

C A M B R I A

ENVIRONMENTAL
PROTECTION

July 8, 1999

Mr. Larry Seto
Alameda County Department of
Environmental Health
UST Local Oversight Program
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

99 JUL 16 PM 3:01

Re: **Second Quarter 1999 Monitoring Report**

Former Arco Service Station
706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116-111



Dear Mr. Seto:

On behalf of Mr. Bo K. Gin, Cambria Environmental Technology, Inc. (Cambria) is submitting this second quarter 1999 groundwater monitoring report for the site referenced above. Presented below are the second quarter 1999 activities, the current hydrocarbon distribution in groundwater, recommendations, and the anticipated third quarter 1999 activities.

SECOND QUARTER 1999 ACTIVITIES

Quarterly Groundwater Sampling: On May 18, 1999 Cambria gauged and sampled all onsite and offsite groundwater monitoring wells. **No measurable liquid-phase hydrocarbons (LPH) were detected in any of the wells.** Table 1 summarizes groundwater elevation data and analytical results. Figure 1 presents the groundwater elevation contours and benzene and methyl tert-butyl ether (MTBE) concentrations. The groundwater sampling laboratory analytical results are included as Attachment A and water sampling field sheets are included as Attachment B.

Remediation System: The system has operated continuously since the beginning of May. Cambria is conducting monthly site visits for monitoring and operations and maintenance (O&M).

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

**Cambria
Environmental
Technology, Inc.**

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

HYDROCARBON DISTRIBUTION IN GROUNDWATER

Hydrocarbon concentrations remained consistent with historic data with a maximum benzene and MTBE concentrations of 7,000 parts per billion (ppb) and 6,100 ppb, respectively, in source area well MW-1. Downgradient wells MW-5, MW-6, and MW-7 remained below detection limits for benzene and MTBE, consistent with historical data, as did crossgradient well MW-3. The hydrocarbon plume is well defined by upgradient well MW-4, crossgradient well MW-3 and down gradient well MW-6. Hydrocarbons from the upgradient former service station continue to impact the groundwater beneath the subject site. The current benzene and MTBE distribution in groundwater is shown on Figure 1.



RECOMMENDATIONS

Cambria recommends reducing the sampling schedule for wells MW-3, MW-5, MW-6 and MW-7 to bi-annual, while continuing to sample wells MW-1, MW-2 and MW-4 quarterly. All wells will be gauged quarterly. Unless the Alameda County Department of Environmental Health (ACDEH) directs otherwise, Cambria will implement this schedule starting third quarter 1999.

ANTICIPATED THIRD QUARTER 1999 ACTIVITIES

Quarterly Groundwater Sampling: As requested by the ACDEH, Cambria will gauge each monitoring well, measure the thickness of any detected LPH, and collect groundwater samples from selected wells. Cambria will tabulate the data and prepare a quarterly monitoring report.

Remediation System: Cambria will continue to operate the SVE system and conduct monthly visits for monitoring and O&M.

C A M B R I A

Mr. Larry Seto
July 8, 1999


CLOSING

We appreciate the opportunity to provide environmental services on behalf of Mr. Bo K. Gin. Please call David Elias at (510) 420-0700 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.




Jacquelyn Jones
Staff Geologist


David Elias, RG
Senior Geologist



H:\SB-2004\Oakl-116 - Bo Gin\QM\QM-2-99.WPD

Attachments: A - Analytical Results for Groundwater Sampling
B - Water Sampling Field Sheets

cc: Mr. Bo K. Gin, 288 11th Street, Oakland, CA 94706

EXPLANATION

- Monitoring Well Location
- Dual Well, SVE/Sparging Well
- SVE Well
- Groundwater Elevation Contour, Dashed Where Inferred
- Groundwater Flow Direction and Gradient (ft/ft)
- | ID |
|--------------|
| ELEV. |
| Benz. - Date |
| MTBE - Date |

 Well Identification.
- Groundwater elevation, in feet above mean sea level (msl).
- Benzene and MTBE concentrations are in parts per billion (ppb). Date is most recent sampling unless otherwise indicated.



17.00

Groundwater Elevation Contour, Dashed Where Inferred



Groundwater Flow Direction and Gradient (ft/ft)

| ID |
|--------------|
| ELEV. |
| Benz. - Date |
| MTBE - Date |

Well Identification.
Groundwater elevation, in feet above mean sea level (msl).
Benzene and MTBE concentrations are in parts per billion (ppb). Date is most recent sampling unless otherwise indicated.

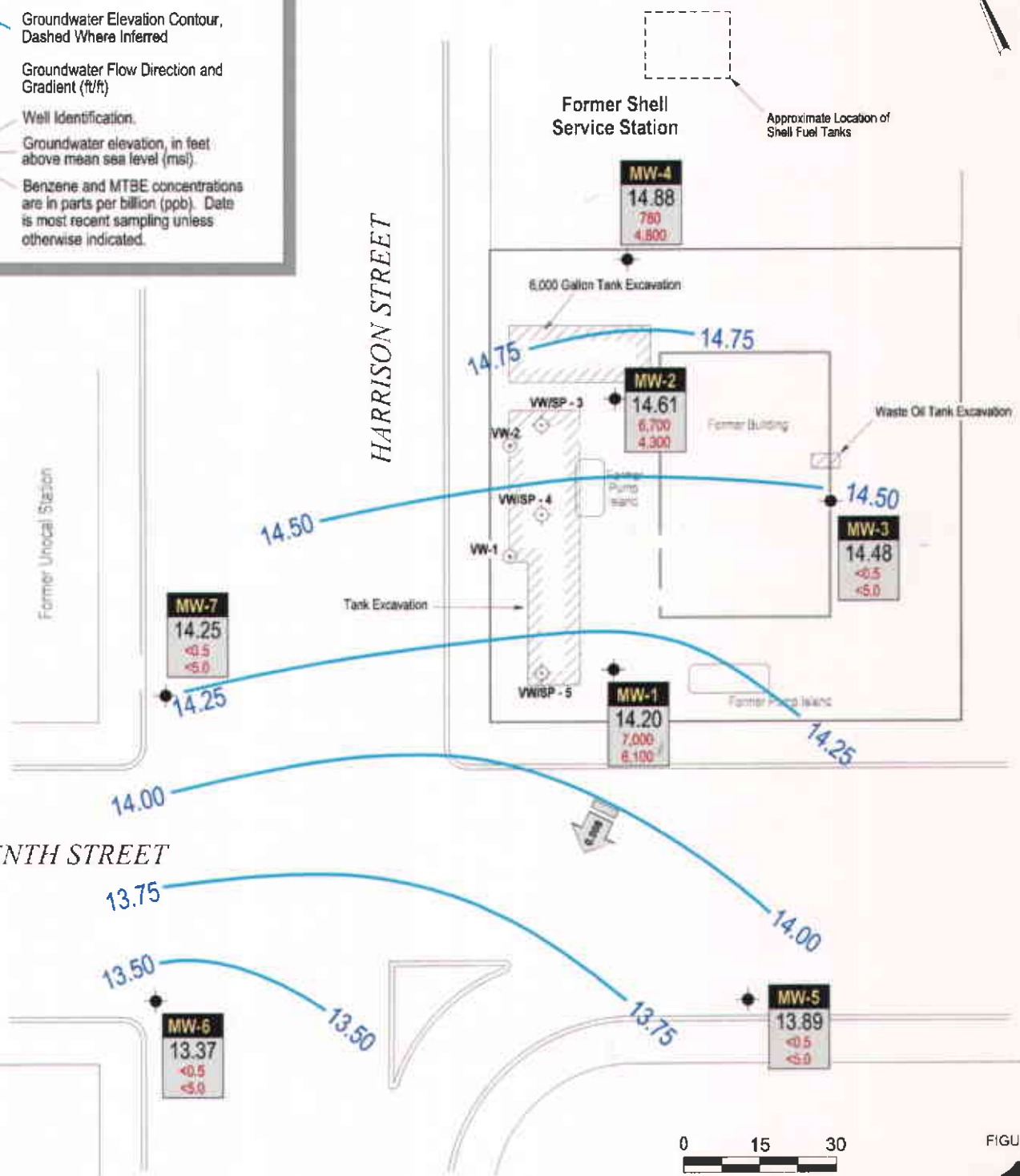


FIGURE 1

H:\98-2004\04-11\FIGURES\FIGURE 1.MXD

Former Arco Station
706 Harrison Street
Oakland, California



C A M B R I A

Groundwater Elevation Contour Map
May 18, 1999

CAMBRIA

Table 1. Groundwater Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID TOC | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | Concentrations in parts per billion (µg/L) | | | | | | Notes |
|----------------|-----------------|------------------------|-----------------------------------|--|--------------|--------------|--------------|------------|--------------|---------------|
| | | | | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE* | |
| MW-1 29.15 | 8/13/93 | 17.40 | 11.75 | 20,000 | 8,500 | 640 | 280 | 440 | - | |
| | 12/14/93 | 17.27 | 11.88 | 17,000 | 9,200 | 1,200 | 4,400 | 540 | - | |
| | 4/15/94 | 17.00 | 12.15 | 9,500 | 3,600 | 530 | 160 | 280 | - | |
| | 12/29/94 | 16.40 | 12.75 | - | - | - | - | - | - | |
| | 7/19/96 | 15.83 | 13.32 | 17,000 | 5,200 | 1,100 | 330 | 530 | - | sheen/odor |
| | 1/27/97 | 13.58 | 15.57 | 30,000 | 9,800 | 1,300 | 790 | 880 | 400 | b, sheen/odor |
| | 6/18/97 | 16.11 | 13.04 | 19,000 | 5,600 | 1,400 | 510 | 770 | 1,200 (800) | a, b |
| | 9/18/97 | 16.62 | 12.53 | 48,000 | 18,000 | 4,400 | 1,000 | 1,700 | <640 | b |
| | 12/10/97 | 15.93 | 13.22 | 22,000 | 4,900 | 1,300 | 580 | 650 | 460 (260) | a, b, odor |
| | 2/18/98 | 11.56 | 17.59 | 16,000 | 5,000 | 750 | 400 | 780 | 1,800 | b |
| | 5/12/98 | 13.53 | 15.62 | 19,000 | 4,600 | 810 | 450 | 770 | 5,500 | b, c |
| | 8/18/98 | 15.19 | 13.96 | 12,000 | 3,600 | 1,300 | 300 | 570 | 5,100(3,700) | a, b |
| | 11/24/98 | 15.67 | 13.48 | 13,000 | 3,600 | 890 | 330 | 380 | 6,100 | b |
| | 2/4/99 | 15.31 | 13.84 | 20,000 | 5,900 | 830 | 450 | 500 | 4,900 | b |
| | 5/18/99 | 14.95 | 14.20 | 23,000 | 7,000 | 1,600 | 520 | 830 | 6,100 | b |
| MW-2 30.51 | 8/13/93 | 17.05 | 13.46 | 34,000 | 6,800 | 10,000 | 740 | 3,900 | - | |
| | 12/14/93 | 18.28 | 12.23 | 16,000 | 3,200 | 4,200 | 500 | 1,700 | - | |
| | 4/15/94 | 18.10 | 12.41 | 23,000 | 2,500 | 4,200 | 470 | 1,800 | - | |
| | 12/29/94 | 17.40 | 13.11 | - | - | - | - | - | - | |
| | 7/19/96 | 16.72 | 13.79 | 90,000 | 7,300 | 14,000 | 1,600 | 7,300 | - | odor |
| | 1/27/97 | 14.89 | 15.62 | 63,000 | 7,100 | 13,000 | 1,600 | 7,100 | 500 | b, odor |
| | 6/18/97 | 17.12 | 13.39 | 52,000 | 5,100 | 10,000 | 1,400 | 6,000 | <200 | b |
| | 9/18/97 | 17.63 | 12.88 | 110,000 | 9,400 | 23,000 | 2,600 | 13,000 | <890 | b, sheen/odor |
| | 12/10/97 | 16.98 | 13.53 | 39,000 | 2,600 | 5,300 | 940 | 3,900 | 780 (320) | b, odor |
| | 2/18/98 | 12.61 | 17.90 | 85,000 | 9,000 | 19,000 | 2,300 | 11,000 | 2,400 | b |

CAMBRIA

Table 1. Groundwater Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID TOC | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | Concentrations in parts per billion (µg/L) | | | | | | Notes |
|----------------|-----------------|------------------------|-----------------------------------|--|----------------|----------------|----------------|----------------|-------------------|----------|
| | | | | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE ^a | |
| | 5/12/98 | 14.45 | 16.06 | 110,000 | 9,500 | 21,000 | 2,500 | 12,000 | <1,200 | b |
| | 8/18/98 | 16.14 | 14.37 | 64,000 | 6,000 | 13,000 | 1,700 | 7,800 | 2,000(1,300) | a, b |
| | 11/24/98 | 16.70 | 13.81 | 78,000 | 5,300 | 14,000 | 2,300 | 11,000 | <2,000 | b, g |
| | 2/4/99 | 18.39 | 12.12 | 66,000 | 5,800 | 16,000 | 2,600 | 12,000 | 3,000 | b, g |
| | 5/18/99 | 15.90 | 14.61 | 78,000 | 6,700 | 17,000 | 2,400 | 10,000 | 4,300 | b |
| MW-3 | 8/13/93 | 17.05 | 12.72 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | - | |
| 29.77 | 12/14/93 | 17.70 | 12.07 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | - | |
| | 4/15/94 | 17.40 | 12.37 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| | 12/29/94 | 16.80 | 12.97 | - | - | - | - | - | - | |
| | 7/19/96 | 16.28 | 13.49 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| | 1/27/97 | 13.83 | 15.94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 6/18/97 | 16.53 | 13.24 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 9/18/97 | 17.07 | 12.70 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 12/10/97 | 16.15 | 13.62 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/18/98 | 11.80 | 17.97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/12/98 | 13.85 | 15.92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 8/18/98 | 15.57 | 14.20 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/24/98 | 16.04 | 13.73 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/4/99 | 17.80 | 11.97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/99 | 15.29 | 14.48 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| MW-4 | 12/16/94 | 18.10 | 13.08 | 2,500 | 32 | 6.5 | 4.5 | 17 | - | |
| 31.18 | 12.29/94 | 17.95 | 13.23 | - | - | - | - | - | - | |
| | 7/19/96 | 17.38 | 13.80 | 3,300 | 520 | 39 | 67 | 60 | - | |
| | 1/27/97 | 15.25 | 15.93 | 4,500 | 860 | 55 | 100 | 91 | 1,100 | b |
| | 6/18/97 | 17.61 | 13.57 | 2,700 | 700 | 52 | 81 | 76 | 2,200 (2,300) | a, b |
| | 9/18/97 | 18.01 | 13.17 | 3,900 | 760 | 38 | 56 | 64 | <170 | b |

CAMBRIA

Table 1. Groundwater Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID TOC | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | Concentrations in parts per billion (µg/L) | | | | | | Notes |
|----------------|-----------------|------------------------|-----------------------------------|--|----------------|----------------|----------------|----------------|-------------------|----------|
| | | | | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE ^a | |
| | 12/10/97 | 17.45 | 13.73 | 12,000 | 1,800 | 120 | 210 | 210 | 2,900 (2,600) | a, b |
| | 2/18/98 | 13.09 | 18.09 | 1,700 | 210 | 8.0 | 6.7 | 16 | 200 | b |
| | 5/12/98 | 14.78 | 16.40 | 2,100 | 300 | 15 | 36 | 34 | 920 | b, c |
| | 8/18/98 | 16.59 | 14.59 | 4,700 | 1,000 | 130 | 110 | 150 | 5,200(4,900) | a, b |
| | 11/24/98 | 17.18 | 14.00 | 3,000 | 810 | 44 | 76 | 94 | 4,800 | b |
| | 2/4/99 | 18.90 | 12.28 | 2,800 | 770 | 50 | 69 | 69 | 3,100 | b |
| | 5/18/99 | 16.30 | 14.88 | 4,000 | 780 | 57 | 7.7 | 79 | 4,800 | b |
| MW-5 | 12/16/94 | 16.07 | 11.97 | <50 | 1.1 | <0.5 | <0.5 | 2.4 | - | |
| 28.04 | 12/29/94 | 16.10 | 11.94 | - | - | - | - | - | - | |
| | 7/19/96 | 15.49 | 12.55 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| | 1/27/97 | 13.60 | 14.44 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 6/18/97 | 15.55 | 12.49 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 9/18/97 | 16.16 | 11.88 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 12/10/97 | 15.41 | 12.63 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/18/98 | 10.93 | 17.11 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/12/98 | 13.25 | 14.79 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 8/18/98 | 14.75 | 13.29 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/24/98 | 15.15 | 12.89 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/4/99 | 14.61 | 13.43 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/99 | 14.15 | 13.89 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| MW-6 | 12/16/94 | 17.74 | 11.36 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| 29.10 | 12/29/94 | 17.40 | 11.70 | - | - | - | - | - | - | |
| | 7/19/96 | 16.60 | 12.50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| | 1/27/97 | 14.88 | 14.22 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 6/18/97 | 16.73 | 12.37 | 51 | 22 | <0.5 | <0.5 | <0.5 | <5.0 | c |
| | 9/18/97 | 17.24 | 11.86 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |

CAMBRIA

Table 1. Groundwater Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID TOC | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | Concentrations in parts per billion (µg/L) | | | | | | Notes |
|----------------|-----------------|------------------------|-----------------------------------|--|----------------|----------------|----------------|----------------|-------------------|----------|
| | | | | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE ^a | |
| | 12/10/97 | 16.56 | 12.54 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/18/98 | 12.93 | 16.17 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/12/98 | 14.35 | 14.75 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 8/18/98 | 15.94 | 13.16 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/24/98 | 16.46 | 12.64 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/4/99 | 18.25 | 10.85 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/99 | 15.73 | 13.37 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| MW-7 | 12/16/94 | 17.07 | 12.60 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| 29.67 | 12/29/94 | 17.65 | 12.02 | - | - | - | - | - | - | |
| | 7/19/96 | 16.44 | 13.23 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| | 1/27/97 | 15.09 | 14.58 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 6/18/97 | 16.59 | 13.08 | 73 | <0.5 | 0.55 | <0.5 | <0.5 | <5.0 | d |
| | 9/18/97 | 17.06 | 12.61 | 94 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | e, f |
| | 12/10/97 | 16.58 | 13.09 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/18/98 | 12.60 | 17.07 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/12/98 | 14.81 | 14.86 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 8/18/98 | 15.67 | 14.00 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/24/98 | 16.30 | 13.37 | 200 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | d |
| | 2/4/99 | 15.99 | 13.68 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/99 | 15.42 | 14.25 | 200 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | d |

CAMBRIA

Table 1. Groundwater Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID TOC | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE ^a | Notes |
|--|-----------------|------------------------|-----------------------------------|------|---------|---------|--------------|---------|-------------------|-------|
| -----Concentrations in parts per billion (µg/L)----- | | | | | | | | | | |

Abbreviations and Analyses:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
 Benzene, ethylbenzene, toluene and xylenes by EPA Method 8020.
 MTBE = Methyl tert-butyl ether by EPA Method 8020
 µg/L = Micrograms per liter
 TOC = Top of casing elevation with respect to mean sea level

Notes:

a = Result in parentheses indicates MTBE by EPA Method 8260.
 b = Analytical laboratory notes that unmodified or weakly modified gasoline is significant.
 c = Analytical laboratory notes that lighter gasoline range compounds are significant.
 d = Analytical laboratory notes that isolated peaks are present.
 e = Analytical laboratory notes that heavier gasoline range compounds are significant.
 f = Analytical laboratory notes hydrocarbons with no recognizable patterns are present.
 g = Analytical laboratory notes lighter than water immiscible sheen is present.
 Data prior to 12/16/94 provided by previous consultant.

CAMBRIA

Table 1. Ground Water Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID <i>TOC</i> | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | Concentrations in parts per billion (µg/L) | | | | | | Notes |
|-----------------------|-----------------|------------------------|-----------------------------------|--|--------------|--------------|--------------|------------|-------------------|---------------|
| | | | | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE ^a | |
| MW-1 <i>29.15</i> | 8/13/93 | 17.40 | 11.75 | 20,000 | 8,500 | 640 | 280 | 440 | - | |
| | 12/14/93 | 17.27 | 11.88 | 17,000 | 9,200 | 1,200 | 4,400 | 540 | - | |
| | 4/15/94 | 17.00 | 12.15 | 9,500 | 3,600 | 530 | 160 | 280 | - | |
| | 12/29/94 | 16.40 | 12.75 | - | - | - | - | - | - | |
| | 7/19/96 | 15.83 | 13.32 | 17,000 | 5,200 | 1,100 | 330 | 530 | - | sheen/odor |
| | 1/27/97 | 13.58 | 15.57 | 30,000 | 9,800 | 1,300 | 790 | 880 | 400 | b, sheen/odor |
| | 6/18/97 | 16.11 | 13.04 | 19,000 | 5,600 | 1,400 | 510 | 770 | 1,200 (800) | a, b |
| | 9/18/97 | 16.62 | 12.53 | 48,000 | 18,000 | 4,400 | 1,000 | 1,700 | <640 | b |
| | 12/10/97 | 15.93 | 13.22 | 22,000 | 4,900 | 1,300 | 580 | 650 | 460 (260) | a, b, odor |
| | 2/18/98 | 11.56 | 17.59 | 16,000 | 5,000 | 750 | 400 | 780 | 1,800 | b |
| | 5/12/98 | 13.53 | 15.62 | 19,000 | 4,600 | 810 | 450 | 770 | 5,500 | b, c |
| | 8/18/98 | 15.19 | 13.96 | 12,000 | 3,600 | 1,300 | 300 | 570 | 5,100(3,700) | a, b |
| | 11/24/98 | 15.67 | 13.48 | 13,000 | 3,600 | 890 | 330 | 380 | 6,100 | b |
| | 2/4/99 | 15.31 | 13.84 | 20,000 | 5,900 | 830 | 450 | 500 | 4,900 | b |
| | 5/18/99 | 14.95 | 14.20 | 23,000 | 7,000 | 1,600 | 520 | 830 | 6,100 | b |
| MW-2 <i>30.51</i> | 8/13/93 | 17.05 | 13.46 | 34,000 | 6,800 | 10,000 | 740 | 3,900 | - | |
| | 12/14/93 | 18.28 | 12.23 | 16,000 | 3,200 | 4,200 | 500 | 1,700 | - | |
| | 4/15/94 | 18.10 | 12.41 | 23,000 | 2,500 | 4,200 | 470 | 1,800 | - | |
| | 12/29/94 | 17.40 | 13.11 | - | - | - | - | - | - | |
| | 7/19/96 | 16.72 | 13.79 | 90,000 | 7,300 | 14,000 | 1,600 | 7,300 | - | odor |
| | 1/27/97 | 14.89 | 15.62 | 63,000 | 7,100 | 13,000 | 1,600 | 7,100 | 500 | b, odor |
| | 6/18/97 | 17.12 | 13.39 | 52,000 | 5,100 | 10,000 | 1,400 | 6,000 | <200 | b |
| | 9/18/97 | 17.63 | 12.88 | 110,000 | 9,400 | 23,000 | 2,600 | 13,000 | <890 | b, sheen/odor |
| | 12/10/97 | 16.98 | 13.53 | 39,000 | 2,600 | 5,300 | 940 | 3,900 | 780 (320) | b, odor |
| | 2/18/98 | 12.61 | 17.90 | 85,000 | 9,000 | 19,000 | 2,300 | 11,000 | 2,400 | b |

CAMBRIA

Table 1. Ground Water Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID TOC | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | Concentrations in parts per billion (µg/L) | | | | | | Notes |
|----------------|-----------------|------------------------|-----------------------------------|--|----------------|----------------|----------------|----------------|----------------|----------|
| | | | | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE' | |
| | 5/12/98 | 14.45 | 16.06 | 110,000 | 9,500 | 21,000 | 2,500 | 12,000 | <1,200 | b |
| | 8/18/98 | 16.14 | 14.37 | 64,000 | 6,000 | 13,000 | 1,700 | 7,800 | 2,000(1,300) | a, b |
| | 11/24/98 | 16.70 | 13.81 | 78,000 | 5,300 | 14,000 | 2,300 | 11,000 | <2,000 | b, g |
| | 2/4/99 | 18.39 | 12.12 | 66,000 | 5,800 | 16,000 | 2,600 | 12,000 | 3,000 | b, g |
| | 5/18/99 | 15.90 | 14.61 | 78,000 | 6,700 | 17,000 | 2,400 | 10,000 | 4,300 | b |
| MW-3 | 8/13/93 | 17.05 | 12.72 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | - | |
| 29.77 | 12/14/93 | 17.70 | 12.07 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | - | |
| | 4/15/94 | 17.40 | 12.37 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| | 12/29/94 | 16.80 | 12.97 | - | - | - | - | - | - | |
| | 7/19/96 | 16.28 | 13.49 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| | 1/27/97 | 13.83 | 15.94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 6/18/97 | 16.53 | 13.24 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 9/18/97 | 17.07 | 12.70 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 12/10/97 | 16.15 | 13.62 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/18/98 | 11.80 | 17.97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/12/98 | 13.85 | 15.92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 8/18/98 | 15.57 | 14.20 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/24/98 | 16.04 | 13.73 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/4/99 | 17.80 | 11.97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/99 | 15.29 | 14.48 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| MW-4 | 12/16/94 | 18.10 | 13.08 | 2,500 | 32 | 6.5 | 4.5 | 17 | - | |
| 31.18 | 12.29/94 | 17.95 | 13.23 | - | - | - | - | - | - | |
| | 7/19/96 | 17.38 | 13.80 | 3,300 | 520 | 39 | 67 | 60 | - | |
| | 1/27/97 | 15.25 | 15.93 | 4,500 | 860 | 55 | 100 | 91 | 1,100 | b |
| | 6/18/97 | 17.61 | 13.57 | 2,700 | 700 | 52 | 81 | 76 | 2,200 (2,300) | a, b |
| | 9/18/97 | 18.01 | 13.17 | 3,900 | 760 | 38 | 56 | 64 | <170 | b |

CAMBRIA

Table 1. Ground Water Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID <i>TOC</i> | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | Concentrations in parts per billion (µg/L) | | | | | | MTBE ^a | Notes |
|-----------------------|-----------------|------------------------|-----------------------------------|--|----------------|----------------|----------------|----------------|----------------|-------------------|-------|
| | | | | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | | | |
| | 12/10/97 | 17.45 | 13.73 | 12,000 | 1,800 | 120 | 210 | 210 | 2,900 (2,600) | a, b | |
| | 2/18/98 | 13.09 | 18.09 | 1,700 | 210 | 8.0 | 6.7 | 16 | 200 | b | |
| | 5/12/98 | 14.78 | 16.40 | 2,100 | 300 | 15 | 36 | 34 | 920 | b, c | |
| | 8/18/98 | 16.59 | 14.59 | 4,700 | 1,000 | 130 | 110 | 150 | 5,200(4,900) | a, b | |
| | 11/24/98 | 17.18 | 14.00 | 3,000 | 810 | 44 | 76 | 94 | 4,800 | b | |
| | 2/4/99 | 18.90 | 12.28 | 2,800 | 770 | 50 | 69 | 69 | 3,100 | b | |
| | 5/18/99 | 16.30 | 14.88 | 4,000 | 780 | 57 | 7.7 | 79 | 4,800 | b | |
| MW-5 | 12/16/94 | 16.07 | 11.97 | <50 | 1.1 | <0.5 | <0.5 | 2.4 | - | | |
| 28.04 | 12/29/94 | 16.10 | 11.94 | - | - | - | - | - | - | | |
| | 7/19/96 | 15.49 | 12.55 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | | |
| | 1/27/97 | 13.60 | 14.44 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 6/18/97 | 15.55 | 12.49 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 9/18/97 | 16.16 | 11.88 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 12/10/97 | 15.41 | 12.63 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 2/18/98 | 10.93 | 17.11 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 5/12/98 | 13.25 | 14.79 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 8/18/98 | 14.75 | 13.29 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 11/24/98 | 15.15 | 12.89 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 2/4/99 | 14.61 | 13.43 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 5/18/99 | 14.15 | 13.89 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| MW-6 | 12/16/94 | 17.74 | 11.36 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | | |
| 29.10 | 12/29/94 | 17.40 | 11.70 | - | - | - | - | - | - | | |
| | 7/19/96 | 16.60 | 12.50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | | |
| | 1/27/97 | 14.88 | 14.22 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |
| | 6/18/97 | 16.73 | 12.37 | 51 | 22 | <0.5 | <0.5 | <0.5 | <5.0 | c | |
| | 9/18/97 | 17.24 | 11.86 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | | |

CAMBRIA

Table 1. Ground Water Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID <i>TOC</i> | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | Concentrations in parts per billion (µg/L) | | | | | | Notes |
|-----------------------|-----------------|------------------------|-----------------------------------|--|----------------|----------------|----------------|----------------|-------------------|----------|
| | | | | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE ^a | |
| | 12/10/97 | 16.56 | 12.54 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/18/98 | 12.93 | 16.17 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/12/98 | 14.35 | 14.75 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 8/18/98 | 15.94 | 13.16 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/24/98 | 16.46 | 12.64 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/4/99 | 18.25 | 10.85 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/99 | 15.73 | 13.37 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| MW-7 | 12/16/94 | 17.07 | 12.60 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| 29.67 | 12/29/94 | 17.65 | 12.02 | - | - | - | - | - | - | |
| | 7/19/96 | 16.44 | 13.23 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | - | |
| | 1/27/97 | 15.09 | 14.58 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 6/18/97 | 16.59 | 13.08 | 73 | <0.5 | 0.55 | <0.5 | <0.5 | <5.0 | d |
| | 9/18/97 | 17.06 | 12.61 | 94 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | e, f |
| | 12/10/97 | 16.58 | 13.09 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 2/18/98 | 12.60 | 17.07 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/12/98 | 14.81 | 14.86 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 8/18/98 | 15.67 | 14.00 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/24/98 | 16.30 | 13.37 | 200 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | d |
| | 2/4/99 | 15.99 | 13.68 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/99 | 15.42 | 14.25 | 200 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | d |

CAMBRIA

Table 1. Ground Water Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

| Well ID <i>TOC</i> | Date Sampled | Depth to Water (ft) | Ground Water Elevation (ft) | TPHg | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE ^a | Notes |
|---|-----------------|------------------------|-----------------------------------|------|---------|---------|--------------|---------|-------------------|-------|
| -----Concentrations in parts per billion (µg/L)-----> | | | | | | | | | | |

Abbreviations and Analyses:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
 Benzene, ethylbenzene, toluene and xylenes by EPA Method 8020.
 MTBE = Methyl tert-butyl ether by EPA Method 8020
 µg/L = Micrograms per liter
 TOC = Top of casing elevation with respect to mean sea level

Notes:

a = Result in parentheses indicates MTBE by EPA Method 8260.
 b = Analytical laboratory notes that unmodified or weakly modified gasoline is significant.
 c = Analytical laboratory notes that lighter gasoline range compounds are significant.
 d = Analytical laboratory notes that isolated peaks are present.
 e = Analytical laboratory notes that heavier gasoline range compounds are significant.
 f = Analytical laboratory notes hydrocarbons with no recognizable patterns are present.
 g = Analytical laboratory notes lighter than water immiscible sheen is present.
 Data prior to 12/16/94 provided by previous consultant.

C A M B R I A



ATTACHMENT A

Analytical Results for Groundwater Sampling



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

| | | |
|--|---|--------------------------|
| Cambria Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608 | Client Project ID: #230-0116-108; Bo Gin | Date Sampled: 05/18/99 |
| | | Date Received: 05/20/99 |
| | Client Contact: Jacquelyn Jones | Date Extracted: 05/20/99 |
| | Client P.O: | Date Analyzed: 05/20/99 |

05/27/99

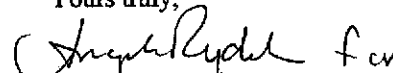
Dear Jacquelyn:

Enclosed are:

- 1). the results of 7 samples from your #230-0116-108; Bo Gin 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.

Yours truly,


Edward Hamilton, Lab Director

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/20/99

Matrix: WATER

| Analyte | Concentration (ug/L) | | | Amount Spiked | % Recovery | | |
|------------------------|----------------------|-------|-------|---------------|------------|-------|-----|
| | Sample (#10370) | MS | MSD | | MS | MSD | RPD |
| TPH (gas) | 0.0 | 105.8 | 102.8 | 100.0 | 105.8 | 102.8 | 2.9 |
| Benzene | 0.0 | 10.0 | 9.6 | 10.0 | 100.0 | 96.0 | 4.1 |
| Toluene | 0.0 | 10.3 | 10.2 | 10.0 | 103.0 | 102.0 | 1.0 |
| Ethyl Benzene | 0.0 | 10.4 | 10.1 | 10.0 | 104.0 | 101.0 | 2.9 |
| Xylenes | 0.0 | 31.7 | 30.4 | 30.0 | 105.7 | 101.3 | 4.2 |
| TPH(diesel) | 0.0 | 7875 | 7898 | 7500 | 105 | 105 | 0.3 |
| TRPH (oil & grease) | 0 | 23190 | 23249 | 23700 | 98 | 98 | 0.3 |

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/21/99-05/22/99

Matrix: WATER

| Analyte | Concentration (ug/L) | | | Amount Spiked | % Recovery | | RPD |
|------------------------|----------------------|-------|-------|---------------|------------|-------|-----|
| | Sample (#09880) | MS | MSD | | MS | MSD | |
| TPH (gas) | 0.0 | 110.8 | 109.1 | 100.0 | 110.8 | 109.1 | 1.6 |
| Benzene | 0.0 | 10.2 | 10.1 | 10.0 | 102.0 | 101.0 | 1.0 |
| Toluene | 0.0 | 10.7 | 10.5 | 10.0 | 107.0 | 105.0 | 1.9 |
| Ethyl Benzene | 0.0 | 10.8 | 10.5 | 10.0 | 108.0 | 105.0 | 2.8 |
| Xylenes | 0.0 | 32.5 | 30.9 | 30.0 | 108.3 | 103.0 | 5.0 |
| TPH(diesel) | 0.0 | 7220 | 6833 | 7500 | 96 | 91 | 5.5 |
| TRPH (oil & grease) | 0 | 23294 | 23177 | 23700 | 98 | 98 | 0.5 |

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

152112C15

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HOUR 48 HOUR 5 DAY

Report To: Jacquelyn Jones Bill To: Cambria
Company: Cambria Environmental Technology
1144 65th Street, Suite C
Oakland, CA 94608
Tele: (510) 420-0700 Fax: (510) 420-9170
Project #: 230-0116-108 Project Name: 30 Gin
Project Location: 706 Harrison Street, Oakland CA
Sampler Signature: *[Signature]*

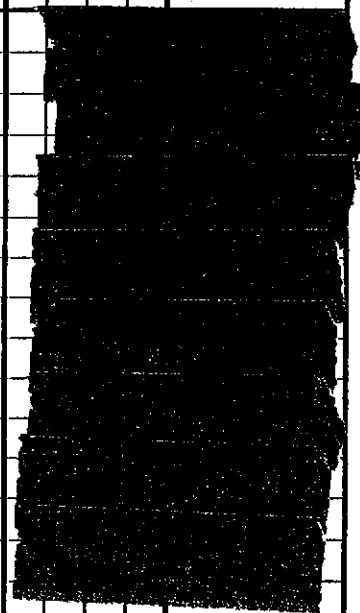
Analysis Request

Other

Comments

| SAMPLE ID | LOCATION | SAMPLING | | # Containers | Type Containers | MATRIX | | | | | METHOD PRESERVED | | | | | | | | |
|-----------|----------|----------|------|--------------|-----------------|--------|------|-----|--------|-------|------------------|-----|------------------|-------|--|--|--|--|--|
| | | Date | Time | | | Water | Soil | Air | Sludge | Other | Ice | HCl | HNO ₃ | Other | | | | | |
| + MW1 | | 5/18 | 125 | 4 | VDA | x | | | | | x | x | | | | | | | |
| + MW2 | | | 1250 | | | | | | | | | | | | | | | | |
| + MW3 | | | 1255 | | | | | | | | | | | | | | | | |
| + MW4 | | | 125 | | | | | | | | | | | | | | | | |
| + MW5 | | | 1145 | | | | | | | | | | | | | | | | |
| + MW6 | | | 1020 | | | | | | | | | | | | | | | | |
| + MW7 | | | 1105 | | | | | | | | | | | | | | | | |
| ✓ TB#2 | | | | 1 | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|--|----------------------|---|--------------------------------------|----------------|----------------------------|----------------|---------------------------|-----------------------|----------------|--|---------------|---------------|-----------------------------|-----|--|--|--|--|--|
| BTEX & TPH as Gas (602/8020 + 8015) MTBE | TPH as Diesel (8015) | Total Petroleum Oil & Grease (5520 E&F/B&F) | Total Petroleum Hydrocarbons (418.1) | EPA 601 / 8010 | BTEX ONLY (EPA 602 / 8020) | EPA 608 / 8080 | EPA 608 / 8080 PCB's ONLY | EPA 624 / 8240 / 8260 | EPA 625 / 8270 | PAH's / PNA's by EPA 625 / 8270 / 8310 | CAM-17 Metals | LUFT 5 Metals | Lead (7240/7421/239.2/6010) | RCI | | | | | |
|--|----------------------|---|--------------------------------------|----------------|----------------------------|----------------|---------------------------|-----------------------|----------------|--|---------------|---------------|-----------------------------|-----|--|--|--|--|--|



Relinquished By: *[Signature]* Date: 5/18 Time: 14¹⁵ Received By: Reggie MACK
Relinquished By: Reggie MACK Date: 5/20/5²² Received By: *[Signature]*
Relinquished By: Date: Time: Received By:

Remarks: ICE ✓ GOOD CONDITION ✓ HEAD SPACE ABSENT ✓ PRESERVATION APPROPRIATE ✓ CONTAINERS ✓ VOAS O&G METALS OTHER

TB.MV

C A M B R I A



ATTACHMENT B
Water Sampling Field Sheets

WELL DEPTH MEASUREMENTS

| Well ID | Time | Product Depth | Water Depth | Product Thickness | Well Depth | Comments |
|---------|------|---------------|-------------|-------------------|------------|----------|
| MW6 | 1006 | — | 15.73 | — | 26.10 | |
| MW7 | 1039 | — | 15.42 | — | 28.80 | |
| MW5 | 1120 | — | 14.15 | — | 28.13 | |
| MW3 | 1215 | | 15.29 | | 27.77 | |
| MW4 | 1218 | | 16.30 | | 29.12 | |
| MW1 | 1220 | | 14.95 | | 25.82 | |
| MW2 | 1225 | | 15.90 | | 25.55 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Measured By: AS/BC

Date: 5/18/99

WELL SAMPLING FORM

| | | |
|---|--------------------------------|-----------------------------------|
| Project Name: Bo Gin | Cambria Mgr: DCE | Well ID: MW1 |
| Project Number: 230-0116 | Date: 5/18/99 | Well Yield: |
| Site Address: 706 Harrison Street Oakland, California | Sampling Method: | Well Diameter: 2" pvc |
| | Disposable bailer | Technician(s): BC/J.J |
| Initial Depth to Water: 14.95 | Total Well Depth: 25.82 | Water Column Height: 10.87 |
| Volume/ft: 0.16 | 1 Casing Volume: 1.74 | 3 Casing Volumes: 5.22 |
| Purging Device: disposable bailer | Did Well Dewater?: No | Total Gallons Purged: 600 |
| Start Purge Time: 1:08 | Stop Purge Time: 1:23 | Total Time: 15 minutes |

1 Casing Volume = Water column height x Volume/ ft.

| Well Diam. | Volume/ft (gallons) |
|------------|---------------------|
| 2" | 0.16 |
| 4" | 0.65 |
| 6" | 1.47 |

| Time | Casing Volume | Temp. | pH | Cond. | Comments |
|------|---------------|-------|-----|-------|-------------------------------------|
| 1:12 | 1 | 18.70 | 6.6 | 947 | Definite |
| 1:17 | 2 | 18.8 | 6.3 | 932 | Hydrocarbon odor + dark color |
| 1:21 | 3 | 18.70 | 6.2 | 934 | |
| | | | | | |
| | | | | | |
| | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|------------|----------------|-------------|----------------|--------------|-----------------------------|----------------------|
| MW1 | 5/18/99 | 1:25 | 4 voa's | HCL | TPHg, BTEX, MTBE | 8020 8015 |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|---|----------------------------------|------------------------------------|
| Project Name: Bo Gin | Cambria Mgr: DCE | Well ID: MW2 |
| Project Number: 230-0116 | Date: 5/18/99 | Well Yield: — |
| Site Address: 706 Harrison Street Oakland, California | Sampling Method: | Well Diameter: 2 " pvc |
| | Disposable bailer | Technician(s): JR/BC |
| Initial Depth to Water: 15.90 | Total Well Depth: 25.55 | Water Column Height: 9.65 |
| Volume/ft: 0.16 | 1 Casing Volume: 1.54 gal | 3 Casing Volumes: 4.63 gal |
| Purging Device: disposable bailer | Did Well Dewater?: NO | Total Gallons Purged: 5 gal |
| Start Purge Time: 1236 | Stop Purge Time: 1245 | Total Time: 9 min |

1 Casing Volume = Water column height x Volume/ ft.

| Well Diam. | Volume/ft (gallons) |
|------------|---------------------|
| 2" | 0.16 |
| 4" | 0.65 |
| 6" | 1.47 |

| Time | Casing Volume | Temp. | pH | Cond. | Comments |
|------|---------------|-------|-----|-------|----------|
| 1236 | 1 | 20.5 | 6.6 | 554 | |
| 1241 | 2 | 19.8 | 6.3 | 731 | |
| 1244 | 3 | 19.7 | 6.4 | 736 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|------------|----------------|-------------|----------------|--------------|-----------------------------|----------------------|
| MW2 | 5/18/99 | 1250 | 4 voa's | HCL | TPHg, BTEX, MTBE | 8020 8015 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|---|--------------------------------|-----------------------------------|
| Project Name: Bo Gin | Cambria Mgr: DCE | Well ID: MW3 |
| Project Number: 230-0116 | Date: 5/18/99 | Well Yield: |
| Site Address: 706 Harrison Street Oakland, California | Sampling Method: | Well Diameter: 2 " pvc |
| | Disposable bailer | Technician(s): BC/SJ |
| Initial Depth to Water: 15.29 | Total Well Depth: 27.77 | Water Column Height: 12.48 |
| Volume/ft: 0.16 | 1 Casing Volume: 1.99 | 3 Casing Volumes: 6.02 |
| Purging Device: disposable bailer | Did Well Dewater?: NO | Total Gallons Purged: 6.00 |
| Start Purge Time: 12:34 | Stop Purge Time: 12:50 | Total Time: 16 minutes |

1 Casing Volume = Water column height x Volume/ ft.

| Well Diam. | Volume/ft (gallons) |
|------------|---------------------|
| 2" | 0.16 |
| 4" | 0.65 |
| 6" | 1.47 |

| Time | Casing Volume | Temp. | pH | Cond. | Comments |
|-------|---------------|-------|-----|-------|----------|
| 12:38 | 1 | 20.9 | 7.6 | 757 | |
| 12:44 | 2 | 19.3 | 7.5 | 616 | |
| 12:47 | 3 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|------------|----------------|--------------|----------------|--------------|-----------------------------|----------------------|
| MW3 | 5/18/99 | 12:55 | 4 voa's | HCL | TPHg, BTEX, MTBE | 8020 8015 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|---|----------------------------------|--------------------------------------|
| Project Name: Bo Gin | Cambria Mgr: DCE | Well ID: MW4 |
| Project Number: 230-0116 | Date: 5/18/99 | Well Yield: — |
| Site Address: 706 Harrison Street Oakland, California | Sampling Method: | Well Diameter: 2 " pvc |
| | Disposable bailer | Technician(s): AS/BC |
| Initial Depth to Water: 16.30 | Total Well Depth: 29.12 | Water Column Height: 12.82 |
| Volume/ft: 0.16 | 1 Casing Volume: 2.05 gal | 3 Casing Volumes: 6.15 gal |
| Purging Device: disposable bailer | Did Well Dewater?: no | Total Gallons Purged: 6.5 gal |
| Start Purge Time: 107 | Stop Purge Time: 117 | Total Time: 10min |

1 Casing Volume = Water column height x Volume/ ft.

| Well Diam. | Volume/ft (gallons) |
|------------|---------------------|
| 2" | 0.16 |
| 4" | 0.65 |
| 6" | 1.47 |

| Time | Casing Volume | Temp. | pH | Cond. | Comments |
|------|---------------|-------|-----|-------|----------|
| 107 | 1 | 20.5 | 6.2 | 577 | |
| 113 | 2 | 20.6 | 6.4 | 580 | |
| 116 | 3 | 20.7 | 6.2 | 571 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|------------|----------------|------------|----------------|--------------|------------------------------|----------------------|
| MW4 | 5/18/99 | 125 | 4 voa's | HCL | TPHg, BTEX, MTBE. | 8020 8015 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|---|--------------------------------|-----------------------------------|
| Project Name: Bo Gin | Cambria Mgr: DCE | Well ID: MW5 |
| Project Number: 230-0116 | Date: 5/18/99 | Well Yield: --- |
| Site Address: 706 Harrison Street Oakland, California | Sampling Method: | Well Diameter: 2 " pvc |
| | Disposable bailer | Technician(s): J/BC |
| Initial Depth to Water: 14.15 | Total Well Depth: 28.13 | Water Column Height: 13.98 |
| Volume/ft: 0.16 | 1 Casing Volume: 2.24 | 3 Casing Volumes: 6.71 |
| Purging Device: disposable bailer | Did Well Dewater?: No | Total Gallons Purged: 6.71 |
| Start Purge Time: 11:26 | Stop Purge Time: 11:39 | Total Time: 13 minutes |

1 Casing Volume = Water column height x Volume/ ft.

| Well Diam. | Volume/ft (gallons) |
|------------|---------------------|
| 2" | 0.16 |
| 4" | 0.65 |
| 6" | 1.47 |

| Time | Casing Volume | Temp. | pH | Cond. | Comments |
|-------|---------------|-------|-----|-------|---|
| 11:27 | 1 | 20.9 | 6.5 | 749 | one bolt mand |
| 11:32 | 2 | 20.4 | 6.4 | 559 | in well but is broken, one other bolt |
| 11:38 | 3 | 20.3 | 6.6 | 756 | does not thread; water is off orange-brown |
| | | | | | |
| | | | | | |

* need bolt cutters to remove bolts!

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|-------|----------------|--------------|------------------|-----------------|
| MW 5 | 5/18/99 | 11:45 | 4 voa's | HCL | TPHg, BTEX, MTBE | 8020 8015 |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|---|----------------------------------|------------------------------------|
| Project Name: Bo Gin | Cambria Mgr: DCE | Well ID: MW6 |
| Project Number: 230-0116 | Date: 5/18/99 | Well Yield: — |
| Site Address: 706 Harrison Street Oakland, California | Sampling Method: | Well Diameter: 2 " pvc |
| | Disposable bailer | Technician(s): J/BC |
| Initial Depth to Water: 15.73 | Total Well Depth: 26.10 | Water Column Height: 10.37 |
| Volume/ft: 0.16 | 1 Casing Volume: 1.66 gal | 3 Casing Volumes: 4.98 gal |
| Purging Device: disposable bailer | Did Well Dewater?: no | Total Gallons Purged: 5 gal |
| Start Purge Time: 1008 | Stop Purge Time: 1018 | Total Time: 10 min |

1 Casing Volume = Water column height x Volume/ft.

| Well Diam. | Volume/ft (gallons) |
|------------|---------------------|
| 2" | 0.16 |
| 4" | 0.65 |
| 6" | 1.47 |

| Time | Casing Volume | Temp. | pH | Cond. | Comments |
|------|---------------|-------|-----|-------|--|
| 1009 | 1 | 21.3 | 6.9 | 516 | |
| 1013 | 2 | 20.3 | 6.9 | 593 | screws in |
| 1017 | 3 | 20.4 | 6.8 | 534 | well box do not thread, water is orange in color |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|------|------|----------------|--------------|---------------------|-----------------|
| MW6 | 5/18 | 1020 | 4 voa's | HCL | TPHg, BTEX, MTBE | 8020 8015 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|---|--------------------------------|------------------------------------|
| Project Name: Bo Gin | Cambria Mgr: DCE | Well ID: MW7 |
| Project Number: 230-0116 | Date: 5/18/99 | Well Yield: _____ |
| Site Address: 706 Harrison Street Oakland, California | Sampling Method: | Well Diameter: 2 " pvc |
| | Disposable bailer | Technician(s): AS/BC |
| Initial Depth to Water: 15.42 | Total Well Depth: 28.80 | Water Column Height: 13.38 |
| Volume/ft: 0.16 | 1 Casing Volume: 2.14 | 3 Casing Volumes: 6.42 |
| Purging Device: disposable bailer | Did Well Dewater?: No | Total Gallons Purged: 7 gal |
| Start Purge Time: 10:48 | Stop Purge Time: 11:00 | Total Time: 12 minutes |

1 Casing Volume = Water column height x Volume/ ft.

| Well Diam. | Volume/ft (gallons) |
|------------|---------------------|
| 2" | 0.16 |
| 4" | 0.65 |
| 6" | 1.47 |

| Time | Casing Volume | Temp. | pH | Cond. | Comments |
|-------|---------------|-------|-----|-------|---|
| 10:48 | 1 | 20.5 | 6.6 | 724 | One screw nut on wet box is missing. |
| 10:54 | 2 | 21.4 | 6.7 | 796 | None of the bolts can be threaded. |
| 10:59 | 3 | 20.4 | 6.7 | 778 | water is orange- brown. |
| | | | | | |
| | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|---------------------|-----------------|
| MW7 | 5/18/99 | 1105 | 4 voa's | HCL | TPHg, BTEX, MTBE | 8020 8015 |
| | | | | | | |
| | | | | | | |