CONESTOGA-ROVERS
& ASSOCIATES



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May 15, 2007

Mr. Steven Plunkett
Alameda County Environmental Health Services
UST Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **First Quarter 2007 Monitoring Report**
Former ARCO Service Station
706 Harrison Street, Oakland, California
Fuel Leak Case No. RO0000484
CRA Project No. 231116

Dear Mr. Hwang:

On behalf of Mr. Bo K. Gin, Conestoga-Rovers & Associates, Inc. (CRA) is submitting this *First Quarter 2007 Monitoring Report* for the subject site. This report describes first quarter 2007 activities and results as well as anticipated second quarter 2007 activities.

Because of a font change, groundwater data tables in the third and fourth quarter 2006 reports should have been reported as ug/L. These reports have been corrected and resubmitted to Geotracker.

If you have any questions or comments regarding this report or the project, please contact Mark Jonas at (510) 420-3307.

Sincerely,
**Conestoga-Rovers & Associates, Inc.**

Mark Jonas, P.G.
Senior Project Manager

Attachments: *First Quarter 2007 Monitoring Report*

cc: Mr. Bo K. Gin, 342 Lester Avenue, Oakland, California 94606
Mr. Mike Rauser, Aqua Science Engineering, 208 W. Pintado Road, Danville, California 94526

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# FIRST QUARTER 2007 MONITORING REPORT

## Former ARCO Service Station
## 706 Harrison Street, Oakland, California
## Fuel Leak Case No. RO0000484
## CRA Project No. 231116

**May 15, 2007**

*Prepared for:*

Mr. Bo K. Gin
342 Lester Avenue
Oakland, California 94606

*Prepared by:*

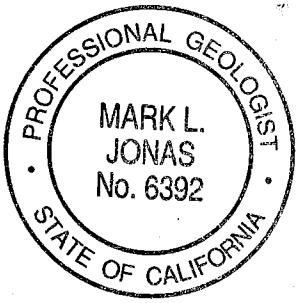
Conestoga-Rovers & Associates, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608

*Written by:*

Christina McClelland
Staff Geologist



Mark Jonas, P.G.
Senior Project Manager



# FIRST QUARTER 2007 MONITORING REPORT

**Former ARCO Service Station**
**706 Harrison Street, Oakland, California**
**Fuel Leak Case No. RO0000484**
**CRA Project No. 231116**

**May 15, 2007**

## INTRODUCTION

On behalf of Mr. Bo K. Gin, Conestoga-Rovers & Associates, Inc. (CRA) is submitting this *First Quarter 2007 Monitoring Report* for the subject site. Presented are the first quarter 2007 groundwater monitoring activities and results and the anticipated second quarter 2007 activities.

Figure 1 is a vicinity map. Figure 2 is recent monitoring groundwater contours and hydrocarbon concentrations. Table 1 is well construction details. Table 2 provides recent and historic groundwater level measurements, elevations, and hydrochemical data. Appendix A contains field data sheets for this monitoring event. Appendix B presents the recent laboratory analytical report. Appendix C includes time-series plots with benzene and methyl tertiary butyl ether (MTBE) concentrations, and groundwater elevations. Appendix D provides monitoring groundwater elevations and analytical data for the neighboring former Shell Station located at 726 Harrison Street, in Oakland, California. Appendix E is regulatory correspondence.

## FIRST QUARTER 2007 ACTIVITIES

### Monitoring Activities

***Field Activities:*** On January 26, 2007, Muskan Environmental Sampling (MES) conducted quarterly monitoring and sampling activities. MES measured well water levels in monitoring wells MW-1 through MW-7 (Figure 2). MES also collected groundwater samples from monitoring wells MW-1 through MW-7. Groundwater depth measurements have been submitted to the GeoTracker database.

Prior to groundwater sampling, groundwater levels were measured in all monitoring wells. Each monitoring well was then purged before sampling. MES purged at least three well-casing volumes of groundwater from each monitoring well. Field measurements of pH, conductivity, and temperature of purged groundwater were measured after the extraction of each successive casing volume. Well purging continued until consecutive pH, specific conductance, and temperature measurements appeared to stabilize. Field measurements, purge volumes, and sample collection data were recorded on field sampling data forms, provided in Appendix A.

Groundwater samples were collected using new disposable bailers, decanted into appropriate sampling containers supplied by the analytical laboratory. Samples were labeled, placed in protective foam sleeves, stored on crushed, water-based ice at or below 4 degrees Celsius and transported under a chain-of-custody (COC) to the laboratory. The COC used for this monitoring event is provided in Appendix B.

***Sample Analyses:*** Groundwater samples were analyzed by McCampbell Analytical, Inc. of Pittsburg, California, a California-certified laboratory (DHS License No. 1644). All groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified United States Environmental Protection Agency (EPA) Method SW8015C; benzene, toluene, ethylbenzene, and total xylenes (BTEX) and MTBE by EPA Method SW8021B; and all samples were analyzed for MTBE by EPA Method SW8260B. The analytical laboratory report is included in Appendix B. Groundwater analytical results are provided on Table 2 and summarized on Figure 2. Groundwater analytical results have been submitted to the GeoTracker database.

## Monitoring Results

***Groundwater Flow Direction and Gradient:*** Based on depth-to-water measurements collected during the monitoring event on January 26, 2007, groundwater appears to flow towards the south with an apparent gradient of 0.02 feet per foot (Figure 2). The gradient and flow direction are consistent with historical data. Depth-to-water and groundwater elevation data for the site are in Table 2.

***Hydrocarbon Distribution in Groundwater:*** Hydrocarbons were detected in down-gradient well MW-1, source area well MW-2, and up-gradient well MW-4 during this sampling event (Figure 2, Table 2). The highest TPHg, benzene, toluene, ethylbenzene, and xylenes concentrations were detected in monitoring well MW-2 at 120,000 micrograms per liter (µg/L), 3,900 µg/L, 16,000 µg/L, 2,300 µg/L, and 10,000 µg/L, respectively. TPHg and BTEX concentrations were detected in well MW-1 at 3,300 µg/L, 600 µg/L, 33 µg/L, 34 µg/L, and 27 µg/L, respectively.

TPHg and BTEX concentrations in upgradient well MW-4 are slightly lower than the previous quarter, but remain elevated at 2,000 µg/L, 290 µg/L, 20 µg/L, 28 µg/L, and 42 µg/L, respectively. Analytical results are presented in Figure 2, Table 2, and Appendix B.

Significantly higher elevated concentrations of BTEX are present up-gradient of the site, on the adjacent property (see Figure 2 and Appendix D).

***MTBE Distribution in Groundwater:***

The highest on-site MTBE concentration was detected in up-gradient well MW-4, at 8,300 µg/L. MTBE concentrations in wells MW-1, MW-2, and MW-3 were 5,900 µg/L, and 3,000 µg/L, and 3,400 µg/L, respectively. MTBE concentration in well MW-5 was 490 µg/L. MTBE was also detected in monitoring wells MW-1 through MW-5 during this sampling event.

Significantly higher concentrations of MTBE were identified in wells located up-gradient, on the adjacent property. The highest MTBE concentration was detected in monitoring well MW-5, on the adjacent property, at 38,000 µg/L (Figure 2).

## ANTICIPATED SECOND QUARTER 2007 ACTIVITIES

### Monitoring Activities

During second quarter of 2007, CRA will measure water levels in well MW-1 through MW-7 and collect groundwater samples from monitoring wells MW-1, MW-2 and MW-4. Pursuant to Alameda County Environmental Health's letter dated February 25, 2003, the well sampling schedule was revised so that wells MW-1, MW-2, and MW-4 are sampled on a quarterly basis and wells MW-3, MW-5, MW-6, and MW-7 are sampled on a semi-annual basis, during the first and third quarters. Groundwater samples will be analyzed for TPHg by EPA Method SW8015C, BTEX, and MTBE by EPA Method SW8021B and by EPA Method SW8260B. CRA will prepare a groundwater monitoring report summarizing the monitoring activities and results.

## REGULATORY CORRESPONDENCE

In a January 24, 2007 letter to Ms. Donna Drogos on behalf of our client we requested approval for onsite characterization and ACEH's pursuit of remediation at the upgradient site. This letter and associated correspondence are in Appendix E *Regulatory Correspondence.* We request a response from ACEH for our request.

## ATTACHMENTS:

Figure 1 – Vicinity Map
Figure 2 – Groundwater Elevation Contour and Hydrocarbon Concentration Map

Table 1 – Well Construction Details
Table 2 – Groundwater Elevation and Analytical Data

Appendix A – Groundwater Monitoring Field Data Sheets
Appendix B – Laboratory Analytical Report
Appendix C – Benzene and MTBE Concentration Graphs
Appendix D – Former Shell Station Groundwater Monitoring and Analytical Results
Appendix E – Regulatory Correspondence

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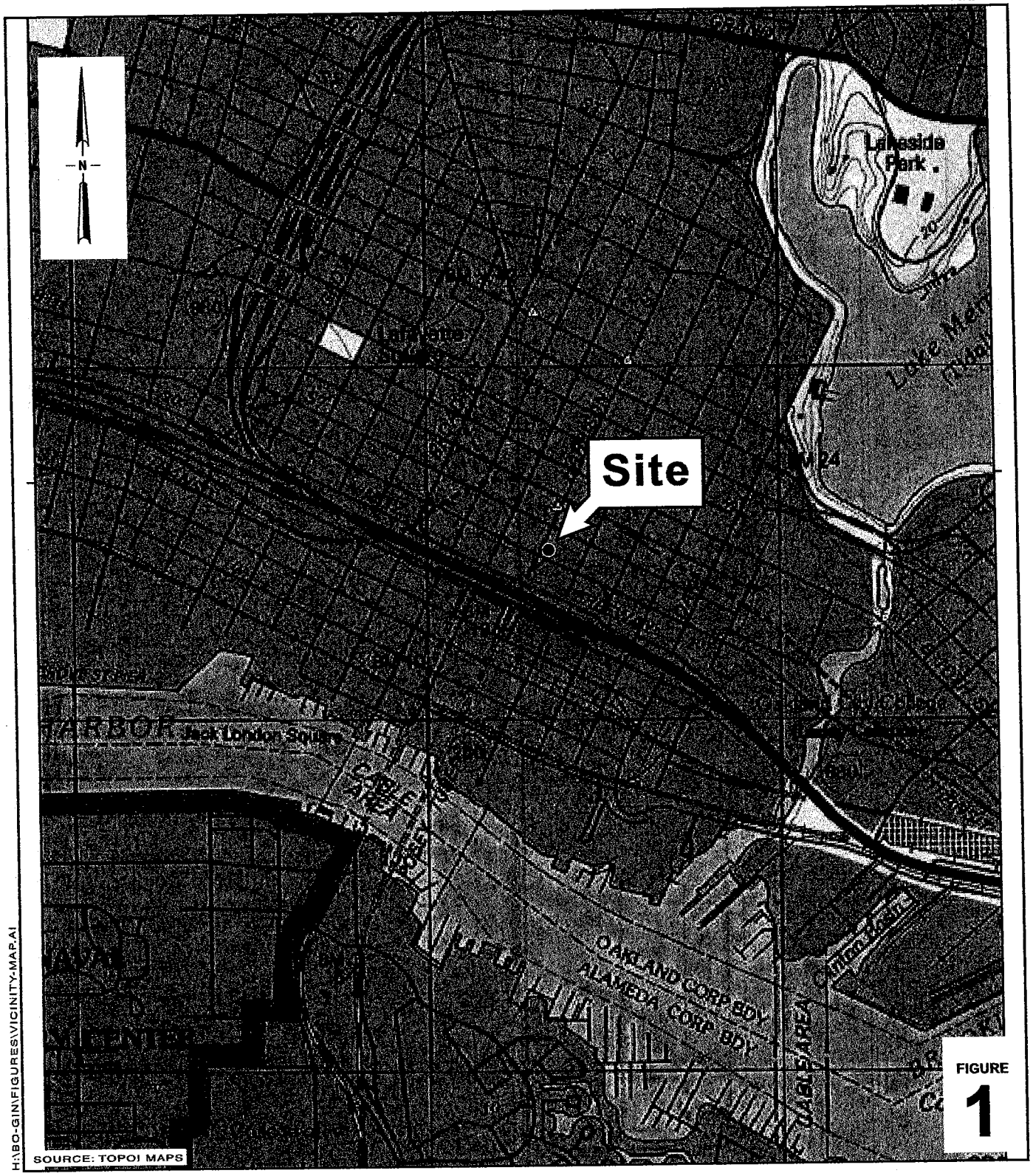
11/24/04




H:\BO-GIN\FIGURES\VICINITY-MAP.AI

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

FIGURE 1

**Former ARCO Station**

706 Harrison Street

Oakland, California

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**Vicinity Map**

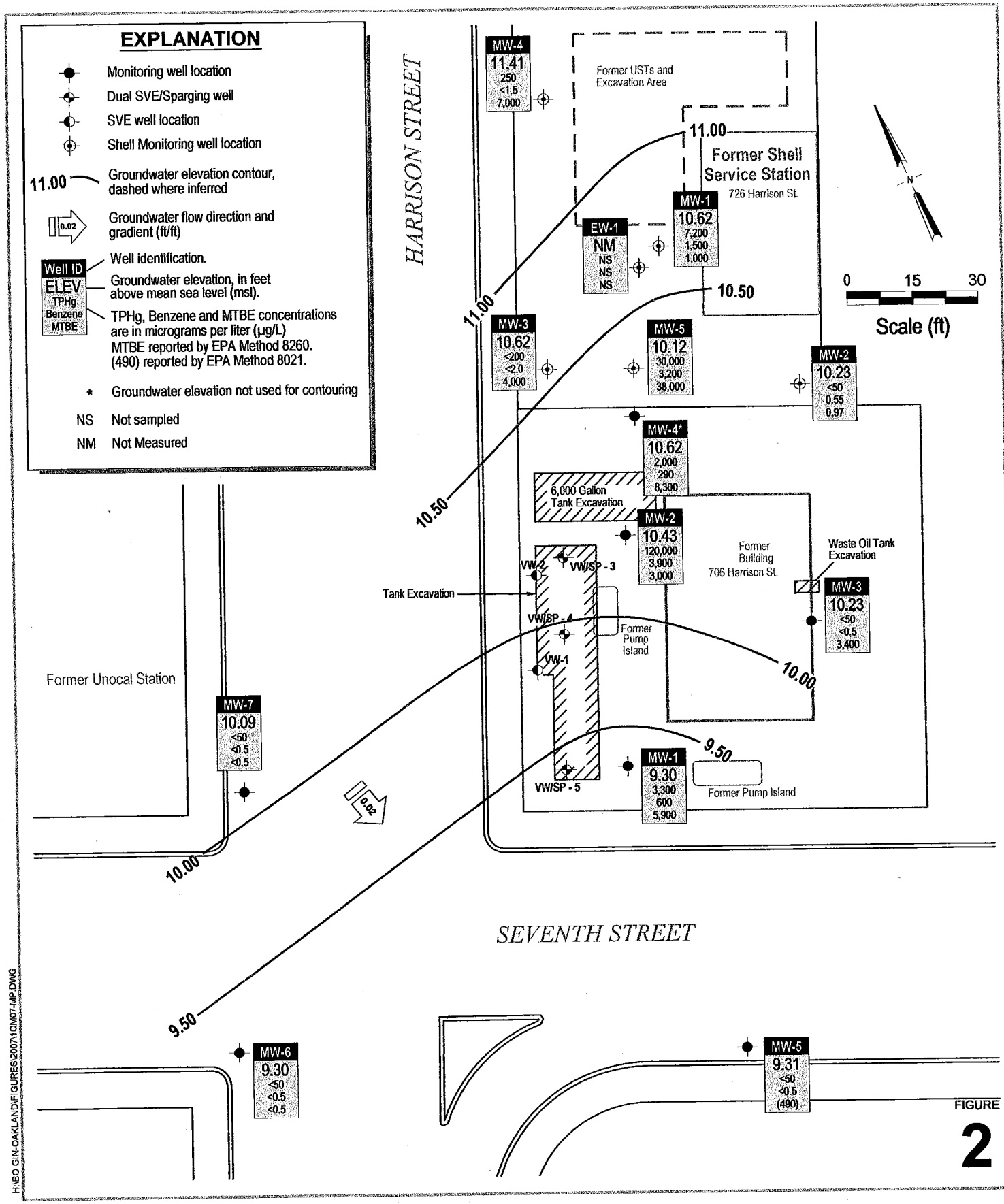


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FIGURE

**2**

## Former ARCO Station

706 Harrison Street

Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

## Groundwater Elevation Contour and Hydrocarbon Concentration Map

January 26, 2007

**Table 1. Well Construction Details** - Former ARCO Station, 706 Harrison Street, Oakland, California

| Well ID | Date Installed | Borehole Depth (ft) | Borehole Diameter (in) | Casing Diameter (in) | Screen Interval (ft bgs) | Screen Size (in) | Filter Pack (ft bgs) | Bentonite Seal (ft bgs) | Cement Seal (ft bgs) | TOC Elevation (ft msl) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | July 22, 1993 | 28.0 | 8 | 2 | 18 - 28 | 0.020 | 16 - 28 | 15 - 16 | 0 - 15 | 26.17 |
| MW-2 | July 23, 1993 | 28.0 | 8 | 2 | 18 - 28 | 0.020 | 16 - 28 | 15 - 16 | 0 - 15 | 27.53 |
| MW-3 | July 22, 1993 | 28.0 | 8 | 2 | 18 - 28 | 0.020 | 16 - 28 | 15 - 16 | 0 - 15 | 26.79 |
| MW-4 | Nov. 28, 1994 | 31.5 | NA | 2 | 9.5 - 29.5 | 0.010 | 8.5 - 31.5 | 6.5 - 8.5 | 0 - 6.5 | 28.20 |
| MW-5 | Nov. 30, 1994 | 30.0 | NA | 2 | 14.5 - 29.0 | 0.010 | 13 - 30 | 11 - 13 | 0 - 11 | 25.07 |
| MW-6 | Dec. 1, 1994 | 27.5 | NA | 2 | 11.5 - 26.5 | 0.010 | 10.5 - 27.5 | 8.5 - 10.5 | 0 - 8.5 | 26.13 |
| MW-7 | Dec. 2, 1994 | 29.0 | NA | 2 | 13 - 28 | 0.010 | 12 - 29 | 10 - 12 | 0 - 10 | 26.70 |
| VW-1 | July 23, 1993 | 20.0 | 8 | 2 | 15 - 20 | 0.020 | 13 - 20 | 12 - 13 | 0 - 12 | NA |
| VW-2 | July 22, 1993 | 20.0 | 8 | 2 | 15 - 20 | 0.020 | 13 - 20 | 12 - 13 | 0 - 12 | NA |
| VW-3 (Dual) | Nov. 28, 1994 | 29.5 | NA | 2" / 1" | 2": 8 - 18<br>1": 27 - 28 | 0.010 | 2": 6 - 18<br>1": 25.5 - 29.5 | 5 - 6<br>23.5 - 25.5 | 0 - 5 | NA |
| VW-4 (Dual) | Nov. 29, 1994 | 29.5 | NA | 2" / 1" | 2": 8 - 18<br>1": 28.5 - 29.5 | 0.010 | 2": 7 - 18<br>1": 26.5 - 29.5 | 5 - 7<br>18 - 26.5 | 0 - 5 | NA |
| VW-5 (Dual) | Nov. 30, 1994 | 30.0 | NA | 2" / 1" | 2": 7 - 17<br>1": 28.5 - 29.5 | 0.010 | 2": 6 - 17<br>1": 26 - 30 | 5 - 6<br>17 - 26 | 0 - 5 | NA |

**Abbreviations / Notes**
ft = feet
in = inches
ft bgs = feet below grade surface
ft msl = feet above mean sea level
TOC = top of casing
NA = Not Available

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 8/13/1993 | 17.40 | 11.75 | 20,000 | 8,500 | 640 | 280 | 440 | - | - | |
| *29.15* | 12/14/1993 | 17.27 | 11.88 | 17,000 | 9,200 | 1,200 | 4,400 | 540 | - | - | |
| | 4/15/1994 | 17.00 | 12.15 | 9,500 | 3,600 | 530 | 160 | 280 | - | - | |
| | 12/29/1994 | 16.40 | 12.75 | - | - | - | - | - | - | - | |
| | 7/19/1996 | 15.83 | 13.32 | 17,000 | 5,200 | 1,100 | 330 | 530 | - | - | sheen/odor |
| | 1/27/1997 | 13.58 | 15.57 | 30,000 | 9,800 | 1,300 | 790 | 880 | 400 | - | b, sheen/odor |
| | 6/18/1997 | 16.11 | 13.04 | 19,000 | 5,600 | 1,400 | 510 | 770 | 1,200 | 800 | a, b |
| | 9/18/1997 | 16.62 | 12.53 | 48,000 | 18,000 | 4,400 | 1,000 | 1,700 | ND<640 | - | b |
| | 12/10/1997 | 15.93 | 13.22 | 22,000 | 4,900 | 1,300 | 580 | 650 | 460 | 260 | a, b, odor |
| | 2/18/1998 | 11.56 | 17.59 | 16,000 | 5,000 | 750 | 400 | 780 | 1,800 | - | b |
| | 5/12/1998 | 13.53 | 15.62 | 19,000 | 4,600 | 810 | 450 | 770 | 5,500 | - | b, c |
| | 8/18/1998 | 15.19 | 13.96 | 12,000 | 3,600 | 1,300 | 300 | 570 | 5,100 | 3,700 | a, b |
| | 11/24/1998 | 15.67 | 13.48 | 13,000 | 3,600 | 890 | 330 | 380 | 6,100 | - | b |
| | 2/4/1999 | 15.31 | 13.84 | 20,000 | 5,900 | 830 | 450 | 500 | 4,900 | - | b |
| | 5/18/1999 | 14.95 | 14.20 | 23,000 | 7,000 | 1,600 | 520 | 830 | 6,100 | - | b |
| | 8/27/1999 | 15.84 | 13.31 | 19,000 | 5,800 | 1,700 | 410 | 710 | 1,800 | 2,100 | a, b |
| | 11/18/1999 | 16.39 | 12.76 | 20,000 | 4,900 | 630 | 410 | 580 | 4,900 | 3,600 | b |
| | 2/29/2000 | 13.43 | 15.72 | 12,000 | 2,800 | 24 | 290 | 170 | 3,100 | 3,400 | a |
| | 5/25/2000 | 15.08 | 14.07 | 12,000 | 2,200 | 120 | 330 | 260 | 9,100 | 12,000 | a, b |
| | 8/9/2000 | 16.09 | 13.06 | 13,000 | 2,500 | 44 | 310 | 140 | 16,000 | - | b |
| | 11/9/2000 | 15.90 | 13.25 | 11,000 | 2,500 | 140 | 380 | 150 | 11,000 | 12,000 | b |
| | 1/29/2001 | 16.05 | 13.10 | 9,600 | 3,100 | 100 | 77 | 200 | 2,600 | 2,400 | b |
| | 4/16/2001 | 16.90 | 12.25 | 3,300 | 1,200 | 4.4 | 2.7 | 28 | 900 | 940 | b |
| | 8/14/2001 | 17.13 | 12.02 | 2,000 | 500 | 3.4 | 24 | 7.8 | 68 | 53 | a |
| | 10/22/2001 | 16.11 | 13.04 | 220 | 83 | 0.63 | 2.8 | ND<0.5 | ND<10 | 5.7 | a |
| | 2/1/2002 | 16.93 | 12.22 | 640 | 220 | 1.7 | 4.7 | 0.57 | ND<10 | - | a |
| | 5/10/2002 | 15.09 | 14.06 | 230 | 26 | 0.97 | ND<0.5 | ND<0.5 | ND<5.0 | - | a |
| | 7/8/2002 | 15.20 | 13.95 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | ND<0.5 | |
| | 10/2/2002 | 15.70 | 13.45 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 1/23/2003 | 15.09 | 14.06 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/29/2003 | 13.02 | 16.13 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| *26.17* | 7/18/2003 | 14.50 | 11.67 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/9/2003 | 13.81 | 12.36 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 1/28/2004 | 13.09 | 13.08 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/7/2004 | 14.97 | 11.20 | 180 | 60 | 0.56 | 1.9 | ND<0.5 | ND<5.0 | - | a |
| | 7/23/2004 | 14.15 | 12.02 | 130 | 36 | ND<0.5 | 0.65 | ND<0.5 | ND<5.0 | - | a |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 con't | 10/12/2004 | 16.30 | 9.87 | ND<50 | 2.5 | 1.5 | ND<0.5 | 0.86 | ND<5.0 | - | |
| | 2/14/2005 | 13.85 | 12.32 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/27/2005 | 13.35 | 12.82 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 7/19/2005 | 14.68 | 11.49 | 4,500 | 1,400 | 6.5 | 160 | 58 | 630 | - | a |
| | 10/18/2005 | 15.15 | 11.02 | 1,700 | 340 | ND<5.0 | 28 | ND<5.0 | 8,000 | 7,200 | a |
| | 1/23/2006 | 13.27 | 12.90 | 3,100 | 790 | 6.5 | 79 | 32 | 4,200 | 5,100 | a |
| | 4/12/2006 | 12.33 | 13.84 | 7,200 | 2,600 | 110 | 350 | 320 | 5,600 | 4,000 | a |
| | 7/10/2006 | 14.93 | 11.24 | 2,700 | 550 | 4.2 | 77 | 47 | 5,500 | 8,300 | a |
| | 10/16/2006 | 16.51 | 9.66 | 2,000 | 470 | 6.4 | 38 | 13 | 6,300 | 6,400 | a |
| | 1/26/2007 | 16.87 | 9.30 | 3,300 | 600 | 36 | 34 | 27 | 6,200 | 5,900 | a |
| MW-2 | 8/13/1993 | 17.05 | 13.46 | 34,000 | 6,800 | 10,000 | 740 | 3,900 | - | - | |
| *30.51* | 12/14/1993 | 18.28 | 12.23 | 16,000 | 3,200 | 4,200 | 500 | 1,700 | - | - | |
| | 4/15/1994 | 18.10 | 12.41 | 23,000 | 2,500 | 4,200 | 470 | 1,800 | - | - | |
| | 12/29/1994 | 17.40 | 13.11 | - | - | - | - | - | - | - | |
| | 7/19/1996 | 16.72 | 13.79 | 90,000 | 7,300 | 14,000 | 1,600 | 7,300 | - | - | odor |
| | 1/27/1997 | 14.89 | 15.62 | 63,000 | 7,100 | 13,000 | 1,600 | 7,100 | 500 | - | b, odor |
| | 6/18/1997 | 17.12 | 13.39 | 52,000 | 5,100 | 10,000 | 1,400 | 6,000 | ND<200 | - | b |
| | 9/18/1997 | 17.63 | 12.88 | 110,000 | 9,400 | 23,000 | 2,600 | 13,000 | ND<890 | - | b, sheen/odor |
| | 12/10/1997 | 16.98 | 13.53 | 39,000 | 2,600 | 5,300 | 940 | 3,900 | 780 | 320 | b, odor |
| | 2/18/1998 | 12.61 | 17.90 | 85,000 | 9,000 | 19,000 | 2,300 | 11,000 | 2,400 | - | b |
| | 5/12/1998 | 14.45 | 16.06 | 110,000 | 9,500 | 21,000 | 2,500 | 12,000 | ND<1,200 | - | b |
| | 8/18/1998 | 16.14 | 14.37 | 64,000 | 6,000 | 13,000 | 1,700 | 7,800 | 2,000 | 1,300 | a, b |
| | 11/24/1998 | 16.70 | 13.81 | 78,000 | 5,300 | 14,000 | 2,300 | 11,000 | ND<2,000 | - | b, g |
| | 2/4/1999 | 18.39 | 12.12 | 66,000 | 5,800 | 16,000 | 2,600 | 12,000 | 3,000 | - | b, g |
| | 5/18/1999 | 15.90 | 14.61 | 78,000 | 6,700 | 17,000 | 2,400 | 10,000 | 4,300 | - | b |
| | 8/27/1999 | 16.79 | 13.72 | 91,000 | 7,400 | 17,000 | 2,300 | 11,000 | 1,200 | 1,000 | a, b |
| | 11/18/1999 | 17.32 | 13.19 | 180,000 | 7,000 | 20,000 | 3,300 | 16,000 | ND<6,000 | 1,700 | b,g |
| | 2/29/2000 | 14.37 | 16.14 | 86,000 | 5,500 | 13,000 | 2,000 | 9,500 | 3,500 | 4,700 | a |
| | 5/25/2000 | 16.01 | 14.50 | 110,000 | 6,300 | 14,000 | 2,400 | 10,000 | 7,500 | 6,500 | a, b, g |
| | 8/9/2000 | 17.02 | 13.49 | 77,000 | 5,000 | 13,000 | 2,000 | 8,600 | 5,900 | - | b |
| | 11/9/2000 | 17.00 | 13.51 | 70,000 | 4,800 | 12,000 | 1,900 | 8,000 | 9,400 | 8,300 | b |
| | 1/29/2001 | 18.31 | 12.20 | 110,000 | 8,200 | 21,000 | 2,800 | 13,000 | 2,500 | 1,900 | b,g |
| | 4/16/2001 | 18.59 | 11.92 | 97,000 | 7,400 | 15,000 | 2,500 | 12,000 | ND<3,000 | ND<50 | b,g |
| | 8/14/2001 | 18.74 | 11.77 | 97,000 | 6,200 | 14,000 | 2,400 | 13,000 | ND<250 | ND<50 | a,j |
| | 10/22/2001 | 18.27 | 12.24 | 71,000 | 5,900 | 15,000 | 2,400 | 12,000 | ND<1,400 | 150 | a |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-2$^{con't}$ | 2/1/2002 | 18.05 | 12.46 | 1,400 | 11 | 88 | 44 | 210 | ND<5.0 | - | a |
| | 5/10/2002 | 17.15 | 13.36 | 97,000 | 4,500 | 15,000 | 2,500 | 12,000 | ND<3,000 | - | a,g |
| | 7/8/2002 | 15.30 | 15.21 | 42,000 | 2,100 | 6,500 | 2,200 | 8,800 | ND<1,000 | 65 | a |
| | 10/2/2002 | 15.89 | 14.62 | 70,000 | 1,700 | 5,700 | 1,900 | 8,300 | ND<1,700 | - | a |
| | 1/23/2003 | 17.51 | 13.00 | 40,000 | 1,900 | 7,800 | 1,200 | 5,600 | ND<1,000 | - | a |
| | 4/29/2003 | 15.31 | 15.20 | 82,000 | 2,500 | 11,000 | 2,200 | 9,400 | ND<2,000 | - | a |
| *27.53* | 7/18/2003 | 16.84 | 10.69 | 57,000 | 2,100 | 8,700 | 2,200 | 10,000 | - | ND<50 | a |
| | 10/9/2003 | 16.05 | 11.48 | 49,000 | 1,800 | 7,000 | 1,700 | 7,600 | ND<1,500 | 26 | a |
| | 1/28/2004 | 15.39 | 12.14 | 550 | 21 | 33 | 3.0 | 61 | ND<100 | - | a |
| | 4/7/2004 | 16.01 | 11.52 | 41,000 | 2,500 | 11,000 | 1,900 | 8,000 | ND<2,000 | - | a |
| | 7/23/2004 | 15.30 | 12.23 | 81,000 | 2,000 | 12,000 | 2,500 | 12,000 | ND<2,000 | - | a,h |
| | 10/12/2004 | 17.87 | 9.66 | 75,000 | 2,600 | 13,000 | 2,300 | 11,000 | ND<1,300 | - | a |
| | 2/14/2005 | 14.80 | 12.73 | 75,000 | 2,600 | 12,000 | 2,400 | 10,000 | ND<1,800 | - | a,h |
| | 4/27/2005 | 14.63 | 12.90 | 61,000 | 2,800 | 11,000 | 1,600 | 7,000 | ND<2,700 | - | a |
| | 7/19/2005 | 15.60 | 11.93 | 90,000 | 3,700 | 14,000 | 2,600 | 10,000 | ND<7,000 | - | a |
| | 10/18/2005 | 16.08 | 11.45 | 77,000 | 3,300 | 14,000 | 2,400 | 11,000 | 7,900 | 6,400 | a |
| | 1/23/2006 | 14.20 | 13.33 | 54,000 | 1,600 | 8,000 | 1,600 | 6,700 | 6,600 | 7,000 | a |
| | 4/12/2006 | 12.51 | 15.02 | 43,000 | 1,800 | 7,800 | 1,300 | 5,200 | 6,400 | 4,900 | a |
| | 7/10/2006 | 14.76 | 12.77 | 86,000 | 2,800 | 11,000 | 2,100 | 9,600 | ND<6,500 | 400 | a,h |
| | 10/16/2006 | 16.74 | 10.79 | 110,000 | 3,600 | 16,000 | 2,400 | 12,000 | ND<6,000 | 2,700 | a,h |
| | 1/26/2007 | 17.10 | 10.43 | 120,000 | 3,900 | 16,000 | 2,300 | 10,000 | ND<5,000 | 3,000 | a,h,i |
| MW-3 | 8/13/1993 | 17.05 | 12.72 | ND<50 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.5 | - | - | No SVOCs. |
| *29.77* | 12/14/1993 | 17.70 | 12.07 | ND<50 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.5 | - | - | |
| | 4/15/1994 | 17.40 | 12.37 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | - | - | |
| | 12/29/1994 | 16.80 | 12.97 | - | - | - | - | - | - | - | |
| | 7/19/1996 | 16.28 | 13.49 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | - | - | |
| | 1/27/1997 | 13.83 | 15.94 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 6/18/1997 | 16.53 | 13.24 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 9/18/1997 | 17.07 | 12.70 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 12/10/1997 | 16.15 | 13.62 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 2/18/1998 | 11.80 | 17.97 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/12/1998 | 13.85 | 15.92 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 8/18/1998 | 15.57 | 14.20 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/24/1998 | 16.04 | 13.73 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 2/4/1999 | 17.80 | 11.97 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-3 con't | 5/18/1999 | 15.29 | 14.48 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 8/27/1999 | 16.15 | 13.62 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/18/1999 | 16.77 | 13.00 | - | - | - | - | - | - | - | |
| | 2/29/2000 | 13.71 | 16.06 | ND<50 | 2 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/25/2000 | 15.46 | 14.31 | - | - | - | - | - | - | - | |
| | 8/9/2000 | 16.46 | 13.31 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/9/2000 | 16.25 | 13.52 | - | - | - | - | - | - | - | |
| | 1/29/2001 | 16.52 | 13.25 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/16/2001 | 16.95 | 12.82 | - | - | - | - | - | - | - | |
| | 8/14/2001 | 17.11 | 12.66 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/22/2001 | 16.50 | 13.27 | - | - | - | - | - | - | - | |
| | 2/1/2002 | 16.90 | 12.87 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/10/2002 | 15.03 | 14.74 | - | - | - | - | - | - | - | |
| | 7/8/2002 | 14.45 | 15.32 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/2/2002 | 15.03 | 14.74 | - | - | - | - | - | - | - | |
| | 1/23/2003 | 15.48 | 14.29 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/29/2003 | 12.49 | 17.28 | - | - | - | - | - | - | - | |
| *26.79* | 7/18/2003 | 14.80 | 11.99 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/9/2003 | 14.13 | 12.66 | - | - | - | - | - | - | - | |
| | 1/28/2004 | 13.47 | 13.32 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/7/2004 | 15.41 | 11.38 | - | - | - | - | - | - | - | |
| | 7/23/2004 | 14.54 | 12.25 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/12/2004 | 16.58 | 10.21 | - | - | - | - | - | - | - | |
| | 2/14/2005 | 14.19 | 12.60 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/27/2005 | 13.68 | 13.11 | - | - | - | - | - | - | - | |
| | 7/19/2005 | 15.15 | 11.64 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| MW-3 con't | 10/18/2005 | 15.60 | 11.19 | - | - | - | - | - | - | - | |
| | 1/23/2006 | 13.65 | 13.14 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 270 | 260 | |
| | 4/12/2006 | 11.94 | 14.85 | - | - | - | - | - | - | - | |
| | 7/10/2006 | 14.48 | 12.31 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 1,100 | 1,600 | |
| | 10/16/2006 | 16.19 | 10.60 | - | - | - | - | - | - | - | |
| | 1/26/2007 | 16.56 | 10.23 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 2,500 | 3,400 | |
| MW-4 | 12/16/1994 | 18.10 | 13.08 | 2,500 | 32 | 6.5 | 4.5 | 17 | - | - | |
| *31.18* | 12/29/1994 | 17.95 | 13.23 | - | - | - | - | - | - | - | |
| | 7/19/1996 | 17.38 | 13.80 | 3,300 | 520 | 39 | 67 | 60 | - | - | |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-4[con't] | 1/27/1997 | 15.25 | 15.93 | 4,500 | 860 | 55 | 100 | 91 | 1,100 | - | b |
| | 6/18/1997 | 17.61 | 13.57 | 2,700 | 700 | 52 | 81 | 76 | 2,200 | 2,300 | a, b |
| | 9/18/1997 | 18.01 | 13.17 | 3,900 | 760 | 38 | 56 | 64 | ND<170 | - | b |
| | 12/10/1997 | 17.45 | 13.73 | 12,000 | 1,800 | 120 | 210 | 210 | 2,900 | 2,600 | a, b |
| | 2/18/1998 | 13.09 | 18.09 | 1,700 | 210 | 8 | 6.7 | 16 | 200 | - | b |
| | 5/12/1998 | 14.78 | 16.40 | 2,100 | 300 | 15 | 36 | 34 | 920 | - | b, c |
| | 8/18/1998 | 16.59 | 14.59 | 4,700 | 1,000 | 130 | 110 | 150 | 5,200 | 4,900 | a, b |
| | 11/24/1998 | 17.18 | 14.00 | 3,000 | 810 | 44 | 76 | 94 | 4,800 | - | b |
| | 2/4/1999 | 18.90 | 12.28 | 2,800 | 770 | 50 | 69 | 69 | 3,100 | - | b |
| | 5/18/1999 | 16.30 | 14.88 | 4,000 | 780 | 57 | 7.7 | 79 | 4,800 | - | b |
| | 8/27/1999 | 17.21 | 13.97 | 4,100 | 870 | 51 | 74 | 99 | 3,300 | 4,100 | a, b |
| | 11/18/1999 | 17.77 | 13.41 | 3,000 | 760 | 43 | 67 | 65 | 5,100 | 5,400 | b |
| | 2/29/2000 | 14.85 | 16.33 | 4,600 | 1,000 | 64 | 94 | 170 | 4,100 | 4,600 | a |
| | 5/25/2000 | 16.45 | 14.73 | 2,600 | 540 | 39 | 59 | 41 | 3,500 | 5,300 | b |
| | 8/9/2000 | 17.47 | 13.71 | 4,400 | 930 | 66 | 98 | 79 | 9,400 | - | b |
| | 11/9/2000 | 17.45 | 13.73 | 4,200 | 630 | 34 | 54 | 44 | 7,800 | 9,400 | b |
| | 1/29/2001 | 18.90 | 12.28 | 3,100 | 710 | 34 | 66 | 51 | 9,400 | 8,000 | b |
| | 4/16/2001 | 19.17 | 12.01 | 160 | 1.2 | 1.3 | ND<0.5 | 12 | 22 | 20 | b |
| | 8/14/2001 | 19.20 | 11.98 | 1,700 | 190 | 11 | 35 | 13 | 300 | 250 | b |
| | 10/22/2001 | 18.95 | 12.23 | 1,100 | 120 | 3.7 | 29 | 7.9 | ND<25 | 16 | a |
| | 2/1/2002 | 19.05 | 12.13 | 2,600 | 25 | 43 | 21 | 280 | ND<5.0 | - | a |
| | 5/10/2002 | 17.69 | 13.49 | 490 | 3.5 | 2.0 | 2.1 | 2.2 | ND<5.0 | - | a |
| | 7/8/2002 | 15.75 | 15.43 | 170 | 0.51 | 0.62 | 1.6 | 1.2 | ND<5.0 | 2.0 | m |
| | 10/2/2002 | 16.30 | 14.88 | 240 | 1.7 | 2.0 | 2.2 | 0.88 | ND<5.0 | - | a |
| | 1/23/2003 | 17.74 | 13.44 | ND<50 | 0.52 | 4.1 | ND<0.5 | 1.9 | ND<5.0 | - | |
| | 4/29/2003 | 15.47 | 15.71 | 1,300 | 75 | 4.8 | 21 | 7.3 | 130 | 120 | a |
| *28.20* | 7/18/2003 | 17.08 | 11.12 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | - | 0.74 | a |
| | 10/9/2003 | 16.25 | 11.95 | 210 | 4.7 | 0.57 | 1.6 | 1.1 | ND<10 | 10 | a |
| | 1/28/2004 | 15.65 | 12.55 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | a |
| | 4/7/2004 | 16.49 | 11.71 | - | - | - | - | - | - | - | |
| | 4/12/2004 | - | - | 770 | 56 | 3.2 | 7.0 | 6.5 | 120 | 160 | a |
| | 7/23/2004 | 15.86 | 12.34 | 1,100 | 130 | 11 | 17 | 17 | 790 | 800 | a |
| | 10/12/2004 | 18.05 | 10.15 | 150 | 0.86 | ND<0.5 | ND<0.5 | 0.97 | ND<10 | - | a |
| | 2/14/2005 | 15.30 | 12.90 | 1,500 | 200 | 16 | 30 | 31 | 420 | 550 | a |
| | 4/27/2005 | 14.20 | 14.00 | 3,000 | 520 | 100 | 27 | 86 | 600 | 480 | a |
| | 7/19/2005 | 16.08 | 12.12 | 1,800 | 310 | 16 | 36 | 25 | 1,000 | 1,100 | a |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-4[con't] | 10/18/2005 | 16.55 | 11.65 | 2,500 | 450 | 28 | 47 | 51 | 3,800 | 4,500 | a |
| | 1/23/2006 | 14.66 | 13.54 | 1,300 | 170 | 13 | 14 | 14 | 2,500 | 3,300 | a |
| | 4/12/2006 | 12.92 | 15.28 | 940 | 150 | 12 | 7.6 | 12 | 3,400 | 3,300 | a |
| | 7/10/2006 | 15.38 | 12.82 | 1,700 | 260 | 14 | 26 | 20 | 4,300 | 5,900 | a |
| | 10/16/2006 | 17.21 | 10.99 | 3,200 | 440 | 26 | 34 | 63 | 7,800 | 7,500 | a |
| | 1/26/2007 | 17.58 | 10.62 | 2,000 | 290 | 20 | 28 | 42 | 8,300 | 8,300 | a |
| MW-5 | 12/16/1994 | 16.07 | 11.97 | ND<50 | 1.1 | ND<0.5 | ND<0.5 | 2.4 | - | - | |
| *28.04* | 12/29/1994 | 16.10 | 11.94 | - | - | - | - | - | - | - | |
| | 7/19/1996 | 15.49 | 12.55 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | - | - | |
| | 1/27/1997 | 13.60 | 14.44 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 6/18/1997 | 15.55 | 12.49 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 9/18/1997 | 16.16 | 11.88 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 12/10/1997 | 15.41 | 12.63 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 2/18/1998 | 10.93 | 17.11 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/12/1998 | 13.25 | 14.79 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 8/18/1998 | 14.75 | 13.29 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/24/1998 | 15.15 | 12.89 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 2/4/1999 | 14.61 | 13.43 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/18/1999 | 14.15 | 13.89 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 8/27/1999 | 15.43 | 12.61 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/18/1999 | 15.97 | 12.07 | - | - | - | - | - | - | - | |
| | 2/29/2000 | 13.16 | 14.88 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/25/2000 | 14.72 | 13.32 | - | - | - | - | - | - | - | |
| | 8/9/2000 | 15.68 | 12.36 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/9/2000 | 15.39 | 12.65 | - | - | - | - | - | - | - | |
| | 1/29/2001 | 15.97 | 12.07 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/16/2001 | 16.24 | 11.80 | - | - | - | - | - | - | - | |
| | 8/14/2001 | 17.39 | 10.65 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/22/2001 | 15.90 | 12.14 | - | - | - | - | - | - | - | |
| | 2/1/2002 | 16.55 | 11.49 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/10/2002 | 15.12 | 12.92 | - | - | - | - | - | - | - | |
| | 7/8/2002 | 15.92 | 12.12 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/2/2002 | 16.42 | 11.62 | - | - | - | - | - | - | - | |
| | 1/23/2003 | 14.90 | 13.14 | ND<50 | 20 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/29/2003 | 12.05 | 15.99 | - | - | - | - | - | - | - | |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *25.07* | 7/18/2003 | 14.28 | 10.79 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| MW-5[con't] | 10/9/2003 | 13.36 | 11.71 | - | - | - | - | - | - | - | |
| | 1/28/2004 | 12.68 | 12.39 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/7/2004 | 14.71 | 10.36 | - | - | - | - | - | - | - | |
| | 7/23/2004 | 13.49 | 11.58 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | i |
| | 10/12/2004 | 15.88 | 9.19 | - | - | - | - | - | - | - | |
| | 2/14/2005 | 13.22 | 11.85 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | i |
| | 4/27/2005 | 13.40 | 11.67 | - | - | - | - | - | - | - | |
| | 7/19/2005 | 14.21 | 10.86 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | i |
| | 10/18/2005 | 14.79 | 10.28 | - | - | - | - | - | - | - | |
| | 1/23/2006 | 13.12 | 11.95 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | i |
| | 4/12/2006 | 11.39 | 13.68 | - | - | - | - | - | - | - | |
| | 7/10/2006 | 14.40 | 10.67 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 25 | - | i |
| | 10/16/2006 | 15.44 | 9.63 | - | - | - | - | - | - | - | |
| | 1/26/2007 | 15.76 | 9.31 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 490 | - | |
| MW-6 | 12/16/1994 | 17.74 | 11.36 | - | - | - | - | - | - | - | |
| *29.10* | 12/29/1994 | 17.40 | 11.70 | - | - | - | - | - | - | - | |
| | 7/19/1996 | 16.60 | 12.50 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | - | - | |
| | 1/27/1997 | 14.88 | 14.22 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 6/18/1997 | 16.73 | 12.37 | 51 | 22 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | c |
| | 9/18/1997 | 17.24 | 11.86 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 12/10/1997 | 16.56 | 12.54 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 2/18/1998 | 12.93 | 16.17 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/12/1998 | 14.35 | 14.75 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 8/18/1998 | 15.94 | 13.16 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/24/1998 | 16.46 | 12.64 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 2/4/1999 | 18.25 | 10.85 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/18/1999 | 15.73 | 13.37 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 8/27/1999 | 15.64 | 13.46 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/18/1999 | 17.04 | 12.06 | - | - | - | - | - | - | - | |
| | 2/29/2000 | 14.55 | 14.55 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/25/2000 | 15.86 | 13.24 | - | - | - | - | - | - | - | |
| | 8/9/2000 | 16.80 | 12.30 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/9/2000 | 16.60 | 12.50 | - | - | - | - | - | - | - | |
| | 1/29/2001 | 17.00 | 12.10 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-6$^{con't}$ | 4/16/2001 | 17.15 | 11.95 | - | - | - | - | - | - | - | |
| | 8/14/2001 | 17.30 | 11.80 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/22/2001 | 17.13 | 11.97 | - | - | - | - | - | - | - | |
| | 2/1/2002 | 16.57 | 12.53 | 70 | 37 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | a |
| | 5/10/2002 | 15.25 | 13.85 | - | - | - | - | - | - | - | |
| | 7/8/2002 | 15.79 | 13.31 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/2/2002 | 16.38 | 12.72 | - | - | - | - | - | - | - | |
| | 1/23/2003 | 16.03 | 13.07 | ND<50 | 21 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/29/2003 | 14.19 | 14.91 | - | - | - | - | - | - | - | |
| *26.13* | 7/18/2003 | 15.47 | 10.66 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/9/2003 | 14.73 | 11.40 | - | - | - | - | - | - | - | |
| | 1/28/2004 | 14.05 | 12.08 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/7/2004 | 14.41 | 11.72 | - | - | - | - | - | - | - | |
| | 7/23/2004 | 15.15 | 10.98 | 3,300 | 1,300 | ND<5.0 | 52 | 9.7 | ND<50 | - | a |
| | 10/12/2004 | 17.29 | 8.84 | - | - | - | - | - | - | - | |
| | 2/14/2005 | 14.60 | 11.53 | 350 | 160 | ND<0.5 | ND<0.5 | ND<0.5 | ND<25 | 2.0 | a,i |
| | 4/27/2005 | 14.10 | 12.03 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | ND<0.5 | |
| | 7/19/2005 | 15.18 | 10.95 | 110 | 15 | ND<0.5 | 0.62 | ND<0.5 | ND<5.0 | 1.7 | a,i |
| | 10/18/2005 | 15.65 | 10.48 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | 0.87 | i |
| | 1/23/2006 | 14.02 | 12.11 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | 0.50 | i |
| | 4/12/2006 | 12.66 | 13.47 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | ND<0.5 | |
| | 7/10/2006 | 14.64 | 11.49 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | ND<0.5 | |
| | 10/16/2006 | 16.50 | 9.63 | - | - | - | - | - | - | - | |
| | 1/26/2007 | 16.83 | 9.30 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | ND<0.5 | |
| MW-7 | 12/16/1994 | 17.07 | 12.60 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| *29.67* | 12/29/1994 | 17.65 | 12.02 | - | - | - | - | - | - | - | |
| | 7/19/1996 | 16.44 | 13.23 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 1/27/1997 | 15.09 | 14.58 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 6/18/1997 | 16.59 | 13.08 | 73 | ND<0.5 | 0.55 | ND<0.5 | ND<0.5 | ND<5.0 | - | d |
| | 9/18/1997 | 17.06 | 12.61 | 94 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | b, f |
| | 12/10/1997 | 16.58 | 13.09 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 2/18/1998 | 12.60 | 17.07 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/12/1998 | 14.81 | 14.86 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 8/18/1998 | 15.67 | 14.00 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/24/1998 | 16.30 | 13.37 | 200 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | d |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-7$^{con't}$ | 2/4/1999 | 15.99 | 13.68 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/18/1999 | 15.42 | 14.25 | 200 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | d |
| | 8/27/1999 | 16.35 | 13.32 | 140 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/18/1999 | 16.81 | 12.86 | -- | -- | -- | -- | -- | -- | - | |
| | 2/29/2000 | 14.16 | 15.51 | 100 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | f |
| | 5/25/2000 | 15.54 | 14.13 | -- | -- | -- | -- | -- | -- | - | |
| | 8/9/2000 | 16.56 | 13.11 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 11/9/2000 | 16.45 | 13.22 | - | - | - | - | - | - | - | |
| | 1/29/2001 | 16.92 | 12.75 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/16/2001 | 17.03 | 12.64 | - | - | - | - | - | - | - | |
| | 8/14/2001 | 17.27 | 12.40 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/22/2001 | 16.95 | 12.72 | - | - | - | - | - | - | - | |
| | 2/1/2002 | 16.14 | 13.53 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 5/10/2002 | 15.30 | 14.37 | - | - | - | - | - | - | - | |
| | 7/8/2002 | 15.73 | 13.94 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/2/2002 | 16.24 | 13.43 | - | - | - | - | - | - | - | |
| | 1/23/2003 | 15.70 | 13.97 | ND<50 | 23 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/29/2003 | 12.68 | 16.99 | - | - | - | - | - | - | - | |
| *26.70* | 7/18/2003 | 15.19 | 11.51 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 10/9/2003 | 14.45 | 12.25 | - | - | - | - | - | - | - | |
| | 1/28/2004 | 13.88 | 12.82 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 4/7/2004 | 15.71 | 10.99 | - | - | - | - | - | - | - | |
| | 7/23/2004 | 14.85 | 11.85 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 130 | 120 | |
| | 10/12/2004 | 16.90 | 9.80 | - | - | - | - | - | - | - | |
| | 2/14/2005 | 14.42 | 12.28 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 190 | 200 | |
| | 4/27/2005 | 13.75 | 12.95 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | 1.3 | |
| | 7/19/2005 | 14.91 | 11.79 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 65 | 66 | |
| | 10/18/2005 | 15.40 | 11.30 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 12 | 15 | |
| | 1/23/2006 | 13.99 | 12.71 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | 2.2 | |
| | 4/12/2006 | 12.32 | 14.38 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | 2.0 | |
| MW-7$^{con't}$ | 7/10/2006 | 14.31 | 12.39 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | 1.5 | |
| | 10/16/2006 | 16.23 | 10.47 | - | - | - | - | - | - | - | |
| | 1/26/2007 | 16.61 | 10.09 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | ND<0.5 | |
| VW-3 | 3/6/2003 | - | - | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | i |
| | 3/25/2003 | - | - | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | i |

**Table 2. Groundwater Elevation and Analytical Data** - Former ARCO Station - 706 Harrison Street, Oakland, California

| Well ID/ Sample ID *TOC* | Date Sampled | Depth to Water (ft) | Groundwater Elevation (ft-msl) | TPHg (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | MTBE by 8021B (ug/L) | MTBE by 8260B (ug/L) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VW-4 | 3/6/2003 | - | - | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 3/25/2003 | - | - | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| Trip Blank | 11/9/2000 | - | - | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |
| | 2/14/2005 | - | - | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<5.0 | - | |

**Abbreviations and Analyses:**

ug/L = Micrograms per liter
ND<0.5 = Not Detected (ND) above laboratory detection limit.
- = Not sampled, not analyzed, or not applicable
*TOC* = Top of casing elevation, measured in feet, relative to mean sea level
ft = Measured in feet
ft-msl = Elevation in feet relative to mean sea level
TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method SW8015C
Benzene, ethylbenzene, toluene and xylenes by EPA Method SW8021B.
MTBE = Methyl tertiary butyl ether by EPA Method SW8021B and/or SW8260B.
SVOCs = Semi-Volatile Organic Compounds (EPA Method 8270)
Wells were re-surveyed on October 27, 2003 to City of Oakland Benchmark 25A.

**Analytical Laboratory Notes:**

a = "unmodified or weakly modified gasoline is significant"
b = "heavier gasoline range compounds are significant"
c = "lighter gasoline range compounds are significant"
d = "isolated peaks are present"
f = "hydrocarbons with no recognizable patterns are present"
g = "lighter than water immiscible sheen is present"
h = "lighter than water immiscible sheen/product is present"
i = "sample contains greater than ~1 vol. % sediment"
j = "sample was diluted due to high organic content"
m = "no recognizable pattern"

# APPENDIX A

## Groundwater Monitoring Field Data Sheets

MUSKAN
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# WELL GAUGING SHEET

**Client:** Cambria Environmental Technology Inc.

**Site Address:** 706 Harriosn Street, Oakland, CA

**Date:** 1/26/2007 **Signature:**

| Well ID | Time | Depth to SPH | Depth to Water | SPH Thickness | Depth to Bottom | Comments |
|---|---|---|---|---|---|---|
| MW-1 | 2:15 | | 16.87 | | 24.72 | |
| MW-2 | 2:25 | | 17.10 | | 25.81 | |
| MW-3 | 2:00 | | 16.56 | | 27.75 | |
| MW-4 | 2:20 | | 17.58 | | 25.60 | |
| MW-5 | 1:55 | | 15.76 | | 27.85 | |
| MW-6 | 2:05 | | 16.83 | | 25.90 | |
| MW-7 | 2:10 | | 16.61 | | 27.74 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

MUSKAN
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SAMPLING

# WELL SAMPLING FORM

| | |
|---|---|
| **Date:** | 1/26/2007 |
| **Client:** | Cambria Environmental Technology Inc. |
| **Site Address:** | 706 Harrison Street, Oakland, CA |
| Well ID: | MW-1 |
| Well Diameter: | 2" |
| Purging Device: | Disposable Bailer |
| Sampling Method: | Disposable Bailer |

| | |
|---|---|
| Total Well Depth: | 24.72 |
| Depth to Water: | 16.87 |
| Water Column Height: | 7.85 |
| Gallons/ft: | 0.16 |
| 1 Casing Volume (gal): | 1.26 |
| 3 Casing Volumes (gal): | 3.77 |

| | |
|---|---|
| **Fe=** | **mg/L** |
| **ORP=** | **mV** |
| ***DO*=** | **mg/L** |

**COMMENTS:**
very turbid, silty

| TIME: | CASING VOLUME (gal) | TEMP (Celsius) | pH | COND. (µS) |
|---|---|---|---|---|
| 4:58 | 1.3 | 18.9 | 7.15 | 740 |
| 5:01 | 2.5 | 19.6 | 7.07 | 795 |
| 5:03 | 3.8 | 19.2 | 7.10 | 768 |
| | | | | |
| | | | | |

| Sample ID: | Sample Date: | Sample Time: | Container Type | Preservative | Analytes | Method |
|---|---|---|---|---|---|---|
| MW-1 | 1/26/2007 | 5:10 | 40 ml VOA | HCl, ICE | TPHg<br>BTEX<br>MTBE | 8015, 8021, 8260 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

***Signature:***

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SAMPLING

# WELL SAMPLING FORM

| | |
|---|---|
| **Date:** | 1/26/2007 |
| **Client:** | Cambria Environmental Technology Inc. |
| **Site Address:** | 706 Harrison Street, Oakland, CA |
| Well ID: | MW-2 |
| Well Diameter: | 2" |
| Purging Device: | Disposable Bailer |
| Sampling Method: | Disposable Bailer |

| | |
|---|---|
| Total Well Depth: | 25.81 |
| Depth to Water: | 17.10 |
| Water Column Height: | 8.71 |
| Gallons/ft: | 0.16 |
| 1 Casing Volume (gal): | 1.39 |
| 3 Casing Volumes (gal): | 4.18 |

| TIME: | CASING VOLUME (gal) | TEMP (Celsius) | pH | COND. (µS) |
|---|---|---|---|---|
| 5:55 | 1.4 | 19.9 | 6.97 | 723 |
| 5:58 | 2.8 | 20.1 | 6.91 | 695 |
| 6:00 | 4.2 | 20.4 | 6.93 | 718 |
| | | | | |
| | | | | |

**Fe=** **mg/L**

**ORP=** **mV**

**DO=** **mg/L**

**COMMENTS:**
very turbid, silty

| Sample ID: | Sample Date: | Sample Time: | Container Type | Preservative | Analytes | Method |
|---|---|---|---|---|---|---|
| MW-2 | 1/26/2007 | 6:05 | 40 ml VOA | HCl, ICE | TPHg<br>BTEX<br>MTBE | 8015, 8021, 8260 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

***Signature:***

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# WELL SAMPLING FORM

| | |
|---|---|
| **Date:** | 1/26/2007 |
| **Client:** | Cambria Environmental Technology Inc. |
| **Site Address:** | 706 Harrison Street, Oakland, CA |
| Well ID: | MW-3 |
| Well Diameter: | 2" |
| Purging Device: | Disposable Bailer |
| Sampling Method: | Disposable Bailer |

| | |
|---|---|
| Total Well Depth: | 27.75 |
| Depth to Water: | 16.56 |
| Water Column Height: | 11.19 |
| Gallons/ft: | 0.16 |
| 1 Casing Volume (gal): | 1.79 |
| 3 Casing Volumes (gal): | 5.37 |

| | |
|---|---|
| **Fe=** | **mg/L** |
| **ORP=** | **mV** |
| ***DO=*** | **mg/L** |

**COMMENTS:**
very turbid

| TIME: | CASING VOLUME (gal) | TEMP (Celsius) | pH | COND. (µS) |
|---|---|---|---|---|
| 3:35 | 1.8 | 19.9 | 6.90 | 570 |
| 3:37 | 3.6 | 19.9 | 6.98 | 581 |
| 3:40 | 5.4 | 20.1 | 6.94 | 599 |
| | | | | |
| | | | | |

| Sample ID: | Sample Date: | Sample Time: | Container Type | Preservative | Analytes | Method |
|---|---|---|---|---|---|---|
| MW-3 | 1/26/2007 | 3:45 | 40 ml VOA | HCl, ICE | TPHg<br>BTEX<br>MTBE | 8015, 8021, 8260 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Signature:**

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# WELL SAMPLING FORM

| | |
|---|---|
| **Date:** | 1/26/2007 |
| **Client:** | Cambria Environmental Technology Inc. |
| **Site Address:** | 706 Harrison Street, Oakland, CA |
| Well ID: | MW-4 |
| Well Diameter: | 2" |
| Purging Device: | Disposable Bailer |
| Sampling Method: | Disposable Bailer |

| | |
|---|---|
| Total Well Depth: | 25.60 |
| Depth to Water: | 17.58 |
| Water Column Height: | 8.02 |
| Gallons/ft: | 0.16 |
| 1 Casing Volume (gal): | 1.28 |
| 3 Casing Volumes (gal): | 3.85 |

| | |
|---|---|
| **Fe=** | **mg/L** |
| **ORP=** | **mV** |
| ***DO=*** | **mg/L** |

**COMMENTS:**
very turbid, silty

| TIME: | CASING VOLUME (gal) | TEMP (Celsius) | pH | COND. (µS) |
|---|---|---|---|---|
| 5:35 | 1.3 | 18.6 | 7.04 | 693 |
| 5:37 | 2.6 | 19.1 | 6.99 | 681 |
| 5:35 | 3.8 | 19.4 | 6.98 | 679 |
| | | | | |
| | | | | |

| Sample ID: | Sample Date: | Sample Time: | Container Type | Preservative | Analytes | Method |
|---|---|---|---|---|---|---|
| MW-4 | 1/26/2007 | 5:40 | 40 ml VOA | HCl, ICE | TPHg<br>BTEX<br>MTBE | 8015, 8021, 8260 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

***Signature:***

MUSKAN
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SAMPLING

# WELL SAMPLING FORM

| | |
|---|---|
| **Date:** | 1/26/2007 |
| **Client:** | Cambria Environmental Technology Inc. |
| **Site Address:** | 706 Harrison Street, Oakland, CA |
| Well ID: | MW-5 |
| Well Diameter: | 2" |
| Purging Device: | Disposable Bailer |
| Sampling Method: | Disposable Bailer |

| | |
|---|---|
| Total Well Depth: | 27.85 |
| Depth to Water: | 15.76 |
| Water Column Height: | 12.09 |
| Gallons/ft: | 0.16 |
| 1 Casing Volume (gal): | 1.93 |
| 3 Casing Volumes (gal): | 5.80 |

| | **Fe=** | **mg/L** |
|---|---|---|
| | **ORP=** | **mV** |
| | ***DO*=** | **mg/L** |

**COMMENTS:**
very turbid

| TIME: | CASING VOLUME (gal) | TEMP (Celsius) | pH | COND. (µS) |
|---|---|---|---|---|
| 2:55 | 1.9 | 18.9 | 7.19 | 610 |
| 3:00 | 3.9 | 18.1 | 7.11 | 642 |
| 3:05 | 5.8 | 18.4 | 7.10 | 657 |
| | | | | |
| | | | | |

| Sample ID: | Sample Date: | Sample Time: | Container Type | Preservative | Analytes | Method |
|---|---|---|---|---|---|---|
| MW-5 | 1/26/2007 | 3:10 | 40 ml VOA | HCl, ICE | TPHg<br>BTEX<br>MTBE | 8015, 8021 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

***Signature:***

MUSKAN
ENVIRONMENTAL
SAMPLING

# WELL SAMPLING FORM

| | |
|---|---|
| **Date:** | 1/26/2007 |
| **Client:** | Cambria Environmental Technology Inc. |
| **Site Address:** | 706 Harrison Street, Oakland, CA |
| Well ID: | MW-6 |
| Well Diameter: | 2" |
| Purging Device: | Disposable Bailer |
| Sampling Method: | Disposable Bailer |

| | |
|---|---|
| Total Well Depth: | 25.90 |
| Depth to Water: | 16.83 |
| Water Column Height: | 9.07 |
| Gallons/ft: | 0.16 |
| 1 Casing Volume (gal): | 1.45 |
| 3 Casing Volumes (gal): | 4.35 |

| | |
|---|---|
| **Fe=** | **mg/L** |
| **ORP=** | **mV** |
| ***DO=*** | **mg/L** |

**COMMENTS:**
very turbid

| TIME: | CASING VOLUME (gal) | TEMP (Celsius) | pH | COND. (µS) |
|---|---|---|---|---|
| 4:05 | 1.5 | 19.1 | 7.02 | 517 |
| 4:07 | 2.9 | 18.7 | 6.97 | 494 |
| 4:10 | 4.4 | 18.5 | 6.98 | 485 |
| | | | | |
| | | | | |

| Sample ID: | Sample Date: | Sample Time: | Container Type | Preservative | Analytes | Method |
|---|---|---|---|---|---|---|
| MW-6 | 1/26/2007 | 4:15 | 40 ml VOA | HCl, ICE | TPHg<br>BTEX<br>MTBE | 8015, 8021, 8260 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

***Signature:***

MUSKAN
ENVIRONMENTAL
SAMPLING

# WELL SAMPLING FORM

| | |
|---|---|
| **Date:** | 1/26/2007 |
| **Client:** | Cambria Environmental Technology Inc. |
| **Site Address:** | 706 Harrison Street, Oakland, CA |
| Well ID: | MW-7 |
| Well Diameter: | 2" |
| Purging Device: | Disposable Bailer |
| Sampling Method: | Disposable Bailer |

| | |
|---|---|
| Total Well Depth: | 27.74 |
| Depth to Water: | 16.61 |
| Water Column Height: | 11.13 |
| Gallons/ft: | 0.16 |
| 1 Casing Volume (gal): | 1.78 |
| 3 Casing Volumes (gal): | 5.34 |

| | |
|---|---|
| **Fe=** | **mg/L** |
| **ORP=** | **mV** |
| **DO=** | **mg/L** |

**COMMENTS:**
turbid

| TIME: | CASING VOLUME (gal) | TEMP (Celsius) | pH | COND. (µS) |
|---|---|---|---|---|
| 4:35 | 1.8 | 19.5 | 6.92 | 538 |
| 4:37 | 3.6 | 19.1 | 6.95 | 514 |
| 4:40 | 5.3 | 19.1 | 6.97 | 523 |
| | | | | |
| | | | | |

| Sample ID: | Sample Date: | Sample Time: | Container Type | Preservative | Analytes | Method |
|---|---|---|---|---|---|---|
| MW-7 | 1/26/2007 | 4:45 | 40 ml VOA | HCl, ICE | TPHg<br>BTEX<br>MTBE | 8015, 8021, 8260 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Signature:**

# APPENDIX B

## Laboratory Analytical Report

**McCampbell Analytical, Inc.**
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

| | | |
|---|---|---|
| Cambria Env. Technology | Client Project ID: #230-0116; BoGin | Date Sampled: 01/26/07 |
| 5900 Hollis St, Suite A | | Date Received: 01/26/07 |
| Emeryville, CA 94608 | Client Contact: Mark Jonas | Date Reported: 02/01/07 |
| | Client P.O.: | Date Completed: 02/01/07 |

**WorkOrder: 0701533**

February 01, 2007

Dear Mark:

Enclosed are:

1). the results of 7 analyzed samples from your **#230-0116; BoGin project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

# McCAMPBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Website: Email: main@mccampbell.com
Telephone: (925) 798-1620 Fax: (925) 798-1622

# CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ■ 5 DAY

EDF Required? Yes / No

Report To: Mark Jonas Bill To: Cambria Environmental Technology
Company: Cambria Environmental Technology
5900 Hollis St. Ste A
Emeryville, CA 94608 E-Mail: mjonas@cambriaenv.com
Tele: 510-420-3307 Fax: (510) 420-9170
Project #: 230-0116 Project Name: BoGin
Project Location: 706 Harrison St., Oakland, CA
Sampler Signature: Muskan Environmental Sampling

| SAMPLE ID (Field Point Name) | LOCATION | SAMPLING Date | SAMPLING Time | # Containers | Type Containers | MATRIX Water | MATRIX Soil | MATRIX Air | MATRIX Sludge | MATRIX Other | METHOD PRESERVED ICE | METHOD PRESERVED HCL | METHOD PRESERVED $HNO_3$ | METHOD PRESERVED Other | MTBE / BTEX & TPH as Gas (602 / 8021 + 8015) | MTBE / BTEX ONLY (EPA 602 / 8021) | TPH as Diesel / Motor Oil (8015) | Total Petroleum Oil & Grease (1664 / 5520 E/B&F) | Total Petroleum Hydrocarbons (418.1) | EPA 502.2 / 601 / 8010 / 8021 (HVOCs) | EPA 505 / 608 / 8081 (Cl Pesticides) | EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners | EPA 507 / 8141 (NP Pesticides) | EPA 515 / 8151 (Acidic Cl Herbicides) | EPA 524.2 / 624 / 8260 (VOCs) | Fuel Additives (MTBE, ETBE, TAME, DIPE, TBA, 1,2 – DCA, 1,2 – EDB, ethanol) by 8260B | TPHg by 8015 M | VOCs and fuel additives by 8260 | TPHg / BTEX (8015 / 8020) | MTBE by 8260 | Other | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | | 1-26-07 | 5:10 | 4 | VOA | X | | | | | X | X | | | X | | | | | | | | | | | | | | X | X | | |
| MW-2 | | | 6:05 | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | |
| MW-3 | | | 3:45 | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | |
| MW-4 | | | 5:40 | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | |
| MW-5 | | | 3:10 | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | |
| MW-6 | | | 4:15 | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | |
| MW-7 | | | 4:45 | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | |
| TB | | | | 1 | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | HOLD | |

Relinquished By: Date: 1-26-07 Time: 8:15 Received By:
Relinquished By: Date: Time: Received By:

4°C

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB
PRESERVATION ✓ VOAS | O&G | METALS | OTHER

Filter Samples for Metals analysis: Yes / No

**McCampbell Analytical, Inc.**
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD



**WorkOrder: 0701533** **ClientID: CETE**

☐ EDF ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

**Requested TAT: 5 days**

**Report to:**
Mark Jonas
Cambria Env. Technology
5900 Hollis St, Suite A
Emeryville, CA 94608

Email: mjonas@cambria-env.com
TEL: (510) 420-0700 FAX: (510) 420-9170
ProjectNo: #230-0116; BoGin
PO:

**Bill to:**
Accounts Payable
Cambria Env. Technology
5900 Hollis St, Ste. A
Emeryville, CA 94608

*Date Received:* **01/26/2007**
*Date Printed:* **01/26/2007**

| Sample ID | ClientSampID | Matrix | Collection Date | Hold | Requested Tests (See legend below) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 0701533-001 | MW-1 | Water | 1/26/07 5:10:00 AM | ☐ | A | B | A | | | | | | | | | |
| 0701533-002 | MW-2 | Water | 1/26/07 6:05:00 AM | ☐ | A | B | | | | | | | | | | |
| 0701533-003 | MW-3 | Water | 1/26/07 3:45:00 AM | ☐ | A | B | | | | | | | | | | |
| 0701533-004 | MW-4 | Water | 1/26/07 5:40:00 AM | ☐ | A | B | | | | | | | | | | |
| 0701533-005 | MW-5 | Water | 1/26/07 3:10:00 AM | ☐ | A | | | | | | | | | | | |
| 0701533-006 | MW-6 | Water | 1/26/07 4:15:00 AM | ☐ | A | B | | | | | | | | | | |
| 0701533-007 | MW-7 | Water | 1/26/07 4:45:00 AM | ☐ | A | B | | | | | | | | | | |

**Test Legend:**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | G-MBTEX_W | 2 | MTBE_W | 3 | PREDF REPORT | 4 | | 5 | |
| 6 | | 7 | | 8 | | 9 | | 10 | |
| 11 | | 12 | | | | | | | |

**Prepared by: Elisa Venegas**

**Comments:**

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

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Telephone: 877-252-9262 Fax: 925-252-9269

| | | |
|---|---|---|
| Cambria Env. Technology | Client Project ID: #230-0116; BoGin | Date Sampled: 01/26/07 |
| | | Date Received: 01/26/07 |
| 5900 Hollis St, Suite A | Client Contact: Mark Jonas | Date Extracted: 01/28/07-01/30/07 |
| Emeryville, CA 94608 | Client P.O.: | Date Analyzed: 01/28/07-01/30/07 |

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE***

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0701533

| Lab ID | Client ID | Matrix | TPH(g) | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes | DF | % SS |
|---|---|---|---|---|---|---|---|---|---|---|
| 001A | MW-1 | W | 3300,a | 6200 | 600 | 36 | 34 | 27 | 20 | 111 |
| 002A | MW-2 | W | 120,000,a,h,i | ND<5000 | 3900 | 16,000 | 2300 | 10,000 | 100 | 94 |
| 003A | MW-3 | W | ND | 2500 | ND | ND | ND | ND | 1 | 89 |
| 004A | MW-4 | W | 2000,a | 8300 | 290 | 20 | 28 | 42 | 1 | 95 |
| 005A | MW-5 | W | ND | 490 | ND | ND | ND | ND | 1 | 112 |
| 006A | MW-6 | W | ND | ND | ND | ND | ND | ND | 1 | 110 |
| 007A | MW-7 | W | ND | ND | ND | ND | ND | ND | 1 | 105 |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| Reporting Limit for DF =1; ND means not detected at or above the reporting limit | W | 50 | 5.0 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | µg/L |
| | S | NA | NA | NA | NA | NA | NA | 1 | mg/Kg |

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

| | | |
|---|---|---|
| Cambria Env. Technology | Client Project ID: #230-0116; BoGin | Date Sampled: 01/26/07 |
| | | Date Received: 01/26/07 |
| 5900 Hollis St, Suite A | Client Contact: Mark Jonas | Date Extracted: 01/28/07-01/30/07 |
| Emeryville, CA 94608 | Client P.O.: | Date Analyzed 01/28/07-01/30/07 |

**Methyl tert-Butyl Ether***

Extraction method: SW5030B Analytical methods: SW8260B Work Order: 0701533

| Lab ID | Client ID | Matrix | Methyl-t-butyl ether (MTBE) | DF | % SS |
|---|---|---|---|---|---|
| 001B | MW-1 | W | 5900 | 200 | 100 |
| 002B | MW-2 | W | 3000,h,i | 100 | 98 |
| 003B | MW-3 | W | 3400 | 100 | 104 |
| 004B | MW-4 | W | 8300 | 500 | 98 |
| 006B | MW-6 | W | ND | 1 | 103 |
| 007B | MW-7 | W | ND | 1 | 104 |
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|---|---|---|---|
| Reporting Limit for DF =1; ND means not detected at or above the reporting limit | W | 0.5 | µg/L |
| | S | NA | NA |

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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# QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0701533

| EPA Method SW8260B | Extraction SW5030B | | | | BatchID: 25927 | | | | Spiked Sample ID: 0701509-003B | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Sample | Spiked | MS | MSD | MS-MSD | LCS | LCSD | LCS-LCSD | Acceptance Criteria (%) | | | |
| | µg/L | µg/L | % Rec. | % Rec. | % RPD | % Rec. | % Rec. | % RPD | MS / MSD | RPD | LCS/LCSD | RPD |
| Methyl-t-butyl ether (MTBE) | ND | 10 | 96.6 | 98.5 | 1.99 | 95.3 | 96.3 | 1.04 | 70 - 130 | 30 | 70 - 130 | 30 |
| %SS1: | 105 | 10 | 115 | 116 | 0.606 | 111 | 112 | 1.61 | 70 - 130 | 30 | 70 - 130 | 30 |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25927 SUMMARY

| Sample ID | Date Sampled | Date Extracted | Date Analyzed | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| 0701533-001 | 1/26/07 5:10 AM | 1/30/07 | 1/30/07 12:50 AM | 0701533-002 | 1/26/07 6:05 AM | 1/30/07 | 1/30/07 1:35 AM |
| 0701533-003 | 1/26/07 3:45 AM | 1/30/07 | 1/30/07 2:20 AM | 0701533-004 | 1/26/07 5:40 AM | 1/30/07 | 1/30/07 6:18 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification N° 1644

QA/QC Officer

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# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0701533

| EPA Method SW8021B/8015Cm | Extraction SW5030B | | | | BatchID: 25940 | | | | Spiked Sample ID: 0701529-007B | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Sample | Spiked | MS | MSD | MS-MSD | LCS | LCSD | LCS-LCSD | Acceptance Criteria (%) | | | |
| | µg/L | µg/L | % Rec. | % Rec. | % RPD | % Rec. | % Rec. | % RPD | MS / MSD | RPD | LCS/LCSD | RPD |
| TPH(btex)£ | ND | 60 | 100 | 101 | 0.628 | 95.1 | 106 | 10.5 | 70 - 130 | 30 | 70 - 130 | 30 |
| MTBE | ND | 10 | 81 | 102 | 22.7 | 103 | 105 | 1.83 | 70 - 130 | 30 | 70 - 130 | 30 |
| Benzene | ND | 10 | 112 | 103 | 8.04 | 99 | 101 | 1.87 | 70 - 130 | 30 | 70 - 130 | 30 |
| Toluene | ND | 10 | 104 | 91.9 | 12.4 | 91.4 | 89.2 | 2.46 | 70 - 130 | 30 | 70 - 130 | 30 |
| Ethylbenzene | ND | 10 | 112 | 103 | 8.57 | 97.1 | 98.9 | 1.85 | 70 - 130 | 30 | 70 - 130 | 30 |
| Xylenes | ND | 30 | 107 | 100 | 6.45 | 96 | 95.7 | 0.348 | 70 - 130 | 30 | 70 - 130 | 30 |
| %SS: | 108 | 10 | 113 | 102 | 10.6 | 100 | 102 | 2.23 | 70 - 130 | 30 | 70 - 130 | 30 |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25940 SUMMARY

| Sample ID | Date Sampled | Date Extracted | Date Analyzed | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| 0701533-001 | 1/26/07 5:10 AM | 1/29/07 | 1/29/07 2:54 PM | 0701533-002 | 1/26/07 6:05 AM | 1/29/07 | 1/29/07 2:24 PM |
| 0701533-003 | 1/26/07 3:45 AM | 1/29/07 | 1/29/07 5:07 PM | 0701533-003 | 1/26/07 3:45 AM | 1/30/07 | 1/30/07 4:10 PM |
| 0701533-004 | 1/26/07 5:40 AM | 1/29/07 | 1/29/07 5:42 PM | 0701533-004 | 1/26/07 5:40 AM | 1/30/07 | 1/30/07 4:44 PM |
| 0701533-005 | 1/26/07 3:10 AM | 1/28/07 | 1/28/07 10:41 PM | | | | |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

DHS ELAP Certification N° 1644

QA/QC Officer

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Telephone: 877-252-9262 Fax: 925-252-9269

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0701533

**EPA Method SW8021B/8015Cm** **Extraction SW5030B** **BatchID: 25948** **Spiked Sample ID: 0701536-010A**

| Analyte | Sample | Spiked | MS | MSD | MS-MSD | LCS | LCSD | LCS-LCSD | Acceptance Criteria (%) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | µg/L | µg/L | % Rec. | % Rec. | % RPD | % Rec. | % Rec. | % RPD | MS / MSD | RPD | LCS/LCSD | RPD |
| TPH(btex)£ | ND | 60 | 100 | 101 | 0.437 | 97.8 | 97.7 | 0.0491 | 70 - 130 | 30 | 70 - 130 | 30 |
| MTBE | ND | 10 | 96.1 | 101 | 5.17 | 91.2 | 98.4 | 7.56 | 70 - 130 | 30 | 70 - 130 | 30 |
| Benzene | ND | 10 | 102 | 105 | 2.13 | 94.8 | 103 | 8.41 | 70 - 130 | 30 | 70 - 130 | 30 |
| Toluene | ND | 10 | 93.6 | 96.2 | 2.69 | 87.5 | 94.3 | 7.47 | 70 - 130 | 30 | 70 - 130 | 30 |
| Ethylbenzene | ND | 10 | 100 | 105 | 5.19 | 97 | 102 | 5.50 | 70 - 130 | 30 | 70 - 130 | 30 |
| Xylenes | ND | 30 | 100 | 103 | 3.28 | 95.3 | 100 | 4.78 | 70 - 130 | 30 | 70 - 130 | 30 |
| %SS: | 103 | 10 | 98 | 100 | 2.92 | 96 | 100 | 4.96 | 70 - 130 | 30 | 70 - 130 | 30 |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25948 SUMMARY

| Sample ID | Date Sampled | Date Extracted | Date Analyzed | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| 0701533-006 | 1/26/07 4:15 AM | 1/28/07 | 1/28/07 11:10 PM | 0701533-007 | 1/26/07 4:45 AM | 1/28/07 | 1/28/07 11:40 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

DHS ELAP Certification N° 1644

QA/QC Officer

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# QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0701533

| EPA Method SW8260B | Extraction SW5030B | | | BatchID: 25949 | | | | Spiked Sample ID: 0701549-006B | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Sample | Spiked | MS | MSD | MS-MSD | LCS | LCSD | LCS-LCSD | Acceptance Criteria (%) | | | |
| | µg/L | µg/L | % Rec. | % Rec. | % RPD | % Rec. | % Rec. | % RPD | MS / MSD | RPD | LCS/LCSD | RPD |
| Methyl-t-butyl ether (MTBE) | ND | 10 | 94.7 | 95.8 | 1.20 | 90.8 | 95.8 | 5.31 | 70 - 130 | 30 | 70 - 130 | 30 |
| %SS1: | 121 | 10 | 112 | 113 | 0.789 | 112 | 113 | 0.851 | 70 - 130 | 30 | 70 - 130 | 30 |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 25949 SUMMARY

| Sample ID | Date Sampled | Date Extracted | Date Analyzed | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| 0701533-006 | 1/26/07 4:15 AM | 1/28/07 | 1/28/07 1:32 AM | 0701533-007 | 1/26/07 4:45 AM | 1/28/07 | 1/28/07 2:17 AM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

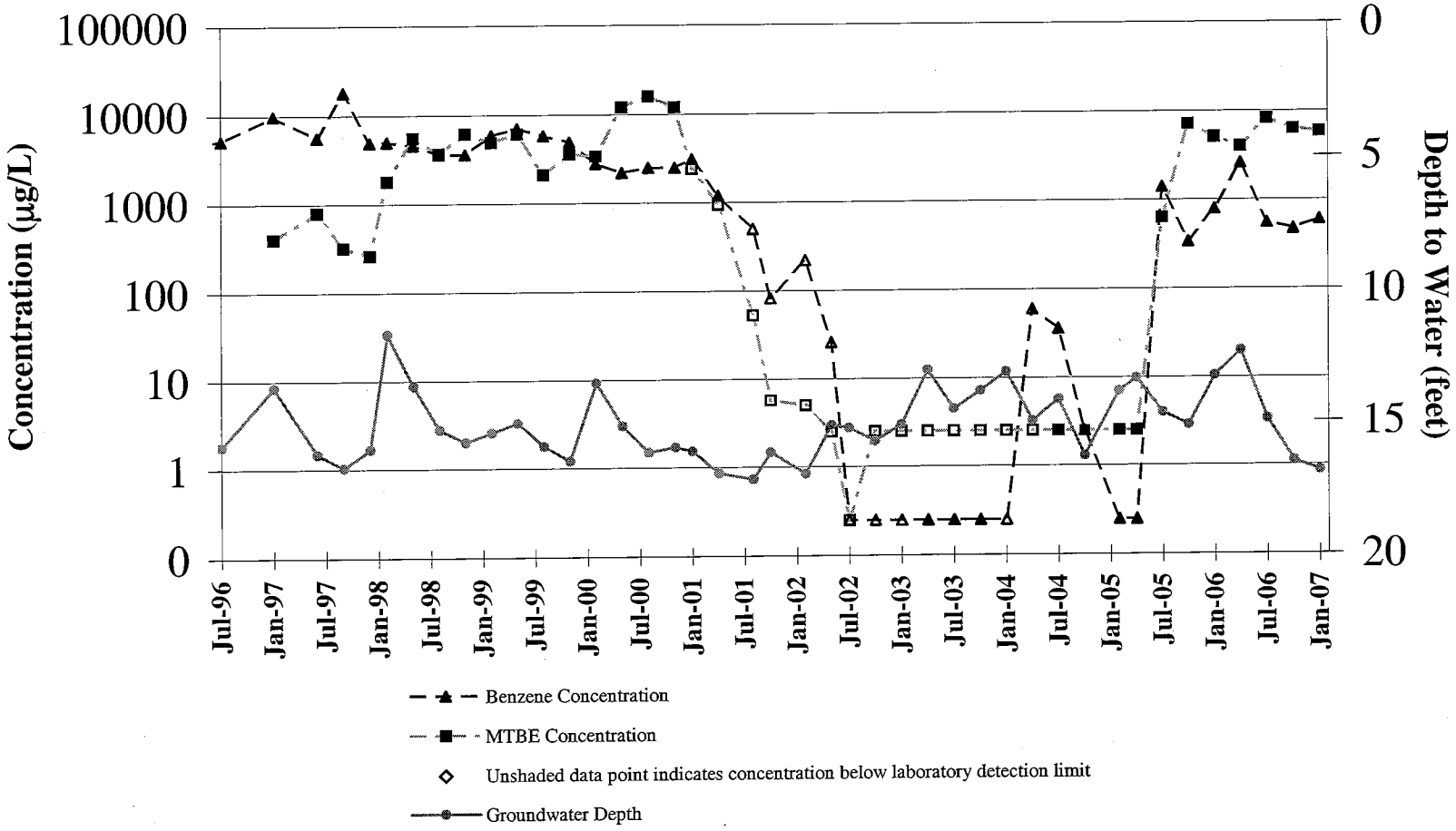
DHS ELAP Certification N° 1644

QA/QC Officer

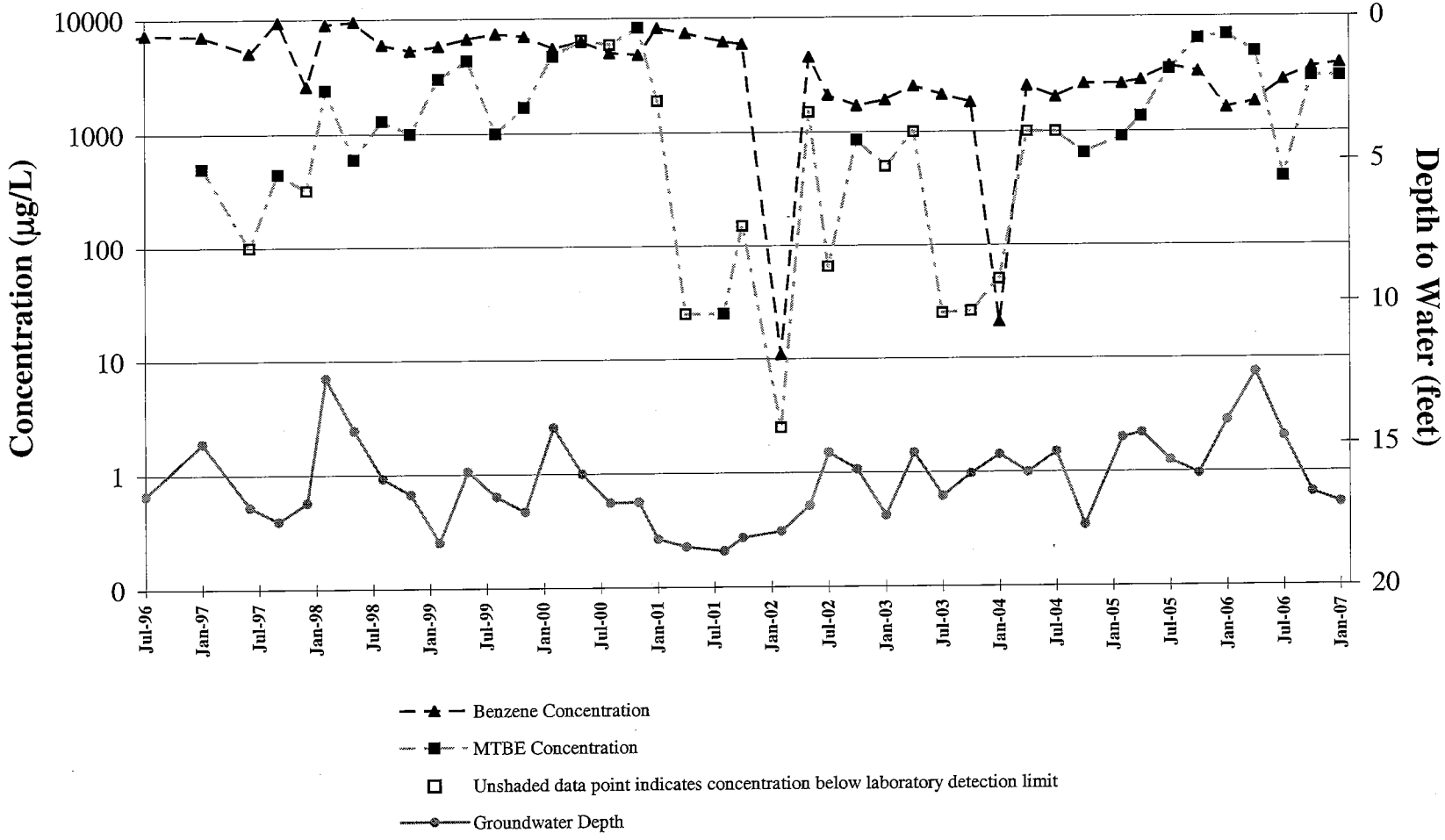
# APPENDIX C

## Benzene and MTBE Concentration Graphs

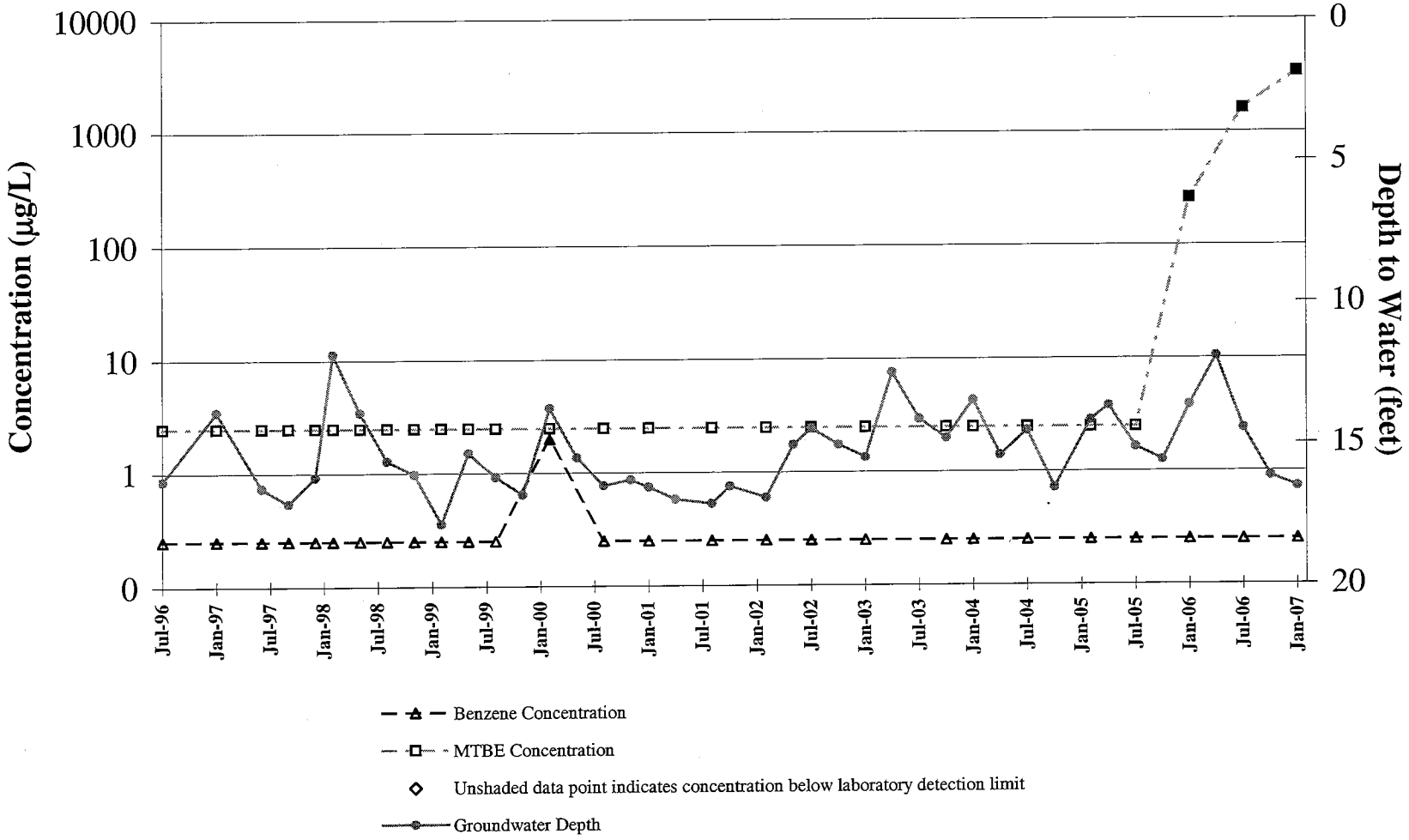
# Monitoring Well MW-1
# Benzene and MTBE Concentration Trends
# Former ARCO Service Station, 706 Harrison Street, Oakland, CA



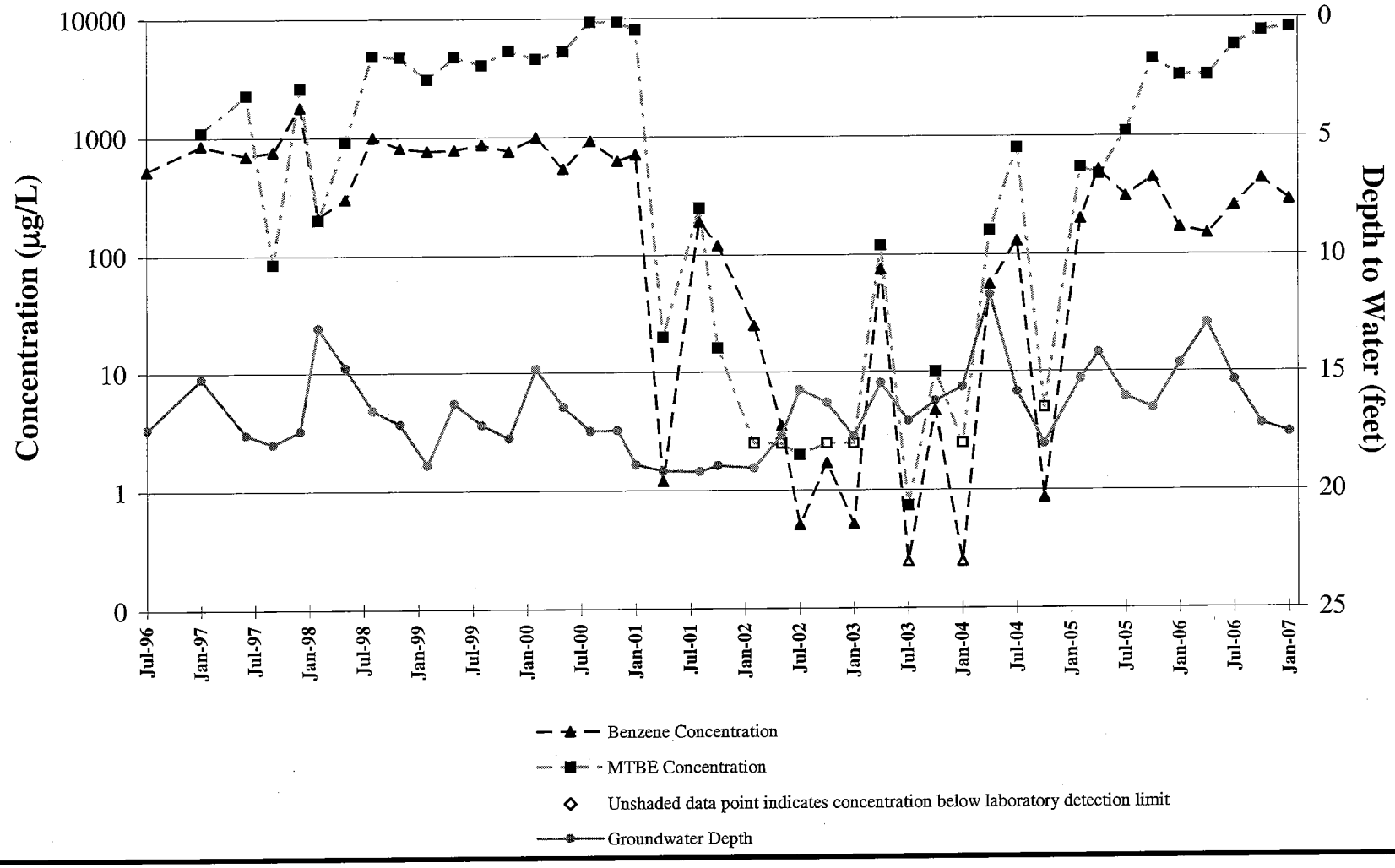
# Monitoring Well MW-2
# Benzene and MTBE Concentration Trends
# Former ARCO Service Station, 706 Harrison Street, Oakland, CA



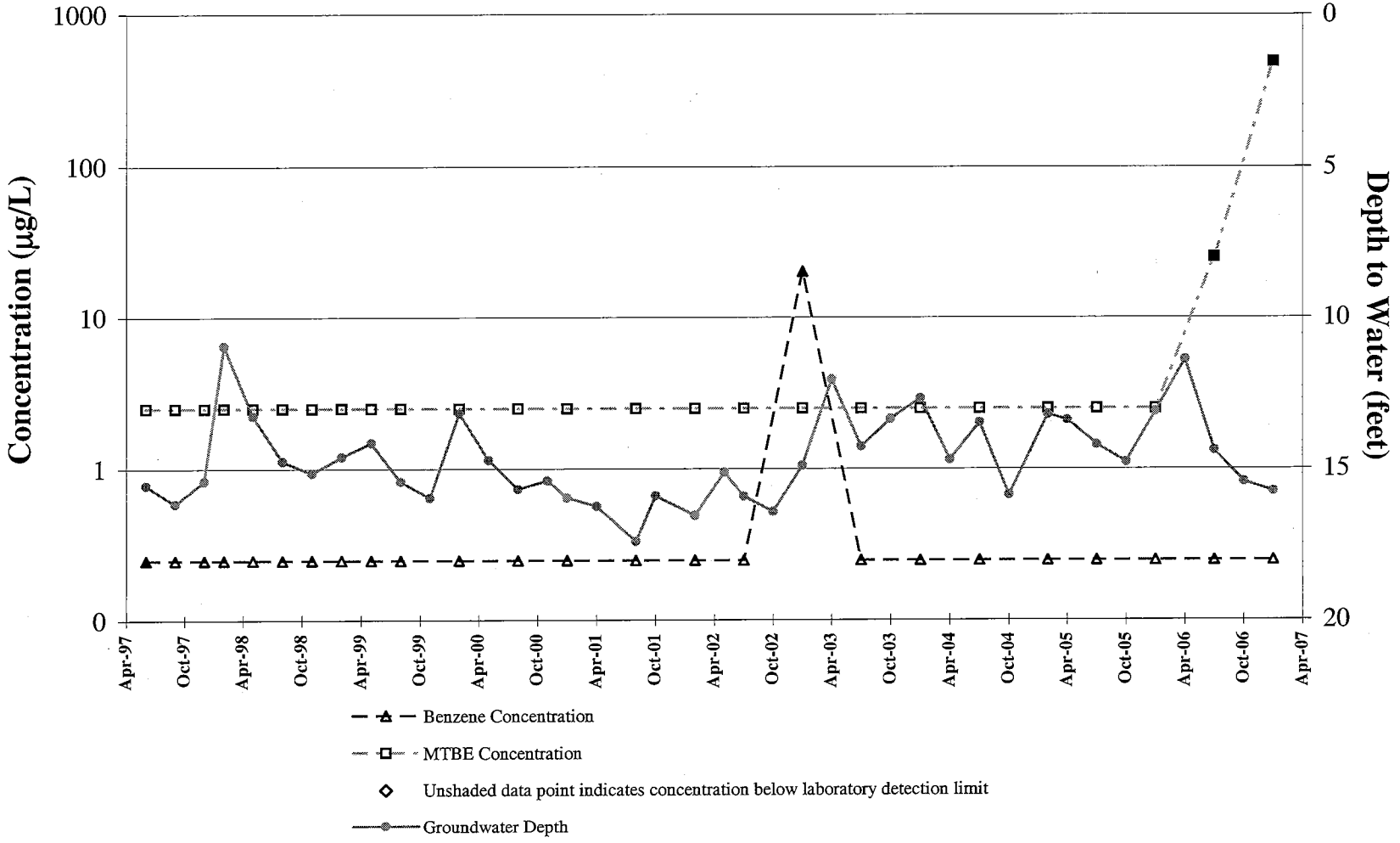
# Monitoring Well MW-3
## Benzene and MTBE Concentration Trends
## Former ARCO Service Station, 706 Harrison Street, Oakland, CA



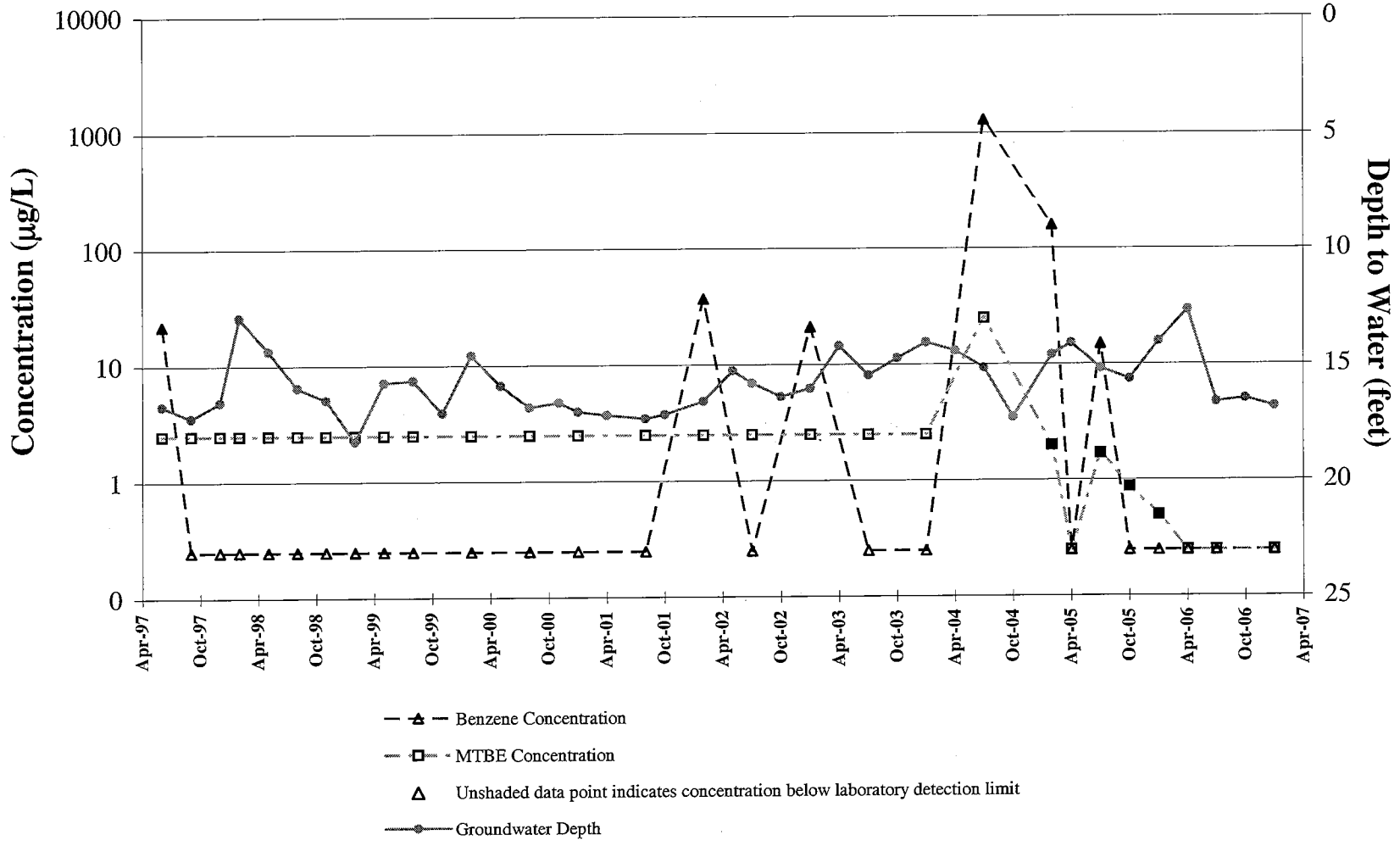
# Monitoring Well MW-4
# Benzene and MTBE Concentration Trends
# Former ARCO Service Station, 706 Harrison Street, Oakland, CA



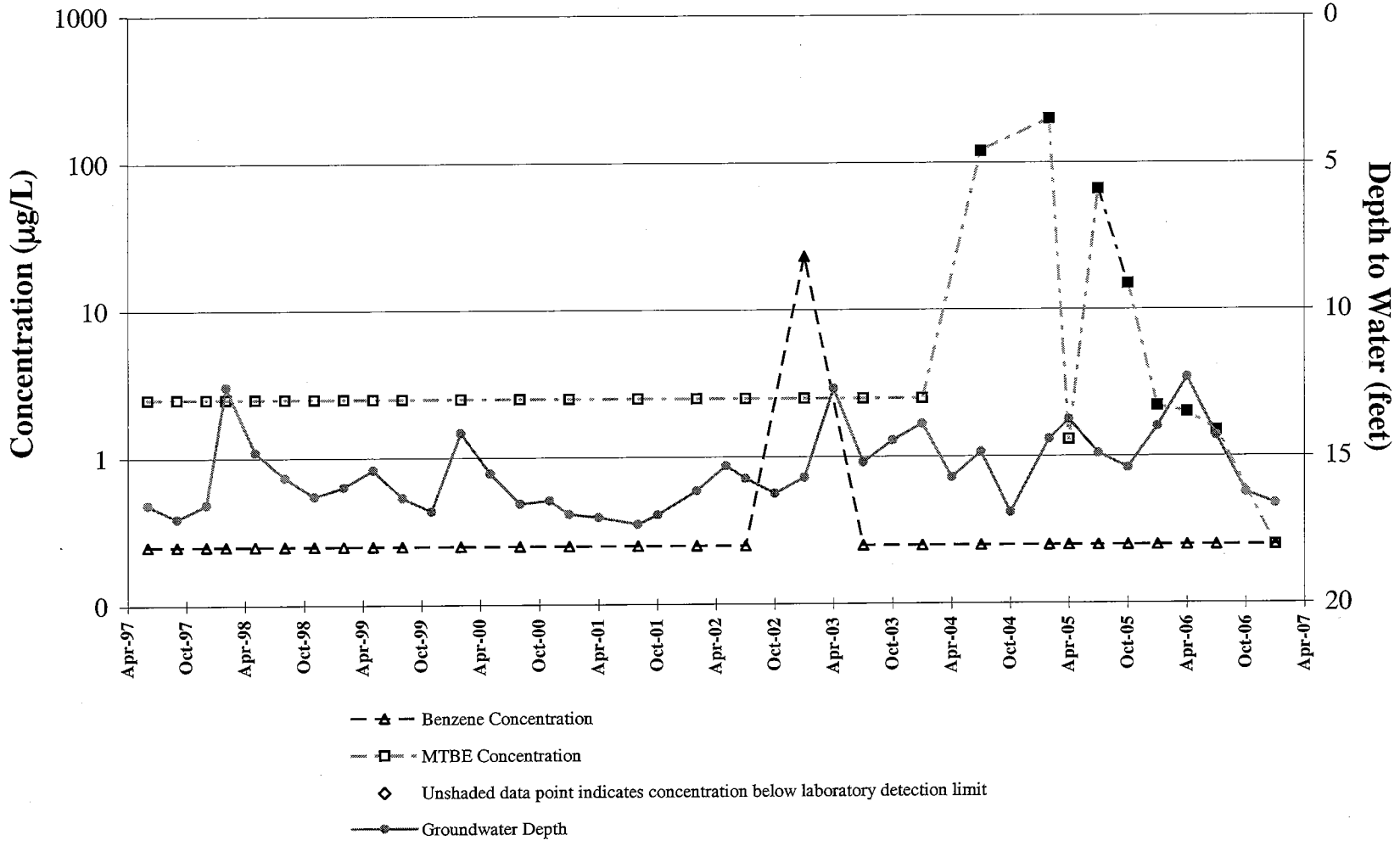
# Monitoring Well MW-5
# Benzene and MTBE Concentration Trends
# Former ARCO Service Station, 706 Harrison Street, Oakland, CA



# Monitoring Well MW-6
# Benzene and MTBE Concentration Trends
# Former ARCO Service Station, 706 Harrison Street, Oakland, CA



# Monitoring Well MW-7
# Benzene and MTBE Concentration Trends
# Former ARCO Service Station, 706 Harrison Street, Oakland, CA



# APPENDIX D

## Former Shell Station Groundwater Monitoring and Analytical Results

## TABLE ONE
Groundwater Elevation Data
Yee Property
726 Harrison St., Oakland, CA

| Well ID | Date of Measurement | Top of Casing Elevation (Relative to Mean Sea Level) | Depth to Water (feet) | Groundwater Elevation (project data) |
|---|---|---|---|---|
| MW-1 | 12/15/98 | 31.95* | 17.32 | 14.63 |
| | 3/4/99 | | 15.52 | 16.43 |
| | 6/17/99 | | 16.9 | 15.05 |
| | 8/27/99 | | 17.39 | 14.56 |
| | 12/9/99 | | 18.03 | 13.92 |
| | 3/7/00 | | 15.11 | 16.84 |
| | 6/7/00 | | 16.66 | 15.29 |
| | 10/11/00 | | 18.08 | 13.87 |
| | 1/18/01 | | 17.96 | 13.99 |
| | 4/5/01 | | 16.35 | 15.60 |
| | 7/17/01 | | 16.94 | 15.01 |
| | 10/5/01 | 28.98 | 17.35 | 11.63 |
| | 1/18/02 | | 15.40 | 13.58 |
| | 4/11/02 | | 15.76 | 13.22 |
| | 7/8/02 | | 16.17 | 12.81 |
| | 10/9/02 | | 16.72 | 12.26 |
| | 1/29/03 | | 16.26 | 12.72 |
| | 4/11/03 | | 16.56 | 12.42 |
| | 7/18/03 | | 16.42 | 12.56 |
| | 10/9/03 | | 16.88 | 12.10 |
| | 1/28/04 | | 16.10 | 12.88 |
| | 4/7/04 | | 15.43 | 13.55 |
| | 7/23/04 | | 16.41 | 12.57 |
| | 10/12/04 | | 17.73 | 11.25 |
| | 1/29/05 | | 15.02 | 13.96 |
| | 4/28/05 | | 14.99 | 13.99 |
| | 7/19/05 | | 16.36 | 12.62 |
| | 10/18/05 | | 17.82 | 11.16 |
| | 1/23/06 | | 15.80 | 13.18 |
| | 4/12/06 | | 13.24 | 15.74 |
| | 7/10/06 | | 15.64 | 13.34 |
| | 10/16/06 | | 17.51 | 11.47 |
| | **1/26/07** | | **18.36** | **10.62** |
| MW-2 | 12/15/98 | 32.40* | 18.03 | 14.37 |
| | 3/4/99 | | 16.11 | 16.29 |
| | 6/17/99 | | 17.72 | 14.68 |
| | 8/27/99 | | Inaccessible | |
| | 12/9/99 | | Inaccessible | |
| | 3/7/00 | | Inaccessible | |
| | 6/7/00 | | 17.67 | 14.73 |
| | 10/11/00 | | 18.91 | 13.49 |
| | 1/18/01 | | 18.66 | 13.74 |
| | 4/5/01 | | 16.97 | 15.43 |
| | 7/17/01 | | 17.54 | 14.86 |
| | 10/5/01 | 29.44 | 17.98 | 11.46 |
| | 1/18/02 | | 15.87 | 13.57 |
| | 4/11/02 | | 16.36 | 13.08 |
| | 7/8/02 | | 16.72 | 12.72 |
| | 10/9/02 | | 17.33 | 12.11 |
| | 1/29/03 | | 16.82 | 12.62 |
| | 4/11/03 | | 17.15 | 12.29 |
| | 7/18/03 | | 17.05 | 12.39 |
| | 10/9/03 | | 17.52 | 11.92 |
| | 1/28/04 | | 16.70 | 12.74 |
| | 4/7/04 | | 16.02 | 13.42 |
| | 7/23/04 | | Inaccessible | |
| | 10/12/04 | | 17.31 | 12.13 |
| | 1/29/05 | | 15.46 | 13.98 |
| | 4/28/05 | | 15.79 | 13.65 |
| | 7/19/05 | | 17.25 | 12.19 |
| | 10/18/05 | | 17.72 | 11.72 |
| | 1/23/05 | | 15.65 | 13.79 |
| | 4/12/06 | | 12.33 | 17.11 |
| | 7/10/06 | | 16.58 | 12.86 |
| | 10/16/06 | | 18.33 | 11.11 |
| | **1/26/07** | | **19.21** | **10.23** |

## TABLE ONE
Groundwater Elevation Data
Yee Property
726 Harrison St., Oakland, CA

| Well ID | Date of Measurement | Top of Casing Elevation (Relative to Mean Sea Level) | Depth to Water (feet) | Groundwater Elevation (project data) |
|---|---|---|---|---|
| MW-3 | 12/15/98 | 31.61* | 17.26 | 14.35 |
| | 3/4/99 | | 15.47 | 16.14 |
| | 6/17/99 | | 16.92 | 14.69 |
| | 8/27/99 | | 17.40 | 14.21 |
| | 12/9/99 | | 18.01 | 13.60 |
| | 3/7/00 | | 16.15 | 15.46 |
| | 6/7/00 | | 16.85 | 14.76 |
| | 10/11/00 | | 18.07 | 13.54 |
| | 1/18/01 | | 17.89 | 13.72 |
| | 4/5/01 | | 16.21 | 15.40 |
| | 7/17/01 | | 16.90 | 14.71 |
| | 10/5/01 | 28.64 | 17.32 | 11.32 |
| | 1/18/02 | | 15.35 | 13.29 |
| | 4/11/02 | | 15.82 | 12.82 |
| | 7/8/02 | | 16.15 | 12.49 |
| | 10/9/02 | | 16.67 | 11.97 |
| | 1/29/03 | | 16.19 | 12.45 |
| | 4/11/03 | | 16.49 | 12.15 |
| | 7/18/03 | | 16.42 | 12.22 |
| | 10/9/03 | | 16.80 | 11.84 |
| | 1/28/03 | | 15.94 | 12.70 |
| | 4/7/04 | | 15.28 | 13.36 |
| | 7/23/04 | | 16.15 | 12.49 |
| | 10/12/04 | | 16.63 | 12.01 |
| | 1/29/05 | | 16.15 | 12.49 |
| | 4/28/05 | | 14.94 | 13.70 |
| | 7/19/05 | | 16.25 | 12.39 |
| | 10/18/05 | | 16.76 | 11.88 |
| | 1/23/06 | | 15.81 | 12.83 |
| | 4/12/06 | | 13.22 | 15.42 |
| | 7/10/06 | | 15.49 | 13.15 |
| | 10/16/06 | | 17.46 | 11.18 |
| | **1/26/07** | | **18.02** | **10.62** |
| MW-4 | 12/15/98 | 32.53* | 17.59 | 14.94 |
| | 3/4/99 | | 15.88 | 16.65 |
| | 6/17/99 | | 17.14 | 15.39 |
| | 8/27/99 | | 17.65 | 14.88 |
| | 12/9/99 | | 18.28 | 14.25 |
| | 3/7/00 | | 15.41 | 17.12 |
| | 6/7/00 | | 17.09 | 15.44 |
| | 10/11/00 | | 18.33 | 14.20 |
| | 1/18/01 | | 18.23 | 14.30 |
| | 4/5/01 | | 16.69 | 15.84 |
| | 7/17/01 | | 17.32 | 15.21 |
| | 10/5/01 | 29.58 | 17.71 | 11.87 |
| | 1/18/02 | | 15.85 | 13.73 |
| | 4/11/02 | | 16.14 | 13.44 |
| | 7/8/02 | | 16.56 | 13.02 |
| | 10/9/02 | | 17.09 | 12.49 |
| | 1/29/03 | | 16.65 | 12.93 |
| | 4/11/03 | | 16.93 | 12.65 |
| | 7/18/03 | | 16.78 | 12.80 |
| | 10/9/03 | | 17.26 | 12.32 |
| | 1/28/04 | | 16.38 | 13.20 |
| | 4/7/04 | | 15.64 | 13.94 |
| | 7/23/04 | | 16.58 | 13.00 |
| | 10/12/04 | | Inaccessible | |
| | 1/29/05 | | 14.90 | 14.68 |
| | 4/28/05 | | 15.18 | 14.40 |
| | 7/19/05 | | 16.48 | 13.10 |
| | 10/18/05 | | 16.99 | 12.59 |
| | 1/23/06 | | 15.09 | 14.49 |
| | 4/12/06 | | 13.49 | 16.09 |
| | 7/10/06 | | 14.99 | 14.59 |
| | 10/16/06 | | 17.29 | 12.29 |
| | **1/26/07** | | **18.17** | **11.41** |

## TABLE ONE
Groundwater Elevation Data
Yee Property
726 Harrison St., Oakland, CA

| Well ID | Date of Measurement | Top of Casing Elevation (Relative to Mean Sea Level) | Depth to Water (feet) | Groundwater Elevation (project data) |
|---|---|---|---|---|
| MW-5 | 8/29/01 | 29.06 | 17.42 | 11.64 |
| | 1/18/02 | | 15.68 | 13.38 |
| | 4/11/02 | | 16.17 | 12.89 |
| | 7/8/02 | | 16.51 | 12.55 |
| | 10/9/02 | | 17.10 | 11.96 |
| | 1/29/03 | | 16.58 | 12.48 |
| | 4/11/03 | | 16.87 | 12.19 |
| | 7/18/03 | | 16.77 | 12.29 |
| | 10/9/03 | | 17.21 | 11.85 |
| | 1/28/04 | | 16.34 | 12.72 |
| | 4/7/04 | | 15.38 | 13.68 |
| | 7/23/04 | | 16.55 | 12.51 |
| | 10/12/04 | | 17.02 | 12.04 |
| | 1/29/05 | | 15.23 | 13.83 |
| | 4/28/05 | | 15.41 | 13.65 |
| | 7/19/05 | | 16.79 | 12.27 |
| | 10/18/05 | | 17.28 | 11.78 |
| | 1/23/06 | | 15.28 | 13.78 |
| | 4/12/06 | | 13.66 | 15.40 |
| | 7/10/06 | | 16.14 | 12.92 |
| | 10/16/06 | | 19.33 | 9.73 |
| | **1/26/07** | | **18.94** | **10.12** |

* Top of casing elevation relative to arbitrary project datum

# TABLE THREE

Summary of Analytical Results for GROUNDWATER Samples
Yee Property
726 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

| Well ID & Dates Sampled | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|
| MW-1 | | | | | | |
| 7/3/97 | 18,000 | 2,700 | 350 | 450 | 900 | 7,400 |
| 12/5/98 | 18,000 | 1,500 | 270 | 260 | 560 | 14,000 |
| 3/4/99 | 44,000 | 2,800 | 400 | 440 | 960 | 43,000 |
| 6/17/99 | 33,000 | 2,200 | 250 | 460 | 660 | 25,000 |
| 8/27/99 | 6,000 | 1,000 | 97 | 190 | 230 | 14,000/ 16,000* |
| 12/9/99 | 15,000 | 1,500 | 160 | 220 | 420 | 17,000 |
| 3/7/00 | 9,300 | 1,500 | 210 | 66 | 530 | 12,000 |
| 6/7/00 | 26,000** | 1,700 | < 250 | 360 | 580 | 30,000 |
| 10/11/00 | 13,000** | 1,600 | < 100 | 140 | 160 | 19,000 |
| 1/18/01 | 14,000** | 450 | < 100 | 110 | 230 | 9,600 |
| 4/5/01 | 38,000 | 2,200 | 180 | 290 | 590 | 35,000 |
| 7/17/01 | 35,000** | 1,800 | < 100 | 300 | 170 | 35,000 |
| 10/5/01 | 17,000 | 1,500 | 210 | 420 | 790 | 27,000 |
| 1/18/02 | 18,000 | 1,500 | 120 | 160 | 220 | 22,000 |
| 4/11/02 | 41,000 | 2,700 | 210 | 340 | 380 | 30,000 |
| 7/8/02 | 36,000 | 2,800 | 140 | 360 | 300 | 31,000 |
| 10/9/02 | 30,000 | 1,700 | 310 | < 100 | < 100 | 19,000 |
| 1/29/03 | 26,000 | 2,400 | < 100 | 310 | 520 | 20,000 |
| 4/11/03 | 22,000 | 1,700 | < 100 | 270 | 580 | 16,000 |
| 7/18/03 | 40,000 | 3,200 | 290 | 480 | 830 | 39,000 |
| 10/9/03 | 54,000** | 3,300 | < 130 | 350 | 310 | 49,000 |
| 1/28/04 | 26,000*** | 3,000 | 310 | 420 | 800 | 31,000 |
| 4/7/04 | 33,000*** | 2,800 | 130 | 310 | 310 | 39,000 |
| 7/23/04 | 56,000*** | 4,500 | < 250 | 390 | < 500 | 53,000 |
| 10/12/04 | 25,000*** | 1,400 | < 250 | < 250 | < 500 | 25,000 |
| 1/29/05 | 24,000 | 1,600 | < 100 | 160 | < 200 | 19,000 |
| 4/28/05 | < 10,000 | 2,000 | < 100 | 160 | 100 | 34,000 |
| 7/19/05 | 37,000 | 2,100 | 83 | 210 | 230 | 28,000 |
| 10/18/05 | 37,000 | 1,300 | < 250 | < 250 | < 250 | 23,000 |
| 1/24/06 | 23,000 | 780 | < 100 | 160 | 260 | 11,000 |
| 4/12/06 | 11,000 | 1,500 | 87 | 360 | 670 | 17,000 |
| 7/10/06 | 72,000 | 4,700 | < 250 | 350 | < 500 | 66,000 |
| 10/16/06 | 26,000 | 1,600 | < 250 | 330 | < 500 | 22,000 |
| **1/26/07** | **7,200** | **1,500** | **< 70** | **140** | **96** | **34,000** |

# TABLE THREE

Summary of Analytical Results for GROUNDWATER Samples
Yee Property
726 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

| Well ID & Dates Sampled | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|
| MW-2 | | | | | | |
| 12/5/98 | < 50 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 5.0 |
| 3/4/99 | Inaccessible due to car parked over well | | | | | |
| 6/17/99 | < 50 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 5.0 |
| 8/27/99 | Inaccessible due to car parked over well | | | | | |
| 12/9/99 | Inaccessible due to car parked over well | | | | | |
| 3/7/00 | Inaccessible due to car parked over well | | | | | |
| 6/7/00 | < 50 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 5.0 |
| 10/11/00 | < 50 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 5.0 |
| 1/18/01 | < 50 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 5.0 |
| 4/5/01 | < 50 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 5.0 |
| 7/17/01 | No longer sampled | | | | | |
| 7/10/06 | < 50 | < 0.50 | < 0.50 | < 0.50 | < 1.0 | 4.5 |
| 10/16/07 | < 50 | < 0.50 | < 0.50 | < 0.50 | < 1.0 | < 0.5 |
| **1/26/07** | **< 50** | **0.55** | **1.0** | **< 0.50** | **1.4** | **0.97** |

# TABLE THREE

Summary of Analytical Results for GROUNDWATER Samples
Yee Property
726 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

| Well ID & Dates Sampled | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|
| MW-3 | | | | | | |
| 12/5/98 | 6,500 | < 50 | 50 | 60 | 502 | 3,900 |
| 3/4/99 | 2,800 | < 25 | < 25 | < 25 | < 25 | 1,600 |
| 6/17/99 | 1,000 | < 10 | < 10 | < 10 | < 10 | 1,400 |
| 8/27/99 | 230 | < 0.5 | 0.51 | 0.5 | 1 | 1,500/ 1,600* |
| 12/9/99 | 870** | < 0.5 | < 0.5 | < 0.5 | < 0.5 | 2,100 |
| 3/7/00 | 150** | 4 | < 0.5 | < 0.5 | < 0.5 | 830 |
| 6/7/00 | 140** | < 0.5 | < 0.5 | < 0.5 | < 0.5 | 1,100 |
| 10/11/00 | 620** | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 1,500 |
| 1/18/01 | 1,200** | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 1,000 |
| 4/5/01 | 1,700** | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 1,900 |
| 7/17/01 | 1,400** | < 10 | < 10 | < 10 | < 10 | 1,700 |
| 10/5/01 | < 1,000 | < 10 | < 10 | < 10 | < 10 | 1,700 |
| 1/18/02 | 1,600 | 26 | 20 | 16 | 54 | 2,100 |
| 4/11/02 | 2,600 | 21 | 16 | < 10 | 21 | 2,300 |
| 7/8/02 | 2,800 | < 10 | < 10 | < 10 | < 10 | 3,800 |
| 10/9/02 | 6,000 | < 50 | < 50 | < 50 | < 50 | 4,900 |
| 1/29/03 | 1,800 | < 10 | < 10 | < 10 | < 10 | 2,300 |
| 4/11/03 | 2,900 | < 25 | < 25 | < 25 | < 25 | 3,100 |
| 7/18/03 | 3,400 | < 10 | < 10 | < 10 | < 10 | 3,200 |
| 10/9/03 | 2,300 | < 10 | < 10 | < 10 | < 10 | 2,700 |
| 1/28/03 | 1,700** | < 10 | < 10 | < 10 | < 10 | 2,900 |
| 4/7/04 | 2,700** | < 10 | < 10 | < 10 | < 20 | 3,600 |
| 7/23/04 | 4,200** | < 25 | < 25 | < 25 | < 50 | 4,900 |
| 10/12/04 | 5,000** | < 50 | < 50 | < 50 | < 100 | 5,900 |
| 1/29/05 | < 1,000 | < 10 | < 10 | < 10 | < 20 | 3,100 |
| 4/28/05 | < 200 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 1,300 |
| 7/19/05 | 4,400 | < 20 | < 20 | < 20 | < 40 | 3,000 |
| 10/18/05 | 18,000 | < 50 | < 50 | < 50 | < 50 | 6,800 |
| 1/24/06 | 17,000 | < 100 | < 100 | < 100 | < 200 | 7,000 |
| 4/12/06 | < 200 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 7,800 |
| 7/10/06 | 11,000 | < 100 | < 100 | < 100 | < 200 | 12,000 |
| 10/16/06 | < 10,000 | < 100 | < 100 | < 100 | < 100 | 17,000 |
| **1/26/07** | **< 200** | **< 2.0** | **< 2.0** | **< 2.0** | **< 2.0** | **4,000** |

# TABLE THREE

Summary of Analytical Results for GROUNDWATER Samples
Yee Property
726 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

| Well ID & Dates Sampled | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|
| MW-4 | | | | | | |
| 12/5/98 | 880 | 3 | < 0.5 | < 0.5 | < 0.5 | 950 |
| 3/4/99 | 3,800 | < 25 | < 25 | < 25 | < 25 | 3,700 |
| 6/17/99 | 2,700 | < 25 | < 25 | < 25 | < 25 | 2,700 |
| 8/27/99 | 440 | 4.7 | 1.1 | 0.58 | 1.3 | 1,600/ 1,700* |
| 12/9/99 | 1,100** | < 2.5 | < 2.5 | < 2.5 | < 2.5 | 1,700 |
| 3/7/00 | < 250 | < 2.5 | < 2.5 | < 2.5 | < 2.5 | 1,700 |
| 6/7/00 | 530** | 8.8 | < 2.5 | < 2.5 | < 2.5 | 440 |
| 10/11/00 | 700** | 3.9 | < 2.5 | < 2.5 | < 2.5 | 680 |
| 1/18/01 | 2,000** | < 2.5 | < 2.5 | < 2.5 | < 2.5 | 780 |
| 4/5/01 | 810** | < 2.5 | < 2.5 | < 2.5 | < 2.5 | 620 |
| 7/17/01 | 880** | < 2.5 | < 2.5 | < 2.5 | < 2.5 | 570 |
| 10/5/01 | 550** | < 2.5 | < 2.5 | < 2.5 | < 2.5 | 710 |
| 1/18/02 | 960** | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 1,300 |
| 4/11/02 | 1,100** | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 550 |
| 7/8/02 | 1,200** | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 890 |
| 10/9/02 | 1,300** | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 880 |
| 1/29/03 | 530** | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 190 |
| 4/11/03 | 690** | < 2.5 | < 2.5 | < 2.5 | < 2.5 | 310 |
| 7/18/03 | 1,600** | < 10 | < 10 | < 10 | < 10 | 1,300 |
| 10/9/03 | 1500*** | < 10 | < 10 | < 10 | < 10 | 1,400 |
| 1/28/04 | 1,200** | < 10 | < 10 | < 10 | < 10 | 1,900 |
| 4/7/04 | 1,900** | < 10 | < 10 | < 10 | < 20 | 2,200 |
| 7/23/04 | 1,800** | < 10 | < 10 | < 10 | < 20 | 1,600 |
| 10/12/04 | Inaccessible due to car parked over well | | | | | |
| 1/29/05 | < 1,300 | < 13 | < 13 | < 13 | < 25 | 3,900 |
| 4/28/05 | 510 | < 1.5 | < 1.5 | < 1.5 | < 1.5 | 510 |
| 7/19/05 | 5,400 | < 50 | < 50 | < 50 | < 100 | 2,700 |
| 10/18/05 | 10,000 | < 50 | < 50 | < 50 | < 50 | 9,000 |
| 1/24/06 | 10,000 | < 100 | < 100 | < 100 | < 200 | 8,300 |
| 4/12/06 | 1,900 | < 10 | < 10 | < 10 | < 20 | 2,200 |
| 7/10/06 | 750 | 5.4 | < 5.0 | < 5.0 | < 10 | 790 |
| 10/16/06 | 2,400 | < 10 | < 10 | < 10 | < 10 | 2,200 |
| **1/26/07** | **250** | **< 1.5** | **< 1.5** | **< 1.5** | **< 1.5** | **7,000** |

# TABLE THREE

## Summary of Analytical Results for GROUNDWATER Samples

Yee Property

726 Harrison St., Oakland, CA

All results are in parts per billion (ppb)

| Well ID & Dates Sampled | TPH-G | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|
| MW-5 | | | | | | |
| 8/29/01 | 14,000 | 1,300 | 470 | 230 | 800 | 14,000 |
| 1/18/02 | 24,000 | 3,200 | 1,300 | 390 | 1,500 | 5,700 |
| 4/11/02 | 23,000 | 2,700 | 980 | 38 | 950 | 4,300 |
| 7/8/02 | 19,000 | 3,300 | 25 | 360 | 1,100 | 2,100 |
| 10/9/02 | 24,000 | 2,800 | 990 | 360 | 820 | 2,400 |
| 1/29/03 | 17,000 | 2,100 | 1,400 | 380 | 1,400 | < 250 |
| 4/11/03 | 26,000 | 2,900 | 2,200 | 590 | 2,200 | 630 |
| 7/18/03 | 26,000 | 3,500 | 1,700 | 480 | 1,300 | 1,300 |
| 10/9/03 | 27,000 | 3,800 | 1,900 | 510 | 1,700 | 1,200 |
| 1/28/04 | 29,000 | 4,800 | 2,900 | 770 | 2,300 | 3,300 |
| 4/7/04 | 23,000 | 4,400 | 2,700 | 720 | 2,200 | 1,700 |
| 7/23/04 | 29,000 | 5,200 | 2,200 | 810 | 1,400 | 2,200 |
| 10/12/04 | 26,000 | 4,300 | 2,000 | 670 | 1,300 | 2,200 |
| 7/18/03 | 8,200 | 650 | 77 | 99 | 140 | 4,300 |
| 10/9/03 | 5,700** | 500 | 28 | 53 | 35 | 3,600 |
| 1/28/04 | 17,000*** | 1,600 | 90 | 250 | 280 | 9,700 |
| 4/7/04 | | | No longer sampled | | | |
| 1/24/06 | 21,000 | 1,800 | 1,200 | 270 | 820 | 13,000 |
| 7/10/06 | 45,000 | 3,700 | 2,600 | 650 | 1,800 | 23,000 |
| 10/16/06 | 66,000 | 4,200 | 3,300 | 800 | 2,100 | 35,000 |
| **1/26/07** | **30,000** | **3,200** | **2,600** | **610** | **2,400** | **38,000** |
| ESL | 100 | 1 | 40 | 30 | 20 | 5 |

Notes:

* EPA Method 8020/EPA Method 8260 (MTBE confirmation)

** Hydrocarbon reported in the gasoline range does not match the laboratory gasoline standard

*** Sample contains a discrete peak in addition to gasoline

ESL = Environmental screening levels presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (July 2003)" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region.

Most current data is in **Bold**

Non-detectable concentrations noted by the less than sign (<) followed by the laboratory method reporting limit.

# APPENDIX E

## Regulatory Correspondence

CAMBRIA

January 24, 2007

Ms. Donna Drogos
Alameda County Environmental Health Services
UST Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577
510/567-6721

Re: **Request for Approval for Onsite Characterization and ACEH Pursuit of Remediation at Upgradient Site**
Former ARCO Service Station
706 Harrison Street, Oakland, California 94607
STID 3749; Fuel Leak Case #RO0000484, Cambria Project #230-0116

Dear Ms. Drogos:

Yesterday I received a call from Mr. Don Hwang stating that he will no longer act as the site manager for Alameda County Environmental Health on the 706 Harrison site, Fuel Leak Case #RO0000484. He asked that I contact you.

We ask that you please address two issues as soon as you can. Attached are correspondences previously sent to Mr. Hwang. Specifically:

- Please approve our recommendation to perform on-site characterization. We will then provide your office with a *Work Plan for Onsite Characterization.* We would like to determine if a source of contamination currently exists at the site.
- Please diligently pursue active remediation at the upgradient site, located at 726 Harrison, Fuel Leak Case #RO0000321. See the attached October 7, 2005 ACEH letter requiring a remediation pilot study. Apparently, Mr. Chan is under the mistaken assumption that he is not required to remediate his site, in contradiction to previous ACEH correspondence.

The 706 Harrison project has been on-going for quite some time and our client and Cambria want to get this site closed as soon as possible. Your support in this effort is greatly appreciated. Please approve our request for on-site characterization via e-mail (mjonas@cambria-env.com), letter, or by telephone (510/420-3307).

Thank you for your time and consideration.

Sincerely,
**Cambria Environmental Technology, Inc.**

Mark Jonas, P.G.
Senior Project Manager

cc: Mr. Bo K. Gin, 342 Lester Avenue, Oakland, California 94606

H:\Bo Gin - Oakland\Correspondence\2007\letter Cambria - ACEH 1-24-07.doc

**Cambria Environmental Technology, Inc.**
5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

## Jonas, Mark

**From:** Jonas, Mark
**Sent:** Friday, January 12, 2007 3:34 PM
**To:** 'Don Hwang (don.hwang@acgov.org)'
**Subject:** Request for Onsite Characterization - Bo Gin RO0000484
**Attachments:** Letter Cambria - ACEH 1-12-07.pdf

Dear Mr. Hwang:
Attached is a letter requesting approval of our recommendation to perform onsite characterization under a Work Plan for the Bo Gin site.

Please provide your approval for the Work Plan for Onsite Characterization.

Sincerely,
*Mark Jonas*
Mark Jonas, P.G.
Senior Project Manager, x-107
**Cambria Environmental Technology, Inc.**
5900 Hollis Street, Suite A, Emeryville, California 94608
510/420-3307; 510/420-9170 fax

## Jonas, Mark

**From:** Jonas, Mark

**Sent:** Monday, January 22, 2007 1:09 PM

**To:** 'Don Hwang (don.hwang@acgov.org)'

**Subject:** Request for Authorization for Onsite Characterization - Bo Gin RO0000484

Dear Don:
I hope all is going well with you. I had called and left a message.

In summary, we request to perform additional onsite characterization at the Bo Gin site located at 706 Harrison Street, in Oakland, California. This should help to determine if an on-going source currently exists. We request your authorization to meet the requirement for reimbursement under the UST Fund. After we receive your authorization, we will present an Onsite Characterization Work Plan.

Please authorize onsite characterization for the Bo Gin site, Fuel Leak Case #RO0000484.

Sincerely,

*Mark Jonas*

Mark Jonas, P.G.
Senior Project Manager, x-107
**Cambria Environmental Technology, Inc.**
5900 Hollis Street, Suite A, Emeryville, California 94608
510/420-3307; 510/420-9170 fax

CAMBRIA

January 12, 2007

-- sent via e-mail --

Mr. Don Hwang
Alameda County Environmental Health Services
UST Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577
510/567-6746

Re: **Request for Approval of Onsite Characterization**
Former ARCO Service Station
706 Harrison Street
Oakland, California 94607
STID 3749; Fuel Leak Case RO0000484
Cambria Project #230-0116

Dear Mr. Hwang:

On behalf of Mr. Bo K. Gin, Cambria Environmental Technology, Inc. recommends that more current onsite soil characterization be performed at the subject site. Our rationale is to collect information necessary to evaluate current risk, remediation, and closure. Please provide your approval for us to provide you with a Work Plan for Onsite Characterization.

Also, please provide a status report on remediation of the upgradient site located at 726 Harrison Street.

If you would like to discuss this or any other issue, please contact Mark Jonas at (510) 420-3307 or at mjonas@cambria-env.com.

Thank you for your time and consideration.

Sincerely,
**Cambria Environmental Technology, Inc.**

Mark Jonas, P.G.
Senior Project Manager

Cambria Environmental Technology, Inc.

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

cc: Mr. Bo K. Gin, 342 Lester Avenue, Oakland, California 94606

H:\Bo Gin - Oakland\Correspondence\2007\letter Cambria - ACEH 1-12-07.doc

**Jonas, Mark**

**From:** Jonas, Mark
**Sent:** Thursday, December 21, 2006 4:08 PM
**To:** 'Don Hwang (don.hwang@acgov.org)'
**Subject:** Status of Remediation at 726 Harrison?
**Attachments:** 10-7-05 ACEH Letter 726 Harrison.pdf

Dear Don:
Attached is the October 7, 2005 letter from ACEH concerning remediation at the 726 Harrison Street site. This site is adjacent to our client's site at 706 Harrison Street. What is the current status of active remediation at the 726 Harrison site?

Sincerely,
*Mark Jonas*
Mark Jonas, P.G.
Senior Project Manager, x-107
**Cambria Environmental Technology, Inc.**
5900 Hollis Street, Suite A, Emeryville, California 94608
510/420-3307; 510/420-9170 fax

ALAMEDA COUNTY
**HEALTH CARE SERVICES**
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

October 7, 2005

OCT 12 2005

Mr. Peter Yee
1000 San Antonio Avenue
Alameda, CA 94501

Kin Chan
4328 Edgewood Avenue
Oakland, CA 94602-1316

Subject: Fuel Leak Case No. RO0000321, Chan Service Station, 726 Harrison Street, Oakland, CA

Dear Mr. Yee and Mr. Chan:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site, including the most recent report entitled, "Quarterly Groundwater Monitoring Report, April 2005 Groundwater Sampling" dated July 12, 2005 and prepared on your behalf by Aqua Science Engineers, Inc. ACEH is concerned with the elevated concentrations of fuel hydrocarbons in soil and groundwater at your site and the lack of progress that you have made towards site cleanup. A chemical oxidation pilot test was proposed by your consultant, Aqua Science Engineers, in a work plan dated May 23, 2003 and supplemented by a work plan addendum dated June 15, 2003. ACEH approved the work plan in correspondence dated August 12, 2003. To date, that pilot study has not been started and no cleanup has been conducted at your site. ACEH has repeatedly requested in the correspondence listed below that you initiate this work and submit the required technical reports:

- December 11, 2003 - ACEH correspondence requesting that the pilot study be initiated by September 15, 2003 and that reports be submitted 30 days after the conclusion of the test.
- April 6, 2004 – Notice of Violation. ACEH correspondence informing you that your site is out of compliance and requesting that the results of the pilot test be submitted by June 10, 2004.
- July 26, 2004 – ACEH correspondence requesting that the pilot study be initiated by September 24, 2004 and that reports be submitted 30 days after the conclusion of the test.
- March 21, 2005 – ACEH correspondence requesting that the pilot study be initiated by September 24, 2004 and that reports be submitted 30 days after the conclusion of the test.

No extensions of due dates or approval of delays have been granted by this office. Therefore, your site is out of compliance with ACEH directives. We are providing a copy of this letter to the Underground Storage Tank Fund. Please not that delays in investigation, late reports, or enforcement actions may result in your site becoming ineligible to receive grant money from the state's Underground Storage Tank Fund (Senate Bill 2004) to reimburse you for the cost of

cleanup. In addition, we may refer your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement. including administrative action or monetary penalties of up to $10,000 per day for each day of violation

We request that you immediately provide this office with notice of your intent to initiate the approved work plan. If you have any questions, please call me at (510) 567-6791.

Sincerely,

Jerry Wickham
Hazardous Materials Specialist

cc: Sunil Ramdass, SWRCB Cleanup Fund, 1001 I Street, 17th floor, Sacramento, CA 95814-2828
Susan D. Barba, 242 California Avenue, San Leandro, CA. 94526
Robert Kitay, Aqua Science Engineers, Inc., 208 W. El Pintado, Danville, CA 94526
Matt Meyers, Cambria Environmental Technology, Inc., 5900 Hollis Street, Suite A, Emeryville, CA 94608

Donna Drogos, ACEH
Jerry Wickham, ACEH
File