shell Oil Products Chain Of Custody Record

**LAB (LOCATION)**
- ☐ CALSCIENCE (_____)
- ☐ SPL (_____)
- ☐ XENCO (_____)
- ☑ TEST AMERICA (IRVINE)
- ☐ OTHER (_____)

**Please Check Appropriate Box:**
☐ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CM ☑ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER _____

**Print Bill To Contact Name:** Peter Schaefer 135785

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

**INCIDENT # (ENV SERVICES):** 9 8 9 9 5 8 4 3 ☐ CHECK IF NO INCIDENT # APPLIES

**SAP #:**

DATE: 2/1/11

PAGE: 1 of 2

| | | | |
|---|---|---|---|
| SAMPLING COMPANY: Blaine Tech Services | LOG CODE: BTSS | SITE ADDRESS: Street and City: 5251 Hopyard Rd., Pleasanton | State: CA |
| ADDRESS: 1880 Rogers Avenue, San Jose, CA | | GLOBAL ID NO.: T0600101267 | |
| PROJECT CONTACT (Hardcopy or PDF Report to): Lorin King | | EDF DELIVERABLE TO (Name, Company, Office Location): Brenda Carter, CRA, Emeryville | PHONE NO.: 510-420-3343 |
| TELEPHONE: 310-995-4455 x 108 | FAX: 310-637-5802 | E-MAIL: lking@blainetech.com | E-MAIL: shelledf@craworld.com |
| | | SAMPLER NAME(S) (Print): D. Rayna | CONSULTANT PROJECT NO.: 110211-DR1 |
| | | | LAB USE ONLY: EUB0431 |

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**

| LAB USE ONLY | Field Sample Identification | SAMPLING DATE | SAMPLING TIME | MATRIX | PRESERVATIVE HCL | HNO3 | H2SO4 | NONE | OTHER | NO. OF CONT. | TPH -GRO, Purgeable (8260B) | TPH -DRO, Extractable (8015M) | TPHg (8015M) | BTEX (5260B) | BTEX + MTBE (8260B) | BTEX + MTBE + TBA (8260B) | BTEX + 5 OXYs (MTBE, TBA, DIPE, TAME, ETBE) 8260B | Full VOC list (8260B) | Single Compound: (8260B) | 1,2-DCA (8260B) | EDB (8260B) | Ethanol (8260B) | Methanol (8015M) | Sulfate | Container PID Readings or Laboratory Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S-6 | 2/1/11 | 1050 | W | 3 | | | | | 3 | X | | | | | X | | | | | | | | | |
| | S-7 | | 1045 | W | 3 | | | | | 3 | X | | | | | X | | | | | | | | | |
| | S-8 | | 1130 | W | 3 | | | | | 3 | X | | | | | X | | | | | | | | | |
| | S-4 | | 1145 | W | 3 | | | | | 3 | X | | | | | X | | | | | | | | | |
| | S-9 | | 1210 | W | 3 | | | | | 3 | X | | | | | X | | | | | | | | | |
| | S-11 | | 1235 | W | 3 | | | | | 3 | X | | | | | X | | | | | | | | | |
| | S-12 | | 1325 | W | 3 | | | | | 3 | X | | | | | X | | | | | | | | | |
| | S-2 | | 1340 | W | 3 | | | 1 | | 4 | X | | | | | X | | | | | | | | X | |
| | S-10 | | 1405 | W | 3 | | | 1 | | 4 | X | | | | | X | | | | | | | | X | |
| | S-5 | | 1430 | W | 3 | | | | | 3 | X | | | | | X | | | | | | | | | |

TEMPERATURE ON RECEIPT C°: 2.3C

| | | | |
|---|---|---|---|
| Relinquished by: (Signature) | Received by: (Signature) (Sample custodian) | Date: 2/1/11 | Time: 1725 |
| Relinquished by: (Signature) | Received by: (Signature) | Date: 2/2/11 | Time: 0830 |
| Relinquished by: (Signature) Gerald Hayden 2-2-11 17:00 | Received by: (Signature) 2/03/11 1125 KM 2-3-11 1705 | Date: 02/02/11 | Time: 1200 |

05/21/08 Revision #07A15

# Shell Oil Products Chain Of Custody Record

LAB (LOCATION)
- ☐ CALSCIENCE (_____)
- ☐ SPL (_____)
- ☐ XENCO (_____)
- ☑ TEST AMERICA (IRVINE)
- ☐ OTHER (_____)

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- ☐ MOTIVA RETAIL
- ☐ SHELL RETAIL
- ☐ MOTIVA SD&CM
- ☑ CONSULTANT
- ☐ LUBES
- ☐ SHELL PIPELINE
- ☐ OTHER _____

Print Bill To Contact Name: Peter Schaefer 135785

INCIDENT # (ENV SERVICES): 98995843

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 2/1/11

PAGE: 2 of 2

PO #: 40-40343973

SAP #:

SAMPLING COMPANY: Blaine Tech Services

LOG CODE: BTSS

SITE ADDRESS: Street and City: 5251 Hopyard Rd., Pleasanton

State: CA

GLOBAL ID NO.: T0600101267

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@craworld.com

CONSULTANT PROJECT NO.: 110201-DR1

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

TELEPHONE: 310-995-4455 x 108

FAX: 310-637-5802

E-MAIL: lking@blainetech.com

SAMPLER NAME(S) (Print): D. Raynal

LAB USE ONLY: IUB0431

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TEMPERATURE ON RECEIPT C°: 2.3°

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S-3 | 2/1/11 | 1545 | W | 3 | | | 1 | | 4 | X | | | | | X | | | | | | | | X | |
| | S-1 | ↓ | 1550 | W | 3 | | | 1 | | 4 | X | | | | | X | | | | | | | | X | |
| | EW-1 | ↓ | 1630 | W | 3 | | | 1 | | 4 | X | | | | | X | | | | | | | | X | |

| | Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
|---|---|---|---|---|
| | | (Sample custodian) | 2/1/11 | 1725 |
| | | TASF | 2/2/11 | 0830 |
| | 2-2-11 17:00 | 2/03/11 1125 | 02/02/11 | 12:00 |

05/2/06 Revision

#03AES

(53) (9)