**Shell Oil Products US**

January 26, 2004

Don Hwang
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577



**Subject:** **Shell-branded Service Station**
350 Grand Avenue
Oakland, California

Dear Mr. Hwang:

Attached for your review and comment is a copy of the *Fourth Quarter 2003 Groundwater Monitoring Report* for the above referenced site. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (559) 645-9306 with any questions or concerns.

Sincerely,

**Shell Oil Products US**

Karen Petryna

Karen Petryna
Sr. Environmental Engineer

P.O. Box 7869 Burbank, CA 91510-7869 Phone (559) 645-9306 Facsimile (559) 645-5643

CAMBRIA



January 26, 2004

Mr. Don Hwang
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Groundwater Monitoring Report - Fourth Quarter 2003**
Shell-branded Service Station
350 Grand Avenue
Oakland, California
SAP Code 135698
Incident #98995755

Dear Mr. Hwang:

Cambria Environmental Technology, Inc. (Cambria) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) in accordance with the quarterly reporting requirements of 23 CCR 2652d.

## FOURTH QUARTER 2003 ACTIVITIES

***Groundwater Monitoring:*** Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged all site wells, sampled selected wells and prepared a summary table of field data and petroleum hydrocarbon and methyl tertiary butyl ether (MTBE) concentrations. Cambria prepared a vicinity/area well survey map (Figure 1) and a groundwater contour/chemical concentration map (Figure 2). Blaine's report, presenting the laboratory report, is included as Appendix A.

***Groundwater Remediation:*** As recommended in our October 7, 2002 *Third Quarter 2002 Monitoring Report*, Cambria initiated twice-monthly mobile groundwater extraction (GWE) using a vacuum truck at the site in October 2002. Cambria reduced the frequency of mobile GWE to monthly during the fourth quarter 2003. Mobile GWE is currently performed using only tank backfill wells T-1 and T-2. Vacuum trucks are provided by Onyx Industrial Services of Benicia, California, and extracted groundwater is transported to Shell's Martinez refinery for recycling. Groundwater purge volumes and estimated mass removal data are presented in Table 1.

MTBE concentrations in wells T-1 and T-2 have shown an overall decreasing concentration trend indicative of mass removal within the UST complex since GWE was initiated in October 2002. MTBE concentrations in T-1 have decreased by two orders of magnitude during this time. The

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria Environmental Technology, Inc.**

270 Perkins Street
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cumulative estimated volume of water removed from the site through GWE is 54,679 gallons. This volume of water corresponds to the removal of approximately 2.56 pounds of MTBE. Tank backfill well T-2 was dry during the monitoring event on November 2, 2003, so Cambria used the analytical data from T-1 to represent the tank backfill concentrations at T-2 to calculate the contaminant mass removal.

***Interim Remediation:*** In an attempt to reduce the elevated concentrations of contaminants from the vicinity of monitoring well S-2, Cambria performed short-term DPE testing on that well during the week of September 15, 2003. Cambria's *Interim Remediation Report* submitted on December 15, 2003, summarizes the results of dual-phase extraction from monitoring well S-2 and soil vapor extraction from tank backfill well T-1.

## ANTICIPATED FIRST QUARTER 2004 ACTIVITIES

***Groundwater Monitoring:*** Blaine will gauge all site wells, sample selected wells, and tabulate the data. Cambria will prepare a groundwater monitoring report.

***Groundwater Remediation:*** Given the low concentrations of MTBE in the current tank complex (220 ppb in T-1), Mobile GWE from tank backfill wells will be discontinued as of the date of this document.

***Subsurface Investigation:*** The only site well with significant residual impact is well S-2. As documented in previous submittals, groundwater extraction and vapor extraction are ineffective at that location. The lateral extent of MTBE in groundwater has not been defined to the north, and investigation of the utilities as potential conduits should be assessed. Cambria submitted a *Tank Backfill Well Installation Report and Investigation Work Plan Addendum* on September 26, 2002 proposing the installation of four soil borings shown on Figure 2. Since more than 60 days have passed without receiving a written response, we will proceed with implementation of the work plan during the first quarter of 2004.

## HISTORICAL REMEDIATION SUMMARY

***2001 Dual-Phase Vapor Extraction (DVE) Pilot Test:*** In June 2001, Cambria conducted an 8-hour DVE pilot test on groundwater monitoring well S-2. DVE is the process of applying high vacuum through an airtight well seal to simultaneously extract soil vapors from the vadose zone and enhance groundwater extraction from the saturated zone. Approximately 50 gallons of groundwater were extracted during the 8-hour test. This data is consistent with the low permeability soil (sandy silt and silt) encountered at this site. Estimated mass removal through

groundwater extraction of TPHg, benzene, and MTBE was 0.008 pounds, 0.0004 pounds, and 0.009 pounds, respectively. Estimated mass removal through vapor extraction of TPHg, benzene, and MTBE was 2.44 pounds, 0.002 pounds, and 0.005 pounds, respectively.

***2003 Interim Remediation:*** Cambria conducted dual-phase extraction (DPE) from groundwater monitoring well S-2 between September 16 and September 18, 2003. Approximately 35 gallons of groundwater were extracted during approximately 50 hours of DPE from S-2. This data is consistent with the low permeability soil (sandy silt and silt) encountered at this site, and with previous DVE testing performed at the site. Estimated mass removal through groundwater extraction is considered negligible. Cambria also conducted soil vapor extraction (SVE) from tank backfill well T-1 on September 18 in an effort to maximize mass removal and gain additional information about the site. Estimated mass removal from the site through vapor extraction of TPHg, benzene, and MTBE was 0.152 pounds, 0.0009 pounds, and 0.0042 pounds, respectively.

## CLOSING

If you have any questions regarding this document, please call Ana Friel at (707) 442-2700.

Sincerely,
**Cambria Environmental Technology, Inc**

for
Cynthia Vasko
Senior Staff Engineer

for
Ana Friel, RG
Senior Project Geologist
RG 6452

REGISTERED GEOLOGIST
JOSEPH W. NEELY
No. 6927
STATE OF CALIFORNIA

Attachments:

| | |
|---|---|
| Table 1. | Mass Removal Data |
| Figure 1. | Vicinity/Area Well Survey Map |
| Figure 2. | Groundwater Contour/Chemical Concentration Map |
| Appendix A. | Blaine Tech Services, Inc. - Groundwater Monitoring Report |

cc: Karen Petryna, Shell Oil Products US
Gursharnjeet Cheema, 1060 St. Raphael Drive, Bay Point, CA 94565

**Table 1. Mass Removal Data,** Shell-branded Service Station, 350 Grand Avenue, Oakland, California

| Date Purged | Well ID | Volume Pumped (gal) | Cumulative Volume Pumped (gal) | Date Sampled | TPHg Concentration (ppb) | TPHg Removed (pounds) | Cumulative TPHg Removed (pounds) | Benzene Concentration (ppb) | Benzene Removed (pounds) | Cumulative Benzene Removed (pounds) | MTBE Concentration (ppb) | MTBE Removed (pounds) | Cumulative MTBE Removed (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06/27/01 | S-2 | 50 | 50 | 02/16/01 | 20,000 | 0.008 | 0.008 | 990 | 0.000 | 0.000 | 21,000 | 0.009 | 0.009 |
| 10/08/02 | T-1 | 750 | 750 | 07/16/02 | <5,000 | 0.016 | 0.016 | <50 | 0.000 | 0.000 | 14,000 | 0.088 | 0.088 |
| 10/21/02 | T-1 | 0 | 750 | 10/10/02 | <5,000 | 0.000 | 0.016 | <50 | 0.000 | 0.000 | 17,000 | 0.000 | 0.088 |
| 11/09/02 | T-1 | 771 | 1,521 | 10/10/02 | <5,000 | 0.016 | 0.032 | <50 | 0.000 | 0.000 | 17,000 | 0.109 | 0.197 |
| 11/26/02 | T-1 | 695 | 2,216 | 10/10/02 | <5,000 | 0.014 | 0.046 | <50 | 0.000 | 0.000 | 17,000 | 0.099 | 0.296 |
| 12/11/02 | T-1 | 480 | 2,696 | 10/10/02 | <5,000 | 0.010 | 0.056 | <50 | 0.000 | 0.001 | 17,000 | 0.068 | 0.364 |
| 12/24/02 | T-1 | 1,387 | 4,083 | 10/10/02 | <5,000 | 0.029 | 0.085 | <50 | 0.000 | 0.001 | 17,000 | 0.197 | 0.560 |
| 01/09/03 | T-1 | 2,288 | 6,371 | 10/10/02 | <5,000 | 0.048 | 0.133 | <50 | 0.000 | 0.001 | 17,000 | 0.325 | 0.885 |
| 01/22/03 | T-1 | 165 | 6,536 | 01/16/03 | <1,000 | 0.001 | 0.134 | 12 | 0.000 | 0.001 | 5,800 | 0.008 | 0.893 |
| 02/12/03 | T-1 | 0 | 6,536 | 01/16/03 | <1,000 | 0.000 | 0.134 | 12 | 0.000 | 0.001 | 5,800 | 0.000 | 0.893 |
| 02/25/03 | T-1 | 1,624 | 8,160 | 01/16/03 | <1,000 | 0.007 | 0.140 | 12 | 0.000 | 0.002 | 5,800 | 0.079 | 0.972 |
| 03/12/03 | T-1 | 1,000 | 9,160 | 01/16/03 | <1,000 | 0.004 | 0.145 | 12 | 0.000 | 0.002 | 5,800 | 0.048 | 1.020 |
| 03/26/03 | T-1 | 254 | 9,414 | 01/16/03 | <1,000 | 0.001 | 0.146 | 12 | 0.000 | 0.002 | 5,800 | 0.012 | 1.032 |
| 04/07/03 | T-1 | 1,108 | 10,522 | 01/16/03 | <1,000 | 0.005 | 0.150 | 12 | 0.000 | 0.002 | 5,800 | 0.054 | 1.086 |
| 04/21/03 | T-1 | 1,297 | 11,819 | 01/16/03 | <1,000 | 0.005 | 0.156 | 12 | 0.000 | 0.002 | 5,800 | 0.063 | 1.149 |
| 05/05/03 | T-1 | 1,314 | 13,133 | 05/02/03 | <2,500 | 0.014 | 0.169 | <25 | 0.000 | 0.002 | 3,300 | 0.036 | 1.185 |
| 05/19/03 | T-1 | 1,019 | 14,152 | 05/02/03 | <2,500 | 0.011 | 0.180 | <25 | 0.000 | 0.002 | 3,300 | 0.028 | 1.213 |
| 06/09/03 | T-1 | 983 | 15,135 | 05/02/03 | <2,500 | 0.010 | 0.190 | <25 | 0.000 | 0.002 | 3,300 | 0.027 | 1.240 |
| 06/23/03 | T-1 | 987 | 16,122 | 05/02/03 | <2,500 | 0.010 | 0.201 | <25 | 0.000 | 0.002 | 3,300 | 0.027 | 1.267 |
| 07/08/03 | T-1 | 828 | 16,950 | 05/02/03 | <2,500 | 0.009 | 0.209 | <25 | 0.000 | 0.002 | 3,300 | 0.023 | 1.290 |
| 07/23/03 | T-1 | 738 | 17,688 | 07/17/03 | <1,000 | 0.003 | 0.212 | <10 | 0.000 | 0.002 | 3,300 | 0.020 | 1.310 |
| 08/06/03 | T-1 | 1,100 | 18,788 | 07/17/03 | <1,000 | 0.005 | 0.217 | <10 | 0.000 | 0.002 | 3,300 | 0.030 | 1.341 |
| 08/20/03 | T-1 | 823 | 19,611 | 07/17/03 | <1,000 | 0.003 | 0.220 | <10 | 0.000 | 0.003 | 3,300 | 0.023 | 1.363 |
| 09/10/03 | T-1 | 671 | 20,282 | 07/17/03 | <1,000 | 0.003 | 0.223 | <10 | 0.000 | 0.003 | 3,300 | 0.018 | 1.382 |
| 09/25/03 | T-1 | 683 | 20,965 | 07/17/03 | <1,000 | 0.003 | 0.226 | <10 | 0.000 | 0.003 | 3,300 | 0.019 | 1.400 |
| **10/09/03** | **T-1** | **550** | **21,515** | **07/17/03** | **<1,000** | **0.002** | **0.228** | **<10** | **0.000** | **0.003** | **3,300** | **0.015** | **1.416** |

**Table 1. Mass Removal Data,** Shell-branded Service Station, 350 Grand Avenue, Oakland, California

| Date Purged | Well ID | Volume Pumped (gal) | Cumulative Volume Pumped (gal) | Date Sampled | TPHg Concentration (ppb) | TPHg Removed (pounds) | Cumulative TPHg Removed (pounds) | Benzene Concentration (ppb) | Benzene Removed (pounds) | Cumulative Benzene Removed (pounds) | MTBE Concentration (ppb) | MTBE Removed (pounds) | Cumulative MTBE Removed (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **11/13/03** | **T-1** | **1,000** | **22,515** | **11/04/03** | **<500** | **0.002** | **0.230** | **<5.0** | **0.000** | **0.003** | **220** | **0.002** | **1.417** |
| **12/11/03** | **T-1** | **1,314** | **23,829** | **11/04/03** | **<500** | **0.003** | **0.233** | **<5.0** | **0.000** | **0.003** | **220** | **0.002** | **1.420** |
| **01/12/04** | **T-1** | **1,100** | **24,929** | **11/04/03** | **<500** | **0.002** | **0.235** | **<5.0** | **0.000** | **0.003** | **220** | **0.002** | **1.422** |
| 10/08/02 | T-2 | 550 | 550 | 07/16/02 | <5,000 | 0.011 | 0.011 | <50 | 0.000 | 0.000 | 17,000 | 0.078 | 0.078 |
| 10/21/02 | T-2 | 750 | 1,300 | 07/16/02 | <5,000 | 0.016 | 0.027 | <50 | 0.000 | 0.000 | 17,000 | 0.106 | 0.184 |
| 11/09/02 | T-2 | 150 | 1,450 | 07/16/02 | <5,000 | 0.003 | 0.030 | <50 | 0.000 | 0.000 | 17,000 | 0.021 | 0.206 |
| 11/26/02 | T-2 | 0 | 1,450 | 07/16/02 | <5,000 | 0.000 | 0.030 | <50 | 0.000 | 0.000 | 17,000 | 0.000 | 0.206 |
| 12/11/02 | T-2 | 0 | 1,450 | 07/16/02 | <5,000 | 0.000 | 0.030 | <50 | 0.000 | 0.000 | 17,000 | 0.000 | 0.206 |
| 12/24/02 | T-2 | 1,383 | 2,833 | 07/16/02 | <5,000 | 0.029 | 0.059 | <50 | 0.000 | 0.001 | 17,000 | 0.196 | 0.402 |
| 01/09/03 | T-2 | 2,309 | 5,142 | 07/16/02 | <5,000 | 0.048 | 0.107 | <50 | 0.000 | 0.001 | 17,000 | 0.328 | 0.729 |
| 01/22/03 | T-2 | 2,200 | 7,342 | 01/16/03 | <1,000 | 0.009 | 0.116 | <10 | 0.000 | 0.001 | 2,900 | 0.053 | 0.783 |
| 02/12/03 | T-2 | 2,103 | 9,445 | 01/16/03 | <1,000 | 0.009 | 0.125 | <10 | 0.000 | 0.001 | 2,900 | 0.051 | 0.834 |
| 02/25/03 | T-2 | 1,883 | 11,328 | 01/16/03 | <1,000 | 0.008 | 0.133 | <10 | 0.000 | 0.001 | 2,900 | 0.046 | 0.879 |
| 03/12/03 | T-2 | 1,130 | 12,458 | 01/16/03 | <1,000 | 0.005 | 0.138 | <10 | 0.000 | 0.001 | 2,900 | 0.027 | 0.906 |
| 03/26/03 | T-2 | 2,000 | 14,458 | 01/16/03 | <1,000 | 0.008 | 0.146 | <10 | 0.000 | 0.001 | 2,900 | 0.048 | 0.955 |
| 04/07/03 | T-2 | 1,000 | 15,458 | 01/16/03 | <1,000 | 0.004 | 0.150 | <10 | 0.000 | 0.002 | 2,900 | 0.024 | 0.979 |
| 04/21/03 | T-2 | 2,254 | 17,712 | 01/16/03 | <1,000 | 0.009 | 0.160 | <10 | 0.000 | 0.002 | 2,900 | 0.055 | 1.034 |
| 05/05/03 | T-2 | 2,252 | 19,964 | 05/02/03 | <500 | 0.005 | 0.164 | <5.0 | 0.000 | 0.002 | 1,000 | 0.019 | 1.052 |
| 05/19/03 | T-2 | 1,823 | 21,787 | 05/02/03 | <500 | 0.004 | 0.168 | <5.0 | 0.000 | 0.002 | 1,000 | 0.015 | 1.068 |
| 06/09/03 | T-2 | 1,751 | 23,538 | 05/02/03 | <500 | 0.004 | 0.172 | <5.0 | 0.000 | 0.002 | 1,000 | 0.015 | 1.082 |
| 06/23/03 | T-2 | 850 | 24,388 | 05/02/03 | <500 | 0.002 | 0.174 | <5.0 | 0.000 | 0.002 | 1,000 | 0.007 | 1.089 |
| 07/08/03 | T-2 | 700 | 25,088 | 05/02/03 | <500 | 0.001 | 0.175 | <5.0 | 0.000 | 0.002 | 1,000 | 0.006 | 1.095 |
| 07/23/03 | T-2 | 650 | 25,738 | 07/17/03 | <1,000 | 0.003 | 0.178 | <10 | 0.000 | 0.002 | 2,800 | 0.015 | 1.110 |
| 08/06/03 | T-2 | 100 | 25,838 | 07/17/03 | <1,000 | 0.000 | 0.178 | <10 | 0.000 | 0.002 | 2,800 | 0.002 | 1.113 |
| 08/20/03 | T-2 | 100 | 25,938 | 07/17/03 | <1,000 | 0.000 | 0.179 | <10 | 0.000 | 0.002 | 2,800 | 0.002 | 1.115 |
| 09/10/03 | T-2 | 140 | 26,078 | 07/17/03 | <1,000 | 0.001 | 0.179 | <10 | 0.000 | 0.002 | 2,800 | 0.003 | 1.118 |

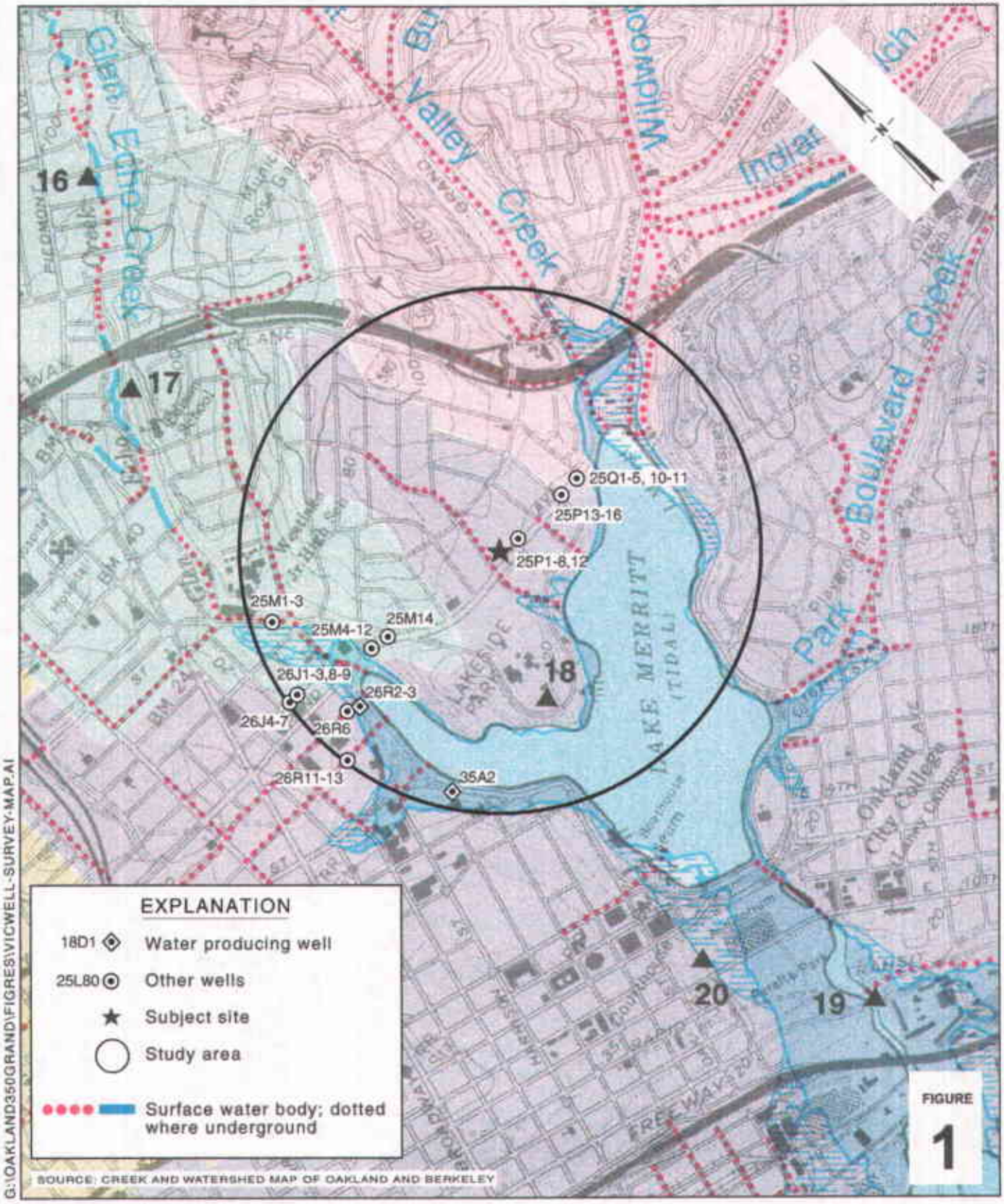
**Table 1. Mass Removal Data,** Shell-branded Service Station, 350 Grand Avenue, Oakland, California

| Date Purged | Well ID | Volume Pumped (gal) | Cumulative Volume Pumped (gal) | Date Sampled | TPHg Concentration (ppb) | TPHg Removed (pounds) | Cumulative TPHg Removed (pounds) | Benzene Concentration (ppb) | Benzene Removed (pounds) | Cumulative Benzene Removed (pounds) | MTBE Concentration (ppb) | MTBE Removed (pounds) | Cumulative MTBE Removed (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09/25/03 | T-2 | 10 | 26,088 | 07/17/03 | <1,000 | 0.000 | 0.179 | <10 | 0.000 | 0.002 | 2,800 | 0.000 | 1.119 |
| **10/09/03** | **T-2** | **40** | **26,128** | **07/17/03** | **<1,000** | **0.000** | **0.179** | **<10** | **0.000** | **0.002** | **2,800** | **0.001** | **1.119** |
| **11/13/03** | **T-2** | **326** | **26,454** | **07/17/03 [1]** | **<500** | **0.001** | **0.180** | **<5.0** | **0.000** | **0.002** | **220** | **0.001** | **1.120** |
| **12/11/03** | **T-2** | **2,146** | **28,600** | **07/17/03 [1]** | **<500** | **0.004** | **0.185** | **<5.0** | **0.000** | **0.002** | **220** | **0.004** | **1.124** |
| **01/12/04** | **T-2** | **1,100** | **29,700** | **07/17/03 [1]** | **<500** | **0.002** | **0.187** | **<5.0** | **0.000** | **0.002** | **220** | **0.002** | **1.126** |
| **Total Gallons Extracted:** | | | **54,679** | **Total Pounds Removed:** | | | **0.431** | | | **0.005** | | | **2.56** |
| | | | | **Total Gallons Removed:** | | | **0.071** | | | **0.001** | | | **0.412** |

**Abbreviations & Notes:**

TPHg = Total purgeable hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
ppb = Parts per billion
gal = Gallon
Mass removed based on the formula: volume extracted (gal) x concentration (µg/L) x (g/$10^6$µg) x (pound/453.6g) x (3.785 L/gal)
Volume removal data based on the formula: density (in gms/cc) x 9.339 (ccxlbs/gmsxgals)
TPHg, benzene, and MTBE analyzed by EPA Method 8260.
Concentrations based on most recent groundwater monitoring results.
If concentration is less than the laboratory detection limit, one half of the detection limit concentration is used in the mass removal calculation.
Groundwater extracted by vacuum trucks provided by Onyx Industrial. Water disposed of at a Martinez Refinery.
[1] Concentration data from 11/4/03 is not available for well T-2 because the well was dry on this day; therefore concentrations from T-1 on 11/4/03 were used for mass removal calculation.

04/02/03

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**Shell-branded Service Station**
350 Grand Avenue
Oakland, California
Incident #98995755

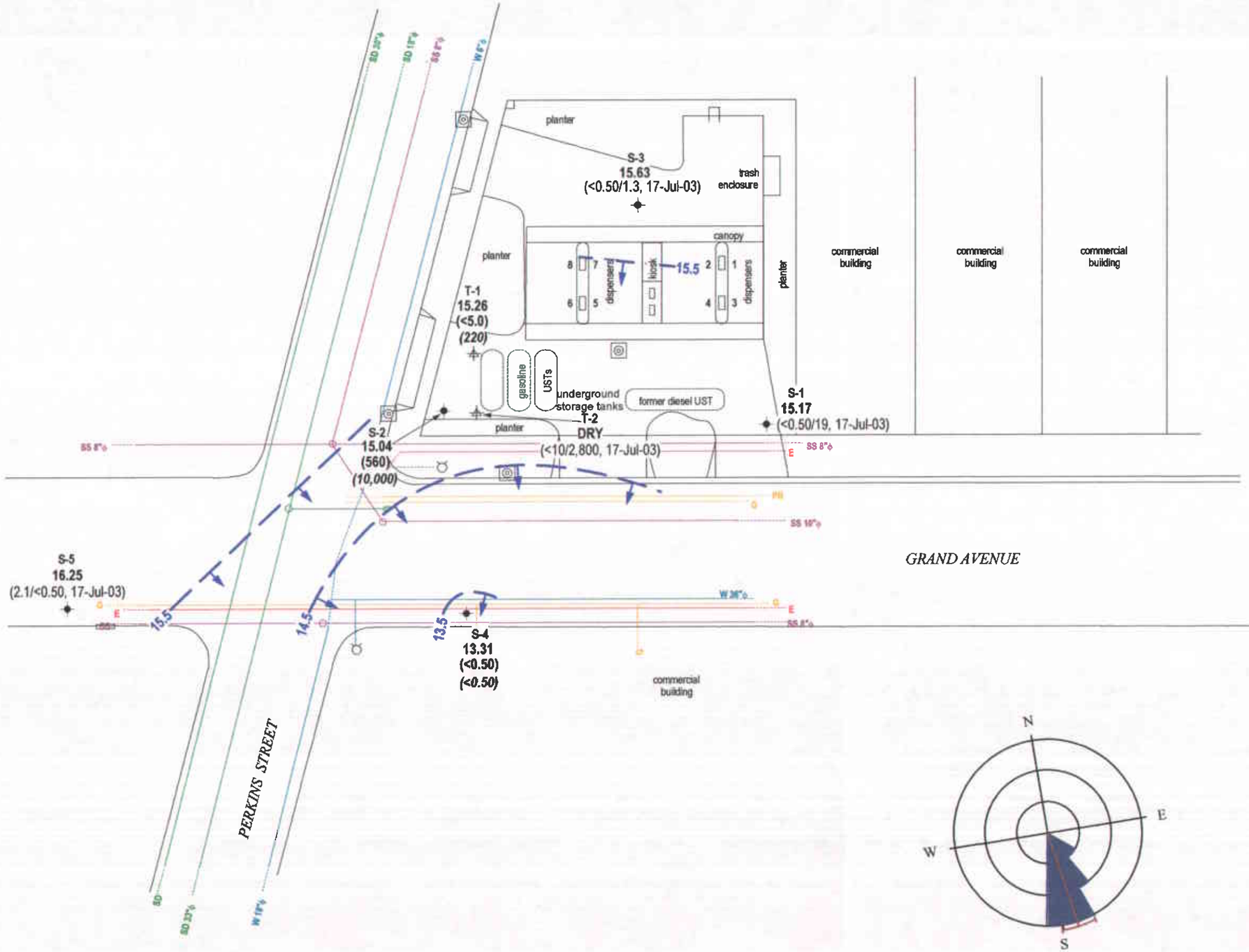
CAMBRIA

**Vicinity/Area Well Survey Map**

12-Jan-04

# Groundwater Contour/Chemical Concentration Map

November 4, 2003




## EXPLANATION

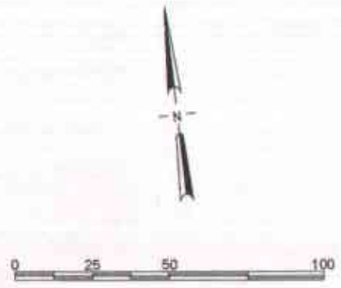
- Proposed soil boring location
- Groundwater monitoring well
- T-1 Tank backfill well location
- E — Electric utility line
- W — Water main utility line
- G — Gas utility line
- SS — Sanitary sewer utility line
- SD — Storm drain utility line
- PB — Pacific Bell utility line
- Storm drain inlet
- Manhole
- Fire hydrant
- Groundwater elevation contour in feet above mean sea level (ft msl). Arrows indicate approximate direction of groundwater flow.
- 13.31 Groundwater elevation in ft msl
- (<0.50) Benzene concentration in parts per billion
- *(<0.50)* MTBE concentration in ppb
- (<0.50/19, 17-Jul-03) Benzene/MTBE concentration in parts per billion, date last sampled

Approximate hydraulic gradient = 0.012 to 0.023

**NOTE**: Utilities lines are dashed where inferred.




Groundwater Flow Direction
(1Q98 to 1Q03)




FIGURE

**2**

**Shell-branded Service Station**
350 Grand Avenue
Oakland, California

0715

# APPENDIX A

## Blaine Tech Services, Inc.
## Groundwater Monitoring Report

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE
CONTRACTOR'S LICENSE #746684
www.blainetech.com

December 4, 2003

Karen Petryna
Shell Oil Products US
P.O. Box 7869
Burbank, CA 91510-7869

Fourth Quarter 2003 Groundwater Monitoring at
Shell-branded Service Station
350 Grand Avenue
Oakland, CA

Monitoring performed on November 4, 2003

Groundwater Monitoring Report **031104-PC-1**

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight-hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Leon Gearhart
Project Coordinator

LG/jt

attachments: Cumulative Table of WELL CONCENTRATIONS
Certified Analytical Report
Field Data Sheets

cc: Ana Friel
Cambria Environmental Technology, Inc.
P.O. Box 259
Sonoma, CA 95476-0259

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-1 | 01/23/1991 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 9.73 | 11.11 | NA |
| S-1 | 04/25/1991 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 7.37 | 13.47 | NA |
| S-1 | 07/19/1991 | <50 | <50 | 6.8 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 8.92 | 11.92 | NA |
| S-1 | 10/09/1991 | 120 | 260d | 10 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 9.62 | 11.22 | NA |
| S-1 | 01/23/1992 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 8.94 | 11.90 | NA |
| S-1 | 04/27/1992 | <50 | 70b | 1.2 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 7.06 | 13.78 | NA |
| S-1 | 07/10/1992 | <50 | 930 | 13 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 8.31 | 12.53 | NA |
| S-1 | 10/06/1992 | 62 | 110 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 9.55 | 11.29 | NA |
| S-1 | 01/06/1993 | 85 | 81 | 1.1 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 9.86 | 10.98 | NA |
| S-1 | 04/26/1993 | <50 | 53c | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 6.30 | 14.54 | NA |
| S-1 (D) | 04/26/1993 | <50 | 53c | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 6.30 | 14.54 | NA |
| S-1 | 07/20/1993 | <50 | 140 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 8.78 | 12.06 | NA |
| S-1 | 10/18/1993 | <50 | 210 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 9.20 | 11.64 | NA |
| S-1 | 01/07/1994 | <50 | <50 | 1.4 | 1.5 | 0.55 | 2.8 | NA | NA | 20.84 | 9.53 | 11.31 | NA |
| S-1 (D) | 01/07/1994 | <50 | 53 | 1.2 | 1.5 | <0.5 | 2.7 | NA | NA | 20.84 | 9.53 | 11.31 | NA |
| S-1 | 04/11/1994 | <50 | 320 | 2.8 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 8.50 | 12.34 | NA |
| S-1 (D) | 04/11/1994 | <50 | 220 | 2.6 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 8.50 | 12.34 | NA |
| S-1 | 07/14/1994 | NA | NA | NA | NA | NA | NA | NA | NA | 20.84 | 8.45 | 12.39 | NA |
| S-1 | 07/19/1994 | <50 | 110 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 9.07 | 11.77 | NA |
| S-1 | 10/06/1994 | 110 | 370 | 1.4 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 11.68 | 9.16 | NA |
| S-1 | 01/04/1995 | 120 | 1,000 | 2.5 | <0.5 | 1.5 | 1.7 | NA | NA | 20.84 | 8.51 | 12.33 | NA |
| S-1 | 04/12/1995 | <50 | 290 | 2.1 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 6.66 | 14.18 | NA |
| S-1 (D) | 04/12/1995 | <50 | 480 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 6.66 | 14.18 | NA |
| S-1 | 07/07/1995 | <50 | 370 | 5.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 6.95 | 13.89 | NA |
| S-1 (D) | 07/07/1995 | <50 | 450 | 6.5 | <0.5 | <0.5 | <0.5 | NA | NA | 20.84 | 6.95 | 13.89 | NA |
| S-1 | 10/05/1995 | <50 | 200 | 3.9 | 1.2 | <0.5 | 2.4 | NA | NA | 20.84 | 8.50 | 12.34 | NA |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-1 | 01/12/1996 | 230 | 1,500 | 2.5 | <0.5 | 0.9 | 0.6 | NA | NA | 20.84 | 8.02 | 12.82 | NA |
| S-1 | 04/02/1996 | 95 | 2,000 | 0.91 | <0.5 | <0.5 | <0.5 | 140 | NA | 20.84 | 4.98 | 15.86 | NA |
| S-1 | 07/30/1996 | <50 | 510 | <0.5 | <0.5 | <0.5 | <0.5 | 67 | NA | 20.84 | 6.40 | 14.44 | NA |
| S-1 (D) | 07/30/1996 | <50 | 380 | <0.5 | <0.5 | <0.5 | <0.5 | 68 | NA | 20.84 | 6.40 | 14.44 | NA |
| S-1 | 10/02/1996 | <50 | 250 | <0.5 | <0.5 | <0.5 | <0.5 | 96 | NA | 20.84 | 7.53 | 13.31 | NA |
| S-1 | 09/19/1997 | <50 | 120 | <0.50 | <0.50 | <0.50 | <0.50 | 37 | NA | 20.84 | 8.54 | 12.30 | 0.8 |
| S-1 | 01/08/1998 | <50 | 210 | <0.50 | <0.50 | <0.50 | <0.50 | 74 | NA | 20.84 | 9.09 | 11.75 | 2.6 |
| S-1 | 07/17/1998 | <50 | 99 | <0.50 | <0.50 | <0.50 | <0.50 | 25 | NA | 20.86 | 6.48 | 14.38 | 2.6 |
| S-1 | 01/28/1999 | 92.7 | 212 | 4.5 | 1.83 | 1.59 | 12.1 | 2.17 | NA | 20.86 | 10.46 | 10.40 | 2.2 |
| S-1 | 07/23/1999 | 537 | <50 | 81.1 | 91.3 | 24.8 | 81.6 | 47.9 | NA | 20.86 | 10.02 | 10.84 | 2.1 |
| S-1 | 01/24/2000 | <50.0 | 79.6 | <0.500 | <0.500 | <0.500 | <0.500 | 8.41 | NA | 20.86 | 8.42 | 12.44 | 2.2 |
| S-1 | 07/27/2000 | <50.0 | 127 | <0.500 | <0.500 | <0.500 | <0.500 | 31.9 | NA | 20.86 | 7.34 | 13.52 | 1.6 |
| S-1 | 01/12/2001 | <50.0 | 225 | <0.500 | <0.500 | <0.500 | <0.500 | 35.9 | NA | 20.86 | 8.15 | 12.71 | 1.8 |
| S-1 | 02/16/2001 | <50 | 140 | <0.50 | <0.50 | <0.50 | 1.0 | NA | 24 | 20.86 | 7.42 | 13.44 | 6.1 |
| S-1 | 07/09/2001 | <50 | 57 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 19 | 20.86 | 7.95 | 12.91 | 5.4 |
| S-1 | 08/07/2001 | NA | NA | NA | NA | NA | NA | NA | NA | 20.86 | 7.67 | 13.19 | NA |
| S-1 | 10/02/2001 | NA | NA | NA | NA | NA | NA | NA | 2.5 | 20.86 | 7.74 | 13.12 | 4.6 |
| S-1 | 01/18/2002 | <50 | 68 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 31 | 20.86 | 6.37 | 14.49 | 6.7 |
| S-1 | 04/17/2002 | NA | NA | NA | NA | NA | NA | NA | NA | 20.86 | 6.58 | 14.28 | NA |
| S-1 | 07/16/2002 | <50 | 100 | <0.50 | <0.50 | <0.50 | 0.99 | NA | 35 | 23.66 | 7.38 | 16.28 | 7.0 |
| S-1 | 10/10/2002 | NA | NA | NA | NA | NA | NA | NA | NA | 23.26 | 7.89 | 15.37 | NA |
| S-1 | 01/16/2003 | <50 | 54 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 17 | 23.26 | 6.52 | 16.74 | 0.7 |
| S-1 | 05/02/2003 | NA | NA | NA | NA | NA | NA | NA | NA | 23.26 | 6.44 | 16.82 | NA |
| S-1 | 07/17/2003 | <50 | 93 i | <0.50 | <0.50 | <0.50 | <1.0 | NA | 19 | 23.26 | 6.96 | 16.30 | 0.9 |
| **S-1** | **11/04/2003** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **23.26** | **8.09** | **15.17** | **NA** |

## WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-2 | 01/23/1991 | 2,500 | 1,200 | 550 | 15 | 33 | 42 | NA | NA | 21.24 | 10.55 | 10.69 | NA |
| S-2 | 04/25/1991 | 32,000 | 20,000b | 2,900 | 480 | 1,400 | 2,300 | NA | NA | 21.24 | 8.24 | 13.00 | NA |
| S-2 | 07/19/1991 | 21,000 | 30,000b | 4,700 | 430 | 1,200 | 2,400 | NA | NA | 21.24 | 9.55 | 11.69 | NA |
| S-2 | 10/09/1991 | 29,000 | 32,000b | 6,300 | 510 | 1,700 | 2,400 | NA | NA | 21.24 | 10.26 | 10.98 | NA |
| S-2 | 01/23/1992 | 31,000 | 36,000b | 5,800 | 480 | 2,000 | 2,700 | NA | NA | 21.24 | 9.51 | 11.73 | NA |
| S-2 | 04/27/1992 | 21,000d | 12,000b | 4,800 | 320 | 1,600 | 1,400 | NA | NA | 21.24 | 7.83 | 13.41 | NA |
| S-2 | 07/10/1992 | 31,000 | 3,700e | 7,500 | 940 | 3,400 | 3,500 | NA | NA | 21.24 | 8.57 | 12.67 | NA |
| S-2 | 10/06/1992 | 57,000 | 4,500e | 9,300 | 1,200 | 4,000 | 4,900 | NA | NA | 21.24 | 9.49 | 11.75 | NA |
| S-2 | 01/06/1993 | 55,000 | 5,600 | 5,600 | 360 | 3,000 | 3,000 | NA | NA | 21.24 | 8.56 | 12.68 | NA |
| S-2 | 04/26/1993 | 32,000 | 9,400e | 10,000 | 500 | 4,400 | 3,600 | NA | NA | 21.24 | 6.84 | 14.40 | NA |
| S-2 | 07/20/1993 | 25,000 | 8,400e | 5,800 | 300 | 2,700 | 1,400 | NA | NA | 21.24 | 8.52 | 12.72 | NA |
| S-2 (D) | 07/20/1993 | 25,000 | 8,900e | 5,900 | 310 | 2,800 | 1,400 | NA | NA | 21.24 | 8.52 | 12.72 | NA |
| S-2 | 10/18/1993 | 23,000 | 18,000e | 3,700 | 200 | 2,100 | 1,600 | NA | NA | 21.24 | 9.36 | 11.88 | NA |
| S-2 (D) | 10/18/1993 | 28,000 | 14,000e | 3,700 | 210 | 2,100 | 1,600 | NA | NA | 21.24 | 9.36 | 11.88 | NA |
| S-2 | 01/07/1994 | 120,000 | 22,000e | 6,900 | 400 | 3,100 | 2,600 | NA | NA | 21.24 | 8.37 | 12.87 | NA |
| S-2 | 04/11/1994 | 34,000 | 17,000e | 4,800 | 170 | 1,900 | 880 | NA | NA | 21.24 | 6.96 | 14.28 | NA |
| S-2 | 07/14/1994 | NA | NA | NA | NA | NA | NA | NA | NA | 21.24 | 7.49 | 13.75 | NA |
| S-2 | 07/19/1994 | 23,000 | NA | 4,300 | 210 | 1,100 | 1,000 | NA | NA | 21.24 | 8.02 | 13.22 | NA |
| S-2 (D) | 07/19/1994 | 29,000 | NA | 4,700 | 270 | 1,200 | 1,200 | NA | NA | 21.24 | 8.02 | 13.22 | NA |
| S-2 | 10/06/1994 | 61,000 | NA | 4,600 | 290 | 1,900 | 1,900 | NA | NA | 21.24 | 11.00 | 10.24 | NA |
| S-2 (D) | 10/06/1994 | 52,000 | NA | 5,200 | 270 | 2,100 | 1,900 | NA | NA | 21.24 | 11.00 | 10.24 | NA |
| S-2 | 01/04/1994 | 23,000 | NA | 4,500 | 49 | 1,300 | 500 | NA | NA | 21.24 | 8.07 | 13.17 | NA |
| S-2 (D) | 01/04/1995 | 18,000 | NA | 3,800 | 33 | 1,100 | 390 | NA | NA | 21.24 | 8.07 | 13.17 | NA |
| S-2 | 04/12/1995 | 29,000 | NA | 4,300 | 210 | 990 | 700 | NA | NA | 21.24 | 6.12 | 15.12 | NA |
| S-2 | 07/07/1995 | 26,000 | NA | 4,200 | 180 | 1,100 | 730 | NA | NA | 21.24 | 6.35 | 14.89 | NA |
| S-2 | 10/05/1995 | 26,000 | 10,000 | 3,500 | 150 | 1,100 | 640 | NA | NA | 21.24 | 7.36 | 13.88 | NA |

## WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-2 (D) | 10/05/1995 | 33,000 | 9,400 | 4,200 | 210 | 1,500 | 850 | NA | NA | 21.24 | 7.36 | 13.88 | NA |
| S-2 | 01/12/1996 | 36,000 | 13,000 | 4,100 | 240 | 1,400 | 790 | NA | NA | 21.24 | 7.64 | 13.60 | NA |
| S-2 (D) | 01/12/1996 | 40,000 | 11,000 | 4,100 | 260 | 1,400 | 860 | NA | NA | 21.24 | 7.64 | 13.60 | NA |
| S-2 | 04/02/1996 | 12,000 | 7,300 | 1,300 | 120 | 460 | 150 | 4,000 | NA | 21.24 | 6.18 | 15.06 | NA |
| S-2 (D) | 04/02/1996 | 17,000 | 5,800 | 1,800 | 29 | 590 | 140 | 7,600 | NA | 21.24 | 6.18 | 15.06 | NA |
| S-2 | 07/30/1996 | 18,000 | 13,000 | 3,000 | 100 | 1,200 | 420 | 17,000 | 19,000 | 21.24 | 7.22 | 14.02 | NA |
| S-2 | 10/02/1996 | 28,000 | 18,000 | 3,700 | 110 | 1,100 | 260 | 20,000 | NA | 21.24 | 7.60 | 13.64 | NA |
| S-2 (D) | 10/02/1996 | 25,000 | 31,000 | 3,500 | 100 | 1,100 | 260 | 19,000 | NA | 21.24 | 7.60 | 13.64 | NA |
| S-2 | 09/19/1997 | 21,000 | 11,000 | 2,300 | 120 | 500 | 110 | 11,000 | NA | 21.24 | 7.45 | 13.79 | 2.1 |
| S-2 | 01/08/1998 | 35,000 | 8,100 | 3,200 | 260 | 850 | 320 | 23,000 | NA | 21.24 | 6.96 | 14.28 | 2.3 |
| S-2 (D) | 01/08/1998 | 27,000 | 5,400 | 3,400 | 190 | 860 | 200 | 23,000 | NA | 21.24 | 6.96 | 14.28 | 2.3 |
| S-2 | 07/17/1998 | 19,000 | 12,000 | 1,700 | 130 | 610 | 130 | 13,000 | NA | 21.24 | 6.67 | 14.57 | 2.3 |
| S-2 | 01/28/1999 | 482 | 99 | 24 | 7.52 | 5.41 | 63.7 | 11 | NA | 21.24 | 10.63 | 10.61 | 2.4 |
| S-2 | 07/23/1999 | 320 | 223 | 52.0 | 54.5 | 14.7 | 48.6 | 33.9 | NA | 21.24 | 10.12 | 11.12 | 2.6 |
| S-2 | 01/24/2000 | 18,500 | 7,600 | 1,440 | 140 | 472 | 68.9 | 6,940 | NA | 21.24 | 8.63 | 12.61 | 1.6 |
| S-2 | 07/27/2000 | 14,900 | 10,200 | 1,250 | 98.8 | 437 | <50.0 | 22,200 | 30,200 | 21.24 | 7.94 | 13.30 | 2.0 |
| S-2 | 01/12/2001 h | 17,200 | 8,050 | 930 | 88.8 | 497 | 57.0 | 23,200 | 18,500 | 21.24 | 8.82 | 12.42 | 1.9 |
| S-2 | 02/16/2001 | 20,000 | <5,000 | 990 | 93 | 450 | 63 | NA | 21,000 | 21.24 | 7.10 | 14.14 | 1.6 |
| S-2 | 07/09/2001 | 16,000 | 26,000 | 690 | 62 | 210 | <50 | NA | 27,000 | 21.24 | 8.35 | 12.89 | 2.1 |
| S-2 | 08/07/2001 | NA | NA | NA | NA | NA | NA | NA | NA | 21.24 | 8.19 | 13.05 | NA |
| S-2 | 10/02/2001 | 18,000 | <12,000 | 810 | 89 | 470 | 69 | NA | 23,000 | 21.24 | 8.50 | 12.74 | 2.0 |
| S-2 | 01/18/2002 | 21,000 | 21,000 | 750 | 79 | 470 | 69 | NA | 23,000 | 21.24 | 6.96 | 14.28 | 5.9 |
| S-2 | 04/17/2002 | 34,000 | <26,000 | 620 | 70 | 390 | 60 | NA | 17,000 | 21.24 | 7.39 | 13.85 | 0.6 |
| S-2 | 07/16/2002 | 14,000 | <10,000 | 630 | 75 | 310 | 33 | NA | 20,000 | 24.03 | 7.95 | 16.08 | 6.0 |
| S-2 | 10/10/2002 | 11,000 | <6,000 | 480 | 50 | 190 | <50 | NA | 15,000 | 23.73 | 8.36 | 15.37 | 1.0 |
| S-2 | 01/16/2003 | 16,000 | <8,000 | 720 | 88 | 290 | 89 | NA | 17,000 | 23.73 | 6.98 | 16.75 | 0.7 |

## WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-2 | 05/02/2003 | 12,000 i | 4,800 i | 560 | <50 | <50 | <100 | NA | 14,000 | 23.73 | 7.02 | 16.71 | 1.1 |
| S-2 | 07/17/2003 | 26,000 | 4,800 i | 850 | 85 | 240 | <100 | NA | 13,000 | 23.73 | 8.06 | 15.67 | 2.1 |
| **S-2** | **11/04/2003** | **10,000** | **3,600 i** | **560** | **62** | **250** | **<100** | **NA** | **10,000** | **23.73** | **8.69** | **15.04** | **0.8** |
| S-3 | 01/23/1991 | <50 | NA | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 14.67 | 8.03 | NA |
| S-3 | 04/25/1991 | <50 | NA | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 12.96 | 9.74 | NA |
| S-3 | 07/19/1991 | <50 | NA | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 12.45 | 10.25 | NA |
| S-3 | 10/09/1991 | <50 | NA | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 12.98 | 9.72 | NA |
| S-3 | 01/23/1992 | <50 | NA | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 13.06 | 9.64 | NA |
| S-3 | 04/27/1992 | <50 | 100 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 7.25 | 15.45 | NA |
| S-3 | 07/10/1992 | <50 | 68 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 8.46 | 14.24 | NA |
| S-3 | 10/06/1992 | <50 | <10 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 11.77 | 10.93 | NA |
| S-3 | 01/06/1993 | <50 | <10 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 12.53 | 10.17 | NA |
| S-3 | 04/26/1993 | <50 | 69 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 4.28 | 18.42 | NA |
| S-3 | 07/20/1993 | <50 | 120 | <0.5 | 0.6 | <0.5 | <0.5 | NA | NA | 22.70 | 5.70 | 17.00 | NA |
| S-3 | 10/18/1993 | <50 | 160 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 10.30 | 12.40 | NA |
| S-3 | 01/07/1994 a | 160 | 58 | 59 | 26 | 4.9 | 22 | NA | NA | 22.70 | 12.40 | 10.30 | NA |
| S-3 | 04/11/1994 | <50 | <50 | <0.52 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 10.94 | 11.76 | NA |
| S-3 | 07/14/1994 | NA | NA | NA | NA | NA | NA | NA | NA | 22.70 | 7.90 | 14.80 | NA |
| S-3 | 07/19/1994 | <50 | 110d | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 8.12 | 14.58 | NA |
| S-3 | 10/06/1994 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 12.15 | 10.55 | NA |
| S-3 | 01/04/1995 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 11.18 | 11.52 | NA |
| S-3 | 04/12/1995 | <50 | 110 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 3.76 | 18.94 | NA |
| S-3 | 07/07/1995 | <50 | 410 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 4.72 | 17.98 | NA |
| S-3 | 10/05/1995 | <50 | 160 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 5.80 | 16.90 | NA |
| S-3 | 01/12/1996 | 100 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | 22.70 | 7.00 | 15.70 | NA |

## WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-3 | 04/02/1996 | <50 | 170 | <0.5 | <0.5 | <0.5 | <0.5 | 3.4 | NA | 22.70 | 3.42 | 19.28 | NA |
| S-3 | 07/30/1996 | <50 | 92 | <0.5 | <0.5 | <0.5 | <0.5 | 4.3 | NA | 22.70 | 5.89 | 16.81 | NA |
| S-3 | 10/02/1996 | <50 | 160 | <0.5 | <0.5 | <0.5 | <0.5 | 4.1 | NA | 22.70 | 7.20 | 15.50 | NA |
| S-3 | 09/19/1997 | <50 | 260 | <0.50 | <0.50 | <0.50 | <0.50 | 4.3 | NA | 22.70 | 6.92 | 15.78 | 1.4 |
| S-3 (D) | 09/19/1997 | <50 | 290 | <0.50 | <0.50 | <0.50 | <0.50 | 5.2 | NA | 22.70 | 6.92 | 15.78 | 1.4 |
| S-3 | 01/08/1998 | <50 | 170 | <0.50 | <0.50 | <0.50 | 0.92 | 120 | NA | 22.70 | 5.77 | 16.93 | 2.7 |
| S-3 | 07/17/1998 | <50 | 97 | <0.50 | <0.50 | <0.50 | <0.50 | 33 | NA | 22.71 | 4.17 | 18.54 | 2.7 |
| S-3 | 01/28/1999 | 656 | <50.0 | 45.4 | 10.2 | 4.98 | 83.2 | 87.2 | NA | 22.71 | 8.15 | 14.56 | 1.8 |
| S-3 | 07/23/1999 | <50.0 | 77.3 | <0.500 | <0.500 | <0.500 | <0.500 | 39.3 | NA | 22.71 | 7.46 | 15.25 | 1.9 |
| S-3 | 01/24/2000 | <50.0 | 77.2 | <0.500 | <0.500 | <0.500 | <0.500 | 12.0 | NA | 22.71 | 5.92 | 16.79 | 2.1 |
| S-3 | 07/27/2000 | <50.0 | 142 | <0.500 | <0.500 | <0.500 | <0.500 | <5.00 | NA | 22.71 | 6.54 | 16.17 | 1.7 |
| S-3 | 01/12/2001 f | <50.0 | 96 | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | NA | 22.71 | 8.25 | 14.46 | 1.7 |
| S-3 | 02/16/2001 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 2.0 | 22.71 | 11.37 | 11.34 | NA |
| S-3 | 07/09/2001 | <50 | <50 | <0.50 | 0.54 | <0.50 | <0.50 | NA | <5.0 | 22.71 | 9.70 | 13.01 | 1.4 |
| S-3 | 08/07/2001 | NA | NA | NA | NA | NA | NA | NA | NA | 22.71 | 11.48 | 11.23 | NA |
| S-3 | 10/02/2001 | NA | NA | NA | NA | NA | NA | NA | NA | 22.71 | 11.56 | 11.15 | NA |
| S-3 | 01/18/2002 | <50 | 120 | <0.50 | <0.50 | <0.50 | <0.50 | NA | <5.0 | 22.71 | 7.74 | 14.97 | 1.5 |
| S-3 | 04/17/2002 | NA | NA | NA | NA | NA | NA | NA | NA | 22.71 | 6.45 | 16.26 | NA |
| S-3 | 07/16/2002 | <50 | 72 | <0.50 | <0.50 | <0.50 | 0.61 | NA | <5.0 | 25.49 | 7.70 | 17.79 | 5.0 |
| S-3 | 10/10/2002 | NA | NA | NA | NA | NA | NA | NA | NA | 25.14 | 10.15 | 14.99 | NA |
| S-3 | 01/16/2003 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | NA | <5.0 | 25.14 | 8.60 | 16.54 | 2.9 |
| S-3 | 05/02/2003 | NA | NA | NA | NA | NA | NA | NA | NA | 25.14 | 7.07 | 18.07 | NA |
| S-3 | 07/17/2003 | <50 | 74 i | <0.50 | <0.50 | <0.50 | <1.0 | NA | 1.3 | 25.14 | 7.25 | 17.89 | 2.5 |
| **S-3** | **11/04/2003** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **25.14** | **9.51** | **15.63** | **NA** |
| S-4 | 07/17/1998 | <50 | 220 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 19.96 | 6.59 | 13.37 | 2.5 |

## WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-4 (D) | 07/17/1998 | <50 | 260 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 19.96 | 6.59 | 13.37 | 2.5 |
| S-4 | 01/28/1999 | <50.0 | 356 | 0.882 | <0.500 | <0.500 | 0.71 | <2.00 | NA | 19.96 | 10.57 | 9.39 | 3.0 |
| S-4 | 07/23/1999 | <50.0 | <50 | <0.500 | <0.500 | <0.500 | <0.500 | 8.27 | NA | 19.96 | 10.06 | 9.90 | 2.1 |
| S-4 | 01/24/2000 | Unable to sample | | NA | NA | NA | NA | NA | NA | 19.96 | 8.29 | 11.67 | NA |
| S-4 | 02/02/2000 | <50.0 | 410 | <0.500 | <0.500 | <0.500 | <0.500 | <5.00 | NA | 19.96 | 9.93 | 10.03 | 2.0 |
| S-4 | 07/27/2000 | Well inaccessible | | NA | NA | NA | NA | NA | NA | 19.96 | NA | NA | NA |
| S-4 | 08/02/2000 | <50.0 | 265 | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | NA | 19.96 | 8.05 | 11.91 | 2.0 |
| S-4 | 01/12/2001 | Well inaccessible | | NA | NA | NA | NA | NA | NA | 19.96 | NA | NA | NA |
| S-4 | 01/25/2001 | <50.0 | 235 | <0.500 | 0.629 | 0.656 | 4.65 | <2.50 | NA | 19.96 | 10.12 | 9.84 | 2.0 |
| S-4 | 02/16/2001 | Well inaccessible | | NA | NA | NA | NA | NA | NA | 19.96 | NA | NA | NA |
| S-4 | 07/09/2001 | Well inaccessible | | NA | NA | NA | NA | NA | NA | 19.96 | NA | NA | NA |
| S-4 | 08/07/2001 | <50 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | <5.0 | 19.96 | 8.77 | 11.19 | 2.3 |
| S-4 | 10/02/2001 | <50 | 350 | <0.50 | <0.50 | <0.50 | <0.50 | NA | <5.0 | 19.96 | 9.09 | 10.87 | 2.6 |
| S-4 | 01/18/2002 | Well inaccessible | | NA | NA | NA | NA | NA | NA | 19.96 | NA | NA | NA |
| S-4 | 01/23/2002 | Insufficient water | | NA | NA | NA | NA | NA | NA | 19.96 | 7.13 | 12.83 | NA |
| S-4 | 04/17/2002 | Insufficient water | | NA | NA | NA | NA | NA | NA | 19.96 | 6.28 | 13.68 | NA |
| S-4 | 04/26/2002 | <50 | 260 | <0.50 | <0.50 | <0.50 | <0.50 | NA | <5.0 | 19.96 | 5.63 | 14.33 | g |
| S-4 | 07/16/2002 | <50 | 250 | <0.50 | <0.50 | <0.50 | 1.1 | NA | <5.0 | 22.75 | 6.90 | 15.85 | 1.6 |
| S-4 | 10/10/2002 | Insufficient water | | NA | NA | NA | NA | NA | NA | 22.34 | 9.20 | 13.14 | NA |
| S-4 | 01/16/2003 | <50 | 280 | <0.50 | <0.50 | <0.50 | <0.50 | NA | <5.0 | 22.34 | 7.11 | 15.23 | 2.1 |
| S-4 | 05/02/2003 | 53 | 130 i | 0.67 | <0.50 | 3.8 | 2.4 | NA | <5.0 | 22.34 | 5.14 | 17.20 | 0.61 |
| S-4 | 07/17/2003 | <50 | 76 i | 1.4 | 0.57 | 2.0 | 1.3 | NA | <0.50 | 22.34 | 7.26 | 15.08 | g |
| **S-4** | **11/04/2003** | **<50** | **130 i** | **<0.50** | **<0.50** | **<0.50** | **<1.0** | **NA** | **<0.50** | **22.34** | **9.03** | **13.31** | **g** |
| S-5 | 07/17/1998 | <50 | 110 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | NA | 22.27 | 6.78 | 15.49 | 2.2 |
| S-5 | 01/28/1999 | <50.0 | 109 | <0.500 | <0.500 | <0.500 | <0.500 | <2.00 | NA | 22.27 | 10.75 | 11.52 | 2.0 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-5 | 07/23/1999 | <50.0 | 204 | <0.500 | <0.500 | <0.500 | <0.500 | 5.95 | NA | 22.27 | 10.21 | 12.06 | 1.8 |
| S-5 | 01/24/2000 | Unable to sample | | NA | NA | NA | NA | NA | NA | 22.27 | 8.23 | 14.04 | NA |
| S-5 | 02/02/2000 | <50.0 | 172 | <0.500 | <0.500 | <0.500 | <0.500 | <5.00 | NA | 22.27 | 10.15 | 12.12 | 1.9 |
| S-5 | 07/27/2000 | <50.0 | 119 | <0.500 | <0.500 | <0.500 | <0.500 | <5.00 | NA | 22.27 | 7.41 | 14.86 | 2.0 |
| S-5 | 01/12/2001 | <50.0 | NA | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | NA | 22.27 | 8.80 | 13.47 | NA |
| S-5 | 01/25/2001 | NA | 193 | NA | NA | NA | NA | NA | NA | 22.27 | 9.77 | 12.50 | 1.7 |
| S-5 | 02/16/2001 | Well inaccessible | | NA | NA | NA | NA | NA | NA | 22.27 | NA | NA | NA |
| S-5 | 07/09/2001 | Well inaccessible | | NA | NA | NA | NA | NA | NA | 22.27 | NA | NA | NA |
| S-5 | 08/07/2001 | <50 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | <5.0 | 22.27 | 8.97 | 13.30 | 2.2 |
| S-5 | 10/02/2001 | NA | NA | NA | NA | NA | NA | NA | NA | 22.27 | 8.44 | 13.83 | NA |
| S-5 | 01/18/2002 | <50 | 190 | <0.50 | <0.50 | <0.50 | 0.51 | NA | <5.0 | 22.27 | 6.67 | 15.60 | 1.9 |
| S-5 | 04/17/2002 | NA | NA | NA | NA | NA | NA | NA | NA | 22.27 | 6.95 | 15.32 | NA |
| S-5 | 07/16/2002 | <50 | 1,200 | <0.50 | <0.50 | <0.50 | 1.2 | NA | <5.0 | 25.06 | 7.31 | 17.75 | 1.8 |
| S-5 | 10/10/2002 | NA | NA | NA | NA | NA | NA | NA | NA | 24.78 | 8.07 | 16.71 | NA |
| S-5 | 01/16/2003 | <50 | 110 | <0.50 | <0.50 | <0.50 | <0.50 | NA | <5.0 | 24.78 | 6.42 | 18.36 | 2.3 |
| S-5 | 05/02/2003 | NA | NA | NA | NA | NA | NA | NA | NA | 24.78 | 6.20 | 18.58 | NA |
| S-5 | 07/17/2003 | <50 | 67 i | 2.1 | 0.87 | 2.8 | 1.9 | NA | <0.50 | 24.78 | 7.82 | 16.96 | g |
| **S-5** | **11/04/2003** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **24.78** | **8.53** | **16.25** | **NA** |
| T-1 | 07/16/2002 | <5,000 | 180 | <50 | <50 | <50 | <50 | NA | 14,000 | NA | 7.71 | NA | 5.0 |
| T-1 | 10/10/2002 | <5,000 | 320 | <50 | <50 | <50 | <50 | NA | 17,000 | 24.14 | 8.91 | 15.23 | 2.3 |
| T-1 | 01/16/2003 | <1,000 | 230 | 12 | <10 | <10 | <10 | NA | 5,800 | 24.14 | 7.55 | 16.59 | 1.2 |
| T-1 | 05/02/2003 | <2,500 | 400 i | <25 | <25 | <25 | <50 | NA | 3,300 | 24.14 | 7.69 | 16.45 | 0.8 |
| T-1 | 07/17/2003 | <1,000 | 230 i | <10 | <10 | <10 | <20 | NA | 3,300 | 24.14 | 8.52 | 15.62 | 1.1 |
| **T-1** | **11/04/2003** | **<500** | **200 i** | **<5.0** | **<5.0** | **<5.0** | **<10** | **NA** | **220** | **24.14** | **8.88** | **15.26** | **1.7** |

## WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T-2 | 07/16/2002 | <5,000 | 390 | <50 | <50 | <50 | <50 | NA | 17,000 | NA | 7.15 | NA | 4.0 |
| T-2 | 10/10/2002 | Insufficient water | | NA | NA | NA | NA | NA | NA | 23.55 | 8.19 | 15.36 | NA |
| T-2 | 01/16/2003 | <1,000 | 120 | <10 | <10 | <10 | <10 | NA | 2,900 | 23.55 | 6.98 | 16.57 | 1.5 |
| T-2 | 05/02/2003 | <500 | 190 i | <5.0 | <5.0 | <5.0 | <10 | NA | 1,000 | 23.55 | 7.20 | 16.35 | 1.3 |
| T-2 | 07/17/2003 | <1,000 | 200 i | <10 | <10 | <10 | <20 | NA | 2,800 | 23.55 | 7.88 | 15.67 | 1.2 |
| **T-2** | **11/04/2003** | **Well dry** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **23.55** | **NA** | **NA** | **NA** |
| HP-1 | 01/27/1993 | 22,000 | 14,000 | 2,500 | 130 | 1,400 | 140 | NA | NA | NA | NA | NA | NA |
| HP-2 | 01/27/1993 | <50 | NA | <0.5 | 4.4 | <0.5 | <0.5 | NA | NA | NA | NA | NA | NA |
| HP-3 | 01/27/1993 | <50 | NA | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA | NA | NA | NA |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to February 16, 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 February 16, 2001, analyzed by EPA Method 8020.
MTBE = Methyl-tertiary-butyl ether
TOB = Top of Wellbox Elevation
TOC = Top of Casing Elevation
GW = Groundwater
HP = Hydropunch ground water sample
T = Tank backfill well
DO = Dissolved Oxygen
ug/L = Parts per billion
ppm = Parts per million
MSL = Mean sea level
ft = Feet
<n = Below detection limit
D = Duplicate sample
NA = Not applicable

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 350 Grand Avenue
## Oakland, CA

| 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) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) | DO Reading (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Notes:

a = TPPH/BETX concentrations anomalous with historical data. Lab verified concentrations.

b = Compounds reported as TPH-D appear to be the less volatile constituents of gasoline.

c = Compounds reported as TPH-D are primarily due to the presence of a heavier petroleum product, possibly motor oil.

d = Chromatogram pattern indicated an unidentified hydrcocarbon.

e = Compounds reported as TPH-D are primarily due to the presence of lighter petroleum product, possibly gasoline.

f = These results are listed as S-2 on the analytical report due to possible mislabeling in the field or laboratory.
Resampled on February 16,2001 to confirm mislabeling.

g = DO reading not taken due to insufficient water.

h = These results are listed as S-3 on the analytical report due to possible mislabeling in the field or laboratory.

i = Hydrocarbon does not match pattern of laboratory's standard.
Resampled on February 16,2001 to confirm mislabeling.

Wells S-1, S-3, S-4, and S-5 surveyed on May 4, 1998, by Virgil Chavez Land Surveying of Vallejo, California.

Site surveyed March 5 and July 29, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

Beginning October 10, 2002, depth to water referenced to Top of Casing elevation.

SEVERN TRENT STL

**Submission#: 2003-11-0221**

**Blaine Tech Services, Inc.**

November 18, 2003

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

Project#: 031104-PC1
Project: 98995755
Site: 350 Grand Ave., Oakland

Dear Mr.Gearhart,

Attached is our report for your samples received on 11/05/2003 17:25
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 12/20/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: vvancil@stl-inc.com

Sincerely,

Vincent Vancil
Project Manager

# Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

**Samples Reported**

| Sample Name | Date Sampled | Matrix | Lab # |
|---|---|---|---|
| S-2 | 11/04/2003 13:15 | Water | 1 |
| S-4 | 11/04/2003 09:50 | Water | 2 |
| T-1 | 11/04/2003 12:05 | Water | 3 |

## Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 5030B | Test(s): | 8260B |
| Sample ID: | S-2 | Lab ID: | 2003-11-0221 - 1 |
| Sampled: | 11/04/2003 13:15 | Extracted: | 11/13/2003 15:06 |
| Matrix: | Water | QC Batch#: | 2003/11/13-1B.62 |

Analysis Flag: o ( See Legend and Note Section )

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Gasoline | 10000 | 5000 | ug/L | 100.00 | 11/13/2003 15:06 | |
| Benzene | 560 | 50 | ug/L | 100.00 | 11/13/2003 15:06 | |
| Toluene | 62 | 50 | ug/L | 100.00 | 11/13/2003 15:06 | |
| Ethylbenzene | 250 | 50 | ug/L | 100.00 | 11/13/2003 15:06 | |
| Total xylenes | ND | 100 | ug/L | 100.00 | 11/13/2003 15:06 | |
| Methyl tert-butyl ether (MTBE) | 10000 | 50 | ug/L | 100.00 | 11/13/2003 15:06 | |
| ***Surrogate(s)*** | | | | | | |
| 1,2-Dichloroethane-d4 | 103.2 | 76-130 | % | 100.00 | 11/13/2003 15:06 | |
| Toluene-d8 | 95.4 | 78-115 | % | 100.00 | 11/13/2003 15:06 | |

## Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 5030B | Test(s): | 8260B |
| Sample ID: | S-4 | Lab ID: | 2003-11-0221 - 2 |
| Sampled: | 11/04/2003 09:50 | Extracted: | 11/13/2003 15:28 |
| Matrix: | Water | QC Batch#: | 2003/11/13-1B.62 |

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Gasoline | ND | 50 | ug/L | 1.00 | 11/13/2003 15:28 | |
| Benzene | ND | 0.50 | ug/L | 1.00 | 11/13/2003 15:28 | |
| Toluene | ND | 0.50 | ug/L | 1.00 | 11/13/2003 15:28 | |
| Ethylbenzene | ND | 0.50 | ug/L | 1.00 | 11/13/2003 15:28 | |
| Total xylenes | ND | 1.0 | ug/L | 1.00 | 11/13/2003 15:28 | |
| Methyl tert-butyl ether (MTBE) | ND | 0.50 | ug/L | 1.00 | 11/13/2003 15:28 | |
| ***Surrogate(s)*** | | | | | | |
| 1,2-Dichloroethane-d4 | 106.5 | 76-130 | % | 1.00 | 11/13/2003 15:28 | |
| Toluene-d8 | 99.2 | 78-115 | % | 1.00 | 11/13/2003 15:28 | |

## Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 5030B | Test(s): | 8260B |
| Sample ID: | T-1 | Lab ID: | 2003-11-0221 - 3 |
| Sampled: | 11/04/2003 12:05 | Extracted: | 11/13/2003 15:50 |
| Matrix: | Water | QC Batch#: | 2003/11/13-1B.62 |

Analysis Flag: o ( See Legend and Note Section )

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Gasoline | ND | 500 | ug/L | 10.00 | 11/13/2003 15:50 | |
| Benzene | ND | 5.0 | ug/L | 10.00 | 11/13/2003 15:50 | |
| Toluene | ND | 5.0 | ug/L | 10.00 | 11/13/2003 15:50 | |
| Ethylbenzene | ND | 5.0 | ug/L | 10.00 | 11/13/2003 15:50 | |
| Total xylenes | ND | 10 | ug/L | 10.00 | 11/13/2003 15:50 | |
| Methyl tert-butyl ether (MTBE) | 220 | 5.0 | ug/L | 10.00 | 11/13/2003 15:50 | |
| ***Surrogate(s)*** | | | | | | |
| 1,2-Dichloroethane-d4 | 104.9 | 76-130 | % | 10.00 | 11/13/2003 15:50 | |
| Toluene-d8 | 99.8 | 78-115 | % | 10.00 | 11/13/2003 15:50 | |

# Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

**Batch QC Report**

Prep(s): 5030B
**Method Blank**
MB: 2003/11/13-1B.62-046

Water

Test(s): 8260B
**QC Batch # 2003/11/13-1B.62**
Date Extracted: 11/13/2003 09:46

| Compound | Conc. | RL | Unit | Analyzed | Flag |
|---|---|---|---|---|---|
| Gasoline | ND | 50 | ug/L | 11/13/2003 09:46 | |
| Methyl tert-butyl ether (MTBE) | ND | 0.5 | ug/L | 11/13/2003 09:46 | |
| Benzene | ND | 0.5 | ug/L | 11/13/2003 09:46 | |
| Toluene | ND | 0.5 | ug/L | 11/13/2003 09:46 | |
| Ethylbenzene | ND | 0.5 | ug/L | 11/13/2003 09:46 | |
| Total xylenes | ND | 1.0 | ug/L | 11/13/2003 09:46 | |
| ***Surrogates(s)*** | | | | | |
| 1,2-Dichloroethane-d4 | 94.4 | 76-130 | % | 11/13/2003 09:46 | |
| Toluene-d8 | 97.1 | 78-115 | % | 11/13/2003 09:46 | |

# Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

**Batch QC Report**

Prep(s): 5030B — Test(s): 8260B

**Laboratory Control Spike** — Water — QC Batch # 2003/11/13-1B.62

LCS 2003/11/13-1B.62-001 — Extracted: 11/13/2003 — Analyzed: 11/13/2003 09:01

LCSD 2003/11/13-1B.62-008 — Extracted: 11/13/2003 — Analyzed: 11/13/2003 10:08

| Compound | Conc. ug/L | | Exp.Conc. | Recovery % | | RPD | Ctrl.Limits % | | Flags | |
|---|---|---|---|---|---|---|---|---|---|---|
| | LCS | LCSD | | LCS | LCSD | % | Rec. | RPD | LCS | LCSD |
| Methyl tert-butyl ether (MTBE) | 16.9 | 18.0 | 25 | 67.6 | 72.0 | 6.3 | 65-165 | 20 | | |
| Benzene | 19.2 | 21.0 | 25 | 76.8 | 84.0 | 9.0 | 69-129 | 20 | | |
| Toluene | 19.9 | 22.9 | 25 | 79.6 | 91.6 | 14.0 | 70-130 | 20 | | |
| ***Surrogates(s)*** | | | | | | | | | | |
| 1,2-Dichloroethane-d4 | 480 | 460 | 500 | 96.0 | 92.0 | | 76-130 | | | |
| Toluene-d8 | 500 | 532 | 500 | 100.0 | 106.4 | | 78-115 | | | |

## Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

### Legend and Notes

**Analysis Flag**

o

Reporting limits were raised due to high level of analyte present in the sample.

# Diesel

Blaine Tech Services, Inc.

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San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

## Samples Reported

| Sample Name | Date Sampled | Matrix | Lab # |
|---|---|---|---|
| S-2 | 11/04/2003 13:15 | Water | 1 |
| S-4 | 11/04/2003 09:50 | Water | 2 |
| T-1 | 11/04/2003 12:05 | Water | 3 |

# Diesel

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Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 3511 | Test(s): | 8015M |
| Sample ID: | S-2 | Lab ID: | 2003-11-0221 - 1 |
| Sampled: | 11/04/2003 13:15 | Extracted: | 11/11/2003 14:34 |
| Matrix: | Water | QC Batch#: | 2003/11/11-08.10 |

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Diesel | 3600 | 100 | ug/L | 2.00 | 11/18/2003 13:04 | ndp |
| ***Surrogate(s)*** | | | | | | |
| o-Terphenyl | 112.0 | 50-150 | % | 2.00 | 11/18/2003 13:04 | |

# Diesel

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Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 3511 | Test(s): | 8015M |
| Sample ID: | S-4 | Lab ID: | 2003-11-0221 - 2 |
| Sampled: | 11/04/2003 09:50 | Extracted: | 11/11/2003 14:34 |
| Matrix: | Water | QC Batch#: | 2003/11/11-08.10 |

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Diesel | 130 | 50 | ug/L | 1.00 | 11/13/2003 13:05 | ndp |
| ***Surrogate(s)*** | | | | | | |
| o-Terphenyl | 140.8 | 50-150 | % | 1.00 | 11/13/2003 13:05 | |

## Diesel

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 3511 | Test(s): | 8015M |
| Sample ID: | T-1 | Lab ID: | 2003-11-0221 - 3 |
| Sampled: | 11/04/2003 12:05 | Extracted: | 11/11/2003 14:34 |
| Matrix: | Water | QC Batch#: | 2003/11/11-08.10 |

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Diesel | 200 | 50 | ug/L | 1.00 | 11/13/2003 13:33 | ndp |
| ***Surrogate(s)*** | | | | | | |
| o-Terphenyl | 116.0 | 50-150 | % | 1.00 | 11/13/2003 13:33 | |

# Diesel

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San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

**Batch QC Report**

Prep(s): 3511 — Test(s): 8015M
**Method Blank** — Water — QC Batch # 2003/11/11-08.10
MB: 2003/11/11-08.10-001 — Date Extracted: 11/11/2003 14:34

| Compound | Conc. | RL | Unit | Analyzed | Flag |
|---|---|---|---|---|---|
| Diesel | ND | 50 | ug/L | 11/13/2003 12:38 | |
| ***Surrogates(s)*** | | | | | |
| o-Terphenyl | 119.2 | 50-150 | % | 11/13/2003 12:38 | |

# Diesel

Blaine Tech Services, Inc.

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

## Batch QC Report

Prep(s): 3511 Test(s): 8015M

**Laboratory Control Spike** Water QC Batch # 2003/11/11-08.10

LCS 2003/11/11-08.10-002 Extracted: 11/11/2003 Analyzed: 11/13/2003 13:05

LCSD 2003/11/11-08.10-003 Extracted: 11/11/2003 Analyzed: 11/17/2003 18:40

| Compound | Conc. ug/L | | Exp.Conc. | Recovery % | | RPD | Ctrl.Limits % | | Flags | |
|---|---|---|---|---|---|---|---|---|---|---|
| | LCS | LCSD | | LCS | LCSD | % | Rec. | RPD | LCS | LCSD |
| Diesel | 791 | 796 | 680 | 116.3 | 117.1 | 0.7 | 60-150 | 25 | | |
| ***Surrogates(s)*** | | | | | | | | | | |
| o-Terphenyl | 1.47 | 1.76 | 1.25 | 117.6 | 140.8 | | 50-150 | 0 | | |

## Diesel

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 031104-PC1
98995755

Received: 11/05/2003 17:25

Site: 350 Grand Ave., Oakland

### Legend and Notes

**Result Flag**

ndp

Hydrocarbon reported does not match the pattern of our Diesel standard

LAB: STL

# SHELL Chain Of Custody Record

79895

Lab Identification (if necessary):

Address:

City, State, Zip:

**Shell Project Manager to be Invoiced:**

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

Karen Petryna

2003-11-0221

INCIDENT NUMBER (S&E ONLY): 9 8 9 9 5 7 5 5

SAP or CRMT NUMBER (TS/CRMT):

DATE: 11/4/03

PAGE: 1 of 1

| SAMPLING COMPANY | LOG CODE | SITE ADDRESS (Street and City) | GLOBAL ID NO. |
|---|---|---|---|
| Blaine Tech Services | BTSS | 350 Grand Ave., Oakland | T0600101255 |

ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112

| EDF DELIVERABLE TO (Responsible Party or Designee) | PHONE NO. | E-MAIL | CONSULTANT PROJECT NO. |
|---|---|---|---|
| Ana Friel | (707) 442-2700 | sonomaedf@cambria-env.com | BTS # 031104-R1 |

PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart

| TELEPHONE | FAX | E-MAIL |
|---|---|---|
| 408-573-0555 | 408-573-7771 | lgearhart@blainetech.com |

SAMPLER NAME(S) (Print): P. Cornish

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☑ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST ____ HIGHEST per BORING ____ ALL ____

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NOT NEEDED ☐

REQUESTED ANALYSIS

| LAB USE ONLY | Field Sample Identification | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | TPH - Gas, Purgeable | BTEX | MTBE (8021B - 5ppb RL) | MTBE (8260B - 0.5ppb RL) | Oxygenates (5) by (8260B) | Ethanol (8260B) | Methanol | EDB & 1,2-DCA (8260B) | TPH-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S-2 | 11/4/03 | 1315 | W | 6 | X | X | X | X | | | | | X |
| | S-4 | ↓ | 950 | ↓ | 5 | X | X | | X | | | | | X |
| | T-1 | ↓ | 1205 | ↓ | 6 | X | X | | X | | | | | X |

FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes

3.2°C

TEMPERATURE ON RECEIPT C°

Environmental Health Services — Alameda County — NOV 6 2003

| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
|---|---|---|---|
| | | 11/5/03 | 12:05 |
| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
| | | 11/5/03 | 17:25 |
| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
| | | 11/5/03 | 17:35 |

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client

10/18/00 Revision

OSO Graphic (714) 895-3702