RO 493

**Shell Oil Products US**



June 24, 2003

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

**Subject:** **Shell-branded Service Station**
610 Market Street
Oakland, California

Dear Mr. Chan:

Attached for your review and comment is a copy of the *First Quarter 2003 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



June 24, 2003

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

Re: **First Quarter 2003 Monitoring Report**
Shell-branded Service Station
610 Market Street
Oakland, California
Incident #99895750
Cambria Project #245-0594-002

Dear Mr. Chan:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report in accordance with the reporting requirements of 23 CCR 2652d. The site is located on Market Street between Sixth and Seventh Streets in Oakland, California (Figures 1 and 2).

## REMEDIATION SUMMARY

***Mobile Dual-Phase Vacuum Extraction Treatment (DVE):*** From March to October 2000, Cambria coordinated mobile DVE from wells MW-2 and MW-3. Mobile DVE utilized a vacuum truck for extraction and off-haul of groundwater. Carbon absorption vessels were used to abate extracted vapors. DVE was discontinued in October 2000 due to low groundwater-extraction volumes.

***DVE and Soil Vapor Extraction (SVE) Pilot Test:*** On March 22, 2001, Cambria performed a short-term (1-day) DVE test on well MW-3 and a short-term (1-day) SVE test on tank backfill well T-1. The tests were conducted using an internal combustion engine as the extraction and abatement device.

***SVE Pilot Test:*** Between October 8 and 12, 2001, Cambria conducted a long-term (5-day) SVE pilot test on tank backfill well T-1. The test was conducted using an internal combustion engine as the extraction and abatement device.

**Cambria Environmental Technology, Inc.**

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

***Mobile Groundwater Extraction (GWE):*** As recommended in the August 29, 2001 *Site Conceptual Model and Pilot Test Report*, Cambria began coordinating weekly GWE from well MW-3 using a vacuum truck in August 2001. Well MW-2 was added to the weekly GWE schedule at the site beginning in January 2002. Mobile GWE was discontinued on January 8, 2003 in anticipation of starting the GWE system.

***GWE System:*** As recommended in the August 19, 2002 *Interim Remedial Action Plan*, a GWE system was installed to address the elevated methyl tertiary butyl ether (MTBE) concentrations detected in groundwater beneath the site. The GWE system was started on February 18, 2003.

The following table summarizes the estimated total petroleum hydrocarbon as gasoline (TPHg), benzene, and MTBE mass removed by application of the remedial methods discussed:

**TABLE A MASS REMOVAL SUMMARY**

| | | TPHg (pounds) | | Benzene (pounds) | | MTBE (pounds) | |
|---|---|---|---|---|---|---|---|
| Method | Period | Vapor-phase | Dissolved-phase | Vapor-phase | Dissolved-phase | Vapor-phase | Dissolved-phase |
| Mobile DVE | 03/15/00 – 10/27/00 | 35.1 | 0.537 | 1.49 | 0.024 | 5.03 | 10.6 |
| DVE/SVE Test | 03/22/01 | 1.96 | 0.032 | 0.009 | 0 | 2.08 | 1.25 |
| SVE Test | 10/08/01 – 10/12/01 | 15.8 | NA | 1.33 | NA | 35.9 | NA |
| Mobile GWE | 03/22/01 – 01/28/03 | NA | 2.84 | NA | 0.063 | NA | 60.0 |
| GWE System | 02/18/03 – 05/20/03 | NA | 31.7 | NA | 0.213 | NA | 85.5 |
| Subtotal (per phase) | | 52.9 | 35.1 | 2.83 | 0.300 | 43.0 | 157.4 |
| **Total Mass Removed** | | **88.0 pounds** | | **3.13 pounds** | | **200.4 pounds** | |

## FIRST QUARTER 2003 ACTIVITIES

***Groundwater Monitoring:*** Blaine Tech Services, Inc. (Blaine) of San Jose, gauged and sampled the site wells, calculated groundwater elevations, and compiled the analytical data. Cambria prepared a vicinity map which includes previously submitted well survey information (Figure 1) and a groundwater elevation contour map (Figure 2). Blaine's report, presenting the laboratory report and supporting field documents, is included as Attachment A.

***Monthly Vapor Sampling:*** As described in our December 19, 2001 *Soil Vapor Extraction Pilot Test Report and Investigation Work Plan*, Cambria coordinated monthly vapor measurements in the tank backfill wells using a photo-ionization detector. Due to the elevated concentrations detected on February 7, 2002, Cambria began collecting monthly samples from well T-2 for laboratory analysis. Vapor samples were not collected during GWE system construction. Vapor sampling results are summarized on Table 1. With the exception of xylenes, vapor concentrations have been below reporting limits during 2003. Cambria will discontinue vapor monitoring and sampling.

***Investigation Activities:*** On August 19, 2002, Cambria submitted an *Investigation and Interim Remediation Work Plan* proposing further investigation and the installation of a fixed GWE system at the site. This work plan was approved in an August 23, 2002 Alameda County Health Care Services Agency letter. The scope of work included the installation of three on-site extraction/monitoring wells and one off-site monitoring well, and construction of a fixed GWE system at the site. The proposed on-site extraction/monitoring wells were installed in November 2002. The proposed off-site monitoring well was installed in January 2003, and fixed GWE system installation was completed in February 2003. Cambria's *Well Installation Report* was submitted on May 28, 2003.

On April 11, 2003, Virgil Chavez Land Surveying of Vallejo, California surveyed the well locations and top-of-casing elevations for wells MW-6 through MW-9 per AB2886 (Geotracker) requirements. A copy of the surveyor's report is included as Attachment B.

***Remedial Activities:*** Cambria started operation of the fixed GWE system on February 18, 2003. Wells MW-2, MW-3, MW-6, MW-7, and MW-8 are used as extraction wells. System analytical data are summarized in Table 2. Groundwater level measurements and flow meter readings have been recorded at various times of operation to assess system production. Table 3 summarizes the field data and system operation and calculates mass removal. Based on the field data, the GWE system operated at average flow rate of approximately 2.72 gallons per minute.

As of May 20, 2003, a total of 291,520 gallons of groundwater have been extracted. A total of 31.7 pounds of TPHg, 0.213 pounds of benzene, and 85.5 pounds of MTBE have been recovered. Mass removal data are presented in Table 3.

## ANTICIPATED SECOND QUARTER 2003 ACTIVITIES

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

***Remedial Activities:*** Per Cambria's standard operating procedures and East Bay Municipal Utilities District (EBMUD) treatment system monitoring requirements, Cambria will perform routine operation and maintenance of the GWE system. Cambria will monitor concentration trends and GWE system effectiveness. Cambria will prepare a quarterly discharge compliance report in accordance with the EBMUD wastewater discharge permit.

## CLOSING

We appreciate the opportunity to work with you on this project. Please call Dan Lescure at (510) 420-3306 if you have any questions or comments.

Sincerely,
**Cambria Environmental Technology, Inc**

Dan Lescure
Senior Project Engineer

Matthew W. Derby, P.E.
Senior Project Engineer


Figures: 1 - Vicinity/Area Well Survey Map
2 - Groundwater Elevation Contour Map

Tables: 1 - Tank Backfill Well Vapor Concentrations
2 - Groundwater Extraction – System Analytical Data
3 - Groundwater Extraction – Operation and Mass Removal Data

Attachments: A - Blaine Groundwater Monitoring Report and Field Notes
B - Virgil Chavez Land Surveying Report

cc: Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91510-7869
Virginia R. Rawson, Tr., 1860 Tice Creek Drive #1353, Walnut Creek, CA 94595
Roger Schmidt, 1224 Contra Costa Dr., El Cerrito, CA 94530

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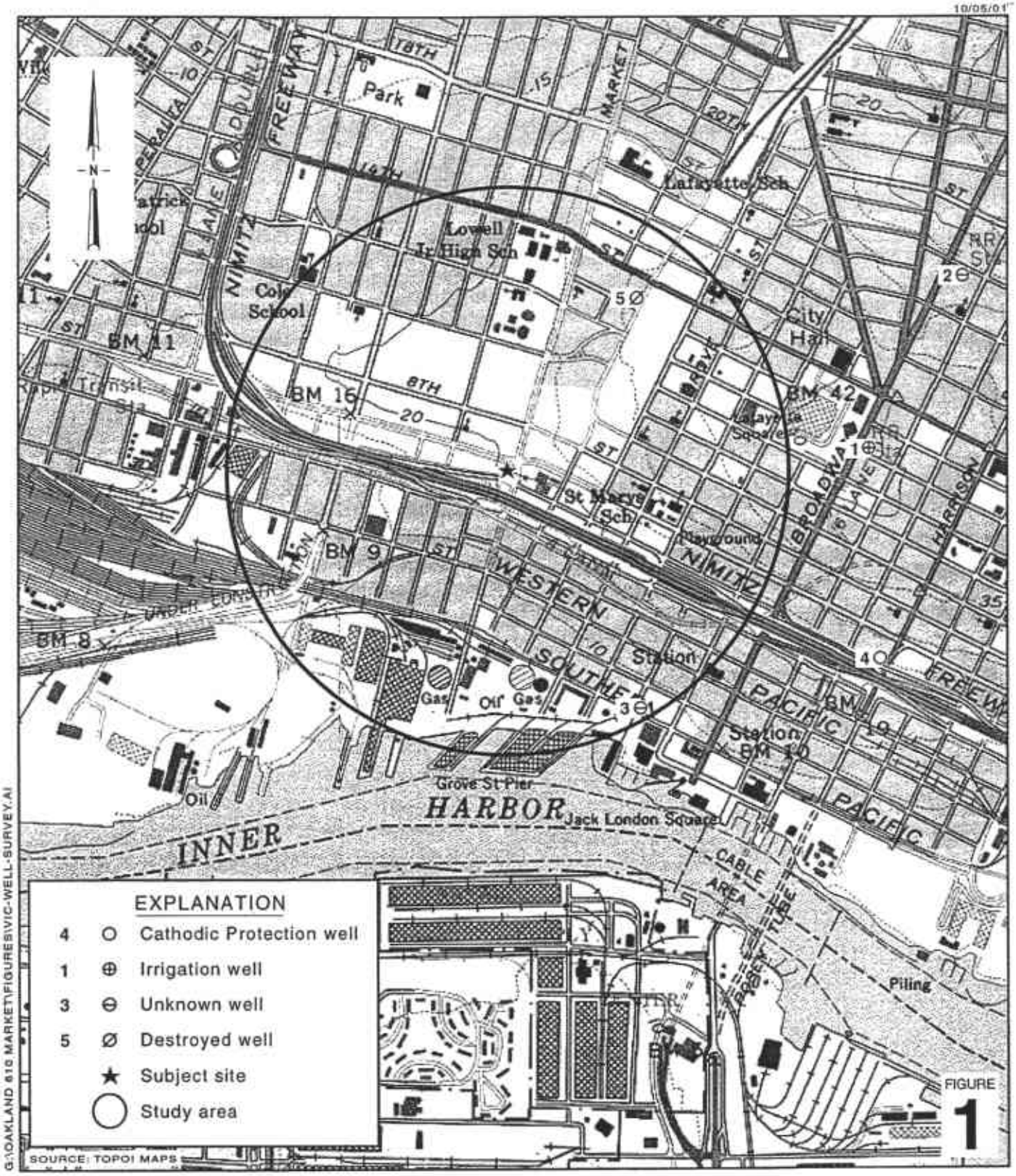



**Shell-branded Service Station**
610 Market Street
Oakland, California
Incident #98995750

CAMBRIA

**Vicinity / Area Well Survey Map**
1/2 Mile Radius

06/24/03

## EXPLANATION

- MW-6 — Extraction well location
- MW-1 — Monitoring well location
- SB-A — Geoprobe boring (3/31/98)
- SB-D — Soil boring location (4/17/02)
- T1 — Tank backfill well (dry)
- Groundwater flow direction
- XX.XX — Groundwater elevation contour, in feet above msl, approximately located; dashed where inferred

Well
ELEV
Benzene
MTBE

- Well designation
- Groundwater elevation, in feet above msl
- Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260
- Storm Drain line (SD)
- Sanitary Sewer line (SS)
- Water Main (W)
- Gas line (G)
- Electrical line (E)
- Flow direction
- F.L. = 5.6 — Flowline elevation, in feet above mean sea level (msl)
- MH — Manhole
- Groundwater extraction system piping

MW-2
6.81
<5.0 - 2/26/03
1,600 - 2/26/03

MW-6
3.05
<250
41,000

MW-8
4.62
29
430

MW-5
7.09
<20 - 2/26/03
7,500 - 2/26/03

MW-7
5.21
<100
19,000

MW-4
7.30
<0.50 - 2/26/03
<5.0 - 2/26/03

MW-1
8.03
30 - 2/26/03
27 - 2/26/03

MW-3
3.94
<250 - 2/26/03
210,000 - 2/26/03

MW-9
7.54
<2.5
37

SB-D, SB-B, SB-E, SB-A, SB-C, SB-F, T1, T2

MH, F.L. = 5.8, F.L. = 8.0, F.L. = 10.0, F.L. = 5.6, F.L. = 10.0, F.L. = 2.8, 30" SD, F.L. = 3.3, F.L. = 6.5, 10" SS, F.L. = 8.20

6.00, 5.00, 7.00, 4.00, 8.00

MARKET STREET, 6th STREET, 7th STREET, INTERSTATE 880 OVERPASS, INTERSTATE 880 OFFRAMP

PG&E, City of Oakland electrical, SIC, drain, Caltrans, transformer, PacBell, EBMUD, water, electrical, kiosk, dispensers, former dispenser, carwash, planter, trash, building, Remediation Compound

0 20 40 80
SCALE 1:40 FEET

# Groundwater Elevation Contour Map

April 15, 2003

CAMBRIA

**Shell-branded Service Station**
610 Market Street
Oakland, California
Incident #98995750

FIGURE
**2**

G:\OAKLAND\610MARKET\FIGURES\1QM03-MP.AI

**Table 1. Tank Backfill Well Vapor Concentrations -**
Shell-branded Service Station, Incident # 98995750, 610 Market Street, Oakland, California.

| Well I.D. | Date | OVA Reading | Laboratory Results (ppmv) TPHg | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes |
|---|---|---|---|---|---|---|---|---|
| T-1 | 11/19/01 | 240 | -- | -- | -- | -- | -- | -- |
| | 02/07/02 | 63,890 | -- | -- | -- | -- | -- | -- |
| | 02/12/02 | -- | -- | -- | -- | -- | -- | -- |
| | 02/25/02 | 128 | -- | -- | -- | -- | -- | -- |
| | 03/01/02* | 195 | -- | -- | -- | -- | -- | -- |
| | 04/19/02 | 1,024 | -- | -- | -- | -- | -- | -- |
| | 05/09/02 | -- | -- | -- | -- | -- | -- | -- |
| | 06/05/02 | 400 | -- | -- | -- | -- | -- | -- |
| | 07/12/02 | 714 | -- | -- | -- | -- | -- | -- |
| | 08/02/02 | 982 | -- | -- | -- | -- | -- | -- |
| | 09/06/02 | 920 | -- | -- | -- | -- | -- | -- |
| | 10/05/02 | >3,000 | -- | -- | -- | -- | -- | -- |
| | 11/01/02 | >3,000 | -- | -- | -- | -- | -- | -- |
| T-2 | 11/19/01 | 459 | -- | -- | -- | -- | -- | -- |
| | 02/07/02 | 63,930 | -- | -- | -- | -- | -- | -- |
| | 02/12/02 | -- | 4,800 | 990 | 24 | 4.3 | <3.3 | <3.3 |
| | 02/25/02 | 154 | -- | -- | -- | -- | -- | -- |
| | 03/01/02* | 650 | 2,600 | 1,100 | 15 | <3.3 | <3.3 | 5.0 |
| | 04/19/02 | 6,922 | 2,600 | 1,600 | 8.6 | <4.0 | <4.0 | <4.0 |
| | 05/09/02 | -- | 1,300 | 600 | 2.3 | <2.0 | <2.0 | <2.0 |
| | 06/05/02 | 2,487 | 11 | 2.2 | 0.11 | 0.31 | 0.16 | 0.75 |
| | 07/12/02 | 1,889 | 51 | 87 | 0.098 | 0.070 | 0.17 | 0.60 |
| | 08/02/02 | > 3,000 | 5,400 | 2,200 | 21 | 140 | 22 | 100 |
| | 09/06/02 | > 3,000 | 710 | 500 | 14 | 53 | 3.8 | 17 |
| | 10/05/02 | >3,000 | 200 | 160 | 4.1 | 12 | 0.78 | 3.7 |
| | 11/01/02 | >3,000 | 3,600 | 22 | 24 | 230 | 35 | 230 |
| | 03/11/03 | | <5.0 (ug/L) | <0.10 (ug/L) | <0.05 (ug/L) | <0.05 (ug/L) | <0.05 (ug/L) | <0.05 (ug/L) |
| | 04/23/03 | | <50 | <0.5 | <1 | <1 | <1 | <1 |
| | 05/20/03 | | <50 | <0.5 | <1 | <1 | <1 | 2.1 |

**Abbreviations and Notes:**

Note: Five-day SVE test conducted 10/8/01 through 10/12/01

OVA = Organic Vapor Analyzer, typically Horiba model MEXA554JU

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

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

MTBE = Methyl tertiary butyl ether, analyzed by EPA Method 8020 or EPA Method 8260B.

-- = measurements were not taken

* = On 3/1/02 sealant applied around outside edge of fill port spill bucket.

**Table 2: Groundwater Extraction - System Analytical Data** - Shell-branded Service Station, Incident #98995750, 610 Market St, Oakland, California

| | Influent | | | Midfluent 1 | | | Midfluent 2 | | | Effluent | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date (mm/dd/yy) | TPHg Conc. (ppb) | Benzene Conc. (ppb) | MTBE Conc (ppb) | TPHg Conc. (ppb) | Benzene Conc (ppb) | MTBE Conc. (ppb) | TPHg Conc. (ppb) | Benzene Conc (ppb) | MTBE Conc. (ppb) | TPHg Conc. (ppb) | Benzene Conc. (ppb) | MTBE Conc (ppb) |
| 02/18/2003 | <20,000 | 270 | 93,000 | <50 | <0.50 | <0.50 | <50 | <0.50 | <0.50 | <50 | <0.50 | <0.50 |
| 02/25/2003 | <20,000 | <200 | 74,000 | <50 | <0.50 | <0.50 | <50 | <0.50 | <0.50 | <50 | <0.50 | <0.50 |
| 03/11/2003 | <10,000 | <100 | 47,000 | <50 | <0.50 | <0.50 | <50 | <0.50 | <0.50 | <50 | <0.50 | <0.50 |
| 03/25/2003 | <10,000 | <100 | 38,000 | <250 | <2.5 | <25 | <50 | <0.50 | <5.0 | <50 | <0.50 | <5.0 |
| 04/07/2003 | 30,000 | <250 | 33,000 | <50 | <0.50 | <5.0 | <50 | <0.50 | <5.0 | <50 | <0.50 | <5.0 |
| 04/22/2003 | <25,000 | <250 | 26,000 | <50 | <0.50 | 2.6 | <50 | <0.50 | <0.50 | <50 | <0.50 | <0.50 |
| 05/01/2003 | <10,000 | <100 | 25,000 | <50 | <0.50 | <5.0 | <50 | <0.50 | <5.0 | <50 | <0.50 | <5.0 |
| 05/20/2003 | <10,000 | <100 | 17,000 | <500 | <5.0 | 610 | 640 | <0.50 | <0.5 | <50 | <0.50 | <0.5 |

**Abbreviations & Notes:**

TPHg = Total purgeable hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
Conc. = Concentration
ppb = parts per billion, equivalent to µg/l
TPHg, benzene, and MTBE analyzed by EPA Method 8260B

**Table 3: Groundwater Extraction - Operation and Mass Removal Data**, Shell-branded Service Station, Incident #98995750, 610 Market Street, Oakland, California

| Site Visit (mm/dd/yy) | Hour Meter (hours | Flow Meter Reading (gal) | Period Volume (gal) | Operational Flow Rate (gpm) | Cumulative Volume (gal) | TPHg Conc. (ppb) | TPHg Period Removal (pounds) | TPHg Cumulative Removal (pounds) | Benzene Conc. (ppb) | Benzene Period Removal (pounds) | Benzene Cumulative Removal (pounds) | MTBE Conc. (ppb) | MTBE Period Removal (pounds) | MTBE Cumulative Removal (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 02/18/2003 | 0.0 | 100 | 0 | 0.00 | 0 | <20,000 | 0.000 | 0.000 | 270 | 0.000 | 0.000 | 93,000 | 0.000 | 0.000 |
| 02/18/2003 | 3.5 | 1,024 | 924 | 4.40 | 924 | | 0.077 | 0.077 | | 0.002 | 0.002 | | 0.717 | 0.717 |
| 02/25/2003 | 140.2 | 30,312 | 29,288 | 3.57 | 30,212 | <20,000 | 2.44 | 2.521 | <200 | 0.024 | 0.027 | 74,000 | 18.1 | 18.8 |
| 03/11/2003 | 475.8 | 84,666 | 54,354 | 2.70 | 84,566 | <10,000 | 2.27 | 4.789 | <100 | 0.023 | 0.049 | 47,000 | 21.3 | 40.1 |
| 03/13/2003 | 524.0 | 92,030 | 7,364 | 2.55 | 91,930 | | 0.307 | 5.096 | | 0.003 | 0.052 | | 2.89 | 43.0 |
| 03/25/2003 | 527.0 | 92,840 | 810 | 4.50 | 92,740 | <10,000 | 0.034 | 5.130 | <100 | 0.000 | 0.053 | 38,000 | 0.257 | 43.3 |
| 04/07/2003 | 838.6 | 142,754 | 49,914 | 2.67 | 142,654 | 30,000 | 12.5 | 17.6 | <250 | 0.052 | 0.105 | 33,000 | 13.7 | 57.0 |
| 04/14/2003 | 985.4 | 165,205 | 22,451 | 2.55 | 165,105 | | 5.62 | 23.2 | | 0.023 | 0.128 | | 6.18 | 63.2 |
| 04/22/2003 | 1,184.1 | 197,360 | 32,155 | 2.70 | 197,260 | <25,000 | 3.35 | 26.6 | <250 | 0.034 | 0.162 | 26,000 | 6.98 | 70.2 |
| 04/29/2003 | 1,305.4 | 216,450 | 19,090 | 2.62 | 216,350 | | 1.99 | 28.6 | | 0.020 | 0.182 | | 4.14 | 74.3 |
| 05/01/2003 | 1,351.3 | 223,850 | 7,400 | 2.69 | 223,750 | <10,000 | 0.31 | 28.9 | <100 | 0.003 | 0.185 | 25,000 | 1.54 | 75.9 |
| 05/20/2003 | 1,783.0 | 291,620 | 67,770 | 2.62 | 291,520 | <10,000 | 2.83 | 31.7 | <100 | 0.028 | 0.213 | 17,000 | 9.6 | 85.5 |
| | | **Total Extracted Volume:** | **291,520** | | | **Total Pounds Removed:** | | **31.7** | **Total Pounds Removed:** | | **0.213** | **Total Pounds Removed:** | | **85.5** |
| | | **Average Operational Flow Rate:** | **2.72** | | | **Total Gallons Removed:** | | **5.21** | **Total Gallons Removed:** | | **0.029** | **Total Gallons Removed:** | | **13.8** |

**Abbreviations & Notes:**

TPHg = Total purgeable hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
Conc. = Concentration
ppb = Parts per billion, equivalent to µg/L
µg/L = Micrograms per liter
L = Liter
gal = Gallon
g = Gram
Mass removed based on the formula: volume extracted (gal) x Concentration (µg/L) x ($g/10^6 \mu g$) x (pound/453.6g) x (3.785 L/gal)
When constituents are not detected, the concentration is assumed to be equal to half the detection limit in subsequent calculations.
Volume removal data based on the formula: mass (pounds) x $(density)^{-1}$ (cc/g) x 453.6 (g/pound) x (L/1000 cc) * (gal/3.785 L)
Density inputs: TPHg = 0.73 g/cc, TPHd = 0.87 g/cc, MTBE = 0.74 g/cc
TPHg, BTEX, and MTBE analyzed by EPA Method 8260B

# ATTACHMENT A

## Blaine Groundwater Monitoring Report and Field Notes

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

March 26, 2003

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

First Quarter 2003 Groundwater Monitoring at
Shell-branded Service Station
610 Market Street
Oakland, CA

Monitoring performed on February 26, March 28,
April 7 and 15, 2003

Groundwater Monitoring Report **030226-DW-2**

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 Shell Martinez Manufacturing Complex.

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 Sheet

cc: Anni Kreml
Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Oakland, CA 94608

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 610 Market Street
## Oakland, CA

| Well ID | Date | TPPH (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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 12/17/1998 | 2,200 | 20 | <10 | 110 | 420 | <50 | NA | 21.70 | 13.71 | 7.99 |
| MW-1 | 03/09/1999 | 4,320 | 25.8 | <10.0 | 338 | 474 | <100 | NA | 21.70 | 13.03 | 8.67 |
| MW-1 | 06/16/1999 | 6,150 | 107 | 84.0 | 615 | 1,050 | <250 | NA | 21.70 | 13.82 | 7.88 |
| MW-1 | 09/29/1999 | 3,440 | 97.3 | 58.7 | 433 | 578 | 89.1 | NA | 21.70 | 14.45 | 7.25 |
| MW-1 | 12/22/1999 | 1,370 | 34.5 | 4.38 | 196 | 49.1 | 29.3 | NA | 21.70 | 15.39 | 6.31 |
| MW-1 | 03/21/2000 | 2,550 | 10.3 | 3.36 | 164 | 312 | 65.6 | NA | 21.70 | 11.94 | 9.76 |
| MW-1 | 06/20/2000 | 4,770 | 64.3 | 18.6 | 387 | 732 | 51.3 | NA | 21.70 | 13.15 | 8.55 |
| MW-1 | 09/21/2000 | 7,490 | 350 | 229 | 690 | 1,490 | 160 | NA | 21.70 | 13.65 | 8.05 |
| MW-1 | 11/30/2000 | 5,410 | 420 | 168 | 494 | 1,170 | 167 | NA | 21.70 | 14.20 | 7.50 |
| MW-1 | 03/06/2001 | 965 | 25.7 | 9.14 | 13.3 | 9.12 | <25.0 | NA | 21.70 | 12.99 | 8.71 |
| MW-1 | 06/28/2001 | 5,900 | 190 | 71 | 360 | 910 | NA | 110 | 21.70 | 13.98 | 7.72 |
| MW-1 | 09/12/2001 | 7,400 | 240 | 110 | 460 | 1,300 | NA | 130 | 21.70 | 14.15 | 7.55 |
| MW-1 | 12/12/2001 | 1,700 | 100 | 30 | 120 | 300 | NA | 98 | 21.70 | 13.75 | 7.95 |
| MW-1 | 03/08/2002 | 1,100 | 63 | 12 | 74 | 83 | NA | 50 | 21.70 | 13.22 | 8.48 |
| MW-1 | 06/06/2002 | 2,300 | 95 | 31 | 130 | 290 | NA | 49 | 21.70 | 13.57 | 8.13 |
| MW-1 | 09/09/2002 | 3,600 | 150 | 44 | 200 | 590 | NA | 54 | 21.70 | 14.05 | 7.65 |
| MW-1 | 12/12/2002 | 2,200 | 130 | 14 | 120 | 310 | NA | 46 | 21.70 | 14.20 | 7.50 |
| **MW-1** | **02/26/2003** | **580** | **30** | **2.9** | **25** | **48** | **NA** | **27** | **21.70** | **13.57** | **8.13** |
| **MW-1** | **04/15/2003** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **21.70** | **13.67** | **8.03** |
| MW-2 | 12/17/1998 | <5,000 | <50 | <50 | <50 | <50 | 11,000 | NA | 19.61 | 12.07 | 7.54 |
| MW-2 | 03/09/1999 | <250 | 5.20 | <2.50 | <2.50 | <2.50 | 9,870 | NA | 19.61 | 11.46 | 8.15 |
| MW-2 | 06/16/1999 | <50.0 | 0.569 | <0.500 | <0.500 | <0.500 | 3,440 | NA | 19.61 | 12.26 | 7.35 |
| MW-2 | 09/29/1999 | 58.6 | 2.51 | 0.978 | <0.500 | <0.500 | 3,930 | NA | 19.61 | 12.51 | 7.10 |
| MW-2 | 12/22/1999 | <2,000 | 50.4 | <20.0 | <20.0 | <20.0 | 15,000 | NA | 19.61 | 13.40 | 6.21 |
| MW-2 | 03/21/2000 | <5,000 | 94.7 | <50.0 | <50.0 | <50.0 | 13,900 | NA | 19.61 | 10.36 | 9.25 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 610 Market Street
## Oakland, CA

| Well ID | Date | TPPH (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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-2 | 06/20/2000 | 101 | 5.95 | <0.500 | <0.500 | 0.552 | 7,670 | NA | 19.61 | 11.12 | 8.49 |
| MW-2 | 09/21/2000 | <2,000 | <20.0 | <20.0 | <20.0 | <20.0 | 4,460 | NA | 19.61 | 11.95 | 7.66 |
| MW-2 | 11/30/2000 | 81.1 | 4.46 | 0.924 | 0.841 | 3.23 | 3,450 | NA | 19.61 | 12.48 | 7.13 |
| MW-2 | 03/06/2001 | <500 | 183 | <5.00 | <5.00 | <5.00 | 14,000 | NA | 19.61 | 11.10 | 8.51 |
| MW-2 | 06/28/2001 | <1,000 | <10 | <10 | <10 | <10 | NA | 4,200 | 19.61 | 12.40 | 7.21 |
| MW-2 | 09/12/2001 | <2,000 | 120 | <20 | <20 | <20 | NA | 17,000 | 19.61 | 12.45 | 7.16 |
| MW-2 | 12/12/2001 | <1,000 | <10 | <10 | <10 | <10 | NA | 3,000 | 19.61 | 12.14 | 7.47 |
| MW-2 | 03/08/2002 | <250 | <2.5 | <2.5 | <2.5 | <2.5 | NA | 1,100 | 19.61 | 11.68 | 7.93 |
| MW-2 | 06/06/2002 | <500 | <5.0 | <5.0 | <5.0 | <5.0 | NA | 2,000 | 19.61 | 11.95 | 7.66 |
| MW-2 | 09/09/2002 | <200 | <2.0 | <2.0 | <2.0 | <2.0 | NA | 740 | 19.62 | 12.38 | 7.24 |
| MW-2 | 12/12/2002 | <200 | <2.0 | <2.0 | <2.0 | <2.0 | NA | 1,000 | 19.62 | 12.40 | 7.22 |
| **MW-2** | **02/26/2003** | **<500** | **<5.0** | **<5.0** | **<5.0** | **<5.0** | **NA** | **1,600** | **19.62** | **12.69** | **6.93** |
| **MW-2** | **04/15/2003** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **19.62** | **12.81** | **6.81** |
| MW-3 | 12/17/1998 | 30,000 | 890 | 110 | 2,100 | 4,300 | 42,000 | 43,000 | 19.05 | 11.65 | 7.40 |
| MW-3 | 03/09/1999 | 22,700 | 536 | <200 | 1,030 | 1,510 | 35,400 | 38,500 | 19.05 | 11.03 | 8.02 |
| MW-3 | 06/16/1999 | 19,300 | 625 | 129 | 805 | 1,210 | 42,400 | 51,600 | 19.05 | 11.89 | 7.16 |
| MW-3 | 09/29/1999 | 20,200 | 727 | 155 | 1,000 | 1,180 | 84,100 | 136,000a | 19.05 | 12.35 | 6.70 |
| MW-3 | 12/22/1999 | 44,500 | 767 | 64.4 | 1,810 | 2,090 | 191,000 | 186,000a | 19.05 | 13.45 | 5.60 |
| MW-3 | 03/21/2000 | <25,000 | 466 | <250 | 727 | 2,280 | 126,000 | 155,000 | 19.05 | 10.00 | 9.05 |
| MW-3 | 06/20/2000 | 16,200 | 1,140 | 98.8 | 1,140 | 1,410 | 579,000 | 376,000a | 19.05 | 11.15 | 7.90 |
| MW-3 | 09/21/2000 | <50,000 | 712 | <500 | 520 | 795 | 293,000 | 298,000 | 19.05 | 11.58 | 7.47 |
| MW-3 | 11/30/2000 | 18,000 | 1,050 | 124 | 1,120 | 2,010 | 543,000a | 403,000a | 19.05 | 12.10 | 6.95 |
| MW-3 | 03/06/2001 | 19,900 | 1,290 | 115 | 1,450 | 1,760 | 706,000 | 149,000 | 19.05 | 11.00 | 8.05 |
| MW-3 | 06/28/2001 | <50,000 | 1,200 | <250 | 1,100 | 1,300 | NA | 610,000 | 19.05 | 11.96 | 7.09 |
| MW-3 | 09/12/2001 | <20,000 | 430 | <200 | 230 | 480 | NA | 390,000 | 19.05 | 12.05 | 7.00 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 610 Market Street
## Oakland, CA

| Well ID | Date | TPPH (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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-3 | 10/23/2001 | 11,000 | 350 | <100 | 210 | 440 | NA | 290,000 | 19.05 | 12.62 | 6.43 |
| MW-3 | 12/12/2001 | <20,000 | 280 | <200 | <200 | <200 | NA | 160,000 | 19.05 | 11.83 | 7.22 |
| MW-3 | 03/08/2002 | <20,000 | 270 | <200 | <200 | <200 | NA | 340,000 | 19.05 | 11.26 | 7.79 |
| MW-3 | 06/06/2002 | <50,000 | 290 | <250 | <250 | <250 | NA | 290,000 | 19.05 | 11.50 | 7.55 |
| MW-3 | 09/09/2002 | <20,000 | <200 | <200 | <200 | <200 | NA | 230,000 | 19.06 | 11.92 | 7.14 |
| MW-3 | 12/12/2002 | <50,000 | <200 | <200 | <200 | <500 | NA | 190,000 | 19.06 | 10.95 | 8.11 |
| **MW-3** | **02/26/2003** | **<25,000** | **<250** | **<250** | **<250** | **<250** | **NA** | **210,000** | **19.06** | **15.01** | **4.05** |
| **MW-3** | **04/15/2003** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **19.06** | **15.12** | **3.94** |
| MW-4 | 05/13/2002 | NA | NA | NA | NA | NA | NA | NA | NA | 10.64 | NA |
| MW-4 | 05/20/2002 | <1,000 | <10 | <10 | <10 | <10 | NA | 4,600 | NA | 10.64 | NA |
| MW-4 | 06/06/2002 | <1,000 | <10 | <10 | <10 | <10 | NA | 4,800 | NA | 10.61 | NA |
| MW-4 | 09/09/2002 | Unable to sample | | NA | NA | NA | NA | NA | 18.03 | 11.07 | 6.96 |
| MW-4 | 09/18/2002 | <250 | <2.5 | <2.5 | <2.5 | <2.5 | NA | 1,000 | 18.03 | 11.15 | 6.88 |
| MW-4 | 12/12/2002 | <100 | <1.0 | <1.0 | <1.0 | <1.0 | NA | 370 | 18.03 | 11.13 | 6.90 |
| **MW-4** | **02/26/2003** | **<50** | **<0.50** | **<0.50** | **<0.50** | **<0.50** | **NA** | **<5.0** | **18.03** | **10.61** | **7.42** |
| **MW-4** | **04/15/2003** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **18.03** | **10.73** | **7.30** |
| MW-5 | 05/13/2002 | NA | NA | NA | NA | NA | NA | NA | NA | 10.40 | NA |
| MW-5 | 05/20/2002 | <2,500 | <25 | <25 | <25 | <25 | NA | 17,000 | NA | 10.41 | NA |
| MW-5 | 06/06/2002 | <5,000 | <50 | <50 | <50 | <50 | NA | 15,000 | NA | 10.36 | NA |
| MW-5 | 09/09/2002 | Unable to sample | | NA | NA | NA | NA | NA | 17.78 | 10.82 | 6.96 |
| MW-5 | 09/18/2002 | <2,500 | <25 | <25 | <25 | <25 | NA | 16,000 | 17.78 | 10.81 | 6.97 |
| MW-5 | 12/12/2002 | <2,500 | <25 | <25 | <25 | <25 | NA | 13,000 | 17.78 | 10.83 | 6.95 |
| **MW-5** | **02/26/2003** | **<2,000** | **<20** | **<20** | **<20** | **<20** | **NA** | **7,500** | **17.78** | **10.57** | **7.21** |
| **MW-5** | **04/15/2003** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **17.78** | **10.69** | **7.09** |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 610 Market Street
## Oakland, CA

| Well ID | Date | TPPH (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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-6 | 03/28/2003 | Well inaccessible | | NA | NA | NA | NA | NA | 18.10 | NA | NA |
| MW-6 | 04/07/2003 | NA | NA | NA | NA | NA | NA | NA | 18.10 | 13.80 | 4.30 |
| MW-6 | 04/15/2003 | 14,000 | <250 | <250 | <250 | <500 | NA | 41,000 | 18.10 | 15.05 | 3.05 |
| MW-7 | 03/28/2003 | Well inaccessible | | NA | NA | NA | NA | NA | 19.16 | NA | NA |
| MW-7 | 04/07/2003 | NA | NA | NA | NA | NA | NA | NA | 19.16 | 13.85 | 5.31 |
| MW-7 | 04/15/2003 | 6,000 | <100 | <100 | <100 | <200 | NA | 19,000 | 19.16 | 13.95 | 5.21 |
| MW-8 | 03/28/2003 | Well inaccessible | | NA | NA | NA | NA | NA | 18.72 | NA | NA |
| MW-8 | 04/07/2003 | NA | NA | NA | NA | NA | NA | NA | 18.72 | 14.13 | 4.59 |
| MW-8 | 04/15/2003 | 890 | 29 | 22 | 15 | 71 | NA | 430 | 18.72 | 14.10 | 4.62 |
| MW-9 | 03/28/2003 | NA | NA | NA | NA | NA | NA | NA | 18.78 | 11.19 | 7.59 |
| MW-9 | 04/15/2003 | 420 | <2.5 | <2.5 | <2.5 | 6.3 | NA | 37 | 18.78 | 11.24 | 7.54 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 610 Market Street
## Oakland, CA

| Well ID | Date | TPPH (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) |
|---|---|---|---|---|---|---|---|---|---|---|---|

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to June 28, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to June 28, 2001, analyzed by EPA Method 8020.
MTBE = Methyl-tertiary-butyl ether
TOC = Top of Casing Elevation
GW = Groundwater
ug/L = Parts per billion
MSL = Mean sea level
ft = Feet
<n = Below detection limit
NA = Not applicable

Notes:
a = Sample was analyzed outside the EPA recommended holding time.
Wells MW-1, MW-2, and MW-3 surveyed December 9, 1998, by Virgil Chavez Land Surveying of Vallejo, California.
Wells MW-6 through MW-9 surveyed April 10, 2003, by Virgil Chavez Land Surveying of Vallejo, California.

SEVERN TRENT STL

**Submission#: 2003-04-0421**

**Blaine Tech Services, Inc.**

April 30, 2003

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

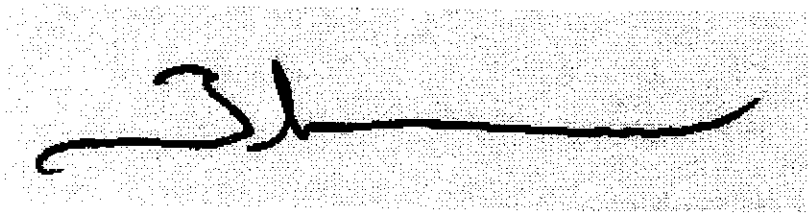
Project#: #030412-BA2
Project: 98995750
Site: 610 Market Street Oakland

Dear Mr.Gearhart,

Attached is our report for your samples received on 04/16/2003 16:20
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 05/31/2003 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: tgranicher@stl-inc.com

Sincerely,



Tod Granicher
Project Manager

SEVERN TRENT STL

**Submission #: 2003-04-0421**

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

## Samples Reported

| Sample Name | Date Sampled | Matrix | Lab # |
|---|---|---|---|
| MW-6 | 04/15/2003 12:05 | Water | 1 |
| MW-7 | 04/15/2003 12:13 | Water | 2 |
| MW-8 | 04/15/2003 12:19 | Water | 3 |
| MW-9 | 04/15/2003 12:28 | Water | 4 |

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 5030B | Test(s): | 8260FAB |
| Sample ID: | **MW-6** | Lab ID: | 2003-04-0421 - 1 |
| Sampled: | 04/15/2003 12:05 | Extracted: | 4/29/2003 13:56 |
| Matrix: | Water | QC Batch#: | 2003/04/29-1a.64 |

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Gasoline | 14000 | 250 | ug/L | 500.00 | 04/29/2003 13:56 | |
| Benzene | ND | 250 | ug/L | 500.00 | 04/29/2003 13:56 | |
| Toluene | ND | 250 | ug/L | 500.00 | 04/29/2003 13:56 | |
| Ethylbenzene | ND | 250 | ug/L | 500.00 | 04/29/2003 13:56 | |
| Total xylenes | ND | 500 | ug/L | 500.00 | 04/29/2003 13:56 | |
| Methyl tert-butyl ether (MTBE) | 41000 | 2500 | ug/L | 500.00 | 04/29/2003 13:56 | |
| ***Surrogates(s)*** | | | | | | |
| 1,2-Dichloroethane-d4 | 98.1 | 76-114 | % | 500.00 | 04/29/2003 13:56 | |
| Toluene-d8 | 96.5 | 88-110 | % | 500.00 | 04/29/2003 13:56 | |

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 5030B | Test(s): | 8260FAB |
| Sample ID: | **MW-7** | Lab ID: | 2003-04-0421 - 2 |
| Sampled: | 04/15/2003 12:13 | Extracted: | 4/29/2003 13:34 |
| Matrix: | Water | QC Batch#: | 2003/04/29-1a.64 |

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Gasoline | 6000 | 100 | ug/L | 200.00 | 04/29/2003 13:34 | |
| Benzene | ND | 100 | ug/L | 200.00 | 04/29/2003 13:34 | |
| Toluene | ND | 100 | ug/L | 200.00 | 04/29/2003 13:34 | |
| Ethylbenzene | ND | 100 | ug/L | 200.00 | 04/29/2003 13:34 | |
| Total xylenes | ND | 200 | ug/L | 200.00 | 04/29/2003 13:34 | |
| Methyl tert-butyl ether (MTBE) | 19000 | 1000 | ug/L | 200.00 | 04/29/2003 13:34 | |
| ***Surrogates(s)*** | | | | | | |
| 1,2-Dichloroethane-d4 | 97.7 | 76-114 | % | 200.00 | 04/29/2003 13:34 | |
| Toluene-d8 | 92.4 | 88-110 | % | 200.00 | 04/29/2003 13:34 | |

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 5030B | Test(s): | 8260FAB |
| Sample ID: | **MW-8** | Lab ID: | 2003-04-0421 - 3 |
| Sampled: | 04/15/2003 12:19 | Extracted: | 4/27/2003 17:25 |
| Matrix: | Water | QC Batch#: | 2003/04/27-1a.64 |

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Gasoline | 890 | 10 | ug/L | 20.00 | 04/27/2003 17:25 | |
| Benzene | 29 | 10 | ug/L | 20.00 | 04/27/2003 17:25 | |
| Toluene | 22 | 10 | ug/L | 20.00 | 04/27/2003 17:25 | |
| Ethylbenzene | 15 | 10 | ug/L | 20.00 | 04/27/2003 17:25 | |
| Total xylenes | 71 | 20 | ug/L | 20.00 | 04/27/2003 17:25 | |
| Methyl tert-butyl ether (MTBE) | 430 | 100 | ug/L | 20.00 | 04/27/2003 17:25 | |
| ***Surrogates(s)*** | | | | | | |
| 1,2-Dichloroethane-d4 | 110.7 | 76-114 | % | 20.00 | 04/27/2003 17:25 | |
| Toluene-d8 | 101.4 | 88-110 | % | 20.00 | 04/27/2003 17:25 | |

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

| | | | |
|---|---|---|---|
| Prep(s): | 5030B | Test(s): | 8260FAB |
| Sample ID: | **MW-9** | Lab ID: | 2003-04-0421 - 4 |
| Sampled: | 04/15/2003 12:28 | Extracted: | 4/27/2003 17:46 |
| Matrix: | Water | QC Batch#: | 2003/04/27-1a.64 |

| Compound | Conc. | RL | Unit | Dilution | Analyzed | Flag |
|---|---|---|---|---|---|---|
| Gasoline | 420 | 2.5 | ug/L | 5.00 | 04/27/2003 17:46 | |
| Benzene | ND | 2.5 | ug/L | 5.00 | 04/27/2003 17:46 | |
| Toluene | ND | 2.5 | ug/L | 5.00 | 04/27/2003 17:46 | |
| Ethylbenzene | ND | 2.5 | ug/L | 5.00 | 04/27/2003 17:46 | |
| Total xylenes | 6.3 | 5.0 | ug/L | 5.00 | 04/27/2003 17:46 | |
| Methyl tert-butyl ether (MTBE) | 37 | 25 | ug/L | 5.00 | 04/27/2003 17:46 | |
| ***Surrogates(s)*** | | | | | | |
| 1,2-Dichloroethane-d4 | 112.3 | 76-114 | % | 5.00 | 04/27/2003 17:46 | |
| Toluene-d8 | 97.9 | 88-110 | % | 5.00 | 04/27/2003 17:46 | |

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

## Batch QC Report

Prep(s): 5030B
**Method Blank**
MB: 2003/04/27-1a.64-071

**Water**

Test(s): 8260FAB
**QC Batch # 2003/04/27-1a.64**
Date Extracted: 04/27/2003 15:07

| Compound | Conc. | RL | Unit | Analyzed | Flag |
|---|---|---|---|---|---|
| Gasoline | ND | 50 | ug/L | 04/27/2003 15:07 | |
| Benzene | ND | 0.5 | ug/L | 04/27/2003 15:07 | |
| Toluene | ND | 0.5 | ug/L | 04/27/2003 15:07 | |
| Ethylbenzene | ND | 0.5 | ug/L | 04/27/2003 15:07 | |
| Total xylenes | ND | 1.0 | ug/L | 04/27/2003 15:07 | |
| Methyl tert-butyl ether (MTBE) | ND | 5.0 | ug/L | 04/27/2003 15:07 | |
| ***Surrogates(s)*** | | | | | |
| 1,2-Dichloroethane-d4 | 109.0 | 76-114 | % | 04/27/2003 15:07 | |
| Toluene-d8 | 100.8 | 88-110 | % | 04/27/2003 15:07 | |

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

## Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

**Method Blank** — Water — **QC Batch # 2003/04/29-1a.64**

MB: 2003/04/29-1a.64-003 — Date Extracted: 04/29/2003 12:41

| Compound | Conc. | RL | Unit | Analyzed | Flag |
|---|---|---|---|---|---|
| Gasoline | ND | 50 | ug/L | 04/29/2003 12:41 | |
| Benzene | ND | 0.5 | ug/L | 04/29/2003 12:41 | |
| Toluene | ND | 0.5 | ug/L | 04/29/2003 12:41 | |
| Ethylbenzene | ND | 0.5 | ug/L | 04/29/2003 12:41 | |
| Total xylenes | ND | 1.0 | ug/L | 04/29/2003 12:41 | |
| Methyl tert-butyl ether (MTBE) | ND | 0.5 | ug/L | 04/29/2003 12:41 | |
| ***Surrogates(s)*** | | | | | |
| 1,2-Dichloroethane-d4 | 101.6 | 76-114 | % | 04/29/2003 12:41 | |
| Toluene-d8 | 94.2 | 88-110 | % | 04/29/2003 12:41 | |

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

## Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

**Laboratory Control Spike** | **Water** | **QC Batch # 2003/04/27-1a.64**

LCS 2003/04/27-1a.64-070 Extracted: 04/27/2003 Analyzed: 04/27/2003 14:23

LCSD 2003/04/27-1a.64-001 Extracted: 04/27/2003 Analyzed: 04/27/2003 14:45

| Compound | Conc. ug/L | | Exp.Conc. | Recovery | | RPD | Ctrl.Limits % | | Flags | |
|---|---|---|---|---|---|---|---|---|---|---|
| | LCS | LCSD | | LCS | LCSD | % | Rec. | RPD | LCS | LCSD |
| Benzene | 25.5 | 25.1 | 25 | 102.0 | 100.4 | 1.6 | 69-129 | 20 | | |
| Toluene | 26.5 | 26.1 | 25 | 106.0 | 104.4 | 1.5 | 70-130 | 20 | | |
| Methyl tert-butyl ether (MTBE) | 32.0 | 31.6 | 25 | 128.0 | 126.4 | 1.3 | 65-165 | 20 | | |
| ***Surrogates(s)*** | | | | | | | | | | |
| 1,2-Dichloroethane-d4 | 549 | 557 | 500 | 109.8 | 111.4 | | 76-114 | | | |
| Toluene-d8 | 500 | 496 | 500 | 100.0 | 99.2 | | 88-110 | | | |

# 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: #030412-BA2
98995750

Received: 04/16/2003 16:20

Site: 610 Market Street Oakland

## Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

**Laboratory Control Spike** **Water** **QC Batch # 2003/04/29-1a.64**

LCS 2003/04/29-1a.64-002 Extracted: 04/29/2003 Analyzed: 04/29/2003 11:58

LCSD 2003/04/29-1a.64-001 Extracted: 04/29/2003 Analyzed: 04/29/2003 12:19

| Compound | Conc. ug/L | | Exp.Conc. | Recovery | | RPD | Ctrl.Limits % | | Flags | |
|---|---|---|---|---|---|---|---|---|---|---|
| | LCS | LCSD | | LCS | LCSD | % | Rec. | RPD | LCS | LCSD |
| Benzene | 24.8 | 25.0 | 25 | 99.2 | 100.0 | 0.8 | 69-129 | 20 | | |
| Toluene | 25.4 | 26.2 | 25 | 101.6 | 104.8 | 3.1 | 70-130 | 20 | | |
| Methyl tert-butyl ether (MTBE) | 26.7 | 29.0 | 25 | 106.8 | 116.0 | 8.3 | 65-165 | 20 | | |
| ***Surrogates(s)*** | | | | | | | | | | |
| 1,2-Dichloroethane-d4 | 481 | 509 | 500 | 96.2 | 101.8 | | 76-114 | | | |
| Toluene-d8 | 488 | 495 | 500 | 97.6 | 99.0 | | 88-110 | | | |

# Shell Chain of Custody Record

Lab Identification (if necessary):

Address:

City, State, Zip:

**Shell Project Manager to be Invoiced:**

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

Karen Petryna

2003-04-0421

INCIDENT NUMBER (S&E ONLY): 9 8 9 9 5 7 5 0

SAP or CRMT NUMBER (TS/CRMT):

DATE: 4/15/03

PAGE: 1 of 1

| | | | |
|---|---|---|---|
| SAMPLING COMPANY: Blaine Tech Services | GLOBAL ID: BTSS | SITE ADDRESS (Street and City): 610 Market Street, Oakland | GLOBAL ID NO.: T0600102121 |
| ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112 | | PO SEQUENCE TO (Responsible Party or Designee): Anni Kreml | PHONE NO.: 510-420-3335 |
| PROJECT CONTACT (Person to Receive Report): Leon Gearhart | | E-MAIL: ShellOaklandEDF@cambria-env.com | CONSULTANT PROJECT NO.: 030415-BA2 |
| TELEPHONE: 408-573-0555 | FAX: 408-573-7771 | E-MAIL: lgearhart@blainetech.com | BTS #: |
| SAMPLER NAME(S) (Print): Brian Allcorn | | LAB USE ONLY | |

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

☐ LX - 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 | 1,2-DCA (8260B) | EDB (8260B) | TPH - Diesel, Extractable (8015m) | TEMPERATURE ON RECEIPT C° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW-6 | 4/15 | 1205 | W | 3 | X | X | X | | | | | | | | |
| | MW-7 | " | 1213 | " | " | X | X | X | | | | | | | | |
| | MW-8 | " | 1219 | " | " | X | X | X | | | | | | | | |
| | MW-9 | " | 1228 | " | " | X | X | X | | | | | | | | |

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

4.2*C

| | | | |
|---|---|---|---|
| Relinquished by: (Signature) | Received by: (Signature) | Date: 4/16/03 | Time: 1620 |
| Relinquished by: (Signature) 4/16/03 1137 | Received by: (Signature) | Date: | Time: |
| Relinquished by: (Signature) | Received by: (Signature) | Date: 4-16-03 | Time: 1737 |

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

18/1600 Revised

QSO Graphics (714) 898-9762

KIFF ANALYTICAL LLC

Report Number : 31761
Date : 3/6/03

Leon Gearhart
Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject : 5 Water Samples
Project Name : 610 Market Street, Oakland
Project Number : 030226-DW-2
P.O. Number : 98995750

Dear Mr. Gearhart,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 31761

Date : 3/6/03

Project Name : **610 Market Street, Oakland**

Project Number : **030226-DW-2**

Sample : **MW-1** Matrix : Water Lab Number : 31761-01

Sample Date :2/26/03

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|
| **Benzene** | **30** | 0.50 | ug/L | EPA 8260B | 3/1/03 |
| **Toluene** | **2.9** | 0.50 | ug/L | EPA 8260B | 3/1/03 |
| **Ethylbenzene** | **25** | 0.50 | ug/L | EPA 8260B | 3/1/03 |
| **Total Xylenes** | **48** | 0.50 | ug/L | EPA 8260B | 3/1/03 |
| **Methyl-t-butyl ether (MTBE)** | **27** | 5.0 | ug/L | EPA 8260B | 3/1/03 |
| **TPH as Gasoline** | **580** | 50 | ug/L | EPA 8260B | 3/1/03 |
| Toluene - d8 (Surr) | 103 | | % Recovery | EPA 8260B | 3/1/03 |
| 4-Bromofluorobenzene (Surr) | 98.7 | | % Recovery | EPA 8260B | 3/1/03 |

Sample : **MW-2** Matrix : Water Lab Number : 31761-02

Sample Date :2/26/03

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|
| **Benzene** | **< 5.0** | 5.0 | ug/L | EPA 8260B | 3/3/03 |
| **Toluene** | **< 5.0** | 5.0 | ug/L | EPA 8260B | 3/3/03 |
| **Ethylbenzene** | **< 5.0** | 5.0 | ug/L | EPA 8260B | 3/3/03 |
| **Total Xylenes** | **< 5.0** | 5.0 | ug/L | EPA 8260B | 3/3/03 |
| **Methyl-t-butyl ether (MTBE)** | **1600** | 50 | ug/L | EPA 8260B | 3/3/03 |
| **TPH as Gasoline** | **< 500** | 500 | ug/L | EPA 8260B | 3/3/03 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 3/3/03 |
| 4-Bromofluorobenzene (Surr) | 95.9 | | % Recovery | EPA 8260B | 3/3/03 |

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 31761

Date : 3/6/03

Project Name : **610 Market Street, Oakland**

Project Number : **030226-DW-2**

Sample : **MW-3** Matrix : Water Lab Number : 31761-03

Sample Date :2/26/03

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|
| **Benzene** | **< 250** | 250 | ug/L | EPA 8260B | 3/3/03 |
| **Toluene** | **< 250** | 250 | ug/L | EPA 8260B | 3/3/03 |
| **Ethylbenzene** | **< 250** | 250 | ug/L | EPA 8260B | 3/3/03 |
| **Total Xylenes** | **< 250** | 250 | ug/L | EPA 8260B | 3/3/03 |
| **Methyl-t-butyl ether (MTBE)** | **210000** | 5000 | ug/L | EPA 8260B | 3/3/03 |
| **TPH as Gasoline** | **< 25000** | 25000 | ug/L | EPA 8260B | 3/3/03 |
| Toluene - d8 (Surr) | 101 | | % Recovery | EPA 8260B | 3/3/03 |
| 4-Bromofluorobenzene (Surr) | 98.4 | | % Recovery | EPA 8260B | 3/3/03 |

Sample : **MW-4** Matrix : Water Lab Number : 31761-04

Sample Date :2/26/03

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|
| **Benzene** | **< 0.50** | 0.50 | ug/L | EPA 8260B | 3/2/03 |
| **Toluene** | **< 0.50** | 0.50 | ug/L | EPA 8260B | 3/2/03 |
| **Ethylbenzene** | **< 0.50** | 0.50 | ug/L | EPA 8260B | 3/2/03 |
| **Total Xylenes** | **< 0.50** | 0.50 | ug/L | EPA 8260B | 3/2/03 |
| **Methyl-t-butyl ether (MTBE)** | **< 5.0** | 5.0 | ug/L | EPA 8260B | 3/2/03 |
| **TPH as Gasoline** | **< 50** | 50 | ug/L | EPA 8260B | 3/2/03 |
| Toluene - d8 (Surr) | 104 | | % Recovery | EPA 8260B | 3/2/03 |
| 4-Bromofluorobenzene (Surr) | 95.1 | | % Recovery | EPA 8260B | 3/2/03 |

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 31761

Date : 3/6/03

Project Name : **610 Market Street, Oakland**

Project Number : **030226-DW-2**

Sample : **MW-5** Matrix : Water Lab Number : 31761-05

Sample Date :2/26/03

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|
| **Benzene** | **< 20** | 20 | ug/L | EPA 8260B | 3/2/03 |
| **Toluene** | **< 20** | 20 | ug/L | EPA 8260B | 3/2/03 |
| **Ethylbenzene** | **< 20** | 20 | ug/L | EPA 8260B | 3/2/03 |
| **Total Xylenes** | **< 20** | 20 | ug/L | EPA 8260B | 3/2/03 |
| **Methyl-t-butyl ether (MTBE)** | **7500** | 200 | ug/L | EPA 8260B | 3/2/03 |
| **TPH as Gasoline** | **< 2000** | 2000 | ug/L | EPA 8260B | 3/2/03 |
| Toluene - d8 (Surr) | 93.0 | | % Recovery | EPA 8260B | 3/2/03 |
| 4-Bromofluorobenzene (Surr) | 104 | | % Recovery | EPA 8260B | 3/2/03 |

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 31761

Date : 3/6/03

**QC Report : Method Blank Data**

Project Name : **610 Market Street, Oakland**

Project Number : **030226-DW-2**

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 3/2/03 |
| Toluene | < 0.50 | 0.50 | ug/L | EPA 8260B | 3/2/03 |
| Ethylbenzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 3/2/03 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 3/2/03 |
| Methyl-t-butyl ether (MTBE) | < 5.0 | 5.0 | ug/L | EPA 8260B | 3/2/03 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 3/2/03 |
| Toluene - d8 (Surr) | 103 | | % | EPA 8260B | 3/2/03 |
| 4-Bromofluorobenzene (Surr) | 92.3 | | % | EPA 8260B | 3/2/03 |
| Benzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 2/28/03 |
| Toluene | < 0.50 | 0.50 | ug/L | EPA 8260B | 2/28/03 |
| Ethylbenzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 2/28/03 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 2/28/03 |
| Methyl-t-butyl ether (MTBE) | < 5.0 | 5.0 | ug/L | EPA 8260B | 2/28/03 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 2/28/03 |
| Toluene - d8 (Surr) | 102 | | % | EPA 8260B | 2/28/03 |
| 4-Bromofluorobenzene (Surr) | 96.8 | | % | EPA 8260B | 2/28/03 |

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St. Suite 300 Davis. CA 95616 530-297-4800

Report Number : 31761

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

Date : 3/6/03

Project Name : **610 Market Street, Oakland**

Project Number : **030226-DW-2**

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 31761-04 | <0.50 | 39.8 | 39.9 | 40.6 | 40.2 | ug/L | EPA 8260B | 3/2/03 | 102 | 101 | 1.18 | 70-130 | 25 |
| Toluene | 31761-04 | <0.50 | 39.8 | 39.9 | 40.3 | 39.6 | ug/L | EPA 8260B | 3/2/03 | 101 | 99.1 | 2.14 | 70-130 | 25 |
| Tert-Butanol | 31761-04 | <5.0 | 199 | 200 | 188 | 194 | ug/L | EPA 8260B | 3/2/03 | 94.4 | 97.2 | 2.94 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 31761-04 | <0.50 | 39.8 | 39.9 | 41.2 | 39.5 | ug/L | EPA 8260B | 3/2/03 | 103 | 99.0 | 4.25 | 70-130 | 25 |
| Benzene | 31753-02 | <0.50 | 40.0 | 40.0 | 39.1 | 37.1 | ug/L | EPA 8260B | 2/28/03 | 97.8 | 92.8 | 5.27 | 70-130 | 25 |
| Toluene | 31753-02 | <0.50 | 40.0 | 40.0 | 37.7 | 37.7 | ug/L | EPA 8260B | 2/28/03 | 94.2 | 94.3 | 0.133 | 70-130 | 25 |
| Tert-Butanol | 31753-02 | <5.0 | 200 | 200 | 199 | 191 | ug/L | EPA 8260B | 2/28/03 | 99.6 | 95.5 | 4.25 | 70-130 | 25 |
| Methyl-t-Butyl Ether | 31753-02 | 90 | 40.0 | 40.0 | 128 | 122 | ug/L | EPA 8260B | 2/28/03 | 96.2 | 79.0 | 19.6 | 70-130 | 25 |

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 31761

Date : 3/6/03

**QC Report : Laboratory Control Sample (LCS)**

Project Name : **610 Market Street, Oakland**

Project Number : **030226-DW-2**

| Parameter | Spike Level | Units | Analysis Method | Date Analyzed | LCS Percent Recov. | LCS Percent Recov. Limit |
|---|---|---|---|---|---|---|
| Benzene | 40.0 | ug/L | EPA 8260B | 3/2/03 | 103 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260B | 3/2/03 | 102 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 3/2/03 | 91.8 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 3/2/03 | 104 | 70-130 |
| | | | | | | |
| Benzene | 40.0 | ug/L | EPA 8260B | 2/28/03 | 95.6 | 70-130 |
| Toluene | 40.0 | ug/L | EPA 8260B | 2/28/03 | 92.5 | 70-130 |
| Tert-Butanol | 200 | ug/L | EPA 8260B | 2/28/03 | 94.8 | 70-130 |
| Methyl-t-Butyl Ether | 40.0 | ug/L | EPA 8260B | 2/28/03 | 86.6 | 70-130 |

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St. Suite 300, Davis, CA 95616, 530-297-4800

Lab Identification (if necessary):

Address:

City, State, Zip:

**Shell Project Manager to be invoiced:**

☑ SCIENCE & ENGINEERING
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

Karen Petryna

31761

INCIDENT NUMBER (S&E ONLY): 9 8 9 9 5 7 5 0

SAP or CRMT NUMBER (TS/CRMT):

DATE: 2-26-03

PAGE: 1 of 1

| SAMPLING COMPANY: | LOG CODE: |
|---|---|
| Blaine Tech Services | BTSS |

ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112

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

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

| SITE ADDRESS (Street and City): | GLOBAL ID NO.: |
|---|---|
| 610 Market Street, Oakland | T0600102121 |

| EDF DELIVERABLE TO (Responsible Party or Designee): | PHONE NO.: | E-MAIL: | CONSULTANT PROJECT NO.: |
|---|---|---|---|
| Anni Kreml | 510-420-3335 | ShellOaklandEDF@cambria-env.com | 030226-DW2 |

SAMPLER NAME(S) (Print): Dave Walter

BTS #

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 | 1,2-DCA (8260B) | EDB (8260B) | TPH - Diesel, Extractable (8015m) | TEMPERATURE ON RECEIPT C° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW-1 | 2-26 | 14:35 | W | 3 | X | X | X | | | | | | | | 01 |
| | MW-2 | | 15:05 | | | X | X | X | | | | | | | | 02 |
| | MW-3 | | 15:10 | | | X | X | X | | | | | | | | 03 |
| | MW-4 | | 14:20 | | | X | X | X | | | | | | | | 04 |
| | MW-5 | | 14:50 | | | X | X | X | | | | | | | | 05 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

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

| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
|---|---|---|---|
| David C. Stott | | | |
| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
| | | | |
| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
| | John Cuttell/Kiff Analytical | 022703 | 1108 |

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

10/16/00 Revision

Q&Q Graphic (714) 898-9702

# WELL GAUGING DATA

Project # 030415-BA2 Date 4/15/03 Client SHELL

Site 610 MARKET ST, OAKLAND

| Well ID | 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 | |
|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 4 | | | | | 13.67 | 24.70 | TOC | |
| MW-2 | 4 | | | | | 12.81* | — | | EXT SYS VAULT |
| MW-3 | 4 | | | | | 15.12* | — | | EXT SYS VAULT |
| MW-4 | 4 | | | | | 10.73 | 19.80 | | |
| MW-5 | 4 | | | | | 10.69 | 20.15 | | |
| MW-6 | 4 | | | | | 15.05* | — | | EXT SYS VAULT |
| MW-7 | 4 | | | | | 13.95* | | | EXT SYS VAULT |
| MW-8 | 4 | | | | | 14.10* | — | | EXT SYS VAULT |
| MW-9 | 4 | | | | | 11.24 | 19.74 | | |
| | | | | | | | | | |

* Extraction System running

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030415-BA2 | Site: 610 MARKET ST, OAKLAND |
| Sampler: BRIAN ALCORN | Date: 4/15/03 |
| Well I.D.: MW-6 | Well Diameter: 2 3 (4) 6 8 ____ |
| Total Well Depth (TD): — | Depth to Water (DTW): 15.05 |
| 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]: | |

Purge Method: Bailer; Disposable Bailer; Middleburg; Electric Submersible; Waterra; Peristaltic; (Extraction Pump); Other_____

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

/ (Gals.) X PORT SAMPLE = / 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 (uS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1205 | 67.2 | 6.9 | 629 | 12 | / | clear, odor |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes No Gallons actually evacuated: /

Sampling Date: 4/15/03 Sampling Time: 1205 Depth to Water:

Sample I.D.: MW-6 Laboratory: (STL) Other_____

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

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

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

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

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030415-BA2 | Site: 610 Market St, Oakland |
| Sampler: Brian Alcorn | Date: 4/15/03 |
| Well I.D.: MW-7 | Well Diameter: 2 3 (4) 6 8 ____ |
| Total Well Depth (TD): — | Depth to Water (DTW): 13.95 |
| 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]: | |

Purge Method: Bailer; Disposable Bailer; Middleburg; Electric Submersible; Waterra; Peristaltic; (Extraction Pump); Other_____

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

| ____ (Gals.) X Port Sample = | ____ 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 |
|---|---|---|---|---|---|---|
| 1213 | 66.8 | 6.8 | 673 | 29 | / | clear, odor |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes No Gallons actually evacuated: /

Sampling Date: 4/15/03 Sampling Time: 1213 Depth to Water: 13.95

Sample I.D.: MW-7 Laboratory: (STL) Other_____

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

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

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

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

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030415-BA2 | Site: 610 MARKET ST, OAKLAND |
| Sampler: BRIAN ALCORN | Date: 4/15/03 |
| Well I.D.: MW-8 | Well Diameter: 2 3 (4) 6 8 ____ |
| Total Well Depth (TD): ✓ | Depth to Water (DTW): 14.10 |
| 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]: | |

Purge Method: Bailer, Disposable Bailer, Middleburg, Electric Submersible, Waterra, Peristaltic, (Extraction Pump), Other_____

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

| ____ (Gals.) X PORT SAMPLE= | ____ 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 (uS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1219 | 66.5 | 6.7 | 956 | 27 | ✓ | clear, odor |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes No Gallons actually evacuated: ✓

Sampling Date: 4/15/03 Sampling Time: 1219 Depth to Water: 14.10

Sample I.D.: MW-8 Laboratory: (STL) Other_____

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

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

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

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

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030415-BA2 | Site: 610 Market St, Oakland |
| Sampler: Brian Alcorn | Date: 4/15/03 |
| Well I.D.: MW-9 | Well Diameter: 2 3 (4) 6 8 ____ |
| Total Well Depth (TD): 19.74 | Depth to Water (DTW): 11.24 |
| 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]: 12.94 | |

Purge Method: Bailer, Disposable Bailer, Middleburg, (Electric Submersible), Waterra, Peristaltic, Extraction Pump, Other____

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

5.5 (Gals.) X 3 = 16.5 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 | radius² * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (µS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 1152 | 65.5 | 6.60 | 1,632 | 111 | 5.5 | cloudy yellow |
| 1153 | 64.9 | 6.66 | 1,728 | 527 | 11.0 | cloudy brown |
| 1154 | 64.9 | 6.66 | 2,100 | >1,000 | 16.5 | very cloudy brown |
| | * well dewatered at end of third volume | | | | | DTW 15.59 @ 1158 |
| 1228 | | | | | | DTW 11.43 @ 1225 |

Did well dewater? (Yes*) No Gallons actually evacuated: 16.5

Sampling Date: 4/15/03 Sampling Time: 1228 Depth to Water: 11.43

Sample I.D.: MW-9 Laboratory: (STL) Other____

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

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

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

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

# WELL GAUGING DATA

Project # 030407-DW-1 Date 4-7-03 Client Shell

Site 610 Market St. Oakland

| Well ID | 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) | |
|---|---|---|---|---|---|---|---|---|---|
| MW-7 | 4 | | | | | 13.85 | 18.30 | | |
| MW-8 | 4 | | | | | 14.13 | 18.60 | | |
| MW-6 | 4 | | | | | 13.80 | 18.68 | | |
| | | | | | | | | | |
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# WELL DEVELOPMENT DATA SHEET

| | |
|---|---|
| Project #: 030407-DW-1 | Client: Shell |
| Developer: Dave Walter | Date Developed: 4-7-03 |
| Well I.D. MW-6 | Well Diameter: (circle one) 2 3 (4) 6 |
| Total Well Depth: | Depth to Water: |
| Before 18.50 After 18.68 | Before 13.80 After 15.06 |
| Reason not developed: | If Free Product, thickness: |
| Additional Notations: | |

| Volume Conversion Factor (VCF): | Well dia. | | VCF |
|---|---|---|---|
| (12 x ($d^2$/4) x π) /231 | 2" | = | 0.16 |
| where | 3" | = | 0.37 |
| 12 = in / foot | 4" | = | 0.65 |
| d = diameter (in.) | 6" | = | 1.47 |
| π = 3.1416 | 10" | = | 4.08 |
| 231 = in 3/gal | 12" | = | 6.87 |

| 3.1 | X | 10 | = | 31 |
|---|---|---|---|---|
| 1 Case Volume | | Specified Volumes | | gallons |

Purging Device: Bailer ☐ Electric Submersible ☒
Middleburg ☒ Suction Pump ☐

Type of Installed Pump _____
Other equipment used 4" surge block

| TIME | TEMP (F) | pH | Cond. (mS or (µS)) | TURBIDITY (NTUs) | VOLUME REMOVED: | NOTATIONS: |
|---|---|---|---|---|---|---|
| 11:45 | 67.3 | 7.1 | 626 | >200 | 3.1 | Surge-blocked = 20 min agitated bottom w/ mB pump |
| 11:49 | 67.7 | 7.0 | 622 | >200 | 6.2 | odor / brown / some silt |
| 11:54 | 68.3 | 7.1 | 589 | >200 | 9.3 | Hard bottom |
| 11:59 | 69.2 | 7.2 | 556 | >200 | 12.4 | Switched to ES |
| 12:00 | 68.9 | 7.1 | 547 | >200 | 15.5 | Lighter brown |
| 12:01 | 68.6 | 7.1 | 538 | >200 | 18.6 | |
| 12:02 | 68.6 | 7.0 | 556 | >200 | 21.7 | |
| 12:03 | 68.6 | 7.0 | 612 | >200 | 24.8 | |
| 12:04 | 68.6 | 7.0 | 594 | >200 | 27.9 | very light brown |
| 12:05 | 68.8 | 7.0 | 570 | >200 | 31.0 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| id Well Dewater? NO | | If yes, note above. | | Gallons Actually Evacuated: | | 31 |

# WELL DEVELOPMENT DATA SHEET

| | |
|---|---|
| Project #: 030407-1 DW-1 | Client: Shell |
| Developer: Dave Walter | Date Developed: 4-7-03 |
| Well I.D. MW-7 | Well Diameter: (circle one) 2 3 (4) 6 |
| Total Well Depth: | Depth to Water: |
| Before 17.70 After 18.30 | Before 13.85 After 16.30 |
| Reason not developed: | If Free Product, thickness: |
| Additional Notations: | |

Volume Conversion Factor (VCF):
(12 x ($d^2$/4) x π) /231
where
12 = in / foot
d = diameter (in.)
π = 3.1416
231 = in 3/gal

| Well dia. | | VCF |
|---|---|---|
| 2" | = | 0.16 |
| 3" | = | 0.37 |
| 4" | = | 0.65 |
| 6" | = | 1.47 |
| 10" | = | 4.08 |
| 12" | = | 6.87 |

| 2.5 | X | 10 | = | 25 |
|---|---|---|---|---|
| 1 Case Volume | | Specified Volumes | | gallons |

Purging Device: Bailer ☐ Electric Submersible ☒
Middleburg ☒ Suction Pump ☐

Type of Installed Pump _____
Other equipment used 4" surge block

| TIME | TEMP (F) | pH | Cond. (mS or µS) | TURBIDITY (NTUs) | VOLUME REMOVED: | NOTATIONS: |
|---|---|---|---|---|---|---|
| 9:42 | 64.3 | 7.2 | 705 | >200 | 2.5 | surge-blocked = 30min Agitated bottom w/ mB pump |
| 9:48 | 63.2 | 7.1 | 728 | >200 | 5 | Brown-silty light odor |
| 9:53 | 65.5 | 7.1 | 723 | >200 | 7.5 | Hard bottom-switched to ES |
| 9:55 | 65.9 | 7.1 | 724 | >200 | 10 | well dewatered-recharging |
| 10:02 | 65.9 | 7.2 | 722 | >200 | 12.5 | |
| 10:04 | 67.1 | 7.2 | 680 | >200 | 15.0 | |
| 10:09 | 66.5 | 7.0 | 693 | >200 | 17.5 | still very brown-very |
| 10:11 | 67.0 | 7.0 | 665 | >200 | 20 | little silt |
| 10:16 | 67.1 | 7.0 | 677 | >200 | 22.5 | light brown |
| 10:18 | 67.5 | 7.0 | 687 | >200 | 25.0 | hard bottom |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did Well Dewater? yes If yes, note above. Gallons Actually Evacuated: 25

# WELL DEVELOPMENT DATA SHEET

| | |
|---|---|
| Project #: 030407-DW-1 | Client: Shell |
| Developer: Dave Walter | Date Developed: 4-7-03 |
| Well I.D. MW-8 | Well Diameter: (circle one) 2 3 (4) 6 |
| Total Well Depth: Before 18.60 After 18.60 | Depth to Water: Before 14.13 After 16.06 |
| Reason not developed: | If Free Product, thickness: |
| Additional Notations: | |

| Volume Conversion Factor (VCF): | Well dia. | | VCF |
|---|---|---|---|
| {12 x ($d^2$/4) x π} /231 | 2" | = | 0.16 |
| where | 3" | = | 0.37 |
| 12 = in / foot | 4" | = | 0.65 |
| d = diameter (in.) | 6" | = | 1.47 |
| π = 3.1416 | 10" | = | 4.08 |
| 231 = in 3/gal | 12" | = | 6.87 |

| 2.9 | X | 10 | = | 29 |
|---|---|---|---|---|
| 1 Case Volume | | Specified Volumes | | gallons |

Purging Device: Bailer ☐ Electric Submersible ☒
Middleburg ☒ Suction Pump ☐

Type of Installed Pump
Other equipment used 4" surge block

| TIME | TEMP (F) | pH | Cond. (mS or µS) | TURBIDITY (NTUs) | VOLUME REMOVED: | NOTATIONS: |
|---|---|---|---|---|---|---|
| 10:48 | 65.5 | 7.0 | 1045 | >200 | 3 | surge - blocked = 20min in gray - odor - low silt |
| 10:52 | 65.9 | 6.8 | 1043 | >200 | 6 | Agitated bottom w/ MB pump |
| 10:57 | 66.3 | 6.8 | 770 | >200 | 9 | Hard bottom Switched to ES Brown-no gray |
| 10:59 | 66.8 | 6.7 | 1025 | >200 | 12 | |
| 11:00 | 67.0 | 6.6 | 1069 | >200 | 15 | |
| 11:01 | 67.1 | 6.6 | 1105 | >200 | 18 | Lighter brown |
| 11:03 | 67.0 | 6.6 | 1157 | >200 | 21 | gray - stronger odor |
| 11:05 | 67.1 | 6.6 | 1082 | >200 | 24 | |
| 11:06 | 67.2 | 6.6 | 1108 | >200 | 27 | lighter odor |
| 11:08 | 67.2 | 6.6 | 1094 | >200 | 30 | hard bottom |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| | | | |
|---|---|---|---|
| Did Well Dewater? no | If yes, note above. | Gallons Actually Evacuated: | 30 |

# WELL GAUGING DATA

Project # 030328-AC1 Date 3-28-03 Client Shell

Site 610 Market St. Oakland

| Well ID | 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) | |
|---|---|---|---|---|---|---|---|---|---|
| MW-6 | 4 | Did | not gauge | | EXT Pump | in well | | TOC | |
| MW-7 | 4 | " | | " | | " | | ↓ | |
| MW-8 | 4 | " | | " | | " | | | |
| MW-9 | 4 | | | | | 11.19 | 19.92 | | |

# WELL DEVELOPMENT DATA SHEET

| | |
|---|---|
| Project #: 030328-Ac1 | Client: Shell |
| Developer: AC | Date Developed: 3-28-03 |
| Well I.D. MW-9 | Well Diameter: (circle one) 2 3 (4) 6 |
| Total Well Depth: Before 19.81 After 19.92 | Depth to Water: Before 11.19 After 11.21 |
| Reason not developed: | If Free Product, thickness: |
| Additional Notations: | |

| Volume Conversion Factor (VCF): | Well dia. | | VCF |
|---|---|---|---|
| (12 x ($d^2$/4) x π) /231 | 2" | = | 0.16 |
| where | 3" | = | 0.37 |
| 12 = in / foot | 4" | = | 0.65 |
| d = diameter (in.) | 6" | = | 1.47 |
| π = 3.1416 | 10" | = | 4.08 |
| 231 = in 3/gal | 12" | = | 6.87 |

| 5.6 | X | 10 | = | 56 |
|---|---|---|---|---|
| 1 Case Volume | | Specified Volumes | | gallons |

Purging Device: Bailer ☐ Electric Submersible ☐
Middleburg ☐ Suction Pump ☐

Type of Installed Pump _____
Other equipment used _____

| TIME | TEMP (F) | pH | Cond. (mS or µS) | TURBIDITY (NTUs) | VOLUME REMOVED: | NOTATIONS: |
|---|---|---|---|---|---|---|
| Surged well for 10 min. prior to purging - started purge w/ M.B. pump | | | | | | |
| 0720 | 62.6 | 6.7 | 1558 | >1000 | 6 | brown, very little silt |
| 0728 | 61.9 | 6.8 | 1812 | >1000 | 12 | cloudy, brown |
| 0736 | 62.7 | 6.8 | 1894 | >1000 | 18 | Hard bottom |
| Switched to ES pump | | | | | | |
| 0741 | 62.9 | 6.8 | 2018 | >1000 | 24 | cloudy |
| 0743 | 64.0 | 6.9 | 1758 | >1000 | 30 | cloudy, more turbid |
| 0745 | 64.1 | 6.9 | 1764 | >1000 | 36 | brown, turbid |
| 0747 | 64.1 | 6.9 | 1759 | >1000 | 42 | " " |
| 0749 | 63.8 | 6.9 | 1724 | >1000 | 48 | " " |
| well dewatered | | | @ 50 | gal | | DTW = 17.22 Fast recharge |
| 0754 | 64.4 | 6.7 | 2101 | >1000 | 56 | more clear |
| 0756 | 63.5 | 6.8 | 1992 | >1000 | 62 | cloudy |

| Did Well Dewater? yes | If yes, note above. | Gallons Actually Evacuated: | 62 |
|---|---|---|---|

# WELL GAUGING DATA

Project # 030276-DW-2 Date 2-26-03 Client Shell

Site 610 Market St. Oakland

| Well ID | 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) | |
|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 4 | | | | | 13.57 | 24.70 | | |
| MW-2 | 4 | | | | | 12.69 | — | | |
| MW-3 | 4 | | | | | 15.01 | — | | |
| MW-4 | 4 | | | | 10.6 | ~~15.55~~ | 19.80 | | |
| MW-5 | 4 | | | | | ~~10.57~~ | 20.15 | | |
| | | | | | | 10.57 | | | |

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030226-DW-2 | Site: 610 Market St Oakland |
| Sampler: Dave Walter | Date: 2-26-03 |
| Well I.D.: mw-1 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): 24.70 | Depth to Water (DTW): 13.57 |
| 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]: 15.79 | |

Purge Method: Bailer, Disposable Bailer, Middleburg, X Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other_____

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

7.2 (Gals.) X 3 = 21.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

| Well Diameter | Multiplier | Well Diameter | Multiplier |
|---|---|---|---|
| 1" | 0.04 | 4" | 0.65 |
| 2" | 0.16 | 6" | 1.47 |
| 3" | 0.37 | Other | radius² * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (uS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 14:19 | 64.3 | 7.0 | 926 | 49 | 8 | odor |
| 14:21 | 66.0 | 7.0 | 936 | 20 | 16 | |
| 14:23 | 66.4 | 7.0 | 935 | 15 | 24 | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 24

Sampling Date: 2-26-03 Sampling Time: 14:35 Depth to Water: 15.60

Sample I.D.: MW-1 Laboratory: (Kiff) SPL Other_____

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

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

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

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

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030226-DW-2 | Site: 610 Market St Oakland |
| Sampler: Dave Walter | Date: 2-26-03 |
| Well I.D.: mw-2 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): — | Depth to Water (DTW): 12.69 |
| 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]: | |

Purge Method: Bailer; Disposable Bailer; Middleburg; Electric Submersible; Waterra; Peristaltic; X Extraction Pump; Other ___

Sampling Method: X Bailer; Disposable Bailer; X Extraction Port; Dedicated Tubing; Other: ___

___ (Gals.) X 15 Extraction well = ___ 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 |
|---|---|---|---|---|---|---|
| 15:05 | 64.9 | 7.3 | 699 | 8 | — | |
| | Let | port | run for 1 | min prior to | sampling | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Date: 2-26-03 Sampling Time: 15:05 Depth to Water:

Sample I.D.: MW-2 Laboratory: (Kiff) SPL Other ___

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

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

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

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

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030226-DW-2 | Site: 610 Market St Oakland |
| Sampler: Dave Walter | Date: 2-26-03 |
| Well I.D.: MW-3 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): | Depth to Water (DTW): 15.01 |
| 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]: | |

Purge Method: Bailer; Disposable Bailer; Middleburg; Electric Submersible; Waterra; Peristaltic; (Extraction Pump); Other_____

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

_____(Gals.) X 5 Extraction well = _____ 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 |
|---|---|---|---|---|---|---|
| 15:10 | 64.4 | 7.2 | 574 | 4 | — | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Date: 2-26-03 Sampling Time: 15:10 Depth to Water:

Sample I.D.: MW-3 Laboratory: (Kiff) SPL Other_____

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

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

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

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

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030226-DW-2 | Site: 610 Market St Oakland |
| Sampler: Dave Walter | Date: 2-26-03 |
| Well I.D.: MW-4 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): 19.80 | Depth to Water (DTW): 10.61 |
| 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]: 12.44 | |

Purge Method: Bailer; Disposable Bailer; Middleburg; X Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

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

6.0 (Gals.) X 3 = 18.0 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 |
|---|---|---|---|---|---|---|
| 14:00 | 63.1 | 6.8 | 423 | 85 | 6 | |
| 14:09 | 64.4 | 6.8 | 442 | 80 | 12 | |
| 14:04 | 65.5 | 6.8 | 473 | 27 | 18 | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 18

Sampling Date: 2-26-03 Sampling Time: 14:19 Depth to Water: 13.82 (Steel tape)

Sample I.D.: MW-4 Laboratory: (Kiff) SPL Other_____

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

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

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

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

# SHELL WELL MONITORING DATA SHEET

| | |
|---|---|
| BTS #: 030226-DW-2 | Site: 610 Market St Oakland |
| Sampler: Dave Walter | Date: 2-26-03 |
| Well I.D.: MW-5 | Well Diameter: 2 3 (4) 6 8 ___ |
| Total Well Depth (TD): 20.15 | Depth to Water (DTW): 10.57 |
| 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]: 12.48 | |

Purge Method: Bailer, Disposable Bailer, Middleburg, X Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other_____

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

| 6.2 (Gals.) X | 3 = | 18.6 Gals. |
|---|---|---|
| 1 Case Volume | Specified Volumes | Calculated Volume |

| Well Diameter | Multiplier | Well Diameter | Multiplier |
|---|---|---|---|
| 1" | 0.04 | 4" | 0.65 |
| 2" | 0.16 | 6" | 1.47 |
| 3" | 0.37 | Other | radius² * 0.163 |

| Time | Temp (°F) | pH | Cond. (mS or (uS)) | Turbidity (NTUs) | Gals. Removed | Observations |
|---|---|---|---|---|---|---|
| 14:44 | 63.1 | 7.3 | 1371 | 66 | (600) 7 | |
| 14:46 | 64.9 | 7.3 | 1406 | >200 | 14 | cloudy |
| 14:48 | 64.9 | 7.3 | 1395 | >200 | 21 | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 21

Sampling Date: 2-26-03 Sampling Time: 14:53 Depth to Water: 15.30 (stretched)

Sample I.D.: MW-5 Laboratory: (Kiff) SPL Other_____

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

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

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

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

# ATTACHMENT B

## Virgil Chavez Land Surveying Report

**Virgil Chavez Land Surveying**
312 Georgia Street, Suite 225
Vallejo, California 94590-5907
(707) 553-2476 • Fax (707) 553-8698

April 11, 2003
Project No.: 1603-30

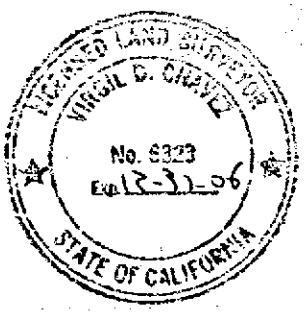
Jason Gerke
Cambria Environmental
5900 Hollis Street, Suite A
Emeryville, CA 94608

Subject: Monitoring Well Survey
Shell-Branded Service Station
610 Market Street
Oakland, CA

Dear Jason:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was completed on April 10, 2003. The benchmark for this survey was a cut square in the top of curb in mid-return at an over the curb inlet at the northwest corner of 7th and Fallon Streets. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83).
Benchmark Elevation = 19.29 feet (NGVD 29).

| Latitude | Longitude | Northing | Easting | Elev. | Desc. |
|---|---|---|---|---|---|
| | | | | 19.45 | RIM MW-6 |
| 37.8021535 | -122.2827135 | 2119449.65 | 6046643.78 | 18.10 | TOC MW-6 |
| | | | | 20.52 | RIM MW-7 |
| 37.8022582 | -122.2827062 | 2119487.72 | 6046646.61 | 19.16 | TOC MW-7 |
| | | | | 20.33 | RIM MW-8 |
| 37.8023346 | -122.2827913 | 2119515.98 | 6046622.54 | 18.72 | TOC MW-8 |
| | | | | 19.28 | RIM MW-9 |
| 37.8019800 | -122.2824027 | 2119384.77 | 6046732.33 | 18.78 | TOC MW-9 |




Sincerely,

Virgil D. Chavez, PLS 6323